

**Progress in Botany, Volume 42:** edited by H. ELLENBERG, K. ESSER, K. KUBITZKI, E. SCHNEPP and H. ZEIGLER. Springer, Berlin, 1980. 418 pp. DM 129.

Botanical research inexorably marches on year by year and some indication of recent progress in morphology, physiology, genetics, taxonomy and geobotany is captured in these pages in some 27 essays by 32 contributors. A valuable and outstanding article by O. Kandler and K. H. Schleifer discusses recent developments in bacterial classification, a topic not previously covered in this series. The use of chemical characters derived from lipid, protein and sugar analyses is outlined and it is interesting to see one of the first applications of nucleotide sequencing—in this case of ribosomal 16S RNA—to procaryote phylogeny described here. Biochemical characters are also referred to in subsequent chapters on the taxonomy of the other major lower plant groups. Unfortunately for U.K. and U.S. readers, the chapters on lichens and ferns are in German rather than in English.

Another section of the book which will be of special

interest to phytochemists is that devoted to physiology. It includes a brief review by H. R. Schütte of indole alkaloid biosynthesis and a useful account of plant glycoproteins, of great research interest at the present time, by G. Franz and D. Haass. E. Latzko and G. J. Kelly provide a penetrating survey of recent developments in photosynthetic carbon metabolism; this is one of the best written and well thought out reviews in the volume. Other topics discussed under physiology are the growth hormones ethylene and abscisic acid (K. Dorffling), developmental physiology (G. Fellenberg) and plant movements (W. Haupt). The genetics section also has much of biochemical interest, and covers inter-alia replication, recombinant DNA research, insertion mutagenesis and extrachromosomal inheritance.

This volume, like its predecessors, is a most useful compilation of recent botanical literature and it should be available in all well stocked plant science libraries.

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