XII. REVIEWS

(continued from page 62)

BALGOOY, M.M.J. VAN. 1998. **Malesian Seed Plants. Volume 2. Portraits of tree families.** 307 pp., numerous text figures. Published by Rijksherbarium/Hortus Botanicus, Leiden. ISBN 90-71236-36-6. Paperback. Price: NLG 100.00.

This is the second volume of a trilogy [see the review of 'Spot-characters' by Dransfield, Fl. Males. Bull. 12 (1997) 54–55]. Here 111 families of Malesian seed plants are treated that at least have one tree species with a diameter at breast height (of a Caucasian man!) of over 10 cm, or with a height of at least 10 m. It must be noted that this is not a traditional descriptive book on plant families. Rather, it is an introduction and an aid to memory. On one hand one would like to have the descriptions of all families compatible in details, but there are other works that already do this. On the other hand, as here, the salient characters are given which give a polythetic diagnosis of the family, and so not straight away comparable to that given for others. Van Balgooy has attempted to put down in writing what intuitive identifiers use for the recognition of families. He has had a lifetime of experience in this. Not an easy task at all, and not always possible to bring into words, either. You may recognize an acquaintance from a far distance, but are at a loss to explain why.

Nine categories have been employed: (1) Characters that apply to all Malesian (!) members of the family, (2) characters that apply to the majority of its members, (3) striking features for members of the families, (4) 'different from': common misidentifications, (5) distribution: a taxon from Java may not occur in New Guinea, with a taxonomic survey, (6) notes: a catch-all for information not covered by the preceding with data on ecology, dispersal, uses, etc., (7) a reference to a revision, (8) spot-characters: a reference to part 1, see p. 15–16, (9) an illustration.

Most of the terms are explained by the glossary, only the reference to De Vogel (1987) is rather redundant, as this Manual has long been out of print, much to the chagrin of the reviewer, who made this chapter.

Minor errors will always take place, e.g. the correct name for *Eragrostis tenella* (p. 128) is *E. amabilis*. An error occurring because I saw the text, but not the plate.

This is obviously a work appreciated by many, for it was the first to be sold-out at the Fourth Flora Malesiana Symposium in Kuala Lumpur. Who can argue with the consumers? — J.F. VELDKAMP

KOCHUMMEN, K.M. 1997. **Tree Flora of Pasoh Forest.** Mal. For. Rec. 44: xv, 462 pp., illus. ISBN 983-9592-69-6. Price: MR 60.00.

The Pasoh Forest Reserve covers about 6000 ha and is located c. 140 km SE of Kuala Lumpur at c. 100 m altitude in the state of Negeri Sembilan, Peninsular Malaysia. It has been a centre for biological research since 1970. Here a 50 ha permanent plot has been made to study the population biology of trees in a tropical primary lowland forest of which the results are gradually being published. Being a centre of ongoing research it was obviously essential to know what was available for study. Counts have been made of all trees and saplings of 1 cm diameter and more, which has resulted in the discovery

of 814 species, which compared to the total tree flora known in Peninsular Malaysia is about 25% of all species.

The author, Kizhakkedathu Mathai Kochummen, the former Chief Forest Botanist of the Forest Research Institute of Malaysia (FRIM) has obtained over many decades since 1952 an immense and intimate knowledge of the Malaysian forests and much of his expertise has been laid down in the preparation of this Flora.

We already have the four-volume Tree Flora of Malaya by Whitmore and Ng (1972–1989). Thus descriptive notes on flowers and fruits could be kept to an essential minimum here and emphasis has been given to vegetative characters. The aim has been to make identification, if not easy, also possible for saplings to mature trees. This does not mean one has to tote all five books into the forest, this one is quite sufficient. With so many species in 290 genera and 78 families, it turned out to be quite a chore for an inexperienced botanist (but also for an experienced user and maker of keys, like me) to find an entry to the various keys. It turned out to be hidden in the Contents (p. v–vi) where a list is given of keys based on spot characters, bole & bark characters, and leaf characters. By 'spot characters' is meant special ones and many species do not have coppery or yellowish coloured crowns, fluted or crooked boles, leaves more than 20 by 10 cm, stilt roots, etc. This absence of handfasts in most trees encountered makes the tropical rain forest so perplexing for the uninitiated (like me). In general it seems to be presumed that one already knows the family to be able to make a fairly rapid identification. Of course, for the professional user this book is a mind refresher: what was the diagnosis for *Hopea sangal* again? Ah, yes, leaves with scalariform venation, with domatia below, base unequal, and a fissured bole.

