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BOOK REVIEW

MERRITT, R.W and K.W. CUMMINS. Editors 1978. An Introduction to the Aquatic Insects of North America. xiii + 441 pp. Kendall/Hunt Publishing Company. U.S. \$18.95

In this review, I present not only my own opinions of “An Introduction to the Aquatic Insects of North America”, but also some of those of my colleagues. I do this because when discussing the book with them, a wide divergence of opinion became apparent. This divergence seemed to stem from what various readers expected of such a book. However, it should be kept in mind, that the book is not intended for the specialist as is clearly stated in the Preface but for undergraduates, amateur naturalists, and fish and wildlife and natural resource personnel. Nevertheless, the book is of considerable use to experts on a particular group.

Merritt and Cummins intend the book “to serve as a standard, updated reference on the systematics and biology of aquatic insects”. For good measure, some semi-aquatic insects are included also. Because of the large number of species covered, keys presented are generally to family only. However, these provide easy access to available generic keys. Some taxa of particular importance, such as the Chironomidae and Simuliidae are treated to the generic level.

Although twenty-two authors contributed to the book, the chapters have all been edited with a firm hand and are commendably consistent in style and layout. Each chapter begins with a brief introduction to the taxon and an equally brief explanation of structure, neither more than a page long. The key, illustrations, and additional taxonomic references are then presented. Each chapter finishes with a chart summarizing ecological and distributional data for that taxon. Data is given, often at the species level, on habitat, habit, trophic relationships, and North American distribution with references to ecological information being included. Charts are printed in smaller type and the references are numbered; all in all, packing a large amount of data into one or two pages. Presented in another form, this data would have made the book enormous.

It is pleasant to see the chapter on morphology feature a plecopteran as a typical insect, rather than the usual orthopteran.

The book is somewhat unusual for a recent entomological text in that the figures are many, large and clear. For example, the dorsal and ventral views of the stonefly in the chapter on morphology each occupy an entire page and are fully labelled. However, as with any multi-authored book, the quality of the figures varies, from the magnificent drawings in the chapter on Trichoptera by G.B. Wiggins, to others that are only adequate. One colleague suggested that as the figures were so good they could have been reduced further allowing more to be inserted. I’ll comment on the question of size later.

Another colleague commented that the introductions to chapters were so condensed as to be virtually useless. Perhaps so, but as Merritt and Cummins point out, no reasonably-sized book could be expected to contain detailed accounts for all taxa. If more information is required by a particular reader, on a given taxon, he or she is given ready access to the pertinent literature in the bibliography of this book.

After the chapter on morphology, is a chapter on collecting, sampling and rearing of aquatic insects. Here, much information, including names and addresses of equipment suppliers is crammed into charts; there are also many clear figures of various types of equipment. It is a pity that space did not allow for comment on efficacy of the various methods as this is an area full of difficulty for beginners.

Similarly, space appeared to dictate that only three pages, two of which are charts, be devoted to the ecology and distribution of aquatic insects!

More extensive is a chapter on phylogenetic relationships and evolutionary adaptations of aquatic insects. In this are provided a series of phylogenetic dendrograms illustrating family relationships within the more diverse orders containing aquatic representatives, and one showing geological age and evolutionary relationships of the orders. It is unfortunate that adaptations to aquatic habitats are not figured here, although such are clearly illustrated elsewhere. If brought together in one place, they would have shown more clearly the numerous solutions to problems of aquatic living that insects have evolved.

The book is easy to use because the keys are set in large type and because the figures are referred to in them where pertinent. However, the book is awkward to use in a practical way as it has wide pages and takes up so much space next to a microscope. It is clear that attempts have been made to keep the size of the book down by using small type in charts and text, but its large size almost precludes its use in the field, where perhaps its greatest value lies. Maybe the editors would consider publishing a more compact version in the future.

The book will be of use for many years as it is completely up to date. The Preface states that the literature review was cut off in April 1977, but there are many references for 1978 and even one for 1979.

Well produced, with a startling black cover having a fine photograph of an "erosional", rocky stream featured on it, the book is a bargain at its price.

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