

NEW TAXA OF THE GENUS *CARABUS* (COLEOPTERA, CARABIDAE) FROM SIBERIA AND NORTH CHINA.

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ABSTRACT: One new species and two new subspecies of the genus *Carabus*: *Carabus (Diocarabus) bargusinensis* sp. n.; *Carabus (Carabus) billbergi siolinicus* ssp. n. and *Carabus (Carabus) arvensis kargiensis* ssp. n. are described from Siberia and North China. Diagnostic data are given.

KEY WORDS: Coleoptera, Carabidae, *Carabus*, new subspecies, Siberia, North China.

DESCRIPTION

Carabus (Diocarabus) bargusinensis sp. n. (Ph. 1,2).

Material examined: Holotype: male with label: "Transbaikalie, S-W Barguzin Mt. Ridge, 1800 m, upper level of Sosnovka River, 23.VII.1989, T. Ananina leg."; Papatypes: 1 male, 1 female, same data and same locality.

Description: Body length in males 14.0-14.2 mm (including mandibles), width 5.5-5.7 mm; body length in female 15.5 mm, width 6.3 mm.

Head not thickened, ratio width of pronotum/width of head 2.0; eyes convex; mandibles very short, slightly incurved; terebral tooth and retinaculum of right and left mandibles slightly prominent; surface of mandibles smooth. Frontal furrows deep, inside with sparse coarse punctures and wrinkles. Frons, vertex and neck with coarse punctures. Labrum slightly wider than clypeus, moderately notched, without lateral setae. Antennae protruding beyond the base of pronotum by 3-4 apical segments; palpi moderately dilated; penultimate segment of the maxillary palpi equal to the last segment; penultimate segment of the labial palpi with 2 setae. Mentum tooth narrow, triangular, equal to lateral lobes; submentum with 2 setiferous pores.

Prothorax transverse, flattened, broadest at about middle; ratio width/length 1.80. Pronotum with dense coarse punctures. Median longitudinal line distinct; basal foveae small, oval, inside with coarse wrinkles. Sides of pronotum narrowly margined, its margin slightly broader and slightly bent upwards posteriorly; lobes of hind angles triangular, slightly bent downwards. Lateral margin with 2-3 setiferous pores.

Elytra oval, moderately convex, widest at about middle; shoulders strongly prominent; sides of elytra narrowly margined. Ratio

length/width 1.63; ratio width of elytra/width of pronotum 1.32. Elytral sculpture triploid, homodynamous. Primary elytral foveoles very big and deep.

Metepisternum smooth, slightly longer than its width; abdominal sternites smooth; sternal sulci absent.

Legs of normal length; anterior male tarsi with four dilated segments bearing hairy pads.

Aedeagus (Fig. 1).

Pronotum and elytra dark bronze; elytral margins and primary elytral foveoles bright reddish-bronze; mandibles, palpi, antennae, legs and ventral body surface black; tibiae reddish-brown.

Differential diagnosis

The new species related to *Carabus (Diocarabus) slovtzovi* Mannerheim, 1849, but differs from the latter by following features: head thicker, punctuation of head more dense, eyes more convex; shape of pronotum absolutely different; pronotum more flattened with more dense punctuation, basal foveae much smaller, median longitudinal line more distinct, lobes of hind angles much longer, elytra more flattened, primary elytral foveoles bigger and deeper; body longer and more robust; coloration darker. Besides the new species differs from *C. slovtzovi* by shape of aedeagus (Figs 1,2). From *Carabus (Diocarabus) dorogostaiskii* Shilenkov, 1983 the new species differs by shape of pronotum and elytra, by elytral sculpture, by one-colored pronotum and elytra and absence of green or golden margins of elytrae.

Distribution: East Siberia: south-western part of Barguzin Mt. Ridge.

***Carabus (Carabus) billbergi siolinicus* ssp. n.** (Ph. 3,4).

Material examined: Holotype: male with label: "North China, Siolin env., 18-29.VI.1996, A. Doroshenko leg."; Papatypes: 2 males, 2 females, same data and same locality.

Description: Body length in males 18.2-19.0 mm (including mandibles), width 7.2-7.8 mm; body length in females 18.5-20.0 mm, width 8.0-8.5 mm.

Head not thickened, ratio width of pronotum/width of head 2.10; eyes strongly convex; mandibles relatively long and broad, strongly incurved and sharply pointed at the apex; terebral tooth of the right and left mandibles bi-dentate, prominent; retinaculum of the right mandible prominent, retinaculum of the left mandible indistinct; surface of mandibles smooth. Frontal furrows deep and broad, inside smooth. Frons smooth, vertex and neck with few fine punctures. Labrum wider than clypeus, strongly notched, without lateral setae. Antennae long, protruding beyond the base of pronotum by 5 apical segments; palpi moderately dilated; penultimate segment of the maxillary palpi not longer

than the last segment; penultimate segment of the labial palpi with 2 setae. Mentum tooth triangular, equal to lateral lobes; submentum with 2 setiferous pores.