I find the descriptions of the species rather uneven. For the dipterocarps one is referred (p. 176) to Symington's Manual of the Dipterocarps (reprint 1974, really still available?), so yet another work to have. No reference to Ashton's treatment in the Flora Malesiana here at all (but cited on p. 441). In other genera, like *Antidesma* (p. 216), 4 species are enumerated in the key, but only for 2 a diagnosis is given. Have the other 2 perhaps been found outside the plot and were included here for completeness sake? It is not said.

For many genera or species a Malayan vernacular name (I suppose) is given, often not. But surely there is one for *Gluta malayana* and for many others said to be common in the plot? For the *Gluta*, at least, the general names 'kerbau jelang' or 'renghas' would have been a warning to the unwary. I miss a general caution here about the poisonousness of many *Anacardiaceae*, anyway, but perhaps any Malaysian schoolchild knows them, like the Dutch ones fear the Stinging nettles (*Urtica* spp.)?

Curious it is to note that for some species the number of individuals in the plot is given, for others not; compare *Oxalidaceae* with the *Palmaceae* (sic!) immediately following. Rattans and bamboos, although economically very important groups, have been excluded because they are either woody climbers or just giant grasses. Hopefully they will be dealt with in a future publication.

For an easy browsing it would have been convenient to have had the family name on top of the pages instead of the bland 'Description of Families, Genera & Species'.

These were just some thoughts while leafing through this truly magnificent work, not meant to be disparaging. It is to be wished that, as promised, treatments of other groups (p. xi) will soon follow. — J.F. VELDKAMP

LAUMONIER, Y. 1997. **The vegetation and physiography of Sumatra.** ix + 222 pp., illus., incl. 3 separate maps in colour. Kluwer Academic Publishers, Dordrecht, Series Geobotany. ISBN 0-7923-3761-1. Price: NLG 400, USD 256, GBP 156.

The merit of this volume is that it presents a condensed version of the scientific findings on the (forest) ecology and vegetation description as a result of some two decades of research in the vast everwet tropical island of Sumatra.

Possibly one of the positive results of this book has been the inclusion of the three separate, detailed vegetation maps of South, Central, and North Sumatra, in the 1980s published in France. The majority of the text concerns further explanation of the accepted vegetation types (formations), and thus gives an overview of all vegetation in Sumatra. As a matter of fact, the basic division for the definition of the formations accepted is, of course, topographic (lowland area West of the main range, the central mountain range itself, and the plains to the East), and physiographic, with furthermore as usual the altitudinal zonation ranking as a major criterion (bioclimates, according to rainfall and temperature), with in addition geomorphology (geology, lithology), soils, and drainage. Besides the description of the spontaneous vegetations, attention is given to the nowadays continuously more and more prevailing secondary and cultivated types. As customary in the 'French School' most of the ultimately accepted units are sustained by the renowned semi-schematic line-drawn figures of transects with named trees and their projections, accompanied by species-lists and lists of floristic compositions of forest layers or 'eco-units' (Oldeman, 1983).

One of the main methods for vegetation classification and mapping included the use of air-photography and remote sensing, which has, as much as possible, to be followed by personal local inspection, the latter a strongly limiting procedure. However, the top regions of the non-volcanic Gunung Leuser area in North Sumatra are almost constantly under cloud cover, and possibly the reason that its extraordinary interesting high mountain 'blang' vegetation (present mainly on the mountains Kemiri, Bandahara, Leuser, and Goh Lembuh), detected and described already by Van Steenis (1938), and mentioned by Whitten et al. (1984) and De Wilde & Duyfjes (1994), has not received due attention. Mountain (forest) vegetation was mainly studied of some volcanogenic mountains in West Central Sumatra, viz. Mt Talamau and Mt Kemiri, where true 'blang' vegetation is absent, although photo 19, on page 164, shows a resembling vegetation at 2800 m on Mt Talimau. In the treatment of plant life in the Leuser National Park (De Wilde & Duyfjes, 1996) a brief description of these high mountain wet heath-like vegetations has been given. The present treatise of the Sumatran vegetation includes the digestion of a large number of reference publications, listed in a separate chapter. One of the aspects of the present publication is the fact that it confirms the enormous biodiversity, forming a checkpoint in the monitoring of the ongoing conversion of the vegetation into land development.

