

Book Reviews

Marine Chemical Ecology. Edited by James McClintock (University of Alabama at Birmingham) and Bill J. Baker (University of South Florida). CRC Press, Boca Raton, 2001. xii + 610 pp. 18.0 × 26.0 cm. Hardcover. \$99.95. ISBN 0-8493-9064-8.

Marine Chemical Ecology is a timely monograph on the most recent advances in this field, with chapters by chemists and biologists, from both academic and private (industry) institutions.

The book is divided into three parts. The first, named simply "Background", has three chapters, which cover the taxonomic distribution of marine natural products, including a phylogenetic discussion of their relatedness (Chapter 1), the biosynthesis and ecological roles of compounds from marine organisms (Chapter 2), and an evolutionary perspective of the pathways involved in the biosynthesis and functions of such compounds (Chapter 3).

The second part, "Organismal Patterns in Marine Chemical Ecology", has seven chapters describing the ecological functions of marine secondary metabolites, with an emphasis on their biological aspects. Not only are results discussed, but some chapters also present relevant experimental approaches, providing insights into the importance of particular bioassays in obtaining useful and reliable information on the actions of chemical mediators of the marine environment. The topics include "Chemical Ecology of Mobile Benthic Invertebrates: Predators and Prey, Allies and Competitors" (Chapter 4), "The Chemical Ecology of Invertebrate Meroplankton and Holoplankton" (Chapter 5), "Chemical Mediation of Macroalgal-Herbivore Interactions: Ecological and Evolutionary Perspectives" (Chapter 6), "Secondary Metabolites from Antarctic Marine Organisms and Their Ecological Implications" (Chapter 7), "Spatial Patterns in Macroalgal Chemical Defenses" (Chapter 8), "Resource Allocation in Seaweeds and Marine Invertebrates" (Chapter 9), and "Chemical Mediation of Surface Colonization" (Chapter 10).

The third section, "Cellular and Physiological Patterns in Marine Chemical Ecology", includes five chapters covering topics on a particular role or specific targets of marine chemical mediators, such as "Effects of Secondary Metabolites on Digestion in Marine Herbivores" (Chapter 11), "Chemokinesis and Chemotaxis in Marine Bacteria and Algae" (Chapter 12), "Natural Chemical Cues for Settle-

ment and Metamorphosis of Marine-Invertebrate Larvae" (Chapter 13), "Contributions of Marine Chemical Ecology to Chemosensory Neurobiology" (Chapter 14), and "Chemical Defenses of Marine Organisms Against Solar Radiation Exposure: UV-absorbing Mycosporine-Like Amino Acids and Scytonemin" (Chapter 15).

The last section, "Applied Marine Chemical Ecology", cover various subjects, such as the biomedical search for marine natural products for drug development in Chapter 16; the search for new antifouling compounds that may be useful to protect equipment exposed in the sea for long periods in Chapter 17; and natural products derived from marine microorganisms in Chapter 18.

Considering the array of topics included, this book is a mine of information. It is well written and referenced (up to year 2000), providing the finest impressions on state-of-the-art marine chemical ecology. Since the authors of each chapter are experts, this book is an obligatory reference for those interested in being aware of current advances in the subject. The index is adequate, including organisms, chemical compounds, and general topics covered in the text.

The major drawback of the monograph is the body text, typed in Times New Roman 10 single spaced, which I consider rather small for pleasant reading. The chemical structures are not uniformly drawn among the chapters, and some of them contain mistakes. Graphics and figures are well presented, enhancing the clarity of data discussion. References include their respective titles. In some chapters, the same reference is cited more than once.

A 15% discount is available by purchasing this book directly through the CRC Press website (<http://www.crcpress.com/us>), which is a good deal for a monograph that provides authoritative and comprehensive updated reviews on the ecological roles of marine natural products. I encourage anyone interested in this field to have a personal copy of this book.

Roberto G. S. Berlinck

*Instituto de Química de São Carlos
Universidade de São Paulo
São Carlos, SP, Brazil*

NP000782+

10.1021/np000782+