FOLIA PARASITOLOGICA (PRAHA) 24: 91, 1977.

M. W. Service: Mosquito ecology. Field sampling methods. *Applied Science Publishers Ltd. London 1976, 583 pp., 23 Tables, 75 Figs. Price £ 30.00*

The comprehensive book written by Dr. M. W. Service, Professor of the Department of Medical Entomology of the Liverpool School of Tropical Medicine, deals in detail with the methods of field studies of mosquito ecology.

Many methods have been described for the study of the life of mosquitoes, which are the most abundant parasites of man and a majority of vertebrates and vectors of most widely dispersed diseases as malaria and yellow fever. These methods are aimed at the study of the life of individual developmental stages of mosquitoes under various natural conditions. A deep knowledge of the ecology of mosquitoes is a prerequisite of an effective control of these parasites and health protection in large areas. The book by Dr. Service, prominent specialist in mosquito ecology both in the mild zones and tropical regions, presents a survey and selection of most suitable methods and apparatuses used in the research of these questions important for the knowledge of laws in ecological units, as well as the praxis.

The introductory part includes also a very useful table for the conversion of various units of measurement used in the descriptions of apparatuses and techniques, 11 chapters and extensive indexes of authors, species and subjects. Very suitable and helpful is the arrangement of the relevant literature at the end of each chapter.

The first chapter deals with the methods for the study of mosquito eggs in nature and is divided into methods of egg collection in natural oviposition sites and artificial oviposition devices in which mosquitoes of various species lay their eggs. The following chapter deals with sampling of larval populations using various devices and mathematical estimation of the authenticity of samples.

Methods for sampling of adult mosquitoes are divided into separate chapters on sampling in natural and artificial resting sites, with non-atractant traps, by animal bait catches, with artificial odour traps (CO_2), light traps, visual attraction traps and sound traps. The seventh chapter deals with sampling methods for the emerging adult population with devices placed in the hatching sites, mostly on the surface of water. The next chapter is devoted to experimental hut techniques for evaluation of insecticides.

A large chapter is devoted to the study of mosquito populations by mark-recapture technique and adult dispersal, mathematical and statistical evaluation of the results thus obtained and dispersal of mosquitoes from a certain site. In the last two chapters estimation of the mortalities of adult mosquitoes and relations between individual mosquito species from the view of their simultaneous occurrence or species competition are discussed.

The book contains a great amount of data on this subject originating from extensive and sometimes not easily available literary sources, including also original results of the Institute of Parasitology of the Czechoslovak Academy of Sciences. The reader is thus acquainted with most suitable methods used in the present research of mosquito ecology under natural conditions. Also the illustrations and mathematical estimation of some methods, so important for a deep knowledge of ecological relations, should be highly appreciated.

The volume is a valuable source of information for all those concerned with medical entomology, mosquito control and basic research of mosquito ecology.

Dr. J. Minář, C.Sc.

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H. Spencer et al.: Tropical Pathology, Spezielle pathologische Anatomie Doerr-Seifert-Uehlinger, *Bd. 8, Berlin—Heidelberg—New York, Springer-Verlag 1973. 765 pp., 539 Figs. Price 230 DM.*

Nine authors, pathologists, clinicians and clinical pathologists, participated in the preparation of this remarkable book. It is divided into 25 independent chapters dealing with the following subjects: bacterial infections of the digestive tract and other bacterial infections, spirochetoses and leptospiroses, rickettsioses and bartonnelloses, tropical mycoses, tropical veneric diseases and trachoma, arboviroses and other viroses; a special chapter is devoted to encephalitides and nerve diseases in the tropics. The chapters on amoebiasis and other protozoan diseases, in which the infective agent enters through the intestine, malaria, leishmaniosis and

trypanosomiasis, cestodoses, nematodoses and trematodoses are also extensive, which corresponds to the importance of human parasitoses in the tropics. Each chapter represents an independent complex and some nosological units are dealt with separately, e.g., filarioses are excluded from other nematodoses and schistosomosis from trematodoses. Diseases of circulatory apparatus, blood diseases, liver diseases, malnutrition, neoplasms and diseases with unknown etiology are described in the concluding chapters. It is rather unusual to place the chapter on mycobacterial infections between the chapters on protozoonoses and cestodoses; it would be more logical to deal with these diseases immediately after other bacterial infections.

Each chapter has a steady structure: basic data on the causative agent of the diseases, assessment of the pathogenesis, description of clinical symptoms and pathological anatomy of the disease. The same concerns also the part devoted to parasitoses. For each parasite is given a brief outline of the life-cycle, taxonomic characters, mode of infection, pathogenicity and pathology of the disease. It should be appreciated that also present-day, sometimes even revolutionary but verified views of the etiology and pathogenesis of some diseases, as isosporosis, sarcosporidiosis and toxoplasmosis, are presented to the reader. Also new data on the ultrastructure of the causative agents and immune response of the organism are discussed. In the description of pathological changes, characteristic morphological features are stressed, which make possible to determine the diagnosis not only on the basis of post-mortem examination, but also of pathological-histological examination, which is not an indispensable part of post-mortem diagnostics. Histological changes are illustrated even in the cases where the sole histology is not decisive for the diagnosis, but it is necessary for understanding of the pathogenesis. The same concerns also some nematodoses and trematodoses. This volume contains a valuable and often original photographic material to the treated subject which cannot be found in any other text-book.

The book offers data on the diseases occurring now almost exclusively in the tropics and subtropics; it is written in a concise and clear, modern way and supplemented with numerous illustrations. Generally known processes are omitted and of the diseases commonly occurring also in the mild climatic zone, as cardiovascular disorders and tumours, only those important for the tropics are dealt with.

