

mation on some 670 botanical drugs and includes some 5000 references. The installation on to your PC will take up 10MB of your hard drive, and although it is said to be compatible with Windows 95, the actual instructions are given for Windows 3.x. However, once installed, Phyto CD is easy to use, even for a mere beginner of computer usage like myself. English speakers need, at the onset, to accept that their English version is a translation from the German.

What can you obtain from this CD encyclopedia? Information can be searched by plant name, either the binomial Latin name or the English or German name, drug name, chemical compound, or indications for use. When a specific plant name is selected then, by means of clicking on the appropriate buttons, it is easy to display an enlarged photograph of the plant and to read a brief history and details of habitat, flowering and harvesting times. Information available for each plant drug includes its effects, usage including German Commission E indications, homeopathic, Indian, and Chinese uses, and constituents. Do not get too excited because chemical structures are not included. In addition, each herb includes a section on literature references that are either specific to that herb or are taken from a more general review article. The font size can be reduced or enlarged for easy reading (stops all that squinting at the screen), and there is also a bookmark and notes facility. These are particularly useful because it not only allows direct access to a selected plant but it also allows you to add your own notes and comments or additions.

I selected initially *Achillea millefolium* and, skipping over the German pseudonyms, noted that milfoil, millefolium, and yarrow were not given as English synonyms, although milfoil, for example, is included in the overall list of English names. All the details I expected were there at the click of a few buttons, together with references to the pertinent literature. However, the text is not very detailed, basic information being given, and the serious reader will need to consult specific references. Moving on to St. John's Wort, *Hypericum perforatum*, I failed to find mention of antiviral action.

Despite these minor comments, I am happy to be in possession of this particular CD, which I will continue to use. To those of you interested in phytotherapy, I recommend this CD version of *Herbal Remedies: Heilpflanzen*; to the authors and publishers, I would suggest a need for a more careful check of English and of English texts available on this subject.

J. David Phillipson

Centre for Pharmacognosy
University of London
29/39 Brunswick Square
London WC1N 1AX
England

NP970120T

10.1021/np970120t

Medicine from the Mountains: Medicinal Plants of the Sierra Nevada. By Kimball Chatfield (Lake Tahoe Community College). Range of Light Publications, South Lake Tahoe, CA. 1997. viii + 219 pp. 13.5 × 21.5 cm. \$17.95. ISBN 0-9658001-0-5.

The flora of California, with more than 5800 species, 24% of which are endemic, comprises more than one-quarter of

the species found in North America. Only nine other states have even half as many species as California. Being home to many indigenous groups, each with long histories of using herbal remedies, it is no surprise that many California plant species have a long history of medicinal use. *Medicine from the Mountains* provides an account of 33 of the most important genera that occur in the Sierra Nevada, including sections on botanical description and habitat, chemistry, history and modern uses, toxicity, dosage, and notes on cultivation. The body of the text is followed by a list of references, which are in random order and would be more useful if listed alphabetical and cited in the text, a list of nurseries able to supply medicinal plants, a limited glossary, and an index.

The botanical descriptions provided are incomplete and generally do not provide enough information for identification of the plants discussed, and no information is provided to help distinguish between the multiple species of the genera treated in each chapter: 12 species of *Arnica*, 11 species of *Pinus*, and six species of *Rumex*. However, Chatfield himself claims that identification is not the aim of the book and in the introduction refers readers to several floras and field guides, although he fails to mention *The Jepson Manual* (University of California Press, 1993), the most comprehensive and authoritative flora for the region.

Quite a bit of information is provided about the chemistry of each plant group, but it is usually a general account for the genus, lacking information on chemical differences of the species, and the information provided would be more useful if references had been provided. Likewise, the information provided on toxicity and dosage is provided as a general account for the genus and also lacks references. While information on cultivation is brief, Chatfield does include an eloquent plea for readers to grow these herbs, rather than wild harvest them, and the extensive list of nurseries that can provide seeds or plants provided as an appendix will be particularly useful for gardeners.

The strength of *Medicine from the Mountains*, and the reason it will be of interest to most readers, is the section on history and modern use. Here Chatfield traces the use of fennel from the ancient Greeks, stinging nettle from accounts in 16th century herbals, and manzanita from indigenous groups of the American southwest. The account provided for each species makes interesting reading, and Chatfield combines information on past and present uses with discussions of conservation status of plants in the Sierra Nevada region. While not a detailed or comprehensive volume, *Medicine from the Mountains* will appeal to those interested in medicinal plants of California and to all interested in the history of medicinal use of plants.

James S. Miller

Missouri Botanical Garden
P. O. Box 299
St. Louis, Missouri 63166-0299

NP9802419

10.1021/np9802419

Bioorganic Chemistry: Peptides and Proteins. Edited by Sidney M. Hecht (University of Virginia). Oxford University Press, Inc., New York, New York. 1998. 532 pp. 16 × 23 cm. \$75.00. ISBN: 0-19-508468-3.

This book is the second volume of a series which began with "Bioorganic Chemistry: Nucleic Acids" and will soon be joined by a third volume, "Bioorganic Chemistry: Car-

bohydrates". "It is intended to support the teaching of graduate students in bioorganic chemistry." To this end, the editor has divided the book into 14 chapters which correspond to the average number of weeks in a semester at most Universities. Each chapter begins with a broad overview of the general principles and summarizes the key findings that form the basis of current dogma in that subdiscipline. The chapters finish with more in-depth examples of current studies, generally from the work of the chapter authors, who, for the most part, are the world's leading authorities in their particular area. To make the job of teaching even easier, a set of overheads is available for each chapter (not reviewed). Professor Hecht reports that the material presented in this book has been used with great success by himself and others as a text book for an advanced graduate special topics course.

