

BOOK REVIEWS*

Highlights of Chemistry as Mirrored in Helvetica Chimica Acta. Edited by M.V. KISAKÜREK and E. HEILBRONNER. VCH Publishers, Inc., 220 East 23rd Street, New York, NY 10010. 1994. x+988 pp. 17×24 cm. \$145.00. ISBN 3-527-29238-1.

This volume presents a summary of the notable advances in chemistry recorded in *Helvetica Chimica Acta* over the last 75 years. Rather than simply reprinting selected papers from these years, the editors have persuaded various distinguished chemists to write historical essays around selected central themes. Each of the essays, most of which are in German, describes advances in a particular area of chemistry, and thus provides a historical framework for the portions of key papers that are reprinted. Many of the central themes will be of interest to natural product researchers, including those on alkaloids, carotenoids, fragrances, microbial metabolites, steroids, vitamins, and triterpenoids. Taken together, these sections account for over half the book, and attest to the vigor of natural products research in Switzerland.

Organic Electronic Spectral Data. Volume XXIX. 1987. Edited by J.P. PHILLIPS, D. BATES, H. FEUER, and B.S. THYAGARAJAN. John Wiley and Sons, Inc., 605 Third Avenue, New York, NY 10158. 1993. xiii+917 pp. 15×23 cm. \$165.00. ISBN 0-471-31121-9.

This volume continues the useful series of compilations of uv-visible spectra abstracted from the chemical literature.

The Chemistry of Heterocyclic Compounds, Vol. 53. Tellurium-Containing Heterocycles. M.R. DETTY and (in part) M.B. O'REGAN. John Wiley and Sons, Inc., 605 Third Avenue, New York, NY 10158. 1994. ix+511 pp. 15.5×23.5 cm. \$125.00. ISBN 0-471-163395-X.

This volume is part of the continuing and valuable series on the chemistry of heterocyclic compounds originally started by Arnold Weissberger and currently edited by E.C. Taylor. It contains chapters on all aspects of tellurium-containing heterocycles, and will be primarily of interest to specialists in heterocyclic chemistry. It is worth noting, however, that tellurium-containing heterocycles may have some applications as sensitizers for photodynamic therapy of cancer.

Taxonomy of Economic Seaweeds, Volume IV. Edited by I.A. ABBOTT. California Sea Grant College, 9500 Gilman Drive, La Jolla, CA 92093-0232. 1994. xvii+200 pp. 15×23 cm. \$10.00 (paper). Publication No. T-CSGCP-031.

This volume reports the results of an international workshop held in Sapporo, Japan, in July 1991. The papers deal with the taxonomy of Pacific seaweeds in the *Sargassum*, *Gelidium*, *Gracilaria*, and *Ahnfeltiopsis* genera, and include many drawings and photographs.

Studies in Natural Products Chemistry. Volume 14: Stereoselective Synthesis, Part I. ATTA-UR-RAHMAN, Editor. Elsevier Science B.V., Sara Burgerhartstraat 25, P.O. Box 211, 1000 AE Amsterdam, The Netherlands; or Elsevier Science Inc., P.O. Box 945, Madison Square Station, New York, NY 10160-0757. 1994. xiv+924 pp. 16.5×24 cm. \$442.75. ISBN 0-444-81780-8.

This is the 14th volume in a now well-established series of monographs, which began in 1988, that deals with all aspects of natural products chemistry.

Contributors from nine countries wrote the 22 chapters on carbohydrates, anthracyclines, tetramic acids, nucleotides, taxodione, terpenes (monoterpenes, sesquiterpenes, azulenes), alkaloids (vinblastine and vincristine, indoloquinolizidines, lupine, benzophenanthridine), general methodology (cyclopentannulation, quaternary carbon construction, hydrogen abstraction), and asymmetric synthesis (chiral sulfoxides, chiral acetals, and other chiral building blocks). Chapters range from 15-page concise presentations of levoglucosenone (Witczak) and quaternary carbon construction (Fuji) to the 65–80 page thorough treatments of polysaccharide (Kochetkov) and vincristine/vinblastine (Atta-ur-Rahman) syntheses. Many contributions are highly personalized accounts of the author's research, such as cationic cyclopentannulation (Tius) and indoloquinolizidine alkaloids (Lounasmaa). Several chapters deal with a single natural product topic, such

