

Book Review

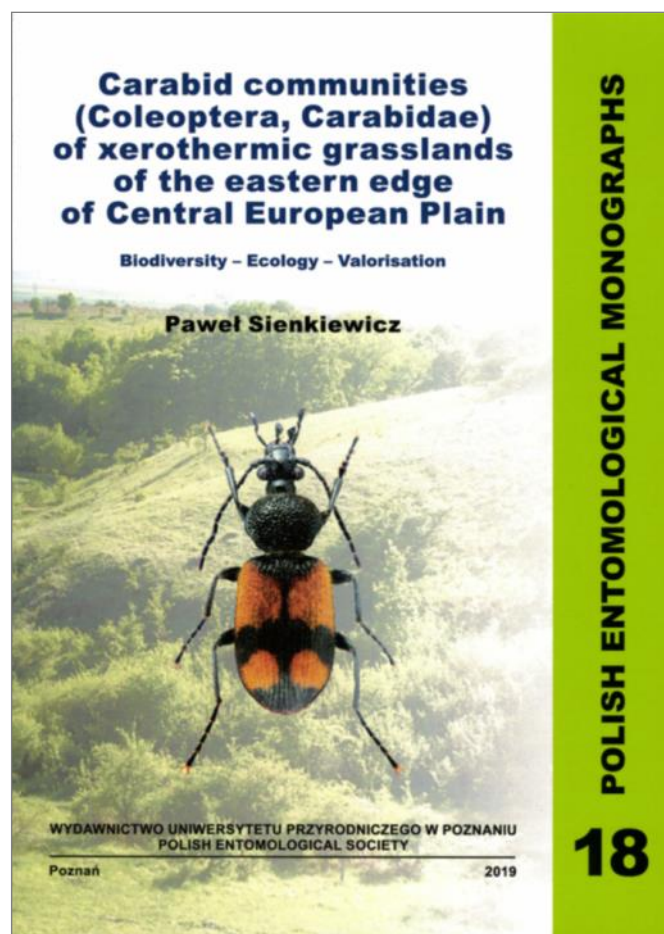
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Sienkiewicz, P. 2019. **Carabid communities (Coleoptera, Carabidae) of xerothermic grasslands of the eastern edge of Central European Plain – Biodiversity – Ecology - Valorisation.** – Polish Entomological Monographs 18, Poznan. 195 pages, 16 colour plates, 48 Figures, 18 Tables, 21 distribution maps, data on traits of 160 species. ISBN 978-83-7160-925-1; ISSN 1641-7445 – Price €30, available from the Polish Entomological Society <http://pte.au.poznan.pl/> [contact info: ptent@up.poznan.pl](mailto:ptent@up.poznan.pl)

Carabid beetles have been popular as a study taxon since the earliest days of the development of the discipline of entomology. Lindroth (1992) used this taxon for major studies on biogeography in the 1940s, and following a symposium hosted at Wageningen by Den Boer (1971) in 1969, there has been an ongoing and active tradition of carabidological research in Europe (Kotze et al. 2011). However, whilst there is a huge amount of published literature on carabid beetles, particularly those of forest (e.g. Koivula et al. 2019) and agricultural (e.g. Saska et al. 2019) habitats, currently there is very little published literature on the carabid assemblages of grassland habitats, even though their assemblages are highly diverse and speciose. For those interested in these communities, Sienkiewicz also provides a list of mostly recent literature on the carabid beetles of xerothermic grasslands.

Sienkiewicz's book is based on four years of empirical research on the carabid communities of flowering and stipa xerothermic grassland habitats in northwest Poland. The study area encompasses an area bounded by the valleys of the Odra, Toruń-Eberswalde, Noteć, Warta and Vistula rivers. Information on the phytosociological classification of the sites according to Matuszkiewicz (2012) is provided, which is very helpful for researchers considering associations between vegetation and carabid species. The book also includes colour plates of the main habitat types of the study sites. The introductory chapters also provide a good summary of the biogeography of xerothermic grasslands in NW Poland and their conservation status.

The book is written in the format of a scientific study, with a set of hypotheses on the carabid assemblages of xerothermic grasslands, with full details of the Materials and Methods, and results of analyses. These are based on a set of hypotheses on the carabid assemblages of xerothermic grasslands. Probably the most valuable element of this book for many readers will be the overview of carabid species recorded in this study, which provides information on all 160 recorded species, including the sites where they were recorded, frequency, distribution and habitat preferences. There is also a comprehensive table containing a summary of trait information, such as body size, dispersal power, development type, and habitat, moisture and dietary prefer-



ences, which will also be a valuable resource of information for researchers.

The analyses did not generate clear distinctions between characteristic carabid assemblages of the habitats and vegetation types studied, though there were effects of geographical location. It was assumed that there would be an association between the carabid species composition and the vegetation type but this was not evident, though there were distinct differences between the assemblages of flowering grasslands and stipa grasslands, probably due to differences in habitat structure and microclimatic conditions. One possible reason for this result is that the environmental conditions of these habitats cover a broad range of extremes regarding temperature and moisture, for instance. There were, however, clear differences between the carabid assemblages of xerothermic grasslands and other open grassland habitats, such as agricultural fields. It was clear that xerothermic grasslands are highly important for the conservation of carabid diversity, including many stenotopic and xerophilic species.

On a critical note, there were a considerable number of typos, though the text is still clear and easy to follow. Also the row-headings in one of the tables were upside down, which

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is a little inconvenient. The title of this book led me to expect something more of a reference book on carabid communities of xerothermic grasslands rather than a report of a research study. I hope that such a book maybe forthcoming by the author of this work. None of these faults detracts from the potential value of this work, however, and the book really contains a great amount of interesting information on the topic of carabid communities. I do not hesitate to recommend it to anyone interested in the carabid communities of xerothermic grasslands.

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Stephen Venn, Finland
stephen.venn@helsinki.fi



Grasslands in Kotlina Zamojska basin, SE Poland. Photo: P. Chmielewski.