XIII. REVIEWS

(continued from page 302)

CHAN, C.L., A. LAMB, P.S. SHIM & J.J. WOOD. 1994. **Orchids of Borneo, Volume 1.** xvii + 402 pp., illus. The Sabah Society, Kota Kinabalu, in association with the Bentham-Moxon Trust, Royal Botanic Gardens, Kew. ISBN 967-99947-3-2. £ 30.00.

Three years after publication of volume 2, which was entirely devoted to *Bulbophyllum* (by J.J. Vermeulen), volume 1 of what should become a complete iconography of the Orchids of Borneo has appeared. Each volume is projected to contain a hundred species, which means that eventually fifteen volumes will line up on our shelves. If the pace of production is not increased, most of us will be retired or dead by then. I really hope to live to see the completion of this series, because it is magnificent! It invites comparison with the legendary series 'Venezuelan Orchids Illustrated' by Dunsterville & Garay, both in format and in the quality of the illustrations. The text is much better, however, giving not only descriptions, but also elaborate notes on habitat and ecology, distribution, etymology and miscellaneous topics.

This first volume starts with general chapters in which, apart from the inevitable introduction to the orchid family, a useful survey is given of the various habitats in Borneo with their characteristic orchid species. It is a pity that there are no illustrations of at least some of these habitats here, but one can find several in volume 2. No reference is made to them in the present volume, however.

Volume 1 also contains a key to the circa 150 genera occurring in Borneo; this is the only part of the book about which I am not very enthousiastic. The key consists of three separate parts, one to the (so-called) saprophytic genera, one to the subtribe *Aeridinae* and one to the remaining genera. One is assumed to know which key to use, an assumption which is highly questionable. Perhaps even the uninitiated can recognize a 'saprophyte' (although a novice may also look for *Nervilia* or *Pachystoma* in this key – and look in vain), but it is asked too much, I think, of the average user to assume that he or she knows how to recognize a member of the subtribe *Aeridinae*. There is no way of knowing from this book which characters distinguish the *Aeridinae* from the other orchids (briefly, the *Aeridinae* contain all the monopodial orchids related to *Vanda* and *Phalaenopsis*). The user who has taken this initial hurdle, and tries to use the key to the remaining genera will encounter further obstacles. First of all, there is an error in the numbering: the second lead of couplet 25 points to couplet 31; this must be 33. Secondly, there are a number of errors in the characters attributed to the genera. *Spiranthes* can only be identified by incorrectly assuming that it has non-sectile pollinia. To reach *Eulophia* or *Cymbidium* one has to count four pollinia, while there are in fact only two pollinia which are incompletely cleft at the base, as is correctly noted in some of the descriptions. One can argue that there are four partly fused pollinia, but then this should have been explained in the key; as it is one has to chose between 2 and 4, most users will try 2, and end up with *Collabium*. *Flickingeria convexa* will be identified as *Dendrobium*, as it does not have superposed stems. *Agrostophyllum laterale* does not normally have terminal inflorescences, and therefore will key out as *Poaephyllum*. Contrary to lead 2 of couplet 71 at least one species of *Podochilus* in Borneo does have laterally flattened leaves. That all *Coelogyninae* have terminal inflorescences is technically speaking true, but in several genera the inflorescences may appear on specialized leafless and pseudo-

bulb-less shoots which most users of the key will probably interpret as being lateral inflorescences; these users will then not be able to identify to genus such a common Borneo orchid as *Coelogyne swaniana*.

The main part of this book consists of line drawings and descriptions of 100 species in 44 genera. This part leaves very little, if anything, to be desired. The quality of the drawings ranges from good to superlative (the latter by Chan Chew Lun), and the text is excellent. As far as I can see all species are correctly named, with two exceptions noted. The species here identified as *Pristiglottis hasseltii* is in my opinion *P. hydrocephala* (J.J. Sm.) Cretz. & J.J. Sm. and *Liparis latifolia* (Blume) Lindl. is based on a later homonym (*Malaxis latifolia* Blume not J.E. Sm.) and therefore illegitimate; it should probably be called *L. robusta* Hook. f.

There are new species in the genera *Acanthephippium, Bulbophyllum, Ceratochilus, Dendrobium, Nephelaphyllum,* and *Phaius*, and there is a new genus, *Spongiola*, a member of the subtribe *Aeridinae*, with a single endemic species. An identification list, a glossary, and an index conclude this beautiful book. — A. Schuiteman.

GREEN, P.S., in A.E. Orchard & A.J.G. Wilson (Eds.). 1993. **Flora of Australia 50. Oceanic Islands 1.** Austr. Gov. Publ. Serv. Canberra. xxiii + 681 pp., illus. ISBN 0-664-29385-3, -23984-5 (paperback), Au$ 64.95 and 54.95, resp.

In this first part, that appeared after the second, the flora (702 taxa) and vegetation of Norfolk and Lord Howe Islands are treated. The volume is dedicated to Dr. R.D. Hoogland in honour of his achievements in the knowledge of this flora. When I showed him my copy it came as a very happy surprise to him. It came just in time, because he died a few months later.

