

## BOOK REVIEW

*Flora of New Zealand. Vol. 1 : Indigenous Tracheophyta: Psilopsida, Lycopsidea, Filicopsida, Gymnospermae, Dicotyledones.* H. H. Allan. Pp. liv. + 1095, with 4 maps in colour on end papers and 40 figures in text. Government Printer, Wellington, 1961. Price £5 5s. 0d. (New Zealand currency).

The flora of New Zealand is remarkable for the high proportion of endemics, complex hybrid populations, the large number of attractive species contributed to horticulture, and the impressive spread of introductions. The publication of the late Dr. H. H. Allan's new *Flora* of a country with a climate so similar to our own is an event of considerable interest to British botanists.

The previous most recent work is the second edition of Cheeseman's *Manual* issued in 1925. The first volume of the new *Flora* describes 1457 species, whereas of the same groups Cheeseman described 1363. But statistics alone cannot convey the measure in the advance in knowledge of New Zealand plants in the last 35 years, or of the higher technical standards used in its presentation. Cheeseman's book stood high amongst the most useful Floras of the world; Allan's entirely new work is a great advance on Cheeseman and should take its place in every botanical library.

Most of the features of the best Floras are included. There are dichotomous keys to families, genera and species – combined with clear warnings in the more difficult genera about their limitations. Original descriptions are cited for all species and varieties, and latin descriptions of new taxa collected together at the end of the volume. Characters are set out clearly, and measurements and numbers cover extremes as well as normal specimens. A most commendable feature is citation of type localities and the location of type specimens. Many of the latter are in Britain, and thus this feature will be especially valuable to workers in this country. The task of critically reexamining type material must have involved an immense amount of work, but it is probably in this that Dr. Allan's work makes its biggest advance on Cheeseman's; many misinterpretations have been corrected, while the very full critical notes added in small type to so many genera and species will pave the way for further advances. As an example of the value of this approach Allan's account of *Crassula (Tillaea) helmsii* is appropriate, as this species was discussed at length in the last part of *Watsonia*. Allan gives the type locality as near Greymouth, and the type as collected by R. Helms in the herbarium of the Dominion Museum, Wellington, and refers to a paper by Court stating that this type has been compared with Victorian specimens of *Crassula recurva* (Hook. f.) Ostenf. and that no specific differences between the two were found. Full citations like this will save future workers much time, encourage sound nomenclature, and facilitate future research.

The present volume includes only species accepted as indigenous though this must considerably reduce its practical use as "a means of identifying plants," which, as is pointed out in the preface is the "primary purpose of a regional Flora." Visitors and resident botanists will find many plants which are not mentioned in this book. Even aliens like the blackberries and sweet briar which occur in great quantity are excluded. If a Flora is to serve adequately its purpose as a means of identification it should include all established species to be found at the time of publication. To limit the scope to those regarded as indigenous is to ignore the changes which have taken place during the past two centuries, and to involve users in failing to find names for many of the plants they find, or, even worse, making erroneous determinations simply because they were unaware that they were dealing with an introduced species. This treatment is the more surprising as Dr. Allan wrote *A Handbook of the Naturalized Flora of New Zealand* published in 1940, and was responsible for other valuable publications on aliens. Even if it is intended to include description of introductions in the second volume – and Cheeseman listed them in an appendix – this will be less useful than including them in systematic order.

Dr. Allan died in 1957 leaving a manuscript which included all the indigenous vascular plants except the monocotyledons. We are indebted to his colleague Miss Lucy B. Moore for filling in gaps, making final checks, seeing the volume through the press and adding a useful section of supplementary notes including abstracts of very recent papers. It is to be regretted that there is no reference in the preface or on the dust-cover to any arrangements for completing the work. Monocotyledons form such a relatively small proportion of the New Zealand Tracheophyta that the labour of preparing Volume 2 should be very much less than for the volume now in our hands.

The selection of type and standard of printing reflect great credit on the Government Printer, but it is unfortunate that such thin paper was chosen. This is too flimsy for satisfactory use in library or herbarium, and unpractical for consultation in the field. Portability is extremely desirable for a Flora but the fact has to be faced that a paper has yet to be invented which will give 1150 pages of print easy to handle in a volume less than one inch thick. From the heavy paper of Cheeseman, the Government Printer has gone to the other extreme in company with other publishers of modern floras – it should not be difficult to find a paper of intermediate weight which would be more serviceable.

Dr. Allan and Miss Moore have given us a first class new Flora which will be valued by workers in many countries.

J. E. LOUSLEY