BOOK REVIEWS

PARASITOLOGICAL TOPICS. A PRESENTATION VOLUME TO P.C.C. GARNHAM F.R.S. ON THE OCCASION OF HIS 80TH BIRTHDAY 1981. Edited by Elizabeth U. Canning. 1981. Society of Protozoologists, Special Publication No. 1. Allen Press, Lawrence, KS. 289 pp. $20.00 for Society members; $35.00 for non-members.

The concept of a Festschrift or a commemorative volume of essays or articles contributed by many authors is a worthwhile endeavor, especially when the recipient is still actively contributing to science. Elizabeth Canning has prepared a well edited book that not only presents papers written in honor of Professor Garnham, but often provides vignettes of the Professor which are interspersed among the papers. The general tone of the volume is exemplified by R. Killick-Kendrick and J-A. Rioux who state: "It gives us great pleasure to offer this paper in homage to notre maître, P. C. C. Garnham, a man of rare stature who has taught us, encouraged us and set examples of wisdom, intellectual honesty, understanding and enthusiasm which few can hope to follow."

Of the 44 contributions, about half concern malaria, other mosquito-borne pathogens or closely allied areas as sand flies and leishmaniasis. Those of particular interest to our readers include the following:

A brief tribute (P. C. C. Garnham, master, mentor, friend, pp. 1–7) by L. J. Bruce-Chwatt introduces the volume. This is followed by a complete bibliography (The published works of P. C. C. Garnham, F. R. S. from 1922–1981, pp. 8–18). [Several papers have subsequently appeared, including (with J. P. McMahon) Eradication of the black fly, *Simulium neavei*, from Kenya, in *Mosquito News* 41:383–384 (1981).] R. G. Bird indicates the potential of a a concurrent interaction between a cytoplasmic polyhedrosis virus and the sporogonic stages of *Plasmodium berghei yoelii* (Protozoa and viruses—Human cryptosporidiosis and concomitant viral enteritis (pp. 39–47). Intriguing questions about the disposition of malarial sporozoites in both the mosquito and vertebrate host are raised by R. S. Bray (Travellers in peril: the promastigote and the sporozoite (pp. 48–53). David Clyde recalls the Great Amani Hunt (In search of *Plasmodium cephalopi*, pp. 65–67) and its unexpected conclusion. Collins et al. (Observations on relapse patterns and delayed prepatent periods in *Plasmodium simiovale*, pp. 68–73) propose that longer periods of extrinsic incubation in the mosquito vectors of a simian parasite could result in more frequent occurrence of delayed primary infections or relapses. Professor Corradetti (About relapses in human malaria, pp. 74–77) indicates some of his ideas on malaria relapses which differ from those of Professor Garnham. In discussing simian malaria (Parastic zoonoses with special reference to Sri Lanka, pp. 78–85), Dissanaike indicates that *Anopheles elegans* may occasionally transmit simian malarial parasites to humans. The subject of malariology on postage stamps is reviewed by J. M. Doby (Paludisme et timbresposte, pp. 86–93).

Gabaldon and Ulloa describe an avian malarial parasite from western Venezuela (A new species of the subgenus *Novyella* from *Aramides cajanea*, pp. 100–105). Gillett postulates (Increased atmospheric carbon dioxide and the spread of parasitic disease, pp. 106–111) that many of the vector-borne diseases will show a marked increase during the next century due to the greenhouse effect from increased lower atmosphere temperature. Although six species of *Plasmodium* have been recorded from Hawaiian birds in the past, Laird and Van Riper conclude that only a single species occurs in that state (Questionable reports of *Plasmodium* from birds in Hawaii, with the recognition of *P. relictum* spp. *capistranoae* as the avian malaria parasite there (pp. 159–165). McGhee describes experiments with partially attenuated parasite strains (The relation of dosages of antigen on the course of infection and immunity of chicks to *Plasmodium gallinaceum* (pp. 184–190). Promising modern biochemical techniques for the study of genotypic and phenotypic characters are reviewed by Peters (Technological advances in protozoan taxonomy and systematics (pp. 200–209). A possible horse epizootic attributed to either VEE or EE virus that occurred more than 400 years ago in northern South America is described by Sanmartin (Equine encephalitis: The New World—XVI century, pp. 218–220). In a well designed study using varied sporozoite inocula in rhesus monkeys, Schmidt shows that relapses in *P. cynomolgi* are due to cyclic activity of persisting exoerythrocytic stages rather than reactivation of dormant sporozoites or partially developed preerythrocytic stages (Some observations on infections with *Plasmodium cynomolgi* pertinent to concepts of the mechanism of relapse, pp. 221–228). Walliker analyzes genetic variations in virulence among rodent malarial parasites (The genetics of virulence in *Plasmodium yoelii*, pp. 260–265). Using data from comparative susceptibility studies involving species and strains of anophelines and vivax and falciparum malaria in *Aotus* monkeys, Warren and Collins (Vector-parasite interactions and the epidemiology of malaria, pp. 256–274) discuss theoretical influences of mosquito susceptibility patterns on potential movement of malarial parasite strains from one area of the world to another. The survival of rodent malarial parasites in cyropreserved mice for up to 111 days is briefly described by Young (Survival of rodent malaria parasites in frozen hosts (pp. 288–289).

