

Book Reviews

ZOOLOGY

Ecology and Classification of North American Freshwater Invertebrates

By James H. Thorp and Alan P. Covich, Editors. 1991. Academic Press (Harcourt Brace Jovanovich, San Diego). xii + 911 pp., U.S. \$59.95.

This large (22 × 28.5 cm, 2.5 kilograms) book is a must for every aquatic biologist who works with the North American fauna, and should prove to be very useful to biologists from other regions, as well. It presents in one volume the most recent and comprehensive treatments of the ecology and (usually) generic-level taxonomy of all groups of aquatic invertebrates, written by authorities on each group. To prevent duplication of recent books on aquatic insects, and to keep this book from almost doubling in size, insects are treated only at the family level. On the other hand, several small groups (i.e., sponges, leeches) are treated at the species level. The book consists of 22 chapters; a glossary of taxonomic, biological, and ecological terms; and separate taxonomic and subject indices. It begins with an introductory chapter by the editors that consists of very brief characterizations of each phylum treated in subsequent chapters, and a key to the major taxa. The second chapter, also by the editors, is a well-written discussion of the diversity of freshwater habitats. Each of the remaining 19 chapters covers one of the major groupings of freshwater invertebrates. These chapters all are similar in layout, but not all identical. Each one usually begins with an overview of the group, followed by a brief discussion of anatomy and physiology, a detailed review of the ecology of the group, and finally the taxonomic section which includes keys to the higher taxonomic levels, and for most groups the genera. The information presented is uneven from one chapter to the next, which is a reflection of the amount of information available for the different groups, and probably the interests of the authors, as well. Thus, the chapter on bivalve molluscs, a group with approximately 260 species in North America that are often conspicuous and important components of aquatic ecosystems, devotes more than 50 pages to anatomy, physiology, ecology, and evolution, while the chapter on tardigrades, a cosmopolitan group of approximately 600 species that are almost never conspicuous nor con-

sidered important components of any ecosystem, devotes just 13 pages to similar topics. This is to be expected in a multi-authored volume (28 contributors including the editors) treating such a diverse array of organisms, and does not detract from the overall quality of the presentations. Each chapter is well illustrated with photographs and line drawings of the organisms themselves, as well as with tables, figures, and photographs that present taxonomic, ecological, or other information. A literature cited section follows the keys at the end of each chapter. This will serve as an excellent introduction to the most pertinent taxonomic and ecological literature on the various groups in North America for those needing to pursue groups in more detail.

My only complaint with the book is the lack of diagnoses for the taxa keyed. With the exception of the sponges, which are treated in detail at the species level, no detailed descriptions of the taxa, be they families or genera, are provided to help determine the reliability of identifications. This is unfortunate, but understandable. To have included detailed descriptions of each taxon keyed would no doubt have doubled the size of the book, which as is does not fit comfortably beside the microscope.

This is a "must have" book for aquatic biologists, and would serve very well as a text for a course on non-insect aquatic invertebrates. The up-to-date coverage, with its emphasis on ecology and classification, gives it a unique position among general purpose keys to aquatic organisms (eg., Ward and Whipple, Pennak) which I believe will appeal to many potential users. In addition, the book is well made and attractively designed. Considering the prices of books these days, sixty dollars is a bargain for such a volume. I strongly recommend *Ecology and Classification of North American Freshwater Invertebrates*.

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