The volume was nearly entirely written by Green, who must be congratulated with the result, which is emphasized by the clear layout.

After a brief discussion on the history of these islands, the vegetation past and present, and species lists, keys to the families, genera, and species are given. The taxa are provided with a brief synonymy, typification, bibliography, references to illustrations, diagnoses, occurrence and provenance when introduced, and some voucher specimens.

The glossary at the end is an expansion of that provided in volume 1 and should come in very useful also in teaching descriptive botany of vascular plants. — J.F. Veldkamp.

HARRIMAN, N.A. (Ed.). **Gramineae.** In: M.D. Dassanayake, F.R. Fosberg & W.D. Clayton (Eds.). 1994. A revised handbook to the Flora of Ceylon 8. v + 458 pp., *not* illus. Amerind Publishing Co., New Delhi (for India, Sri Lanka), no ISBN, price unknown, and Balkema, Rotterdam/Brookfield (world), ISBN 90-6191-552-X. Dfl. 120.00.

It is not the custom to review publications not directly pertaining to the Malesian flora. However, as most of the lowland species of grasses have a wide distribution from Africa through India to Malesia and beyond, the value is surpassing the geographical limits of this flora. Firstly, the present work is a thorough updating of a previous treatment of the grasses for Sri Lanka by Seneratna, 'Grasses of Ceylon' (1956). Secondly, by having descriptions, it is a useful companion to Bor's 'Grasses of Burma, Ceylon, India and Pakistan' (1960).

It is a compilation of contributions by various authors (W.D. Clayton, G. Davidse, F. Gould, M. Lazarides, T.R. Soderstrom), causing a rather variable 'flavour and phrasing' retained as best as possible by the final editor.

First of all, it is a pity that, like its 7 predecessors, no index to names is provided. The taxa are arranged alphabetically, and if the currently accepted names are known, easy to find. However, many botanists, especially in India, only have Hooker's treatments in the Flora of British India (1896–1897) and in Trimen, Handbook of the Flora of Ceylon (1900), and works based on that. In the past century many changes have taken place, and then the names are not so easy to retrieve, e.g. *Eleusine verticillata* is now *Acrachne racemosa, Dichanthium polyptychon* is *Andropogon polyptychos, Indocalamus* spp. and *Chimonobambusa densifolia* are now *Arundinaria* spp. *Teinostachyum attenuata* is *Davidsea, Eremopogon foveolatum* is *Dichanthium foveolatum*, etc.

Perhaps due to the various dates on which the treatments were made, there is a lack of references to recent revisions. To take mine and my student's as examples: *Brachypodium* (Veldkamp et al., 1989), *Deyeuxia* (Korthof & Veldkamp, 1985; which would perhaps have caused the new species *Calamagrostis srilankensis* to be placed in that genus), *Cynodon* (Nowack, 1992, where *C. arcuatus* is reduced to *C. radiatus*), *Digitaria* (Veldkamp, 1973; *D. radicosa* is a good species and not a synonym of *D. ciliaris*; here I have given a synonymy much more extensive and up-to-date than Bor's, 1960; *Panicum adscendens* was placed in *Digitaria* by both Seneratna and Bor; *D. wallichiana* has a curious disjunct distribution, occurs also in Java and Bali). One may dispute the union of *Diplachne* with *Leptochloa*, but in the first place *D. fusca* surely must be called *D. malabarica* (Veldkamp, 1971), a name not even mentioned. Reference, even when the decisions were not accepted, should have been made to the reduction of *Hackelochloa* and *Heteropholis* to *Mnesithea* (Veldkamp et al., 1986; only *M. laevis* var. *laevis* in Sri Lanka), and under *Heteropholis* to the revision by Koning et al. (1983). *Ischaemum indicum* is *I. ciliare* as the basionym *Phleum indicum* turned out to be *Polytrias indica* (Veldkamp, 1991), which may well occur in Sri Lanka as it is so widely cultivated. *Paspalum* (Koning & Sosef, 1985; only *P. scrobiculatum* var. *bispicatum* occurs in Sri Lanka). *Phragmites karka* is *P. vallatoria* (Veldkamp, 1992). *Sporobolus* (Baaijens & Veldkamp, 1991, where it also is shown that *Thysanolaena maxima* should be called *T. latifolia*) *Zoysia* Goudswaard (1980; I would not be surprised if *Z. matrella* var. *pacifica* was cultivated in Sri Lanka).

Gould should have referred to his own revision of *Garnotia* (1972). Under *Heteropogon* Deshpande (1990) might have been mentioned. Under *Ichnanthus* Stieber (1987: *I. vicinus* reduced to *I. pallens*). Under *Oplismenus* Scholz (1981). *Stenotaphrum* was treated by Sauer (1972). *Tragus* by Anton (1981). And so on.

