

**Tropical Rainforests: Past, Present and Future** edited by Eldredge Bermingham, Christopher W. Dick & Craig Moritz (2005), vii + 745 pp., The University of Chicago Press, Chicago, USA. ISBN 0 226044 68 6 (pbk), USD 45.00/GBP 31.50.

Tropical rainforests have an incredible hold on the human imagination; their diversity, size and seeming vastness make them mysterious and at the same time intimately familiar. The current threats to this diversity also make these forests of great political and social interest. Our generation is probably the first to really wake up to the fact that biodiversity is disappearing all around us, and is certainly the last that will be able to do anything about it. The papers in this edited book look at the mechanisms that generate this diversity, which, from perspectives that range from palaeoecology to population genetics so holds us in thrall. The book is the result of a symposium held in 1998 at James Cook University in Cairns, Australia, that explored ways in which ecology and evolution could intersect and interact to increase understanding of Australia's rich rainforest habitats. It was later expanded with the addition of chapters dealing with the same topics, but for different rainforest regions, and all papers were updated and expanded prior to final publication. Thus, although at first glance it may seem to be the result of a meeting held long ago, the papers (or at least most of them) are fresh, up-to-date views of processes of interest to anyone studying the tropics. The editors have done a good job of choosing authors to compliment and expand the topics from the original symposium; there are papers here about the Neotropics, Africa and South-east Asia.

The book is divided into three sections, with an annoying final bibliography. The bibliography itself is great but it is often frustrating to use a multi-paper book with all the references at the end; this makes it difficult for students to use or for sending a copy of a single chapter to a colleague. The first section of the book is heavily biased towards the Neotropics; it covers a wide variety of ecological and evolutionary influences on the generation of species diversity over many different scales. The refugium theory for the generation of species diversity is refuted by most of the authors. There were pockets of rainforest but they clearly did not act as species pumps. Thank goodness we can now move on to try to really look at patterns of diversity rather than trying to fit everything into an untestable model based on little real evidence. Several of the themes that shine through these opening chapters strike real chords with me, and should with anyone interested in conservation and species diversity. The study of natural history in the field is critical as without field data theories are just words on

paper. We also need to support taxonomists in their studies of this diversity if we are ever to understand how it developed! Several of the authors stress the importance of ecotones; obsession with purity of habitat, the 'untouched virgin forest', may blind us to the importance of these transitional habitats for the conservation not only of tropical forests but of the mechanisms that generate diversity in general. A theme that should resonate with anyone who has worked in tropical forests is that diversity has developed in the context of interdependence, making complexity and unpredictability the rule, rather than minor, annoying exceptions!

The middle section of the book is composed of papers about the Australian wet tropics, one of the few extensively studied and intensively protected tropical ecosystems on Earth. The chapters provide an excellent overview of the history and ecology of the region. For anyone who wants everything in one place about Queensland, this is that place! This Australian section ends with a review of the conservation status of World Heritage sites, concluding that such listing is more than a paper process and really helps achieve conservation goals. The last section of the book has three papers, one detailing how evolutionary processes can be conserved, and two reviewing the quite alarming present and future threats to the two vast tropical regions of the world, South-east Asia and the Amazon. These two chapters should be in every conservationist's reprint drawer. I only hope we can look on them in the future as lines in the sand because we actually made science-based conservation work. This book has in it an enormous diversity of topics, an impressive bibliography (even if it is at the end!) and anyone interested in tropical diversity anywhere in the world should have a copy.

Sandra Knapp

Department of Botany, The Natural History Museum  
Cromwell Road, London, SW7 5BD, UK  
E-mail sk@nhm.ac.uk

**Plant Conservation – A Natural History Approach** edited by Gary A. Krupnik & W. John Kress (2005), xviii + 346 pp., The University of Chicago Press, Chicago, USA. ISBN 0 226455 13 0 (pbk), USD 30.00/GBP 21.00.

This review, a collection of contributions by different authors, highlights the variety of ways that natural history collections contribute to plant conservation. The underlying theme is summed up in the foreword by Daniel Janzen *How to conserve wild plants? Give the world the power to read them.* The first part of the book provides a framework for understanding plant diversity. This is followed by chapters on threats and consequences of plant extinctions and the causes of biodiversity loss. The final section describes how, using all the biological