

## BOOK REVIEWS

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**Manual of Central American Diptera: Volume 1.** B. V. Brown (head), A. Borkent, J. M. Cumming, D. M. Wood, N. E. Woodley, M. A. Zumbardo (editors). ISBN 13-9780660198330. NRC Research Press, Ottawa, K1A 0R6, Canada. 2009. 714 pp. \$US94.45 (hardback).

The old adage that beauty is only skin deep does not apply to Volume 1 of the **Manual of Central American Diptera**. The front hard cover is entirely covered by a high-resolution, fully color-saturated photograph of a Stratiomyidae adult. The cover is eye-catching in the extreme, and the quality is maintained throughout the volume.

This volume is the 1<sup>st</sup> of a 2-part work that eventually will consist of some 113 chapters on dipterans of Central America. The editorial group headed by Brian Brown, Natural History Museum of Los Angeles County, engaged some 40 leading taxonomists of Diptera to contribute chapters. The editors are themselves highly published senior dipterologists.

At first sight, a book of this ilk might not seem to be of great use to aquatic entomologists. However, the 2 volumes are laid out phylogenetically, so the 1<sup>st</sup> volume covers the nematocerous Diptera, which are, in the main, aquatic. It also covers the lower Brachycera.

The layout of the book is well considered. In the introductory chapter, Brown very briefly puts the work into perspective. In large part, the 2 volumes are meant to compliment the classic *Manual of Nearctic Diptera* (1981–1989) and to highlight Costa Rica because the project had its genesis there. Following the introduction is an extensive chapter on adult morphology and terms. The definitions laid down in the chapter are followed by all authors. Such glossaries are very important for stabilizing terms and homologies of structure, and the glossary alone is worth the cost of the book. It is a pity that a similar chapter on larval structure was not included. This chapter is followed by short, general chapters on natural history and on economic importance.

A chapter on the phylogeny of Diptera is of major value. This chapter establishes the rationale for the layout of the chapters in the 2 volumes. Phylogeny of the Diptera is contentious, but the 3 authors, Woodley, Borkent, and Wheeler, deal even-handedly with the issues and provide alternate phylogenies. (It will be a sad day if dipterologists ever fully agree upon dipteran phylogeny.)

The keys to adults and to larvae are well laid out and appropriately illustrated. Indeed, the illustrations require comment. The greater part of line drawings have been taken (with permission, of course) from the *Manual of Nearctic Diptera*, and are of exemplary standard. Those drawings not from that *Manual* differ in style, but still are of good to high quality. The front cover photograph was by Steve Marshall, University of Guelph, who is well known for his high-quality imagery of insects. He provided most of the ~140 habitus images of Diptera adults. These images are of very high quality, given the difficulties of natural habitus photography.

The editorial team has done a very nice job of herding all of the contributors toward a standard presentation for the individual family chapters. All chapters start with a full page habitus illustration (usually from the *Manual of Nearctic Diptera*) of a representative adult from the family. After the illustration come succinct sections on diagnosis, biology, classification, identification, and keys to adults and larvae, which are followed by a synopsis at the genus level for the family's Central American fauna. Some chapters are extensive. For example, the chapter for the Tipulidae is 43 pages. Other chapters are not. For example, the chapter on the Blephariceridae is a mere 6 pages. The volume concludes with an exhaustive taxonomic index.

The NRC Monograph Publishing Program is to be complimented on the high quality of the production, particularly of the color photographs. My only concern with the production is with the binding. The front cover of my copy already has cracked at the fold. Inside, the pages are sewn into signatures, but the signatures are held together by light cloth and glue on the internal back spine. Separation of the pages is disturbingly major when the book is opened in the middle and laid flat. Although my copy is still holding together, one wonders for how long? It is a pity that the binding was not a little more substantive.

This book is worth having, even if only for its 'startle value'. People do comment about it when it is visible on a bench—that cover is eye catching. The book also might be worth having just to remind us how such work should be done. However, one really should have it for its high-quality content.

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