

BOOK REVIEW

NILSSON A. (ed.): *AQUATIC INSECTS OF NORTH EUROPE: A TAXONOMIC HANDBOOK. VOL. 2.* Apollo Books, Stenstrup, 1997, 440 pp. ISBN 87-88757-07-2 (Vols 1-2), ISBN 87-88757-15-3 (Vol. 2). Price USD 120.00.

This book is the second part of two-volume treatment of the aquatic insect fauna of North Europe. The only orders treated in the present volume are Odonata and Diptera. Whereas Odonata, like most of the orders treated in the Volume 1, are fairly well known, huge gaps exist in knowledge of many families of Diptera. The Diptera are undoubtedly the dominating order within European aquatic insects, containing as many as 1,900 species in comparison with about 1,000 of all other orders. Consequently, its 24 families are required to be treated separately by different specialists, and the respective chapters are written in the same way like those concerning other orders.

The introduction to this volume presents some corrections and additions to volume 1, but, first of all, numbers of species of aquatic insects in each family in different areas are recognized in the checklists of the handbook. Except for the Collembola and Hymenoptera, which are both chiefly terrestrial, 2,793 species of aquatic insects of 10 orders and 102 families are documented from the North European mainland, in addition to the species-poor islands.

Introductory sections of special chapters deal with life cycles and phenology, habitats, trophic relationships, state of knowledge, morphology of eggs, larvae, pupae (or nymphs in Odonata) and adults, and methods (collecting, rearing and conservation). In some cases (e.g. Culicidae) notes on medical importance are also presented. This part of each chapter is followed by keys. Generally, the keys given in the present handbook were designed to make possible the identification of larvae and adults to genera. Relatively well-known nymphs and adults of Odonata and larvae and adults of some smaller dipteran families can be identified to species. This also concerns relatively well-known

dipteran families of medical importance like the Culicidae and Simuliidae. On the other hand, some restrictions were necessary as the taxonomic knowledge of larvae and pupae in many dipteran families is severely limited. For instance, the species-richest family Chironomidae (about 750 species recorded from North Europe) is keyed to subfamilies and, in Chironominae, tribes only. Moreover, critical distinguishing characters are apparent only in final larval instars and poorly known larvae of some families (e.g. Thaumaleidae) can be reliably identified only after their rearing to adults. Except for keys of some higher Diptera families, where morphological differences between aquatic and terrestrial forms can be defined, distinction of semiaquatic and terrestrial forms sometimes depends only on personal experience of the reader.

All the chapters are extensively referenced; references are grouped in sections dealing with identification, classification and morphology, natural history, faunistics and sampling methods. The special chapters are closed with a checklist showing distribution (or known records) of individual species in Denmark, Norway, Sweden, Finland, the Fennoscandian part of Russia, Iceland, Faroe Islands, and Svalbard. The low number of species known from the vaguely-defined "Fennoscandian part of Russia" seems to be largely an artifact. Obviously, many authors have experienced some difficulties in obtaining faunistic information from this area.

The volume is technically perfect, with very high quality of both original and redrawn reproductions and graphical arrangement, although some general habitat illustrations of larvae, pupae and adults seem to be too large. There is little need to emphasize how useful such a comprehensive treatment is for experts in hydrobiology and aquatic entomology. This very attractive and splendidly illustrated book undoubtedly will fascinate students, and also beginners, in this field of entomology.

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