XVIII. REVIEWS

(continued from page 195)

ANONYMOUS. Food and fruit-bearing forest species. 2: Examples from southeastern Asia. FAO, Via della Terme di Caracalla, 00100 Rome, Italy. FAO Forestry Paper 44/2. 1984. xx, 167 pp., ill. Price unknown. ISBN 92.5.102153.8.

This brochure is the second of a series on potential food plants from various tropical areas. The idea to produce the series was generated during the 8th World Forestry Congress in Jakarta in 1978. It reflects the increasing public awareness of the forest as a resource for mankind and as such is to be welcomed. The paper prepared by the Forest Research Institute, Laguna, contains the descriptions of 70 species with notes on names, uses, propagation, all in relation to the Philippines.

It is regrettable that the brochure under review is marred by a number of inaccuracies. Also the criteria for inclusion of certain species is not clear. One would expect the treatment of some little-known Southeast Asian species with a real potential as a food-plant and not species such as Passiflora foetida, which is an alien and not a forest species, but instead Artocarpus odoratissima or Diospyros philippinensis. Some of the factual data also are erroneous, several plants such as Antidesma bunius, A. ghaesembilla and Dysoxylum arborescens called Philippine endemics are actually widely spread. Plate LXIII (p. 148) said to depict Sonneratia alba actually represents Rhizophora apiculata. The nomenclature could also have been made more up to date, e.g. Euphoria didyma = Litchi chinensis ssp. philippinensis. Semecarpus gigantifolia = S. longifolia, etc. I wonder which part of Buchanania arborescens is delicious. It was also a surprise to see that the fruits of Oroxylum indicum are likewise supposed to be 'delicious'. To the best of my knowledge the young pods are only edible after cooking.

A similar brochure (FAO Forestry Paper 44/1, 1983) has been published for Tropical Africa, i.e. Tanzania.

There is certainly a need for more information on forest plants and their uses. FAO must be able to think of more fruitful ways to meet this demand. —— M.M.J. van Balgooy.

BETHEL, J.S., see under YEOM, F.B.C.

BUT, P.P.-H., L.-C. CHIA, H.-L. FUNG & S.-Y. HU. Hong Kong Bamboos. Urban Council, Hongkong. 1985. 85 pp., 4 figs., (57) pl. HK$ 18.00. (English; there is also a Chinese edition for the same price).

Four well-known experts of South Chinese bamboos haven written this concise manual to the 57 bamboos growing wild (11 species) and in cultivation in Hongkong. Many of the latter ones are more or less widely spread in S.E. Asia and the account of them given here is therefore of a much wider scope than just the small Territory of Hong Kong. The first chapter gives a brief but clear introduction to general bamboo terminology which is illustrated by good line drawings. An extensive key is given in which only vegetative characters are used, unfortunate-

ly an entire plant must be available for an easy identification. Each species, variety or cultivar (alphabetically arranged by its scientific name) is treated on a single page where in clear colour pictures the general habit either in the field or garden or as a bonzai is usually shown, as well as a close-up of a culm with a mature culm leaf. Chinese and English names, many of them here proposed as new, are given. Habit, culms, branches, culm and foliage leaves are briefly described. When available a picture of an inflorescence is presented as well, but not a description. Finally there are some notes on the origin of the plant, the derivation of its scientific name, its use in local industries and horticulture, and its culinary or medicinal properties. A glossary, a list of references and suggested readings, and indices to common and Chinese names are provided at the end. It is a delightful booklet, well-illustrated and -executed and no doubt for many bamboo lovers a welcome addition to their libraries.
(Also published, in German, in Bambusblätter 4, 1985, 17—18). —— J.F. Veldkamp.

CO, L.L. & Y.B. TAGUBA. Common medicinal plants of the Cordillera Region (Northern Luzon), Philippines. Chestcore, 43-A Marcos Highway, Baguio City, the Philippines. 1984. 290 pp., 123 figs. US$ 6.00.

