

## BOOK REVIEWS

**BLACKFLIES: THE FUTURE FOR BIOLOGICAL METHODS IN INTEGRATED CONTROL**, edited by Marshall Laird. 1981. Academic Press Inc. (London) Ltd. xiv 400 pp. \$58.00.

At last, an exceptionally concise text on the future of biological methods in the integrated control of blackflies. Editor, Marshall Laird, has organized this work into 8 major sections commencing with the bases of all control efforts, systematics, followed in sequence by chapters on (a) control methods, (b) predator, parasites and pathogens, (c) physiology, (d) ecology, (e) trapping technology, (f) colonization, and (g) mass production of pathogens and parasites.

Each section is further subdivided into individual contributions by leading researchers in each of the respective fields.

Personally, the most valuable portion of the book is in Section II, control methods. This section provides a clear, detailed account of the design and implementation of various control procedures with very specific emphasis on large scale efforts in the USSR from 1955-1965 and the WHO Onchocerciasis Control Program in the Volta River Basin.

The only weak point of this work is in the discussion on pathogenic bacteria, specifically *Bti*, where stream treatments are described in spores/ml. The state-of-the-art field application procedures using *Bti* treatment is in terms of weight/volume and/or volume/volume expressions.

This text is an excellent reference source for both those associated with operational control as well as basic research.

Marshall Laird has clearly organized this highly diverse and technical field of entomology into an extremely valuable, easily read, reference source (1400 plus references cited) from which researchers can use as a foundation for future work in blackfly control.—R. L. Frommer, U. S. Army Medical Bioengineering Research and Development Laboratory, Fort Detrick, Frederick, MD 21701.

**ANNUAL REVIEW OF ENTOMOLOGY**, Volume, 27, 1982. T. E. Mittler, F. J. Radovsky and V. H. Resh, Editors. Annual Reviews, Inc. Palo Alto, CA 94306. 503 pp. \$22.00 USA, \$25.00 elsewhere.

Medical entomology, including culicidology, is not well represented in the 27th "Annual

Review." In most volumes in the series there are reviews recording results of research on mosquitoes which are of interest to mosquito control workers—at least tangentially. In the volume for 1982 mosquitoes are scarcely mentioned. There are 18 chapters; ecology, biology, physiology, and behavior are emphasized.

In the chapter "Thermal Responses in the Evolutionary Ecology of Aquatic Insects" J. V. Ward and J. A. Sanford report that there is a relatively rich early literature on the thermal biology of mosquitoes and refer to a paper by Ralph Barr (1952). One gets the impression that almost nothing new about mosquitoes has been added during the past 30 years.

S. K. Wikel in a chapter entitled "Immune Responses to Arthropods and Their Products" states that very little is known about the nature of the host immune response to mosquitoes or the influence of host immune effector elements on the mosquito that obtains a blood meal from a sensitized source. It appears that no one is following through on the pioneering work of Al West, Anne Hudson and their colleagues. This should be a fruitful area of interdisciplinary research.

In a highly competent manner, Paul Catts reviews the biology of New World bot flies.—W. E. Bickley, 6516 40th Ave., University Park, MD 20782.

**UNDP/WORLD BANK/WHO SPECIAL PROGRAMME FOR RESEARCH AND TRAINING IN TROPICAL DISEASES, FIFTH ANNUAL REPORT, 1 July 1980-30 June 1981.** 280 pp. Distributed by World Health Organization, Geneva 27, Switzerland.

Malaria and filariasis (including onchocerciasis) are among the several tropical diseases chosen for emphasis in the development of better tools and in strengthening capabilities of institutions in tropical countries to enhance control efforts. Among the initiatives that have received support are research projects on the anti-malarial drug, mefloquine, and on the testing of BTI. A Joint Coordinating Board oversees granting of funds provided by 24 governments. In 1981 \$26,579,000 was available. Incidentally Norway, Sweden, and Denmark are remarkably generous.

The 1st chapter of the report is a summary overview. There are 13 additional chapters