

## BOOK REVIEWS

B. M. JOHRI & S. P. BHATHAGAR: *Loranthaceae*. Botan. Monogr. no. 8, published by: Council of Scientific and Industrial Research, New Delhi. 155 pages, 81 figures and plates. Price: Rs 32.00 (US \$ 11.00, £ 3.20).

To treat the taxonomy, morphology, anatomy, embryology, cytology, and distribution of this interesting parasitic family, augmented by some ecological and economic details, in about 130 pages of print (the remainder of the book consisting of compiled appendages, the bibliography, and the index), is quite an achievement, but it also means that some aspects are, if not completely omitted, of necessity only summarily dealt with.

The chapters dealing with the “embryology” and cytology (covering about 40 pages) are as well written as may be expected from specialists of the Delhi school of embryology and anatomy, and the relevant literature is adequately reported. However, some chapters which are not mere compilations (as are, *e.g.*, the chapters on distribution, hosts, and control measures) give the reviewer the feeling that the authors do not have such a thorough grasp of the subjects as would be desirable for a book of this scope. This is evident from the treatment of such items as the classification (*e.g.*, many irrelevancies being mentioned), the nature of the haustorium, and points of floral ecology (the interesting seed dispersal by birds is not discussed at all). On p. 1 we read in the Introduction that “*pollination is invariably brought about by birds*”, but on p. 87 pollination by various types of insects is inconsistently reported. On the same page (87) some old papers by BLAKELY (1922–1925) are mentioned in connection with the possible incidence of frequent selfing in spite of the frequently observed ornithophily (because, according to B., much more cases of hybridisation between species might be expected than are actually found). This idea is quite outdated since niche specialisation is now known to be so commonly instrumental in maintaining ecological barriers between species.

In spite of this criticism the reviewer finds so many interesting and good points in this booklet that it will prove to be very handy for easy reference owing to the considerable (though not always sufficiently critical) compilation of data. The quality of the paper and printing is satisfactory except for a considerable number of the reproduced photographs, so that the price of this hard-bound booklet may be called reasonable.

A. D. J. MEEUSE

P. GREGUSS: *Xylotomy of the living Conifers*. Budapest: Akademiai Kiadó 1972. 172 pp., 145 figs, 808 microphotographs on 165 plates.

This book is a supplement to the author's “Identification of living Gymnosperms on the basis of xylotomy” (1955).

After a short introduction an outline of the xylotomy of the major groups of the gymnosperms is given in a general part, together with 10 plates. The cycads are dealt with on a generic level in the first division of the special part of the book, with 10 double plates with very fine photographs. In the following division 145 species of conifers are described minutely, each description accompanied by a (double or multiple) figure and a plate. Together they give in a very accurate manner extensive information about the species concerned. As most of the species described here are rare and very little accessible, this constitutes a considerable expansion of our knowledge of the xylotomy of living conifers.

An improvement compared with the above-mentioned “Identification” is the addition of some data about source and size of the samples investigated, which makes the results of measurement much more reliable. The handy size (17 by 34.5 cm) is another improvement, which

has been achieved without any damage to the outstanding quality of the illustrations. Also the reproduction of the photographs is of a better quality.

This book, which should be purchased by every student accustomed to the use of the "Identification" should particularly be used by anyone who is not, as it gives detailed information about materials that had so far hardly been studied.

J. VAN DER BURGH

H. WALTER: *Allgemeine Geobotanik*. Uni-Taschenbücher 284. Eugen Ulmer. Stuttgart 1973. 256 pp. DM 17,80.

In derselben Reihe, worin schon eher "Vegetationszonen und Klima" (H. Walter) und neuerdings "Ökologische Pflanzensoziologie" (O. Wilmanns) erschienen sind, verfügen wir nun mit dieser Einführung in die floristische, historische, zöologische und ökologische Geobotanik über eine Zusammenfassung des Lehrstoffs der betreffenden Teile der "Einführung in die Phytologie", nämlich T. I ("Standortslehre" von Walter), T. II ("Arealkunde" von Walter und Straka) und T. IV ("Aufgaben und Methoden der Vegetationskunde" von Ellenberg). Die Andeutung "Zusammenfassung" wird übrigens dem Charakter und Inhalt des Taschenbuchs nicht gerecht. Erstens werden manche Teile (besonders die Vegetationskunde) äusserst kurz, andere ausführlicher oder anders behandelt als man daraufhin erwarten würde. Besonders muss aber hervorgehoben werden, dass der Text, trotzdem er auf kleinstem Raum eine ungeheure Menge Wissenswertigkeiten enthält, sich sehr gut lesen lässt und fast überall auf äusserst klare Weise oft ziemlich komplizierte Zusammenhänge behandelt. Obwohl es sich um ein kleines Lehrbuch für Anfänger handelt – für Hochschulkurse sollte es nicht ohne zusätzlichen Lese- und Übungsstoff verwendet werden – lohnt es sich auch für den Fachmann, es durchzunehmen, wobei er sich gewiss nicht langweilen wird. In dieser Hinsicht kann wohl von einem kleinen Meisterwerk gesprochen werden.