Among the several recent publications of Philippine medicinal plants this is the first one written jointly by a botanist and a rural medical doctor. It describes 122 species commonly found in the Cordilleran Highland of Northern Luzon. Each entry is accompanied by an illustration or photograph, a brief description and a discussion of its reported properties providing in great details the preparation and administering techniques, the recommended dosage, toxicity and contra-indications where necessary. Unlike any of its counterparts a wealth of information is given about habitat, altitudinal distribution and the local range of the species treated. It is therefore a good source for local phytogeographic data.

From the botanical point of view the book is to be lauded for the originality of the descriptions. Frequently useful taxonomic remarks and dichotomous keys have been added to distinguish the species discussed from other 'look-alikes' in the field. This is an encouraging development because most of the earlier similar publications were abridged versions of Quisumbing's Medicinal plants of the Philippines (1951). In fact 13 species have been included here that were not mentioned there.

There are a few trivial shortcomings. One is the absence of an index to the scientific binomials cited in the text. Only selected local names have been indexed in the table of contents. For some species nation-wide distributional observations are inaccurate: Lycopodium clavatum is said to be confined to Northern Luzon, while it also occurs on the summit of Mt. Apo, Mindanao. In some cases, without any explanation, a name is used that is contrary to the widely accepted one: Leucaena latisiliqua (L.) Gillis for L. leucocephala (Lamk.) De Wit. Finally, the authors appear to have overlooked Sulit's important article (Medicinal plants used by ethnic groups of the Philippines: their preparation and application. J. Philip. Pharmac. Ass. 45, 1958, 275—284, 308—318, 343—353). Otherwise five more species, e.g. Pinus insularis Endl., would certainly have been included. —— B.C. Tan

DAHLGREN, R.M.T., H.T. CLIFFORD & P.F. YEO, The families of the Monocotyledons. Springer Verlag, Berlin, Heidelberg, New York, Tokyo. 1985. xiii + 520 pp., 225 figs. Hardcover. DM 294.00. ISBN 3-540-13655-X; 0-387-13655-X.

One may regard this book as the last part of a trilogy, of which the previous volumes were Dahlgren & Clifford, 'The Monocotyledons: a comparative study' (1982) (See Acta Bot. Neerl. 34(2) p. 249) and Dahlgren & Rasmussen, 'Monocotyledon Evolution: characters and phylogenetic estimation' (1983). There the states and distribution of the various morphological, anatomical and chemical characters and their possible interpretation in a phylogenetic context were extensively discussed, here an integrated account is presented. A great number of families are accepted, breaking up the larger, classical ones and strewing the parts sometimes over different orders. For those used to the Englerian concept of the Class the results are astonishing and perhaps because of the existing tradition unacceptable, but the authors present their case with a great number of arguments, which will make it very difficult for anybody to refute their model altogether. Obviously in a group of this size many unknowns remain and the authors frequently indicate further research. It is to be doubted, however, that the results of these will overturn the main frame of the system proposed here. It would seem that the traditional classification of the Monocotyledons is too much based on phenetical considerations, but that a survey taking into account other fields of science gives a completely different picture.

In an extensive introduction even elementary morphological, anatomical, chemical and cladistic concepts are explained, which will makes it perhaps also a useful work for students, although the price will certainly prohibit that it will become a class text. The delimitation of the Monocotyledons is given (2 characters only!: one cotyledon and the sieve tube plastids which accumulate protein in the form of triangular bodies), while the other characters commonly used but not universally present are mentioned and discussed. After an extensive discussion on the relationships between the Dicots and the Monocots the authors express their preference for Burger's theory that the latter are a derivative branch of early dicotyledonous ancestors. From this hypothesis the evolution within the Monocots is then further discussed with the Dioscoreales as the central order.

Of course the preceding volumes had to be summarized and the characters which there appeared to be of most significance in phylogenetic studies are surveyed. The examples of the well-known Dahlgren 'bubble-diagrams' seem rather suggestive.

