MÜLLER, H. J. (ed.): BESTIMMUNG WIRBELLOSER TIERE IM GELÄNDE. — VEB Gustav Fischer Verlag, Jena 1985. 280 pp. DM 20.—.

This manual attempts at a modern conception of the nowadays widely used popular picture keys. Dr. H. J. Müller and his eight collaborators have succeeded in compiling dichotomously arranged keys comprising 147 graphic plates. These permit to determine 1609 Central European terrestrial and fresh-water faunal species of 1057 genera and additional 488 species not specified more closely. In its extent the publication prominently surpasses all similar works that have appeared in Europe in recent years.

A high expert knowledge of the authors is reflected in the appropriate selection of conspicuous distinguishing features, which are recognizable right in the field by naked eye or using a common magnifying glass. In some cases it would, of course, be possible to propose another arrangement of the keys, but the choice of possibilities naturally depends on the conception of the authors.

The graphic representation of plates is exquisite and unusually unified, considering the profuse variety of sizes, shapes and structural diversities presented by simple and life-like drawings. The authors note that the keys were for several years checked up in practical instruction in zoology at the Jena university and the manual clearly demonstrates what benefit it brought. The book will be of primary importance to students and teachers, but its conception and elaboration will make it useful to all those interested in nature as a guide-book at excursions.

R. ROZKOŠNÝ (*Brno*)

MENHENETT, R., JACKSON, M. B. (ed.): GROWTH REGULATORS IN HORTICULTURE, Monograph 13. — British Plant Growth Regulator Group, Bristol 1985. XIV + 140 pp. £ 6.00.

This volume contains the Proceedings of a conference organised by the BPGRG and the Horticultural Education Association at the University of Reading in April 1985. The optimistic views expressed some ten years ago on the potential use of PGR in agriculture were not substantiated by the results. The rate of PGR production did not increase compared to that of pesticides, as was expected. A realistic evaluation of the present state of PGR utilization is needed and the Proceedings make a considerable contribution to this.

Although cereals and especially wheat remain by far the major target for PGR, it is horticulture with its wide range of species and cultivation practices, that best demonstrates the pitfalls and prospects for growth regulators.

The reader will certainly appreciate the complexity of approach as numerous subjects are dealt with, starting with the outline of PGR'S mode of action (Bruinsema), followed by the strategy of PGR research and development, which is treated by Lever, and the use of PGR within the main groups of horticultural crops considered: in vegetables (Thomas), ornamentals (Menhennett), and fruit trees (Luckswill, Quinlan, Goldwin and Knee). In addition, special contributions are devoted to auxin effects in rooting of stem cuttings, (Howard and Harrison-Murray), to *in vitro* micropropagation of trees, (Jones), and to amenity horticulture (Taylor, Waterhouse and Bauer).

The greatest part of information, which is gathered from world-wide recommendations, is devoted to the use of PGR in fruit crops. The authors have succeeded in explaining why this is so, in terms of the physiological and genetic peculiarities of trees, and they also quote new cultivation techniques. The reader's attention is also rightly drawn to a new field of PGR use — that of amenity horticulture, with its increasingly important role in urban life, together with the apparently insoluble problem of shortage of Labour. A somewhat simplistic view is expressed with regard to the theoretical aspects of the action of PGR'S. The reader should be aware that most practical applications of PGR'S are still based on empirical approaches. Neither the notion of phytohormones' binding sites nor the results on hormonal action at the level of genome expression can, at the moment, provide explanation for the complex growth and developmental processes we are dealing with in horticulture.

This latest issue of the well known series of monographs shares with the preceding ones the unique quality of supplying first-hand objective information on a pressing topic in agriculture.

J. KREKULE (*Praha*)

PALADE, G. E., ALBERTS, B. M., SPUDICH, J. A., (ed.): ANNUAL REVIEW OF CELL BIOLOGY, — Annual Reviews Inc., Palo Alto 1985. 580 pp. US $ 27.00 (U.S.A.), 30.00 (elsewhere).