Wenn ein so vielseitiger Stoff von einem einzelnen Autor behandelt wird, kann es nicht schwer fallen, Kritik auszuüben. Bevor einige Punkte in dieser Hinsicht genannt werden, soll aber bemerkt sein, dass das Buch gerade dort, wo es sich wehrt gegen die pflanzensoziologischen Gepflogenheiten, besonders willkommen ist. Obwohl die wenigen Seiten (136–145), die der floristischen Zusammensetzung der mittel-europäischen Pflanzengesellschaften gewidmet sind, wohl den schwächsten Teil des Buches darstellen (u.A. durch Fehler oder unerklärte Abweichungen in der Nomenklatur der Pflanzen und ihrer Gesellschaften), können im Allgemeinen die von Walter vertretenen Meinungen als durchaus gesund und heilsam begrüsst werden. Dies betrifft nicht nur die vom Autor wohlbekannten physiologischen Betrachtungsweisen, sondern auch z.B. seine Stellungnahme hinsichtlich einer weltweiten Vegetationsgliederung "von oben herab" (S. 116) und die Betrachtungen über zonale Vegetation und Klimaxbegriff (S. 126).

Verbesserungsbedürftig wäre der Text besonders an den folgenden Stellen.

S. 20: Das Vorkommen derselben Art in verschiedenen Meereshöhen, abhängig von Breitengrad, ist kein gutes Beispiel von "Biotopwechsel", da hierbei ja von einer relativen Verschiebung von Klima- und Bodencharakter gar keine Rede zu sein braucht.

S. 28: Zum Begriff "Goelement", also einer Gruppierung der Sippen in Arealtypen, gehört nicht eine rein geographische Karte wie Abb. 19, worin Europa in eine Anzahl von einander ausschliessenden Gebieten aufgeteilt wird. Auch die Bindung der Goelemente an Vegetationsformationen (S. 29–39) führt leicht zu irreführenden Gedankenassoziationen. Bei den Gebirgszonen (S. 39–41, 144–145) wäre der Name "subalpin" durch "oreal" zu ersetzen, und statt dessen zu verwenden an Stelle der "untersten alpinen" Stufe.

S. 63: Dass in der postglazialen Vegetationsgeschichte die Wanderungsgeschwindigkeit der Arten von geringer Bedeutung sei, steht im Widerspruch mit dem geringen Umfang von Reliktarealen (z.B. die natürlichen Vorkommen von *Aesculus hippocastanum*, *Castanea sativa*, *Juglans regia*), welcher doch wohl durch Verbreitungsschwierigkeiten erklärt werden muss, und mit dem Unterschied zwischen Waldgeschichte in einem begrenzten Gebiet und der Lage

der heutigen Waldgürtel in Europa.

S. 79: Bei der Geschichte des Waldbaues wäre für das 19.–20. Jahrh. noch die Einführung der aussereuropäischen Arten (Douglasie, Japanlärche usw.) als wichtige Periode hinzuzufügen. Umgekehrt wurde unter "Adventivpflanzen" (S. 84, 86) die Gruppe der europäischen Weidenpflanzen (*Lolium perenne*, *Trifolium repens* usw.), welche an geeigneten Stellen überall in den beiden gemässigten Zonen die weniger produktiven oder resistenten einheimischen Gesellschaften ersetzen, nicht erwähnt.

S. 86–87: Dieser Naturschutzparagraph ist einseitig konzentriert auf die seltenen Arten und viel zu kurz um in die darin angedeuteten Probleme auch nur einen ersten Einblick zu vermitteln. Man könnte daraus den Eindruck bekommen, dass es sich beim Naturschutz nur um gewisse Reliktarten handeln würde.

S. 203–210: Die Behandlung der chemische Faktoren erscheint als zu kurz. Weshalb wird nur CO<sub>2</sub>-Kreislauf als solcher behandelt? Die Bedeutung von P, K und Mg wird nicht einmal erwähnt, und über Aufnahme von Ionen aus der Bodenlösung und Düngung wird nichts gesagt. Solche Weglassungen beeinträchtigen die Brauchbarkeit des Buches für landwirtschaftliche Studenten.

An mehreren Stellen (z.B. S. 94, 238) vermisst man ein Eingehen auf die Begriffe "Ökosystem" und "Landschaft", welches recht gut in die allgemeine Betrachtungsweise gepasst hätte.

Das Buch ist reichlich illustriert (135 Abb., 22 Tab.), sauber ausgeführt und nur was die Pflanzen- und Gesellschaftsnamen betrifft nicht ganz frei von Druckfehlern. Für ein Taschenbuch von diesem Umfang, ohne Kunstdrucktafeln, und durch Zusammenarbeit von 16 Verlagen gewiss in grosser Auflage erscheinend, hätte man auf einen etwas niedrigeren Preis hoffen dürfen.

