

The next 15 papers cover a range of topics including case studies of individual taxa. The majority are presented in the typical scientific format and are well-written and easy to read. The final three papers provide a very good overview of the content of the book. They describe the management procedures in use, what is needed for long-term conservation and identify areas of knowledge that are lacking.

The Symposium that formed the basis of the book was held in 1994. However, the majority of papers appear to have been revised before publication and

have references from 1994 through to 1997. A cross check of rock-wallaby references from 1993–1998 revealed that the bibliography for this volume lacked only two papers and these were 1998 references. On a less positive note, I found a considerable number of grammatical and typographical errors.

Copies of the proceedings are available from:— (postage is extra)

Dr M. D. B. Eldridge  
School of Biological Sciences  
Macquarie University  
Sydney, New South Wales 2109

## Plant Ecology 2nd Edition

Edited by Michael J. Crawley, 1997  
Blackwell Science Publications, Cambridge  
717 pp ISBN 0-632-03639-7  
RRP AUD\$85.95

RYAN GURNER<sup>1</sup>

*PLANT Ecology* is the scientific study of the factors influencing the distribution and abundance of plants. This book aims to show how pattern and structure at different levels of plant organization (communities, populations and individuals) are influenced by abiotic factors like climate and soils, and biotic interactions including competition, herbivory and mutualistic relationships. One further aim has been to convey the dynamic nature of modern plant ecology and to highlight the critical issues.

The present work differs from other textbooks on plant ecology in stressing dynamics rather than statics, and by adopting an experimental rather than descriptive methodology. This book is based on a plant-centered view on ecology rather than the traditional, quadrat-centered view. This approach has been adopted to rectify some of the drawbacks of conventional methods by focussing attention directly on the interactions between a plant and its immediate neighbours, and between plants and their mycorrhizal associates, pollinators and natural enemies.

In contrast to the first edition, the second edition reverts to a sequential layout, with plant physiology introduced first, then population dynamics, through to community structure and finally into the applied ecosystem-level processes. The aim of these changes, according to Crawley, is to make the book more like a textbook, less like a collection of stimulating papers. The first chapters give an extensive reference to the ecophysiological functioning of plants, including detailed discussions on photosynthesis, plant-water relations and nutrient acquisition. The second and third sections of the book introduce the dynamics and structure of plant populations and community ecology, focussing on competition, herbivory, secondary metabolism, sex,

seed dormancy and dispersal. The final section of the book addresses topical applied issues in plant ecology including climatic change, pollution and biodiversity.

The book has been improved since the first edition. An extensive use of theoretical models and experimental data supported by descriptive text provide insight into ecological function and rationale. Chapters have a common structure that includes case studies, a summary, and sections on further reading and topics for discussion. Glossary terms and colour plates add character and interest, while up-to-date referencing supports scientific credibility. While it does not avoid complex mathematics and chemical equations, the book manages to isolate quantitative topics in sub-sections, separate from the main text. The multi-author approach adds a comprehensive perspective and conceptual framework to modern plant ecology, with little repetition.

The aims of the book have clearly been achieved. Each chapter has been written by experts in the field, contributing their own ideas and research as well as established scientific theories and knowledge. Substantial practical experience is evident in pragmatic comments and conclusions formed by individual authors. The book's strength is that it discusses in some detail the practical issues that surround plant ecology and natural resource management. Limitations of knowledge and experimental credibility were almost always stated in concluding remarks.

*Plant Ecology* is a reference book intended for those practicing or experienced in ecology, botany or biology. Overall, the book is well written and provides a good bibliography and index. Topics left out include soil science, plant anatomy, plant evolution, plant geography and ecological biochemistry. Not only do these fields provide vital background information, but they also afford a variety of different perspectives from which plant ecology can be viewed. Nevertheless, this text remains at the pinnacle of botanical science.

<sup>1</sup>School of Natural Sciences, Edith Cowan University, Joondalup, Western Australia, Australia 6027.