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The Collembola of Fennoscandia and Denmark (Fauna Entomologica Scandinavica volumes 35 and 42), volume 42 part II: Entomobryomorpha and Symphypleona

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BOOK REVIEWS

FJELLBERG, A. 2007. The Collembola of Fennoscandia and Denmark (Fauna Entomologica Scandinavica volumes 35 and 42), volume 42 part II: Entomobryomorpha and Symphypleona. Brill, Leiden. 216 pp. & 17 plates. ISBN 9789004157705, hardback, $167.00.

This work is the second and last volume of the Collembolan fauna of Scandinavian and neighboring Russian lands. These are part of a series of 45 volumes titled Fauna Entomologica Scandinavica. The inclusion of Collembola in such a series is either a tribute to tradition or desire to expand beyond the title of the series since all are now agreed that the Collembola are not insects and indeed may be more closely related to the Crustacea than the insects.

The first volume, published by the same author in 1998 dealt with the first of the three major groupings of the Collembola and involved 161 species. The present volume deals with the remaining two major groups: Entomobryomorpha and Symphypleona The latter group is made inclusive following Bretfeld (1999) rather than splitting the group into Neelipleona and Symphypleona as most authorities now do, including the author in his first volume. The volume includes 239 species and has over 1,500 excellent line illustrations and 17 plates of color photographs. Fifteen families are included: Isotomidae, Entomobryidae, Tomoceridae, Cyphoderidae, Oncopoduridae, Neelidae, Mackenziellidae, Arrhopalitidae, Sminthurididae, Dicyrtomidae, Katiannidae, Bourletiellidae and Sminthuridae. Three new species are described in the genera *Desoria* and *Isotomurus*, and a number of new synonyms are identified, almost all in the family Isotomidae. He starts with a key to the families and then treats each family separately. Under each family there is a key to the genera. In the first key he uses the traditional family designation rather than the group designation used by Bretfeld in the Synopses of Palaearctic Collembola.

Under each genus there is a key to the species. All the keys have ample accompanying illustrations. He limits all the keys to taxa found in the Nordic regions. The keys almost all require very good mounts of cleared specimens or several SEM illustrations to be used because of the small size of the specimens (few are as large as 3 mm). In addition a very good knowledge of the anatomy of Collembola is required as there are no general diagrams of anatomy for each family. Thus the book is not suitable for use by ecologists or other biologists untrained in the Collembola taxonomy. This problem is ameliorated in some groups by the extensive color photographs at the end. On the inside of the cover is a map of the region divided into provinces and at the end of the book there is an extensive table showing the occurrence of each species in these various provinces. This should be very helpful to workers in the region.

His ecological notes at the end of each species description are short but useful. His distribution notes, whenever they go beyond the Palaearctic region are often questionable.

The first family he deals with is the Isotomidae and this is by far the best portion of the book. It is particularly valuable because it incorporates the important work on revising complex genera of the complex *Proisotoma* group which the author with Potapov and Babenko published into a more general consideration of the Isotomidae (Potapov et al. 2006).

The second section dealing with the Entomobryidae is considerably poorer in quality. The author uses the system of the color and setae position for *Entomobrya* but does not use the nomenclature given for each seta nor cite the papers that propose the system involving these (Jordana & Baquero 2005) nor use the system fully. The work is thus hampered because we are unable to separate the species from others of different countries. The same problem arises with *Pseudosinella* and *Lepidocyrtus*, where he uses partially the nomenclature or system given for some authors to separate species but does not cite nor fully use the systems the authors propose (Christiansen et al. 1983; Gisin 1964, 1965).

A similar problem occurs in the Neelidae. The illustrations of *Neelus murinus* are quite unlike the Nearctic specimens of that species. A surprising omission is *Corynothrix borealis* which was recorded from the Kola Peninsula by Babenko & Bulavintsev (1993) and is widespread through the arctic and subarctic regions of the Holarctic.

Overall the work should be of great use to individuals working with the fauna of the region of the areas covered by the work but probably much less to anyone working with fauna of other regions. The possible exceptions to this are the color photographs of different species which will give at least some idea of the life appearances of the species as they have been determined in the work.

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