

J. D. Smyth: Introduction to Animal Parasitology. Third Edition, Cambridge University Press, 1994, ISBN 0 521 41770 8 (hardback), ISBN 0 521 42811 4 (paperback) 549 pp.

A large number of parasitology textbooks and manuals have appeared in the last years. The fact that the book of Dr. James Desmond Smyth, Professor Emeritus of Parasitology at the University of London, has appeared in its third edition is the best evidence of the success of its previous editions (the first one in 1962, the second in 1976). In its present form, the book has been considerably updated and a new chapter on immunoparasitology, prepared by Prof. D. Wakelin from the University of Nottingham, has been added.

The general layout of the book follows that of the second edition. Only parasitic protozoa and helminths have been covered; parasitic molluscs and crustaceans have been omitted similarly to arthropod vectors and ectoparasites which have been, in author's opinion, adequately treated in textbooks on medical or veterinary entomology.

The book consists of 34 chapters, a large proportion of which is devoted to helminth parasites. Two introductory chapters give an account on the phenomenon of parasitism ("Parasitism: what is a parasite?") and on "Niches, habitats and environments", with special emphasis given to the vertebrate alimentary canal as a habitat of most parasitic animals. Its general properties, physiology and physico-chemical characteristics are discussed in details.

Eight protozoological chapters follow, which focus on groups that are both important in veterinary or human medicine and serve as models for unravelling the intricacies of host-parasite relationships (e.g. amoebae, trypanosomes, sporozoans, trichomonads and giardias) with emphasis on biochemistry and immune relationships.

As many as 21 chapters treat helminth parasites; one chapter deals with Monogenea, one with Aspidogastrea, six with Cestoda, six with Nematoda and one with Acanthocephala. In all these chapters, special attention is paid to lifecycles and the influence of environmental factors on their course.

The chapter summarizing the basical data on "Immunoparasitology" is by Prof. Wakelin from Nottingham; it gives a brief overview of immune response followed by basic facts on immune phenomena in various specific protozoan and helminth host-parasite systems. Such information as well as notes on vaccination are particularly useful as an introduction into this rapidly developing field.

Two chapters surveying *in vitro* cultivation of parasites follow. The first one gives a brief account on the cultivation of protozoans, the second chapter that of helminths.

In the whole book, the emphasis is given to dynamic interaction of parasite-host systems; text is relatively brief, supplemented with very instructive illustrations (many by the author) and essential references added to each chapter, making it easier for the reader to find more detailed information.

The book is concluded by an Author index, where authors of individual papers quoted in the text are listed, and by subject index. The author index helps the reader easily find relevant references. However, sometimes minor mistakes can be found; for example, Andersen's full references are given on page 317, not 318 as mentioned. The subject index provides helpful information as well distinguishing, through the use of different fonts, the names of parasites, their hosts, page references and references to illustrations.

It is the biological, biochemical and immunological phenomena which are the core of the book rather than details of morphology and systematics, which are outlined only to a degree sufficient for assignment of parasites to taxonomic categories. This complies with the general trend stressing an experimental rather than descriptive approach prevailing in modern parasitology.

A possible objection that may be raised against the format chosen by the author is the omission of some parasite groups. Also, far greater attention is paid to helminth parasites than to parasitic Protozoa. Especially regrettable is the complete omission of groups such as microsporidia, in which a wealth of biological, biochemical and clinical findings has recently been obtained and which along with other groups (cryptosporidia) occur as widespread lethal parasites in immunodeficient humans (AIDS patients). Despite these omissions and some inaccuracies that can be found in the text (e.g., amphibians harbour *Nyctotheroides*, not *Nyctotherus* – p. 153, *Ichthyophthirius* reproduces by binary fission, not by multiplication reminiscent of sporozoan schizogony, etc. etc.) this third edition of Smyth's book represents a clearly written overview introducing the reader into the fascinating world of parasitic organisms. The book undoubtedly will be greatly appreciated by parasitologists, zoologists and biologists in general, as well as by medical and veterinary specialists.

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