

## BOOK REVIEWS

**Progress in Botany**, Vol. 36, edited by H. ELLENBERG, K. ESSER, H. MERXMÜLLER, E. SCHNEPF and H. ZIEGLER. Springer, Berlin, 1974. 359 pp. DM 98.

This new title for the well-known *Fortschritte der Botanik* heralds the fact that for the first time it is predominantly written in English rather than in German. This change has been introduced so that the reviews will be available to a much wider audience of plant scientists. This is welcome although, from the evidence of this volume, most of the chapters were originally written in German and the subsequent translations are far from perfect. This certainly detracts from one's appreciation of several of these review articles. No doubt the editors will gradually cope with this problem and hopefully in future issues the articles written by German speaking scientists will be rendered into colloquial English. The publishers too must bear some responsibility for the imperfections in the translation.

Now that this review series is available to the English-speaking world, it will clearly have to compete with U.K. and American publications such as the *Annual Reviews* series and *Advances in Botanical Science*. What does *Fortschritte* offer that is not available elsewhere? I suppose its chief

merit is its comprehensiveness, since it attempts to cover all aspects of botany. It is in fact divided into five subject areas: morphology, physiology, genetics, taxonomy and geobotany. Phytochemistry, if it is included, comes under physiology and is represented in Vol. 36 by a single article on flavonoid biosynthesis and regulation by H. R. Schütte. Other reviews of phytochemical interest are those on growth regulators by K. Dörffling, organic acid metabolism by M. Kluge, inorganic nitrogen metabolism by E. Kessler, and photosynthesis: carbon metabolism by E. Latzko and G. J. Kelly.

Although most topics are not covered annually but every 2 or 3 years, my impression is that most authors have felt obliged to mention as many references as possible so that the resulting reviews tend to be compendiums of the current literature rather than critical summaries of active research areas.

However, in spite of the above shortcomings, these reviews will serve the plant scientist who is hard pressed to keep up with the primary literature with some useful keys to recent discoveries in many areas of botany and one hopes that this volume will be available in all botanical libraries.

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**Pollen: Biology Biochemistry Management**. By R. G. STANLEY and H. F. LINSKENS. Springer, Berlin, 1974. ix + 307 pp., 67 figures and 66 tables. \$24.40.

This book is a review for research workers written by two distinguished botanists, one a forester the other a geneticist, who have used pollen as a starting point for their investigations. It is not a textbook for undergraduates, as its treatment of the

vast range of subjects covered in the short space of 300 pages is too superficial. It is very much a skimming of the cream from over 1400 references cited in the bibliography. As specifically stated by the authors, this is not just another account of pollen morphology but an attempt to present in a concise form other aspects of the pollen story. It begins with an introduction of 33 pages, headed Biology in which the rôle in pollen of male gametophyte growth, the development of

the pollen grain wall and wind dispersal, are considered and discussed. There is a useful figure to illustrate and correlate the varied terminology used for exine structure in the literature. A statement, in this part of the book, to the effect that the sacchi (as in *Pinus*) are there to reduce the free fall velocity of these wind dispersed gymnosperm pollens, surprised me. This was further compounded when I discovered there were no references to J. Doyle's work on pollinating mechanisms in conifers in the literature cited.

The next part of this work, 66 pages, is on Management. This covers a number of interesting topics; e.g. pollen collection for seed production, together with its uses in pure science and medicine. The section on pollen storage should be of interest to plant breeders in general. The long term storage of some pollen is recorded, but the development of pollen banks for grain and cereal crops is not yet possible due to some inherent factors within these plants. I personally enjoyed

Chapter 7 which is mostly devoted to pollen and bees. Half of this work, some 8 chapters is devoted to Biochemistry and it is this aspect of the pollen story, pollen as a substrate for biochemical studies, the authors are hoping to emphasize. Separate chapters cover general chemistry, carbohydrates, lipids, proteins and amino acids, nucleic acids, pigments, enzymes and growth regulators. Next to proteins, there is a chapter on antigens in relation to human allergies and hay fever.

This book is clearly written and holds together better than any comparable edited symposium volume, but it suffers in that no two people can hope to cover in depth all the topics encompassed. To me at least the authors have achieved their aim in drawing my attention to the many different aspects of the pollen story.

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*Phytochemistry*, 1975, Vol. 14, p. 2536. Pergamon Press. Printed in England.

## ADDENDUM

R. Davies, W. McLaird and R. L. M. Synge (1975) *Phytochemistry* **14**, 1591–1596.

The Supplementary Publication No. is 90016.