Odening K.: Parasitismus. Grundlagen und Grundbegriffe.

Akademic-Verlag Berlin, 1974. 170 pp., 13 Figs. and 3 surveys.

The author is head of the parasitological department of the Vertebrate Research Centre of the Academy of Sciences of the German Democratic Republic. He is the author of a previous publication: Entwicklungswege der Schmarotzenwürmer oder Helminthen, Leipzig, 1969. In the present volume he deals with general concepts of parasitology, taxonomy of parasites and their development. He emphasizes the problems of ecology, evolution, reproduction as well as life cycles of main groups of parasites and their relations with host. The research of parasitism, as stated in the introduction, is interdisciplinary, is conducted at all biological levels from biocoenological to molecular one. The contents of the book consists of 7 chapters subdivided by decimal classification.

Chapter 1 deals with parasitism as a biological phenomenon. The author first cites the definitions of classics in parasitology Chambers, Leuckart, Küchenmeister and van Beneden. Parasitism is well separated from other biological phenomena: parekia, somatoxeny, epekia, entekia, phoresy, zoochoria, commensalism and mutualism. Chapter 2 is concerned with forms and degrees of parasitism (facultative, obligatory, stationary, permanent and larval parasitoidism), effects on host, adaptation and specificity. Chapter 3 is devoted to the problems of origin and development of parasitism, heteroxeny, translatory and disseminatory interchange of hosts, parathenic parasitism and different types of developmental cycles. Chapter 4 covers some less current concepts such as homoxeny, heteroxeny, amphixeny, characteristics of the helminth development and properties of their hosts: definitive host, intermediary host, transit host, parathenic host, paradefinitive host etc. Chapter 5 deals with particular and parasitocoenotic influences. It discusses such concepts as infestation, infection, invasion, transmission and contamination. Invasion is considered to be a synonym of penetration either active or passive (oral introduction, inhalation, inoculation, contamination). A differentiation is made between infection, when the parasite multiplies in the host, and infestation, when no parasite reproduction takes place. From these phenomena such terms are derived as infectious and invasive diseases, infectivity and invasiveness. Virulence is defined as intensity of pathogenic properties of particular parasites or their strains, pathogenicity as property of species. These parasite properties correspond with host properties: susceptibility, sensitivity, disposition, tolerance. Definitions are given of natural, active, passive resistance and of immunity. The definition of parasitocoenosis is given after Pavlovsky as a group of parasites of a particular host, and terms multiparasitism, parallel infection and invasion, hyperparasitism etc. are also discussed here. Chapter 6 discusses the biocoenotic relationships between parasite and host; the importance of biocoenosis, biotype, routes of contact, nutritional relations and transmission cycles; intensity and extensity of parasitation and epidemiological concepts. Chapter 7 is devoted to the problems of population biology and evolution of parasites, to biogeography, genetics, and the principles of Fuhrmann, Fahrenholz, Szidat and Eichler are given here as well. The publication is completed with a list of important recent monographs on problems of general parasitology.

The book is designed for biologists, ecologists, parasitologists and microbiologists who have a deeper interest in basic general concepts of parasitology. Complicated relations are illustrated by examples and diagrams. The volume prompts to contemplate phenomena which are often inaccurately defined or confused in standard text-books and whose interpretations are frequently disputed.

Dr. J. Jira C.Sc.