



Book reviews

Biodiversity and Natural Product Diversity

Francesco Pietra; Pergamon, 2002, ISBN: 0-08-043706-0, \$45

This book is different from many others on Natural Product Diversity as it departs from the usual format of looking at compound diversity via taxonomic groups: insects, plants, fungi etc. or by compound type alkaloids, terpenoids etc. Instead, the author provides an overview of the diversity of compounds in different ecosystems (oceans, terrestrial and freshwater biomes) as well as at what the author calls “functional levels” (signalling, antifeedants, food additives as well as fragrances and cosmetics). The author also provides information about the diversity of compounds in endangered taxa and then goes on to compare the diversity of natural and synthetic compounds. The last section of the book deals with the sustainable exploitation of natural product resources. Thus the volume, which forms part of the Tetrahedron Organic Chemistry Series, covers a wide scope of subjects but none in any detail. This is a shame as the concepts covered by the author, especially in the section on ecosystem diversity are challenging and could have been developed further. For example, the author presents “complexicity metric values” to describe the diversity of compounds in the different biomes or with different uses but provides no real insight as to what these values really mean and whether they have any relevance to different ecological systems or differences in biochemical pathways. However, the author does sow the seed for others to develop hypotheses. Because the author has tried to cram so much into a small volume, the quality of the production has suffered and varies from chapter to chapter. The publishers should have ensured that the quality of presentation throughout the book was high. For example, in the chapters dealing with compound diversity in different ecosystems, the compounds are

presented in small charts that are difficult to read, along with the use of a small font for the text that provides information about the compounds, whereas in the chapters covering the functional role of biodiversity the compounds are presented in well-constructed tables.

Examples of the diversity of compounds that have different biological properties the organisms they come from and the habitats the organisms live in are illustrated in these tables. These tables are therefore a rich source of information but the author does not attempt to synthesise the information in these tables in the text. Therefore, the reader moves from one topic to another with very little guidance. This lack of interpretation might limit the usefulness of the book. A few more sentences about the different biochemical pathways that have evolved to provide the biodiversity of compounds would have been a useful addition.

In order to write the book, the author has had to synthesise information about where plants’ microbes that contain the compounds of interest were collected. This type of formation is not always provided in natural product papers and if chemists were screening extracts from collections they might not have had this information. The author should be congratulated on the task undertaken. It has shown that biomes beyond the rain forests justify further study.

The book will be of interest to those studying different aspects of natural product diversity, chemical diversity as well as chemical ecologists. Despite the limitation of the book, it is not overpriced and many students or scientists involved in drug discovery projects should be able to afford to buy a copy.

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Plant Biotechnology: The Genetic Manipulation of Plants

Adrian Slater, Nigel Scott, Mark Fowler; Oxford University Press, Oxford, New York, 346 pages, ISBN 0199254680, GBP 19.99

This is a comprehensive and well-written textbook aimed at graduate and undergraduate students in plant

sciences. The authors set the scene with a chapter on plant genomes, genes and the control of gene expression. They then cover the methodology of plant transformation with chapters on plant tissue culture, techniques for plant transformation and the vectors used. These are followed by several chapters that cover in depth the applications of plant genetic modification,