

BOOK REVIEW

**Gerd Weigmann, Franz Horak, Kerstin Franke und Axel Christian (2015):
Acarofauna Germanica – Oribatida. Verbreitung und Ökologie der Hornmilben
(Oribatida) in Deutschland. / Distribution and Ecology of Oribatid Mites
(Oribatida) in Germany. – Senckenberg Museum für Naturkunde Görlitz,
Peckiana 10: 171 pp. ISBN: 978-3-9815241-1-6**

Weigmann (2006) published a comprehensive study of oribatid mites in the series 'Fauna of Germany'. Since then the number of known species from Germany has greatly increased. The recent publication lists a total of 570 oribatid mite taxa (560 species and 10 subspecific taxa) currently known and provides maps of their distribution in Germany.

The introductory chapter gives an overview on the increase of knowledge about oribatid species in Germany since the previous compilation of Willmann (1931). The database for the present catalog consists of more than 20,000 records derived from approx. 120 journal articles, books, theses, reports etc. as well as from unpublished material in different collections. However, the authors refer to the difficulties in the analysis of faunal literature, e.g. on the reliability of species determinations in older publications and in collections where no critical taxonomic revision was possible. Weigmann's profound research in preparation of his oribatid mite fauna of Germany (Weigmann 2006) solved already multiple questions about species assignments in older collections. For the genus *Phthiracarus* the revision of Beck et al. (2014) was used. According to this work some taxa of *Phthiracarus* are considered as 'formae' if their morphological features show only slight differences compared with the type material of the species.

For each species the following informations are provided in German and English: taxonomy (species name, author, quotation of the original description, in some cases taxonomically relevant literature, synonyms, identification keys), habitat, life habit, distribution in the German states (in addition to the distribution maps) and comments on habitat preferences. Altogether 49 different types of habitats are distinguished belonging to the biotope groups seashores, freshwaters, caves, open non-forested vegetation, bogs, forests, urban areas, subalpine and alpine habitats. Habitat preferences of species with a broad ecological range were estimated using the

database and are high-lighted in bold letters. If species inhabit more than two types of habitat indifferently these species are classified as 'eurytopic' (E). For each species the preferred microhabitats and life habits, e.g. arboricolous, soil-dwelling, epilithic, epiphytic, fungicolous, compost-dwelling, limnic according to literature data is given.

The distribution of each species in Germany is depicted in maps on the basis of 200 grids corresponding to German topographic maps in the scale 1:100,000 (i.e. three grids per 2 degrees of longitude, five grids per 2 degrees of latitude). Altogether about 1,000 sampling sites were analyzed. Oribatid mites were recorded in more than two thirds of the grids. Species records appear scattered, not reflecting their actual distribution, due to the random and regionally biased sampling history. Comparatively few locations were sampled intensively. In cases where an analysis of habitat preference was possible, more than 50% of oribatid species preferred forested habitats, 18% open vegetation, and 12% bogs. The reference list contains 391 citations including all sources of species records as well as original descriptions and other relevant literature on taxonomy, besides publications dealing with habitat preferences. All species names listed in the book are indexed.

A small error has crept in: On page 87 the species *Ramusella mihelčiči* (Pérez-Iñigo, 1965) is mentioned. However, the current criteria of Zoological Nomenclature (ICZN 2012, Article 27) specify that diacritical signs should not be used in scientific names. Thus, this species should correctly be spelled *Ramusella mihelcici*.

This book is an important contribution serving as a base for further research on the oribatid mite fauna of Germany and adjacent countries. The reviewer appreciates in particular the critical revision of species names and the application of current classification of higher taxa, facilitating further taxonomic, faunistic as well as ecological work. A first outcome of this

latest state of the art is the 'Checkliste der Oribatiden Österreichs' (Krisper et al. 2016). The detailed description of the life habits has never been compiled in such comprehensiveness.

As a help in using the book all abbreviations of habitats, life habits, German states and taxonomy are not only listed in the introduction (page 4) but can also be found on the back jacket flap of the book cover in German and English.

Heinrich Schatz, Innsbruck

References

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