

**A NEW SUBSPECIES OF *CARABUS (TRIBAX) BIEBERSTEINI*
MÉNÉTRIÈS, 1832 FROM NORTH CAUCASUS (COLEOPTERA:
CARABIDAE)**

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Abstract – A series of specimens of *Carabus (Tribax) biebersteini* Ménétriès, 1832 was collected in the north Caucasus (Stavropol Region, 33 km to the north-west from Kislovodsk City, Pastbischnyi Mt. Ridge). This locality is far from the area where known subspecies of *Carabus (Tribax) biebersteini* occur and steppe regions in-between probably isolate this population from them. The collected specimens differ from other subspecies by the shape, structure and coloration of the pronotum and elytra, and represent a new subspecies, *Carabus (Tribax) biebersteini vlasenkoi* ssp. n., which is described in this paper and which, most probably, is restricted to Pastbischnyi Mt. Ridge. Diagnostic characters are given.

KEY WORDS: Coleoptera, Carabidae, Carabini, new subspecies, north Caucasus, Stavropol Region.

Izvleček – NOVA PODVRSTA KREŠIČA *CARABUS (TRIBAX) BIEBERSTEINI* MÉNÉTRIÈS, 1832, S SEVERNEGA KAVKAZA (COLEOPTERA: CARABIDAE)

Vrsta primerkov krešiča *Carabus (Tribax) biebersteini* Ménétriès, 1832, je bila zbrana na severnem Kavkazu (Stavropolska regija, 33 km severozahodno od Kislovodska, v gorski verigi Pastbischnyi). To najdišče je daleč od območja, kjer živijo znane podvrste vrste *Carabus (Tribax) biebersteini* in vmesni stepski predeli verjetno to populacijo ločujejo od njih. Zbrani primerki se od drugih podvrst ločijo po obliki, strukturi in obarvanosti pronotuma in pokrovk ter predstavljajo novo

povrsto, *Carabus (Tribax) biebersteini vlasenkoi* ssp. n., opisano v tem prispevku, najverjetneje omejeno na gorsko verigo Pastbischnyi. Podani so razlikovalni znaki.

KLJUČNE BESEDE: Coleoptera, Carabidae, Carabini, nova podvrsta, severni Kavkaz, Stavropolska regija.

Introduction

Carabus (Tribax) biebersteini Ménétrières, 1832 is a polymorphic species which is distributed in the west and central Caucasus. The species includes ten subspecies: *Carabus (Tribax) biebersteini biebersteini* Ménétrières, 1832; *Carabus (Tribax) biebersteini ingusch* Zolotarev, 1913; *Carabus (Tribax) biebersteini ulgeni* Gottwald, 1982; *Carabus (Tribax) biebersteini fossiger* Chaudoir, 1877; *Carabus (Tribax) biebersteini hurkai* Gottwald, 1980; *Carabus (Tribax) biebersteini constantinowi* Starck, 1894; *Carabus (Tribax) biebersteini otcharensis* Kurnakov, 1972; *Carabus (Tribax) biebersteini retezari* Gottwald, 1980, and *Carabus (Tribax) biebersteini barakaicus* Zamotailov, 1991.

Descriptions of subspecies of *Carabus (Tribax) biebersteini* described earlier is omitted from this paper and can be found in the works by Chaudoir (1877), Gottwald (1980, 1982), Kurnakov (1972), Ménétrières (1832), Starck (1894), Zamotailov (1991) and Zolotarev (1913). In present paper description of a new subspecies as well as the distribution of all recognized taxa of *Carabus biebersteini* are given.

Description

Carabus (Tribax) biebersteini vlasenkoi ssp. n. (Figs 1, 2).

