

## Plant taxonomy

*Essays in Plant Taxonomy*. Edited by H. E. Street. Pp. 304. (Academic: London, New York and San Francisco, 1978.) £12.50; \$24.50.

PROFESSOR Tom Tutin has no rival for the title of *doyen* of British plant taxonomists, and few would question the appropriateness of this *Festschrift* on the occasion of his seventieth birthday, which so nearly coincided with the completion of *Flora Europaea*, his second *magnum opus*. We must here, however, examine the book, not from the standpoint of an admiring friend, but of a student asking what use it will be to him. Symposia are at present, perhaps, an over-popular form of publication: in many of them the thread of supposed common interest which binds the essays together is far too tenuous, and indeed, in the case of some complimentary volumes such as this, completely non-existent. The present work, however, is free from this reproach, for all but one of the essays are relevant to taxonomy on the strictest definition. The editor, who unfortunately did not live to see his work in print, planned the volume well, but part of the credit for its efficient and speedy production must go to Dr C. A. Stace, whose share was greater than his modesty permits him to disclose.

Four of the essays are wide-ranging reviews with no special claim to an original interpretation, and these are the parts of the book which will be of most value alike to the general student and for those who are specialising in taxonomy. Valentine on ecology, Smith on chemistry and Moore on chromosomes, all considered in relation to taxonomy, give judicious summaries of their themes, with well chosen and up-to-date bibliographies; and Richards on the taxonomy of bryophytes gives an excellent account of a field to which most angiosperm taxonomists are complete strangers. Stace on breeding systems and their taxonomic implications also covers a wide field, but with a more individual approach; he ends with a justified *cri de coeur* for a less Procrustean system of infraspecific categories than that laid down by the International Code, but the genius who can produce a system which is at once flexible, unambiguous and reasonably simple has not yet been found.

Somewhat more specialised, but still in the nature of reviews and thus of value to students whose interests lie in the fields concerned, are the essays by

Hawkesworth, who introduces the reader to the peculiar and complex problems posed by the taxonomy of lichens and their fungal constituents; Parker on taxonomic problems in crop plants; and Hawkes on the related theme of conservation of genetic diversity, especially in plants of economic interest.

Cook on the *Hippuris* syndrome (the frequency in aquatic plants of very diverse families of a vegetative structure superficially similar to that of *Hippuris*) belongs rather to the realms of morphogenesis and evolution than taxonomy, but it should generate some constructive head-scratching of benefit even to the elementary student.

Yeo attempts to explain why *Euphrasia*, in spite of a normal breeding system, presents taxonomic problems as intractable as those of many apomictic or autogamous genera. To the reviewer his effort must be classed

as a gallant failure, but the essay is essential reading for anybody working on semiparasitic Scrophulariaceae. The remaining essays (Walters and Richardson on different aspects of endemism, Sneath and Chater on a rather esoteric analysis of dichotomous keys, and Heywood on past and future Flora-writing) are also of interest mainly to the research-worker or teacher.

Almost without exception the essays have a lucid and readable quality which sets them apart from the contents of most biological journals. The book should be dipped into by all honours students of botany. Those whose interests lie mainly in fields close to taxonomy should read most of it carefully and chase up some of the clues given in the excellent bibliographies.

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## Pollen analysis illustrated

*An Illustrated Guide to Pollen Analysis*. By P. D. Moore and J. A. Webb. Pp. 133. (Hodder and Stoughton: London, 1978.) Hardback £8.50; paperback £4.95.

THE authors have produced this book, intended for undergraduates and advanced school students, as a laboratory manual. They hope that it will be used as a supplement to Pennington's *History of British Vegetation*. The book is a guide to pollen-bearing Quaternary deposits, the collection and treatment of samples, pollen morphology, the identification of pollen, the practice of pollen counting and interpretation of results.

Chapter 5 (Pollen and Spore Key with Glossary) will, I am sure, be much used by pollen analysts whether beginners (from school to postgraduate) or established workers. The authors rightly stress more than once the need for a reference collection to corroborate identification made from the key and illustrations. In its liberal supply of plates, including stereoscans, of pollen grains and spores the chapter contrasts strongly and favourably with Faegri and Iversen's famous textbook (*Textbook of Pollen Analysis*) in which the keys are discouraging in their lack of

illustration. The beautifully illustrated, two volume *An Introduction to a Scandinavian Pollen Flora* by Erdtman *et al.* is not easy to come by and is expensive, as are other pollen atlases.

The accounts of important modern developments such as absolute counting, statistical treatments, computing and zonation, are lucid and level-headed, with the right balance of the need for greater objectivity and credit for the many successes of the more traditional methods.

The plates and figures are well executed and appropriate but a reader with little archaeological knowledge could be misled, if temporarily, by Fig. 1.1 which shows the sequence of archaeological periods but gives no indication of timespans. Also I wonder what a beginner will make of the description and drawings (Fig. 3.1 (b)) of the Russian borer, redrawn inaccurately from West's *Pleistocene Geology and Biology*? He may well be puzzled. Perhaps the Mackereth corer, an important though elaborate tool in palaeolimnology, deserves a little more detailed treatment, though few readers will have the chance to use or even see one.

However, these are small points, detracting little or nothing from this valuable, readable book which will be used freely and successfully in the ways the authors intend.

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