

VAN VLOTEN-DOTING, L., GROOT, G. S. P., HALL, T. C.: *MOLECULAR FORM AND FUNCTION OF THE PLANT GENOME*. Life Sciences Vol. 83. — Plenum Press, New York—London 1985. 693 pp. Hard cover US \$ 82.50.

Understanding of the molecular mechanisms that govern the expression of genetic information in plants requires a full knowledge of how the plant genome is organized and the extent to which changes in its organization affects its function. The fifty five papers contained in this book, representing the proceedings of the Advanced Course on Molecular Form and Function of the Plant Genome, Renesse, 1984, review and report on recent advances in several aspects of the function of the plant genome. The book is organized into 12 sections and covers topics such as the structure and function of plant viral genomes, plant nuclear-, chloroplast- and mitochondrial genes, further assets and limitation of new molecular biological techniques applied to plants and problems connected with nitrogen fixation and biotechnologically conferring herbicide resistance in crops. In addition, special sections focus on RNA ligation, protein accumulation and on the function of t-DNA in nature. Of special interest are 3 papers on genetic manipulation in lower [*Chlamydomonas*] and higher plants [maize, tomato].

This book presents excellent up-to-date insights into the latest techniques available in molecular biology of plants and will be indispensable to all scientists engaged in general molecular biology and genetic engineering.

T. GICHNER (*Praha*)

SLACK, A.: *KARNIVOREN. BIOLOGIE UND KULTUR DER INSEKTENFANGENDEN PFLANZEN*. — Verlag Eugen Ulmer, Stuttgart 1985. 271 pp. DM 88.00.

It is a real pleasure to look through scientific books which in addition to a legible text contain perfect photographs and which have an excellent graphic arrangement. This holds fully for the German translation of the book "Carnivorous Plants" (the original was published in 1982 by Alphabet Image Ltd. in England). The author describes in a clear and exact style about 50 species of insect catching plants. The arrangement of the text is based on the mechanism by which the plants catch insects. The traps (passive and active) and flowers are described as well as the mechanisms of insect catching and consumption. Their natural habitats as well as natural and horticultural hybrids are described. About a quarter of the monograph deals with cultivation of carnivorous plants in greenhouse and garden and with hybrid selection. Lists of recommended literature, specialized societies, journals, and retailer addresses are supplemented, as well as a good combined index of plant names and subject items.

The author of the text also provided perfect drawings of individual plant species, organs and trap mechanisms. More than one hundred of both instructive and aesthetic photographs (some of them in colour) were taken by Jane Gate.

This is a book not only for botanists of all specializations, but also for gardeners and all those whose hobby is plant growing. And also for those who love good plant photographs and beautiful books in general.

Z. ŠESTÁK (*Praha*)

GLOSSARY OF SOIL SCIENCE TERMS. — Soil Science Society of America, Madison, Wisconsin 1984. Paperback US \$ 3.00.

The Soil Science Society of America has been publishing glossaries of soil science terms since 1956. At first they appeared in the SSSA Proceedings and from 1971 as separate Glossary editions. The new terms were added as appendices, which policy has recently not been regarded as quite convenient to the reader. Therefore the Glossary 1984 being reviewed was developed so as to comprise all acceptable terms in alphabetical order. The Glossary contains some 1200 terms and four new appendices: App. I — Obsolete Terms in Soil Science, App. II — Tabular Information, App. III — Tillage Terminology Procedural Guide, and App. IV — New Designations for Soil Horizons and Layers. Tables of SI units and conversion factors are given on the back cover.

Appendix I contains 123 obsolete terms many of which are currently used in European pedology (e.g. podzol, chernozem). Regrettably, the acceptable equivalents are not presented in all cases. In App. II the U.S. soil classification system and classification scheme for phyllosilicates related to clay minerals are tabulated.

