

Review

Puplesis, R. 1994: The Nepticulidae of Eastern Europe and Asia: western, central and eastern parts. — Backhuys Publishers. Leiden. 291 pp. + 840 illustrations (on more than 250 pp.). ISBN 90-73348-29-3. Price NLG 210.

The complicated title of Rimantas Puplesis' monumental book is a memorial to a political history. The original name of the book was short, "The Nepticulidae of the USSR", but then a lot happened. The reader easily wonders what is actually left outside western, central and eastern. Northern and southern? In any case, the Nepticulidae of the huge area covered by this book are only now revised.

The Nepticulidae are the smallest Lepidoptera in the world, mainly having a wingspan of 2.5 to 6.5 mm, sometimes up to 10–12.5 mm. Their size has decreased during their evolution, so all species of the advanced groups are smaller than 6.5 mm. At the same time, a simplification of morphology has taken place: the larval legs and the wing venation have experienced strong reduction. Many nepticulids are monophagous, but the majority is formed by oligophagous species, for instance those living in Rosaceae plants. Polyphagy is exceptional. Most nepticulids are bivoltine.

Puplesis presents 221 species, of which 114 he has himself described, 91 earlier and 23 in this book. His earlier research work was largely done in the well-known lepidopterological school of Leningrad, now St. Petersburg, but after the political changes, Puplesis has worked mainly with his own team of leaf-miner researchers in Vilnius, Lithuania.

The book begins with voluminous and interesting chapters on collection and preparation techniques, on adult morphology, and on phylogeny and classification. Then follow the key for the Holarctic genera, the species treatment proper, and an interesting chapter on bionomics and biogeography. The plates occupy almost half the book, with over 200 pages of species drawings, usually with an adult and two or three genitalia illustrations on each page. There are also maps

and habitat photographs as well as drawings on the morphology and mines of Nepticulidae.

The specimens have been drawn in a rough and schematic manner. This is very obvious as the drawings have been printed so large; a reduction, e.g. half the present size would have been advantageous for their quality.

The author acknowledges that his cladogram of the genera of Nepticulidae is tentative and that "further studies are needed for better understanding of the phylogeny" of the family. True, the choice of polarities of characters seems to remain on a subjective basis. Publication of a full character matrix would have been welcome for the study of Nepticulidae, at least, some of the several digital programs available, e.g. Hennig86, should have been used in analysis of the phylogeny.

There is no index, although the genera, species groups and species are listed in a checklist at the beginning of the systematic part. Not surprisingly, there are many mistakes in the English. It is much more important, however, that the book was written in a language understandable to most of the scientists in the world. There are also some errors in terminology; for instance, *signa* is already the plural of *signum* and thus cannot be pluralised to *signae* (p. 36). The Palearctic should be considered the western and not "the eastern part of the Holarctic superregion" (p. 240).

This new book on Nepticulidae represents a long step in the study of this group where both collection and taxonomy are full of difficulties. It is an essential source for everyone interested in the Palearctic micros.

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