

with the collaboration of Dr. A. Cronquist. The treatment, though modified for some groups in the light of studies subsequent to the parent work, remains essentially the same, and the Englerian arrangement of the Angiosperm families is retained.

The present volume invites comparison with the most recent edition of *Gray's Manual of Botany* (Fernald, 1950), which covers almost the same geographical area. In general, Gleason and Cronquist take a slightly broader view of species, are less concerned with infraspecific taxa, and make a somewhat different choice of adventives. In *Labiatae*, for example, the authors fully treat ten fewer species (125) than Fernald, setting broader limits on species like *Mentha aquatica*, *Nepeta cataria*, and *Satureia glabella*. To the genera they have in common (37), Gleason and Cronquist add *Ocimum basilicum*, *Phlomis tuberosa*, and *Sideritis romana*, while Fernald includes *Hyptis mutabilis* and upholds *Micheliella* (for *Collinsonia verticillata*). The newer work lacks the text-illustrations, etymology and italicized essential characters of the *Manual of Botany*, but is tidier and clearer in layout.

A brief comparison of the new volume and the recent second edition of the *Flora of the British Isles* (Clapham, Tutin and Warburg, 1962) also seems relevant. Although the American volume covers six or seven times as large an area with two or three times as many species, in less detail and more compactly, both are models of concise layout and clear presentation for a serious field manual and in physical size they are very similar. The *subspecies*, so consistently used by one (Clapham, Tutin and Warburg), is, however, conspicuously absent from the other, where *varietas* is the only infraspecific category admitted. It is a sad reflexion on plant taxonomy and nomenclature that the same variant may be treated as a *subspecies* or as a *varietas* (often with a different epithet) without any disagreement as to its actual taxonomic value and limits, according to whether one subscribes to a predominantly European or predominantly American school of thought concerning the definition of the major infraspecific categories.

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Rice Genetics and Cytogenetics

Proceedings of the Symposium, Los Banos, Philippines, February 1963. Pp. xv+274. (Amsterdam, London and New York: Elsevier Publishing Company, 1964.) 80s.

WITH the co-operation of the Government of the Philippines, the Ford and Rockefeller Foundations jointly founded the International Rice Research Institute at Los Banos. The book reviewed here is the record of the first main symposium which was sponsored by the Institute in 1963, in fact just one year after the Institute's formal dedication. Within another year this edition of the proceedings has been printed, and both the Rice Research Institute and the publishers should be congratulated on the speed and standard of the production.

The symposium was divided into seven sessions: (1) taxonomy; (2) gene symbolization and nomenclature; (3) chromosome morphology in *Oryza* species; (4) genetic and cytogenic evidence for species' relationships; (5) nature of intervarietal hybrid sterility in *Oryza sativa*; (6) inheritance studies, gene markers and linkage groups; (7) a concluding survey.

For the first time, within one cover, we have a clear and up-to-date account of the views of the main groups of research workers in these fields in Japan, Taiwan, India and the United States. One of the main hindrances to progress in the past has been the problem of communication, particularly between the Indian and American groups on one hand and the Japanese on the other. This book emphasizes the practical value of overcoming this difficulty by bringing together workers in the same fields, for although different views have by no means been completely reconciled, important advances were made in resolving problems of taxonomic and genetic nomenclature.

In fact sufficient progress was made for the symposium to adopt a standard classification and nomenclature of the genus *Oryza* and also a standard system of symbols for its genomes. This standardization and clarification will undoubtedly facilitate the integration of future research.

But the symposium also served to emphasize differences of opinion, for example, as to the type of breeding barriers which operate, particularly between varieties of *indica* and *japonica* races of *O. sativa*. We still do not know whether the barriers are genic as the evidence of Oka and others would suggest, or are due to cryptic structural hybridity as Henderson suggests. Furthermore, it is evident that we do not know how much reliance to place on some of the major lines of evidence which are used in the arguments, such as pachytene analysis. Again, there is still some divergence of opinion as to whether the two cultivated species of rice, *O. sativa* and *O. glaberrima*, have the same genome or not. There are different views, also, as to some aspects of the taxonomy of rice but, now that more reliance is being placed on an experimental approach in this area of research, it seems likely that a greater convergence of opinion will be reached in the not too distant future.

This book is essential to anyone interested in the taxonomy, genetics, cytogenetics and breeding of rice.

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Ore Deposits

By Prof. C. F. Park, jun., and Prof. R. A. MacDiarmid. (A Series of Books in Geology.) Pp. x+475. (San Francisco and London: W. H. Freeman and Co., 1964.) 70s.

THE latest addition to the Freeman series of geology books deals with the occurrence and nature of ore deposits and contains special emphasis on the reasons for the formation and localization of economic deposits. It is pleasing to be able unreservedly to recommend *Ore Deposits* as a suitable text for students of economic geology.

The book rightly emphasizes the observed field relationships without endeavouring to be a compendium of information about the principal mining districts in the world. Brief, clear presentations of the widely differing theories concerning the origin, migration, deposition and nature of ore-bearing fluids or gases are fairly, yet firmly, given and the reader is left with no illusions about the present manifold uncertainties concerning ore genesis. Nevertheless, when the evidence plainly favours one interpretation the authors do not hesitate to point this out. An overall impression is conveyed that the authors are free from prejudice and that multiple hypotheses are essential to explain all the occurrences even in each single type of ore deposit.

Following a modification of Lindgren's classification the various categories of ore deposits are described and illustrated with a few well-chosen examples of each type. Not only are geological maps, sections and figures provided but also the origin of each deposit is carefully examined and the references at the end of each chapter are divided into those directly cited in the text and those dealing with a few other appropriate mining areas not dealt with. These latter references will be invaluable for students wishing to make detailed studies of some of the most important areas of each class of mineralization. The scope of the book is cosmopolitan and, although both authors are American, examples from the United States are given no more than their proper prominence.

I found the excessive use of hyphens to interpolate a comment annoying; the use of commas would have been better. The book is nevertheless well written, aptly and generously illustrated and, with its integration of description and genesis, holds the interest of the reader. It will be widely welcomed as a first-class text-book on the subject, and for its quality and size is most reasonably priced.

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