

## BOOK REVIEW

IDENTIFICATION AND GEOGRAPHICAL DISTRIBUTION OF THE MOSQUITOES OF NORTH AMERICA NORTH OF MEXICO, 1981, by Richard F. Darsie, Jr. and Ronald A. Ward. Mosquito Systematics Supplement 1:1-313. For sale by American Mosquito Control Association, 5545 East Shields Avenue, Fresno, California 93727. Paper cover, \$30.00, hard cover, \$35.00.

This book, as the title indicates, contains an up-to-date treatment of the identification and geographical distribution of the mosquitoes of North America, north of Mexico. It includes 167 species and subspecies in 13 genera and 27 subgenera; whereas, at the time of the publication of the monograph by Carpenter and LaCasse (1955), twenty-six years ago, 143 species and subspecies in 11 genera and 19 subgenera were known to occur in this geographical region.

Ninety-four pages of the book are devoted to a key for the identification of the genera and species of adult female mosquitoes and 96 pages are used to present a key to the genera and species of the fourth stage larvae. The chapter on morphology of the adult female comprises 14 pages preceding the key and includes a bibliography of 51 selected references. There is also an 11 page section dealing with the morphology of the fourth instar larvae which precedes the key. A total of 983 excellent drawings made by Chien C. Chang are used in the sections on morphology and the keys. The drawings are placed in an appropriate manner between the key couplets. Below each species named in the keys are found the plate number on which the distribution is shown.

The anatomical and descriptive terminology used in the book, with few exceptions, follows that recommended by Harbach and Knight (1980) in their book entitled TAXONOMISTS GLOSSARY OF MOSQUITO ANATOMY. The authors, Darsie and Ward, have not included information on bionomics of mosquitoes nor have they included drawings and a key for identifying male mosquitoes. References to literature dealing with the taxonomy of each species are cited underneath the distribution maps.

The geographical distribution of the Culicidae of the region is presented in a chapter containing 52 pages. The distribution of the species is shown in a series of 41 near page size maps comprising plates 9 through 49. Below each map is a listing of the states and provinces in which each species has been reported to occur along with literature citations given in the same manner as by Carpenter and LaCasse (1955). In presenting this information on distribution, the year 1955 was used as a starting point. The authors have added 574 new state and province records which encompass 16 new species since 1955. They have deleted 37 instances in which species once reported as occurring in a state or province could not be verified. Three distribution tables provide a synopsis of the occurrence of mosquito species in the eastern United States, the western United States, and Canada and Alaska.

Other features of the book include the following: a page of abbreviations of the states of the United States and the provinces of Canada; a preface; a table of contents; an introduction; a section on systematics; a bibliography of mosquito taxonomy and geographical distribution consisting of 536 references most of which are for the period 1955 to the present; an appendix containing locality data for the mosquito specimens used for preparing the illustrations for the keys; and an index to the species.

The authors and the American Mosquito Control Association are to be congratulated for making this book available to all of us who have an interest in this important group of insects. It should be a most valuable tool for public health and mosquito control workers and entomology students with an interest in Culicidae. The book with the paper cover may not wear well with hard usage.

Stanley J. Carpenter