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BOOK REVIEWS

Atlas of Medicinal Plants of Middle America; Bahamas to Yucatan. JULIA F. MORTON. Charles C. Thomas, 301-327 East Lawrence Avenue, Springfield, IL 62703. 1981. xxviii+1420 pp. 17×25 cm. $147.50.

Reviewing this book is like reviewing the Merck Index. It is not something that one normally reads straight through as one would a novel.

Atlas of Medicinal Plants of Middle America is an encyclopedic work with information in table form. For each of the more than 1,000 monographs, there is found botanical and common names of plants and drugs, plant description, origin and distribution, medicinal uses, and properties and effects (including toxicity). Other information related to uses of the plants is added. There are 641 photographs to illustrate many of the plants. At the end of the book, there is a classified list of medicinal plants according to principal uses, a 563 item bibliography, an index to scientific names, and an index to vernacular names. Clinical utility or pharmacology of the drugs is not a part of this work, as such evaluations would be virtually impossible to produce.

A spot check by use of a few drugs revealed that the book is easy to enter, either by use of common or botanical names of plants or drugs. The monographs could be found easily despite the plant family arrangement. The information, while mainly limited to that from Middle America, did lead me to references of other geographical areas. What I read in each case agreed with what I had found through an exhaustive literature serarch; it was concise but comprehensive.

Julia Morton has opened, by the use of this book, a portion of her extensive "Morton Collectanea" to the public. It is a welcomed resource that should be in every book collection on economic botany, pharmacognosy, and related fields.

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Heterocyclic Chemistry. T.L. GILCHRIST. Pitman Publishing Inc., 160 Imlay St., Brooklyn NY 11231. 1985. iv+372 pp. 15×23.5 cm. $38.95.

The teaching of fundamental heterocyclic chemistry in American university chemistry departments is for the most part a history of sorry neglect. A large proportion of graduate students in chemistry obtain Ph.D. degrees without having taken any course at all dealing with heterocycles. The picture changes dramatically when one turns to the American chemical and allied industries. Here, heterocyclic compounds are of enormous importance and a great deal of research is being carried out on them and with them. This contrasting situation is comparable to, but even more extreme than that which exists for polymer chemistry.

The book that is being reviewed would make an appropriate text for a one-semester course in fundamental heterocyclic chemistry at an American university, and it is to be hoped that it will be adopted for many such courses. Certainly, recruiters for the chemical industry would be very happy with such a move.

The book presents a modern and up-to-date classical-style treatment of the subject of heterocyclic chemistry. After introductory chapters dealing with aromaticity and tautomerism, nonaromatic heterocycles (where accounts are given of conformation and strain), and ring synthesis, the book is organized according to ring-type covering, successively, three- and four-membered rings, five-membered rings with one heteroatom, five-membered rings with two or more heteroatoms, six-membered rings with one heteroatom, six-membered rings with two or more heteroatoms, and seven-membered ring compounds. It concludes with a chapter on nomenclature.

The book is well referenced, including citations of many reviews. The text is clear. The printing and illustrations are well done, and the treatment is sound. Let us hope it will be properly used.

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Herbal Medication: A Clinical and Dispensary Handbook. A.W. PRIEST and L.R. PRIEST. L.N. Fowler & Co. Ltd., Ramford, Essex, England (U.S. Distributor: medicina biologica, 4830 NE 32nd Ave., Portland, OR 97211). 1982. 174 pp. 14.5×22 cm. $15.

Like Caesar's Gaul, this book is divided into three parts. Adopting the punning style of modern headline writers, I believe it took a lot of gall on the part of the authors to inflict on modern readers this rehash of eclectic medicine under the name of "physiomedicalism." Part 1 provides a discussion of the therapeutic

principles of physiomedicalism in which "the manifestations of health and disease are considered as the aggregate expression of this vital force as it endeavours to maintain the functional integrity of the organism. . . . The object of herbal medication is to assist function towards normality."

