

Book Reviews

Alkaloids: Chemical and Biological Perspectives. Vol. 10. Edited by S. W. Pelletier (University of Georgia). Elsevier Science Inc., Tarrytown, NY. 1996. xv + 430 pp. 15 × 23 cm. \$190.00. ISBN 0-532-42154-5.

This book attests to the remarkable vitality and progress of alkaloid research. Its chapters are scholarly interpretations of an enormous amount of diverse information relating to the isolation, structure determination, synthesis, biosynthesis, and biological activities of alkaloids.

The first chapter, on alkaloids from Australian plants, is by I. R. C. Bick, a doyen of that country's natural products community. Himself responsible for the discovery and synthesis of many novel compounds, he begins with the historical isolation of berbamine and alstonine and then moves quickly into the era of the CSIRO and later alkaloid surveys and the great advances made possible by the availability of NMR spectroscopy and X-ray crystallography. Relict families and genera of the Australian flora have yielded many interesting structures, and within the larger alkaloid classes, such as indole monoterpenoids and indolizidines, remarkable compounds have also been found. A summary of isolation techniques for alkaloids will be valuable to beginners and experienced workers alike, and discussions of alkaloids potentially useful as drugs, and alkaloids known for toxicity, round out the chapter. The 448 references supporting this account will be of great value in themselves.

Pyridine and piperidine alkaloids constitute a major and increasing group of compounds. For the 10 years (1984–1994) she covers, Marilyn Schneider cites 728 references to known and new alkaloids. An outstanding feature of this review is the collection of data on biological activity. The summary of these data for nicotine, for example, is fascinating. Outstanding developments among 3-alkylpyridines from marine organisms and the khat alkaloids are covered, as are developments within long-known groups such as *Piper* and *Lobelia* alkaloids. Among piperidines, *Nuphar* and *Solanum* alkaloids are also reviewed.

The 3-alkylpyridines from Haplosclerid marine sponges are reviewed in greater detail in the next chapter, by Anderson, Van Soest, and Kong. Great advances have been made during the last 10–15 years, and the unifying biogenetic proposals of Baldwin and Whitehead, covering all the known alkaloids of the group, are highlighted. Important structural problems such as in the saraine and manzamine series are discussed in detail, and there is an interesting discussion of sponge taxonomy. The biological activities of many of the compounds are sufficient to assure continuing interest in them.

In the final chapter, on β -carboline and isoquinoline alkaloids from marine organisms, Bill Baker reviews these compounds from the viewpoints of structural variation, synthesis, biosynthesis, and bioactivity. The manzamines reappear briefly here, but the main emphasis is upon a large array of new heterocyclic and condensed aromatic systems. Many of the compounds have potentially important biological activity, and the cytotoxicities and antibacterial properties of a number

of them are tabulated. More than 200 references support the review.

This book is an excellent addition to the Pelletier series, which all natural products research libraries and many individual investigators will wish to acquire.

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Analytical Profiles of Drug Substances and Excipients, Volume 24. Edited by H. G. Brittain (Ohmeda Pharmaceutical Products Division, Inc.). Academic Press, San Diego, CA. 1996. xi + 619 pp. 15 × 22.5 cm. \$99.00. ISBN 0-12-260824-0.

The profiling of drug substances and excipients, whether for older or the very newest drug, is an important venture. This entire series of 24 volumes, originally edited by Klaus Florey and now by Harry Brittain, has become an indispensable tool for the pharmaceutical analyst as he attempts to remain abreast with the highest quality analytical information. Volume 24 contains 14 profiles, of which 5 are excipients. Each profile is a contribution from a single author or from multiauthors. Updates are provided for older profiles whenever a sufficient body of new information becomes available. Drug profiles in this volume include carbinoxolone sodium, clarithromycin, fluvoxamine maleate, gadoteridol, mafenide acetate, nalmefene hydrochloride, sertraline hydrochloride, solasodine, and tobramycin. The excipient profiles include crospovidone, guar gum, maltodextrin, polyvinyl alcohol and starch. A profile is like a complete monograph for a drug substance or excipient in which, after a short introduction, there is a description of nomenclature, chemical names, proprietary and nonproprietary names, formulas and structures, appearance, and compendia information. Next, there is a section on synthesis followed by physical properties such as UV, IR, MS, NMR, X-ray diffraction, optical rotation, thermal methods, hygroscopicity, dissociation constants, solubility, and partition coefficients. A complete list of analytical methods is included, and it describes techniques such as titrimetric, spectrophotometric, chromatographic, immunoassay, and radioactive labeling methods. A short section on stability is followed by a more extensive section on pharmacokinetics, metabolism and excretion, and pharmacology and toxicology. This volume and the entire 24 volumes are highly recommended for single individual use or by groups of scientists when placed in a corporate, government, or academic library. There is no comparable series of books that provides this important data in such a timely and meaningful manner.

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