

**A NEW SPECIES OF THE SUBGENUS *DUVALIUS* (S.STR.) FROM
WESTERN SERBIA, WITH REMARKS ON OTHER SPECIES IN
SERBIA (COLEOPTERA, CARABIDAE, TRECHINAE)**

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The description of the new troglobiontic species of the nominotypical subgenus *Duvalius* (s.str.) from the Suvobor Mt., western Serbia, is given. Its taxonomic position within the subgenus is briefly commented, with respect to other taxa in Serbia. Also, the species *Duvalius cvijici* Jeannel, 1923, originally described in the subgenus *Neoduvalius*, is transferred to the nominotypical subgenus.

Key words: Carabidae, Trechinae, *Duvalius suvoborensis* sp. n., *Duvalius cvijici*, *Neoduvalius*.

The programme of nature protection evaluation studies of the Suvobor Mountain, carried out by the Institute of Nature Protection of Serbia, during 2002 also included biospeleological investigations. Several caves and one pit were surveyed, in the area of Mokra Gora and Rajac. At Rajac, in the cave in Brezaci (690 m), we collected a small series of specimens belonging to a new species of the subgenus *Duvalius* (s.str.) Delarouzeé, 1859.

This subgenus is widespread in Palaearctic, from China to Spain, and it is particularly speciose in Mediterranean, in France and Italy. On the basis of the morphology of the male copulatory apparatus, and in particular, the structure of the chitinous part of the endophallus (a so-called “pièce copulatrice” of French authors), species of this genus were classified into a number of groups. Each of these species-groups is distributed in a particular, often very restricted geographical area. In his monograph (1928) a French coleopterist René JEANNEL, the renowned expert for these insects, recognised 10 species-groups within this sub-

genus. Some additional groups were proposed afterwards.

In Greece, the subgenus is represented with 9 groups, while in the areas adjacent to Serbia only few taxa are known: three from Bosnia and the same number from Macedonia. It is interesting to note that there are no species found in Bulgaria and Romania. Therefore, we may establish that the north-eastern range margin of the subgenus in the Balkans lays within the territory of Serbia.

Only two species of this subgenus are known from Serbia, viz. the endogean species *Duvalius* (*D.*) *sturanyi* Apfelbeck, 1904, and the troglobiont *Duvalius* (*D.*) *bolei* Pretner, 1963. *D. sturanyi* was described from Bosnia (Foča), and later recorded also from Montenegro, Albania and W Serbia (Bobija Mt.) (NONVEILLER, 1983). *D. bolei* was described from E Serbia (Svrljiške Mts., Prekonoška Pećina), on the basis of the material collected in 1959 by Egon PRETNER (1963), a Slovenian biospeleologist and entomologist, during the investigations of this area, organised by the Institute for the Study of Karst (from Postojna, Slovenia). The preliminary taxonomic relationships of these two species with the newly described one are provided only in the form of differential diagnosis (Table I); the more elaborate treatment will be presented in the forthcoming extensive review.

However, there is one more species of the genus *Duvalius* from Serbia whose taxonomic position should be considered here.

JEANNEL (1923) described the new species *Duvalius cvijici*, and placed it in the subgenus *D. (Neoduvalius)* J. Müller, 1913, with notion that it has an isolated position, regarding the presence of complete frontal furrows, contrary to all other species of the subgenus (characterised with the incomplete frontal furrows). Characters that decisively influenced his judgment to include this species in the subgenus *Neoduvalius* were: a hypertrophic head, presence of the preocular line and the same type of the aedaeagus.

JEANNEL described the new species, with two subspecies, after his excursion to western and eastern Serbia in 1923. The nominotypical subspecies *c. cvijici* was based on several specimens collected on the Murtenica Mt., under the stones, and the subspecies *cvijici stopicensis* was described after the single male specimen, collected in Stopića Cave, in the vicinity of the village of Rožanstvo, Zlatibor Mt. In 1996 we managed to collect one female of the nominotypical subspecies (*c. cvijici*) on the Murtenica Mt., using traps with rotten meat as a bait, while in 2002 on two occasions we collected 12 specimens of the subspecies *c. stopicensis* in the Stopića Cave.

On the basis of a careful analysis of all collected specimens we are of the

Table I

Differential diagnosis for the species of the subgenus *Duvalius* (s.str.) currently established in Serbia. Note: The comparison with *D. bolei* had to be made on the basis of the original description and figures, since no specimens were available for the study (only the holotype specimen is known to exist, in the collection of the Slovenian Academy of Sciences and Arts, Ljubljana).