During the last two decades the application of modern techniques of molecular biology, genetics, biochemistry and cytology has opened an exciting area of modern cell biology. Various topics of cell biology were included in the Annual Reviews of Biochemistry, Genetics, Physiology, Plant Physiology and Biophysics and Bioengineering. The need to cover the merging fields of molecular and cellular biology led to the decision to publish a separate Annual Review of Cell Biology. The series will provide state-of-the-art coverage of the many aspects of current research in cell biology and related branches. Volume one covers the following topics: receptor-mediated endocytosis, intermediated filaments, molecular biology of fibronectin, embryonic cell migration, protein localization in yeast, microtubule organizing centres, *Caulobacter* cell differentiation, brush border cytoskeleton, cell surface polarity, chromosome segregation in mitosis and meiosis, acetylcholine receptor, nonmuscle actin-binding proteins, protein traffic in eukaryotic cells, unravelling Golgi traffic, biogenesis of peroxisomes and membrane skeleton. Articles are well written and illustrated and include extensive bibliographies. The Annual Review of Cell Biology will be appreciated by scientists interested in the basic aspects of cell biology and related topics and who seek background information. As Annual Reviews Inc. is a nonprofit Scientific Publisher, the price of this book is low compared to other scientific publications.

KATEŘINA PÁNKOVÁ (*Praha*)

HOFFMANN, W., MUDRA, A., PLARRE, W. (ed.): LEHRBUCH DER ZÜCHTUNG LANDWIRTSCHAFTLICHER KULTURPFLANZEN. BAND 2: Spezieller Teil. — Paul Parey, Berlin — Hamburg 1985. 434 S. DM 118.—.

Das Buch entstand als durchgreifende Neubearbeitung des gleichnamigen Lehrbuches aus dem Jahre 1971, das bald vergriffen war. Der Text wurde überarbeitet und auf den aktuellen Wissensstand gebracht. Einleitend werden die Getreide abgehandelt (Weizen, Gerste, Hafer, Triticale, Reis, Hirse, Roggen, Mais). Weitere spezielle Kapitel befassen sich mit Körnerleguminosen, Knollen-und Wurzelarten, Öl-und Faserpflanzen, Futter-, Rasen und Gründüngungspflanzen. Den Abschluss bilden Sonderkulturen (Hopfen). Neu aufgenommen sind Kapitel über Soja, Hirse, Ackerbohnen, Triticale, Erbsen, Saflor, Mohn, Rasengräser, usw. Zur Charakterisierung der einzelnen Kulturpflanzen dienen folgende Angaben: Bedeutung, Verbreitung, Systematik, Abstammung, Cytogenetik, Fortpflanzungsbiologie, Zuchtziele und — methoden. Der Band enthält Beiträge von 19 Autoren. Ausführliche Literaturhinweise nach jedem Abschnitt ermöglichen ein tieferes Eindringen in das jeweilige Gebiet.

Übersichtlich gegliedert und mit zahlreichen Abbildungen und Tabellen, wendet sich das vorliegende Buch nicht nur als Lehrbuch an die Studenten, aber auch an die grosse Zahl der praktischen Pflanzenzüchter.

T. GICHNER (*Praha*)

CAMPBELL, A., HERSKOWITZ, A., SANDLER, L. M. (ed.): ANNUAL REVIEW OF GENETICS. VOL. 19. — Annual Reviews Inc., Palo Alto 1985. 586 pp. US $ 30.00.

Annual Reviews Inc. has been publishing high quality scientific review books for over half a century — since 1932. The individual reviews are written by known leading experts in the fields of interest. As a non-profit organization, the prices of the books are very low compared to similar ones published by other publishing houses. The 19th Volume of the "Annual Review of Genetics" is opened by an article on the history of mouse genetics written by E. S. Russell. Further reviews focus on the following topics: yeast centromeres, translational suppressors, population genetics, DNA repair, HPRT, mutations, *Drosophila* embryogenesis, mouse *t* haplotypes, steroid receptor regulated transcription, processed pseudogenes, hybrid genes, maize alcohol dehydrogenase-1-gene, chloroplast DNA organization, transcription initiation regulation in bacteria, cell cycle mutants, *in vitro* mutagenesis, insulin gene, chromatin structure and recent progress in reovirus research. The volume contains a list of chapter titles of Annual Review of Genetics, Vol. 15—19 and a list of some related articles in other Annual Reviews, 1985.

The book containing 19 reviews provides an up-to-date source of information for research workers in various fields of bacterial, plant, animal and human genetics. It is worth having the Annual Review in all biological libraries.

J. VELEMÍNSKÝ (*Praha*)