

## XII. REVIEWS

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ANDREWS, S.B. 1990. **Ferns of Queensland.** (Contributions by L. Pedley). xx, 427 pp, illus. Queensland Department of Primary Industries Information Series Q 189008, Brisbane. ISBN 0-7242-3224-9. Au\$ 52.50 (incl. surface mailing).

This book has had a long and obviously difficult history. Work on it was started, according to the Foreword, in 1973, by S.B. Andrews. Publication of the manuscript was then held up for some 10 years, and the manuscript had to be updated by a second author, L. Pedley. The foreword explaining all this is dated 1988, and the title page 1990.

The bulk of the book consists of the slightly changed original manuscript, while most of the updates are collected in an appendix.

The book is aimed at naturalists as well as students and professional botanists. As might be expected, it has been difficult to combine the two spheres of interest. Technical language is said to be kept to a minimum. This has not always been successful, and the technical terms that have been used are sometimes confusing. The term 'anastomosing', for instance, is rather curiously defined in the glossary as 'sometimes forming a network' and is illustrated by a Thelypteroid anastomosing venation. However, in the general key the term is used also for the venation of the Polypodiaceae, which, in turn, is illustrated as 'reticulate venation'. Also, not many naturalists will probably be interested in the differing opinions about the correct application of the names *Goniophlebium* and *Schellolepis*, or in the elaborate discussion of two conflicting schemes of classification in the Hymenophyllaceae. To them, these discussions may give the wrong impression of what botanists see as their first priorities. I more and more tend to the view that botanists should keep such discussions to themselves, and not bother other people with them, unless it is absolutely necessary, and then in a properly apologetic tone.

On the other hand, the main keys are easy to use, with a very comfortable redundancy, many genera keying out under more than one lead. Most naturalists should be able to identify their plants without any real problems.

The account of the genera and species is very elaborate, lavishly illustrated with original illustrations. Much scattered information about the Australian fern flora is here collected, extracted, and referenced. The treatment of varieties and cultivars is somewhat unusual: a number of cultivars are listed under *Drynaria sparsisora*, as if they were proper varieties, while a number of aberrant leaf forms are listed as varieties under *Asplenium attenuatum* (p. 50–52) with the remark that 'often fronds of quite different form occur on the same plant'. Taken all together, this is a very useful book, complementing the spate of Australian fern books that have appeared in the last decades. — P. Hovenkamp.

HOLMGREN, P.K., et al. (Eds.). 1990. **Index herbariorum.** Part I: The herbaria of the world. Ed. 8. Regn. Veget. 120: x, 693 pp. IAPT, New York Botanical Garden. ISBN 0-89327-358-9. Price DM 120.00 (US\$ 70.00), institutional members first copy 50% discount, additional ones 20%, personal members 20%.

When this much-needed directory finally appeared, a sigh of appreciation must have gone through the world of taxonomic botany. It had been expected to appear by the end of 1987, and so I gave my copy away, a generosity I have much regretted since! Those few, who do not yet know this work, will appreciate its value, when they realize that this is a detailed

directory to the 7627 colleagues working in the 1769 active (870 inactive) public herbaria of the world: a phone- and address-book that no curator can do without. Because, inevitably, the contents have been computerized (and hence no doubt the delay in publication), interesting statistics can be performed. In the herbaria mentioned (up 1084 from edition 7!) 272,800,926 specimens are estimated to be deposited. 15 countries hold 75% of these, and the largest ones at present are P (8,877,300) and K (6,000,000). (Note that the abbreviations for herbaria given in modern publications are based on this Index.) Most of the material is deposited in the western world. The first non-western herbarium is the 29th on the list: PE, with 1,800,000 specimens, followed on the 33rd place by BO with 1,600,000. This shows the importance of the holdings of Bogor in a world-wide and regional context and the need to preserve its riches!

The format has been changed slightly, the most important one is that the institutes are now alphabetically arranged by country, which much facilitates the use of the book when you had forgotten in which town exactly Institute X happened to be.

Ms. and Mr. Holmgren and Ms. Barnett are to be thanked for their efforts. To keep the files updated, and yourself and your institute in the picture, make sure that you send back your questionnaires, and if you are not yet included in this Index, apply for them! —J.F. Veldkamp.

KENG, H. 1990. *The concise flora of Singapore. Gymnosperms and dicotyledons.* xxiii, 222 (116) pp, illus. Singapore University Press, Kent Ridge, Singapore 0511. ISBN 9971-69-135-3. Sing\$ 42.00, US\$ 26.00.