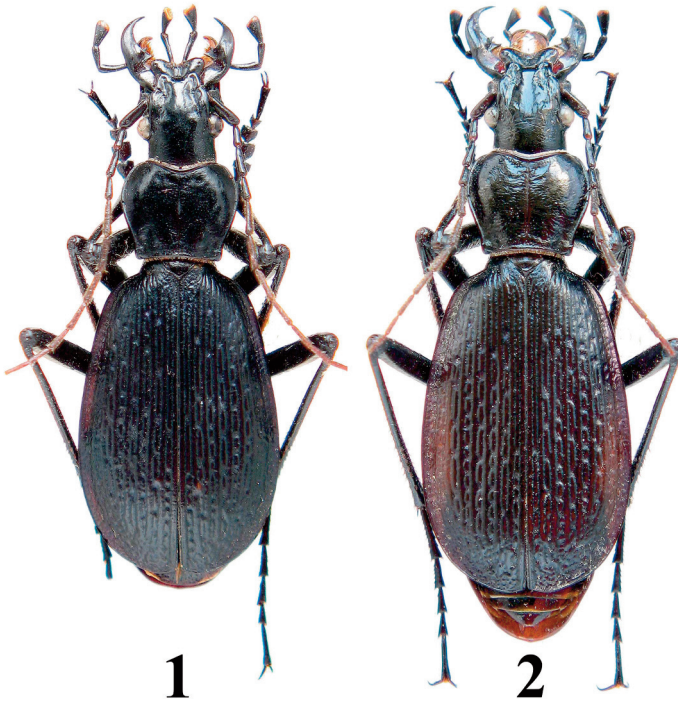
Material examined: Holotype: male with label: "Russia, North Caucasus, Stavropol Region, 33 km from Kislovodsk City to the north-west, Predgornyi Dist., 8 km from st. Bekeshevskaya to the south-west, Forestry "Ugolnaya Dacha", Pastbischnyi Mt. Ridge, left coast of Kuma River, 800 m, N44°02' E42°21', 11-17.05.2006, A. Vlasenko leg.

Papatypes: male and 7 females, same date and same locality.

The holotype is deposited in the Zoological Museum of Moscow Lomonosov State University (Moscow, Russia). Paratypes are deposited in the State Biological Museum (Moscow, Russia) and the Andrey S. Vlasenko collection (Moscow, Russia).

Description: Body length in males 27.6 - 28.2 mm (including mandibles), width 9.9 - 10.3 mm; in females 27.5 - 31.0 mm, width 10.0 - 11.2 mm.

Head not thickened; ratio width of pronotum/width of head 1.71; eyes strongly convex; mandibles long and narrow, strongly incurved; terebral tooth of the right



Figs 1-2: *Carabus (Tribax) biebersteini vlasenkoi* ssp. n.: 1 – holotype, 2 – paratype.

and left mandibles bidentate, strongly prominent; retinaculum of the right and left mandibles triangular, moderately prominent; surface of mandibles smooth. Frontal furrows relatively deep, median smooth. Frons smooth; vertex and neck with sparse fine wrinkles. Labrum wider than clypeus, slightly notched, with two lateral setae. Antennae long, surpassing base of pronotum by five antennomeres; palpi strongly dilated; penultimate palpomere of the maxillary palpi equal to the last palpomere; penultimate palpomere of the labial palpi with two setae. Mentum tooth narrow triangular, equal to lateral lobes; submentum with transverse coarse wrinkles and with two setae.

Pronotum flattened, strongly cordiform; broadest before middle; ratio width/length 1.32. Disk of pronotum with sparse transverse fine wrinkles; pronotum smooth laterally. Median longitudinal line distinct; basal foveae big, median smooth. Sides of pronotum narrowly margined; lobes of hind angles short, triangular, slightly bent down. Lateral margin with two setiferous pores: one pore about at middle and one pore near hind angle.

