
Like the 3 previous editions (the 1st was published in 1978), the 4th (revised) edition of An introduction to the aquatic insects of North America has no equal. This edition is, without a doubt, the most complete compilation of taxonomic and ecological information on the aquatic and semiaquatic insects of North America. The editors have stated in the Preface “we hope this new edition will be of greater use to professional and lay groups interested in aquatic insects.” Professors Merritt, Cummins, Berg, and 45 other authors surely have accomplished this monumental task superbly. I have all of the previous editions (several copies of each) and have used them continually for my research and the aquatic entomology courses that I have taught over the past 25 y. I am currently using the revised 4th edition. My students and I have found the taxonomic treatments excellent, and we really appreciate the expanded coverage of the biononitoring, ecology, and life-history chapters.

New features added to the 4th edition include a gallery of color photographs of selected taxa, a comprehensive glossary, and an interactive CD that provides a well-illustrated key and habitat images. This CD operates on both Windows (up to XP) and Macintosh (OS X 10.1–10.3). Ecological Tolerance Values for each taxon have been added to “Summary of ecological and distributional data...” tables at the end of each chapter. The coil binding appears to be better constructed than that of the previous edition, and hopefully, this improvement will help to prevent the covers and other pages from tearing out prematurely.

Apparent, a glitch occurred in the 1st printing of the 4th edition. In a letter dated 25 February 2008 from Kendall/Hunt to buyers who purchased this 4th edition directly at first availability from the publisher, the editors indicated “The beta version you now own contains significant errors in both content and printing and should not be used. These errors have been corrected.” My experience returning the beta version for the corrected printing (ISBN 978-0-7575-5049-2) was excellent. Hopefully, all buyers of this original printing have traded in their copy for the revised version.

Well-known authorities have written the 26 chapters. My objective is to provide a few highlights from each. For example, a useful annotated list of general references can be found in Table 1A in Chapter 1 (“Introduction”). I would have added the fantastic book by Wichard et al. (2002) to the Ecological Treatments listed in the table. Wichard et al. (2002) is listed as reference 5597. Chapter 2 (“General Morphology of Aquatic Insects”) is similar to the previous edition. I like the inclusion of new references for using the terms nymph and larvae. Chapter 3 (“Sampling Aquatic Insects”) has been updated, and many new references have been added. This chapter is crucial for anyone learning how to sample aquatic insect communities and for those who think they already know how to sample adequately. Chapter 4 (“Aquatic Insect Respiration”) is a thorough review of the varied respiratory options of aquatic insects. The expanded Respiration and Toxicants section indicates that the effects of environmental stressors on respiration are not definitively understood and that more research is needed. The 48 pages of expanded Chapter 5 (“Habitat, Life History, Secondary Production, and Behavioral Adaptations of Aquatic Insects”) could easily have been a separate “Citation Classic!” Alexander Huryn and his colleagues have provided a remarkably succinct summary of the references listed in the 9 pages of Table 5A. Figures 5.5 and 5.6 are a wonderful graphic depiction of the growth of the mayfly, Isonychia bicolor (Walker), and a guild of scraping caddisflies from White Clay Creek in Pennsylvania. Chapter 6 (“Ecology and Distribution of Aquatic Insects”) has been rewritten and expanded and now covers adaptations to habitat, functional trophic relationships, surrogates for ecosystem attributes, and energetics. This chapter also could be a separate noteworthy publication. Chapter 7 (“Use of Aquatic Insects in Biomonitoring”) is completely updated and covers all scales of biomonitoring well. It has excellent information on how to design a biomonitoring program properly. Chapter 8 (“Phylogenetic Relationships and Evolutionary Adaptations of Aquatic Insects”) covers a subject that is inherently