XI. REVIEWS

(continued from p.1449)

*Allen,B.Molesworth: Malayan Fruits. An introduction to the cultivated species (with Thai and Tamil names). 1967, 245 pp., 73 fig., 10 phot., 1 tab. 8°. Donald Moore Press Ltd. Singapore. M$ 7.50.

A popular guide in a handy well illustrated and well-printed cheap book of the most common edible fruits. By the "quick guide" on the table one can orient himself on the identity; also within the genera there is a key to the species or varieties. Each species is fully described and for the layman a glossary of botanic terms is added, for the housewife a list of recipes.

There is a map added of Malaysia which covers the whole of the Sunda shelf, "the word Malaysia is used in this book not in the modern political sense but as a convenient term for a wider geographic and ethnic area." Both map and explanation seems superfluous and confusing, as the references in the text are always to Malaya = Malay Peninsula. Many of these fruits cannot be grown in Central and East Java with their seasonal climate. It is curious to note the omission of any reference to a beautifully illustrated work 'Fruits and Fruit Culture in the Netherlands Indies' by Ochse & Bakhuizen van den Brink, which is published in a Netherlands and an English edition, covering almost the same ground.

The nomenclature of the scientific plant names leaves something to be desired. For example: p.41: Diospyros discolor Willd. is an illegitimate name; it should be D.philippensis (Desr.) Gürke; p.189: Cryphomandra should be Cyphomandra; p.183: Achras Zapota L.; as the generic name Achras is rejected, and Manilkara a nom.cons., this should be named Manilkara achras (Mill.) Fosb. or, if taken as generically different from Manilkara, it should be called Nispero achras (Mill.) Aubr.; p.38: Cucurbita citrullus certainly does not belong to Cucurbita but to Citrullus and the species should be called Citrullus vulgaris Schrad.; p.143: Zizyphus mauritiana Lamk must assumedly be called Ziziphus rotundifolia Lamk.; p.182: Nephelium litchi Camb. is accepted for the litchi which is often considered to belong to a separate genus, as Litchi chinensis Sonn. If Litchi is sunk in Nephelium, which appears likely, the correct name is N.chinense (Sonn.) Druce.

The botanical supplement, on the responsibility of J. Sinclair, could better have been omitted, adding only confusion. Bouea macrophylla Griff. 1854 is the correct name for the gandaria; B.gandaria Bl. 1850 proposed, is a nomen provisorium, hence illegitimate. Bouea microphylla Griff. 1854; if conspecific with Mangifera oppositifolia Roxb. 1820, the correct name is B.oppositifolia (Roxb.) Meisn. ex Walp. Rep. 1

(1842) 556, not of Adelbert who made the same combination again in 1947. For Citrullus is suggested to take Colocynthis but the latter is a rejected name, against Citrullus which is a nom.cons.; Carissa carandas L. and C.congesta Wight are both legitimate names; so far as known to us C.carandas is the Malesian species.

These botanical inadequacies do not of course interfere with the usefulness of this booklet.--R.C.Bakhuizen van den Brink & C.G.G.J.van Steenis.

*Davis,G.L.: Systematic embryology of the Angiosperms. 1966, 528 pp. J.Wiley & Sons Inc.

For taxonomists a desillusion. Families (of Hutchinson) are enumerated alphabetically, as the author says "because the work is intended as a guide to future workers". Of course the alphabetic index of family and genus names serves as well for such purpose. It prohibits comparison of descriptions of allied families. This is especially serious because the finely split families in the Hutchinson system come now wide apart. Further "no opinions are expressed on affinities between families or on the validity of the families themselves". Of each family is described the development of the anther as far as and including the pollen. Of the female organs the ovule is described as far as and including fertilisation, and an indication of the character of endosperm. But nothing is added about the morphology of the embryo itself, as we found in consulting the Lecythidaceae and Rhizophoraceae. As the author says that "the practice of grouping like with like ... is systematic", the title is unclear, because like families are not grouped with like families, but alphabetically arranged. Further the term embryology said to be "used in the wide sense" becomes enigmatic; because in Lecythidaceae for example there is an almost unique variety of embryo types which have been described, but all this is omitted in this book, and even no concise digest is offered to the reader.--C.G.G.J.van Steenis.

