

Book Reviews. Критика и библиография

Elena V. Mikhaljova. The millipedes (Diplopoda) of the Asian part of Russia. Sofia–Moscow: Pensoft Publishers, 2004, 292 pp.

Е. В. Михалева. Двупарноногие многоножки (Diplopoda) азиатской части России. София–Москва: издательство Пенсофт, 2004 г., 292 с.

For many generations, the eastern half of the Palearctic realm was one of the faunistically least-known parts of the world, and simultaneously the class Diplopoda was generally accounted to number amongst the least-known of terrestrial arthropods. It is therefore a matter of considerable interest that, as encapsulated within the pages of this exceptional book, the milliped fauna of Trans-Ural Russia in one stroke escapes from that traditional status and joins the ranks of the too-few regions that are adequately documented for these animals.

The geographic scope of the coverage is defined as composed of two major elements: Siberia and Russian Far East, the latter comprising most of the Maritime provinces lying north of the Amur River. Investigation of the millipeds of this vast region began in 1859, but increase in knowledge came only very slowly, with many decades of almost total neglect. Regular comprehensive taxonomic and ecological studies commenced only in the mid-1970s, increasing the number of species from 45 to 103 through the activity of S. I. Golovatch and especially his protégée Elena Mikhaljova, to whom we are now indebted for a comprehensive manual on all the species of Diplopoda known from the region.

As Dr. Mikhaljova is a long-time resident of Vladivostok with opportunities to personally conduct field studies it is not surprising that the fauna of the Primorsky Province is clearly the best investigated in terms of the native diplopods. Of course that is a center for substantial diversity and speciation, compared to the still little-known reaches of central Asia (where the discovery of many additional taxa is to be expected).

The book follows the traditional “faunistic” organization. Chapter 1 gives a brief, concise review of previous work; virtually all relevant papers are cited. Chapter 2 treats milliped ecology in considerable detail, reflecting the author’s interest in biology as well as taxonomy of the local species. Supplementing her personal knowledge, a lot of information is included on the synecology and physiology of these animals, drawn from the world literature and resulting in a good general introduction to the subject. I read this chapter with much interest and profit, abating much of my ignorance of ecological research by Russian scientists. Chapter 3 adequately summarizes the conventional measures for collection; I would only have liked to see an admonition not to reference specimens to collecting sites too small to appear on any map or gazetteer (or if no other option is available, at least to provide GPS coordinates). The use of pitfall traps was not men-

tioned, nor the use of Berlese-type funnels to obtain very small organisms. Chapter 4 is a survey of the external anatomy of diplopods, especially characters useful in classification.

Chapter 5 comprises the majority of the book, pages 36 to 262, with a thorough taxonomic treatment of the 17 families, 39 genera, and 103 species. From the standpoint of an overextended specialist working on other regional faunas, this coverage was by far the most interesting to me, providing for the first time an overview of a neglected subject. I had not realized that the prolific Palearctic family Julidae was so poorly represented there by just eight species, nor that the various kinds of chordeumatidans so greatly dominated the fauna: 53 of the 103, with 43 of that number in the Diplomaragnidae. The next largest family, Polydesmidae, contains 16 species. It is not surprising that most of the regional species are endemic, and that most were described by Dr. Mikhaljova herself.

Each order, family, and genus is introduced by a paragraph summarizing its structure and general distribution. Diagnostic features used in all keys are referenced to nearby illustrations. Species accounts contain all regional literature sources, diagnosis, description, distribution, and “Remarks”. Under the last heading are a spectrum of interesting observations usually about biology but often taxonomy as well. Drawings of taxonomic characters (655 in all!) and a distribution map are embedded in the individual species accounts for easy reference. Diplomaragnids are endowed with very complex gonopods (resulting in the proposal of four families here treated as junior synonyms), and although these appendages are shown in an amplitude of line drawings, there was missed the opportunity to provide a few drawings in the “exploded” form to show anatomical relationship of the several pairs to each other and not as isolated fragments (Fig. 499 is a step in this direction, but the elements are still shown too close for the non-specialist to appreciate). The author takes an analytical approach to this family, recognizing ten genera instead of the single omnibus genus *Diplomaragna* favored by Professor Shear in his 1990 treatment of diplomaragnids.

Among the polydesmoid forms, the gonopod structure in *Epanerchodus* is a special situation, and the author considers variability both in numerous drawings and, in *E. polymorphus*, which comes in two male morphs, text discussion with the recognition of quasi-taxonomic “formae”.

Chapter 6 closes the book with a rather extended account of biogeography, treating both modern and

historical distributions, emphasizing the largely paleo-endemic nature of the fauna, and relative unimportance of both western Europe and North America as source areas for derivation of early lineages. While a number of north-Chinese elements are present, I was interested to see that so far, the genus *Spirobolus* (occurring as near as Beijing) is unknown from the Russian Far East, and that xystodesmids are only marginally represented.

There are four color plates of living specimens, and an eleven page bibliography. The book is produced as hard cover, with stitched binding that is unlikely to come apart even with years of use, with a page size of 165 x 235 mm and coated paper with no show-through. The type face is clean and easy to read, page layout

attractive, and the text is in correct fluent English. It will be perceived by now that this reviewer is very favorably impressed by Dr. Mikhaljova's excellent contribution to the fund of knowledge about a previously neglected subject, and appreciative of the role played by the editor and publisher in making it available at a very reasonable price. I would like to prepare a similar book on the millipeds of Virginia, but will be challenged to match such a high standard!

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