VII. BOOK REVIEWS

(cntd from p.294)

G a r d n e r, C.A. Flora of Western Australia. Vol.1 Part 1. Gramineae. Government Printer, Perth, April 1952. 400 pp. Numerous illustrations, 102 pl. 4 diagrams.

This important book, written by C.A.Gardner after 30 years of field study and several years of preparation, deals with 420 species of grasses of which over a hundred have been provided with a plate, by which the habit and important details are shown. Especially the drawings of various parts of the spikelets are very skilful , instructive, and of the utmost importance for students of critical genera.

There is an introductory part giving a general survey of the grass vegetation of W.Australia. It is a revelation to see that so many introduced and naturalised species had to be included; this striking invasion of 132 species affects a great change in the original vegetation.

As the modern grouping of genera, based on anatomical and cytological characters, is unpractical when used in a Flora, the arrangement of tribes and genera follows Hackel and C.E.Hubbard though with several alterations. Some of these changes are in my opinion no improvements. For example the tribe of the Eragrosteae is disregarded and some of its genera have been transferred to the Festuceae, others to the Chlorideae.

The main part of the book comprises keys, descriptions, and lists of localities. Synonyms and literature references are few. I have tried some of the keys and they seem very satisfactory. The descriptions are longer than usual and clearly the result of close and intimate knowledge.

There are wide differences between the grass-flora of W. Australia and that of Malaysia. Large genera like Stipa and Triodia, of which some species are the predominant grasses over large areas in W.Australia, do not occur in Malaysia. On the other hand rich Malaysian genera like Isachne and Ischaemum have no or only a few representatives in W.Australia. To my great surprise Sorghum timorense Buse is put on record. Judging from the description the author did not study the type-material, but followed Hackel, who had not examined it either. The true Sorghum timorense has much longer spikelets with a broad obtuse callus. However, such criticisms on this and similar taxonomic problems amount to very little, when considering the many great merits of this book.

Mr Gardner deserves the warmest congratulations and thanks of all serious students for the skill and patience with which he has performed his task.

P. Jansen

B a c k e r, C.A. Beknopte Flora van Java. Nooduitgave 12. Orchidaceae. 3 instalments, 494 pp. (Aug.-Sept.1952). In Dutch. Edited by the Rijksherbarium, Leyden. Price fl.15,--.

With the revision of the Orchidaceae a large step was made towards the completion of the Monocotyledones of the mimeographed emergency edition of the Flora of Java. This elaboration is, of course, largely based on J.J.Smith's former revision (1905), his additions, and a MS left by him. However, the author has used these sources critically and to his own satisfaction: he has checked most of the herbarium sheets of the Rijksherbarium in which Blume's types are represented. As usual in this Flora quite a number of cultivated species (estimated by me at about 200) have been incorporated. The total number of species amounts to 971, belonging to 139 genera. There is an original key to the genera! Terminology is facilitated by an extensive introduction, a glossary and two plates with schematic drawings elucidating the morphology of the orchidaceous flower. Citation of synonyms is very much limited. It is not clear to me why in some cases the basonym has been mentioned, but in other cases omitted.

The author is certainly to be congratulated with the completion of this opus at his advanced age.

C.G.G.J.van Steenis

E x e l l, A.W. & F.A. M e n d o n ç a. Conspectus Florae Angolensis. Vol.1. Lisboa 1937. 176 pp. Vol.2. Lisboa 1951. pp.177-422. Index, 20 pl. map.

These two parts form the complete first volume of the conspectus. It contains a synopsis of the families, keys to species and genera, and under each species a full synonymy (as far as Angolan plants are concerned), and an account of examined sheets. Through the critical synonymy its importance goes beyond the Angolan borders. Moreover, several new families are proposed, which affect Malaysian botany and give a wide interest to this critical work which is compiled under the auspices of the British Museum (Nat.Hist.) and the Botanical Institute at Coimbra.

C.G.G.J.van Steenis

F r a n c i s, W.D. Australian Rain-forest Trees. Forestry and Timber Bureau. Commonwealth of Australia 1951. 469 pp. 270 drawings & photogr.