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a nogalamycin (Matsuda and Terashima), taxodione (Banerjee and Carrasco), thujone (Kutney), and doxorubicin (Wheeler and Wheeler), while other chapters are more general, such as branched oligoribonucleotides (Sekine) and 3- and 4-deoxyhexoses (Fattori and Vogel). The broadly framed asymmetric synthesis chapters dealing with chiral acetals (Fujioka and Kita), chiral sulfoxides (Imanishi and Iwata), and chiral building blocks (Hirai and Momose) overflow with synthetic riches and nicely illustrate the current state of the art of organic synthesis. Although not yet standardized (one chapter endures without compound numbers!), the standard of presentation in this series continues to improve and nearly all chemical structures were prepared using a computer drawing package.

The unfortunate misspelling of "benzo[c]phenanthridine" in the Foreword does *not* set the tone for this volume, as only a few minor errors were subsequently detected. These were mainly confined to the Index (e.g., "Friedal-Crafts," "anhydrovinristine," and "Jones reagent"), and are of no consequence. Unfortunately, coverage for most chapters seems to end in 1991 or early 1992 (the Preface is dated August 1993), as no 1993 literature is included. In fact, within the entire collection of nearly 1700 references, there are only 33 1992 citations.

In summary, this volume is an important addition to a very useful series. Although the hefty price tag will surely preclude it from being purchased by all but a few of the world's wealthiest chemists, it is hoped that librarians will add this book to their shelves, next to Volume 13. Indeed, the present volume is crammed full of important, modern, and useful synthetic information, and, in view of the continual and intensifying unearthing of new natural products—500 new sesquiterpenes isolated in 1990—some might consider this book to be a must-read for the organic chemist engaged in natural products synthesis.

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A Systematic Treatment of Fruit Types. RICHARD W. SPJUT. *Memoirs of the New York Botanical Garden*, Vol. 70. New York Botanical Garden, Bronx, NY 10458. 1994. 182 pp. 17×25 cm. \$24.95.

Botanical descriptive terminology is cumbersome and difficult for all but those who use it on a day-to-day basis. While in part this is because the terminology is unfamiliar, the situation is complicated by the fact that terms used to describe the same organ often do not describe mutually exclusive portions of the possible morphological variation. This makes uniform application of descriptive terms difficult for practicing botanists and extremely frustrating for the uninitiated. Several recent attempts have been made to construct a descriptive nomenclature for certain plant organs that divide variation into a series of non-overlapping units that cover the entire range of possible morphology. Leo Hickey's terminology for describing leaf venation is one particularly successful example.

Spjut has attempted to construct a similar, precise series of terms for describing the vast amount of morphological variation that occurs in fruits—a daunting task—as fruits occur in so many different forms and permutations. Following brief introductory chapters outlining problems with fruit classification, principles of the proposed system, and a key to various fruit types, the majority of the volume is devoted to descriptions of the various types of fruit. Each term is carefully and completely defined along with a list of terms that have previously been used synonymously with the present definition. A list of representative species, genera, and families with literature citations are provided following each description. As a further aid, the book ends with an Appendix listing various plant genera and their fruit type as presently defined. The system clearly succeeds in achieving the precise separation of terms that are necessary for high quality descriptive and comparative studies and the work will undoubtedly be a great aid to monographic botanists in the future. Unfortunately, much of the terminology is cumbersome and non-botanists will still find it difficult. Due to the imprecise and inconsistent manner in which terms have been used to describe fruits in the past, they will always be difficult to interpret accurately from descriptions. However, Spjut's exhaustive referencing of past uses of various morphological terms does a better job addressing this problem than anything previously available. While, because of its technical nature, the book will be most useful to practicing botanists, others may find it useful as a glossary of terms used to describe fruits and for the Appendix.

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