

Book Reviews

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BOOK REVIEWS

Marine Biotechnology, Volume 1. Pharmaceutical and Bioactive Natural Products. Edited by D.H. ATTAWAY and O.R. ZABORSKY. Plenum Press, 233 Spring Street, New York, NY 10013. 1993. xix + 500 pp. 15×22.5 cm. \$89.50. ISBN 0-306-44174-8.

This volume, the first in a projected series, is a valuable addition to the literature of marine natural products. This is hardly surprising as most of the senior authors are prominent contributors to the primary literature of the field. Three of the thirteen chapters are disease-oriented and three are organism-oriented; two describe recent research from the authors' laboratories; and two are devoted to biotechnology. The first and final chapters appropriately are of a general nature, and one chapter (Chapter 5, by Sharma) is biochemical.

The longest chapter by far (190 pp.) is an updating of the literature of marine-derived antitumor and cytotoxic compounds by Schmitz. Schmitz is the only author who reveals the literature coverage (from 1986 through early 1991). The large volume (434 new compounds, about 400 references) reflects the preeminent position of cancer in research funding. The other two "disease" chapters, on potential antiviral (Rinehart) and antiparasitic drugs (Crews) cover topics that do not enjoy frequent reviews. Both provide excellent background material. The two figures outlining the antiparasitic bioassays could have used more informative captions.

Two organism-oriented chapters deal with microorganisms, which according to conventional wisdom hold the key to the anticipated transition to biotechnology. Fenical's chapter provides welcome background on unfamiliar and complex taxonomy and a few caveats on the inherent difficulties in laboratory culture of organisms whose habitats embrace extremes of temperature, pressure, and medium composition. Shimizu's brief (20 pp.) chapter on dinoflagellates ably reviews familiar ground. The third in this group, Gerwick's chapter, while it deals with algal (macro and micro) constituents, focuses on a class of compounds which he more recently calls oxylipins; it is research which he has pioneered, and is reflected by numerous citations to "Work in Progress."

Naya and Jacobs review recent research in their laboratories; these two chapters contain much experimental detail. Jacobs's contribution on pharmacology would have benefited from a glossary.

The two biotechnology chapters are brief, 6 and 15 pp. They offer a competent treatment of two established marine biotechnologies: algal polysaccharides (Renn) and β -carotene production from *Dunaliella* sp. (Ben-Amotz). Sharma's chapter, "Marine Proteins in Clinical Chemistry," deals with the use of horseshoe crab blood to detect endotoxins. The authors might profitably have addressed the desirability of replacing the traditional production method (capturing the animals, bleeding them, and returning them to the sea) by biotechnology.

The opening chapter (Ireland) sets the stage with a well-paced summary of the current status of marine natural product research, while Faulkner closes the volume with sage advice becoming an elder statesman.

The editors in their Preface offer few hints of where the series is headed. One assumes, in the direction of biotechnology! Future volumes might gain from representation by the vigorous marine biotechnology initiatives in Japan.

In a practical vein, outlines would be more useful at the beginning of each chapter than in the Table of Contents. Typos are distributed unevenly; authors' names suffer the most. Structural formulas should be of uniform size and none should be nameless. The representation of NCS is awkward.

Despite a few shortcomings this is a worthwhile book and in view of current book prices a bargain at \$89.50 for 500 pages!

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Marine Algae and Seagrasses of San Diego County. JOAN G. STEWART. California Sea Grant College, 9500 Gilman Drive, La Jolla, CA 92093. 1991. 197 pp. 15.5×23 cm. \$10.00 (paper).

This publication provides a checklist suitable for "recognizing and naming algae (approximately 360 taxa) found along the coast of San Diego County, and to suggest where individual taxa can be found." It is written with the field biologist in mind, and thus lacks the complete taxonomic citations and keys found in "Marine Algae of California." It is illustrated with line drawings of selected algae.

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