

XII. REVIEWS
(continued from p. 1590)

Arnold, H.L.: Poisonous plants of Hawaii. 71 pp., 24 illustr. cloth. Sh. 23/6, DM 11.99.

This book contains more than 90 varieties of plants growing in Hawaii which in 1931 were deemed toxic in some way. Many of these are injurious only to animals, like the leaves of the haole koa; or are harmful only to those very susceptible individuals, like the milk from the plumeria; or are nearly negligible, like the avocado or alligator pear, whose pit is only very slightly if all toxic to rodents and probably not to other mammals.

Backer, C.A. & R.C. Bakhuizen van den Brink Jr: Flora of Java. vol. 3, 13 Nov. 1968. Large 8°. viii + 761 pp., clothbound. J.B. Wolters' Uitgevers Mij. Groningen. Dfl. 90.--.

This is the conclusive volume of a very important tropical flora which is not only useful for the island of Java, but as well for tropical southeast Asia, the Pacific and tropical Australia, especially because it contains critical information and nomenclature on very numerous ubiquitous weeds and cultivated tropical plants. This volume treats all Monocotyledones, in which the large families of grasses and sedges are treated by Messrs. Monod de Froideville and Kern respectively. During the printing of the three volumes a number of papers appeared affecting the names and synonymy of Javanese plants; these together with a number of corrections and addenda are added by Dr. Bakhuizen van den Brink, occupying 18 pp. in print. All these corrections are also incorporated in the large general index which is thus indispensable for checking; it has some 14,000 entries and was compiled by Mr. D.N.F. Kiehl. In the preface I have elucidated some aspects of a general nature for example on the choice of the non-indigenous plants, desiderata for future exploration, etc.--v.St.

Burgess, P.F.: Timbers of Sabah. Forest Department, Sabah, Malaysia. 1966. xviii + 501 pp., 14 pl., indices, topogr. map of Sabah, clothbound. Sabah Forest Records no.6. Str\$ 25.--.

This work on timber qualities and uses by the former Deputy Conservator of Forests, Sabah, replaces the Timbers of North Borneo by H.G. Keith (1947). This became somewhat out of date by the rapid expansion and mechanisation of the timber industry during the last decade and by the rapid progress in timber research. Mr. D.I. Nicholson commenced a revision of Keith's work in 1960, but all copies of the revised MS were destroyed by the fire in the forest herbarium in 1961. Then Mr. Burgess was commissioned to write an entirely new book. Species are arranged by family in alphabetical order. The aim is practical and commercial, with wood-anatomical details.--v.St.

Erickson, Rica: Orchids of the West. 2nd ed. 1965. 107 pp., 32 pl. (partly coloured). Perth, W.A.

A nice and useful book which makes one familiar with the remarkable terrestrial orchid flora of Western Australia, ecological, biological (giving full attention to pollination mechanisms) and taxonomical. The most remarkable orchid of the world is found here, the subterranean *Rhizanthella gardneri* Rogers.

Hara, H. (et al., ed.): The Flora of the Eastern Himalaya. Results of the Botanical Expedition to Eastern Himalaya organized by the University of Tokyo 1960 and 1963. Tokyo. 1966. xi + 744 pp., 67 fig., 40 pl. (some coloured), map. -- University of Tokyo Press, 7-3-1, Hongo, Tokyo.

An impressive book, with excellent illustrations, a multi-sided text and first-class letterpress. It is a major contribution to Sikkim-Bhutan botany, as a result of a c. 7-months' exploration by a group of Japanese botanists (Prof. Hara, Dr. Tuyama et al.). Chapters are: Itinerary, Phytography with stress on affinity between E. Himalaya and Japanese floras (vegetation and floristic tabulation), Systematic enumeration of all plant groups (except algae), finalized by a chapter (Hara) on a taxonomic comparison between corresponding taxa of Spermatophytes in E. Himalaya and Japan and the cytogenetic records (Kurosawa).

The main body of the book is the account of collections listed which makes certainly a careful impression. This is otherwise difficult to estimate; Dr. Soepadmo remarked to me that in Fagaceae there are some lapsi (*Quercus fenestrata* and *Q. spicata* belong to *Lithocarpus*; *Q. lanceaefolia* to *Castanopsis*). Very few new species are described; here and there are new combinations. It is difficult to ascertain how many new records and novelties for the Himalaya these expeditions have yielded for the Spermatophytes; they are not summarized. The chapter by Hara is interesting by a comparison of Himalayan-Japanese plants through planting experiments and his critical notes on taxonomy and cytogenetics.--v.St.