*Jamieson,B.G.M. & J.F.Reynolds: Tropical plant types. 1967, viii + 347 pp., 206 fig. Pergamon Press, Oxford etc. Sh.50/-.

Let nobody be deceived by the title of this book, which naturally attracts the attention of tropical botanists. The majority of the examples discussed are purely temperate: Dryopteris filix-mas, Ginkgo biloba, Pinus sylvestris, Ranunculus (in the tropics only on the mountains), Lilium, Pisum sativum, and from the amount of space given to these familiar hobbyhorses, we get the impression that this book leans heavily on the older textbooks, with newly drawn figures for the occasion.

This would not mean a drawback in itself, if not so many chances to discuss features specific for the tropical plant

world so obviously had been missed. There is not the slightest explanation of the differences between the tropical and the temperate flora and vegetation. Not even the mangrove is properly discussed under a heading of its own. The cauliflorous habit has not been mentioned at all, epiphytes only in passing. No mention either of the periodicity in flowering so nicely expounded by Holttum in 'Plant Life in Malaya', nor of the nitrogen fixation in the phyllosphere, recently investigated by Miss Ruinen, although the main orientation of the book is anatomical-morphological-physiological.

There are outright errors, like the suggestion that the banyan-type of fig develops from a seedling in the soil (p. 155), whereas "strangling figs" develop from seeds dropped by birds on branches of other trees, that buttresses are mistaken for roots (p.158), and misspellings like Bougainvillaea.

Under "vegetation types" have been discussed: xerophytes, halophytes, hydrophytes, mesophytes; under "plant communities", tropical rain forest, vegetation in drier regions, and mountain vegetation, all in 10 pages and without one illustration. There is not a single reference for further study, and not a word on that all-important subject: the impact of man on tropical vegetation.

Although intended for pupils in the final two years of their secondary education, and for first-year university students in tropical countries, 'Tropical Plant Types' cannot be considered but poor even at this level. Realizing ourselves that for 5 shillings more Corner's 'Life of Plants' (see this Bulletin, p.1152) can be had, we cannot but remark that besides such a book, the present one makes a miserable bargain.--M.J.

*McClure,F.A.: The bamboos / A fresh perspective. 1966, xv + 347 pp., 99 fig. Harvard University Press, Cambridge, U.S.A. US$ 10.--.

In complexity and promise, both scientifically and economically, and in general lack of organized knowledge about them, bamboos as a subject are quite representative for tropical botany as a whole. This book seems eminently suited as a basis for further work. It gives a general picture of extant knowledge with utmost clarity, at the same time indicating the problems and projecting lines for research. It is most surprising to learn that there are in living collections in the U.S., "bamboos of evident superiority for various purposes, some of which were introduced a full half century ago, but which have not yet been subjected to any properly monitored basic investigations. Moreover, there are almost certainly in existence elsewhere other bamboos that for special purposes may prove superior to any of the numerous kinds immediately available in the United States." It is emphasized

that establishing species in agriculture may require decades of directed endeavour.

Dr. McClure's qualifications are well enough known among botanists; we get the impression that, within his chosen limits, he gives a very complete digest of the literature on bamboos; he cites almost 300 titles, although not all of these deal especially with bamboos. As for the limits, species distribution and possible relations of it with climate remain out of discussion, while on taxonomy the author is, at first sight, too terse. Bambusoideae - not as a family kept apart from the Gramineae - are very fully described as a whole, the genera under cultivation in the U.S. have been keyed out, but only a number of selected species have been described.

Considering, however, what the book has to offer, we sense a great deal of deliberation in its composition. An elaborate taxonomic treatment would have inspired very few persons. Little time is lost, too, in summing up technological applications. But there is excellent instruction in how to deal with bamboos for further study. McClure is elaborate enough - pointedly, that is - on the significant events in the ontogeny of a bamboo plant, on the suggestions for study, on a schedule of study of vegetative propagation, on the terms, and he has bestowed great care on the correction of faults in former literature.

