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Igor BELOUSOV* & Alexandr ZAMOTAJLOV**

**The first record of the subgenus *Cechenochilus*
Motschulsky, 1850 for Turkey
(Coleoptera Carabidae genus *Carabus* L.)**

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Abstract. A new species of the subgenus *Cechenochilus* Motschulsky (genus *Carabus* Linnaeus), *C. lazorum* n. sp., is described from the Lazistan Mt. Range, NE Turkey. The features distinguishing it from the closest Caucasian congener, *C. boeberi* Adams, are discussed, and the zoogeographical importance of the first find of *Cechenochilus* Motschulsky in Turkey is noted.

Резюме. Приводится описание нового вида подрода *Cechenochilus* Motschulsky (род *Carabus* Linnaeus), *C. lazorum* n. sp., с Лазистанского хребта в СВ Турции. Обсуждаются его отличительные признаки от наиболее близкого кавказского вида *C. boeberi* Adams, отмечается зоогеографическое значение первой находки *Cechenochilus* Motschulsky в Турции.

Key words: Carabidae, *Carabus*, *Cechenochilus*, new species, Turkey

INTRODUCTION

Cechenochilus Motschulsky has been regarded till now the only purely Caucasian subgenus of *Carabus* Linnaeus, its species known to inhabit high mountains of the entire Caucasus Major and absent from Transcaucasia south of Likh Pass (BELOUSOV & ZAMOTAJLOV, 1993; GOTTWALD, 1983; KRZYZHANOVSKIJ & al., 1995; ZAMOTAJLOV, 1997). In 1996 - 1997 the authors of the present paper, accompanied by Mrs. G. Davidian and V. Shchurov, undertook two entomological expeditions to East Turkey. One of the most interesting results of these researches, is the discovery of a new species, belonging to the subgenus *Cechenochilus* Motschulsky from North-East Turkey (Lazistan Mt. Range). Its description is given below.

The holotype of new species is deposited in the Zoological Institute of Russian Academy of Sciences (St.-Petersburg), paratypes - in the collections of the authors.

***Carabus (Cechenochilus) lazorum* n. sp.**

Figs 1, 5 - 9, 19 - 21.

MATERIAL: Holotype, ♂, NE Turkey, S of Rize, Okçular Dağı, W of Demir Dağ, 2200 m, 26. VI. 1996, I. Belousov. Paratypes, 1 ♀, same locality, together with holotype; 1 ♀, NE Turkey, vill. Yaylalar vic., Kaçkar Dağı Mt. Range, 2900 - 3200, 6. VII. 1997, A. Zamotajlov & V. Shchurov.

DESCRIPTION. Ovate, specimens from Okçular Dağı convex and robust, the one from Kaçkar Dağı rather strongly depressed. Dorsum blackish, dull, with light lilac-violet tint, sides of pronotum and elytra brighter, antennae, legs and palpi uniformly black. Total length (excluding mandibles) 18.4 - 18.8 mm.

Head somewhat thickened, but not hypertrophied, 0.68 - 0.71 times as wide as pronotum and 1.21 - 1.23 times as wide as length of pronotum. Labrum rather strongly emarginate apically, with 2 large lateral pores, situated closer to base, and transverse row of small medial setae. Anterior edge of clypeus with deep triangular emargination, clypeal suture more or less straight. Mandibles thick, massive,