The bulk of the book consists of further descriptions of the superorders, orders, families, subfamilies, and tribes or groups, where relevant. As co-author of Thonner's Keys I had hoped to be able to copy a full key to the Monocots, but to my disappointment there are only keys under the orders to the families. Their inclusion is then rather senseless: one has to know in which order the family belongs, which requires you to know the family beforehand, so who needs the key? In view of the lengthy discussions on affinity, derivation, cladistics, etc., etc., it is an elementary fault to suggest that dichotomous keys can show relationships in this multidimensional complex. For identification, which is quite another matter, and the only thing that keys should be used for, they are sometimes quite useless. What to make of the couplet 'Chromosome complement strongly dimorphic (x=30; 5 large and 25 small)' vs. 'Chromosomes more uniform in size and not as above' (p. 133)? Surely some more obvious macromorphological useful char-

acter could have been found to distinguish the Funkiaceae and Agavaceae subfam. Yuccoideae. If not, few will be convinced that they would be distinct taxa. As 'a guide to the kinds of character that may be useful for distinguishing between families' (p. 132) a synoptical key would have been much more useful and would even have aided in attempts in identification.

The book is well-executed with a clear print in 2 columns on heavy paper, nice line drawings well-gleaned from various sources and with an extensive bibliography including references as recent as 1983. It should be present in any main library of a taxonomic institute as a ready reference for many years to come. (This review also appeared in an abbreviated form in the Acta Bot. Neerl. 34, 1986, 447) —— J.F. Veldkamp.

FRODIN, D.G. Guide to standard floras of the world. Cambridge University Press. 1984. xx + 619 pp. Large 8°. DM 268.00. ISBN 0-521-23688-6.

According to the title page this is 'an annotated geographically arranged systematic bibliography of the principal Floras, enumerations, checklists, and chorological atlasses of different areas'. By its lavish scholarly introductory chapters and its rather extensive informative annotations it excels in providing information in an admirable way. Under 999 numbers geographical areas have been treated. By detailed indices to geographical areas and to authors it is very easy to consult. The essential aim is to give a key to the principal recent information on each subarea. It has not been the purpose to cite all floras ever published, but to be useful to learn the best select sources. This is quite a different approach when compared with that of Blake & Atwood to whom, together with Corner, this work has been dedicated.

I regard this work in which an immense amount of information is embodied, as an approach to a classic in its sort.

In spite of my appreciation, however, I feel slightly disappointed in checking the data for Malesia s.l. (pp. 478—509) with which he and I are best acquainted. I found some, what I feel are serious, omissions. For instance for Sumatra: J.J. Smith, Census orchids (1933), my own report on South Sumatra (1933), and Ridley on Mt. Kerinci (1936). For Java: Boldingh's key to weeds (1916), Backer & Van Slooten's Illustrated flora of the tea plantations (1924) and sugarcane fields (1928—1934), both very useful works in addition to Backer & Bakh. f.'s unillustrated Flora of Java. For Sabah: the large works by Stapf (1894) and Gibbs (1914) on Mt. Kinabalu, Merrill's Plantae elmerianae (1929) and Meijer's Botany (News) Bulletins 1—11 (1964—1968). For Kalimantan Winkler's Beiträge (1927). For Mindoro Merrill's booklet (1908). For Celebes Lam's Census and plant geography in Blumea 5 (1945) 554—599, 600—640. For New Guinea: Warburg's Beiträge (1891), Valeton's Plantae papuanae (1907), Ridley's Wollaston Expedition (1916), Gibbs' Mt. Arfak (1917), Lane Poole's Report on the forests (1925), the work of Kanehira & Hatusima (1941—1942) and Hoogland's Census of Mt. Wilhelm (1958). For New Caledonia the large works by Schlechter (1907) and Compton (1922).

Furthermore I was astonished to learn that Blume's Flora javae is a 'show' work, that his Rumphia and Beccari's classic Malesia remained unmentioned, and that my work on the Javanese mountain flora goes under the authorship of my draughtsman Amir Hamzah.

It may well be that Frodin judged these works not to fall under the citation criteria for selecting books and papers, but it seems strange that e.g. for Sabah he cites only three works on trees, whereas the big works on the Kinabalu Flora are 'dismissed', and that one looks in vain for an account of the floras of Mt. Arfak, Mt. Carstensz and Mt. Wilhelm in New Guinea.

