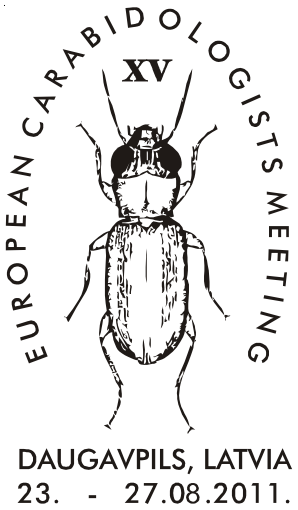
Institute of Systematic Biology
Daugavpils University



15th European Carabidologists Meeting
Daugavpils, Latvia, 23.-27.08.2011.

BOOK OF ABSTRACTS

Daugavpils University Academic Press "Saule"
Daugavpils 2011

To memory of Italian carabidologist Tullia Zetto Brandmayr...

Published by: Daugavpils University Academic Press "Saule", Daugavpils, Saules iela 1/3, Latvia
Printed by: SIA Madonas Poligrāfists, Saieta laukums 2, Madona, Latvia

WEB support: Daugavpils University - **www.du.lv**
Institute of Systematic Biology, Daugavpils University - **www.biology.lv**
Baltic Journal of Coleopterology - **www.bjc.sggw.waw.pl**
15th European Carabidologists Meeting - **http://15thmeeting.biology.lv/**

ISBN

THE PECULIARITIES OF LIFE CYCLE OF *BRACHINUS HAMATUS* F.-W.

Andrey MATALIN, Kirill MAKAROV
Moscow State Pedagogical University, Russia, 129164, Moscow, Kibalchicha str., 6, build. 5, Zoology & Ecology Department, Russia, a_matalin@tochka.ru

The old-instar larvae of *Brachinus* Weber (Coleoptera, Carabidae), which are known as ectoparasites of beetles pupae, were found in the start of 20th century (Wickham, 1893; quoted by Dimmok, Knab, 1904), while the first instars were described much later (van Emden, 1942; Wautier, 1963, 1964). In the late sixties Erwin (1966, 1967) described all larval stages and the main features of the life cycle of *B. pallidus* Erwin. Not long after Juliano (1984) studied in detail the biology of some North American *Brachinus*. He found that old-instar larvae feed on the pupae of aquatic beetles (Hydrophilidae and Gyrinidae) which are found by the first instar larvae (triungulins). The data about development of European *B. crepitans* (L.) and *B. explodens* (Duft.) were obtained only in the last years. It was established, that old-instar larvae of these species used as the food supply the pupae of carabid beetles from the genus *Amara* (Saska, HonÄ›k, 2004, 2005, 2008). In April 2007 two females of *B. hamatus* F.-W. were trapped in reedbeds on the right bank of Khara River (Elton Lake Region, Volgograd Area, southern Russia). They kept in the laboratory under ordinary room temperature (about 20-25°Š□). From 4 until 8 of May 2007 12 first instar larvae were emerged. The pupae of more abundant in this habitat carabid beetles, such as *Pogonus transfuga* Chaud., *Amara ambulans* Zimm. and *Curtonotus propinquus* (Mén.) were proposed to larvae of *B. hamatus* as the potential hosts. Only one triungulin selected in 7 of May a pupa of *C. propinquus* among all these species. During next twenty-four hours it fed intensively and increased in size very quickly. In the 8 of May it moulted on the second instar after that was preserved (at first in boiled water and then in 70% alcohol). According to data of pifall trapping in 2006-2007 the life cycles of *B. hamatus* and *C. propinquus* were reconstructed. It was found that the breeding period in *B. hamatus* and the period of larval development in *C. propinquus* are associated with each other. The mature specimens of *B. hamatus* were occur from early April until late May with peak of abundance during whole April. At the same time, the maximum number of first and second instars larvae of *C. propinquus* was observed in first and second ten-day periods of April, respectively, while in third instar ā€˜ in second ten-day of May. Because the teneral specimens of *C. propinquus* were emerged during whole June, the development of pupae can be occurs from early May until early June. The data of laboratory keeping and pitfall trapping of *C. propinquus* are well correspond to each other. Interestingly that among known hosts of *Brachinus* larvae *C. propinquus* is the first carabid beetles with an autumn period of reproduction (according to Larsson, 1939). All species of genus *Amara*, which were mentioned in previous studies (Saska, Honak, 2004, 2005, 2008), are characterized by eggs laying in spring or spring-summer (according to Larsson, 1939).