Zusammenfassend: eine Bereicherung der Literatur, besonders für den Unterricht, die eine sehr weite Verbreitung und Übersetzung in mehrere Sprachen verdient!

H. DOING

W. HEYDECKER (ed): *Seed ecology*. Proceedings of the 19th Easter School in Agricultural Science, University of Nottingham 1972. Butterworths London 1973; 578 pp, £ 11,-.

This book contains the papers read during the Easter School on Seed Ecology.

In his introduction the editor mentions that originally the intention had been to limit the subject to "Crop Seed Ecology", but a more general theme was chosen, because the problems of germination occur in a far wider range.

After each paper the main points of discussion are presented.

Appendix I contains a panel discussion on pre-sowing treatments. In Appendix II there is a brief record of a number of exhibits on recent work, to be seen during the school course; a number of references has been given for closer information. In Appendix II the editor describes or defines a number of terms which frequently cause confusion, such as dormancy, germination, and time lapse to germination.

A list of addresses of all the participants and an excellent index complete the book.

An objection is that most of the 27 papers are largely concerned with seed physiology seen through the eyes of physiologists (11) and biochemists (4) from an agricultural or horticultural point of view. A few more ecological contributions would have made this book somewhat more balanced.

The combination of agricultural research and ecology may lead to interesting points of discussion. This is shown, for instance, by a contribution in which it is stated that so many factors determine the germination characteristic that ecotypical differences between seed populations should not be assumed before experimental conformation.

In agricultural research a high germination percentage and uniformity of germination are much emphasized. It is inspiring to place this in an ecological context and to observe that under natural conditions, with less interference by man, completely different and sometimes

contrasting characters of the seed are important, as, for instance, seed polymorphism causing discontinuous germination. Out of this trend of thought the editor has written a contribution in which he emphasizes the importance of changes in temperature and soil water content, often overlooked in ecological studies inspired by agricultural research. Unfortunately little attention has been paid to the ecological importance of the rate of germination and a description of it. A special paragraph about this subject would have constituted an interesting supplement.

Despite these flaws, the versatile approach and the many references make this book a very good introduction into the literature published in the field of germination and its ecological aspects.

The typographically fine lay-out and a number of unnecessary illustrations are probably responsible for the high price of this important book.

M. J. OOMES

MARY M. KIDD: *Wild Flowers of the Cape Peninsula*. 2nd ed. (1973), Oxford University Press (Cape Town, London, etc.); 94 coloured plates; the relevant explanatory text without page numbers; indices to common and to scientific names. Price £ 4.60.

This booklet is in fact a re-issue of the original edition of 1950 which has only nomenclaturally been revised. The question arises whether the new edition fulfills a need, particularly in view of similar iconographic publications on South African plants. In the opinion of the reviewer, any publication which may increase the interest in the singular and abundant flora of the Cape region (and, let us hope, in its conservation) is to be welcomed.

The "coverage" (between 600 and 700 species are figured) is fair, but some characteristic taxa (such as *Restionaceae*) are not represented. In the new edition a different arrangement of plates and text has been adopted: all plates, in their original sequence (see below), form the first part of the book, and the text follows, whereas in the first edition each plate was printed opposite the corresponding legend. This change was apparently made for typographical reasons, but the comparison of a plate with the explanatory text part is not so convenient as in the first edition.

Apart from this different arrangement and the more modern nomenclature (for which the staff of the Bolus Herbarium in Cape Town is responsible) the two editions are very similar. Unfortunately the text of the new edition contains several misprints in the scientific names (which mistakes are not duplicated in the index which seems to be faultless). The quality of reproduction of the plates almost exactly matches that of the original edition; undoubtedly the same material and the same printing process were used. The artistic quality of the plates is fair, but not of the same high standard of some other recent books on South African plants, and the reproduction of the colours, more particularly of some shades of crimson, orange, and brown is not always quite satisfactory.

It is incomprehensible why the legend of Plate 1 is headed: "Mountains and Mountain Slopes", when about half the species occur (also) on flats, along streambanks, in *vleis*, etc. Some other headings are not always appropriate either, and why are other legends without one?

The arrangement of the species according to their flowering time, in a monthly sequence of plates from January to December, has its advantages and disadvantages, but may assist the (uninitiated) user in finding the name of a plant more readily. As a guide and introduction to the beautiful and varied plant world of the Cape the booklet can certainly be recommended.

The purchase price of the original (1950) edition was £ 3.3.-(63/), and that of the revised one is £ 4.60, which means that the new edition is comparatively cheap. The price could most probably be kept fairly low because the issue of the new edition was made possible by the financial support of the Cape Tercentenary Foundation.

A. D. J. MEEUSE