

tubulin–microtubule system, its biological functions, and its response to tubulin-binding anticancer agents. The basis for the therapeutic effects of paclitaxel is discussed, including issues of selective cytotoxicity, cellular tubulin concentration, tubulin isotype sensitivity, and microtubule bundling. The section on the mechanisms of paclitaxel resistance reviews research into P-glycoprotein-mediated paclitaxel-resistance, its potential effects on bcl-2, and paclitaxel resistance due to alteration of α - and β -tubulin. The review ends with a discussion of paclitaxel's effect on murine macrophages.

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Medicinal and Aromatic Plants—Industrial Profiles, Vol. 1. Valerian—The Genus *Valeriana*. Edited by Peter J. Houghton. Harwood Academic Publishers, The Netherlands. 1997. xi + 142 pp. 17 × 24.5 cm. \$75.00. ISBN 90-5702-170-6.

This is the first in a series of volumes on the principal medicinal herbs of commerce. The editor-in-chief of the series is Roland Hardman, and a further 29 volumes, each with their own editor, are in progress. The prospect of thorough literature reviews on such a broad range of medicinal plants is an admirable one, and is much needed in the field.

This particular volume comprises six chapters, each with a different author(s). The volume opens with an introductory chapter by Dweck that examines some botanical aspects of the genus and the commercial plants. A chapter on the chemistry of *Valeriana* by Houghton is followed by a discussion of the pharmacology and therapeutics of *Valeriana* by Hölzl and of the cultivation by the herb by Bernáth. The final two chapters describe the quality assurance issues and the preparation of the crude drug (Woerdenbag, Bos, and Scheffer), and the volume closes with an interesting summary of the range of products containing *Valeriana* species that are sold commercially worldwide (Foss and Houghton). There is also a useful index. The literature is covered to about the Fall of 1996.

In many ways, valerian is a very difficult monograph because, as is mentioned in each chapter, the active principle is (supposedly) not known. Implications for the active principle(s) to be the valepotriates (a standardized preparation of which is sold in Germany), valerenic acid, baldrrinal, the essential oil, the volatile oil, etc. are made based on the available literature. However, for reasons that are not clear, a significant patent describing the active principle of the ammoniated tincture of valerian was ignored. U.S. Patent 5,506,268 discusses the determination that isovaleramide is the anxiolytic component of the tincture and, thus, that isovaleric acid is the probable active constituent of the normal root preparation. The commercial implications of such a discovery are quite apparent. "Isovaleramide" and "anxiolytic" are not indexed in the volume.

The whole answer to the issue of the active ingredient is presented (unknowingly!) on page 3 of the book in two *almost* concurrent sentences, "...there is a growing body of evidence to show that the odour of valerian alone is sufficient to have a sedative effect." and "It is now known that the major part of the odour is due to the isovaleric acid released by enzyme hydrolysis from some of the compounds present in the plant."

Although this is a very serious omission from a book of this type, there is also another series of errors: for the most part, the editing of the chapters is poor. A few examples will suffice. Frequently, the genus name *Valeriana* is not italicized, while other words are; there are typographical errors, words omitted, and typesetting errors; on page 18 an "echo" is heard *before* the initial retort; and the last phrase on p 17 is not a sentence! None of the "Alkaloids" in Figure 12 on page 42 are alkaloids, and the compounds **104** and **105** (p 43) are misnamed. Quite surprisingly, there is absolutely no consistency of style to the references in Chapter 2. The other chapters are better than this, although one can find errors of some description on almost every page. I would suspect that if subsequent volumes in the series perpetuate the same attributes of this volume, the series will not be well received. Many issues relate to a lack of proofreading and editing, and thus, perhaps other editors will raise the standard of the series. It has certainly not started very auspiciously.

In summary, this is a flawed volume, which nevertheless contains much useful information and is well referenced. It is recommended for libraries hoping to keep up with the burgeoning literature on herbal products, although unfortunately its relatively high price (50¢/page!) will keep it out of the hands of the individual scientist.

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Medicinal Natural Products: A Biosynthetic Approach. By Paul M. Dewick (University of Nottingham, U.K.). John Wiley & Sons, Ltd., West Sussex, England. 1997. ix + 466 pp. 19 × 25 cm. Hardback, \$160.00. ISBN 0-4719-7477-3. Paperback, \$59.90. ISBN 0-4719-7478-1.

It is refreshing to read a current natural products textbook that embraces a biosynthetic approach to instruction, which allows for the application of basic chemical principles. This text is invaluable for both undergraduate and graduate students with interests in natural products chemistry. It provides a comprehensive examination of natural products used in medicine from a biosynthetic point of view, rather than the more usual natural product class or activity viewpoint. There is an extensive use of biosynthetic schemes and mechanisms including detailed mechanistic explanations as annotations and outline discussions in the text. Exten-