

**TWO NEW SUBSPECIES OF *CARABUS*
(*LIMNOCARABUS*) *CLATHRATUS* LINNÉ, 1761
(COLEOPTERA, CARABIDAE) FROM SIBERIA.**

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ABSTRACT: Two new subspecies of *Carabus (Limnocarabus) clathratus* Linné, 1761: *Carabus (Limnocarabus) clathratus jacutensis* ssp. n. and *Carabus (Limnocarabus) clathratus narymicus* ssp. n. are described from Siberia. The distinguishing characters are discussed.

KEY WORDS: Coleoptera, Carabidae, *Carabus (Limnocarabus) clathratus*, new subspecies, Siberia.

Carabus (Limnocarabus) clathratus has been described without indication of locality. The species is widely distributed in Eurasia: from southern France and northern British Islands to Central Yakutia (Russia) to the east and to Azerbaijan and northern Iran to the south. Closely related species *Carabus (Limnocarabus) maacki* Morawitz, 1862 is distributed in Russia, from south-eastern Transbaikalie to South Ussuri Land.

The wide area of *Carabus clathratus* is inhabited by many unequally differing populations. Some of the groups of populations, undoubtedly, must be considered as subspecies. *Carabus clathratus clathratus* is distributed in northern, central and eastern Europe. Widely distributed subspecies *Carabus clathratus auraniensis* Müller, 1902 inhabit Balkans and Turkey; *Carabus clathratus stygius* Ganglbauer, 1890 – Azerbaijan and northern Iran; *Carabus clathratus antonelli* Luigioni, 1921 – central Italy; *Carabus clathratus arelatensis* Lapouge, 1903 – southern France; *Carabus clathratus jansoni* Kraatz, 1890 inhabit Scotland.

Thus, the majority of populations constitutes a continuous sequence of forms slightly different in size, coloration and ratios, but it is hardly possible to consider these forms as a subspecies. Now a considerable number of subspecies of *Carabus clathratus* are described. The majority of subspecific names must be regarded as synonyms.

Earlier it was considered that nominotypical subspecies of *Carabus clathratus* is distributed in Russia from western borders up to central Yakutia, though widely distributed species often is represented by the extremely detached subspecies at the edge of the area.

The description of two new subspecies of *Carabus clathratus* from Siberia is given below.

Carabus clathratus is the typical of the wetlands, on the banks of canals, under moss or cut canes, in fallen tree trunks as well as in the

water habitat. Indeed, it can stay for long periods under water and is a good swimmer and underwater hunter.

DESCRIPTION

Carabus (Limnocarabus) clathratus jacutensis ssp. n. (Fig. 1).

Holotype: male with label: "Yakutsk, 27.VI.1994" (the collector is not known).

Papatypes: 2 males, female, same data and same locality; 4 males, 3 females: "Yakutia, Yakutsk env., Berdigestyakh, 1-5.VII.1994" (the collector is not known).

The holotype is preserved in the collection of the State Museum of Biology (Moscow, Russia). The paratypes are preserved in the collection of the State Museum of Biology (Moscow, Russia) and in the collection of Mr E. Tarasov (Moscow, Russia).

Body length in males is 23.5 - 24.0 mm (including mandibles), width 8.3 - 8.8 mm; body length in females is 23.8 - 24.2 mm, width 8.3 - 9.0 mm.

Head not thickened, ratio width of pronotum/width of head 2.21; eyes strongly convex; mandibles short, broad, evenly curved; surface of mandibles smooth; terebral tooth of the right and left mandibles bidentate, strongly prominent; retinaculum of the right mandible strongly prominent, retinaculum of the left mandible less prominent. Frontal furrows short and shallow, inside smooth. Frons, vertex and neck with dense fine punctures, laterally frons with few coarse wrinkles. Labrum wider than clypeus, moderately notched, without lateral setae. Antenna protruding beyond the base of pronotum by three-four apical segments; palpi slightly dilated; penultimate segment of the maxillary palpi equal to the last segment; penultimate segment of the labial palpi with two setae. Mentum tooth narrow, triangular, equal or slightly longer than lateral lobes; submentum with two setae.

Prothorax very broad, broadest at about middle; ratio width/length 1.47. Pronotum convex with sparse fine punctuation and sparse fine wrinkles. Median longitudinal line distinct; basal foveae very deep and large, inside finely-punctured. Sides of pronotum broadly margined; lateral margin slightly bent upwards; lobes of hind angles short, evenly rounded, slightly bent downwards. Lateral margin with two lateral setae.

Elytra oval, relatively convex, widest at about middle; ratio length/width 1.60; ratio width of elytra/width of pronotum 1.33; shoulders prominent; sides of elytra broadly margined, elytral margin coarsely-granular. Elytral sculpture heterodynamous; secondary elytral interspaces strongly convex, more convex than in *Carabus clathratus*

clathratus; striae coarsely-punctured; primary elytral foveoles large, well-marked. Wings are reduced or partially reduced.