Part 2 presents a listing of materia medica recommended for this purpose. Details of the drugs have admittedly been derived from such nineteenth-century practitioners as Wooster Beach, although one reference as recent as 1953 is noted. Included in the compilation, without a word of warning regarding their use, are three known carcinogens (*Senecio aureus*, *Symphytum officinale*, and *Tussilago farfara*). *Phytolacca decandra* is recommended for a variety of ailments in a dose that would certainly be emetic, if not toxic, for most persons. Many of the drugs are now believed to be worthless for the condition specified. *Turnera diffusa*, for example, is not an aphrodisiac. In no case is the part used specified for a particular plant. Perhaps most readers would know it is the grain of *Avena sativa* that is employed as a nutrient, but what part of that plant has a "gently stimulating nervine tonic effect?"

In part 3, the authors discuss methods of preparing a variety of galenical preparations ranging from infusions and decoctions to plasters and suppositories. Inasmuch as such preparations are seldom now prepared extemporaneously, this information is basically of historical interest only. It does not add anything to the discussions of such matters found in turn-of-the-century pharmacy texts. The index is not an index at all but a simple alphabetical listing of the drugs enumerated in Part 2. Curiously, recommended dosages are also included here rather than in the discussion of the drugs themselves.

Historians of doctrinal medicine may find this book of interest, but its publication at this time seems curiously anachronistic. It will not prove of value to modern practitioners of pharmacy or medicine.

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The Chemistry of Heterocyclic Compounds, Volume 14. Pyridine and Its Derivatives, Part 5. Edited by GEORGE R. NEWKOME. John Wiley and Sons, Inc., 605 Third Avenue, New York, NY 10158. 1984. xi+714 pp. 16.5×24 cm. $175.

This volume belongs to the extensive series of monographs published by Wiley on the chemistry of heterocyclic compounds. The original four volumes relating to pyridine chemistry were published between 1960 and 1964. A four-volume supplementary series was published in 1974 and 1975. These previous sets attempted to cover all aspects of pyridine chemistry. It has now been decided to abandon the attempt to review all of the chemistry of pyridine compounds and the present volume, under review, includes selected topics on specific areas of interest. The four topics reviewed in this volume are as follows: I. Synthetic and natural sources of the pyridine ring (1,786 references) by T.D. Bailey, G.L. Goe, and F.V. Scriven; II. Carbocyclic annelated pyridines (326 references) by R.P. Thummel; III. Macrocyclic pyridines (460 references) by G.R. Newkome, V.K. Gupta, and J.D. Sauer; IV. Reviews of pyridine chemistry—1968-1982 (298 references) by G.R. Newkome.

When I review a scientific book, I first turn to those sections that discuss work with which I am familiar. If I find numerous errors in such material, I become suspicious that errors are present in other parts of the book. In this book, I found the review on natural sources of pyridines very superficial. Some structures were incorrect (NAD^+, piericidin), and biosynthetic experiments have been misinterpreted (pyridoxine is not formed from nicotinic acid). A much more extensive review of pyridines in nature has been written by G.B. Fodor and B. Colasanti in *Alkaloids: Chemical and Biological Perspectives*. Vol. 3, Ed. S.W. Pelletier, John Wiley, 1985. Some of the structures in the book are unaesthetic; however, they are not consistently ugly. Sometimes, bonds in the β- or "up" position are represented by a large black rectangle; in other cases, the more conventional wedge-shaped bond is used. The long section on the synthesis of pyridine and its hydrogenated derivatives is well-done, and much useful information is summarized. Chapters II and III are rather specialized but contain extensive tables illustrating the methods used for the synthesis of these esoteric compounds. The final chapter is a compilation of reviews with a brief account of what each contains.

In a book of this size, it seems inevitable that mistakes will be found in the references. Again I found several mistakes in those with which I am familiar. (On p. 642, the first reference in section V should be to "The Alkaloids," Ed. R.H.F. Manske, Academic Press, not to the series published by the British Chemical Society.) Mistakes were also found in the author index, with misspelled names.

Overall, this is a book which major chemistry libraries will probably be obligated to buy. However, at the outrageous price of $175 per copy, I cannot recommend it for any except the most dedicated pyridine chemist.

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