

XIII. REVIEWS
(contd from p.1036)

Brenan, J.P.M.: The value of Floras to underdeveloped countries (Impact 13, 1963, 122-246).

An excellent justification of the composition of tropical Floras with special stress on their usefulness for mankind. This essay should be in the hands of all administrators in these countries, for the matter and its presentation is easily understandable to educated non-botanists. It appears to me that the use for scientific botany, taxonomy and plant geography should have had more attention; in these more pure branches of botany, underdeveloped countries should also have their share. -- v.St.

*Burbidge, Nancy T.: Dictionary of Australian plant genera. Gymnosperms and Angiosperms. Angus & Robertson Ltd. Sydney, 1963, 80, xviii + 345 pp. £ 5.5.-.

This is a welcome up to date alphabetical account of the generic names which have been used for Australian and Tasmanian plants. Each generic name is provided with one or more references; those of introduced plants are starred; synonyms are provided with a cross-reference. Under each genus a succinct account is given of its geographical distribution and frequently one or more pertinent references to revisions, or important notes. One of the reasons for not arranging the material under families is the fact that there is not always unanimity of opinion about the family status of genera and delimitation of families, and the author has principally refrained from making decisions, giving in each case the possible alternatives. The same attitude she maintains as for the delimitation of genera.

Thus through its objectivity, the dictionary has more the merit of bibliographic precision and up to date survey than of an original botanical interpretation. It is thus strange to see *Intsia* reduced to *Afzelia*, although all recent authors agree that they are different (cf. Léonard, *Reinwardtia* 1, 1950, 61); *Flindersia* is definitely rutaceous; *Cynoctonum* is the correct name for the Australian *Mitreola*; on the other hand, *Serianthes* is reduced to *Albizzia*. It is clear that it is difficult for an enterprise like this to cover all litera-

* Marks a book.

ture, but I find more often quoted "non vidi" than seems necessary. Also, although the author stated that "no Australian worker can afford to neglect the literature dealing with the flora of the Near North" I find revisions in Flora Malesiana neglected under *Caldesia*, *Corynocarpus* (which occurs only in New Guinea and Aru, not elsewhere in Malesia), *Aegialitis* (which is shown to be bi-typic), and no reference to the examination of *Lemnairea*. *Calostemma* was reduced to *Eurycles* by Backer (Handb.Fl.Java 3, 1924, 93); how *Nyctocalos* became a synonym of *Neosepicaea* is unclear; *Leichhardtia* F.v. M. is here still under *Menispermaceae* but is actually *Phyllanthus* § *Nymanina*; *Gynotroches* does not occur in Australia. The following genera are, for example, not mentioned to occur in New Guinea: *Abrotanella*, *Agonis*, *Araucaria*, *Bubbia*, *Gaimardia*, *Gompholobium*, *Kennedya*.

Generally the references to author's names are clear, but why consistently Burmamn instead of Burman, Nees von Esenbeck instead of Nees ab Esenbeck, Decandolle instead of De Candolle (as de la Billardière)? *Hexalepis* is of Boeckeler, not Boekel, *Galinsoga Ruiz et Pavon* instead of *Ruiz and Pavon*; *Dysophila* must be *Dysophylla*. These criticisms show that the details of this valuable asset of botanical literature should be used with caution. It would have been of value if the author had tried to engage the collaboration of a well-equipped Herbarium. -- v.St.

* Corner, E.J.H.: The life of plants. Weidenfeld & Nicolson, 20 New Bond Street, London, 1964, xii + 315 pp., 41 plates. Sh. 55/-.

This book reminded me of the famous modern statue in Rotterdam by the great sculptor Ossip Zadkine. It strikes the eye as the expression of something gigantic, with holes in unexpected places that nevertheless are part of the structure, the contours sometimes flat and sometimes rugged but always surprising, and clearly belonging to a new era.