Ventral body surface smooth, metepisternum finely-punctured, slightly longer than its width; sides of abdomen slightly wrinkled; sternal sulci absent.

Shape of aedeagus and endophallic structure are characteristic for the species.

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

Coloration very bright, green with metallic lustre; often margins of pronotum and elytrae bronze or reddish bronze; primary elytral foveoles bronze, reddish bronze or goldish bronze; mandibles, antenna, palpi, legs and ventral body surface black.

Differential diagnosis. The new subspecies differs from nominotypical subspecies by more dense punctuation of frons, vertex and neck; more convex pronotum and elytra, more convex secondary elytral interspaces. Coloration of the new subspecies brighter, green with metallic lustre and bronze or reddish bronze elytral margins (in nominotypical subspecies coloration dim, black with green lustre, pronotum and elytra without colour margins). Body of the new subspecies shorter (23.5 - 24.2 mm, in *C. clathratus clathratus* body length is 27.0 - 34.0 mm).

Distribution. Russia, East Siberia, Central Yakutia.

Habitat. The beetles are connected to the coasts of the reservoirs of various types and usually do not occur far from water.

***Carabus (Limnocarabus) clathratus narymicus* ssp. n.** (Fig. 2).

Holotype: male with label: "West Siberia, Narym Distr., Piakurur River Vall., 6.VII.1990, T. Buchatzkaya leg."

Paratypes: male, 2 females, same data and same locality.

The holotype and the paratypes are preserved in the collection of the State Museum of Biology (Moscow, Russia).

Body length in males is 23.0 - 24.3 mm (including mandibles), width 8.4 - 8.6 mm; body length in females is 24.6 - 27.2 mm, width 8.5 - 10.2 mm.

Head not thickened, ratio width of pronotum/width of head 2.0; eyes strongly convex; mandibles short, broad, slightly curved; surface of mandibles smooth; terebral tooth of the right and left mandibles bidentate, slightly prominent; retinaculum of right and left mandibles moderately prominent. Frontal furrows deep and long, inside smooth or

with few fine punctures. Frons nearly smooth; vertex and neck with sparse fine punctures, laterally frons and vertex with few coarse wrinkles. Labrum wider than clypeus, moderately notched, without lateral setae. Antenna protruding beyond the base of pronotum by three-four apical segments; palpi moderately dilated; penultimate segment of the maxillary palpi equal to the last segment; penultimate segment of the labial palpi with two setae. Mentum tooth narrow, triangular, slightly shorter than lateral lobes; submentum with two setae.

Prothorax broad, broadest at about middle; ratio width/length 1.50. Pronotum weakly convex with sparse fine punctuation and sparse fine wrinkles, laterally with more rough sculpture. Median longitudinal line distinct; basal foveae deep, inside coarsely-punctured. Sides of pronotum relatively broadly margined; lobes of hind angles short, evenly rounded, slightly bent downwards. Lateral margin with two lateral setae.

Elytra oval, relatively convex, widest at about middle; ratio length/width 1.50; ratio width of elytra/width of pronotum 1.37; shoulders prominent; sides of elytra relatively broadly margined, elytral margin coarsely-granular. Elytral sculpture heterodynamous; primary elytral interspaces strongly convex (nearly like secondary) represented by rows of short links and tubercles; striae coarsely-punctured; primary elytral foveoles shallow, indistinct. Wings are reduced.

Ventral body surface smooth, metepisternum nearly smooth, slightly longer than its width; sides of abdomen slightly wrinkled; sternal sulci absent.

Shape of aedeagus and endophallic structure are characteristic for the species.

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

Coloration of pronotum and elytra one-colored black; primary elytral foveoles black, sometimes with weak reddish lustre; mandibles, antenna, palpi, legs and ventral body surface black.

Differential diagnosis. The new subspecies differs from nominotypical subspecies by less dense punctuation of frons, less convex pronotum and elytra, strongly convex primary elytral interspaces, which are represented by rows of short links and tubercles and shallow and indistinct primary elytral foveoles. Coloration of pronotum and elytra of the new subspecies one-colored black; primary elytral foveoles black, sometimes with weak reddish lustre (in nominotypical subspecies coloration brighter with green lustre, primary elytral foveoles bronze, reddish-bronze or gold, well-marked). Body of the new subspecies shorter (23.0 - 27.2 mm, in *C. clathratus clathratus* body length is 27.0 - 34.0 mm).

Remark. The new subspecies resembles *Carabus (Limnocarabus) maacki* Morawitz, 1862 by the character of the elytral sculpture.

Distribution. Russia, West Siberia, the Ob River basin, Narym District.

Habitat. The beetles were collected on the wet meadow in the valley of Piakurur River.

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Fig. 1. *Carabus (Limnocarabus) clathratus jacutensis* ssp. n. (holotype).



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Fig. 2. *Carabus (Limnocarabus) clathratus narymicus* ssp. n. (holotype).