



PEARSON D.L., KNISLEY C.B., DURAN D.P. & KAZILEK C.J. 2015: A FIELD GUIDE TO THE TIGER BEETLES OF THE UNITED STATES AND CANADA. IDENTIFICATION, NATURAL HISTORY, AND DISTRIBUTION OF THE CICINDELINAE. 2nd ed., Oxford University Press, New York, 251 pp., ISBN 978-0-19-936717-7. Price USD 35.44.

When the first edition of *A Field Guide to the Tiger Beetles of the USA and Canada* was published (Pearson et al., 2006), it was clear that it would be only a matter of time before there would be significant progress in the study of American Cicindelinae. This book enabled both professional researchers and amateur naturalists not only to collect new facts about the ecology and biology of North American tiger beetles but also to discover and describe new taxa. This, the second edition of *A Field Guide to the Tiger Beetles* is a great summary of all the recent studies made on tiger beetles in this region. Compared to the first edition, the new book includes important results of taxonomical revisions recently published in scientific papers. For example, new taxonomical combinations recently proposed for *Parvindela* and *Apterodela* (earlier recorded as two subgenera of *Cylindera*) and for most species traditionally classified in *Habroscelimorpha* (now placed in *Eunota*) are included in this field guide. These updates make the second edition of this book the most up to date checklist of tiger beetles in the USA and Canada.

The book includes also data about distribution and ecology of four recently discovered *Dromochorus* species for which scientific names are presented ("*D. knisleyi* Duran et al.", "*D. welderensis* Duran et al.", "*D. chaparrelensis* Duran et al.", and "*D. minimus* Duran et al."). Unfortunately, according to the rules of the International Code of Zoological Nomenclature all these names should be treated as "nomina nuda" as none of these species has been formally described (the publication by "Duran et al." given for all these Latin names is not cited in the bibliography and, moreover, such paper has not been published as yet).

Of course the main aim of this field guide is to help with the identification of species under natural conditions. The guide by Pearson and others includes all the features that should be present in a good quality field guide. In total, the authors provide data for 14 genera and 117 species known to occur in the USA and Canada. For every taxon (including all accepted subspecies) they provide a map showing its distribution and data on habitat preferences, behaviour and phenology of the adult beetles. In addition, for those species for which the larvae are known they also provide data on larval biology.

One of the most important parts of this guide are the keys for identifying particular tiger beetle taxa. The first two keys can be

used to identify adult beetles (key to all North American genera and species) while the third can be used for identifying the larvae of Cicindelinae to generic level (it is important to note that the authors could not prepare a key to all larvae as those of many species are still unknown). All keys are very user-friendly and provide a rapid means of identifying tiger beetles. In addition to the morphological and geographical features included in the keys, there are more detailed descriptions of particular taxa in that part of the book entitled *Species accounts*. There are also colour pictures of almost all species and subspecies, with only that of *Dromochorus chaparrelensis* missing. In addition, for those species that vary greatly in terms of their body colouration, there are colour photographs of the varieties.

In my opinion the most important role of every field guide is to provide information on the biology and ecology of the group described and information on where, when and how to find and observe the species in nature. In this book by Pearson, Knisley, Duran and Kazilek all this data can be found in the last three chapters entitled *Ecology and Behavior*, *Conservation* and *Observing and Studying Tiger Beetles*. In addition to some basic facts about the habitat preferences and phenology of Cicindelinae, the authors also provide information on their reproductive biology, hunting behaviour and defence mechanisms. Together with the useful information on methods for collecting larvae and adults and photographing live individuals in the field, this book is a very practical and helpful tool not only for persons who are just beginning their adventure with beetles and/or insects but also for nature enthusiasts. Of course this book is not only for amateurs, but as mentioned above has considerable scientific value.

As far as I know, this field guide by Pearson and others is the only publication in the world on the tiger beetle fauna of such a large area (ca. 81% of the entire North American continent or 16% of all terrestrial areas on Earth) in which there are complete keys to all known species of Cicindelinae, maps showing their distributions and colour photographs of all taxa recorded in this region. Thus, the second edition of *A Field Guide to the Tiger Beetles of the USA and Canada* will be the next significant milestone in studies on the fauna of North American Cicindelinae.

REFERENCE

PEARSON D.L., KNISLEY C.B. & KAZILEK C.J. 2006: *A Field Guide to the Tiger Beetles of the United States and Canada. Identification, Natural History, and Distribution of the Cicindelidae*. Oxford University Press, New York, 227 pp.

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