

Book Review

Flora of New Zealand, Vol. II (Indigenous Tracheophyta, Monocotyledons except Gramineae), by Lucy B. Moore and Elizabeth Edgar. Government Printer, Wellington. 1970. Price \$4.50.

THE great event of the year for N.Z. botanists is undoubtedly the appearance of the second volume of the *Flora of New Zealand*, bearing the publication date December 1970, but our satisfaction at seeing it at last is inevitably tempered by disappointment that the grasses could not be included in this volume with the other monocotyledons. A revised taxonomic treatment of N.Z. grasses has long been sorely needed, and further fragmentation of the standard flora is a pity.

The format is identical with that of the first volume ten years ago except for the welcome substitution of heavier paper for the space-saving but difficult-to-handle bible paper of Vol.I. Consequently, although the content of Vol.II is only about half that of Vol.I, the two volumes are almost equal in thickness. The very pleasing cover design by Nancy Adams complements that of Vol.I, and makes the two an attractive matching pair.

The family arrangement is once again that of Hutchinson, which deviates considerably from the order used in Cheeman's *Manual*. A short key to families is followed by a genus key in which the genera are first divided into a number of major artificial groupings, mainly on the basis of simple vegetative characters. This makes the key much less cumbersome to use and reduces the likelihood of error. Grasses are keyed to the family, and for the sake of simplicity only a few of the orchid genera are keyed out individually here.

The detailed layout and typography of the text is exactly the same as in Vol.I and thus seems immediately familiar. The numerous abbreviations, which to many were a surprising and unpalatable feature of the first volume, have been continued, but may now seem more acceptable. The keys and synopses promise to be excellent aids to identification, and, as before, some of the most interesting and useful information lies in the fine print at the end of the genus and species descriptions. The exceptionally clear drawings by Nancy Adams and (for the orchids) Bruce Irwin are a valuable supplement to the keys and descriptions. What might be termed the "service sections" seem particularly useful and well chosen. These include a continuation of the "Annals of Taxonomic Research" (with a subject index thereto), a documented list of chromosome numbers for gymnosperms, dicotyledons and monocotyledons (including grasses), the latter being quoted also throughout the text, and a list of corrigenda (but not addenda) to Vol.I.

The taxonomic descriptions were drawn up by Dr Lucy Moore and Dr Elizabeth Edgar, and the author responsible for each particular family is indicated in the index. Taxonomic revisions were published in the *N.Z. Journal of Botany* as they were completed, and this has obviated the need to include much lengthy discussion and documentation in the text. No new taxa are described in this volume. Acknowledgement is made to the work of others in particular groups, especially to Miss R. Mason for her studies of aquatic monocotyledons, to Hamlin's revisions of *Uncinia* and *Carex*, and to Hatch's long-continued study of orchids. The number of entries in the "Annals" in recent years indicates the increasing volume of taxonomic and biosystematic work that can be drawn upon for a synthesis of this kind. The authors note in the preface that they were able to cultivate most of the plants they described, and in some cases to test crossing relationships. Chromosome numbers afforded additional evidence. There was also much readier access to important early literature than when Vol.I was in preparation. The quality of the work reflects this broad foundation.

The number of name changes relative to Cheeseman's *Manual* is considerable, sometimes because an earlier epithet has been discovered, sometimes because of a reappraisal of the relationships between native plants and related species overseas. Unfortunately some of our best-known monocotyledons are among those affected. Thus *Phormium colensoi* becomes *P. cookianum*, *Typha muelleri* becomes *T. orientalis*, *Dianella intermedia* becomes *D. nigra*, and *Leptocarpus simplex* becomes *L. similis*. Revision of generic limits in the Cyperaceae has led to *Cladium* in N.Z. being replaced by *Machaerina*, *Baumea* and *Tetraria*, while *Gahnia gahniaeformis* becomes *Morelotia affinis*, *Mariscus ustulatus* becomes *Cyperus ustulatus* and *Scirpus frondosus* reverts to its earlier name *Desmoschoenus spiralis*. Similarly, in the Centrolepidaceae and Restionaceae, three species of *Gaimardia* have been transferred to *Centrolepis*, while *Hypolaena lateriflora* reappears as *Calorophus minor* and *Lepyrodia traversii* as *Sporadanthus traversii*. In the Orchidaceae generic revisions lead to *Cyrtostylis oblonga* and *Townsonia deflexa* being transferred to *Acianthus*, and *Sarcophilus adversus* to *Drymoanthus*. The segregation of *Aporostylis* from *Caladenia* is upheld. Some "new" names have already come into currency in the intervening years; we are already familiar with *Bulbinella* for *Chrysobactron*, *Luzuriaga* for *Enargea*, *Thismia* for *Bagnisia*, *Corybas* for *Corysanthes*, the segregation of *Collosperrum* from *Astelia*, and the new species *Xeronema callistemon*.

In some critical groups the number of species has been considerably increased, reflecting the inadequacy of previous treatments. Thus *Uncinia* rises from 14 to 32 species, *Carex* from 55 to

73, *Scirpus* from 13 to 23 and *Pterostylis* from 13 to 19, the latter increase offset however by a decrease in *Thelymitra* from 14 to 10. In general the treatment of the Orchidaceae seems conservative; despite much taxonomic activity in the intervening years the total number of orchids recognised here (72 species) is only six more than in Cheeseman's *Manual*. This apparent concordance actually cloaks many changes in the names and circumscription of the taxa recognised; only 57 of Cheeseman's 66 species are recognised as individual taxa in the new flora, and of these only 45 still have the same name, even ignoring the wholesale change of all *Corysanthes* species to *Corybas*. A notable feature is the number of species described from New Zealand which have since been found to be conspecific with Australian plants. Fifteen additional species are now recognised, including recent discoveries like *Yoania australis* and *Corybas cryptanthus*.

Introduced species now officially removed from the native flora include *Cordyline terminalis*, *Kyllinga brevifolia*, *Cyperus tenellus* and *C. vegetus*, and many rushes including *J. bufonius*, *plebeius*, *tenuis* and *lampocarpus* (syn. *articulatus*). The inconvenience of dealing with our native and introduced floras in separate standard taxonomic works becomes very evident here; a combined key to all rushes would be extremely useful as it is usually impossible to tell in advance whether a species is introduced or native. (Many common native and introduced rushes can be identified from the keys in *Identification of Weeds and Clovers* by A. J. Healy.) It is also suggested that *Hypoxis pusilla* was introduced into New Zealand with early imports of seed and stock from Australia, although different chromosome numbers have been reported in the two countries. Here is an interesting topic for investigation.

The true worth of a flora for day-to-day use becomes apparent only after a fair period of use, and each user will come to his own opinion, but on first impressions this attractive and well designed volume seems hard to fault, and at \$4.50 — unbeatable value.

M. B. FORDE



ANNOUNCEMENT

DR Lucy Moore, a life member of the Society and a past president, retired in mid-July from Botany Division, D.S.I.R., which she joined in 1938. For the meantime at least she will remain with the Division at Lincoln as Honorary Botanist. The seaweed portion of her duties has been handed over to Dr Murray Parsons, an ex-Wellingtonian who has had four years' intensive training in algology at Adelaide.