

of brassinosteroids, reflecting the strong points of the Minsk group. They are arranged in subchapters according to basic synthetic methods, synthesis of natural brassinosteroids, and preparation of structural analogs. The multiple physiological actions including a brief treatise on molecular genetic aspects as well as bioassays and structure-activity relationships of brassinosteroids are discussed in chapters 9 and 10, respectively. The last chapter illustrates the practical application of these highly active plant growth promoters in agriculture and horticulture, assisted by an instructive table on selected field experiments and toxicological data. An appendix summarizes the structures, occurrence, and spectral data of the natural brassinosteroids.

This monograph represents an excellent text enriched by a large number of instructive formula schemes, tables, and figures. The authors have utilized nearly 1100 references covering almost completely the brassinosteroid field in 1998, among them many citations available with difficulty in Western scientific libraries. A comprehensive 12-page subject index concludes the monograph. The organization and presentation of the book, which contains hardly any obvious errors, is of a high standard.

Overall the book illustrates in a very impressive way the tremendous progress in brassinosteroid research up to the recent recognition of these plant constituents as a new class of phytohormones. I can highly recommend it as an up-to-date text for academic teachers and researchers not only in natural products chemistry but also for interested scientists in the biological, molecular biological, and agricultural disciplines.

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**The Alkaloids. Chemistry and Biology. Volume. 52.**

Edited by G. A. Cordell (University of Illinois at Chicago). Academic Press, San Diego, CA. 1999. ix + 391 pp. 15 × 22.5 cm. \$135.00. ISBN 0-532-42154-5.

This volume contains five reviews maintaining the high standards expected from this series. They are quite comprehensive in their individual areas. Authors are commended for not just repeating literature data on alkaloids but, in most cases, for critically examining and often correcting literature reports.

Chapter 1, "Alkaloids from Sri Lankan Flora" (A. A. L. Gunatilaka; 101 pp, 137 refs, 217 numbered structures), is, as the title suggests, country-wide rather than alkaloid type focused. Indole alkaloids appear to be the predominant constituents or at least the most heavily investigated. Most of the individual alkaloids are described with empirical formula, optical rotation, and a detailed discussion of NMR

spectral data. Tables of compounds and taxa investigated are presented. Considerable attention is paid to the natural occurrence of alkaloids, but syntheses, biosyntheses, and three pages of bioactivity are included. Although alkaloids have now been found in all spruce trees and many pines (as well as the ephedraceae), the author repeats the no longer valid statement that alkaloids are absent or infrequent in gymnosperms. A nitrogen atom is missing in the structure of vasicine (p. 84). Compound **217** (p. 85) is described as a new alkaloid, but the structure as given as that of the well-known cantleyine.

Chapter 2, "The Sarpagine Group of Indole Alkaloids" (M. Lounasmaa, P. Hanhinen, M. Westersund; 92 pp, 263 refs, 166 numbered structures), is a comprehensive listing and discussion of all known alkaloids of this group. It contains structures and physical properties, and Tables III and IV give spectroscopic data for all known 89 alkaloids, except where data were lacking in the literature. There is a detailed discussion of data, particularly from the authors' own work, which modifies early biogenetic proposals by Van Tamelen. Chapter 3, "Pharmacology of Ibogaine and Ibogaine-related Alkaloids" (P. Popik, P. Skolnick; 34 pp, 202 refs), was apparently instigated by the recent development of ibogaine as an anti-addiction drug, but the review is comprehensive in its discussion of pharmacology. There is no structural chemistry except a description of ibogaine's physical properties.

Chapter 4, "Chemistry and Biology of Steroidal Alkaloids from Marine Organisms" (Atta-ur-Rahman and M. I. Choudhary; 27 pp, 44 refs, 84 structures), focuses particularly on the bis-steroidal pyrazine cephalostatins and ritterazines. There are detailed discussions of structures with physical properties and spectral data, along with descriptions of syntheses and two pages of pharmacology.

Chapter 5, "The Monoterpene Alkaloids" (G. A. Cordell; 115 pp, 248 refs, 405 numbered structures), is extensive in all aspects. It gives tables describing both new and known alkaloids as well as one listing optical rotations and references to NMR spectra. The author does a particularly good job of critically examining structure elucidations of new (and many previously known) alkaloids and is not hesitant in offering opinions about incomplete or incorrect work. Some 40 pages are devoted to syntheses and biological conversions. There is at times an inconsistency in nomenclature with, for example, the spellings of "hydroxyskytanthine", "hydroxy-skytanthine", and hydroxy skytanthine" used for the same compound. Similar variations occur in the usage for noractinidine.

This volume is highly recommended to all libraries and also especially to those individuals with specific interests in indole or monoterpene alkaloids.

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