(Additional) References:

Oldeman, R.A.A. 1983. Tropical rain forest architecture, silvigenesis and diversity. In: S.L. Sutton, T.C. Whitmore & A.C. Chadwick (eds.). Tropical rain forest, ecology and management: 139–150.

Steenis, C.G.G.J. van. 1938. Exploraties in de Gajo-Landen. Algemeene resultaten der Losir-expeditie 1937. Tijdschr. Kon. Ned. Aardrijksk. Gen. 55: 728–801, 32 photographs and 2 maps; Naschrift Tijdschr. Kon. Ned. Aardrijksk. Gen. 55: 932–933.

Whitten, A.J., S.J. Damanik, J. Anwar & N. Hisyam. 1984. The ecology of Sumatra.
Wilde, W.J.J.O. de & B.E.E. Duyfjes. 1994. Brief history of the botanical exploration in the Gunung Leuser National Park, North Sumatra. Fl. Males. Bull. 11 (4): 253–291.
Wilde, W.J.J.O. de & B.E.E. Duyfjes. 1996. Vegetation, floristics and plant biogeography in Gunung Leuser National Park. In: C.P. van Schaik & Jatua Supriatna (eds.), Leuser, a Sumatran sanctuary.
[This review also appeared in Blumea 42 (1997) 503–504]. — W.J.J.O. DE WILDE

MAYO, S.J., J. BOGNER & P.C. BOYCE. 1997. **The genera of Araceae.** xii, 370 pp., illus. Royal Botanic Gardens, Kew. ISBN 1-900347-22-9. Price: GBP 75.00. Also on CD-ROM: ISBN 1-900347-28-8. Price: GBP 35.00 (excl. VAT in the UK).

During the last three decades the taxonomic interest in the *Araceae* has increased exponentially. Pioneers like D.H. Nicolson (US) and J. Bogner (M) have amassed a wealth of knowledge and published this in many papers. Extensive living collections now exist in several botanical gardens as a result of much fieldwork being done recently. Much revision work is being done aiding larger and smaller flora projects. As a result of this, Engler's 1911 monograph in 'Das Pflanzenreich' is now heavily outdated and incomplete. Three foremost *Araceae* taxonomists, J. Bogner, P.C. Boyce (K), and S.J. Mayo (K), recognizing the need for a modern comprehensive text on the family, decided to compile their knowledge and that of other *Araceae* taxonomists and to publish 'The Genera of Araceae', a detailed treatment of all presently recognized *Araceae* genera and a number of introductory chapters on different family-related subjects.

The genera are treated in a phylogenetic order and consist of an extensive description, wonderfully detailed drawings (every genus gets at least one full plate prepared by Ms. E. Catherine), distribution maps, ecology, etymology, chromosome data, and taxonomic accounts. The last pages of the book contain a collection of excellent colour plates of living representatives of nearly all genera.

The 22 (!) introductory chapters cover a wide range of subjects, among which history, morphology, anatomy, palynology, cytology, geography, uses, cultivation, etc. Especially the chapter on phytochemistry and chemotaxonomy by R. Hegnauer is a welcome addition to his previously published data.

For those interested in the phylogeny of the family, chapters 20 and 21 is required reading. However, they also represent the least satisfactory state of affairs in *Araceae* studies. It is still rather unclear what the position of the family is in the larger scheme of the monocots. The exclusion of *Acorus* from the family, although applauded by most students, is unsatisfactory, since there is no real alternative for the position of it in any other monocot family. One may wonder if yet another monotypic family (*Acoraceae*) is a useful 'solution' here. Contrary to this situation, the position of *Lemnaceae* as a possible member of the *Araceae* family is well-supported. Equally unsatisfactory is the entire division of the family itself. The consensus cladogram presented in chapter 21 leaves quite some dubious clades but this is maybe only relevant to the eye of the beholder, although the fact that *Acoraceae* is a nested clade in the *Araceae* here seems a strange contradiction with its previously discussed elimination from the family! My guess is that recent discussions concerning techniques to be employed in phylogenetic analysis may well change large parts of this scheme. We await Mayo's paper on this subject with eagerness ...

The book is also available on CD-ROM.

In conclusion, I sincerely advise the purchase of this beautifully presented work by all interested in the study of *Araceae* and all institutions concerned with plant taxonomy in general. It will also be a prime tool in plant taxonomy courses and flora projects. — W. L. A. HETTERSCHEID