	<i>D. sturanyi</i>	<i>D. cvijici</i>	<i>D. bolei</i>	<i>D. suvoborensis</i>
HEAD	elongate, with weakly developed genae	hypertrophic, with strongly convex and wide genae	hypertrophic, as long as wide, with strongly convex genae	less voluminous and longer than wide, with widely rounded genae
EYES	fully functional	more reduced, with more numerous but extremely small ommatidia	completely lacking	reduced, with fewer but larger ommatidia
FRONTAL FURROWS	complete	complete	complete	barely visible in posterior third
TIBIAL FURROW	all along the fore tibiae	all along the fore tibiae	lacking	all along the fore tibiae
ELYTRAE	relatively shorter	relatively more elongated, narrower in the central part	elongated	relatively more elongated
HUMERUS	less pronounced and more rounded	distinctly marked and obtuse - angled	rounded	distinctly marked and obtuse - angled
PRONOTUM	with extremely convex lateral margins and with sharp hind corners	with sharp hind corners	hind corners not pointed	with sharp hind corners
DISCAL SETAE ON THE THIRD STRIA	three	two	two	two
AEDAEAGUS	strongly curved, with straight tip	strongly curved, with straight tip	weakly curved, apical portion strongly narrowed and bent upward	moderately curved, small and relatively slender, with almost straight tip
PIÈCE COPULATRICE	bifid - shallowly incised	bifid - deeply incised	bifid - shallowly incised	unifid

opinion that the criteria according to which JEANNEL included this species in the subgenus *Neoduvalius* are not satisfactory. Namely, all the mentioned features are frequently encountered in members of the subgenus *Duvalius* (s.str.) as well, while the author himself already pointed to the fact that the presence of complete frontal furrows in *cvijici* is an aberrant state (for *Neoduvalius*). A bilobed “pièce copulatrice” found in *cvijici* is also commonly encountered within the subgenus *Duvalius* (s.str.). According to this, we conclude that the species *cvijici* is to be transferred to *Duvalius* (s.str.), as the third member of the nominotypical subgenus in Serbia.

It is interesting to emphasize that all our specimens (of both *c. cvijici* and *c. stopicensis*), have one smaller or larger depigmented oval-shaped area with 12-20 very small, barely visible ommatidia. JEANNEL has overlooked this detail, or perhaps his specimens did not have this depigmented area. This suggests the possibility that a different level of eye reduction could exist even within a single population of this species.

***Duvalius (Duvalius) suvoborensis* Pavićević et Popović, n. sp.**
(Figs. 1, 2)

Length 4.5 to 5.5 mm. Colour uniformly reddish-brown, glossy.

Head voluminous, somewhat longer than wide, with widely rounded genae. Eyes strongly reduced, oval-shaped, with diameter of 0.18 mm, not pigmented, consisting of about 10 tiny whitish ommatidia encircled with a pigmented ring. Frontal furrows complete, deep, but shallow and barely visible in their posterior third. Antennae with the pubescence, extending to the mid-length of the elytrae, or slightly longer.

Pronotum heart-shaped, wider than its length, widest in its anterior third and markedly narrowing backwards, its hind corners sharp and directed outwards. Elytrae oval and elongate, widest at their mid-length (or just behind that point), weakly convex, with four inner striae deep, strongly and densely punctulate, outer striae replaced with rows of shallow punctures, which gradually fade towards the outer margin of the elytrae. Inter-striae slightly convex. Humerus distinctly marked, obtuse - angled. Humeral group of “série ombilique” relatively spaced, the third and fourth seta somewhat more spaced from the outer groove. Discus with two setae on third stria, the first of which being positioned equidistantly from the third and fourth seta of the “série ombilique”, the second one situated at the widest part of the elytra.

Legs of moderate length, fore tibia with a distinct furrow all along its length.