Holttum, R.E.: A revised Flora of Malaya. II. Ferns of Malaya. 2nd ed. Government Printing Office, Singapore. 653 pp. M\$20.-

This important work, first printed in 1954, was reprinted literatim 1960. Obviously it is so popular that a second edition was welcome. It is almost literatim, but it contains an important appendix of 10 pages comprising correction of some errors in the text, a number of nomenclatural changes, supplementary information, and besides a fairly large number of additions mainly due to discovery of additional species by Mrs. Molesworth Allen. Also new insight was obtained by Dr. Holttum's studies on the Gleicheniaceae, Schizaeaceae, and

Cyatheaceae. The most important notes in the appendix refer to the genera *Ophioglossum*, *Cyclosorus*, *Polystichopsis*, and *Athyrium*. Some new combinations are made. Unfortunately the name changes and additions of the appendix are not incorporated in the index.

The preface to the new edition was dated January 1965, but the book became only available in 1968.

Icones Roxburghianae or Drawings of Indian Plants. Botanical Survey of India. fasc. 1, 1-52, pl. 1-24. 1964. Folio.

This first fascicle consists of 24 coloured plates reproduced after the originals in the Calcutta collection at Howrah. Each plate is provided with a legend from Roxburgh's *Flora Indica*, ed. Carey, 1832. The introduction is by Father Santapau. The reproduction of the coloured plates is not as good as could be desired, but they provide welcome information. In many cases the Roxburgh plate is the only testimony beside the description; the only other set of plates is at Kew. The volume is dated 1964 but we acquired it not before late 1968.

Jeffrey, C.: An introduction to plant taxonomy. London, 1968. 128 pp., 20 fig., 8 pl. J. & A. Churchill Ltd, 104 Gloucester Place, London. Sh. 24/-.

The booklet begins to state that plant taxonomy "is neither difficult nor complicated", and while reading Mr. Jeffrey's clear and simple explanations, one would almost believe it. The unassuming title conceals an originality that gives the book a value far above the elementary level for which it seems to have been intended. Many a professional botanist will realize with a smile of surprise that, for instance, we actually classify not plants, but our knowledge of the plants, that identification is not the same as naming, but deciding whether things are the same, and that (higher) taxonomic units should be circumscribed in such a way that they are both natural and convenient. There is an excellent structure given of theoretical conclusions drawn from familiar examples, illustrated by some funny sketches.

There is plenty to criticize, to be sure. On page 32, taxonomy is defined as "the organization of information about plants and the making of that information readily available to others", which is in fact, all botany. On page 55 the Gramineae "consists of about 10,000 species, each the equivalent of *Primula vulgaris*, organized into some 600 different genera, each the equivalent of *Rhododendron*", which seems a bit strange to a stranger. Two hundred families of flowering plants is an estimate one century old; at present there are about 400 family names in the Code. Moreover, artificial and natural classifications are contrasted far more elaborately

than seems necessary; nobody will think of starting an artificial classification any more. The difference between living and non-living things is not so much that the former reproduce themselves, but that they die; this only can explain the importance of the generations. The screen on page 40 seems unnecessary, nor is it to associate evolution (of which we know little) directly with taxonomic hierarchy (which is largely artificial).

The historical data given in the chapter 'Systems of classification' are not very satisfactory. If Mr. Jeffrey thinks that a period should be reckoned to last as long as its typical methods are applied, then the period of the Artificial systems did not end in 1830 but in 1900, when Prain still found it useful to arrange a survey of Bengal plants according to Linnaeus's system. In view of the opinion, which seems more natural, that a period lasts up till the moment that a new method is proposed, then it seems rather irrelevant to take 1774 (the year of Jussieu's first memoir) as the beginning of the period of natural (here called formal) systems, 1789 (the year of Jussieu's *Genera plantarum*) being much more appropriate. De Candolle has not been mentioned, after whose system Bentham & Hooker's was largely modelled, and it remains obscure in which Takhtajan's system differs so much from the former phylogenetic ones as to deserve a special heading under the word 'modern'.

