BOOK REVIEW: Larson D.J., Alarie Y. & Roughley R.E.: Predaceous Diving Beetles (Coleoptera: Dytiscidae) of the Nearctic Region, with Emphasis on the Fauna of Canada and Alaska.

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BOOK REVIEW

LARSON D.J., ALARIE Y. & ROUGHLEY R.E.: PREDACEOUS DIVING BEETLES (COLEOPTERA: DYTISCIDAE) OF THE NEARCTIC REGION, WITH EMPHASIS ON THE FAUNA OF CANADA AND ALASKA. NRC Research Press, Ottawa, Ontario, Canada, 2000, 982 pp. incl. 236 plates and 274 distributional maps. ISBN 0-660-17967-9. Price USD 64.95.

Without doubt, this voluminous book represents the most comprehensive and up-to-date treatment of the Nearctic fauna of the beetle family Dytiscidae. Even its sheer volume is impressive: almost 1000 pages of text, which is divided into three major parts. In fact, it is a monograph of the Canadian and Alaskan fauna, which in addition summarises relevant data on almost all predaceous diving beetles north of Mexico.

The introductory part deals with the bionomics of Dytiscidae. The authors mention morphological adaptations to the aquatic environment, types of life cycle, selected ecological characteristics of the larvae and adults, give a brief account of the relation of dytiscids to their environment and last but not least, list the collecting methods. Particular emphasis is put on the fauna of Canada: the distribution of all Canadian species is tabulated with respect to the provinces as well as ecological zones.

The core of the book lies in its second and most voluminous part, which deals with the taxonomy of adults. Apart from the monographic treatment of the known dytiscids, new taxa are also described. Among them are 15 species of the genera *Agabus*, *Hydrocolus*, *Hydroporus* and *Sanfilippodytes*. However, the novelties are by no means confined to an update at the specific level; a new genus named *Hydrocolus* is established for the *Hydroporus oblitus* species group (sensu Fall), and two species groups are transferred from *Hydroporus* to *Sanfilippodytes*. The establishment of a new subfamily Hydrotrupinae for the monotypic genus *Hydrotrupes* is the most important systematic change. Moreover, the book attempts to clarify a number of nomenclatorial and taxonomic problems by proposing a number of new synonyms and designating lectotypes or neotypes for some species. Due to the very high number of species treated in the book (approximately 500), many species are only mentioned in the key. Detailed descriptions are only given for the 276 species that occur in Canada and Alaska (as the title suggests) and of the new or little known taxa; they include descriptions of external adult morphology, selected literature references and notes on ecology and distribution. These data are accompanied by a distribution map, with Canadian records plotted in full detail and U.S. records clustered by states. The lack of additional information could pose problems when determining species belonging to some difficult groups (especially those from the southern United States). However, the key is well-designed and, as far as we are able to judge, fairly foolproof and available to a wide range of potential users. To a large extent, it is based on only a handful of the most important characters and accompanied by numerous line drawings, which include the most important characters used in the key, habitus of selected genera and male genitalia. Most drawings are of very good quality, although some delicate details seem to have suffered in the printing process (e.g. the illustration of *Colymbetes sculptilis* Harris on page 760). It is definitely a pity that SEM photographs of surface microstructure were not included (probably due to high costs).

The third part of the book deals with larvae. The authors briefly describe larval morphology and provide keys to larvae of all genera found in North America. The first instar and second and third instars are treated separately. Each genus is described in sufficient detail, including line drawings of important morphological characters and references to descriptions of Nearctic species. This part is accompanied by habitus photographs of 24 genera; their quality is moderate at best.

Apart from the questionable quality of the photographs, there are only a few negative comments. The distribution of several Holarctic species in the Palaearctic region is not very clear from the text (e.g. *Colymbetes dahuricus* Aubé and *C. paykulli* Erichson); paratypes of several newly described species cannot be properly traced as the authors only indicate that they are "deposited in various museums". Problems associated with the higher taxonomy of the group are evaded by quoting only the history of the classification of the family. Given the scope of the book and the fact that a new subfamily is proposed, it would be perhaps more adequate if the authors presented a brief chapter on current *status quo* of the higher classification of Dytiscidae. Last but not least, habitus drawings of representatives of all American genera and at least some SEM photographs would undoubtedly make the book even more useful.

These criticisms are minor bearing in mind all the information stored in this book. It is an excellent treatment of the subject and a prominent milestone in the study of Dytiscidae, which has been written with high factual accuracy and few typographical errors. The material is presented in a clear and concise style, making the subject accessible to specialist and non-specialists alike. We hope that similarly detailed treatments of other zoogeographical regions and other groups of water beetles will also be published; the effort of the authors of this book is a great challenge!

Jiří Hájek & David Boukal