The term rhizome is redefined as applying to each individual branch or axis of the rhizome system. The latter can be leptomorph (long and slender, thinner than the culms, but otherwise largely like the latter) or pachymorph (short and thick, subfusiform, maximum thickness exceeding that of the culms, internodes broader than long, with a bud on one side, variously dorsiventral, and solid). Both types may occur in one plant in certain patterns. A key to the rhizome types is given. Rhizomes are strongly recommended to the attention of collectors!

The branches may, besides differences in habit, be single or branched according to three essential patterns, which all can be understood as the result of different reductions in a general plan. As is well-known (see Instructions for collecting bamboos on p.903-904 of this Bulletin) the culm sheaths are most important to collect; they form a difference of great importance with the other Gramineae.

As some species, e.g. Bambusa vulgaris, never seem to flower, and as flowering is not automatically followed by fruiting, it is wise to think separately of the vegetative life cycle and of the reproductive life cycle, since the two may not be coextensive. It is observed, that no records are in existence corroborating the assumption that some bamboos have, as an innate character, a flowering cycle of a fixed length. Very little indeed is known of the causes that make

bamboos flower at a certain time. We remember that Dr. Holttum made many observations on the subtleties of periodicity in Malayan plants, but in Malaya bamboos unfortunately are not in habit of conspicuous gregarious flowering and dying afterwards, like those in monsoon areas.

As for the flowers themselves, the various patterns displayed can only be understood in relation to the whole inflorescence. More fruitful than conventional morphological concepts is the view through the eye of a physiologist, particularly if attention is given to the extreme range of expression often to be found on a single plant; the potentialities and dynamism in the developing inflorescence gives important clues to understanding the resulting structure. The data in various genera are, however, still defective; McClure maintains that the latter cannot be distinguished on vegetative characters alone.

Two basic forms of inflorescence are distinguished: indeterminate, with progressively elaborated branching, each flowering axis ending in a pseudospikelet, i.e. able to bud from the preserved meristem at its base; and determinate, whose development is limited to one grand period of growth, in which all the meristem in the inflorescence is used up and terminal growth ceases. Of pseudospikelets (the very short rachises clothed with lemmalike bracts each subtending a prophyllate bud and no flower) there are two sorts: primary ones, which stem right from vegetative structures, and give origin themselves to secondary ones. The fruits, which have hitherto played an insignificant role in classification for lack of material in spite of their diversity, are much in need of study, preferably along the lines of Holttum's work. Also the development of the seedling is as yet known in but a few species, with the pachymorph or the leptomorph rhizome.

Seven selected species: Arundinaria amabilis, Bambusa vulgaris, Dendrocalamus strictus, Gigantochloa verticillata, Guadua angustifolia, Melanocanna baccifera, Ochlandra travancorica, have been treated with drawing, vegetative description, and discussion of infraspecific variation, flowering and fruiting, distribution and ecology, propagation, suggested studies, and additional references.

The instructive character of the book is emphasized by the clear, diagnostic way of drawing. A list of species available in the U.S. and of the nurseries which have them, and a chapter on propagation, enables the reader to start research immediately. This book provides the beginner of bamboo studies with a splendid outfit and - considering the state of knowledge of bamboos in general - we are all beginners.--M.J.

*Richardson,S.D.: Forestry in communist China. 1966, xvi + 237 pp., 5 fig. + phot. Johns Hopkins Press, Baltimore. Price in U.K. Sh.50/-.

Forestry is not concerned merely with planting trees. Recently, attention has been drawn to a feature of developing countries that many economists have tended to overlook: the fact that the agricultural and industrial sectors of the economy are closely interdependent - progress in the one determines and is in turn conditioned by progress in the other. In the light of this interdependence, forestry and forest industry take on a particular significance. At one end they reach back into the rural economy, at the other, they penetrate into many branches of the industrial sector. This dual role of forestry is nowhere better illustrated than in the developing country of China. Agricultural productivity depends on water conservancy and, hence, on catchment afforestation and shelter planting, while timber resources are vitally important in the development of communications and industry, which must provide the base for agricultural progress. There are, in fact, few aspects of the economy which are not affected by the forest policy, many of them crucially.