Elytra oval, relatively convex; widest behind middle; shoulders prominent; margins of elytra narrowly margined. Ratio length/width 1.53; ratio width of elytra/width of pronotum 1.79. Elytral sculpture rough: all elytral interspaces convex, about equally developed, primary elytral interspaces uninterrupted or interrupted

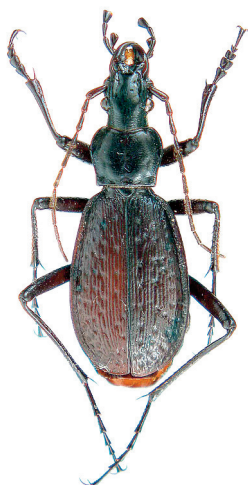
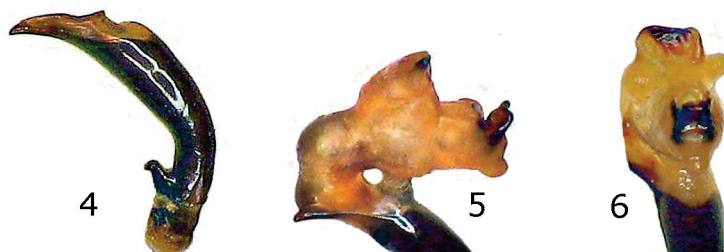


Fig. 3: *Carabus (Tribax) biebersteini biebersteini* Ménétriès, 1832. Kabardino-Balkaria, Tcheget, 3000 m, 5.VI.1988, M. Danilevsky leg.



Figs 4-6: male genital structure of *Carabus (Tribax) biebersteini vlasenkoi* ssp. n.: 4 – aedeagus, 5 – endophallus in complete extension (right lateral view), 6 – apical part of endophallus in dorsal view showing aggonoporus.

into very long links, secondary and tertiary interspaces interrupted into relatively long and short links. Primary foveoles distinct; striae finely punctured.

Metepisternum smooth, shorter than wide; abdominal sternites smooth; sides of abdomen slightly finely wrinkled; sternal sulci absent.

Legs long; male fore tarsi with four dilated segments bearing hairy pads.

Aedeagus (Fig. 4) strongly curved near the basis, in distal part nearly straight, apical lamella narrow; endophallic structure in general characteristic for species (Figs 5, 6).

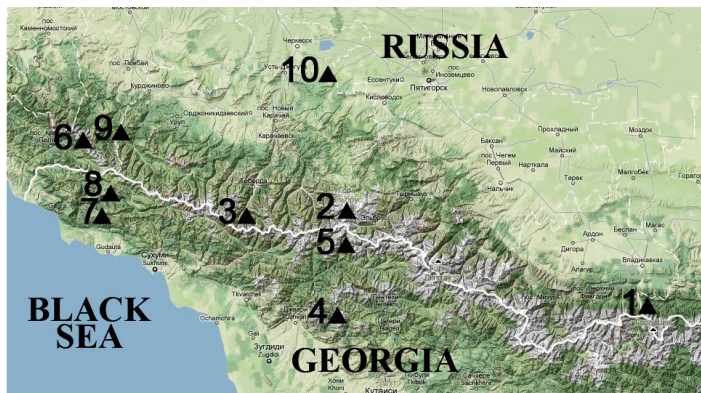


Fig. 7: The map of Caucasus. Type localities of subspecies of *Carabus (Tribax) biebersteini*:

1. *Carabus (Tribax) biebersteini ingusch* Zolotarev, 1913 (“upper Terek River”)
2. *Carabus (Tribax) biebersteini biebersteini* Ménériès, 1832 (“Elbrus”)
3. *Carabus (Tribax) biebersteini ulgeni* Gottwald, 1982 (“Mt. Mussatschitara”)
4. *Carabus (Tribax) biebersteini fossiger* Chaudoir, 1877 (“Egrissky Mt. Ridge”)
5. *Carabus (Tribax) biebersteini hurkai* Gottwald, 1980 (“Svanetia”)
6. *Carabus (Tribax) biebersteini constantinowi* Stark, 1894 (“Mt. Aishkha”)
7. *Carabus (Tribax) biebersteini otcharensis* Kurnakov, 1972 (“Mt. Chipshira”)
8. *Carabus (Tribax) biebersteini retezari* Gottwald, 1980 (“Pskhu vall.”)
9. *Carabus (Tribax) biebersteini barakaicus* Zamotailov, 1991 (“Umpyr env.”)
10. *Carabus (Tribax) biebersteini vlasenkoi* ssp. n. (“Pastbischnyi Mt. Ridge, Kuma Riv.”)