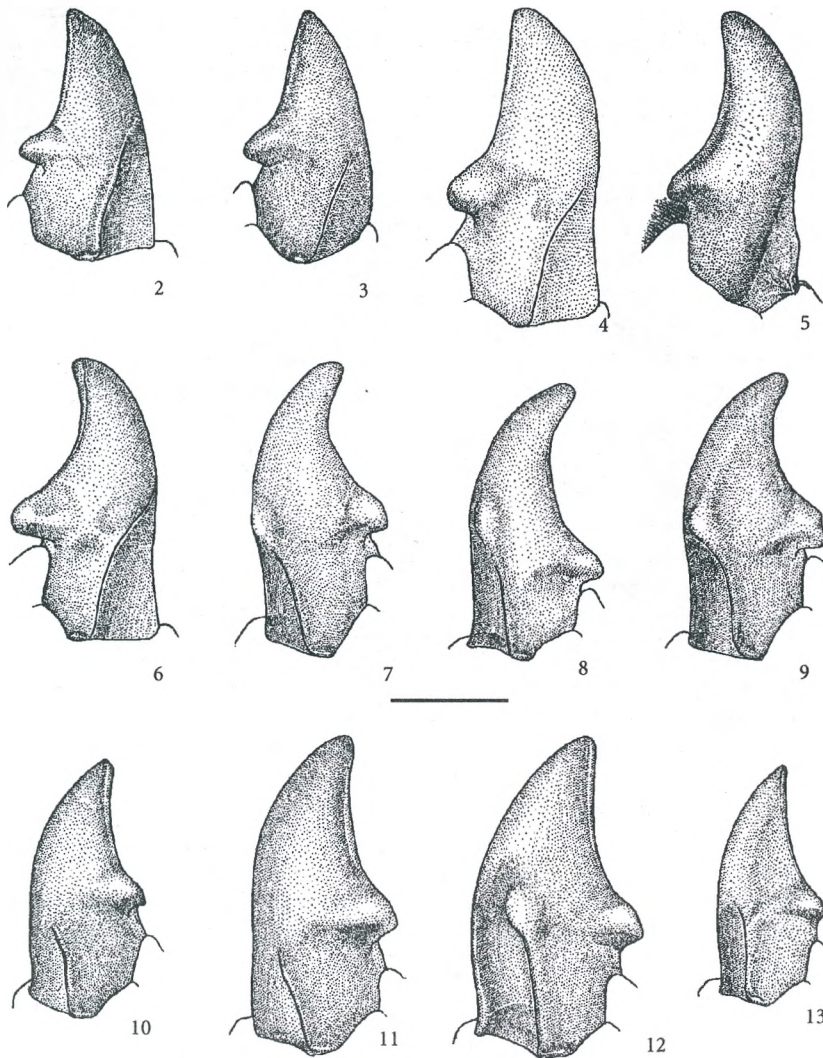


Fig. 1. *Carabus lazorum* n. sp., general view.

distinctly curved distally (Figs 5 – 9), particularly along inner edge; mandibular teeth large and bulging, confluent with the rest part of mandibles, their apices simple, blunted in the right mandible (Figs 5 – 6) and usually somewhat obliquely cut in the left one (Figs 7, 9). Tooth of mentum (Fig. 18) very large, longer than lateral lobes, directed nearly anteriorly and downwards, its sides weakly and gradually attenuated towards apex, which is dull and rounded; its surface of different structure: smooth (Fig. 18), with longitudinal gutter, or possessing median longitudinal keel. Labial suture straight, well-developed. 2 submental setae. Palpi rather thick, particularly apical triangular segments of labial palpi; penultimate joints of labial palpi usually with 2, rarely with 3 setae (Figs 16, 17). Glossum of different shape, triangular or rounded, sclerotized, bearing wreath of uprighting setae. 1 supraorbital pore. Reticulation of head surface of sparse superficial wrinkles, more pronounced at sides, and very fine microscopic punctures. Gular sutures strongly divergent posteriorly.

Antennae rather thick, 2 basal joints somewhat swollen, especially dorsally (Figs 19 – 21); antennomere 1 1.85 – 2.10 times as long as wide and antennomere 2 1.11 – 1.31 times as long as wide. Setiferous pore of antennomere 1 situated near apex, antennomere 2 glabrous, antennomere 3 apically and all other antennomeres ciliated; 3 basal joints usually with more or less strong depression basally, particularly distinct in antennomere 3.

