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BOOK REVIEWS

Commentaries in Plant Science: edited by HARRY SMITH. Vol. 2, Pergamon Press, Oxford, 1981. 261 pp. £23.

This second volume of botanical mini-reviews maintains the high standard set by the first volume (for review, see *Phytochemistry* **16**, 626) and provides the general reader with an excellent pot pourri of critical and provocative essays. Originally appearing between 1976 and 1980 in *Current Advances in Plant Science*, these reviews have been updated and each concludes with a valuable and extensive list of references. While many fields of plant science are drawn upon, there is some bias towards physiological subjects. Thus, there are three reviews on photosynthetic topics (on oxygen as an electron acceptor, RUBP carboxylase activity and the regulation of photorespiration) and three on plant proteins. The latter are all very good and deal variously with legume protein quality and yield (A. M. Evans and H. F. Grindley), seed protein synthesis (D. Spencer and T. J. V. Higgins) and pollen antigens (R. B. Knox and co-workers). Two other important physiological phenomena are reviewed, namely plant responses to anaerobosis (M. C. Drew) and ripening in climacteric fruit (G. E. Hobson).

Other aspects of botanical science are not, however, neglected. Anatomy is represented by a masterly account of current research into xylem formation in trees by J. R. Barnett and taxonomy by an urgent plea from Clive Stace for scientists to study, record and preserve infra-specific variants in their plants. Genetics is then well covered by a fascinating report from D. A. Hopwood of the actinomycetes, their genetic make-up and the genetic control of antibiotic biosynthesis. Finally, phytochemistry is discussed in an article on insect resistance in crop plants by M. D. Pathak and R. S. Saxena. These authors advocate the wider exploitation by farmers of plant varieties which have inbuilt resistance to much insect attack because of their secondary chemistry, thus saving the expense of pesticide treatments.

One general article on SI units in plant science publications should be read by all potential authors, since it is apparent that much incorrect usage of units or of modern terminology abounds in botanical journals. This volume thus contains something for everyone, from the budding author and the laboratory worker to the university or college teacher. It is reasonably priced and deserves to be widely available wherever plant science is studied.

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Konstitution und Vorkommen der Organischen Pflanzenstoffe: by H. HÜRLIMANN and E. CHERBULIEZ. Supplementary Vol. 2, Part 1, Birkhäuser, Basle, 1981. 939 pp. 348 Sw. fr.

With the ever increasing flow of reports of both new and known constituents in plants, the problem of keeping abreast with the phytochemical literature becomes more and more acute. While the situation can be partly alleviated today by computer-based literature searches, the data bases of such searches may have certain constraints and their cost is considerable. There is still therefore a place for literature compilations based on thorough and critical reviews of the original research reports as they appear in primary journals.

The task of preparing such a review of natural plant products was originally undertaken by the late Walter Karrer, who produced a volume, invaluable at that time, which covered the constitution and natural occurrence of all organic substances, except alkaloids, up to 1955. A supplementary volume taking the review up to the end of 1961 was published more recently under the authorship of E. Cherbuliez and C. H. Eugster. Part 1 of a second supplement has now appeared and with part 2 (still to come) takes the literature review to the end of 1966. The present volume therefore is devoted to the 1962–1966 literature and in some areas, where rapid changes have taken place in recent years, it will appear to be somewhat dated.

Nevertheless, the encyclopediac treatment of this volume has two special virtues. It provides a complete and accurate record of plant sources of a very wide range of natural products and at the same time supplies literature references to their isolation, structural elucidation, properties and laboratory synthesis. Although it is in German, this is not a serious disadvantage, since only a very limited vocabulary is needed to translate the copious entries. As a concession to English-speaking readers, part 2 of the second supplement will contain an English index of compounds and a glossary of frequently used terms.

This excellently produced catalogue of natural plant constituents, like its two predecessors, fills an important gap in the literature and is thus an essential purchase for all phytochemical, pharmaceutical or chemotaxonomic libraries. One can only applaud the devotion and skill of the compilers and the willingness of the publishers to continue the formidable undertaking of keeping Karrer's original volume up to date. We can only wish them well in the preparation of future volumes, which will hopefully bridge the information gap between 1966 and the present time.

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