Coloration black with blue luster; antennae brown; margins of elytra and primary elytral foveoles violet or violet-pink; ventral body surface black.

Differential diagnosis: The geographically most adjacent subspecies of *Carabus (Tribax) biebersteini* to the collected specimens is *Carabus (Tribax) biebersteini biebersteini* (Fig.3)(also see the map). The new subspecies differs from nominotypical subspecies of *Carabus (Tribax) biebersteini* by following features: pronotum more cordiform and narrower (ratio width/length 1.32, in nominotypical subspecies – 1.40); lobes of hind angles shorter; elytra broader and more convex, widest behind middle (in nominotypical subspecies – at about middle); elytral sculpture more rough. Coloration of *Carabus (Tribax) biebersteini vlasenkoi* ssp. n. (black with blue luster, margins of elytra and primary elytral foveoles violet or violet-pink) is not characteristic for other subspecies of *Carabus (Tribax) biebersteini*, which are all constantly unicolored black.

Remark: The new subspecies is the most northern subspecies of *Carabus (Tribax) biebersteini*. The type locality of the new subspecies (Pastbischnyi Mt. Ridge) is strongly isolated from main Caucasian ridges by the steppe regions.

Population of the new subspecies is probably not linked by intermediate populations with other subspecies of *Carabus (Tribax) biebersteini*. Thus, *Carabus (Tribax) biebersteini vlasenkoi* ssp. n. has got many features not characteristic for the typical *Carabus biebersteini*.

Habitat: Oak-forest with a touch of beech, maple and ash-tree with a thick layer of a deciduous laying. In the lower layer of the forest – honeysuckle (*Lonicera caprifolium*).

Etymology: The new subspecies is named in honour of Russian entomologist Mr. Andrei S. Vlasenko (Moscow).

Acknowledgements

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References

- Chaudoir M.**, 1877: Note sur quelques espèces de Carabes plats du Caucase. *Deutsche Entomol. Zeitschrift*, 29 (1): 69-76.
- Gottwald J.**, 1980: Revision der Untergattung *Tribax* der Gattung *Carabus* (Coleoptera, Carabidae), *Acta entomol. Bohemoslow.*, 77: 25-45.
- Gottwald J.**, 1982: Zur Taxonomie und Nomenklatur von *Tribax* und verwandten Untergattungen der Gattung *Carabus* (Coleoptera, Carabidae), *Acta entomol. Bohemoslow.*, 79: 207-220.
- Kurnakov V. N.**, 1972: Contribution à la Faune des Carabiques du Caucase. VI. Nouveaux Carabes du Caucase. *Nouvelle Revue d'entomologie* II, 2: 111-115.
- Ménétrières E.**, 1832: Catalogue raisonné des objets de Zoologie recueillis dans un voyage au Caucase et jusqu'aux frontières actuelles de la Perse entrepris par ordre de S. M. l'Empereur. St. Petersburg: 271 pp.
- Starck A.**, 1894: Coleoptera nova Imperii Rossici. *Wiener Entomol. Zeitung*, 13: 7-11.
- Zamotailov A. S.**, 1991: On new carabids of the genus *Carabus* L. (Coleoptera, Carabidae) from Caucasus. 2nd contribution. *Entomol. Basiliensia*, 14: 27-42.
- Zolotarev A.**, 1913: Neue kaukasische Caraben. *Coleopterologische Rundschau*, 2: 77-78.

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