



Serpentine: The Evolution and Ecology of a Model System edited by Susan Harrison and Nishanta Rajakaruna

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been very welcome. The one chapter that specifically deals with soil biota (Chapter 4, Soil Fungi) provides a good and detailed account of the role mycorrhiza play in the interactions between trees and soil, but does not provide much information on saprotrophic and necrotrophic fungi or on the myriad of other organisms that reside in soils.

Some emphasis on the role of biota in soils is given in the chapters on the anthropogenic perturbations such as soil acidity and heavy metal pollution, elevated carbon dioxide, nitrogen deposition, and climate change. Especially in the chapter on soil acidity and heavy metal pollution does the interplay between the physical and chemical characteristics of soil and biota come to life. Each of those chapters could have benefitted from a conceptual model in which the complex interplay between soil biota and soil chemistry affect forest growth and sustainability. This book will be well attuned to foresters and forest ecologists with a solid background on the diversity of soil biota and their interactions in forest ecosystem functioning.

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SERPENTINE: THE EVOLUTION AND ECOLOGY OF A MODEL SYSTEM.

Edited by Susan Harrison and Nishanta Rajakaruna. Berkeley (California): University of California Press. \$70.00. xiv + 446 p.; ill.; species and subject indexes. ISBN: 978-0-520-26835-7. 2011. This book is an interesting attempt to show how natural ecosystems with peculiar features can be used to model complex ecological and evolutionary phenomena. Because of their chemical and physical properties, serpentine (the term used in biological literature to indicate ultramafic rocks) outcrops are unusual and an interesting terrestrial ecosystem, and they have been subject to a variety of studies, including several books. However, this volume fills an almost empty niche in the scientific literature. It does not aim to specifically describe the ecological and evolutionary features of serpentine ecosystems, instead it collects a series of contributions that use serpentine cases to understand general theoretical questions in disciplines such as geology, microbiology, evolution, ecology, and conservation biology.

The book is organized into two main parts and a final synthesis. The first part is composed of nine chapters that deal with a variety of topics from geology to biological evolution. After a chapter that reviews geological questions associated to ultramafic rocks (including their potential for carbon sequestration), case studies and reviews about serpentine organisms are discussed to understand the basic

mechanisms of diversification, adaptation, plant-animal interactions, and other evolutionary phenomena. Some chapters deal with classic topics such as ecotypic variation in serpentine plants, while others examine recent topics such as the role of bacteria in serpentine resistance and adaptation or the use of genomic approaches to understand adaptation and evolution. The second part is composed of nine additional chapters that deal with basic and applied ecology. In these chapters, studies on serpentine communities, and ecosystems are used to understand patterns and processes as species interaction and community assembly, the effects of fragmentation and edaphic insularity, ecosystem functioning, disturbance, and productivity, as well as conservation planning.

The volume is well organized and well written, and it certainly represents a basic reference for future research in serpentine species, communities, and ecosystems. If I should find a weak point for this book, I would argue that a significant part of the early and recent European literature is missing, and this is a pity because serpentine research in deeply rooted in the old continent. However, this is a minor point and I strongly recommend this volume to researchers, land managers, and anyone with an interest in serpentine ecosystems.

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THE EVERGLADES HANDBOOK: UNDERSTANDING THE ECOSYSTEM. Third Edition.

By Thomas E. Lodge. Boca Raton (Florida): CRC Press (Taylor & Francis Group). \$59.95. xxx + 392 p.; ill.; index. ISBN: 978-1-4398-0262-5. 2010.

MARINE ECOLOGY: CONCEPTS AND APPLICATIONS.

By Martin Speight and Peter Henderson. Hoboken (New Jersey): Wiley-Blackwell. \$159.95 (hardcover); \$89.95 (paper). ix + 276 p.; ill.; index. ISBN: 978-1-4051-2699-1 (hc); 978-1-4443-3545-3 (pb). 2010.

An initial chapter on the "physical template" is followed by chapters on biodiversity, primary production, herbivory, predation, competition and succession, dispersal and settlement, and three loosely organized chapters on disturbances and conservation. Throughout, the writing is confusing: for instance, in the chapter on physical setting, instead of focusing on ecologically relevant hydrodynamics, there is much material that will distract readers, including a photograph of an eel, a plot of salinity versus temperature in water emerging from deep-sea vents that shows no relationship, plus a long list of its chemical constituents. Such distractions occur through the book.