I could not think of an instrument less specific to taxonomy than the electron microscope depicted on Plate 7, and would have this rather omitted in favour of a strong passage to discuss the future of taxonomy in the tropics. This would fit in well with the brief but excellent passage on p. 116-117 on Privilege and Responsibility, which concludes that a real attempt must be made to stop the increase in human numbers, if we want to maintain a balance in the environment. It would have been a good thing if something had been mentioned about the great international organizations already active in this field, and also to discuss some aspects of the organization of taxonomy as an international science, among which the International Botanical Congresses take an important place.

Thus we hope that Mr. Jeffrey, who evidently wishes to go down to the fundamentals of our science, will continue to revise his text and to add some more aspects of taxonomy after having examined them in his original and intelligent way.--M. Jacobs.

Leenhouts, P.W.: A Guide to the Practice of Herbarium Taxonomy. Regnum Vegetabile 58. 60 pp. I.A.P.T., Lange Nieuwstraat 106, Utrecht.

This booklet provides a guide for taxonomical work in all its stages and to a fairly large amount of detail. After the

introduction there are short chapters on "taxonomic work outside the large centres" and "some preliminary remarks on working for a revision". Then follow two large chapters on the "preliminary documentation" and the "taxonomic part of the work". The last chapters are devoted to the "completion of the work", the "presentation", and "references". Under the latter rather misleading term is properly understood a Census to the Main Sources of Literature. There are two appendices viz. "A list of Indexes to plant names" and a "Scheme for the description of a Dicotyledonous plant".

It is certainly a useful booklet, but it is not clear for whom it is intended. The writer says that (contracted): "the instructions it contains are primarily intended for those who must, or want to, learn the practice of herbarium taxonomy without being so fortunate as to get their training directly or indirectly from the large centres of taxonomy. But even students working there may find some part or other useful. To the trained botanist it will hardly bring anything new."

Though concise, the instructions are extremely detailed and full and will, I am afraid, appear almost as complicated for a beginner as Fosberg & Sachet's Manual for Tropical Herbaria for the isolated collector. It circumscribes the most complete way in which a systematist can work and thereby presupposes a large amount of background knowledge, a sort of concise botanical bible. I feel it is more for the initiated than for the uninitiated. Attention is e.g. given to various sorts of types, but no indication is given how to deal with taxa, old or new, of which no type can be derived from literature. On p. 22 "Administration of specimens" the writer starts with the sentence "Do not start with the administration of specimens before all types are included in the specimen index."

The author has gradually developed his own way in tackling the various stages of practical taxonomical work and the booklet has by this gained a rather personal character. This is e.g. shown by his use of the term 'local races' by which is meant the variability. By chance the groups he worked on had obviously such a structure of variability, but this can certainly not be generalized. In the terminology of flowers (p. 59) no mention is made of tepals besides calyx and corolla. It is rather curious that on p. 51 under Dates of Publication is only mentioned Stafleu's Taxonomic Literature. This is in fact largely only additional to Pritzel's Thesaurus which is, however, only mentioned as of value for older literature; most of Stafleu's titles are precisely relating to older literature. As to the Keys to the Families, the writer states that Thonner's Anleitung is superior to Hutchinson's Key. But he must have insufficient experience with the latter; they are practically of equal value. Besides, German

is a language not properly understood in all English-speaking countries, and the English translation of the first edition of Thonner (1894), which was wholly devoted to African plants, is not recommendable, and the second edition can only be purchased from odd second-hand catalogues.

By bringing together in a logical sequence all kind of administrative information useful for plant description it will certainly serve a useful purpose.--v.St.

Meijer, W.: Botanical Bulletin. Herbarium Forest Department, Sabah, East Malaysia. Nos 10-11. Aug. 1968. 241 & 115 pp. mimeographed, folio, many page-size fig., 2 explor. maps.