First a one-chapter-one-sentence summary. The source of life is the ocean, where seaweeds have worked out various life cycles; shore conditions promoted their variety and the formation of vegetations, in which construction problems of the plant body could be tried out and subsequently be realized in the different habits of present-day seaweeds; meanwhile differentiation in the life cycles sort of anticipated the one of the seed-plants. In land plants we find many characters of their marine ancestors, together with a number of new properties. Among the most important are lignification, which enables the plant to struggle upward, first pachycaul then leptocaul, and the production of seeds, which enabled the spermatophyta to travel. The result is a diversity of fruiting trees - for flowering is regarded as an elaborated neotenic stage of fruiting. The fungi gradually grew into their

great role of participants in the turnover of organic matter, now displaying an amazing wealth of forms; by supplying new kinds of food they promoted animal life, which helped to carry diaspores beyond the forest, where vegetable life has developed the herbaceous habit and thus could colonize less favourable habitats.

In this book, Mr Corner again acknowledges his debt to A.H. Church of Oxford, who was the first to correlate marine and terrestrial botany in a small book 'Thalasssiophyta and the subaerial transmigration' (1919), a correlation that is here worked out further. It is also an attempt to correlate tropical and temperate botany; from the tropical rain forest climax (Humboldt's hylea) the author draws lines to the vegetations of higher altitudes and latitudes, and from dryland to fresh water. He gives great attention to the pachycaul (= badly fossilizing) earlier floras of which fragments survive in botanical refuges like deserts, mountains and islands of long standing.

I should say that the book is carried by features of childish genius. Emphatically it acknowledges water (mother of men) as the mother of land plants, although admittedly we do not know how the birth took place. It has a preference for the conspicuous things: fat trunks, vast trees, big fruits, colourful arils (see the fine plates!), and for eating as a sound relation of great consequence. It is somewhat childish, too, in its complete trust in the experiment (p.223): "We do not know a pachycaulous durian tree, but experiment may make it, just as experiment may turn the pawpaw into a durian analogue". And, on the other hand, in its freely allowing physics and chemistry as a point of view to be superseded by the ancient four elements light and warmth, soil, gases, and water but how convincingly this vision leads to understanding the development of plants in their communities!

Few books testify to such an intimacy of a botanist's whole personality with nature. "I am beginning to wonder if, without the note of vegetable beauty, the chord of humanity would ever have been struck" (p.225). "The centre of a hard trunk becomes a dark brown soggy mass, which elephants, tapir and rhinoceros discover; they snuffle up the natural cheese and blow the interior clean" (p.230). "One aquatic aroid (Cryptocoryne) projects this bract as a tube some 12-18 in. through the water to open at the surface, and down this shoot slip beetles to overnight in an underwater cabaret" (p.204).

Such a picturesque and often brilliant mixture of botanical and all-day language is hardly apt for quotation in scientific books. Sometimes the style is spoiled by acceleration, like here: "If it gets wet by rainfall on the fructification, its apparatus is destroyed; the top of the basidium collapses and the spores are not liberated. This is the weak point about Clavaria which has led to the toadstool" (p.233).

Throughout, the book is a powerful blend of the expected and the unexpected, which makes it difficult to speculate about its success. I should not be surprised if it will exert great influence, but diffusely, so to say by way of the pillow: it is the ideal bedside book for any botanist. And the next day? Suddenly a new idea will enter his head! But also for the interested and uncommitted layman who wants a sniff of new botanical thinking, here is the proper reading.

Under the hands of a knowledgeable reader, the wide margins will soon fill up with notes and question marks - not wholly against Mr Corner's intention. There is, for instance, not so much as a hint at the telome theory and other morphological reasoning. The past is rather constructed by careful observation and interpretation of a wide range of present-day phenomena; thus indehiscent fruits are derived from dehiscent, and insect-pollination declared more primitive than wind pollination. Evolution is predominantly regarded as the finding of solutions for technical problems presented by new conditions to newly developing structures, and the main theme in 'The life of plants' is just this dynamism as it still can be seen at work in the great life communities, of which the tropical rain forest is the greatest.

"Now world exploration must rearrange the bits of knowledge to life Laboratories are the studies, not the prisons, of research". And, not the least part of Mr Corner's message: Let proper parts of the tropical forest be preserved by all means, but let us meanwhile set out to explore before too much is gone. The sea can wait. -- M.J.