Singapore has at present 128 families of Gymnosperms and Dicots with 577 genera encompassing 1293 species, a nice surveyable amount for a tropical country, a little more than what we have here in the Netherlands. Except for lists by Ridley [Flora of Singapore in the J. Roy. As. Soc. Str. Br. 33 (1900) 27–196, *ibid.* 35 (1901) 84–90] worked out in his Flora, unpublished accounts made during the Japanese occupation there was Keng's series of Annotated lists (Gard. Bull. Sing. 26–39, 1973–1986), which he has now bundled in a first volume with a second on the monocots to appear in a few years time. This turned out to be mixture of an annotated list and a flora. When families have two or more genera a generic key is provided, but for the very large families, where they are especially needed, only partial ones are given, so the user ends up with a choice between names he cannot make, for if he knew the differences between them, he would not have needed the Flora in the first place. Generic diagnoses to aid him have also been omitted. Keys to species are not given at all. Short diagnoses are given for each, but they do not clearly exclude each other. I suppose *Albizia splendens* is the only species with 'pods flat, swollen at the seeds, slightly curved', but lack of fruit descriptions of the other 4 species makes me feel uncomfortable. What, anyway, are the differences between a big tree, reaching 30 m, a tree, a tall tree, and a large tree? The alphabetic arrangement of the species does not make comparison any easier. Try and name an *Eugenia*, for instance, of which there are 35 species on the island. No clear indication whether a taxon is depicted is given, nor where.

The sole remarks under some species refer to their history and commercial properties, or refer only to localities (*Dissochaeta annulata*) making identification impossible. By the way, I never made the combination *Diplectria glauca* (p. 81); as far as I know, the correct name for this is *D. divaricata* (Willd.) O. Ktze [Blumea 24 (1978) 417]. In the family key in the back, and not in the front as is usual in floras, less common and exceptional genera have been omitted. These are exactly the ones that are interesting, or cause problems. Is *Lepto-*

*nychia caudata* (Sterculiaceae) one of these? It has not been accounted for at all, although a synonym, *L. glabra*, the name used in Hooker's F.B.I., originated from Singapore. Would *Biophytum sensitivum* (Oxalidaceae), a rather common weed in S.E. Asia, not occur in Singapore? Rather surprising, if it didn't.

Keng says he has omitted specific keys because of their length and because they are available in regional literature anyway. Fair enough, but not a very satisfying excuse. He might at least have indicated where to find them. It also presupposes that you are a frequent visitor to the Singapore Herbarium to delve up the necessary references yourself, or that you are old and/or rich: old in order to have been able to obtain all the issues of various publications, or rich in order to be able to buy them now.

A flora should be something to carry around during field trips to learn the plants on the spot. Sitting down to identify a plant is a very relaxing and enjoyable pastime. Taking time to do so also gives you an introduction to the living plant and its surroundings, its growth, pollinators, fragrance, etc. Now you have to pick it and identify the wilting corpse in a dusty office where you become frustrated and grumbly because an essential part was inadvertently not brought home. Moreover, not to have to break off branches or tearing up the whole plant is a hidden aid to nature conservation. What, when you discover that this is a first record of a taxon for Singapore in this century? You can of course stick the trophy in your herbarium, attesting that it existed in your time and that you helped to keep it rare or even make it extinct.

With all the experience and erudition that Dr. Keng has, I feel disappointment at the result in what with a little more effort (and, yes, costs) would have been an exemplary local flora. I hope that I will be proven wrong and that this volume will soon be sold out, necessitating an updated edition with these omissions included. It might be a good idea to incorporate them in volume 2, now that there is still time. — J.F. Veldkamp.

KIEW, R. & M. MUID. 1991. **Beekeeping in Malaysia: pollen atlas.** vi + 186 pp, many figs. Malaysian Beekeeping Research and Development Team, Universiti Pertanian Malaysia, 43400 Serdang, Selangor, Malaysia. ISBN 967-960-023-8. Price unknown.

This book offers a wealth of information concerning 95 plant species visited by *Apis cerana indica* foraging for nectar and/or pollen in cultivated areas in Malaysia. The main purpose is to provide pollen features for identification of common nectar/pollen sources in order to improve bee plant management. To aid identification pollen of all species is represented by photomicrographs arranged according to size, shape and ornamentation of the pollen grains. The introduction includes many facts about pollen spectra, flower preference, pollination, seasonality and migratory beekeeping. A method to prepare pollen slides for a permanent reference collection is also given. Such a collection is easy to compile with the present pollen atlas, and, to my opinion, obligatory for any pollen analysis. With help of a reference slide one will find out that pollen of rambutan (*Nephelium lappaceum*) is very different from the micrograph presented in the book.