Prothorax transverse, flattened, broadest at about middle; ratio width/length 1.35. Pronotum with coarse punctures and wrinkles, its punctuation more rough and dense laterally. Median longitudinal line distinct; basal foveae small, not deep, inside with coarse wrinkles. Sides of pronotum broadly margined; lobes of hind angles long, triangular, slightly bent downwards. Lateral margin with 2 setiferous pores: one pore at about middle and one pore near hind angle.

Elytra oval, flattened, widest at about middle; shoulders prominent; sides of elytra narrowly margined. Ratio length/width 1.66; ratio width of elytra/width of pronotum 1.30. Elytral sculpture triploid, all elytral interspaces slightly convex. Primary foveoles distinct; striae finely punctured.

Metepisternum smooth, longer than its width. Abdominal sternites smooth; sternal sulci absent.

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

Shape of aedeagus and endophallic structure in general is characteristic for species.

Coloration blue, bronze or green; mandibles, palpi, antennae, legs and ventral body surface black.

Differential diagnosis

The new subspecies differs from *Carabus (Carabus) billbergi billbergi* Mannerheim, 1827 which is widely distributed in Transbaikalian Region (near to the Chinese border) by following features: pronotum flattened, narrower with more rough sculpture and much longer hind angles; elytra flattened, all elytral interspaces slightly convex, antennae and legs longer, coloration much variably (from blue to green). In nominotypical subspecies coloration in general bronze.

Distribution: Up to now only one population from North China (Siolin Village environs) is known.

Carabus (Carabus) arvensis kargiensis ssp. n. (Ph. 5,6).

Material examined: Holotype: male with label: "Tuva, Sangilen Mt. Ridge, 1600 m, Kargy River valley, 50°31'N97°01'E, 4.VII.1996, D. Obydov leg.; Papatypes: 3 males, 4 females, same data and same locality.

Description: Body length in males 17.2-18.0 mm (including mandibles), width 6.8-7.5 mm; body length in females 17.8-18.3 mm, width 6.8-7.9 mm.

Head not thickened, ratio width of pronotum/width of head 2.40; eyes strongly convex; mandibles short, strongly incurved and sharply pointed

at the apex; terebral tooth of the right and left mandibles uni-dentate, prominent; retinaculum of the right and left mandibles small, slightly prominent; surface of mandibles smooth. Frontal furrows deep and shallow, inside with coarse punctures and wrinkles. Frons, vertex and neck with coarse punctures and wrinkles. Labrum wider than clypeus, strongly notched, with 2 lateral setae. Antennae protruding beyond the base of pronotum by 4 apical segments; palpi slightly dilated; penultimate segment of the maxillary palpi equal to the last segment; penultimate segment of the labial palpi with 2 setae. Mentum tooth triangular, shorter than lateral lobes; submentum with 2 setiferous pores.

Prothorax transverse, very broad, broadest at about middle; ratio width/length 1.53. Pronotum with coarse punctures and wrinkles, its punctuation more rough laterally. Median longitudinal line distinct; basal foveae oval, small, deep, inside with coarse wrinkles. Sides of pronotum narrowly margined; lobes of hind angles very short, evenly rounded. Lateral margin with 2 setiferous pores: one pore at about middle and one pore near hind angle.

Elytra oval, convex, widest at about middle; shoulders prominent; sides of elytra narrowly margined. Ratio length/width 1.45; ratio width of elytra/width of pronotum 1.40. Elytral sculpture triploid, all elytral interspaces slightly convex, about equally developed; primary interspaces slightly broader, interrupted into the short links. Primary foveoles distinct; striae finely punctured.

Metepisternum smooth, slightly longer than its width. Abdominal sternites smooth; sternal sulci relatively deep.

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

Shape of aedeagus and endophallic structure in general is characteristic for species.

Coloration very constant: black, bronze or black with bronze lustre; mandibles, palpi, antennae, legs and ventral body surface black.

Differential diagnosis

The new subspecies differs from *Carabus (Carabus) arvensis conciliator* Fischer von Waldheim, 1822, which is widely distributed in Central and Eastern Siberia by following features: head narrower with less rough sculpture; antennae shorter, protruding beyond the base of pronotum by 4 apical segments (in *Carabus arvensis conciliator* – by 5 apical segments); pronotum much broader with less rough sculpture and very short hind angles; elytra more convex, shorter. Coloration very constant: black, bronze or black with bronze lustre (in *Carabus arvensis conciliator* – coloration very variably, elytra often with colour margins). In general body shorter.

Distribution: Tuva, Sangilen Mt. Ridge.

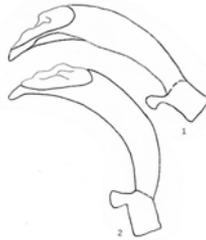
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Figures. Aedeagus: 1. *Carabus slovtzovi*; 2. *Carabus bargusinensis* sp. n.



Photos: 1. *C. bargusinensis* sp. n., male (Holotype). 2. *C. bargusinensis* sp. n., female (Paratype).



Photos: 3. *C. billbergi siolinicus* ssp. n., male (Holotype). 4. *C. billbergi siolinicus* ssp. n., female (Paratype).



Photos: 5. *C. arvensis kargiensis* ssp. n., male (Holotype). 6. *C. arvensis kargiensis* ssp. n., female (Paratype).