Corner, E.J.H.: Royal Society Expedition to North Borneo 1961: Reports (Proc. Linn. Soc. Lond. 175, 1964, 9-56, 24 phot.).

Lively descriptions of the camps E and SE of the main peaks of Mt Kinabalu, N of Ranau, with sketch-maps of the camps. Evidence of rhinoceros was found. Vast erratic blocks with their typical vegetations are mentioned. One camp was in old secondary forest characterized by Adinandra, on the site of a former rock avalanche. The altitudinal record of the genus Ficus was set at 10,600 ft. The forest on the Pinosuk Plateau is very varied, mainly coniferous-myrtaceous-fagaceous-lauraceous, dense, wet, peaty, and very promising for further exploration. The new genus Trigonobalanus is mentioned; 2 photos show its self-coppicing habit.

Special reports, by members of the expedition, are added on the following subjects: Soils (several podzols); Fish (1662 specimens caught); Ficus on Mt Kinabalu (78 spp. listed in subgenus and section; relations exist with central Celebes); Fungi (over thousand collected; a small fruiting season in July; Wynnea for the first time recorded for tropical Asia; Russula nigricans found associated with Trigonobalanus; here may be the source for many temperate fungi groups); Tree

flowering (a varied regularity); Weather reports (some temperatures); Zones of altitude (4000-5000 ft: montane forest, 5500-9500 ft: mossy forest, 9500-10,000 ft: Lithocarpus havilandii forest, 12,000 ft: tree limit; amplification is needed); Amphibia (list); Forest (sites, soils, main species), Birds (supplementary notes to Smythies' book).

Do not forget to read "The Inflation of Taxonomy" by T.M. Harris in the same instalment, p.1-7. -- M.J.

Exell, A.W.: Space problems arising from the conflict between two evolutionary tendencies in the Combretaceae (Bull.Soc.R. Bot.Belg. 95, 1962, 41-49, fig.).

The tendencies are (1) the reduction of the size of the inflorescences by the massing together of relatively small flowers in dense subcapitate spikes, (2) the development of wings to the fruits as a dispersal mechanism. The solutions worked out are (a) obovate fruits, (b) formation of panicles, (c) reduction of wings, (d) formation of unisexual flowers; they are briefly reviewed for the various genera. The "hypothetical conflict" is looked at rather from the viewpoint of man than from that of the plant: "I had noticed in the field the failure of some species of Combretum to solve it in a satisfactory manner, even if lack of an apparently satisfactory solution did not seem to be an important disadvantage." Are species with seemingly ill-adapted fruits distinctly rarer and confined to smaller areas than others? Probably this is what matters for the plants, but this point still remains to be elucidated. -- M.J.

*Flora of Southern Africa started with the publication of volume 26 (1963) containing families 147-156 (Myrsinaceae--Apocynaceae) under the editorship of doctors R.A.Dyer, L.E. Codd & H.B.Rycroft.

The area covered is the Republic of South Africa, Basutoland, Swaziland, and Southwest Africa. The system followed is that by Engler, the groups covered are Gymnosperms and Angiosperms. Families are joined into orders or other groups of convenient size to form one volume. Order of publication of the volumes will be opportune. The present volume covers vii + 307 pp., 42 fig., index, is printed by the Govt.Printer, price R. 4.60, overseas R. 5.75 (postage incl.).

The text is almost purely taxonomic with descriptions of taxa of all ranks, synonymy, enumeration of specimens; mostly there is a succinct account of ecology and occasional notes on variability and uses. Great care is apparently given to indicate types of all names; these are cited at the end of the references.

The work makes a very careful, well-balanced impression. Specific descriptions are elaborate, which is to a minor degree due to rather profuse wording and to some generic characters which are not unfrequently repeated in descriptions

of species, a procedure which should be abandoned as it does not add news to specific definition. As in late years so much original work has been performed in South Africa it is hoped that this Flora will be completed in a reasonable period of time. To identify South African plants the Flora should be used in conjunction with Phillips's Genera of South African flowering plants, which contains a key to the families.--v.St.

