

FLORAS---COMPLETE AND INCOMPLETE

There are various ways for a new Flora to appear. Clapham, Tutin and Warburg in 1952 produced a complete Flora of the British Isles, flowering plants, ferns and fern allies, and conifers. Another comprehensive modern Flora is that by Munz and Keck, A California Flora, 1959, of 1681 pages. For selected habitats of the same general area Prof. H. Mason (who spent part of last year in Auckland) made A Flora of the Marshes of California, dated 1957, and acknowledging much help from others, especially some very competent artists. Asa Gray's Manual of the Botany of the Northern United States, first published in 1848, is now in its eighth edition (1950) after having had several different revisers and growing from 710 to 1678 pages, while the species number more than doubled. One wonders how much Gray would now recognise as his own. The Flora of South Australia was issued in four parts and when the fourth was completed in 1929 the author, J.M. Black, then in his 75th year, set to work on a second edition; he had published revisions of the first two parts and had just completed the text for the third when he died at the age of 96! The series was completed by Mrs. E. Robertson in 1957, and it seems reasonable to hope that someone is already working on a third edition of the first part. Dr. Winifred Curtis's Student's Flora of Tasmania is planned to appear in three parts of which the first, issued in 1956, covers gymnosperms and the angiosperms from Ranunculaceae to Myrtaceae. In the last few weeks two parts of the new Flora of New South Wales have been received. It is to appear piecemeal as sections are ready in the Flora Series of Contributions from the N.S.W. National Herbarium. Flora of Panama by Woodson, Schery and collaborators is coming out as a series of Parts and Fascicles published periodically in Annals of the Missouri Botanical Garden. More long-term still is the monumental Flora Malesiana; three volumes totalling over 2500 pages have been issued in the first ten years but this is only the beginning! I once saw the formal presentation of the Flora of the U.S.S.R. It took several strong men to carry the gift and the volumes made a stack about four feet tall.

Whatever scheme is adopted, parts of a Flora are inevitably out of date before the whole is complete. The author must finalize each portion of his script at some stage, though he knows that new information accumulates continuously. An Australian committee reported in 1960: "Experience with the preparation of Flora Malesiana and other major Floras has shown that each taxonomist working full time with adequate facilities can deal with, on the average, not more than 80 species per year."

Our New Flora

Anyone interested in Dr. Allan's new Flora of New Zealand knows that the project has been in hand for many years. It is perhaps not generally realised that the sections, in their present sequence, were actually set up in print as they were completed and therefore the earlier families were, so to speak, closed files for some years before the final ones went to press. The preliminary pages (i-xliv)

are in fact the last to be required by the printer and so it is that recent papers that could be listed in the Annals include some that were not published in time to affect the corresponding part of the text.

Clapham, Tutin and Warburg say (p.xv): "We should be most grateful if users of the book who detect any errors would inform us." We ask the same of you. Some regrettable slips, besides those corrected in the Supplementary Notes, are known to us already. We especially ask owners of the Flora to make the following corrections: p.271, line 12 up, delete "pubescent"; p.328, line 7 up, for "10cm." read 10 mm."; p.885, line 12 up, after "New Guinea" add "One sp. on Rapa Id." We are anxious to know of all misprints and real errors and would rather be told twice than not at all.

Help for Volume 2.

There is also a more positive kind of help that Botanical Society members can give. Volume 2, dealing with monocotyledons, is now in preparation and it is still not too late to incorporate fresh information. We would be glad to receive specimens suitable for the herbarium, and we have good facilities for growing plants that are received alive. Or if you have plants near at hand and can collect flowers and later fruit from the same individual that would be most helpful. One essential is that every specimen should have place and date of collecting.

I would like to stress that many quite common Auckland plants are very poorly represented in all herbaria. Astelia banksii is a case in point; we have almost none of it, and it needs male and female inflorescences, and fruits, as well as leaves, to make a reasonable representation of any one colony. Other species of Astelia, however common, we would be glad to have with flowers and/or fruit, and Collospermum too. Can any of you find Collospermum spicatum? Skottsberg describes it as like a dwarfy stage of C. hastatum, growing epiphytically and flowering when the leaves are only a foot long and barely half an inch wide. It has been found both north and south of Auckland, but only about five times.

If we receive sufficient seeds from any one plant Dr. Isobel Morice of the Fats Research Laboratory can make chemical analyses that help to suggest botanical relationships. She has already got results from Dianella, two astelias, supplejack and one or two gambias collected on excursions of the Wellington Botanical Society of which she is the hard-working secretary.

Luzula, Potamogeton and Zostera are other genera poorly represented by flowering and fruiting plants from the vicinity of Auckland city. We would like to have any distinctive forms of Libertia and Dianella plants to grow alongside those from other parts of the country. Have you noticed any differences between plants of Arthropodium? Could any members select representative specimens of the gambias and various smaller sedges in the

districts with which you are familiar? And have any of you searched the sandy shores of coastal lakes for the minute annual herb Hydatella inconspicua that forms "moss-like tufts $\frac{1}{2}$ to 1 inch high"? It was found by Carse and Matthews north of Kaitaia early in the century and in 1950 (See Rec. Auck. Inst. Mus. Vol. 4, No.1 1950) was collected in two lakes at North Kaipara Head. Have the lakes of the sand-dunes west of Auckland been thoroughly searched? In early spring the quite unknown male flowers might be discovered.

About Pressing Plants

I would like to recommend to you for reading an article by P.H. Davis called "Hints for Hard-pressed Collectors" in the April 1961 number of Watsonia, the journal of the Botanical Society of the British Isles. Here is how it begins: "Anybody can collect" is an opinion that trips too readily from the biologist's tongue. Anyone, it is true, can collect herbarium specimens - after a fashion. And a quick look at our great herbaria will show how badly people have often done it: plants snatched on the way to Lhasa, or decapitated by British Consuls riding fast to Trebizond. But that is not good enough. If our collections are to be of lasting scientific value, we need to enrich our herbaria, not to fill them with scraps. The herbarium still provides the foundation for practical classification and nomenclature. The techniques of experimental taxonomy cover a very limited part of the World's flora. It is only in the herbarium that we can usually compare all the related species of a genus in the same place, in the same state, and at the same time. The collector can play an important part by seeing that his herbarium specimens provide as much information as possible, and thus form a sound basis for further research." The article is full of humorous but sound advice, based on wide experience, as the following bits show: "Some collectors get up at dawn, others label and change their presses late into the night, but few can do both for long..." Of drying papers: "My favourite method in Turkey is to find a suitable bakery. Some of the more modest bakeries have a low room above the oven in which the wood for the furnace is stored in winter. The floor gets extremely hot, and so does the botanist as he crouches down in the dark, tickled by silverfish that thrive in the inferno, and spreads his precious paper. It gets beautifully warm and dry..." "If the writer had always taken his own advice...he would not have broken his finger, fractured his spine and sustained various wounds that considerably reduced his collecting power". And if I, for my part, had done all he advised I would have less need now to ask help from well-disposed members of the Auckland Botanical Society!

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