

XIII. BOOK REVIEWS

H.H.Allan, Flora of New Zealand. Vol.1, 1961, liv + 1085 pp., 40 text figs., 4 end paper maps. Owen, Wellington.

The author died in 1957; this volume, which contains the pteridophytes, gymnosperms, and dicots, was seen through the press by Lucy B.Moore. The book weighs no more than 560 grams, so thin the paper is. This will require very careful handling from the reader, but few books are worth it as much as this one. The improvement compared with Cheeseman's Manual of the New Zealand Flora (1906) is enormous, and shows that the matter has been worked over completely. The introductory matter contains a record of literature on New Zealand Tracheophyta from year to year from 1769 onwards; an explanation of the New Zealand botanical region; a list of plant name authors with brief annotations; a synopsis of orders. Attached at the end are Latin diagnoses of new taxa, a glossary, a list of Maori plant names, and addenda.

The descriptions are concise, and a wealth of information is given by the notes on taxonomy, heteroblasty and polymorphy, and hybridism, without there being a word too much. It is obvious that excellent brains have been working busily on the design and execution of this Flora.

To every botanist who contemplates the writing of a Flora, this magnificent work is highly recommended as an example for study.--M.Jacobs.

Sir Gavin de Beer, The Sciences were never at War. xv + 279 pp., 16 portraits. London, Thomas Nelson & Sons, Ltd. 1960.

When William Jackson Hooker was a professor of Botany at Glasgow in the 1820's, the botanical lectures he gave for the students from 8 to 9 in the morning, were often attended by gentlemen of the city, and even by officers from the barracks three miles away.

We feel that this fact, which cannot be doubted, as it is the son, Sir J.D.Hooker himself, who relates it, is from a time which is irrevocably gone. It is a time when science had not yet pervaded life with a confusing multitude of facts and views, but still was something really scarce and desirable, a mark of true personal culture. It is this sort of time that the word 'never' in the title of Sir Gavin de Beer's book applies to, namely the period from the establishment of the Royal Society in 1660 and the Académie des Sciences in 1666, to the downfall of Napoleon. In this period of one and a half century, there was an aggregate of nearly sixty years of war between Britain and France.

But in both of these civilised countries it was universally felt by the leading men, that science was too high a good

to be involved in warfare. And through all wars scientists of those nations went on to communicate their findings and materials to each other, and as much as possible, in a way which perplexes us in this period when science dominates our existence as never before, but has lost its position as a cultural ideal. The situation is shown by this delightful passage in a letter Banks wrote to Fourcroy in 1803: "I beg, Sir, however, that you will be assured that I do not think the conduct of the chief of a nation when he wishes to go to war ought to compromise the more enlightened individuals of it."

It is not so that all scientific intercourse went on as if no war existed. Flinders, for example, coming back from Australia because of the rotten state of the 'Investigator' to take her to England in order to find another ship, was imprisoned by the French and interned on Mauritius for 7 years, notwithstanding the many efforts made by Banks to obtain his release. But the exchange of information between Britain and France concerning the newly invented small-pox vaccin by Edward Jenner in 1798, went on during the hostilities, much to the blessing of both parties. And that there existed a spirit of mutual esteem for science cannot be better exemplified than by this letter of 1755: "During the past month the vessel La Paix on passage from St Domingo was taken to England. It had on board a barrel of coffee, a small cask filled with birds and in addition a box full of insects of different species. The first of these interests me little and I would gladly surrender it in exchange for the two others that I beg you to claim on my behalf if you do not see too much difficulty in succeeding, and if it could be done without giving you much trouble." This is a letter written by Réaumur to Abraham Trembley, through whom he also obtained the release of the amazing one-armed French naturalist Poivre, who then was detained at Cork.

It appears that about 1745 a British naturalist in America took the precaution before dispatching a collection of dried plants to England of attaching a label to the cases in which they were contained, requesting the captor (if any) to forward them to Bernard de Jussieu in Paris. The boxes were actually captured by a French privateer, who did send them to De Jussieu, who "would take real pleasure in sending these boxes to him (the British Secretary for War) in order that he may forward them to the person who would have received them if they had not been intercepted by our privateer."