*Gressitt, J.L. (ed.): Pacific Basin Biogeography. Bishop Museum Press, Honolulu, 1963, ix + 563 pp.

This record of part of the matter of a symposium presented at the 10th Pacific Science Congress is of paramount importance. The papers, by 26 zoologists, 13 botanists, 2 geologists, 3 paleontologists, 2 geographers, have been grouped to Ia) Bering Arc relationships, Ib) Tropical relationships, II) Biotic balance of island floras and faunas. They have in this Bulletin been cited in the Bibliography under their respective authors.

Trying to summarize or criticize even a few papers of direct interest to the Malesian botanist, among so many contributions of equal note, would be unjust; the contents of this Symposium, held from Aug. 21 to Sept. 6, 1961 at Honolulu, are simply recommended to anybody who has interest in tropical biology. -- M.J.

Johnson, L.A.S. & Barbara G. Briggs: Evolution in the Proteaceae (Austral. J. Bot. 11, 1963, 21-61).

The family has been worked out morphologically and cytologically. Characters regarded by Venkata Rao (1957) as primitive are largely agreed on; a few alterations are made to the effect that hypogynous nectary scales are primitive, that orthotropous ovules do not occur in the family, the anatropous condition being primitive, that the follicle, a sessile ovary, fairly large flat leaves with a tendency to be pinna-tifid, and a chromosome number of 7, seem to represent primitive conditions. An evolutionary scheme has been given, and a description of the imaginary Proto-Proteaceae which presumably existed under rain forest conditions before the Upper Cretaceous.

Interpretations are given of ovule and seed, and of floral orientation. Although taxonomic rearrangement is deferred for later publication, the characters and probable evolutionary trends in each group are discussed. Placospermum (which best concurs with the 'Proto-Proteaceae') is thought to represent an early offshoot before the differentiation of the Proteoideae, which are probably polyphyletic, and the Grevilleoideae which are more close-knit.

The frequent independence of trends of specialisation in characters is stressed; the primitive condition of the inflorescence is considered to be racemose, but the apparent raceme in the Grevilleoideae is a reduced panicle. The tubular

shape of the flower is a primitive character of old, on which many evolutionary trends are superimposed. Ornithophily is regarded as a specialisation.

There is evidence of a tropical origin of the family; suggestions of southern connections between Australia and Africa are discarded, although connections may have existed between Australia and South America. As for external relationships, the Proteaceae take a very isolated position. -- M.J.

*Kostermans, A.J.G.H.: Bibliographia Lauracearum. Bogor, 1964, xvi + 1450 pp. To be obtained from Bibliotheca Bogoriensis. \$ 20.---

This is a complete bibliography, printed from a very large card catalogue assembled through the years by the writer. It is beautifully printed and bound. The technique of compilation is unusual and the author has not given a full explanation of the principles adopted. For example, all species are cited irrespective of the opinion of the author, but in the synonymies it is not indicated what the opinion of later authors was. Also, if two authors have independently transferred a species (with its type) to another genus, these two "names" are taken up as different, instead of one in which the earlier author is adopted. It is further regrettable that of many combinations the basionym has not been mentioned; see e.g. under *Clinostemon mahuba*, *Cryptocarya alba*, *C. aromatica*, etc. Authorities are sometimes inaccurately cited, for example *Litsea cinerea* (Elm.) Merr. should be Elm. ex Merr., as Merrill cited this intentionally. Epithets belonging to the same basionym but cited with slightly different orthography, as *blumei* and *blumii*, have been entered as different names; see also *Cryptocarya masoia* and *C. massoy*. If an epithet occurs under three or more generic names, the basionym is mentioned only once, which prohibits the association of all names with the same epithet. This is of course a very valuable work, but the few notes made above make it clear that its technique should be carefully studied and its contents used with caution in order to have profit of it. -- v.St.

*Legris, P.: La végétation de l'Inde. Ecologie et flore. Trav. Lab.For., Toulouse 5 (1963) 596 pp., 20 plates, 2 maps.

