

## REVIEWS AND ABSTRACTS

HELEN LOUISE DURKEE

**THE EPIDEMIOLOGY AND CONTROL OF MALARIA.** By George Macdonald. The Oxford University Press, London, New York, and Toronto. 1957. 201 pp. plus Appendices 40 pp. plus index 11 pp. \$7.50 (England, 30 s.).—This is a thoroughly practical and useful book by Doctor George Macdonald who is Director of the Ross Institute of Tropical Hygiene and Professor of Tropical Hygiene at the London School of Hygiene and Tropical Medicine. The author discusses in turn the forms of epidemiology; the cycle of transmission; quantitative aspects of transmission, including such factors as reproduction rate, critical level, sporozoite rate, parasite rate, and effect of acquired immunity; equilibrium, e.g. stable and unstable malaria, cyclical changes; epidemics; local features of malaria by geographical regions of the world, including a consideration of the vectors; modern malaria surveys and their interpretation; theory of control; insecticides and their modern use; prophylactic drugs; basic principles of a control program; discussion of malaria eradication and of vector eradication; anopheline susceptibility and resistance to insecticides. In Appendix II, the author describes technics of staining blood films, obtaining spleen indices, capturing anophelines, measuring mosquito survival rates, identifying blood meals, determining susceptibility and resistance, field and laboratory testing of insecticides.

In Appendix I, Professor Macdonald presents a mathematical statement or model of the epidemiology of malaria. His studies have built up a complete picture. Although, as he states, it can not claim to be exact, nevertheless it does give a realistic representation of natural happenings. This the earlier mathematical studies of Ross,

Waite, McKendrick, Lotka, and others failed to do. Macdonald was convinced that the logic and the mathematical procedure of the earlier studies was sound but that the premises had been incorrect or incomplete. So he reexamined the fundamental premises and he has succeeded admirably in "building a workmanlike model which, when compared with natural happenings, resembles them sufficiently to provide an acceptable model."

The text of this book is firmly based on the mathematics of Appendix I but is so clearly and concisely written that it does not discourage the non-mathematical reader who applies himself attentively. Here is a book of considerable interest to epidemiologists generally and one for every malariologist to read, to use, and to enjoy.—Paul F. Russell M.D., North Edgcomb, Maine.

**THE MOSQUITOES OF WYOMING.** By William B. Owen and Richard W. Gerhardt, University of Wyoming. Vol. XXI, No. 3, 70 pp. 1957. This publication is a revised and up-to-date study of the 42 species occurring in the State. Of these 27 are *Aedes*, 5 *Culex*, 4 *Anopheles*, 4 *Culiseta*, and one each of *Mansonia* and *Psorophora*. Taxonomic revisions have changed the names of several species and the authors have dropped *Aedes riparius*, Dyar and Knab, as given in their 1951 lists. Information is given on the distribution, seasonal cycle, breeding habits and relative importance of each species. Keys to adults and fourth instar larvae are included. This is a good-looking booklet, well bound and with well printed pages.—H. H. Stage, Washington State Department of Health.

### WANTED: INFORMATION ON *GAMBUSIA*

Mr. Carl J. George is making a special study of the "mosquito fish," *Gambusia affinis* and its survival potential in northern latitudes. He would like to hear from anyone who has data that would help him map its distribution, or who has preserved material that he could study or who has pertinent ecological information. Address: Carl J. George, Harvard Biological Laboratories, 16 Divinity Ave., Cambridge 38, Massachusetts.