

BOOK REVIEWS

Secondary Plant Products, Volume 8, Encyclopedia of Plant Physiology, New Series, edited by E. A. BELL and B. V. CHARLWOOD, Springer-Verlag New York Inc., 175 Fifth Ave., New York, N. Y. 10010, 1980. xvi+674 pp. 16.5 x 24 cm. \$108.90.

This volume of a series, mainly directed towards botanists, will also be of interest to phytochemists, since it provides a useful summary of the title compounds. Other volumes in the series concern themselves with transport, photosynthesis, physiological plant pathology, etc. The introductory chapter by K. Mothes gives a concise historical survey leading to the use of the term "secondary plant products" and the relationship to the primary metabolites. The second chapter by E. A. Bell examines the application (in systematics as phylogenetic markers) and ecological function that these constituents may have, while M. Luckner follows with a review of the genetic regulation and control of metabolism leading to their formation. The rest of the book is devoted to specific classes of compounds for a total of eighteen chapters divided into eleven groups. Predictably, the alkaloids and isoprenoids make up more than half of the remainder of the book, and are written by recognized authorities (E. Leete, G. B. Fodor, and Gröger to mention a few). The organization of the material in the subchapters is based wisely upon biosynthetic consideration; for example, in the alkaloids the *Lunaria*, *Lythraceae*, isoquinoline, *Ipecacuanha*, *Taxus*, *Amaryllidaceae*, etc., come naturally under the heading of phenylalanine- and tyrosine-derived. Betalains, however, are given separate treatment by T. Mabry. A similar grouping occurs for tryptophan-, histidine-, ornithine- and lysine-derived products. The terpenoids (except for the terpenoid-alkaloids) up to their triterpenes are found in a single, concise, well-organized chapter (D. V. Banthorpe and B. V. Charlwood) while the steroids, carotenes and polyisoprenes (rubber) are given separate chapters and the polyprenols, terpenoid quinones and chromonols are handled in one chapter. Plant phenolics, non-protein amino acids, cyanogenic glycosides, lipids, glycosides and polysaccharides are reviewed admirably by experts (J. B. Harborne, E. E. Conn, E. A. Bell, E. W. Underhill to mention several).

Considering the size of the volume, a great deal of information has been gathered together in a convenient and readable form. Although paring was a necessity and some topics received the briefest of treatment the reader is rewarded with a full collection of references. As with any work of multiauthorship, there is bound to be evidence of personal preference and unevenness of treatment (more chemistry in some), but these are not serious. The literature references contain 1979 entries, but these are not common. The printing is clear and the drawings artistically done, but unfortunately several minor errors in molecular formulas escaped the proof readers (e.g. phytol on p. 207, lanosterol on p. 211). The volume will find a valuable place in the library but regrettably the price will keep it out of many private collections. A student edition would be welcomed by instructors devoted to the teaching of natural products.

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Medicinal Plants of East and Southeast Asia: Attributed Properties and Uses, compiled by LILY M. PERRY (with assistance of JUDITH METZGER), Arnold Arboretum, Harvard University. The Massachusetts Institute of Technology Press, 28 Carleton Street, Cambridge, Mass. 02142. 1980. ix+620 pp. 21.5 x 27.5 cm. \$45.00.

Investigators of medicinal plants of east and southeast Asia will be grateful to the author of this book for it brings together in one work, information scattered throughout many volumes, in several languages, and in sources not readily available. The material is organized in alphabetical order of the plant families (over 200) with genera similarly sub-listed. For each species (synonyms included) something about the cultivation, growth habit, location and origin, if known, is given, followed by the medicinal use (emetic, anthelmintic, hypotensive, anti-tussive, etc.), plant part (bark, root, leaves, seeds, etc.), and kinds of preparation (raw, tincture, poultice, paste, etc.). Source references follow. Oriental names for established herbs are also included, as well as regional differences in attributed uses. For those plants that have been studied phytochemically, the reported constituents are given. A full 445 pages of such information is available, and does provide for interesting reading. There are no illustrations, but over 900 references are present. The index is divided into three parts, therapeutic properties (94 categories such as diuretic, astringent, sedative, etc.), disorders (over 180 including renal diseases, tetanus, pleurisy, diarrhea, etc.) and scientific names. This is a very useful feature of this work. The book is produced from a photocopy of a typewritten manuscript, but is clear and not difficult to read. It will find its place mainly in libraries and in private collections of researchers and students of Asian medicinal plants. In today's bookmarket the price is reasonable.

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