THE GRASSES OF
THE NEW ENGLAND REGION OF NEW SOUTH WALES,
WITH
PARTICULAR REFERENCE TO 'NATURAL' GRASSLANDS.

by

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PREFACE

Initial leads for the historical investigation of New England Grasslands were obtained from Walker's analysis of Old New England (1966), which originally stimulated the enquiry.

The major part of the thesis, a floristic study, presents keys to the grasses of New England and New South Wales. The construction of the generic keys is based on the author's own groupings of genera. A number of the keys to species are adapted from published revisions of genera which are acknowledged in the text. For the remaining genera, however, the species are distinguished by original arrangements of key characters.

The procedure adopted for point quadrat sampling of indigenous grasslands relies heavily on Roux (1963).

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SUMMARY

A study was undertaken to bring the New England grass flora up to date and construct a key to the species present. The nature of the grasslands at the time of early European settlement were investigated in an historical enquiry, and a field survey of grasslands protected from primary production was carried out.

Early records of the character of New England grasslands are meagre, but it is evident that the pioneering squatters encountered a relatively open woodland community with *Themeda australis* among the dominants of the perennial grasslands.

In a floristic appraisal of New England Gramineae, an analysis of records in Bentham and Mueller's Flora Australiensis (1878) reveals 60 New England species, about one quarter of the present flora. In 1903, Turner was able to list 92 species in the region, and by 1961 Gray's census tabled 179 grasses for New England. The current flora was amended to 256 grasses, and it was noted that the proportion of exotic species is increasing. Of 66 recent additions to the flora, 44 are introduced species.

The key to the flora begins with a generic key based on artificial groupings which is designed for field work with readily distinguished key characters. Brief descriptions of tribes, genera and species are given, as well as notes on distribution and frequency. A subjective assessment of the contribution of major

species to New England grasslands is provided and the types of occurrence discussed. The bulk of exotic species are confined to townships, roadsides and wastelands.

A point quadrat survey of 'natural' grasslands relatively free from the effects of pastoral management indicated that *Themeda australis*, *Poa sieberana* and *Aristida ramosa* are the principal dominants of protected communities. The results conflict markedly with the grassland types characterised in Roe's preliminary survey of native pastures in 1947, and the differences are discussed in relation to the influence of grazing and management practices.

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