The editors notice that none of the terms in the Glossary is considered official. In publishing the Glossary they endeavoured to contribute to the unification of the soil-science language and

thus to more exact understanding of the pedological literature. Considering the rather intricate terminology in usage, such an intention is surely welcome by all soil scientists.

HELENA ZÁRUBOVÁ (*Praha*)

FROHNE, D., JENSEN, U.: SYSTEMATIK DES PFLANZENREICHS UNTER BESONDERER BERÜCKSICHTIGUNG CHEMISCHER MERKMALE UND PFLANZLICHER DROGEN, 3. Ed. G. Fischer Verlag, Stuttgart—New York 1985. 355 pp. 52 DM.

This book represents an original conception briefly reviewing the system of plant kingdom with a special respect to the classification and relationship of different plant taxa. A special accent is given to chemical characters and their utility as an additional possibility for the construction of the system, degrees of similarity and relationship between species and groups of species. Another aim of this book is to present the medicinal, spicery and other technically useful plants, as the content of different plant metabolites is in direct relation to their use for human needs. For the most important classes of the plant system, the authors always present a scheme of typical construction of the whole plant-body for making it possible to distinguish the most important characters of the whole group (usually given on the level of an order).

The 3rd edition of the book summarizes an impressive ammount of facts which can be useful to undergraduates and to anybody interested in pharmacy, botany and medicine, and affords information on the present status of the phytochemical knowledge. Nevertheless, in this book of a relatively limited extent, it was not possible to give full information on existing plethora of data: The access to more complex information is given in additional lists of original papers and mostly reviews and monographs containing data up to the year 1984.

The botanical classification used throughout the book is based on the textbook of Strasburger (32nd ed. 1983) and the nomenclature of the plants from Central Europe is based on Ehrendorfer's list from 1973; for other plants *Flora Europea* or, of course, *Index Kewensis* are decisive.

The book written in German will offer a basic access to all people interested in getting information on the present status of our knowledge of the botanical system in correlation with the practical exploitation of drugs, spices and vegetables of plant origin.

V. HEROUT (*Praha*)

HUBBARD, C. E.: GRÄSER. Beschreibung, Verbreitung, Verwendung. Zweite, überarbeitete und ergänzte Auflage. (Uni-Taschenbücher Bd. 233). — Verlag Eugen Ulmer, Stuttgart 1985. 475 S. 163 Abb. DM 29,80.

Das Buch beginnt mit einem allgemeinen einführenden Kapitel über den Aufbau der Gräser, wo die Begriffe erläutert werden, die in den nachfolgenden Bestimmungsschlüsseln der Wild- und Kulturgräser benutzt werden. Es folgt die genaue Beschreibung der einzelnen Grasarten begleitet von präzisen detaillierten Abbildungen, die aus der Hand von Joan Sampson stammen. Die ausführlichen Bestimmungsschlüssel ermöglichen die Bestimmung der Arten im blühenden und im nichtblühenden Zustand sowie anhand der Samen. Spezialschlüssel ermöglichen die Bestimmung der Subspezies von *Festuca rubra* L., die Bestimmung von Rasengräsern usw. Das Büchlein enthält weiter Aufstellungen über die Gräser und ihre Standorte, über die Verwendungsmöglichkeiten für die Gräser als Getreide, Futtergräser, Unkräuter, zur Festlegung von Sand und Schlick, als Rasengräser und Ziergräser, und eine Übersicht der Klassifikation der Gräser. Angeschlossen sind ein Literaturverzeichnis und Verzeichnisse der deutschen und botanischen Pflanzennamen.

Das Taschenbuch ist für Botaniker, Ökologen, Landwirte, Gärtner, Forstwirte und Naturliebhaber bestimmt. Es wird auch Anfängern die erfolgreiche Bestimmung und das Kennenlernen von Gräsern ermöglichen.