These two numbers are the thick final ones in the series and just prepared before Dr. Meijer left Sabah, after having stayed there for 9 years as forest-botanist, having now accepted an associate professorship in the University of Kentucky, Lexington. The Botany Bulletins served as a sort of precursor-background studies for a planned forest flora of Sabah of non-dipterocarp trees. And these two bulletins serve for this purpose. Partly based on own study but for a considerable part on critically adapted studies from others; this is in such a complicated flora of course the only way. Clearly the author did not at all like the idea of restricting his efforts to trees and a large section of the bulletins is occupied by data on plants which never reach timber size. And not seldom mere lists are given of all species of Sabah recorded, as e.g. in *Ficus*, *Kopsia*, etc., which makes the impression that a more or less complete flora was intended. It is also rather surprising that so much effort is made on discussions about relationships between families in which various standpoints of Shaw, Hutchinson, Takhtajan, etc. are given. And families have been arranged by superorders and orders. The last two tendencies were possibly induced by a desire towards education purpose. Obviously Dr. Meijer wanted to insert in these Bulletins all the material he had still available before closing this chapter of his life in the East, which through his great drive in collecting has provided Malesian botany with an astonishingly large amount of material which will prove of essential value for monographers of the woody plants of North Borneo. These conditions contribute, however, not to balanced work; on many pages one gets the impression that text is composed and printed on the spur of the moment. The numerous beautiful habit drawings by Miss Yap Pak Hau are unnumbered and strewn through the text often not correlated with it or referred to, which makes it difficult to locate them. They add of course considerably to the value of the Bulletins. A small chapter is devoted to the IBP program which is executed by some Japanese scientists and there are some casual notes on seedlings of Borneo trees with several

interesting plates. A botanically new item is a sort of preliminary treatment of the Sabah Magnoliaceae thanks to the co-operation of Mr. Dandy. The acknowledgement is singularly brief; one is struck by the fact that both the Kew and Leyden herbaria, which have so lavishly provided the author with proper and pre-identifications, and made their collections available to him, have not been mentioned at all.--v.St.

Purseglove, J.W.: Tropical Crops. 1. Dicotyledons. Longmans, Green & Co. Ltd, London. 2 vols. 1968. 719 pp., 102 fig. Sh. 50/- net each.

The need for this book was felt by the author, when appointed over thirty years ago as an agriculturist in Uganda, without library, and his senior officer 200 miles away. He treats a fair number of tropical crops extensively while at the end under Other Useful Products those of minor or more local importance are discussed. How this choice was exactly made is not always quite clear: Pimenta and Horseradish are among the first, but all Sapindaceae under the latter. The headings under the major crops vary in length, under Coffea there are many, also on propagation, planting, care, maintenance, yield, improvement, selection, trade, etc., under others there is less. The great merit of this work is a wealth of information, and obviously original botanical descriptions. In all species cultivars, pollination, ecology, origin, and distribution are given; in several cases species or cultivars are keyed out. With the help of the plates, an appendix with scientific and common names, and a full index, it must be possible to place cultivated plants. The book is cheap and excellently executed; the author is to be congratulated in assembling his wide experience and exposing this to others.--v.St.

Shetler, S.G.: The Komarov Botanical Institute. 250 years of Russian research. Smithsonian Institution Press, Washington, D.C. 20560. 240 pp., numerous photographs, 2 maps. \$ 5.95.

Little has been written in congress languages about the history of Russian botany and this account should help to fill the gap; the emphasis is on the history of taxonomy and other descriptive fields of botany. The author, who is obviously in perfect command of Russian, planned to write this work long before, but was stimulated to finish it through a visit to Leningrad in 1964. The outcome is a marvellous account, concise, balanced, easily readable and entertaining, and yet stuffed with an immense amount of obviously very accurate information. It is not shunned to give a view on inside matters of Flora policy, specific delimitation, influence of the Party, all to the good of deepening insight and interest in the fascinating history of Russian botany and bota-

nists. The botanists with whom most of us are unfortunately so little acquainted personally, are often characterized with a few words, several (too few) are represented by photographs; of course several who had leading positions in the Russian botanical works are more extensively sketched, as well as their planning and ideas. Emphatically recommended to taxonomists.--v.St.

Turner, J.S., C.N. Smithers & R.D. Hoogland: The conservation of Norfolk Island. Australian Conservation Foundation, Special Publ. 1. 41 pp., map, 12 photographs.

It is a great pleasure that safeguarding the nature of this small, but botanically important island, situated halfway between New Caledonia and New Zealand, has been brought a big step further by the publication of this beautiful booklet. It gives a history of this volcanic island, settlement, whaling, etc. and recommends that measures be taken to safeguard its fauna and flora, with practical suggestions how this should be achieved. For the botanist the plant list is important, 174 spp. given as indigenous, quite a few even endemic, compiled by Dr. Hoogland.--v.St.