From these words, taken, somewhat abbreviated, from the preface, it may be gathered that the book has been conceived from an important point of view. The emphasis on "communist" was necessary to stress the interrelationships between political conditions and the forest policy. The author travelled the eastern part of China in 1963 from South to North and back; he was free to observe and recognizes full collaboration. The book has been written in a balanced style, and is very informative. It claims to be the first comprehensive account of the subject.

China's flora has over 5000 woody species in almost 700 genera. The cultivated area amounts to only 11% of the entire country. There are ± 960.000 sq.km of forest, i.e. about as much as the total sand surface area - which gives an idea of the scope of the problems the country has to cope with. The timber resources are mainly in Manchuria and Inner Mongolia, 75% of them may eventually be accessible. The per capita consumption of forest products is 0.05 cu.m in China, vs. 1.88 cu.m in the U.S.A. In some areas, used toilet paper is collected and returned to the mill for repulping. In 1956, vast afforestation plans were initiated, including a great shelter belt around the Gobi-desert. Originally, such projects were in their execution strongly influenced by Michurin's "new Sowjet Biology" (which led, for instance, to ultra-close planting on account that intra-specific competition does not exist), and afforestation was given too heavy a preponderance over forest management. Recently, silvicultural techniques have been given a fresh attention.

The above bits of information form a very random selection but may show how interesting the book is. Chapter 1 deals with the economic background, 2 with the natural vegetation, soils and land use, 3 with forestry administration and policy, 4 and 5 with production forestry practice, 6 with water conservancy and protection forestry, 7 with education and research, 8 with the impact of Michurinist biology, 9 with arboriculture, with a paragraph on botanic gardens. Appendix 1 gives statistics with discussion, 2 gives the text of the official regulations governing the protection of forests and 'The People's Daily's editorial comment on it, 3 gives estimates of tree cover and stocking made during travel, 4 gives notes on 116 species used in sand stabilization.

The choice of species for mass afforestation presents but one of the formidable problems (ten important species, mostly conifers, but also Eucalyptus globulus, are discussed, and 175 ones listed). Many projects have been misdirected but all efforts are made to avoid errors in the future. It is the biological problems that may prove to be the most intractable.

The photographs are excellent and well-annotated; the general execution is very handsome; bibliography and indexes are given.--M.J.

Stafleu,F.A.: The Great Prodromus. In A.P.de Candolle, Prodromus systematis naturalis regni vegetabilis. Reprint of volumes 1-8, by Verlag J.Cramer & Wheldon & Wesley, Ltd. (1966). Introduction to volume 1, pp.5-41.

This most informative essay recalls the great days and persons when the composition of the last but one attempt towards a combined Genera et Species Plantarum was launched by the De Candolles. Stafleu has given a vivid sketch of the period and the circumstances under which this great work gradually came into being, 1824-1873, 17 volumes in 22, through the devoted work of Auguste-Pyramus, Alphonse and their team of famous specialists, the three sources contributing 4300, 1400 and 7500 pages respectively, covering all of the Dicotyledones. Accurate publication dates are given for all the families, the latter are listed, and of each contributor a short biography is provided.--C.G.G.J.van Steenis.

*Stafleu,F.A.: Taxonomic Literature. A selective guide to botanical publications with dates, commentaries and types. Dec. 1967, 556 pp. I.A.P.T.

The main body of this most welcome work is the publication dates of 1453 numbers, largely books, thus supplementary to Pritzel and incorporating the 'Dates of Publication' published in Flora Malesiana vol.4 (1954) and later contributions to that purpose in this Bulletin by Mrs. M.J.van Steenis-Kruseman. Besides containing far more titles, there are data on

the herbarium and types of each author with sources, and there are often useful annotations, occasionally flavoured by historical anecdotes (see Corda, Walpers). Though principally concerned with books, various journals cq. serials are treated under their editors (see e.g. Hoeven & De Vriese, Curtis, Cuvier, Walpers, etc.). Also other useful information is given in various aspects. A book indispensable for the taxonomist's desk.--C.G.G.J.van Steenis.