Aedaeagus, in lateral aspect (Figs. 2a), curved almost all along its length, distinctly narrowed apically, with almost straight tip. In dorsal aspect (Figs. 2b), aedaeagus asymmetrical, with a rounded apex. “Pièce copulatrice”, in dorsal aspect, appears as a funnel-like structure, with a widely obtuse apex; the entire

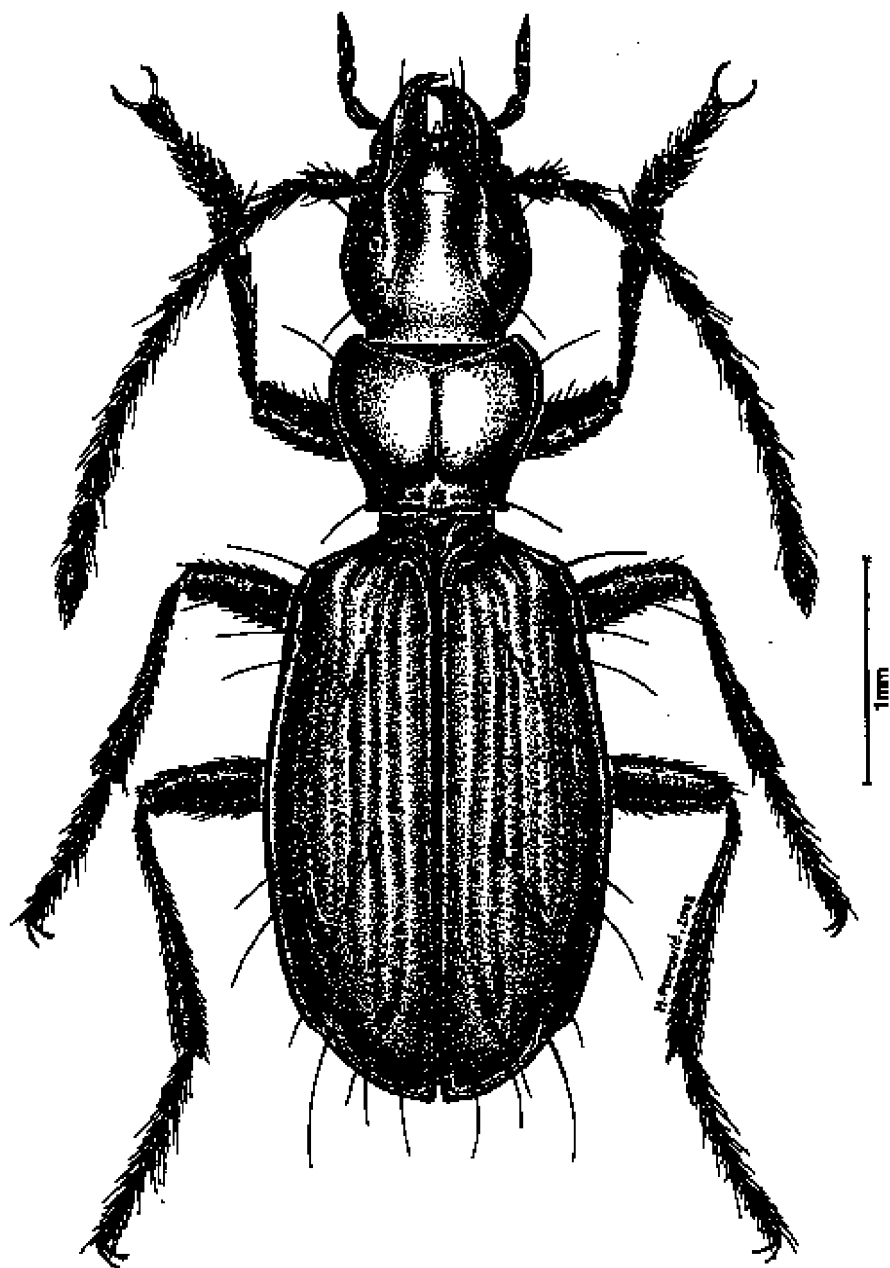


Fig. 1. *Duvalius suvoborensis* sp. n., habitus.

structure weakly chitinised (possibly due to the fact that the specimen is a teneral individual). Paramerae wide and with four setae.

HOLOTYPE: male, Serbia, Suvobor Mt., Rajac, Brezaci, cave in Brezaci, 690 m (entrance), 05.06.-03.12.2002 (leg. D. Pavičević). PARATYPI: 6 females (same data as holotype). The holotype is deposited in the collection of the Institute of Nature Protection of Serbia, Belgrade, the paratypes are in the collection of the authors.

DERIVATIO NOMINIS: Named after the mountain where the specimens were collected.