As in the instance of most supplementary volumes or special publications of scientific organizations, this book is not normally present on library shelves. However, it is well worth seeking and reading, especially if one still shares the attitude that the host, parasite and vector are still worthy of observation at the organismic level.—R. A. Ward.

MANUAL ON ENVIRONMENTAL MANAGEMENT FOR MOSQUITO CONTROL, WITH SPECIAL EMPHASIS ON MALARIA VECTORS. WHO Offset Publication #66 1982. World Health Organization, Geneva, Switzerland. 282 p. Price 22 Sw. Fr.

The aim of this excellent new publication "is to provide information on environmental management techniques, methods, and practices in the control of mosquito vectors of malaria and other diseases." In this it succeeds very well; so well in fact, that it reaches far beyond the specifically intended audience and will be of equal value to workers responsible for any community mosquito control program, in broadening its attack to extend beyond the use of chemical pesticides to include environmental management (source reduction) approaches.

The preparation of this manual was undertaken in response to the urgent need to place in the hands of national malaria control administrative and technical staff, and WHO or other international staff responsible for planning or executing practical operational programs of malaria control, a single publication giving an alternative approach to the use of chemical pesticides, the utility of which is declining due to chemical resistance acquired by the mosquito populations.

The book was prepared by WHO staff and consultants, with contributions from various well-informed individuals, and preliminary drafts were reviewed by many authorities who are listed in the introductory pages. The subject matter draws heavily upon successful programs that have been executed in various parts of the world, and upon earlier publications that are no longer readily available. It may be said that this is easily the most useful publication available for its defined purpose, and every mosquito control agency should make it available to its technical and supervisory employees.

Beyond the primary subject matter as indicated by the title, this book includes brief summaries of important related information about mosquitoes and their bionomics, major mosquito-borne diseases and their epidemiology, and the principal methods employed in comprehensive mosquito control. This supplementary information will be of particular value to agencies transforming operational programs from dependence upon residual spraying of dwellings to comprehensive environmental management in vector mosquito control.

It is recognized that the evolution of resistance to chemicals is making it impractical to efficiently control malaria by a vertically administered separate program, and as the broader approach to malaria control is adopted, much more cooperation will be called for by those responsible for primary land and water uses, whether governmental or in the private sector, and this new book will help immeasureably by making readily available summary information based on successful experience elsewhere in the world.

Much of the information necessarily is abbreviated or in summary form with a minimum of qualification, but by reference to this manual, planners may be directed to the variety of options that could be incorporated in a particular local program, and from which the most suitable approaches may be selected. Rather extensive selected bibliographies are included as a guide to additional study.

Beyond its primary declared purpose, this manual will have great value for training, both in universities attempting to prepare students for service in vector control, and for in-service training within ongoing operational programs, particularly where the conversion is being made from insecticide-oriented vector control to comprehensive vector control, popularly called "Integrated Pest Management."

This book may be ordered from The American Mosquito Control Association, 5545 East Shields Avenue, Fresno, CA 93727. Tel. (209/292-5329). US$13.50 including packing and US postage (postage to other countries at cost).—Thomas D. Mulhern, Executive Director, AMCA.