He argued (p. 496-b) that 'Many other collection reports, some relatively substantial like those by Gibbs, Ridley, Valeton or Warburg, also exist, but as they are scarcely floras or checklists they cannot be considered here'.

I would wish that common sense had superseded formality of selection.

This work is excellently printed and faultless to printing errors. It is a 'must' for the libraries of all Universities, Botanical centres and Institutes.

C.G.G.J. van Steenis.

HSÜ, Kuo-Shih (Ed.). The wild woody plants of Taiwan. Dept. of Agriculture, Taiwan. 1984. 172 pp., frontisp., 210 photographs. Not for sale.

An attractive booklet illustrating the principal woody dicotyledons of Taiwan in flower and/or in fruit. The text (entirely in Chinese) gives notes on characters, distribution, ecology, and use. The genera are in alphabetical, Latin sequence. The photographs, all in colour, are excellent and well-reproduced. —— K.U. Kramer

LANLY, J.P. Shifting cultivation. Defining and measuring shifting cultivation. Unasylva 37 (1985) 17—21.

Because of the many different uses of the words 'shifting cultivation' FAO has adopted an operational definition to refer to shifting cultivation as 'a system in which relatively short periods of continuing cultivation are followed by relatively long periods of fallow'. A formula of shifting cultivation is given:

$$R = \frac{C \times 100}{C + F}$$

in which the ratio (R) is expressed by the length of the cultivation period (C) times 100 divided by the total cycle of land utilization (C + the fallow time F). By way of definition we can say that when R is less than 33, the corresponding system is shifting cultivation. So all systems with a short fallow are excluded as are all types of encroachment of forestland by cultivation when there is no cycle of cultivation and fallow. That means that destructive systems in which the cultivators after one of two years move on and do not come back regularly to the same spot are excluded. Because of the diversity of definitions hitherto used, or in some cases lack of definitions, figures of the extent of shifting cultivation are highly variable. The situation has now improved because of the recently completed FAO/UNEP Tropical Forests Resources Assessment Project (FAO/UNEP, 1982). Shifting cultivation and long fallow agriculture and their degraded forms are a major feature of rural life in most developing countries. They involve about 500 million people and affect 240 million hectares of closed forests and 170 million hectares of open forests, or about 8.3% of the world's total tropical land area (about 21 % of the tropical forest area). Shifting cultivation is

increasing at an average annual rate of about 1.25 %, with more than 5 million ha of new forest fallow being created annually. Modifications and alternatives that are at the same time socially acceptable and technically valid have in most cases still to be conceived and implemented. In this forestry and foresters can provide a useful and significant contribution. —— H.P. Nooteboom.

LEACH, G.L. & P.L. OSBORNE. Freshwater plants of Papua New Guinea. University of Papua New Guinea Press (1985) 254, 59 fig., 32 col. phot. To be ordered from the University Bookshop, P.O.B. 114, University Post Office (N.C.D.), Papua New Guinea. Kina 17.00, US$ 17.00, add postage per copy: within PNG 50 t surface, K 2.00 air; Asia, Pacific US$ 1.15, others US$ 3.00; plus US$ 3.00 for bank orders and cheques in overseas currency. ISBN 9980 84 003 X.

An excellent manual with keys to genera and species, descriptions, ecology, etc. Arranged by families in alphabetical order. Mr. J.R. CROFT is responsible for the Pteridophytes, and some other families were elaborated by specialists, e.g. P.S. ASHTON, B. CONN, E.E. HENTY, etc. The text is well-balanced and informative. Eichhornia and Salvinia molesta are badly spreading.

MICHON, G. De l'Homme de la Forêt au Paysan de l'Arbre. Agroforestries Indonésiennes. Thesis. Academie de Montpellier. 1985. 273 pp, many diagrams and photos. (In French).