A bulky work which no doubt contains much rumination, even among the many scattered "conclusions". There is a welcomed chapter on Man and vegetation (p.336-361). Without being able to judge the merits of the work in ecological respect, I spotted several minor errors and inconsistencies. A comparison with Laos and Madagascar seems to have been made for no other reason than that the author was there for some time. The maps are mediocre in execution. The bibliography contains about 700 numbers, mostly of the latest decade. -- M.J.

*Li, Hui-Lin: Woody Flora of Taiwan. Narberth, Penn., 1963, x + 974 pp., 371 drawings. \$ 18.75.

*Liu, T.S.: Illustrations of native and introduced ligneous plants of Taiwan. Taipei, 1960, 1962, xvi + 1388 pp., 1108 drawings.

Formosa or Taiwan is 36,000 sq.km in area, much of it still under forest; the highest of its many peaks is 3950 m; the rainfall varies from 2 to 11 meters with an average of 4.30. The flora counts nearly 4000 species, many of them endemic, but generic endemism is low. From Kanehira's Formosan Trees of 1936 at last two new branches have sprouted. Liu's 2 volumes are mainly for local use and largely in Chinese, Li's handsome single volume is for international consultation and entirely in English (except for some new Latin diagnoses). One naturally wonders why not the authors combined their efforts to produce one book, in an English and a Chinese edition.

The drawings of Liu's Illustrations look quite good and might even make up the more valuable part of the work. The drawings in Li's Flora are even better. But the remarkable thing is that both works were illustrated by the same Mr Cgien-Chu Chen, who thus drew most of the species twice. Liu's 'Illustrations' differs from Kanehira's work by having incorporated the introduced species, but otherwise seems largely to follow the latter's text. The absence of keys in Liu's work sets, of course, severe limitations to the usefulness. Li's Flora is mainly confined to the native species, but is (p.21) "the result of critical revisional studies on nearly all families." We may suppose that this "nearly" does not apply to the sample pages 235 and 236 which were reproduced in the publisher's circular, and seeing that just these selected pages dealt with Capparaceae, I became curious to compare Dr Li's results with mine.

The Woody Flora presents keys (based mostly on vegetative characters) to 105 families, 411 genera, 1030 species, brief descriptions and distribution, references, synonyms, and selected specimens (why not Herbaria abbreviated according to the international system?), of which the ones figured have been asterisked, and occasional remarks. There is a brief introductory chapter on the physical and historical background, a too sketchy account of the vegetations, and a bibliography and list of new taxa at the end. The phytogeographic analysis takes into account only woody taxa, and I guess that incorporation of the herbaceous flora might add considerably to the picture; it should not be forgotten that this Flora deals with just one quarter of all species.

Reverting to the Capparaceae, I observe that Capparis viminea Hook.f. & Th. (not ex, but in Hook.f., Fl.Br.Ind. 1, of 1872, not 1875) is a later homonym of C.viminea Hook.f. & Th. ex Oliv., Fl.Trop.Afr. 1 (1868) 97. The type of the

African species belongs to *C.tenera* Dalz. 1850. If the Indian *C.vimineae* is kept in specific rank (which I do not support), it should be renamed anyway. If the Formosan plant, however, would be conspecific with the Indian, it should be tomentose and glabrescent, not glabrous from the beginning. As it is, I hold it that the material placed by Dr Li under *C.vimineae*, is conspecific with his next species, *C.membranacea*. This may be a matter of personal opinion, but then the point still remains to be considered that *C.membranacea* should be placed as a synonym under *C.acutifolia* Sweet 1830. This name was introduced as a nomen novum for *C.acuminata* Lindl., Bot.Reg. 16 (1830) t.1320, non Willd. 1799. Lindley's plate is well-known and easily recognizable. As for the taxonomic value of the var.*angustissima*, adopted by Dr Li, the width of the leaves even in one plant can be variable enough to obviate the meaning of this variety.

