Comprehensive Natural Products Chemistry, Volume 8: Miscellaneous Natural Products Including Marine Natural Products, Pheromones, Plant Hormones and Aspects of Ecology

K. Mori (Volume Editor), Pergamon, an Elsevier Science Imprint, Oxford, 1999, 749 pp., ISBN 0-08-043160-7. Price EUR 387.50, US$ 387.50.

This book is the final descriptive volume of this remarkable multi-author treatise written by experts in natural product chemistry. Although titled as a miscellany the themes of this particular volume are biological activity and chemical communication. These take various forms and there are chapters on plant hormones and pheromones as well as the fascinating field of chemical ecology. This is discussed in four excellent chapters relating to plants, insects, microbes and marine organisms. Like the other volumes in the series, the book is a most comprehensive up-to-date summary of natural products chemistry and is illustrated with several thousand, expertly drawn, stereochemically-correct structures. The chapter on marine natural products itself contains over 1000 structures. Each chapter is followed by a comprehensive reference list. For example, the plant hormones chapter cites over 1000 references. Thus, not only is this volume an excellent source in itself but it also serves as a significant gateway to the primary scientific literature.

The book begins with an overview by the volume editor, which highlights the importance of chirality in determining biological activity. This is followed by a multi-authored chapter on plant hormones broken down into the usual classes. The coverage is comprehensive and of particular note here is the section on abscisic acid, which brings together recent information on biosynthesis with chemical studies on bioactivity and metabolism. One howler in this chapter, repeated several times, incorrectly describes jasmonates as sesquiterpenes. They are derived from fatty acids as correctly discussed later in the relevant section. However, such mistakes are rare in this book and do not detract from the overall very high quality of the reporting.

The chapter on plant chemical ecology by J.B. Harborne is a highlight and is an excellent summary, covering molecules that are involved in, among others, constitutive and induced chemical defence, toxins, pollination and symbiotic associations. Similarly, the next two chapters on pheromones and insect chemical ecology provide comprehensive reviews of the perhaps more well known area of insect chemical communication. The field of microbial hormones and chemical ecology, covered in the next chapter, is perhaps less well-known. This chapter describes molecules (A-factors and relatives) active in hormonal-type autoregulation of development of *Streptomycetes* and various Gram-negative bacterial cells. This intriguing area is relatively new but of utmost importance to natural product chemistry as such microbes are sources of a large array of useful compounds.

The last chapter is a tour-de-force on marine natural products and their chemical ecology, which takes up about a third of the whole volume. It is a stupendous effort and the authors are to be congratulated for their production. Coverage of the numerous complex structures, arising from a multitude of organisms is comprehensive and is well-organised in sections delineated by biological activity.

This volume and the others in the CONAP series represent one of the most rigorous and comprehensive collective works on natural products ever produced. They are to be recommended to every institution where there is interest—biological or chemical—in natural compounds. This volume itself is a must read for anyone interested in biologically active compounds, and successfully delivers the message that chemical communication is diverse and one of the fundamental processes in biological interactions.

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