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THE LARVA OF *CARABUS (MORPHOCARABUS) GEBLERI ULTIMUS* (Coleoptera: Carabidae).

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Résumé. La morphologie larvaire de *Carabus (Morphocarabus) gebleri ultimus* Obydov, 1999 est décrite et illustrée. Certaines particularités diagnostiques sont montrées. Certaines remarques sur la biologie et la répartition géographique sont ajoutées.

Abstract. The morphological features of 3rd instar larva of *Carabus (Morphocarabus) gebleri ultimus* Obydov, 1999 are described and illustrated. Some diagnostic features are shown. Some remarks on biology and distribution are added.

Key words: Coleoptera, Carabidae, *Carabus*, *Morphocarabus*, larval morphology, Western Siberia, Eastern Kazakhstan.

Introduction

Many species of the genus *Carabus* are found in the Western Siberia. In spite of this knowledge of a species-rich fauna only very few larvae from this area are described. Because of this poor knowledge, it seems reasonable to describe and illustrate the larva of *Carabus (Morphocarabus)* species from Western Siberia.

In 1995 and 1998 in the valley of Bukhtarma River (Eastern Kazakhstan, Zyrianovsk environs) were collected imago and two 3rd instar larvae of *Carabus (Morphocarabus) gebleri ultimus* Obydov, 1999. The identification of the larvae is based on the imagines collected in the same locality.

The *Morphocarabus* larvae shows similarities with larvae of some other subgenera (*Eucarabus*, *Oreocarabus*), but demonstrates some characteristic morphological features that allows to distinguish *Morphocarabus* larvae from the larvae of these subgenera.

The description of the larva of *Carabus (Morphocarabus) gebleri ultimus* is given below.

Material

Eastern Kazakhstan, Zyrianovsk environs, valley of Bukhtarma River, 400 m, 6.VI.1995, 1 larva (instar 3) together with adult specimens. Eastern Kazakhstan, Zyrianovsk environs, valley of Bukhtarma River, 600 m, 29.V.1998, 1 larva (instar 3) together with adult specimens. All material leg. D. Obydov deposited in the State Museum of Biology (Moscow, Russia).

Description

Body long, cylindrical, relatively broad, poorly narrowed apically and posteriorly, legs rather short, head not big, ratio width of prothorax/width of head 1.23, all tergites darkly brown. Body length 56.3 - 62.2 mm (larvae fixed in alcohol).

Head. The cephalic capsule poorly transverse, compressed. Width of cephalic capsule: 4.8 - 5.2 mm. Clypeus relatively narrow with four setae; eyes slightly convex. Mandibles long and narrow, strongly curved, retinaculum prominent, bent downward. Dorsal surface of retinaculum with a field of cuticular spines. Lateral margin of inner tooth with a single notch. Antennae shorter than mandibles. Preterminal and terminal segment distally with 4 longer setae each, preterminal segment distally with a relatively short appendix, terminal segment distally with 3 cone-shaped sensillae. Maxillary palpi about 1.2 longer than stipes, last segment of

maxillary palpi with terminal groove of sensillae and with not regularly spotted sensillae of different forms. Length ratio of the galeal segments - 1 : 14. Labial palpi longer than stipes, length ratio - 1 : 3, terminal segments distally with two grooves of sensillae.

Thorax. Thoracic tergites relatively compressed, transverse, the first one nearly square. Width of thoracic tergites: 5.8 - 6.0 mm. Cuticular microstructure of anterior prothoracic margin reticulate. Legs rather short, tarsi of all legs longer than tibiae. All claws without longitudinal ridges.

Abdomen. Posterior edges of tergite IX relatively short and acute. Last tergites with relatively short urogomphi. Pseudocerci cylindrical, longer than median length of tergite IX, with rather small granules.

Cuticle. All appendages and the body with not regularly spotted cone-shaped sensillae, also on pseudocerci and mandibles. Microstructure reticulate.

Discussion

The identification of the larvae is based on the imagines collected in the same locality. In spite of the fact that two *Carabus (Morphocarabus)*: *Carabus eschscholtzi zyrjanovskianus* Shilenkov et O. Berlov, 1996 and *Carabus regalis regalis* Fischer-Waldheim, 1822 also are distributed in this area, I am sure that described larvae are belong to *Carabus gebleri ultimus* due to their large sizes.

Unfortunately larvae of closely related species from "*Carabus tarbagataicus*" species group are not described till now. Therefore it is difficult to lead the comparative analysis of features at larvae from this group.

