A.O. Bush, J.C. Fernández, G.W. Esch, J.R. Seed: Parasitism. The diversity and ecology of animal parasites. *Cambridge University Press 2001. ISBN 0-521-66278-8 hardback, ISBN 0-521-664470 paperback, IX + 566 pp. Price £75.00. (US$130.00) hardback, £29.95 (US$49.95) paperback.*

This textbook is derived from an earlier book, Functional Biology of Parasitism, published by G.W. Esch and J.C. Fernández in 1993. Chapters on the diversity of parasites – i.e., treatment of separate groups of parasites from protozoans to chordates – are new and those taken from the earlier edition have been completely rewritten. The authors describe the phenomenon of parasitism as an ecological relationship and attempt to deal with all possible facets such a relationship may have.

The first chapter explains in a brief though sharp-witted way the principal concepts of parasitology. The second chapter deals briefly (28 pages) with immunological, pathological and biochemical aspects of parasitism. Then follows the first cluster of chapters, treating the diversity, biology, life cycles of all parasite groups from Protozoa to Chordata (i.e., lampreys, bats and cuckoos), which takes 269 pages as compared with 204 pages dealing with general topics – parasite populations, communities of parasites, their biogeography and evolution.

In the chapter on population concepts, the text devoted to the patterns of distribution is especially recommended. In the chapter on factors influencing parasite populations, the student will be introduced to all crucial factors which affect them, e.g., density dependent and independent factors, competition as a regulatory effector or suprapopulation dynamics. The chapter on the influence of parasites on host populations also includes epidemiological implications and a box on control of enteric helminths of humans which goes back to the recent gloomy Crompton's statement that virtually all of the major parasitic diseases are, despite all effort, on the increase. Mathematical modelling of parasite populations is sufficiently represented. Attention is also paid to the laws of parasite transmission and host colonisation. A great part of examples dealing with composition of parasite communities of host-parasite systems has been, interestingly enough, derived from among parasites of water animals, confirming how lucrative this area is for research. An interesting reading is the chapter on the parasite influence on the evolutionary biology of the host, discussing the recent data on e.g., host genetic polymorphism as displayed by the major histocompatibility complex in relation to the length of history of co-evolution between the parasite and its host. It has not been stated who from among the authors is to be credited with which of the chapters, however, G.W. Esch is well known for his research on parasite communities, A.O. Bush is a distinguished ecological parasitologist, while J.C. Fernández has a good reputation as an expert in parasite biogeography.

Text boxes on certain pages contain anecdotal, attention captivating stories on how some of the parasites were discovered, which peppers the book and enlightens the subject matter. The boxes, curiously enough, also contain paragraphs on topics like microsporidia or *Giardia* or classifications of protozoa or helminths, which one would expect to be set in the continuous text. The classification of protozoa is rather dated; on the other hand, the text on Myxozoa, however brief, is perfectly up to date. The reader may be slightly disturbed by the fact that the text and tables dealing with a given topic in the systematic part are often not contiguous, being dispersed on several pages. Also, there is a certain imbalance in the treatment of various topics; e.g., the opalines are given more than two pages while only a rather limited space is given to e.g., amphizoic amoebae. The book is amply illustrated with photographs (the authors tried to include as many as possible original illustrations) which are mostly of very good quality. The authors succeeded in their intention to trim the details as much as possible and to avoid the usual encyclopaedic approach, sometimes perhaps too much (among human microsporidioses, that one due to *Enterocytozoon* is not mentioned, and the important fish pathogen *Anguillicola* also not, etc.). The about ten large circular diagrams of developmental cycles can hardly supply an idea how the individual stages look like and function. "Parasitic males" of some deep-sea fishes cannot be taken for real parasites contrary to what p. 307 implies. One would like to see more molecular analysis to be incorporated in the book, although in many other respects the book bears the stamp of the recent time – there are more than two pages of web sites of important sources of parasitological information listed, and references are brought up to 1999. The glossary of terms at the end of the book will certainly be found of assistance by the reader.

As the authors declared, they intended to provide an undergraduate textbook with emphasis on the fundamental nature of parasitism by using decidedly an ecological approach; how did they succeed? The book certainly differs from most of the existing monographs by its welcome emphasis on problems of general and ecological parasitology. On the other hand, this probably brought about some shortcomings in the systematic part. The book is written in an easily accessible style and in spite of some minor drawbacks, university students of parasitology will find it useful as an introduction to parasitology. Thanks to its ecological approach, the book will find its place on the shelf of already accomplished parasitologists, too.

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