Chapter 1, "Introduction to Peptides and Proteins", by Professor Axely, is an excellent beginning to a book of this type which is to be potentially used as a text to a group of graduates with diverse undergraduate training in that it provides a quick review of the structures, one and three letter codes of the 20 amino acids found in most peptides and proteins, as well as a staccato overview of almost all aspects of protein science, such as folding, structural analysis, enzyme purification, enzyme kinetics, etc., some of which are covered in more depth later in the book. At the end of this chapter, the student will have been exposed to "the main vocabulary of the area". This introduction is followed immediately by the chapter, "Chemical Synthesis of Peptides", by Professors Hruby and Meyer, which provides insight into basic SPPS, side chain protection, various methods for coupling including methodologies for rather difficult coupling, amino protecting groups, and deprotection, as well as a section on the generation of peptide libraries. Several chapters on structural analysis, structure determination, and protein folding follow which provide the student or reader with an in-depth overview of cutting edge protein science in these areas. Chapter 9, "Site-directed Mutagenesis", is a representative example of the excellence of most of the chapters in this book in which the authors have presented a topic which most students perceive as either incredibly difficult or in some way akin to magic in a straightforward understandable style. The chapter presents many of the current methods of mutagenesis except for my favorite method, marketed as "QuikChange" by a to-be-unnamed vendor. The chapter, "The Structural Basis of Antibody Catalysis", by Professor Hilvert et al., is cutting edge science, again reduced to a level of understanding of most graduate students yet still at the level to be useful to the more experienced researcher. Professor Hilvert utilizes the excellent example of catalytic-antibody rearrangement of chorismate to prephenate (chorismate mutase) from his own laboratory to demonstrate the potential of this area. A chapter that even the hard-core organic synthetic-type graduate student should find interesting, in addition to Chapter 2, is the chapter, "Use of Enzymes in Organic Synthesis", which provides an overview of the advantages and disadvantages of biocatalysis, the type of reaction for which enzymes are available, as well as an excellent selection of examples of each type of reaction.

Since I did not discuss all the chapters in this book, I have listed the title of each chapter to give the readers of this review at least a chance to peruse the titles of all the chapters, listed in order of appearance: "Introduction to Peptides and Proteins", "Chemical Synthesis of Peptides", "Total Synthesis of Proteins", "Structural Analysis of

Proteins", "Protein Structure", "Protein Folding", "Nucleic Acid Interactive Protein Domains That Require Zinc", "Understanding the Mechanisms and Rate of Enzyme-catalyzed Proton Transfer Reactions to and from Carbon", "Site-directed Mutagenesis", "The Structural Basis of Antibody Catalysis", "Peptide Hormones", "Peptide Mimetics", "Use of Enzymes in Organic Synthesis", "Engineered Proteins in Material Research".

The references for all the chapters are at the end of the book which was no doubt an editor's nightmare; however, my preference would have been to have the references for each chapter at the end of that chapter. The present arrangement is difficult for the user of single chapters. Overall, I would highly recommend this book not only for its potential use as a text book for an advanced topic for a graduate or senior honor's course but for research directors to give the beginning graduate student, postdoctoral fellows, or technicians as a primer in the area because *Bioorganic Chemistry: Peptides and Proteins* is also for the everyday practitioner even at the \$75.00 price.

Ronald W. Woodard

*Interdepartmental Program in Medicinal Chemistry
College of Pharmacy, University of Michigan
Ann Arbor, Michigan 48109-1065*

NP9802421

10.1021/np9802421

Practical Polyphenolics: From Structure to Molecular Recognition and Physiological Action. By Edwin Haslam (University of Sheffield). Cambridge University Press, New York, NY. 1998. xv + 422 pp. 17 × 24.5 cm. \$100.00.

This book summarizes the work of Professor Haslam's distinguished career devoted to defining the significance of plant polyphenols. For that reason alone, it must be in the library of chemists and biologists interested in phenolic plant metabolites. The book is written in a friendly way, with excerpts taken from his personal correspondence that are especially interesting to those who have labored for years with these compounds. That historical perspective allows a nice focus on how far we have come in this science over the last 30 years. Most important, I believe, is that this book demonstrates the myriad ways that plant polyphenols influence our lives. Professor Haslam makes a strong argument for continued study of intermolecular association of plant polyphenols with other biopolymers.

At first glance, a reader with knowledge of the chemistry of plant polyphenols might be put back a bit by the claims that "this is the only book to describe the scientific basis for the action of plant polyphenols in a wide range of technologically important phenomena" because Professor Haslam himself has written other fine books and made important contributions to books edited by others. That claim, and the very selective treatment of the structure and biosynthesis of condensed and hydrolyzable tannins in Chapter 1, starts the book out on what I believe is a slow pace. For example, there is virtually no discussion of the chemistry of commercially important wattle or quebracho tannins and references to chestnut tannins are scarce. While largely a review of material that can be found in his previously published work, this chapter does provide a useful summary of the chemistry of these compounds for a reader new to the field.

Professor Haslam can be forgiven for the moderate pace at his start, however, because he warms to the real subject