Also the long story of the fate that befell the collections made by La Billardière in the Pacific, Australia, and Malaysia, is told, and the many letters written by Banks in connection with this affair throw ample light on his powerful

diplomacy. Banks, then president of the Royal Society, even advised to annihilate the transfer of Billardière's collections to the Queen's herbarium, arguing that 'the National character of Great Britain will certainly gain much credit for holding a conduct towards Science and Scientific men liberal in the highest degree', and offered to prepare a collection of plants for the Queen himself, to make good the loss of this would-be acquisition. Banks did not even select a set of duplicates.

A most refreshing passage make the accounts given by the Englishman Flinders and the Frenchman Baudin when their ships met in Encounter Bay, off S.Australia. Both explorers, at first suspicious, soon started to tell each other of their discoveries. Later the two met again in Port Jackson, the French being in a miserable condition, and they were provided with fresh meat and "every means were used by the governor and the principal inhabitants of the colony, to make them forget both their suffering and the war which existed between the two nations." The French were thankful enough. In their narrative we read that the British colonists "often took pleasure in repeating that great axiom which France was the first to inscribe on the code of European nations: 'Causa scientiarum causa populorum'."

The reproduction of numerous letters to and by the great Sir Joseph Banks, places this singular benefactor of science in the centre of the book. Infinite are the troubles he took to exercise his influence, again and again, to obtain the release of scientists and explorers, French in British captivity, and British in French captivity; he succeeded in more than twenty cases.

The book, which at first sight seems rather technical and incoherent, will not fail soon to fascinate the historically minded naturalist. If one thing is to be regretted, then it is the scantiness of the 'framework'. Full weight is justly laid upon the authentical part of the work, namely the letters, very carefully reproduced in the original spelling and translated at the end of the book where necessary. Yet the interspersed notes and introductory matter though clear and compact, are so scarce, that the reader immediately asks for more. No doubt the author has come across a lot of interesting information, especially about the ultimate results of many of the affairs the writers of the letters occupied themselves with in such a supremely broad-minded way. Much of this information has not been worked up, and was apparently considered unfit for the scope of this book. This is a great pity, for now a beautifully edited and annotated collection of choice documents, however eloquent, remains, where there could have been a writing that would make one of the noblest chapters in the history of science.--M.Jacobs.

Flora Zambesiaca, edited by A.W.Exell & H.Wild, on behalf of the editorial board. Vol.1, part 1, 1-336, 58 tab. London, 1960. Crown Agents for Oversea Governments and Administrations.

This Flora borders on those of the Belgian Congo, Tropical East Africa, Angola, and South Africa, comprising North and South Rhodesia, Bechuanaland, Mozambique and Nyassaland, covering 2¼ million sq.km, almost as much as Flora Malesiana. The present part contains the few gymnosperms and runs then from Annonaceae to Polygalaceae inclusive. The treatment (written in English) is more elaborate than that of Fl.Angol. and more like that of Fl.East Trop.Africa and by a neat small lettertype agreeable to handle. The illustrations are excellent, both for habit and detail. In the introductory matter F.A.Mendonça & H.Wild gave the precis of the planning, Exell provided an account of the history of botanical collecting in the area; further there is a selected itinerary of J.Kirk, an illustrated glossary, a list of herbarium abbreviations, a selected bibliography, and the very important item of a key to families and higher groups by Mr Dandy. This is a major addition to the series of Floras of tropical Africa and we wish it a speedy completion.

Flore du Cambodge, du Laos, et du Vietnam. Publiée sous la direction de A.Aubréville, Rédacteur principal: Mme Tardieu-Blot. Fasc.1, 1960, 1-59.

This first instalment of a new edition of the Flore Générale de l'Indochine contains an introduction by A.Aubréville and a revision of the Sabiaceae based on the late F.Gagnepain's MS by J.E.Vidal. Its character is largely the same as the work which it means to continue. It is natural to make a comparison.

