Zoonosis

Rabies. Proceedings of a conference, Tokyo, Oct. 1970. YASUITI NAGANO and FRED M. DAVENPORT, Eds. University Park Press, Baltimore, 1972. x, 406 pp., illus. $18.50.

The breadth of the conference whose proceedings are published in this volume is notable, its contents ranging from presentation of the history of rabies in Asia to discussion of related viruses from Africa. Immunization of animals and man is discussed, with emphasis on the newest concepts of vaccines and techniques for production, and diagnosis, epizootiology, and control also receive attention. The pertinent discussions of the various papers are included and add depth to the proceedings. Many of the recognized authorities on rabies from North America were among the participants.

To single out papers for favorable comment is difficult. The majority are excellent. Tierkel's historical review tracing rabies in Asia from the 23rd century B.C. to the present is an example and sets the pace for those that follow. Ishii's chapter on diagnosis by complement fixation test is thought-provoking, since this test is not commonly used in North America. H. N. Johnson's discussion of the epizootiology of rabies documents many interesting episodes that illuminate the cycle of the disease in wild animals. His accounts of rabies events in the 19th century in America are of particular interest. These emphasize the role of the mustelids (skunks) in the epidemiology of rabies in wild species in the western part of the United States and their importance as sources of human infections. Humphrey's paper "Field control of animal rabies" presents in detail the development and results of a good state control program and discusses the various pitfalls encountered along the way, illustrating the problems of canine rabies control in adjacent areas under different jurisdictions and the problems of wildlife control. Sikes's data on dog vaccines documents the efficacy of the modified live virus vaccine grown in tissue culture.

I detected only a few typographical errors, and the editors have been able to maintain a very readable style throughout.

This volume is essential for all veterinarians, especially those with official public health responsibilities, and for all others interested in one of the most dreaded of the zoonoses. It is "one of a kind" on the subject of rabies in recent years, and this alone makes it a significant contribution, but the content is sufficiently good that it may be highly recommended on its intrinsic merit.

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Grasshopper Research

Proceedings of the International Study Conference on the Current and Future Problems of Acridology. London, July 1970. C. F. HEMMING and T. H C. TAYLOR, Eds. Centre for Overseas Pest Research, London, 1972. xvi, 534 pp., illus. £9.50.

The history of locust pests is a long one, dating back at least to biblical times. Although a great deal has been learned about these insects in recent decades, predicting the location of outbreak areas remains exceedingly difficult and understanding of environmental conditions which promote development of migrating swarms is rudimentary. Fifty years ago the renowned grasshopper systematist and ecologist Sir Boris Uvarov founded a locust control and eradication center in London which was known until recently as the Anti-Locust Research Centre. From its inception the ALRC was instrumental in initiating and encouraging a wide spectrum of research on grasshoppers and allied taxa and in integrating international cooperation in antilocust activities. Recently this organization merged with several similar British pest research organizations (Tropical Pesticide Research Unit, Tropical Research Headquarters, and Termite Research Unit) to form the Centre for Overseas Pest Research. The COPR continues to carry out research on locusts. On the theory that an effective control program demands more than a superficial understanding of the biology of pest species, all aspects of pest biology (including population structure, migration, polymorphisms, reproductive physiology, behavior, and systematics) have been under investigation.

Periodically, international conferences on locust control are held, sometimes under the sponsorship of the Food and Agriculture Organization of the United Nations. The latest of these conferences was convened to mark the Silver Jubilee of the ALRC and has resulted in the book which is the subject of this review. Unlike previous conferences, this one is characterized by wide coverage of locust biology and by the inclusion of papers which may seem only remotely relevant to control of pest species. A number of papers are presented by biologists who would probably consider themselves to be problem biologists rather than grasshopper specialists. Consequently, this book will be of interest to a wide variety of insect biologists, but especially to those working in insect physiology, behavior, and ecology.

The papers are arranged into six major sections: taxonomy, physiology and behavior, acridids as pests, population studies, chemical and biological control, and organizational problems.

The participants of the conference have recognized the fundamental importance of taxonomy and the shortage of specialists capable of making faunal surveys, especially of taxonomically neglected areas of the world. They recommend that tropical and subtropical areas undergoing rapid agricultural development be given priority in the preparation of taxonomic lists, since the extinction of diverse and evolutionarily interesting species would be most likely to occur there. No recommendations are made, however, on how the number of specialists is to be increased. A listing is given by Descamps of areas of the world and grasshopper taxa that are poorly known systematically and that are believed to deserve greater attention by specialists. Curiously, three of the five speakers in the section on taxonomy fail to appreciate the value of examining ethological isolating mechanisms in differentiating between confusingly similar species, a problem that continues to plague acridid taxonomists. The other two speakers scarcely mention the use of behavior and ecology in taxonomy. This situation seems rather archaic in view of the proven usefulness (in some cases necessity) of examining premating isolating mechanisms in alpha-taxonomy.

The chapters on reproductive physiology and behavior, especially as they relate to phase polymorphism, are reasonably extensive. The matters discussed in this section include locomotory activity, food selection, pheromones, and hormones. Several participants recommend increasing the integration of laboratory and field studies, perhaps by interdisciplinary teams, and call for more detailed analyses of behavior and for longer-term studies of field behavior in order to build up a comprehensive