Two agroforestry systems are analyzed in detail, using floristic, structural and ethnobotanical approaches in order to appreciate both the status of existing agroforests and their role in the functioning of the global agro-ecosystem. One is in the South of Sumatra, where population density is low and where rice culture is based on swidden agriculture. The agroforestry practice concerns the establishment and exploitation of cultivated forests dominated by a resin producing Dipterocarp, Shorea javanica and various fruit trees, and yielding both cash money from the collection of resin and foods or material for home consumption from other trees (cultivated as well as spontaneous). The joint evolution of the agroforest and agricultural system in relation with increasing population density and regression of primary forest is analyzed. The second example is in West Sumatra, where irrigated rice culture has been established for centuries. Agroforests have been exploited for a long time and represent an interesting combination between cash cropping with perennial spice trees (nutmeg and cinnamon) or coffee and subsistence practices involving the tending of fruit trees or wood providing trees and the collection of spontaneous species for food and material. The stability of the system, and its role in stabilizing the whole agricultural system is analyzed. The function of this agroforest as a valuable buffer between villages and the protected forest of the area is emphasized. These two case studies are complemented by an analytical review of different agroforestry practices in Sumatra, Kalimantan and Java in forest and densely populated areas. Emphasis is put on a case study in Bogor (West Java) where traditional village and home garden encounter deep mutation in relation with extreme population pressure (2500/km^2) and market pressure. The mutation of gardens (in floristic composition, structure, management and role) as well as the role of this mutation in the adaptation of rural society to extreme conditions are analyzed. Management and use of trees, forest structures and sylvigenetic processes developed in these different peasant agroforests are examples of great value for agroforestry scien-

ce as well as for conservation and forest management. Recommendations are made to encourage more systematic studies and analysis of all kinds of vegetations transformed or used as agroforests by peasants in humid tropics. Ideas are given to use the conclusions of such studies to harmonize a well balanced development of traditional agriculture and the protection and maintenance of useful forests in the tropics. Prospects for encouraging agroforestry systems and practices in the design of buffer zones around protected areas are commented. - We can congratulate Mme Michon with this work. But to be of more value is should have been written in English, if alone because there is hardly any Indonesian who can read French. —— H.P. Nooteboom.

ROSS, M.S. Forestry in land use policy for Indonesia. Thesis. Green College, University of Oxford, Trinity Term, 1984. 266 pp.

Mimeographed, the 'diagrams' are often badly reproduced. In an annex, a paper jointly made with J. ESPINOSA, Land Resources Officer, FAO for the Department of Transmigration, an example of the practical application of the integrated forest classification and its use for choosing agricultural land from dryland rainforest is given. The author examines the present system of forest land classification in Indonesia and finds that the system is not capable of fully assessing the productive potential of the forest and, thus, of identifying which lands should be retained for forestry and which could be released for other purposes such as agriculture. He proposes a new forest classification system which is tested using data from areas of forest in Indonesia which could be used for either forestry of agriculture.

This thesis is an impressive work based on official data from the Indonesian Government, explaining what is wrong in the hitherto used system of forest land classification. A tremendous amount of work and nine years experience in the forestry sector in Indonesia have gone into it. Nevertheless, I have some severe criticisms. The author based his conclusions on several assumptions of which no proof ever has been given. One of them is the productive capacity of the forest. The current annual production under the Indonesian Selective Logging System (ISLS) with a rotation cycle of 35 years, is an estimated 1 m^3/ha per annum. The author states (p. 54) that through silvicultural treatments this can become as high as 3 or even 8 m^3, which he bases on yields that have been obtained according to some publications. But, to my knowledge, nowhere in the tropical rainforest such silvicultural treatments have ever been proved to be sustainable after, say 3 or more rotation cycles. In his new forest classification model (p. 100) soils per se have not been taken into account, because most of the soils encountered in the dryland tropical rainforests of Indonesia's outer islands are uniformly very low in nutrients. It is argued that if the soils were not suitable for this type of forest, it would be reflected in the quality and quantity of the standing stock. As the primary rain forest had a few million years to develop, in some places probably even tens of million years, it could attain this standing stock and diversity. It is very well possible that even the 1 m^3 per year under the ISLS is unrealistic.

