

# BOOK REVIEWS

**ANNOTATED BIBLIOGRAPHY OF *Toxorhynchites* (DIPTERA: CULICIDAE)**, by Wallace A. Steffan, Neal L. Evenhuis and Deborah L. Manning. 1980. Journal of Medical Entomology, Supplement No. 3. 140 pp. \$11.00 for subscribers to the journal and \$13.00 for others.

Renewed interest in *Toxorhynchites* in the areas of biological control, arbovirus detection, morphology and basic biological studies has prompted Dr. Wallace A. Steffan and coworkers of the Bishop Museum in Honolulu to compile a very complete and annotated bibliography of references to this predaceous subfamily. The literature survey for the bibliography was concluded on March 31, 1979 and includes every known reference collected from ca. 375 different serial publications. The value of this comprehensive bibliography is enhanced by extensive cross-indexing to taxonomic categories, key words and distribution.

In the bibliography itself, each of the 1,295 references are arranged alphabetically by first author. Each entry provides the usual information on authorship, date of publication and complete title, followed by the serial citation with volume and issue number and pagination. Each reference is provided with an identifying number for use in computerizing the bibliography, and the systematic, subject (key word), and geographic indices which follow the bibliography. A decimal numbering system has been employed to allow for subsequent expansion.

The annotations following each complete citation are divided into the three groups mentioned above: taxa, key words and distribution. The taxon category includes all taxonomic group names in *Toxorhynchinae* in descending order from subfamily to subspecies with all scientific names being listed regardless of their validity. The key word category includes the following subjects: behavior, bibliography, biocontrol, bionomics, ecology, evolution, fossil record, general, genetics, key, laboratory studies, life cycle, morphology, physiology, systematics and virus studies. The third category reports the distribution of the species mentioned in the reference. Reference to one of these indices allows one to quickly sort through the entire bibliography and extract the desired information with respect to taxonomy, subject area and distribution.

With the authors' promise to publish regular updates, the bibliography will relieve many individuals of tedious and incomplete literature searching. *Toxorhynchites* workers will welcome this contribution and find it invaluable. Dana A. Focks, Insects Affecting Man and Animals Research Laboratory, ARS, USDA, Gainesville, Florida.

**TAXONOMISTS' GLOSSARY OF MOSQUITO ANATOMY**, by R. E. Harbach and K. L. Knight. 1980. Plexus Publishing Inc., Marlton, N. J. 415 pp. \$24.95.

At last, a much needed, long-overdue and exhaustive treatise on the surface anatomy of mosquitoes! All of us who have suffered from synonyms over the years will appreciate this attempt to standardize the multitude of anatomical terms used in the description of mosquitoes. The authors have given us an "instant classic." Every mosquito researcher who requires a thorough understanding of mosquito anatomy will welcome this tremendous reference work. This volume, a scholarly milestone in the field of culicidology, may be most appreciated by mosquito taxonomists and functional anatomists but students, teachers and researchers in other areas of mosquito study will also find it an invaluable resource.

The terms used to describe the sclerotized anatomy of mosquitoes are organized into 5 sections: i.e., adult, egg, larvae, pupa and vestiture. A definition for each of the 1,139 recommended or accepted terms is followed by a list of synonyms. The index permits the reader to locate any term used. As far as I could determine, every term used is clearly figured somewhere on at least one of the 365 line drawings and scanning electron micrographs. The illustrations follow the text in each section.

By providing explicit definitions of structures which are phylogenetically and ontogenetically comparative, the authors will help to stabilize the anatomical terminology used in the Culicidae and related families of Diptera. Some mosquito taxonomists and comparative anatomists may find fault with some of the terms used and steadfastly persist in using their own terms but the glossary should reduce much of the confusion and frustration of those entering the field of mosquito taxonomy. I would conservatively estimate that the training of future mosquito taxonomists could be reduced by 6 to 12 months by reference to this

comprehensive glossary compared to a lengthy digestion of hundreds of original articles scattered through many difficult to obtain publications. One can only hope that writers of future monographs on taxonomy will follow the authors' lead and use the recommended terminology.

There are no glaring typographical errors or inconsistencies in format. The hardcover book is of good quality paper and strongly bound to take years of hard use. The line drawings, done by several artists, are meticulously and skillfully drawn and reproduced. The SEM pictures, apparently all published here for the first time, are breath-taking in their detail and clarity. The glossary is a high quality publication in all respects. Harbach and Knight have earned a place in the history of mosquito research with the publication of this scholarly work. The glossary should have a central place in the library of every mosquito researcher.—R.A. Ellis, Parks and Recreation Department, The City of Winnipeg, Winnipeg, Manitoba R3R 0B8, Canada.

MANUAL OF NEARCTIC DIPTERA, Volume I, coordinated by J. F. McAlpine, B. V. Peterson, G. E. Shewell, H. J. Teskey, J. R. Vockeroth and D. M. Wood. 1981. Research Branch, Agriculture Canada. Monograph No. 27. pp. vi + 674. Available from Canadian Government Publishing Centre, Supply and Services Canada, Hull, Quebec, Canada K1A 0S9. \$48.00 Canadian.

This long-awaited updating of Curran's (1934) "Families and Genera of North American Diptera" has been well worth the waiting. The first volume is a large book, 9" × 11", of 674 pages dealing with introduction to the Order Diptera, morphology and terminology of the adults by J. F. McAlpine and larvae by H. J. Teskey, a key to 108 families of adult Diptera by J. F. McAlpine and a similar one to families of larvae by H. J. Teskey. Then there follows a discussion of 24 families of Nematocera and the 19 families of orthorrhaphous

Brachycera. Volume 2, which hopefully will be published in the next year or two, will include a treatment of the 65 families of higher flies, the Muscomorpha or Cyclorrhapha.

Fifty-two collaborating specialists have contributed to this manual. Many of the families of Diptera have been treated by members of the Diptera Section of the Biosystematic Research Institute in Ottawa, Canada: J. F. McAlpine, B. V. Peterson, G. E. Shewell, H. J. Teskey, J. R. Vockeroth, and D. M. Wood. Readers of "Mosquito News" will find authoritative discussion of the mosquitoes (Culicidae) by Alan Stone, horse flies and deer flies (Tabanidae) by L. L. Pechuman and H. J. Teskey, black flies (Simuliidae) by B. V. Peterson, Ceratopogonidae by J. A. Downes and W. W. Wirth, Dixidae by T. M. Peters, Chaoboridae by E. F. Cook, Stratiomyiidae by M. T. James, and Tipuloidea by C. P. Alexander and G. W. Byers.

In each chapter dealing with a family of Diptera there is a habitus drawing of an adult (as *Aedes sticticus* in the mosquito chapter), discussion of the adult and larva, biology and behavior, classification and distribution, keys to genera of adults and larvae, and an up-to-date list of references, some as late as 1980.

When the second volume is published, the manual will include about 2,150 genera in 108 families. By comparison Curran's (1934) manual treated 2,031 genera in 81 families, but many of these genera were strictly Neotropical. The number of described Nearctic species of flies now exceeds 18,200.

The beautiful line drawings were made specially for this manual by Ralph Idema with a uniform style and terminology throughout the book. This reviewer has spent several, very pleasant evenings leafing through the book and has noted no typographical or factual errors. It is an outstanding book that is already a classic.—Harry D. Pratt, 879 Glen Arden Way NE, Atlanta, Georgia 30306.