This is a greatly emended second edition of the first edition of 1929. A considerable number of tropical species has been included, part of which are of economic importance as timber trees, and so far as their field characters were known. Also some extra-tropical additional species are included in the present edition. The introductory portion has been supplemented by several sections outlining atmospheric conditions, intensity of light, effects of vegetable detritus, slender stems, and Australian rain-forest trees in cultivation. In the reviewer's opinion the introductory remarks are kept too concise, in view of the author's wide knowledge about the remarkable qualities and generalities of Australian rain-forests. A fuller treatment should have served both science and education. The main body of the book falls apart into two parts viz (i) Australian rain forest trees excluding the species confined to the tropics and (ii) Descriptive notes on some rain forests and rain forest trees of tropical Australia. A good index concludes this copiously illustrated, extremely well-executed, valuable work.

C.G.G.J.van Steenis

C o r n e r, E.J.H. Wayside Trees of Malaya. 2nd edition 1952. Singapore, Government Printer. 2 volumes.

During the war many copies of this extremely useful book have been lost, and the stock has been exhausted for several years. Therefore it is very welcome to announce a second edition. Fortunately the blocks had been preserved and the new edition is as well produced as the first one. The new edition is not an exact reprint, but changes are few; the most important is an appendix covering two pages, containing treatments of two additional leguminous and two olacaceous species.

C.G.G.J.van Steenis

R i c h a r d s, P.W. The Tropical Rain Forest. An ecological study. Cambridge University Press. 1952. 8°. 450 pp. 15 pl. 39 tables. 43 fig.

Among the books which have appeared since Schimper's work of 1898 on the subject of the ecology and composition of tropical rain forest the present admirably produced work has outstanding value by two reasons viz: that the author had both the perseverance and the opportunity to study rain forest conditions personally during a prolonged period in the Asiatic, African, and S.American tropics, and secondly that the author possessed the quality to digest an enormous literature in various languages and was still able to mould these observations and theories from others with his own into an admirably balanced whole, keeping to main issues though by no means neglecting details when necessary. The vague ideas which in temperate regions often prevail among ecologists about the concept (tropical) rain forest are by no means wholly unjustified by the scattered and non-uniform literature which hardly anybody can master.

Prof.Richards tentatively tries to define the complex concept "rain forest" as well as possible. His book falls apart into 6 sections. After a clear introduction containing generalities on the biological spectrum of the rain forest, past and present distribution of tropical rain forest, and its significance for ecology follows part 1. This contains chapters on the Structure and Physiognomy: synusiae and stratification, regeneration, the physiognomy of trees and shrubs, and the ground herbs and dependent synusiae. Part 2 is devoted to the Environment: with chapters on climate, microclimates, seasonal changes, and soil conditions. Part 3 deals with Floristic Composition of Climax Communities: in various continents, methods of analysis, variation of type, and theory on climax. Part 4 embraces Primary Successions: primary xerosere, recolonisation of Krakatau, hydroseres, coastal successions. Part 5 pictures Tropical Rain Forest under Limiting Conditions: deciduous forest, savannahs and the altitudinal and latitudinal limits of tropical rain forest. Part 6 gives a sketch of Man and the Tropical Rain Forest: secondary and deflected successions. It is a pleasure to recommend this book to all concerned with rain forest in the tropics, but above all to those ecologists, foresters, and agriculturists in temperate regions who have not had as yet the privilege to visit in person the most full and possibly most ancient vegetation type Nature has produced.

C.G.G.J.van Steenis

C r o i z a t, L. Manual of Phytogeography. Publ. Junk, The Hague. 1952. 8°. viii + 587 pp. 105 maps. 1 fig.

Genetic plant geography is by common consent the most difficult branch of plant geography to handle. The taxonomist has to face and be in command of a colossal amount of published facts on the living and extinct plant world. His aim is to construct a tolerably exact picture of the genesis of the present plant world and to account for the intricate pattern this plant world shows today geographically. He has to handle the facts very critically, as much depends on personal vision in the so important field of "affinities" (Sippen). He ought to temper his imagination by a high amount of cautiousness and a rigid self-criticism, taking nothing for granted, advancing generalities tentatively, guiding himself on the firmest ground possible, banish all prejudice, and testing constantly the facts with inevitable speculations. He also has to explain clearly his guiding principles.

Only once a similar attempt has been made, viz by Engler (1879-1882), still a classic, but in which the author limits himself mostly to post-Tertiary time.

The title of Croizat's book, "Manual", raises hopes to find here a concise, methodological, original, balanced critical or at least tolerably critical compilation, sifting the main features of phanerogamic distribution.