INGRID TICHÁ (*Praha*)

ŠESTÁK, Z., ČATSKÝ, J. (ed.): PHOTOSYNTHESIS BIBLIOGRAPHY. VOL. 10/1. 1979. References No. 36588-40373/ABA-ZWA. Vol. 10/2. Cumulative Indexes to Volumes 6–10. — Dr. W. Junk Publ. — The Hague 1982. 613 pp. Hfl. 100.00 + 100.75.

The stream of information on different scientific and technological subjects is continuously increasing. For this reason, a lot of attention must be devoted to the collection and systematic arrangement of this information, and above all to the edition of comprehensive and well arranged source-books of references. A nice example of such a source-book is the Photosynthesis Bibliography, regularly published from 1974 (for review of Vol. 9 cf. Biol. Plant. 24 : 289, 1982).

In the first part of the reviewed Volume, 10/1, published as a separate book, bibliography from the year 1979 is presented; it covers all problems of photosynthesis starting with modelling systems and photosynthesis mechanisms and ending with the production process studied by means of growth analysis. The references dealing with some problems related to photosynthesis are also included (photorespiration, photosynthate transport, structural and molecular organisation of the photosynthetic apparatus, transpiration, etc.). The references are arranged alphabetically, according to authors' names with respect to the year of publication. All entries have been allotted a number (Nos. 36588-40373) and these numbers have been used in indexes in the second part of the volume.

Key indexes for Volumes 6 to 10 of the bibliography are included in the second part, Volume 10/2. The author's index (pp. 225–398, red-orange paper), the subject index (pp. 399–560, lettuce-colour paper), and botanical index (pp. 561–613, yellow-beige paper) form the main content of this part of the Volume. These three indexes make it possible to find the needed information. The author's index contains all names of authors, co-authors and editors. The subject index was arranged according to the investigated problems which are sufficiently well differentiated and substantiated. The preparation of this index was the most complicated operation and required a high level of competency and know-how from the editors. The botanical index, in which the literature has been arranged according to the botanical classification of the subject, is also of a high value.

To conclude, this source-book of references, Photosynthesis Bibliography Vol. 10, similarly as the preceding volumes of this series, will certainly be of great use to a number of scientists interested in photosynthesis.

O. D. BYKOV (*Leningrad*)

LACK, E., LACK, H. W.: BOTANIK UND GARTENBAU IN PRACHTWERKEN. — Paul Parey, Berlin—Hamburg 1985. 129 S. DM 19,80.

Dieser wunderbar ausgestattete (Kreidepapier, 9 Farbtafeln, 44 Abbildungen) und muster-gültig zusammengestellte Katalog der Sonderausstellung „Verborgene Schätze der Gartenbau-bücherei“ auf der Bundesgartenschau Berlin, 16.–25. 8. 1985, stellt einen dauerhaften, wert-vollen Werbeträger für die Gartenbauliteratur dar. Er wurde dank des Vereins Bücherei des Deutschen Gartenbaus, der Universitätsbibliothek der Technischen Universität Berlin und des Verlags Paul Parey in Berlin in dieser Form herausgegeben.

An den Beginn des Katalogs sind zwei einführende Kapitel „Botanische Gärten und botanische Prachtwerke von den Anfängen bis 1850“, „Die Gartenbaubücherei in Berlin — Vergangenheit und Gegenwart“ gesetzt worden. Der Katalog dokumentiert weiter die ausgestellten Prachtwerke der botanischen Buchillustration und Prachtwerke der obstkundlichen Literatur, bietet eine repräsentative Auswahl von gärtnerischen Zeitschriften aus dem deutschsprachigen Raum sowie das berühmte Curtis's Botanical Magazine (nun Kew Magazine) an. In den weiteren Abschnitten des Katalogs berichten neue Bücher über alte Gärten und vermitteln einen Einblick in die fernöstlichen Traditionen Bonsai und Ikebana. Im letzten Abschnitt des Katalogs wird eine Auswahl der seit 1970 in Berlin erschienenen Publikationen vorgestellt. Ein Anhang bringt praktische Hinweise zur Nutzung der Gartenbaubücherei in Berlin.