Another matter not stressed enough by the author is that the forest composition under the ISLS probably will change towards more light demanding, in reality species of secondary vegetation types. He is aware of the fact that some trees inexplicably die 3—5 years after logging which is thought to be caused by

compaction or the severing of surface roots. It is possible, however, that the insulation after opening the canopy results in higher surface temperatures and the death of mycorrhiza thus preventing the tree from a sufficient uptake of nutrients, especially phosphates. This same phenomenon causes the gradual change in composition under each logging system with considerable opening of the canopy. Several Dipterocarps, e.g. Anisoptera thurifera and some Shorea species belong to this essential secondary rain forest growth and might be valuable for timber. If so, it should be taken into account and enrichment planting with these species should be considered. Provided, of course, that the soil is capable of sustainable production of the foreseen number of m^3 per year.

There is a good chance that the conclusion (p. 187) 'Indonesia has far more land allocated to production forest than it actually needs. With ever increasing demands for land, this situation cannot continue.' has to be changed considering the above.

The present allocation of forest land to production forest is 64,051 million hectares (p. 225, table 2), the predicted area (by Ross) over 50 years is 21,380. As not enough is known yet of the productive capacity of most of the soils for forestry, and as nearly all of the soil belongs to the lowest suitability class of suitable soils (S3) or even to non suitable soils (class N) the greatest care should be taken before converting forest into agricultural land notwithstanding the rapid growth of the population. The figures for conservation forest and protection forest are 18,679 and 30,345 (present), and 25,000 and 50,000 (over 50 years). This seems rather optimistic and needs a firm and active involvement of the government to be realized. —— H.P. Nooteboom.

SCHOFIELD, W.B. Introduction to bryology. MacMillan Publishing Company, New York. 1985. 431 pp. DM 135.00

Students and teachers of Bryology should welcome this new introductory book. It is a much expanded and updated version of an earlier one, 'The structure and life of bryophytes' (E.V. WATSON, 1971, Hutchinson & Co Ltd.) which has been a widely accepted textbook. However, the approach to the various topics in this new one is rather different. Schofield has been wise to treat in basic details all the major groups of bryophytes before attempting to deal with the comparative discussions on their ecology, physiology, chemistry, cytology, genetics, and geography. The whole is more than amply illustrated with beautifully and accurately executed line drawings and SEM photographs. It contains important information on several tropical groups of mosses. The style is plain and straight forward though with great enthusiasm. It is no wonder that the book has been given the 'Most outstanding book in Life Sciences in 1985' Award. It has been printed on good quality paper. Unfortunately the price is too high for the average student, who would do well to possess it. —— B.C. Tan.

YEOM, F.B.C. Lesser-known tropical wood species: how bright is their future? Unasylva 36 (1984) 3—16.
BETHEL, J.S. Sometimes the word is 'weed': a critical look at lesser-known species. Ibid.: 17—22.

An interesting discussion on the use of lesser known tree species for timber. The first author stresses the importance of research of the utilization potential of lesser known species (LKS) especially for Africa and S. America. In

Asia the current non-utilization of the LKS "is perhaps a blessing in disguise" because in the dipterocarp forest already too much damage is done without extracting the LKS. He is of the opinion that the elements of trade and development must be given equal priority and importance in the development of tropical forest resources. Since up to 93% of tropical forest volume consists of LKS, and since many LKS are at present being burnt or otherwise wasted after logging operations etc., the need to utilize them is obvious. This is especially true in many countries in Africa and Latin America where present logging volumes are low. The problem is that the demand outlook, at least in the short term, is not particularly bright.

The second author, on the other side, thinks it not worthwhile even to try to develop what he calls secondary species (= LKS). In the United States, he argues, all efforts to find uses for so-called 'low quality hardwoods' were in vain. So why try again in the tropics. He comes with a number of other arguments, most of them valuable in this context. Although most forests in the humid tropics contain a very large biomass (average about 300 tons/ha) the percentage of merchantable wood is very low. Most species can be considered weed species. He argues that, if the forests of the humid tropics are to contribute significantly to the production of industrial wood, it will be necessary to foster the production of preferred species and to eliminate weeds. He also states that because we never know whether those weed species might be of value in the future, it is clearly unwise to eliminate them entirely. They should be represented in gene pools where they can be studied and propagated when they are found to be merchantable.