Pronotum subcordate, strongly transverse, 1.69 – 1.77 times as wide as long, sides feebly sinuate or almost straightened before hind angles; the latter represented as short triangular lobes, rounded apically, distinctly protruding beyond base. Front angles protruding. Lateral gutter rather widely explanate, gradually broadened basally. Basal margin nearly straight. Front margin deeply and angulately emarginate. Transverse gutter running along front margin distinct throughout (only in 1 ex. studied, possessing smoothed sculpture, interrupted in the middle). 1 – 2 setae in anterior one-third of lateral margin, basal setae completely reduced in all ex. studied. Surface structure quite irregular, disc with comparatively sparse superficial punctures and wrinkles, areas along front and lateral margins and, in particular, base covered by coarse, extremely deep, anastomosing wrinkles and punctures.



Figs 2-13. *Carabus* (*Cechenochilus*) spp., mandibles: 2, *C. boeberi longiceps* Chaudoir, ♂, Askhi Plateau; 3, *C. boeberi boeberi* Adams, ♂, Mt. Uazokhokh (Ossetia); 4, *C. boeberi longiceps* Chaudoir, ♀, Plateau Askhi; 5, *C. lazorum* n. sp., paratype, Okçular Dağı; 6, idem, paratype, Kaçkar Dağı; 7, idem, holotype; 8, same as in fig. 5; 9, same as in fig. 6; 10, same as in fig. 2; 11, same as in fig. 4; 12, *C. boeberi boeberi* Adams, ♀, Mt. Uazokhokh (Ossetia); 13, idem, ♂, Pass Krestovy. 2-6, right mandible; 7-13, left mandible. Scale: 1 mm.

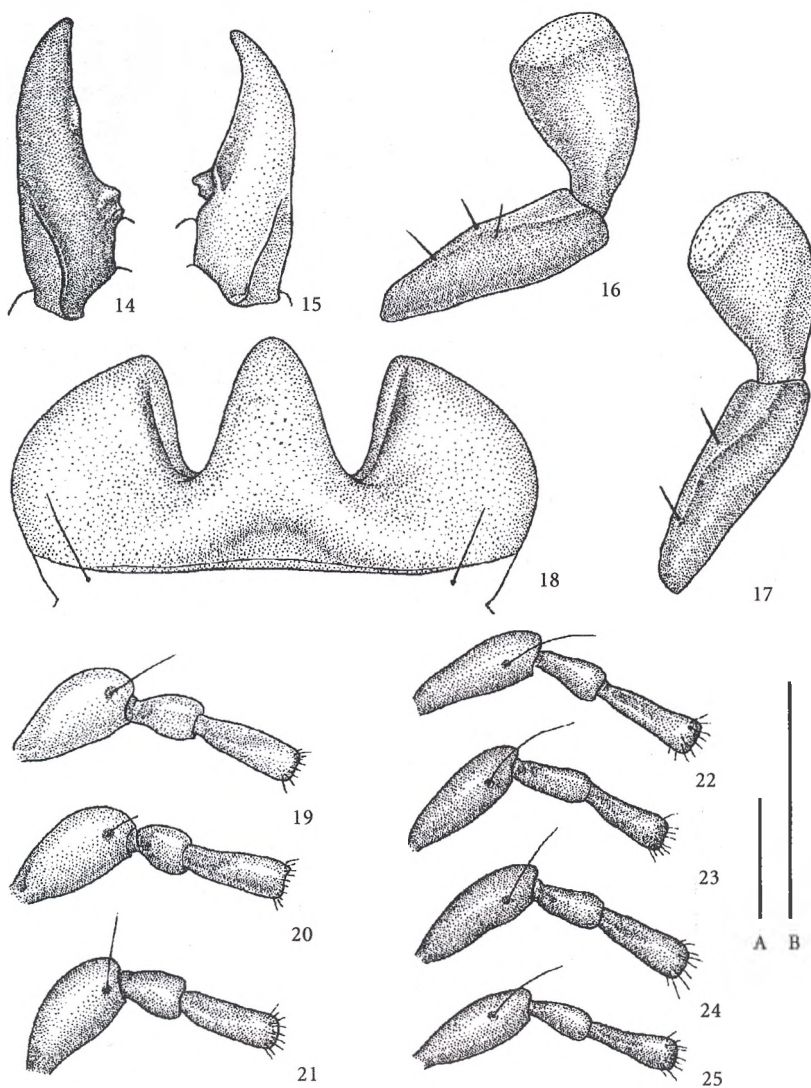
Elytra short-ovate, 1.53 – 1.62 times as long as wide, apex somewhat pointed, apical engraving missing, even lateral sides nearly sinuated before apices. Sculpture triploid homodynamous, all interspaces developed somewhat uniformly, moderately convex, striae prominently punctate, thus surface being somewhat regularly and finely granular. Primary interspaces with rows of setiferous pores, outer one with 3 – 6 pores and 2 inner ones with 1 – 3 pores, situated generally at apical