INGRID TICHÁ (*Praha*)

LICHTENTHALER, H. K., BUSCHMANN, C.: DAS WALDSTERBEN AUS BOTANISCHER SICHT. Verlauf, Ursachen und Massnahmen. — G. Braun, Karlsruhe 1984. 88 S.

Das Waldsterben ist in den letzten Jahren zum grossen Problem Zentraleuropas geworden und die Progression des Schadenausmasses ist erschreckend. In vorliegendem Büchlein werden zuerst die äusseren Schadensmerkmale an Tannen, Fichten, Douglasien, Kiefern, Buchen, Hainbuchen, Eichen, Birken, Obstbäumen beschrieben und reichlich an Hand von Schwarz- und Buntaufnahmen dokumentiert. Zu den Schadensmerkmalen gehören vor allem ein starker Rückgang der Jahresringbreite, Ausbleiben des Längenwachstums der Haupt- und Seitensprosse („Storchennest“-Bildung), ein verfrühtes Vergilben und Abfallen der Blätter und Nadeln, Verringerung der Blatt- und Nadelgrösse, schnellerer Chlorophyllabbau, Bildung von Wasserreisern, usw. Die Bäume aus höheren Lagen sind stärker angegriffen. Die Verfasser werten weiter die Verbreitung der Waldschäden in Mitteleuropa aus und machen den Leser mit den einzelnen Luftschadstoffen (Schwefeloxide, Stickoxide und „saurer Regen“, organische Verbindungen, Halogenverbindungen, Stäube mit Schwermetallen, Aerosole, Photooxidantien), deren Entstehung, Ausbreitung und Wirkung bekannt. Die immissionsgeschädigten Bäume sind anfälliger gegen tierische Schädlinge. Des weiteren behandeln die Autoren die Beziehungen zwischen Photosynthese und Baumsterben, die Wirkung der einzelnen Schadstoffe auf die Reaktionen der Photosynthese, auf den Photosyntheseapparat (Chloroplasten) und die Spaltöffnungen, auf die Reduktion der Assimilationsfläche, auf das Wurzelwachstum, usw. Abschliessend werden die Massnahmen zur Rettung des Waldes und die sich aus dem gegenwärtigen Zustand ergebenden Konsequenzen diskutiert. Das Büchlein schliesst mit einem Literaturverzeichnis und einem Glossar der wichtigsten, im Text gebrauchten Fachbegriffe. Es ist sorgfältig auf Kreidepapier gedruckt, der Text übersichtlich zusammengestellt und reich illustriert.

Das Büchlein befasst sich mit einem sehr aktuellen Problem — den Ursachen und physiologischen und ökologischen Auswirkungen des Baumsterbens — in einer auch für den Laien verständlichen Form. Möge es also viele Leser finden und denen als Anregung zur Ergreifung von Massnahmen zur Abwendung einer der grössten ökologischen Krisen der Menschheit dienen.

INGRID TICHÁ (*Praha*)

SYMPOSIUM ANNOUNCEMENT

The 10th Long Ashton Symposium
 “HORMONE ACTION IN PLANT DEVELOPMENT — A CRITICAL APPRAISAL”
 to be held at
 The University of Bristol, England
 on 22–25 September 1986

Knowledge of the location, biosynthesis, metabolism and transport of plant hormones is being increased by the use of more sophisticated analytical procedures. But how do we incorporate this information, often at a molecular level, into theories that might explain the function of hormones in plant morphogenesis? The Symposium will examine this dilemma and consider the contributions that the experimental manipulation of development by genetic, chemical and environmental means are making to the problem. In addition to the invited presentations, posters will be especially welcome.

Further details from: The Scientific Liaison Officer, Long Ashton Research Station, University of Bristol, Long Ashton, Bristol, BS18 9AF, England.