The main part of the book deals with the 95 bee plant species in alphabetical order of Latin genus names. The index allows location by family and local names. Details are provided regarding the characters of each plant, the flowering season, pollinators, its origin, distribution, its status in Malaysia and significance as a bee plant. The illustrations (one full page plate per species) include the habit, the flower and the pollen grain, all in black and white. A list of references is given as well.

This nice book is recommended to all interested in source identification of honey and corbicular pollen loads through pollen analysis, not only in Malaysia but in the entire Asian-Malesian region. — R.W.J.M. van der Ham.

LATIFF, A. (Ed.). 1991. **Status of herbaria in Malaysia**. xii, 85 pp, illus. Malaysian National Committee on Plant Genetic Resources, FRIM, Locked Bag 201, Jalan FRI, Kepong, 52109 Kuala Lumpur. Price unknown. — Proceedings of the Seminar on Status of herbaria and systematic resources in Malaysia, Kuching, 1990.

Thirteen chapters deal with the history and accomplishments of the herbaria present in Malaysia. Ng discusses the establishment of a national herbarium, something he is not in favour of, as he explains, but impartially also defends the advantages of establishing one. The designation of Kepong as the interim National Herbarium does not make it one automatically. For many years to come insufficient material is available from Sabah and Sarawak, while intensive cooperation at all levels with and among the regional herbaria is essential. The National Herbarium should be regarded as an additional facility and not as a competing one.

Latiff outlines the role and functions of herbaria in systematics and floristic studies in Malaysia.

In the other chapters the various local herbaria are being discussed, giving their history, size, specializations, past and future problems, and so on. It is too bad that some chapters are given in Malaysian without an English summary, so that few outsiders can read them. — J.F. Veldkamp.

PRITCARD, H.W. (Ed.). 1989. **Modern methods in Orchid Conservation: the role of physiology, ecology and management**. x + 173 pp, line drawings, graphs and black and white photographs. Cambridge University Press, Cambridge. ISBN 0-521-37294-1. £ 22.50.

This book contains 15 chapters on various topics related to orchid conservation, based on the proceedings of a British symposium on Orchid Conservation held in Kew in 1986. Research data are presented on viability of orchid pollen and *Cattleya aurantiaca* seeds under storage, on germination and mycorrhizal fungus compatibility, atmosphere conditions and seedling growth in *Cattleya aurantiaca*, and on population biology of *Ophrys sphegodes* and *O. apifera*. Further synoptic or summarizing chapters are devoted to asymbiotic germination, host-fungus relationships, propagation by tissue culture techniques, distribution and conservation of British orchids, Nature Conservancy Council and orchid conservation, a conservation project in Brazil, the role of the living orchid collection in Kew, and to import and export regulations in Britain.

The book offers interesting reading material on British conservation work, mainly on British orchids. Since the symposium the techniques for propagation have been improved, however. Population biology studies are essential for management and conservation of existing populations, and will be very helpful for reintroduction schemes. It is a good thing that these topics are brought together in one book. It is to the benefit of orchid conservation when physiology, ecology, taxonomy and management work together to save the still existing orchid populations.

However, I miss a chapter in which these stand-alone articles are placed in a wider, more general context. Unfortunately the opportunity is missed to pinpoint lacunas in scientific knowledge, and to lay down guidelines for future cooperation between the various disciplines. — E.F. de Vogel.

VERMEULEN, J.J. 1991. *Orchids of Borneo*, vol. 2. *Bulbophyllum*. x + 340 pp, 3 + 100 figs., 107 col. photographs on 19 plates. Bentham Moxon Trust, Royal Botanic Gardens, Kew & Toihaan Publishing Company Sdn. Bhd., Kota Kinabalu. ISBN 0-950-4876-9-4. Price £ 25 (Hard cover with dust cover).

Borneo has a very rich orchid flora: it is estimated that some 2000 orchid species occur on the island. Descriptions are hard to compare, however, because they are scattered over a multitude of publications. So far no attempt has been made to summarize them in a single work. A new series, 'Orchids of Borneo', with series editor Dr. P.J. Cribb and series coordinators Messrs. A. Lamb and C.L. Chan, is an initiative to describe all Bornean orchid species in a concise and comparable way.