Steenis,C.G.G.J.van & C.den Hoed: Flora untuk Sekolah di Indonesia. Indonesian ed. translated by Nazar Nur. 1967, 234 + 6 pp., folio. Facultas Biologi, Universitas Nasional, Djakarta.

In spite of many efforts to get an Indonesian version published of this essential tool for botanical education in Indonesian secondary schools and first year's students, neither Unesco's instances nor the offices for International Technical assistance have been found agreeable to print this work which was originally published in Dutch as "Flora voor de Scholen in Indonesië", 1st ed. 1949, 2nd ed. 1951. The present stencilled edition (200 copies) shows the need of a printed translation. Mr. Nur has made some slight changes in the text and nomenclature. Another authorized MS, prepared under supervision of Dr. Kostermans, is waiting for printing, by whom and when? It is a discouraging thought.--C.G.G.J.van Steenis.

*Willis,J.C.: A Dictionary of the flowering plants and ferns. 7th ed., revised by H.K.Airy Shaw. 1966, xxii + 1214 + liii pp. Cambridge University Press. US$ 18.50.

The new edition has retained the hybrid character of the previous ones. It is again a mixtum of a name list and botanical knowledge, and although both are essential components of botanical science, they differ to the point of incompatibility in a book that is intended to cover all the vascular plants. The names of organisms are a product of the mind, and purely conventional. It is a mere matter of chance that a genus should bear the name Decorsella instead of Gymnorinorea. A list of names, to be of real value, must be complete, and it is, however difficult and laborious, possible to make it complete. With botanical knowledge, it is different. This rests on structures, not the products of the mind, but to be found in the plants. The name Violaceae might have been another, but the 5 stamens are there. The extent of botanical knowledge is prohibitive for even an attempt at complete presentation; contrary to the list of names, here has a selection to be made.

The latter has already repeatedly been done and sometimes very well; there are Encyclopedias of Horticulture, and several handsome manuals which give all the family characters to-

gether with a good many notes on taxonomy, distribution, and genera. This could in the present book be done only partially due to lack of space, in view of the necessity to give a complete list of genera. To this conflict the book bespeaks a composition not of building but of cutting; the text abounds in abbr. which usu. halt reading, and is almost completely without references, leaving it uncertain which part of the many bits of in itself interesting information is original, and if not, where a source could be consulted. On the other hand, the botanical information is sometimes disappointing: Loranthaceae are an "interesting" family; Rhododendron ferrugineum is "visited by humble-bees". But it is astonishing to read that Hippocratea has 1 species sensu A.C.Smith and 120 species sensu Loesener, without a word of comment. The former editions carried botanical terms, common and vernacular names, and economic products; these have fortunately been weeded out, but the botanical crop has remained and it must be said that it is uneven, although fortunately not at the expense of tropical plants. Lygodium is credited with 3 species by Mr. Shaw, whereas Dr. Holttum gives 13 for Malesia and 40 in all. It was not necessary: for the layman there are more attractive books on botany; the botanist who is after miscellaneous botanical information will continue turning to Engler's Syllabus, Hutchinson, Wettstein, Lawrence, or more specialized works.

Both laymen and botanists, however, will consult the new Willis in order to learn the family under which a genus belongs. As there is no recent work of decent format where this can be done, this volume comes to meet a widespread need. The fact that here we can find any generic name assigned under a family is one of the major aspects of its usefulness. In considering the work on this point, it seems that the author has been driven by the desire to innovate. During many years of identification at the Kew Herbarium, resulting in a vast amount of enviable knowledge of genera, it is perhaps natural that Mr. Shaw came to doubt many of the generally accepted taxonomic limits. He has succeeded in clearing up uncertainties with regard to the disposition of many genera wrongly placed; he has also proposed a number of new families. Accordingly, we find Cleome now referred to Cleomaceae, although up to 1965 the genus has unanimously been reckoned to the Capparidaceae. It is equally unnerving to find Fagraea referred to the Potaliaceae; it is nowhere to be found that Fagraea in virtually all works and collections is placed under the Loganiaceae. If under Hippocratea two alternatives in number of species are given (where nobody would look for), then certainly the alternative should have been given with regard to the place of a genus. This book is not taken in hand to learn the latest results of splitting and lumping, but to get the place where to look for a genus, i.e. the