So all the exploitation forest has to be converted to managed forest with only one, or a few, merchantable species. May I comment that the author, clearly very knowledgeable in temperate forestry, obviously does not now a bit of the problems we are confronted with in the tropical rain forest. Often the soils that are good enough for production forest can be more profitably used for other kinds of plantations or even agriculture. The very poor soil that remains most probably is not capable of giving a good harvest, even in a managed mono-culture. As a matter of fact, if it is possible to grow timber plantations of tropical hardwood profitably, it should be done immediately, not wasting one more year. For a lot of soils in the tropics, however, it is still not known what species can grow there profitably, and how to grow them. One of the problems is that monopodial trees like pines often give a good volume - if they grow. But sympodial trees like most of the hardwoods, including dipterocarps, when planted outside the dark primary forest might reach their mature state earlier, start branching, and give a shorter bole and thus less volume. That is why the remaining rain forest is exploited. And why we need also to use the LKS. Especially when forest is converted for other use, and most of the trees are wasted, a better knowledge of LKS could save a lot of other forest. It is a question of knowledge because it is not true that the LKS often provide poor timber. Many of them are used by the local population and offer beautiful and good timber, but not merchantable - as the author also argues. Traditional species are easier to market. Can it not be that timber prices are much too low? —— H.P. Nooteboom.

A review of policies affecting the sustainable development of forest lands in Indonesia, Government of Indonesia, Jakarta, 30 November, 1985. A co-production

between the International Institute for Environment and Development and the Indonesian Ministries of Forestry; Population, Environment and Development; and Interior. Three volumes (a fourth not yet ready). Mimeographed, respectively 24, (without annexes) 150, and (without annexes) 142 pp.

1. The main issues, the discussion document which discusses the main problems regarding productivity of the forests, protection of the forest, and policies of land using.
2. A Review of policies affecting the sustainable Development of Indonesia's Forest Lands. This contains a list of abbreviations and acronyms which proves very valuable because the Indonesian language is 'enriched' by a vast number of them and they are also used in english text. In the various chapters the current misuse of land and the cost of continuing current trends is at length discussed. Other subjects are Maintenance of sustainability by protecting Forest Land; Increasing productivity in the forests; Analysis of the issues in relation to policy. In the annexes a.o. a glossary of technical terms is given, a list of least successful Transmigration projects, a bibliography, USAID Policy on humid tropical forests. From the latter it appears that USAID is much concerned about the environment and will not fund environmentally unsound projects.
3. Background Paper.
4. Strategy Paper. Will discuss alternative strategies by which the Government may address the issues affecting forest development identified by the review.

This monumental work points at all the failures of past and present in Indonesia's forestry and land use policies, including transmigration. Volume 1 and 2 present, respectively, first a general and then a detailed discussion of the issues facing forestry development in Indonesia today. The purpose of the Background Paper is to describe the conditions from which this issues have emerged. In addition it contains a general review of the state of forestry sector and the role that forestry sees for itself in the medium to long term future.

Especially in volume 2 the effects of transmigration are discussed throughout the report. On p. 115 the following question is raised: Is Transmigration achieving real and lasting benefits for the nation or providing only temporary relief for Java and sowing the seeds of widespread environmental degradation and forest destruction on the Outer islands?

The answer, in short, is '... the Team has come to the conclusion that for the most part ... that the program as it presently is implemented does not support sustainable development of Indonesia's forest lands or for that matter, the settlements themselves.' One point of criticism is that degraded land is not used for transmigration, but only forested land. Developing farming systems for the degraded lands, and stopping transmigration to forest-covered land, would lessen both the existing and future pressure on forest resources. In the appendices a review on transmigration planning to Central Kalimantan is included. —— H.P. Nooteboom.

STEENIS-KRUSEMAN, M.J. VAN. Malaysian plant collectors.
See remarks under Cyclopaedia of collectors.