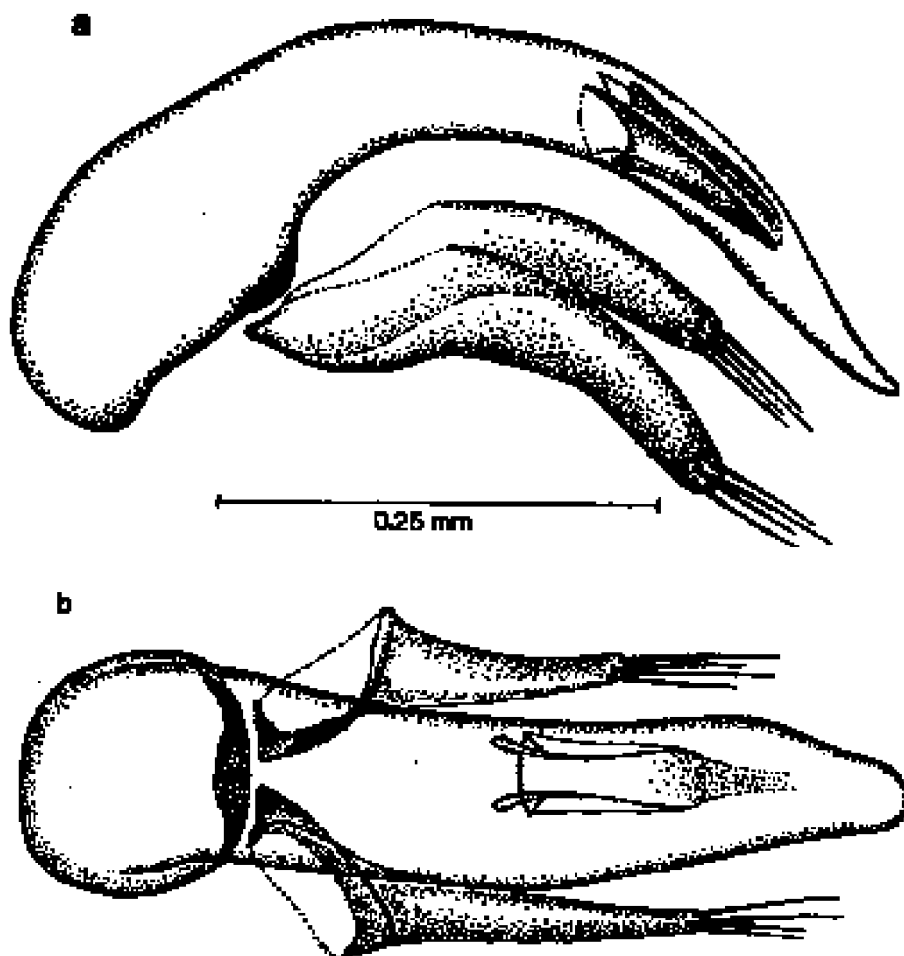


Fig. 2. *Duvalius suvoborensis* sp. n., aedeagus: a) lateral view; b) dorsal view.

This new species has an isolated position within the subgenus *Duvalius* (s.str.), and cannot be associated with any of the already recognised species groups. It is not surprising, regarding the fact that the territory of Serbia encompasses the periphery of the subgenus range in the Balkans. The same notion goes for other troglobiontic species from Serbia, viz. *D. bolei* and *D. cvijici*. For the moment, it would be inappropriate and even very pretentious to establish a new subgenus, until the area of Serbia is better explored (when some related species might possibly be discovered).

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**НОВА ВРСТА ПОДРОДА *DUVALIUS* (s.str.) ИЗ ЗАПАДНЕ
СРБИЈЕ, СА НАПОМЕНАМА О ОСТАЛИМ ВРСТАМА У
СРБИЈИ (COLEOPTERA, CARABIDAE, TRECHINAE)**

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И з в о д

У раду је дат опис за науку нове троглобионтске врсте подрода *Duvalius* (s.str.) са планине Суворор (Рајац) у западној Србији. До сада су из Србије биле познате само две врсте из поменутог подрода, ендегјска *D. (s.str.) sturanyi* Apfelbeck, 1904, позната из Србија са планине Бобије, и троглобионтска *D. (s.str.) bolei* Pretner, 1963, описана из Преконошке пећине на Сврљишким планинама (источна Србија). Такође, врста *Duvalius cvijici* Jeannel, 1923, оригинално описана у оквиру подрода *Neoduvalius*, пребачена је у номинотипски подрод, на основу ревидираног статуса релевантних диференцијалних карактера.

Нова врста читавим низом морфолошких одлика заузима посебно место у подроду *Duvalius* (s.str.).

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