place where it is most likely to be found. As it is now, the reader looking up Fagraea will have to revert to Engler & Prantl's Gesamtregister before he can find it in a Herbarium. To prevent such missers, the alternative families could have been mentioned if they came in use after Engler & Prantl's first edition, preferably with the author who first made the transfer, and the year in which it was proposed.

As we all know, the taxonomist is bound to strict limitations when he must seek the name for a taxon of a certain circumscription out of all the available ones. The foremost point is whether a name has a status under the Code. It has, if satisfying the criteria for valid and effective publication. It has not, if not satisfying these criteria, or if it is an orthographic variant of a valid name. If the name is not on the list of nomina conservanda or on its counterpart of nomina rejicienda, it is to be decided on the strength of the Code whether a name is illegitimate (e.g. being a later homonym), or legitimate. When a taxonomist has fixed the circumscription of a group, he is to determine, with the Code in hand, which name shall be accepted and which one synonymous. As all synonyms are to be listed, a taxonomist must find them for evaluation. He will turn to books like this one for assistance in this task, in particular to Post & Kuntze's Lexicon Generum Phanerogamarum of 1903. "I trust that those who have found that work useful will not find the present one less so". Best is, therefore, to accept Mr. Shaw's tacit invitation to make a comparison between the two, on the above points.

Validity of names. Neither of them differentiates between valid and invalid names; a nomen nudum without a status under the Code cannot be distinguished here from a name which has. Neither give an argumentation; but Post & Kuntze give (always?) no cross reference to a nomen nudum. Certainly it is a great pity that Mr. Shaw, while checking the names, has not added information on such an essential point of nomenclature.

Orthographic and author variation. Many variants have been given in both, Post & Kuntze changed the orthography of many names to what in their opinion was a better one; Mr. Shaw has justly undone this by reverting to the original spelling, but in doing so, he attributed to Post & Kuntze as authority a number of names of which the latter only gave a variant spelling. It would have been clearer if the way had been followed adopted by Post & Kuntze themselves in such cases, notably to cite e.g. "Diplocnema Pierre" = Diploknema, with the wrongly cited name in parentheses. The same could have been done with wrongly cited authors, if appropriate, adopted by Post & Kuntze, not by Shaw.

Conserved names have been in the Dictionary marked by an asterisk. But in order to find the names against which a name was conserved, the Code is to be consulted.

Legitimity of names. Post & Kuntze's work was an elaboration of a set of proposals made by themselves. Like they did, Mr. Shaw refers generic names to other generic names, the latter being correct. But any documentation is lacking; it cannot be learnt if the reason for the reference is on the point of validity, or of orthography, or of priority. Post & Kuntze appended in the majority of cases, the year of publication to a name, whereby it could be decided which one of two homonyms was the earlier. Mr. Shaw only gives year in case two homonyms were coined by the same author. It is to be regretted that the many fruits of recent study about dates of publication have not been incorporated in the Dictionary.

Accepted names. It would have been practical if a distinction had been made in print, like in Post & Kuntze's work, between accepted and not accepted names. Now an accepted name is known by its not being referred to another genus, and by indication of its number of species, with its range epitomized. To those genera which many taxonomists place under an older genus, Mr. Shaw has given an alternative reference, e.g. Gynandropsis DC. (= Cleome L.). This is an innovation; it would have been a great gain if he likewise had inserted (= Loganiaceae) in the case of Fagraea, with a greater consistency than has now been done.