It may be noted that there are two editions of this work, differing in publisher, cover, and quality of paper. I am informed that they were simultaneously printed and that the Balkema edition arrived a few months later in the Netherlands by ship. The Amerind edition (April 1994) presumably has priority.

It is a pity that there are no illustrations at all. At least some might have been gleaned from the Kew and Smithsonian archives.

Notwithstanding these grumbles, an important contribution to the knowledge of the grasses of Southeast Asia has been made, which should be useful to agrostologists worldwide — J.F. Veldkamp.

NEWMAN, M.F., P.F. BURGESS & T.C. WHITMORE. 1995. **Manuals of Dipterocarps for Foresters – Singapore.** ix + 93 pp., illus, 1 MS/DOS 2HD diskette. ISBN 1-872291-31-7.

First part of a series intended to cover the c. 260 rain forest species that are commercially exploited for timber as well as other big trees that have potential. Identification is from forest characters of buttress, bole, bark, slash, and leaf. Based as far as possible on these keys are given, followed by forest and botanical descriptions. 95 characters, incl. floral and fruiting ones, are given for the 22 Singapore taxa. Since the sources are the DELTA-like Pankhurst files consistency of the descriptions would have been expected. In detail they are not, characters mentioned for one species not given for another in the same genus. Each species is provided with a plate showing leaves and fruits, while there are also some photographs of barks. The diskette contains the multi-access key, which after some trials should be easy to use being menu-driven. ·

A first problem, however, was that the diskette turned out to be 2HD, which my PC was too primitive to handle but did not admit this, merely saying 'sector inaccessible', the same dire warning as when a diskette has crashed.

The files are automatically decompressed to the drive of choice, but c. 3.4 M free space is needed there. These things are not stated in the Manual, nor does it say how to start up the program.

Only after decompression a README file turned up saying that the command is ONLIN7 which may be obvious to PANKEY users, but not immediately apparent to others. This program is the multi-access key in which you can use any character available in any order preferred. Guided by start-up menus one gets to the main one. For a beginner it is best to use the commands through other menus, but by the keyboard it is much faster.

The most commonly used commands are TAXA, which shows which taxa are still there, CHAR, which shows what characters are available, and BEST, to select the best separating character. Note, that this is not necessarily the easiest one! One of the good features of DELTA and ONLIN7 is, that interpretation errors by the creators and/or by the user can be overcome with the command LIMI, which causes tolerance of the number of differences, e.g. LIMI 5 will show all taxa differing with up to 5 differences in the character states so far scored. This is helpful when the specimen turns out not to be the expected taxon. With the command DIFF one can then see what exactly these differences are, e.g. the specimen is aberrant by having 0.5 cm longer and wider leaves than known before, but otherwise is identical. Getting out of programs should be indicated immediately in a manual, perhaps even before how to get in. Here it is FINI. Images and descriptions can be called up with the command TAXA n, where n is the number of the taxon shown in the middle row, not the one in front of the species name! To see what one has done after the session, the print command PRINT can be switched on, which creates a DUMP.DAT file. The instructions say that after exiting to the DOS prompt one should give the command COPY DUMP.DAT PRN, but then be prepared to have a lot of paper ready, especially after a long session, for nearly all the text encountered during the session will be printed out. Much better is to go to the text editor to open this file and inspect it on the screen.

This is not the place to provide a manual for ONLIN7, but for a first user this is all rather daunting, while even the various help files are not always clear. For future ver-

sions it must be considered that for the intended users (local foresters, ecologists, perhaps even anthropologists) English is not the first language and that they may have an alpha inclination, which makes them computer-shy. A Malay edition is highly recommended to overcome some of the initial problems, and at least a small introduction for the most commonly used commands should be included in the line of 'Do this, see that'.

There is a lot of information to be had with the HELP, F1, and F2 commands, but a hard copy manual for ready inspection would be useful. This can be made manually by editing the *.HLP files, but in a 3.4 M program a file of say 30 K could be added for an immediately printable document. I would also have wished that the source *.DAT file had been included for addition and possible corrections, and transfer to regular DELTA files for other purposes that are here only hinted at.

Overall, this is a good first step for a number of very useful manuals, and the general idea can easily be extended to other groups as well. — J.F. Veldkamp.

O'BYRNE, P. 1994. **Lowland orchids of Papua New Guinea.** 584 pp., illus. National Parks Board, Singapore. ISBN 981-00-6082-3. Sing$ 98.88.

This 584-page book deals with some 269 species covering 55 genera. They are fully described with accompanying line drawings and over 130 of them are illustrated in colour. Written for the orchid enthusiasts as well as the professional botanists, the book follows a standard taxonomic layout, making identification of plants easier. In addition to a botanical description, each species has a general description with notes on cultivation.

The introductory chapters deal with the geography, climate and vegetation of Papua New Guinea as well as the conservation and classification of New Guinea orchids. Reference has also been made to the majority of the known species not included in this book. This book, a massive undertaking in itself, is a bold start in making known to the orchid world the unusual and spectacular orchid flora of Papua New Guinea. — T.W. Yam.