Gains: the decision not to stick to a botanical system but to publish contributions as they come up - references and brief notes at the beginning of a family and of a genus - synonyms and distribution of the genera - derivation of the generic names - separate keys based on vegetative characters and on reproductive characters - citation of the full generic name for each species instead of a letter - type species of the genera and type specimens of the species cited - collector's numbers cited, also under the drawings - a slightly more elegant lay-out of the descriptions with important characters in italics - more extensive observations - Latin diagnoses of new species (this is a doubtful gain) - references to figures also give their page number.

Losses or regrettedly kept unaltered: exclusion of Thailand and Hainan - important characters of the descriptions not always in the keys - capital letter maintained for some epithets - the single figures of a plate bear numbers instead

of letters which is confusing - the way in which specimens have been cited does not give the reader an idea of the actual area; it would be better to give distribution both without and within Indo-China under one heading and specimens under another - the easily quotable title. How are we to abbreviate this mouthful? And when the answer comes, let it come at the top of each page, with addition of the volume and of the year.

In this place we cannot and will not go into the question how this work will stand the test of time. We strongly hope that it will do this better than some of the preceding pages of this flora. No doubt the many obvious gains are the result of a renewed and critical study.

Most seriously we regret the exclusion of Thailand and Hainan, which will, if perpetuated, dangerously impede the value of this flora, just where there is a fine chance to enhance it. Botanically, Thailand and the former Indo-China are inseparable, and possibly also Hainan belongs here rather than to China.

In the former edition of the Flora, Thailand was actually included, but study of specimens went mostly no further than the Kerr-duplicates in the Paris herbarium; otherwise references were made, if available. With regard to the criticism sometimes uttered on both the Flora of Siam and the Flora of Indo-China, we may state that the inclusion of Thailand in the latter Flora was manifestly incomplete.

In the preface of the new Flora it is suggested that the Thailand flora is at present much better known than before. This statement is misleading. The only taxonomic publications of any importance devoted to Siamese plants and issued after the war are: Asclepiadaceae, Loganiaceae, Gentianaceae, Boraginaceae, Convolvulaceae, Solanaceae, Scrophulariaceae, all posthumous MSS by Kerr in the *Florae Siamensis Enumeratio*; a survey of the Fagaceae by Miss Barnett; two parts of a revision of the Orchidaceae by Smitinand & Seidenfaden; the Cyperaceae of Thailand by Kern, still in the press.

Since the war, big collections have been made in Thailand, but taxonomic research has slowed down alarmingly. As for the Monochlamydeae, most of the Monocotyledons, all Gymnospermae and Pteridophyta, Thailand represents virtually a vacuum in our knowledge. The materials from Thailand are easily available at Kew and the British Museum, where thousands of Kerr's plants are still awaiting study, and at Bangkok where since the war over 20,000 new collections have been made by the Royal Forest Department.

The incorporation of Thailand into a great flora of the whole peninsula would mean somewhat more work, indeed, but far less than the writing up of a family one time for the

flora of Indo-China and another time again for the flora of Thailand, combined. The supposed gain of time by confining the work to one of two halves that naturally belong together, will result in a far greater loss of time for the future man who must do the work on the other half. And there will be a definite loss in quality of both, since the two works naturally will differ, which will lead to confusion, and in both the critical points are in grave danger to be left unsettled. The incorporation of both North and South Vietnam testifies to a recognition of the fact that botany is a matter of plants, not of nationality. This is hopeful.--M.Jacobs.

R.Hegnauer, Die Gliederung der Rhoadales sensu Wettstein im Lichte der Inhaltsstoffe (Planta Medica 9, 1961, 37-46, 3 diagrams).

An evaluation of the relationships of Papaveraceae, Capparidaceae, Cruciferae, Resedaceae, Moringaceae, on account of the known phytochemical data, to which some original ones have been added in this paper. As a result, Hallier, Hutchinson, and Takhtajan seem right where they remove the Papaveraceae from the Rhoadales sensu Wettstein and place them in or near the Ranales; structures similar to the latex vessels in the Papaveraceae are found in the Nymphaeaceae and occasionally in Menispermaceae, both related to the Ranales. The remaining families of the order, Capparidaceae, Cruciferae, Resedaceae, and to a lesser degree Moringaceae, have close biochemical affinities, which corroborate Takhtajan's conception of the Capparidales.