The spelling *Crataeva*, erroneously adopted by generations of botanists, was corrected to *Crateva* by Gomez, Lilloa 26 (1953) 336, and by Bullock, Kew Bull. (1958) 99. When consulting the Flora Malesiana, Dr Li could also have read *Crateva*. *Crateva religiosa* Forst. (Li, p.236) does not occur in Taiwan. The name has been grossly misinterpreted by many authors before an attempt was made to redefine the species in its proper sense (Fl.Mal. I, 6, 1960, 65). In the same revision, on p.67, a species of the name *C.odora* was recorded for Taiwan. Further study has revealed that the Taiwan *Crateva* belongs under the African *C.adansonii*, which is represented by a chain of subspecies in the countries between.

I do not mean to outshine in a narrow field the author in his broad one. Many groups are better known than were the Capparaceae, and treatment of them in the Woody Flora will accordingly reach a higher standard. If Dr Li had found the above conclusions himself, he would never have had the time to produce a Flora. This proves nothing but the point that problems involved in the preparation of a truly valuable Flora of any tropical country are far too manifold and intricate for any single man, however capable. If this piece of criticism is to show one thing, let it be that it is impossible for one man to produce satisfactory taxonomic work, unless this is a thorough revision of one group at a time, over the whole of its area. -- M.J.

Moore, J.W.: Notes on Raiatean Flowering Plants with descriptions of new species and varieties (Bern.P.Bish.Mus.Bull. 226, 1963, 1-36, fig. 1-24).

A few plants collected by Moore in the 1920s were not described because they were without flower or fruit. H.St. John collected additional specimens of these plants from locality data supplied by Moore while a member of the Mangarevan Expedition (1934): New taxa described include: *Garnotia*

St.-Johnii, Mariscus raiateensis, Glochidion longipedicellatum, G.myrtifolium, G.salicifolium, G.temehaniense, Macaranga venosa, Crossostylis raiateensis, Metrosideros collina var. fruticosa, and var.temehaniensis, Meryta raiateensis, Rapanea raiateensis, and Psychotria cookei. He also includes a new combination, Fagara nadeaudi (Drake) Moore, and cites Leucaena insularum (Guillaumin) Däniker. The types have been deposited at the Bishop Museum. -- v.St.

*Narayaswami, V.: A bibliography of Indology. Vol.2. Indian Botany. Part 1 (A-J). Published by the Librarian, National Library, Calcutta, 1961, xlii + 370 pp.

This first part contains 5346 entries (+ 27 addenda); it will be followed by a second part containing letters K-Z, while the third part is to be a systematic index. It covers the literature up to 1959 as to morphology, anatomy, embryology, cytology, cytogenetics, plant teratology, taxonomy of cryptogams and phanerogams, paleobotany, ecology, phytogeography, phylogeny, botanical expeditions, travel accounts, biographies of Indian botanists, materia medica, and pharmacopoeas. The territory covered is India, Pakistan, Ceylon, Burma, Afghanistan and Baluchistan.

This is of course a very ambitious plan. As existing bibliographies on Indian botany (Blatter, Santapau) are fairly old or of more restricted aim, a complete bibliography would appear to be an asset. In scrutinizing it for taxonomic papers, it appears, by a few trials, unfortunately not very satisfactory. Notulae Systematicae is not entered in the table of abbreviations of extracted serials, but appears under Gagnepain's papers cited as "Phanérogamie". Gagnepain's publications are only given up to 1925; those of Clarke and Fletcher are distinctly incomplete, though missing entries were cited by Blatter and/or Santapau. Titles are often not cited verbatim (see under Duthie, etc.) and those in non-English written contain many errors (see under Jeswiet and Gagnepain). The reference to Janssonius's work on wood anatomy is entirely inadequate. The author seems not to have realized that critical data of Indian plants are found in a huge array of world literature and that Floras of adjacent countries are essential for Indian botany, notably those of Thailand, Indo-China, and Malesia. Bentham's Flora Australiensis contains many critical notes on Indian plants but is omitted. Papers in Flora Malesiana are not mentioned, although almost every revision in it comprises revision of Indian sheets.

This incompleteness is possibly in part due to the fact that the author based himself on material present in the National Library, Calcutta, but underestimated the magnitude of such a task. Obviously he did not check his entries with other bibliographies, even not Blatter and Santapau, to judge from discrepancies. It is to be regretted that only printed

text is mentioned, not plates, and that works only consisting of plates are not mentioned. Concluding, this work may be helpful but cannot be trusted for accuracy and completeness. There is an appreciable number of printing errors. -- v.St.

