

Book review

BASKIN, C.C. & BASKIN, J.M. 1998. *Seeds. Ecology, biogeography, and evolution of dormancy and germination*. Academic Press, San Diego. xiv + 666 pages. ISBN 0-12-080260 (hardback). Price £69.95.

It is not often that a text may be viewed as a source book for an entire subject. Yet with ten years in the making and having been written by two of the foremost seed ecologists of recent years that is exactly what this is. The book contains an exhaustive coverage of the subject and will undoubtedly become the fundamental reference on seed ecology for many years to come.

Of great significance for those new to the field there is an entire chapter on how to carry out studies in seed germination ecology. Amongst other crucial questions, Baskin and Baskin discuss ideal replication, viability testing and disinfecting of seeds. This must be seen as essential reading for anyone embarking on germination studies and quite probably for many who already have experience in this area.

In the remaining 12 chapters Baskin and Baskin discuss different types of dormancy then proceed through dormancy in differing geographical zones and different habitats within those zones. The book ends with a chapter on biogeography and evolution of seed dormancy, which gives the reader a perspective that is often neglected.

Nonetheless the book is not without flaws and together these reduce readability and ease for referral. For example, citation lists are located at the end of chapters which leads to repetition between chapters and potentially frustrating delay when the book is being used for quick reference.

Equally the layout of the book can make it difficult to access easily all the material presented on a particular subject. For example, our interest in temperature effects on tropical seeds necessitated examination of Chapters 4, 6, 7 and 9 (respectively physiological dormancy, physical dormancy, seed banks and, tropical and subtropical zones). The need to consult different chapters means that for some at least the book is less than convenient. However, to counteract this problem there are very comprehensive taxonomic and subject indexes.

This is a massive text that is accurate, wide-ranging and complete; it highlights both what is known and what still requires investigation. It is a book that should be found in every scientific library and in the personal collections of anyone interested in the, often under-appreciated, importance of seeds in ecology.

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BRUENIG, E. F. 1996. *Conservation and management of tropical rainforests*. CAB International, Oxon, UK. xxii + 339 pages. ISBN 0 85198 994 2. Price £ 55.00.

Here, the distinguished German forester Eberhard Bruenig summarises his life's work on the biology and management of tropical forests. This book reflects Bruenig's experience in Sarawak and his knowledge of central and northern Amazonia. It is a useful reminder that tropical biology began before Barro Colorado or La Selva. Malesian forests, and the pressures they face, are very different from their Central American counterparts: their story deserves telling.

The first chapter – 25% of the text – describes how tropical forest works. Bruenig has a feel for canopy architecture, and the interaction between forest and soil. He documents, better than any predecessor, that better soil supports more diverse forest. He takes an ecosystem approach, passing lightly over how so many kinds of trees can coexist, and how natural selection on individuals shapes tropical forest. This chapter lacks quantitative precision. His discussion of gross production omits eddy correlation measurements thereof; his figures for net production are inadequate and imprecise, his evapotranspiration estimates are mere guesses. Nonetheless, Bruenig offers abundant food for thought.

An equally long chapter concerns human use of the forest. He discusses, sanely and sensitively, the problems facing indigenous forest peoples. Most of these people have economic expectations that traditional forest life, or the export of 'non-timber forest products', cannot meet. Nonetheless, their traditional forest rights must be respected. Bruenig describes cases where socially insensitive forestry has ruined village life, economically and morally. Bruenig then reviews loggers' use and abuse of tropical forests. Bruenig loves the forest, hates the heedless waste of it, and is convinced that wood is an ecologically sound product which can be grown sustainably and profitably in tropical forest without compromising biodiversity or habitat quality. Bruenig also realises that effective policy must visibly serve the common good, and must be achieved by social consensus, not diktat.

Later chapters describe various aspects of forest conservation and management. They repeat matter from each other and chapter 2. Bruenig writes simply and clearly. Vigorous editing could have made this a very good, useful book. Instead, it is underedited and overpriced: the publishers missed a golden opportunity.

For Bruenig's message matters. He makes three main points:

1. With proper care, tropical forest *can* be managed sustainably and profitably, with minimum risk. This is surely true if indirect costs of irresponsible logging, and our duty to future generations, are counted.

2. Good management manages least. By creating gaps that favour maximum growth among useful trees, careful logging can enhance wood production while preserving the natural forest's resilience and adaptability. I have seen many forestry school greenhorns come to Panama to design the ideal forest, only to learn that nature is smarter than they are. Bruenig has a point.

3. The greatest obstacles to good forest management are greed, unethical politics, and social injustice, not ecological ignorance. Bruenig's experience is that of the Hebrew Bible, which associates barren land and natural disaster with social injustice born of greed among the powerful. Indeed, experience in Panama and the US suggests that the greatest obstacles to sound environmentalism are the various ways people pursue their own convenience regardless of how it affects others.

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