Preliminary suggestions on phytochemical grounds point to the Tropaeolaceae and Limnaceae as the closest relatives of the Capparidales; they also confirm the relationship of the Centrospermae and the Ranales supposed by Hallier, Hutchinson, and Takhtajan, and the latter's idea that the Capparidales and Passiflorales (incl. Caricaceae) have come from a Cistales-like stock. Wettstein's idea that the Parietales (incl. Passiflorales) are to be derived from the Capparidales is confirmed rather than the reverse opinion held by Hutchinson and by Takhtajan.--M.Jacobs.

V.H.Heywood (ed.), Problems of Taxonomy and Distribution in the European Flora. Proceedings of the Flora Europaea Round Table Conference held in Vienna 1-7 April 1959 (in Fedde, Rep. 63, 1960, 105-228).

Addresses by K.H.Rechinger, T.G.Tutin, D.H.Valentine, B. Pawlowski, A.Löve, H.Meusel, H.Merxmüller, V.H.Heywood, W. Rothmaler, J.Jales, N.Hylander, E.Guinea. A working plan is displayed for the editing procedure; manuscripts will be circulated for study among several persons. The main points at issue are apomixis and polyploidy, discussed by various

speakers each from his own viewpoint. From the discussions the idea emerges that a first necessity is that a profound theoretical study is made to obtain an insight into the basic structure of apomictic genera. Perhaps, judging from some of the statements made, it would be a good thing to go deeply into the theoretical problems connected with the study of the European flora before it can be decided how the practical execution will be; on the latter point, at least, not much of unanimity seemed to exist. We do not read of any resolutions accepted.

If we may add a personal suggestion in this connection, it would be to start by making a general compilation of the results that so far have emanated from biosystematical research into the structure of genera and complex species.--M.Jacobs.

F.Kingdon-Ward, Pilgrimage for plants. With a Biographical Introduction and a Bibliography by William T.Stearn. Harrap & Co. London, 1960, 191 pp., many fotogr. Clothbound. 18 sh.

Besides a portrait, a brief autobiography, and bibliography this nice posthumous work contains chapters on various plant-groups and his experience with them in the field; there are chapters on dogwood, coffin trees, slipper orchids, gentians, rhododendron, tea-tree, Codonopsis, magnolia, etc. He recalls his triumphs and disappointments of hunting plants and their introduction to gardens. His sense of beauty of plants and landscape, the high mountains separated by the gorges he communicates in a lively style and beautiful language. This very recommendable book closes with a chapter on geography and living standards in SE.Asia in which the author defines his views on land use and management of the fast disappearing flora in the hills.

Ch.Monod de Froideville, 247. Poaceae, in C.A.Backer, Beknop-te Flora van Java, part 19, dated Nov.1960, issued Jan.1961, 228 pp., folio, mimeographed. In Dutch.

This important work is almost the last but one family of this Flora of Java. It is largely based on Backer's revision in his 'Handboek' (1928), but the larger genera have been split up in accordance with modern fashion, for better or for worse. A number of species have been added, and the whole is critically revised. Use has been made of a MS on the grasses of Malaysia for the Flora Malesiana by the late Dr.P.Jansen. The author has found fit to precede the revision by general, introductory remarks on the morphology of the grasses and the terms he has accepted.

Mr Monod de Froideville is now working, with a stipend-in-aid of Z.w.O., on the last family for this Flora, the Bambusaceae.

Our congratulations to Dr.Backer and the author, and to

Dr. Bakhuizen van den Brink Jr who supervises the editing of this Flora. In passing it may be remarked that the MS for the English edition is expected to be completed in 1962; it has been an extremely time-consuming work to bring the nomenclature up to date.--v.St.

G.S.Puri, Indian Forest Ecology. Oxford Book & Stationery Co, New Delhi & Calcutta. 2 Vols, 1960, xiii + 710 pp. incl. 286 tables and 310 figs incl. many distr. maps. Dfl.86.20 = ± £ 8.13/0.

