Book Reviews

Developments in Numerical Ecology

Edited by P. Legendre and L. Legendre
Springer-Verlag, Berlin, 1987
585 pp., 107 figures
Price: DM 238,00

This specialist text arose out of the NATO Advanced Research Workshop on Numerical Ecology held at the Station Marine de Roscoff, Brittany, France, June 3–11, 1986. This is not a book for the numerically faint-hearted, but for active research workers requiring 'state of the art' discussion, this is a rapidly produced and thorough treatment.

Areas covered include scaling techniques, clustering methods, fractal theory, path analysis, spatial analysis and a series of valuable synthesis papers on the application of numerical techniques to various fields, such as benthic ecology, pelagic community studies, biological oceanography and limnology and animal ecology.

All papers are essentially reviews. Many provide valuable conceptual frameworks, descriptive approaches and algorithms. As such this text is for critical reference and would be referred to at the start of a numerical ecology project, especially one on assemblage or community studies. It is particularly valuable to see the use of lesser known techniques such as biplots and fuzzy sets, and even the application of morphological techniques, such as fractal geometry, to ecological problems.

This volume contains the writings of experts in their fields, and there is a definite spirit of good, positive self and colleague criticism that provides an excellent working review. This makes it a handbook to be consulted by active research workers. Indeed, it should be recommended reading for Masters and Doctoral students at the start of a numerical project. This is because it is a book to be studied and worked, with different techniques matched up to the ecological questions at hand. The data would then be gathered, and the most appropriate multidimensional analytical technique chosen. In short, this book is truly about the integrated methodology of numerical ecology, and not about the perhaps paradoxical field of theoretical ecology. As the editors point out in the foreword: 'Numerical ecology is the field of quantitative ecology devoted to the numerical analysis of ecological data sets'.

Clearly, this well-bound and well-printed book is a must for libraries supporting serious ecological laboratories. However, being so specialised, it undoubtedly has a rather limited market for the private buyer. Anyway, I shall certainly recommend it to my research students — they might, after all, take issue with some of the methodologies, and be stimulated to search for alternative techniques and re-question the pertinence of their biological questions.

M.J. SAMWAYS
Department of Zoology and Entomology, University of Natal, Pietermaritzburg

Parasitic Protozoa

J.P. Kreier and J.R. Baker
Allen and Unwin, Boston
241 pages

Parasitic Protozoa represents an ambitious attempt by two eminent parasitologists to consolidate the parasitic protozoa of medical and veterinary significance into a small paperback volume. The book is a successor to J.R. Baker's *Parasitic Protozoa* (Hutchinson 1969).

The initial chapter dealing with the classification and evaluation of symbiotic protozoa is followed by a brief but comprehensive review of fundamental protozoan anatomy and physiology. Successive chapters deal with the specific protozoan genera. The book conludes with a useful chapter on laboratory techniques.

The text is highly readable and the reader is spared esoteric detail. The authors are clearly biologists who view parasitic protozoa as biological entities. The book is therefore biased towards descriptions of parasite morphology and life cycles. Pathogenesis, chemotherapy and prophylaxis are dealt with briefly although additional references are provided at the end of each chapter.

Perhaps the strength of the book lies in the illustrations, the majority of which are photomicrographs which are all black and white, obviously aimed at reducing publishing costs.

Usefulness? The book offers sound fundamental information to biology and medical students embarking on a career in the tropics. The price will indeed render the book more attractive.

The veterinary usefulness of the book is moot. The Theileriidae represent the most economically important group of parasites in Africa but appear to have been glossed over in the book. It is a pity that dose rates for the various treatments have also been omitted. This limits the usefulness of the book for practitioners. For my money Soulsby's *Helminths, Arthropods and Protozoa of domesticated animals* is a better investment.

B.H. FIVAZ
Tick Research Unit, Department of Zoology and Entomology, Rhodes University, Grahamstown