Synonyms. The great difference in scope with Post & Kuntze, and not at all accounted for in the Preface, is the omission of cross references. There is no way of collecting, under an accepted name, all names that were, for whatever reason, declared synonymous with it. The only way is .... to turn to Post & Kuntze, where under each name all synonyms painstakingly have been recorded. As a system of cross-references is wanting in this edition of Willis (like it has been in the former ones), the book cannot make a claim to usefulness with the finding of synonyms. It is therefore a one-way book, while Post & Kuntze works in both directions. If cross-references had been added, it would have been no longer a revised Willis, but a revised Post & Kuntze, but it also would have bridged the gap between 1903 and the present, which now is still open.

It is for this reason, that the books in fact cannot be compared. Post & Kuntze also give subgenera and sections under their accepted names; they give, moreover, a list of families with all the genera that belong under them. This gives a monographer in any family the point whence he can find all the relevant names. The present book does not provide such facilities.

On the other two points to be considered, the Dictionary comes out favourably. It can hardly be imagined how much labour there is required to fulfill a task like this so that a specialist in a certain group or in a certain region has no additions to make. Dr. R.C.Bakhuizen van den Brink told me

that he found a number of lacunae. But even so, I do not hesitate to say that the work is complete to a high degree, far surpassing the limitations dictated by the unfortunate design. The overall accuracy, too, reaches a high standard, again within the limits of the book. Names referred to always exist indeed. Printing errors are not found. Author citation is consistent, punctuation accurate. If with his knowledge, his tenacity, and his accuracy, Mr. Shaw could decide to proceed towards a new edition of rigorously modified design, the result would be an incomparable tool to botanical work.-- M.J.

VARIA

Duckweeds - Request for collecting Lemnaceae in Malesia.

Under supervision of Dr. C.den Hartog, a revision of Lemnaceae for the Flora Malesiana is undertaken by Mr. F. v a n d e r P l a s, at the Rijksherbarium, Leyden.

There is lamentable lack of material in this genus which is not only unfortunate for establishing distribution ranges, but especially because in particular of the genus Wolffia (and Wolffiella) the account may be very incomplete. These very small plants do not float on the surface but are largely suspended under water and, though quite visible with the naked eye, easily escape the attention of collectors.

Any material of Lemnaceae, either dried, but preferably preserved in liquid in plastic tubes, will be very welcome indeed, as well as living material posted by airmail. If the latter arrive in living state they can easily serve for cultivation.

Please address to the Director of the Rijksherbarium, Schelpenkade 6, Leyden, Netherlands.

VARIA

"The area is vast; the flora of extraordinary wealth; the environments of exceeding diversity. Economically it is a great potential source of raw material. Its scientific problems are innumerable and hardly represented in the temperate regions - and are calling for urgent solution; problems horticultural, agricultural, sylvicultural, botanical; problems of plant introduction, problems of land use. It is an area in which deforestation and erosion are rapidly turning wooded mountains and grassy plains into worthless wastelands; an area in which the destruction of natural plant communities due to growing population pressure is occurring with increased rapidity; an area of wholesale ignorance concerning the most elementary conservation techniques; an area in which precious germ plasm providing possibilities for new combination of plant materials is being destroyed; an area in which the flora and the ecology is very inadequately known - and a good knowledge of the flora and the ecology is basic to the development of rational land use and on such knowledge a satisfactory level of living for the increasing population must be based.

Quite clearly a great trained manpower is necessary to conduct essential researches in this vast and complex area - and at present this manpower is not available. There is a great dearth of students trained to undertake research in tropical biology and this state of affairs must be corrected - and a start made on the correcting immediately. Students - and teachers - everywhere, but especially those teaching and training in temperate countries, must be made to realize how depauperate and abnormal are the floras of temperate regions, compared to those of the tropics, and how limited is the knowledge of plant science of those trained only in such regions; they must be made to realize how enthralling are tropical floras and how immense in scope are the problems awaiting study in the tropics - problems economic, taxonomic, floristic, ecologic, morphologic, physiologic, and cytogenetic.

You see, we cannot entirely blame the politicians. If they are not told in simple, forceful, straightforward language just what our problems are, we cannot expect them to come rushing to our aid with large sums of money."

from Dr. H.R.Fletcher's address "Challenges and opportunities" to the 17th International Horticultural Congress - J.Roy.Hort.Soc. 92 (1967) 108-116.