Section A gives basic facts about floristic composition, plant-geographical relationships and subdivision of India (always in the botanical, not political sense), and classification of vegetations. Section B gives descriptions of all Indian vegetation types. Section C, which occupies the whole of vol.2, deals with the physical conditions in the widest sense that influence Indian vegetations.

The monumental work (announced in this Bulletin on p.664) covers so vast a field that for a great part it is naturally a compilation, and by no means final. The author has given proof of his wisdom in stressing this point. Moreover, he does not withhold his criticism to the systems he employs (for the classification of vegetations mainly Champion's) and he gives a list of forest-ecological problems in India, 32 items grouped according to area. Thanks to this attitude the book will have a maximum effect in opening new fields of research.

It is a mine of detailed information in very many fields, sometimes surprisingly instructive, like the pair of maps in fig.106 which give the average annual water deficiency and surplus. No doubt the author has digested a great amount of literature, so great that it would have been worthwhile to give an annotated list of the most important works in addition to the mixed references at the end of each chapter. On such a list certainly the work by Stebbing 'The Forests of India' would appear, to which we, strangely, found no reference made.

It is a matter of course that indeed much further research work is to be done, and that the contents of the book are heterogeneous in quality as is the work of the authorities on which one had to rely. So Kingdon (not Kingdom!)-Ward, in spite of his splendid explorations and the beauty of his prose, is questionable as an authority as for plant-geographical relationships between India and Malaysia. The suggestion that Cappariaceae partly represent a mediterranean influence in the Indian flora is untenable; in India the family has over 40 spp., whereas only 1 Capparis and a few Cleomes occur in the mediterranean area. A curious instance, by the way, of a



case where plant-geographical thinking follows the routes of discovery radiating from Europe: *Capparis spinosa*, well-known in the mediterranean and occurring eastwards to Nepal, happened to be the first-described species, hence Capparidaceae in India should be of mediterranean origin!

But this book is too great for detail criticism, which would unjustly obscure its merit of having given a general picture. Confining us to the latter, we wonder if the genus is a better working unit for plant-geographical considerations than the species; this method has yielded highly satisfactory results in the hands of Van Steenis and recently of Van Balgooy (see bibliography in this Bulletin).

With the obviously great and detailed knowledge the author possesses, it could not be too difficult to draw up a vegetation map of India on a scale of, say 1 to 5 million. As far as we know, such a map does not exist, but would fill a great need.

Really indispensable it seems, greatly to extend the present summary chapter on the influence of man. Firstly, the impact of man in densely populated, monsoon-governed India has far deeper affected the vegetation than even in Malaysia, generally spoken. Secondly, the dangers which threaten the vegetation from human civilization form so actual a problem, that a textbook like this, which will exercise a considerable influence, should dwell amply upon them, and if so much space has been given to soils, certainly as much should be given to erosion.

No doubt, the (not too many) printing errors will be corrected in the second edition, for which we hope that better paper will be used, as the book fully deserves it.--M.Jacobs.

Steven Runciman, The White Rajahs. Cambridge Univ.Press, 1960 xii + 320 pp., 8 pl., 3 text-maps. Sh. 27/6.

The little state of Sarawak was between 1841 and 1946 the scene of one of the most extraordinary experiments in personal rule in all history. It was like something out of the Middle Ages; and as Sir Steven Runciman is a great mediaevalist, it is entirely appropriate that he should have been invited to visit the country, study the official records, and write this history.

James Brooke, an adventurous young Englishman of vivid and attractive character, in love with the East, bought himself a ship, collected a crew, and sailed off to Borneo. He found himself offered a kingdom, and with some hesitation accepted. He then found himself fighting for his subjects against oppressive pirates, foiling the intrigues of devious native nobles, suppressing revolts, reviving the economy, defending his own good name against ignorant critics at home, and all

the time trying to lay this new possession at the feet of his own startled country. This part of the story is like an adventure tale for very hard-headed boys by a realist Captain Marryat.

The Brooke dynasty became established and brought prosperity to the country. Its later history was less eventful, but the Brookes themselves were always larger than normal English life, and the course of their affairs was not entirely smooth. After three generations of personal rule, or rather enlightened despotism genuinely concerned for the good of the native people, Sarawak was ceded to Britain in 1946.