What one finds in the present book is a very one-sided application of the idea that all genorheitra (ancestral lines of alliance in Time) of modern flowering plants have originated long before the Jurassic in ancient Gondwana Land, the hypothethical continent where now is the Indian Ocean, and more specially a few hundred kilometers E of Madagascar. In very early time this Gondwana Land welded Africa to Asia, Malesia, and the West Pacific together. From this centre the genorheitra of modern Angiosperms migrated (Croizat uses for this concept: "dispersal") in V-shape, west through Central Africa to America, East through SE.Asia towards East Asia and Malaysia. In pre-Cretaceous time they had, through continental connections, reached South and Central America, and certain parts of N.America and Europe, through "Gates", swarming out from the gradually crumbling and finally practically disappearing Gondwana continent. That these landmasses connecting modern continents existed at one time, says Croizat, is factually proved, as: -"without these landmasses of old, dispersal makes no sense". The African Gate (S.Africa and adjacent Antarctica) was the main highway, second in importance was New Caledonia and the Western Polynesian Gate (New Caledonia and adjacent Antarctica), the third was the still less important Magellanian Gate. During the "dispersal" secondary centres of development arose in the Kalahari, Nige-

ria, the Roraima Mts, and the Appalachians. The Northern hemisphere is a mere receiver, as well as the tropics.

This theme, the necessity of accepting the Southern hemisphere as the sole birthplace of the Angiosperms, is hammered into the reader's mind every five pages. Croizat tests the present distribution of revised families or genera and all seem after some consideration to fit into the scheme, sometimes after a longish discussion (and this admirably worded) in order to shake and interpret the present configuration and mould it until it is also prepared to enter the scheme, which, for the Pteridophyta, has been proposed tentatively by Copeland some years ago. The author fulminates against anything that would be in favour of an early dispersal of Angiosperms on the N.hemisphere (Holarctis: "some mythic land"). It is strange that neither in the bibliographic references (attached to each chapter) nor in the text the few great cautious approaches on genetic plant geography by Hooker, Engler, Hemsley, Warburg, and Diels, are sufficiently recognized, though the bibliographies are full of citations of minor or minute floristic technical papers. And these appear sometimes to be half-digested, as e.g. the genus Shorea (p.427) is credited to be a genus "endemic to Ceylon and India with three species among others in Malaysia", merely through a wrongly understood title of this paper; in reality this big genus accomodating about 200 species, is endemic in Malaysia with outliers in SE.Asia. Croizat considers such things as details to which, as he says, he is not paying attention, though on the other hand he repeats endlessly that his book is based on facts and these alone. Apart from his neglect of major works, he is apparently of opinion that hardly any other sound paper on plant geography has ever been published, and the same he holds for palaeontological and geological literature which finds no favour in his eye. Geology has, for the rest, to follow the "facts of botanical dispersal", and not the other way round, he argues. Consequently his dispersal routes are irrespective of any geomorphology.

Sometimes ecology turns in and then it appears that he assumes that, where a large family or genus has a representative in the beach or mangrove flora, the whole family or genus is derived from such a - natural - "wide" (Cycas, Barringtonia, Avicennia, etc.). His guess is: that the proangiosperms were "mangroves or near-mangroves"! Also, he attributes a high value to widely distributed weeds as Plantago major, Biophytum sensitivum, Erechthites, and he even believes that kapok might be native on Mt Kinabalu and in Negros, of all places (p.321).

To judge from his references he has used monographs of the Pflanzenreich and other handbooks, and what had been received in the last twenty years at the Arnold Arboretum

library. Besides he has evidently based himself on a limited amount of specially recent literature and this makes an equally unbalanced impression as his text where he contradicts himself on numerous occasions. This indicates that this book has been composed in haste and in pasting small pieces together written at different times. "All we are interested is in facts", he says, but in fact all his "dispersal facts" is pure guess work. He browses in a most intricate and difficult matter but does not realize where scientific generalising synthesis ends, and wild guesses begin. As a "Manual" it possesses no cyclopaedic value whatsoever, and the essential contents could have been exposed better in a 30 page concise technical article in 1963.

Courage and fantasy to write and print this book cannot be denied both to the author and the publishers.

A still more voluminous similar work on zoogeography, based on this phytogeography seems to be underway.

C.G.G.J.van Steenis

L a n j o u w, J. & F.A. S t a f l e u Index Herbariorum, part 1. The Herbaria of the World. Publ. by the Intern.Bureau for Plant Taxonomy, Lange Nieuwstraat 106, Utrecht.