The European larvae described from other subgenera (CASALE et al., 1982; HURKA, 1970, 1971; STURANI, 1962) are classified mainly by the form of the clypeus. The larva of *Carabus (Morphocarabus) gebleri ultimus* shows similarities with larvae of some other subgenera by these features (*Eucarabus*, *Oreocarabus*), but demonstrates some characteristic morphological features that allows to distinguish the larva of *Carabus (Morphocarabus) gebleri ultimus* from the larvae of these subgenera. It is not the purpose of this short article to clarify phylogenetical relations of *Morphocarabus* to other subgenera. For such a comparison characters of imago should also be considered.

Biology and distribution

The two larvae studied (instar 3) of *Carabus (Morphocarabus) gebleri ultimus* were collected in two localities in Western Siberia (Eastern Kazakhstan) together with adult specimens. One larva originated from the wet slopes with bush-wood and few birch-trees (altitude about 400 m), the second one from a mixed forest with birch-trees, lime-trees and larch-trees (altitude about 600 m). Larvae were collected in the end of May (1998) and in early June 1995. The larvae were collected in the wet forest litter.

The distribution of subspecies probably is limited to the valley of Bukhtarma River in the vicinities of Zyrianovsk.

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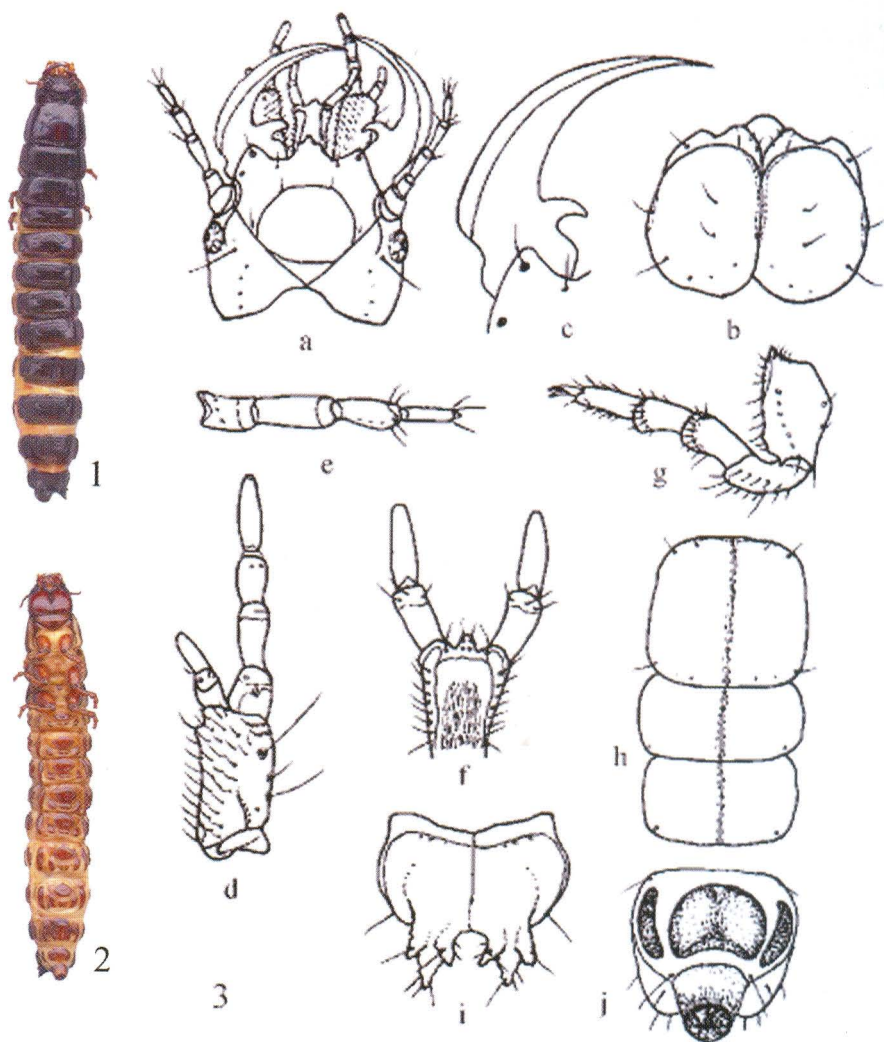


Fig. 1. 3rd instar larva of *Carabus (Morphocarabus) gebleri ultimus* (dorsal view).

Fig. 2. 3rd instar larva of *Carabus (Morphocarabus) gebleri ultimus* (ventral view).

Fig. 3. 3rd instar larva of *Carabus (Morphocarabus) gebleri ultimus*: a. head (dorsal view); b. cephalic capsule (ventral view); c. left mandible (dorsal view); d. right maxilla (dorsal view); e. left antenna (dorsal view); f. labium (dorsal view); g. right middle leg (anterior view); h. thoracic segments (dorsal view); i. last abdominal tergites with pseudocerci (dorsal view); j. last abdominal tergites (ventral view).

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