elytral skate. All pores small, of the same colour as elytral background, thus being hardly distinguishable. Median (second) primary interspace without pores along a considerable portion of its length. Specimens from Okçular Dağı with integral, easily distinguishable 14 inner interspaces, other (outer) ones forming wide marge with irregular sculpture, bordering elytra. The single known ex. from Kaçkar Dağı possesses 16 – 17 distinguishable interspaces, resulting in narrower margin with irregular sculpture. Interspace 1 (sutural) with longitudinal furrow throughout, variable in its depth in all ex. studied, usually being like other elytral striae, or seldom more superficial, even fragmented into several components.

Abdominal sternites with a couple of medial setae, transverse wrinkles completely missing. Anal sternite with 4 – 8 setae along hind margin, 4 – 6 of them being prominently longer; apical area of anal sternite with faint depression and undulating transverse rugosity. Legs normal, somewhat depressed in ex. from Okçular Dağı. Middle tibiae with hair brush along outer edge distally.

DIAGNOSIS AND DISCUSSION. Two species-groups of *Cechenochilus* Motschulsky, populating the Caucasus (namely *boeberi*- and *heydenianus*-groups), occur sympatrically on vast territories along W and C Caucasus from Mt. Khatsavitaya in the West to Elbrus region and Shtavler Mt. Range in the East. Even each of them is represented in different localities within the outlined area by taxa with very different habitus, forms of *C. boeberi* are always easily distinguishable from the *heydenianus*-group members by conical, strongly thickened and distally almost straight mandibles with hypertrophied mandibular teeth of peculiar shape (Figs 2 – 4 compared with Figs 14 – 15). The new species is quite interesting in this important respect: on the one hand, the shape of the mandibles unequivocally testifies to closer relation of the taxon in question to *C. boeberi*; on the other hand, it differs from all the many known Caucasian forms in the prominently curved apical part of mandibles. Hence we can conclude that Turkish taxon possesses the less specialized state of this character.

Furthermore, in spite of strong habitus difference between the known ex. of *C. lazorum* n. sp., all of them appeared to be rather homogeneous in the structure of basal antennomeres, being easily distinguishable in this respect from all forms of *C. boeberi*. Thus, antennomeres 1 and 2 more strongly swollen: antennomere 1 1.85 – 2.10 times as long as wide in *C. lazorum* n. sp. compared with 2.20 – 2.35 times in *C. boeberi*; antennomere 2 1.10 – 1.30 times as long as wide compared with 1.45 – 1.70 times as long as wide, respectively. In addition, the setiferous pore on antennomere 1 situated closer to distal edge, while in *C. boeberi* being evidently more proximal (Figs 19 – 21 to compare with Figs 22 – 25). Taking into account extreme variability of the mentum tooth in different Caucasian *Carabus* (including *Cechenochilus*), the authors are quite cautious in treatment of this character. However, in the present case it can be shown that the new taxon clearly differs from *C. boeberi* in longer (distinctly longer than lateral lobes) and more parallel-side mentum tooth with the sides less attenuated apically (Fig. 18). It must be also pointed out, that the gular sutures are more strongly diverging posteriorly in *C. lazorum* n. sp. (on average). However, this character state frequently occurs in some specimens of *C. boeberi*, so it cannot be regarded as significant. Besides mandibular and antennal structure, the absence of pronounced hypertrophy of the head, characteristic of females of *C. boeberi*, can be mentioned as one of the most