It is a story which upsets all sorts of preconceptions - about Empire builders, about colonialism, and, for that matter, about people. It is told with skill, wit, and enjoyment of human nature.

Felipe M. Salvosa, A Forestry lexicon of Philippine Trees. Preliminary copy. May 1960. Folio, mimeographed, 194 pp.

This work mainly consists of two lists, one arranged by the standardized (official) Philippine names and one of the Latin names. Signature includes size of plants, habit, native and exotic; the lists are mainly based on Merrill's works, but brought up to date from literature. There is also a glossary of abbreviated author names. The work gives the impression to have been carefully compiled.

In the list occur a number of transfers of species and varieties, which have, however, not been validly published, being without references, as required by the Rules of Nomenclature; they are also apparently not checked with the Index Kewensis.

E.H. Walker, A Bibliography of Eastern Asiatic Botany. Supplement I. Sponsored by the Nat. Sc. Found. Washington, D.C. Published by the American Institute of Biological Sciences, Washington, D.C. 1960. xl + 552 pp. 4° (double column). Cloth-bound \$18.50 to individuals and industrial libraries, \$16.50 to all other libraries.

This great and useful work covers the literature of the period from 1937 to 1958 inclusive, with additions to its predecessor by Merrill & Walker. It has fittingly been dedicated to the memory of Dr. Merrill "through whose wisdom and foresight this bibliography was initiated and promoted". There is a large increase in Japanese, Chinese, and Russian titles for the compilation of which the author had considerable help, while staying for 1957 in Japan, from a Japanese Committee of botanists. A welcome acquisition is a map of Japan indicating prefectures and provinces. In execution and excellent binding and printing, and in size, the Supplement equals the original work and since this is so well-known it

needs no comment in a review. There is an astonishingly small amount of printing errors in the roughly 12,000 entries it contains. The scanning of these gives reason to some comment.

Obviously more stress has been laid upon various branches of applied and popular botany than in the original edition, for example books and pamphlets by Lay-yung Li (1956), Chen-k'ai Ch'en (1948-1955), etc. deal only with such matter. In general the author evidently had a wider concept in mind, as for example several of Fernald's papers in *Rhodora* etc., which were not entered in the original bibliography, have got an entry now. Why a paper by Scheffer of 1874 has been entered is not clear; it is no paper but a review of a paper by Hance. Why the Syllabus by Melchior & Werdermann is entered is also not clear; it is a general systematic work; many others of equal value, and often more original, have not been mentioned. It is certainly no minor omission that "*Flora Malesiana*" received no entry, but only odd articles precursory to it. The revisors of the majority of families hitherto treated in that work have studied Formosa, Chinese, or Japanese material and have published creative work on that area.

It is highly to be regretted that the subject index is less useful than it could have been. Apart from apparently occasional omissions, for example Miss Hu's paper on the Malvaceae of China (which has an entry, but is not mentioned in the subject index under Malvaceae), it has been omitted to extract the regional floras of surrounding countries and other major works which only have one general entry, for example the new edition of the "*Pflanzenfamilien*", the first Supplement volume of the "*Flore Générale de l'Indo-Chine*", the "*Flora Malesiana*", etc. Each family revision in such *Flora* should have been scanned, and have been entered as a separate entry if it concerned the flora of East Asia; most of these revisions are far larger and far more important for the botany of East Asia than hundreds of minor items in obscure journals each of which received a full annotation. Through this the subject index to the *Phanerogams* gives a very inadequate picture of what has been published on these families. Whereas the bibliography swarms with small papers published in the most obscure serials which often contain only a minor detail of importance for the botanical knowledge of the area covered, these major and sometimes essential contributions are badly missed. All this may be due to a matter of strict policy followed in the compilation, but the red tape of such policy has now deprived the subject index of very valuable information. And there seems no excuse for space, as a few hundreds of these really important cross-references would not mean much among 12,000 titles. A similar comment can be made about bibliographies: why enter Sachet & Fosberg's "*Island bibliographies*" but omit the detailed bibliography in the *Flora Malesiana*?