ORSTOM Bibliography, in full "Index bibliographique de botanique tropicale", edited by the Section de la biologie végétale de l'Office de la Recherche Scientifique Outre Mer, 80 Rue d'Aulnay, Bondy (Seine, France). First instalment, 1964, 45 pp.

This new Index intends "the concentration of the largest possible number of recent bibliographical references relating to plant biology in tropical climate." Two (offset) issues a year are planned; this first one contains 366 references, arranged according to author's names in alphabetical order, at the end classified according to subject, to family, and to continent. An appendix gives literature on West African savannahs, 46 numbers. No annotations have been added to the references. Because it seems somewhat unfair to criticize this first instalment, we prefer to wait for following issues. -- M.J.

Stephens, S.G.: Polynesian cottons (Ann. Missouri Bot. Gard. 50, 1963, 1-22).

Cotton remains in the focus of interest (see p.920-921), but little clarity is the result. Stephens's approach is mainly ethnobotanical. The Polynesians used *Gossypium* in many ways except for textile. As for the old problem of the origin of the Hawaiian *G.tomentosum*, the author's conclusion is that diaspores arrived long ago through Oceanic drift: the first introduction of cotton in Polynesia. It seems strange, then, that the species is confined to the Sandwich Islands, but no explanation on this point is offered.

It is suggested that the wild forms of *G.hirsutum*, which are widely scattered through S.Polynesia were introduced more recently, perhaps about 1600 by the Spaniards, who are known to have planted cotton at least once: the second introduction.

Gossypium barbadense and other commercial cottons became widely established by missionaries in the 19th century: the third introduction. -- M.J.

Symposium Amphitropical relationships in the herbaceous flora of the Pacific coast of North and South America (Quart.Rev. Biol. 38, 1963, 10-177).

Five contributors gave views on this interesting topic, L.Constance on Umbelliferae, Heckard on Hydrophyllaceae, Ornduff & Chambers on some Compositae, and Raven on a more general scale. Most authors are in favour of sporadic long-distance transtropic dispersal, even for distances of 3200-4000 km and more, although Heckard and Constance are more in doubt about this. Some studies are sustained by genetic experiments.

Most authors follow the opinion of certain geologists that the disjunctions have come about in the later part of the Tertiary, Pliocene or so. -- v.St.

*Wang, Chi-Wu: The forests of China, with a survey of grassland and desert vegetation. Harvard University, Maria Moors Cabot Foundation, 1961, xiv + 313 pp., incl. maps and phot.

The author made vast collections on his extensive travels through China, 10 million sq.km; the western part is grassland, the eastern part is forested by an unbroken expanse of woodland extending from the tropics to the boreal conifer forest which continues through Siberia to the arctic circle.

A brief historical survey is given of the knowledge of the vegetations of China, followed by a discussion of the major forest types into which the woodland segregates: the montane-boreal coniferous forests, the deciduous broad-leaved forest, the mixed mesophytic forest, the evergreen broad-leaved forest. It seems strange that the mixed northern hardwood forest listed on p.1 as a major category besides the former ones, is very scantily discussed, and that the rain forest has fared hardly better. The other chapters deal with grassland and desert, the development of plant communities, historic contraction and regional speciation, and the origin and segregation of forest communities. The bibliography contains c. 400 numbers.

The book seems to be a masterly review of the whole subject, concisely written with great intelligence. The maps (main vegetation types, rainfall, temperature, humidity, frost, soils, provinces) should have been larger and finer. The lithoprint is well-executed in itself, and the splendid photographs have been remarkably well reproduced, but a book of this value should have been produced in beautiful print. It seems worth much more than its present price of 3 dollars. -- M.J.

VARIA

Intemperate language should not be used in the discussion of zoological nomenclature, which should be debated in a friendly and courteous manner. Difficult problems are most readily and quickly solved by respecting the rules of courtesy in discussing the views of others.

International Code of Zoological Nomenclature (1961) Appendix A, Code of Ethics, number 6.