Each volume will contain 100 species, in most cases from different genera but sometimes a volume will treat (part of) one genus only. No identification keys are given. Most species are covered on two facing pages. One page gives information on the species with paragraphs devoted to literature (only the original description and synonymy) and types, a short diagnosis (preceded by a Latin diagnosis in case of new species), habitat and ecology, distribution in Borneo, general distribution, notes, and derivation of name. The second page is filled with line drawings. Colour photographs are collected on plates at the end of the book.

Volume 1 of *Orchids of Borneo* is now ready for printing, and hopefully will appear soon. Volume 2 has just appeared. Three other volumes are announced forthcoming, one by A. Lamb, two by J.J. Wood. Volume 2 treats 100 species of the genus *Bulbophyllum*, by the specialist J.J. Vermeulen. For this work Vermeulen stayed during one year in Borneo, mainly Sabah. At the start of his work some 80 *Bulbophyllum* species were known from the island. During extensive field research he personally collected over 80% of the more than 200 species which are now known to occur there, the remainder were studied from herbarium material. About 50 of these are new to science! The line drawings, of very high quality, are from his hand, most made under laboratory conditions in the Tenom Orchid Centre and at the Rijksherbarium, Leiden, but many sketches of live plants were made in the field. It was always a great sight to observe his almost 7 feet tall body curved over a tiny plant while sitting in his hammock under a sheet protecting against the rain, and see the sketch develop into an exact replica of the plant.

Of the 100 species here described, 30 are new to science. Many names are reduced to synonymy here for the first time. Some of the 11 habitat photographs are unfortunately somewhat off colour. The flower pictures, most made by Messrs. P. Jongejan and A. Lamb, are of high quality.

Because this volume treats part of one genus only, some additions to the normal contents of *Orchids of Borneo* are given. A checklist is presented of all Bornean *Bulbophyllum* species, arranged by section. Of these the literature is given as well as the general distribution and habitat and ecology in Borneo, and in notes they are characterized and further information is presented. Two identification lists are present, one arranged according to collector, the other according to the species treated in this work.

The *Bulbophyllum* volume is an example how, with limited descriptions and high quality plates, a badly known orchid genus can be displayed perfectly to the public. The whole series is a must for all interested in orchids in general, and especially in Bornean orchids. — E.F. de Vogel.

WHITMORE, T.C., I.G.M. TANTRA & U. SUTISNA. 1990. *Tree flora of Indonesia. Check List for Kalimantan*. 3 vols. ix, 620 pp, ill. Forest Research and Development Centre of Indonesia, Gunung Batu, Bogor.

At last, in 1990, the Forest Research and Development Centre of Indonesia published the Borneo Check List, the main work on which was completed in early 1986 with final checks completed in October 1988 (see *Flora Malesiana Bulletin* 10/2: 123–124). The manner of its presentation could cause confusion. This short note is for the information of users now and in years to come.

This is a checklist of the whole of the island of Borneo. Science in general, and trees in particular, do not respect man-made frontiers. Thus, in this project, to quote from the Introduction (p. vii) 'the whole islands of Borneo and New Guinea are included, not just Kalimantan and Irian Jaya, because this makes better scientific sense, and species so far found in one part might also occur in the other.'

Regrettably the title was altered without consultation. Also Borneo was changed to Kalimantan in several key places in the text, for example the Lists of Tree Families and Genera in Kalimantan p. 1, pp. 3–7, are in fact lists *for the whole of Borneo*. Fortunately the key passage in the Introduction quoted above was not changed.

All the checklists (of which this is the fifth to be published) have the same four numbered Parts, 1–4. The Bornean flora is so rich that the Borneo check list has been printed in three separate volumes. Unfortunately, these are also called 'Parts', labeled I, II.1, and II.2.

Part I (pp. i–ix, 1–181) covers the preliminary pages, Introduction, and Part I Check List, up to Hypericaceae; Part II.1 (pp. 183–429) covers Part 1 Check List (continued) Icacinaceae–Verbenaceae, and Part 2 Vernacular names; and Part II.2 (pp. 431–620) covers Part 3 Keys to Dipterocarpaceae, and Part 4 Pictures.

Another mishap is that the pictures have been printed sideways, four per spread, all facing the spine, so will be very hard to use. The clear instruction to have them eight to a spread right way up (as in the Sumatra Check List) was forgotten between work ending and publication.

It is hoped by late 1991 to have funds to complete the sixth and final Check List. It covers the whole of New Guinea. Readers are given advance warning now to expect it to appear falsely entitled 'Irian Jaya'. — T.C. Whitmore.