

BOOK REVIEWS

THE ECOLOGY OF AQUATIC INSECTS. Edited by Vincent H. Resh and David M. Rosenberg. 1984. Praeger Publishers, 521 Fifth Avenue, New York, NY, 10175. 638 pp. \$35.00.

The two main goals of this book, as stated in the preface, were to present a contemporary overview of aquatic insect ecology and to highlight research needs within the most promising avenues. The first of these goals was met very well within the broad range of topics covered in this book. The second goal was a difficult task but was met with excellent suggestions in most chapters.

The interest in lotic biology has grown dramatically over the last decade. This book deals with aquatic insects of streams, rivers, and lakes with minor references to other aquatic arthropods. It is beneficial to read accounts of both lentic and lotic habitats in one source. The major groups of insects cited are Ephemeroptera, Plecoptera, Trichoptera, Odonata, and Coleoptera. Minor references to Hemiptera, Megaloptera and Neuroptera are included. The primary references to Diptera are Chironomidae, Tipulidae, and Simuliidae with some mention of Culicidae, Chaoboridae, and Ceratopogonidae.

Regardless of which group of insects one is studying, this book has a great deal to offer. Topics include how to obtain information on and factors affecting life histories; trophic aspects such as primary consumers, predation, and secondary productivity; physical factors such as hydrology, substratum, and the hyporheic zone; colonization of aquatic habitats and insects of extreme habitats; design of experiments and hypotheses; and response to pollution and management of the aquatic insect habitat.

The chapters on life histories provide a wealth of suggestions for future research. Current knowledge is well delineated and the terminology is clearly defined. The chapters on trophic concerns are excellent in their analysis of current knowledge of feeding mechanisms, nutrient cycling, predator-prey behavior, and fish predation behavior. Methods of secondary production such as Actual Cohort (Allen curve, Removal-summation, increment-summation and instantaneous growth), P/B utilizing the Cohort Production Interval (CPI) and the Size-Frequency are compared.

The editors are to be commended on the range of topics included in this book. For instance, researchers should find the chapters on hydrology, substratum, and the hyporheic zone a good resource for methods, terminology, basic information, and current references. Also, the chapter on small and large aquatic habitats is informative for terminology and methods of sampling (i.e. this chapter has some good references to the Culicidae). Furthermore, management of aquatic insect habitats is an area this reviewer has not seen in the literature and this chapter provides numerous thought provoking ideas that should be considered. The last chapter on aquatic insects and mankind seems a light note on which to end the book. It provides a potpourri of different interactions of man and insect.

The chapter on colonization includes mathematical models and suggestions for study. The hypothesis testing chapter discusses hypothesis formulation, transformations, and sample size determination. This is only an introduction and as the writer indicates, one also needs Elliott (1977) and Green (1979). The chapter on responses of aquatic insects to environmental pollution brings one up to date on the current knowledge of the effects of sediments, temperature, heavy metals, oil, and acidification. This reviewer found the outline of the phases of acidification especially instructive.

References appear at the end of each chapter and should be an invaluable resource. An author, subject, and taxonomic index is also included in the book. Only a few typographical errors appeared along with several type blurs and smudges in the text. Reference to more of the minor Diptera groups, some of which are marginally aquatic, would be an improvement. Some research areas and researchers have been omitted, but in general, the authors have included a reasonable review of the literature from 1970 to 1983. Many authors included earlier classic papers.

This book should be required reading for all graduate students in aquatic entomology. All involved with this book certainly further the cause of research with aquatic insects.—E. C. Masteller, Division of Science, Engineering and Technology, The Behrend College, The Pennsylvania State University, Erie, PA 16563.

MALARIOLOGY WITH SPECIAL REFERENCE TO MALAYA (Second edition). By A. A. Sandosham and Vijayamma Thomas. 1983. Singapore University Press, Kent Ridge, Singapore 0511. xxvi + 382 p. Price, Singapore \$30.00 (approximately US \$15.00).

This volume represents a revised version of Sandosham's 1959 volume of the same title. The contents are essentially the same in both volumes despite the passage of 24 years. A page-by-page comparison indicates that approximately 70–75% of the material has been reprinted verbatim. In the preface, Dr. Sandosham mentions that the nomenclature and bionomics of the anophelines has been updated; information has been added on malaria control programs, the physiology, ultrastructure and *in vitro* cultivation of parasites and the malaria parasites of nonhuman primates in Malaysia. The black and white plates for the identification of malarial parasites in blood films have been replaced by color plates.

The chapter headings provide a good overview of the book: Introduction, Some basic biological information, Natural history of malaria, Natural history of anophelines, Malaria surveys, Control and eradication. These are followed by six appendices (Microscopical, Haematologic and Entomologic techniques, Aids to the identification of malarial parasites, Keys to the common anopheline mosquitoes (larvae and adult females) and Malaria of non-human primates) plus a glossary and index.