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BOOK REVIEW

The third volume of the New Zealand Flora.

Healy, A.J. & Edgar, E. 'Flora of New Zealand', volume III: adventive cyperaceous, petalous & spathaceous monocotyledons.

The first two volumes of the 'Flora of New Zealand' dealt with the native species of dicotyledons and with the monocotyledons, except for the grasses. Volume 3 does not complete the native species. This is unfortunate in one way, but to the many who regretted the exclusion of the adventives from the earlier volume, the news is, nevertheless, good.

The authors write in their preface:- "Ultimately a complete Flora of New Zealand must encompass both native and adventive groups in the one treatment. This volume represents a transitional stage." The authors must be congratulated for making this change, even at this late stage, and for the way in which they have handled it. The keys to families include those families dealt with in volume 2 as well as those including adventives (surely the Gramineae should also have been included?). Similarly, in the keys to genera, in those families with both native and adventive genera, all genera are included and, in *Juncus*, *Carex* and other genera with native and introduced species, both the keys and the species treatments cover both categories of species. The problems of the user's not knowing whether a particular plant is native or naturalised are thus resolved.

The authors have adopted what they consider to be a fairly broad definition of an adventive species. Garden escapes, for example, are included if they have been collected more than once. They recognise 168 adventive species of monocotyledons (excluding grasses) to the 335 native species. This figure is certainly high compared with South Australia where comparable figures are approximately 80 to 375 in the third edition of Black's 'Flora of South Australia'.

The treatment of each taxon is similar to that adopted in the previous volumes—the descriptions being only slightly shorter than in volume 2. Synonymy, nomenclatural and taxonomic problems are not dealt with as fully as for natives. But the adequate notes do include both the first published record and the earliest known collection for both species, together with other notes such as made the earlier volumes so useful. There are 27 line drawings and 32 colour photographs. These are helpful although more would, of course, have been still better.

In the preliminary pages there are several useful sections: the continuation of the series of "Annals of taxonomic research on New Zealand [native] Tracheophyta" up to 1976, to which a subject index is appended; a list of authors of included taxa; a bibliography of first records of the adventive species dealt with; and a synopsis of orders, families and genera, including descriptions of the orders. There are three introductory keys, one to all the genera dealt with, one to the families and a mainly vegetative key to the families and some genera.

While I have not tested the keys exhaustively, they appear to be reliable and straightforward—if a little academic at times—the first lead of the generic key, for example, requiring floral characters which are very tricky in the Lemnaceae, Cyperaceae and several other monocotyledonous families. The text is accurate and I could find no typographical errors (except, possibly, for the author of *Watsonia bulbifera*, who was Matthews, not Mathews).

This volume maintains the high standard set in the previous volumes of the 'Flora of New Zealand' and, in breaking new ground by dealing with adventives as part of the flora constitutes an important reference work on this phytogeographically important area.

Healy, A.J. & Edgar, E. 1980. 'Flora of New Zealand. Volume III.

Adventive cyperaceous, petalous & spathaceous monocotyledons', pp. xlii, 220, 31 figs (4 col.), 4 maps (endpapers). (Published by P.D. Hasselberg, Government Printer, Wellington, New Zealand.)

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