Figs 14-25. *Carabus (Cechnochilus)* spp., details: 14, 15, *C. adangensis* Gottwald, ♀, Mamkhurts; 16, 17, 18, *C. lazorum* n. sp., Okçular Dağı; 19, idem, holotype; 20, idem, paratype, Okçular Dağı; 21, idem, paratype, Kaçkar Dağı; 22, *C. boeberi longiceps* Chaudoir, ♀, Plateau Askhi; 23, *C. boeberi boeberi* Adams, 2, Mt. Uazokhokh (Ossetia); 24, *C. boeberi felix* Semenov & Znojko, 2, Mt. Khatipara; 25, *C. boeberi schachensis* Mandl, ♀, Mt. Shakh Dagh. 14, left mandible; 15, right mandible; 16, 17, labial palpus; 18, mentum; 19-25, basal antennomeres 1-3. Scales: 1 mm (A – figs 14-15, 19-25; B – figs 16-18).

important discriminative features of the new species. Actually, width of head (excluding eyes) to length of pronotum ratio is only slightly variable in 3 ex. studied: 1.21 – 1.23 to compare with 1.33 – 1.65 in different forms of *C. boeberi* (width of pronotum to width of head ratio being 1.40 – 1.47 and 1.20 – 1.32 respectively). It

is noteworthy, that hypertrophy of the head usually correlates in *C. boeberi* with thickening of the mandibles and development of the outer swelling on the left mandible. All ex. of *C. lazorum* n. sp. possess well-developed swelling, but hypertrophy of the head is quite poorly pronounced (Figs 10 – 11, 13 compared with Fig. 12).

The most important diagnostic feature in the structure of the pronotum is absence of a lateral seta near hind angles. Among hundreds of *C. boeberi* specimens studied in this respect, only few possess a seta on one side, another one missing; symmetric reduction of pores on either side in all Turkish ex. is indisputably notable. As another peculiarity of the pronotum, more coarse sculpture on sides and base in *C. lazorum* must be mentioned.

Reduction of discal pores on elytra, effecting particularly two inner primary interspaces, probably should not be regarded as important taxonomic feature. Geographically the closest to *C. lazorum* n. sp. subspecies of *C. boeberi*, namely *C. boeberi longiceps*, populating Southern Slope of the Caucasus Major, also possesses strong reduction of discal setae. However it must be noted, that the nearest to *C. lazorum* n. sp. population from Askhi Plateau in Mingrelia, on the contrary, has normally developed discal setation, being distinguishable in this respect from the Turkish species.

In conclusion we have to admit, that only structure of male genitalia, still unknown to us, can shed light to actual position and status of the above described taxon. Nevertheless, the characters of external morphology in themselves seem to support very strongly its specific status (even though both species, *C. boeberi* and *C. lazorum* n. sp. are closely related). Based upon above described features, we consider *C. lazorum* n. sp. shows less specialisation compared with *C. boeberi*.

Undoubtedly, discovery of the subgenus *Cechenochilus* Motschulsky in the Lazistan Mt. Range proves the close zoogeographical connections of this region of Turkey to the Caucasus, as already observed in several taxa of carabids: subgenera *Lipaster* Motschulsky and *Tribax* Fischer-Waldheim of *Carabus* Linnaeus, subgenera *Oreoplatysma* Jacobson and *Haplomaseus* Reitter of *Pterostichus* Bonelli, subgenus *Eutroctes* Zimmermann of *Zabrus* Clairville, genus *Troglocimmerites* Ljovuschkin, *Lindrothius*-species, as well as in several species groups, namely *Sphodristocarabus*-species close to *C. varians* Fischer-Waldheim (including *armeniacus* Mannerheim), *Calathus femoralis* Chaudoir, etc.¹⁾

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¹⁾ Among the examples mentioned, the most striking similarity in distribution is observed in *Cechenochilus* Motschulsky and *Lindrothius* Kurnakov; both groups are generally nival and their distribution pattern seems to reflect the ancient faunistic connections of this region of Turkey and the Central Caucasus.

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