The book is well equipped and will form a valuable source of information to all pathologists and clinicians. In spite of its narrow specialization, it should be available in the library of every institute concerned with this subject.

Doc. MVDr. K. Blažek, C.Sc.

FOLIA PARASITOLOGICA (PRAHA) 24: 95—96. 1977.

W. Frank: Parasitologie. *Verlag E. Ulmer, Stuttgart 1976, 510 pp. Price 68 DM.*

The growing interest in parasitology is reflected by an increasing number of treatises on this continuously important branch of biology. Some of the many treatises succeeded to become world-known reference books, some are useful sources of information on their local, national scale. Prof. Frank dedicates his book to the students of biology, human and veterinary medicine to supply them with basic facts and to stress the necessarily complex approach of all these disciplines to the solution of parasitological problems. These goals have been fulfilled. The book is a valuable source of information, disclosing the author's profound familiarity with parasitology as a whole and incorporating some most recent findings (sarcosporidian life cycles, amoebic meningoencephalitis problem etc.). It also reflects the author's interest in amphibian and reptilian parasites, rather neglected in other treatises because of their minor importance.

In addition to a short general part (21 pages, dealing mainly with immunologic reactions) the book follows a taxonomic scheme, dealing with protozoa (161 pages), helminths and arthropods (193 and 70 pages, respectively).

Students as well as scientists of related disciplines will benefit from the glossary of terms concluding the book; however, some rather important terms are missing (e.g., natural foci of diseases etc.) or not exactly interpreted (e.g., kinetosomes synonymized with kinetoplasts).

One-man books can nowadays rarely avoid some inexactnesses; this is true also for "Parasitologie" (e.g., denial of the existence of true microsporidian infection in man, classification of some trichomonads). The author could also have included more illustrations; the line drawings included do not always demonstrate sufficiently what is described in the text. This applies especially to some protozoan and cestode sections. Most students would also welcome instructions for clear differentiation of mutually related parasites of medical and veterinary importance. Even though the book

is not intended to substitute a medical or veterinary parasitology, few words on the prevention, mode of diagnosis and cure of all important pathogens would enhance its value. Problems of parasite ecology could also have received more attention in view of its relevance in prevention and environmental preservation. In spite of these few reservations, the book will surely promote the knowledge of parasitology in German speaking regions.

Dr. J. Lom, D.Sc.

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A. E. Treat: Mites of Moths and Butterflies. *Cornell University Press, Comstock Publishing Associates, Ithaca and London 1975, 362 pp. Price £ 17.50.*

The book by Asher E. Treat, Research Associate of the American Museum of Natural History and Professor Emeritus of the City University of New York, is a comprehensive treatment of world fauna of mites living or occurring occasionally in association with moths and butterflies. The author presents the results of his more than twenty years' studies, complemented with available records of other authors, which form an extraordinarily complete survey of mite-lepidopteran associations, involving acarine parasites, phoretics and scavengers. Although the book contains keys for determination, differential diagnosis and illustrations of almost all mentioned mites, it is no taxonomic work; the main stress is laid upon the biology and behaviour of individual species. The ecological approach of the author to the subject is reflected already in the division of the book into chapters.

The first part (pp. 16—60) includes three introductory chapters: "Some Points of History", "Equipment and Methods" and "Mites in General". The historical survey includes data on mites associated with Lepidoptera from 1759 and proves the author's deep knowledge of the literature and critical approach to its study. This chapter is very perfectly elaborated, but appears to go into too many details. The chapter on methods is very useful and supplemented with numerous instructive illustrations. The equipment for mite collection, way of collection from both living and dead hosts, shipping, mounting and studying of mites are described here. In the part describing the preparation of permanent microscopic slides, however, the author mentions only the Hoyer's medium and other suitable media, as those based on chloral hydrate (Liquide de Swan, Liquide de Faure) and media on other base (as PVA etc.), are quite omitted. In the chapter "Mites in General" the reader is acquainted with the morphology, anatomy and classification of mites. The author follows the progressive classification adopted by Krantz (1970).

The second part of the book (pp. 63—187) is devoted to mites of the suborder Mesostigmata. It includes the chapters "Some Vagrants" (Gamasina and Uropodina), "Transients and Settlers" (Ascidae and Ameroseiidae), "Some Gamasina Stowaways" and the last two chapters deal with the genus *Dicrocheles* and family Otopheidomenidae. The order Acariformes is the subject of the third part (pp. 191—293), divided into chapters on Protelean Parasites of the families Erythraeidae and Trombidiidae and Adult Prostigmata and Astigmata. In the last two parts of the book the individual species are briefly characterized only by their differential diagnoses and illustrations. However, a great attention is paid to ecological notes, conditions of collection, localities, location on hosts, bionomy, behaviour of mites etc., especially with species studied by the author. These data are very valuable, as also a critical and detailed discussion of other author's observations. Of value are also the remarks no the Greek and Latino stems from which the names of species are derived. The text of discussions with individual species should be more uniform, which would enable the reader a better orientation. The author did not succeed in solving the problems of taxonomic value of some few species and therefore these taxons are marked with a question-mark or only generic determination is given.

At the end of the volume there are several appendices, as keys, lists of hosts and mites, literature cited, geographic index and general index. Besides the key for determination of mounted specimens under the microscope, the author prepared a well arranged and very useful key for approximate determination of living mites on the hosts at low magnifications. The list of references comprises also papers by Soviet and Japanese authors.

The illustrations are of excellent quality, as also the graphical arrangement of the whole volume.

The book by A. E. Treat is a successful publication, unique in its complexity, many new original data and observations and ecological approach of the author. It is the first monograph on this subject, conscientiously prepared by the author and showing his wide and perfect knowledge of the problem. The author is to be congratulated on his outstanding work.

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