This book is the first and very welcome survey of the herbaria of the world, alphabetically arranged according to their domicile. Of each herbarium particulars are given regarding its status, foundation, main contents, and present personnel.

The accounts have been inserted from filled questionnaires and the responsibility for the data rests, therefore, with the directors of the institutes.

This main body of the book is followed by some other chapters viz: (ii) Herbarium abbreviations, (iii) Geographical arrangement of the Herbaria, (iv) Geographical specialization of the Herbaria outside their own country, (v) List of specialists, and a personal index.

Chapters iv and v are not to be taken too seriously, as they are merely indices based on the data contained in the main body. Specially chapter v is very incomplete as many specialists are not attached to the regular staff of institutions possessing a herbarium. It should have been advisable to omit chapters iv and v and merge geographical and plant names in the general index together with the personal names.

C.G.G.J.van Steenis

International Code of Nomenclature. Oct.1952. 227 pp. 8°. Publ. by the Intern. Bureau for Plant Taxonomy, Lange Nieuwstraat 106, Utrecht.

More than two years had to elapse before the official Rules (in English) adopted by the Stockholm Congress have appeared. I am glad that, during the interval, Dr de Wit's efforts in publishing his in-official "Changes, etc." in the Nov.1950-issue of this Bulletin have been of use to numerous taxonomists, who had not the privilege of attending the Congress.

The delay is due to various circumstances, these in no small degree due to the necessity of providing these Rules with several new appendices, which had to be very carefully designed. These are: -- (i) Determination of types, -- (ii) Names of hybrids and some special categories, -- (iii) Proposed international code for cultivated plants, -- (iv) Special provisions concerning fossil plants, -- (vA) Nomina familiarum conservanda, -- (vB) Nomina generica conservanda, -- (vi) Guide to the citation of botanical literature, and a French translation of the Rules for which Dr Baehni is responsible.

All of us will be grateful to the members of the Editorial Committee who doubtless must have spent an enormous amount of time in accomplishing this satisfactory result, specially as the Congress left, in many cases, the so important final wording to the discretion of the Committee. Usage will show whether this polishing has succeeded. Usage also will show whether all articles are now mutually conformable and satisfactory.

Concluding this appreciation I will make a few remarks. It is not clear to me why the title of the well-known Rules has been changed into "Code", as in the present Code there is no heading indicating what are the "rules" other than in art.2, where a distinction is made between principles, rules, and recommendations. All what is said there to define the "rules" is a fortiori valid for the "principles" as these form the basis of the former. My conservative mind cannot find the present situation advantageous against the existing old title and definition.

Another deviation is the numbering of the recommendations which is now made conformable to that of the articles to which they pertain; this I find definitely advantageous.

The title of Appendix vA should read, I think: "Nomina familiarum phanerogamarum conservanda", as this list intends only to cover this group and no other taxa.

As to the citation, it seems a bit strange that the Code

itself does not follow the "Guide to citation, etc." of App. vi or, better, whether the "Guide, etc." is not brought into conformity with the Code and still advertises the horrible "Jour." instead of "J." or "Journ.", and robot-like abbreviations as "Colo." and "Sta.", which may be "sufficient to avoid confusion", but which lack sense for a conservative person like me.

A Code like this needs a good subject index, and every experienced taxonomist will agree that the composition of this index is both a delicate and a time-consuming task to perform. It can only be done by one who is thoroughly acquainted with the exact meaning and tendency of the articles. The present index is, unfortunately, unsatisfactory though more "complete" than the former one. It has apparently been compiled automatically by picking key words. But, items like "botany", "countries", and the like are entirely senseless. It is confusing to see 3 entries for nomina nuda, copied from the text as "nomen nudum", "nomina nuda", and "nom.nud." respectively. The same is found in "nom.conserv." and "nomen novum", and doubtless among others. If under these different entries the references to the articles had been the same, this handling could still have been acceptable, but that is, unfortunately, not the case, so that the reader is distinctly misled. Still worse is that, when an article does not contain a key word indicating the meaning of the article, the pertaining reference is omitted, e.g. why for nom.nud. is referred to art.51 and Rec.60G is not clear, but why here a reference to art.43 and 46 is omitted, is equally unclear. It is to be desired that I.A.P.T. compiles a new index to replace the present one.

C.G.G.J.van Steenis