make more careful records of the seasonal behaviour of our plants?

My final comment concerns the altitudinal distribution of Ophioglossum. According to the good books it ranges from sea-level to 3,500 ft. On the other hand, John Thompson (this Journal 1971) has found O.coriaceum almost at the waters edge at Diamond Harbour, and at 5,170 ft. on Roy's Peak. This last altitude exceeds anything in the Lincoln herbarium and the reported altitudes published by Henry Connor (N.Z.J.Bot. 1964, 65) who has probably seen more Ophioglossum than all of us put together, with the possible exception of John Thompson. Ophioglossum is certainly wide ranging and is fairly common on undisturbed sites on the Canterbury Plains. Its upper altitudinal limits are less well known. It is not listed among the species recorded for alpine grasslands by Alan Mark, Michael Wraight, Colin Burrows and David Given (he should know!) but I suspect it reaches higher than we think. John Thompson's record from Roy's Peak suggests that it does. In this respect it is perhaps pertinent to recall H.B. Dobbie's remark, "Personally I have failed to find it, though it is fifty years since I began to collect ferns".

Throughout I have purposely avoided referring to any species of Ophioglossum, except to quote John Thompson's findings, and therein may lie the true answer to the behaviour and distribution observed so far.

CUSHION RAOULIAS OF CANTERBURY

M.J.A. Simpson *

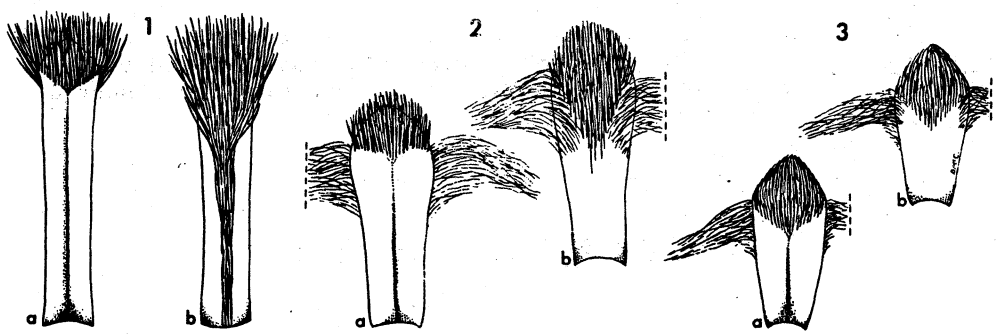
The vegetable sheep Raoulia eximia is the most plentiful cushion Raoulia in alpine rocky ground and fellfield in Canterbury but in Central and South Canterbury R.mammillaris grows in similar situations and in North Canterbury R.bryoides can be present as well. These three species differ in many respects but it is possible to distinguish them just by looking at the leaves with a hand lens and comparing the upper, that is the outer and lower, or outer leaf surfaces.

R.eximia (1a and b) has the largest leaf, long and narrow in outline and rather papery in texture, with a tuft of long straight hairs at the tip on both surfaces, obscuring the leaf outline at the apex. On the lower surface the hairs are present along the length of the main vein.

* Mrs. M.J.A. Bulfin

In R.mammillaris (2a and b) the leaf shape resembles that of R.eximia but leaves are shorter and a little wider. There is a tuft of straight hairs at the tip on both surfaces, but these are not long enough to completely hide the leaf outline. Soft woolly hairs grow from the central lower surface.

R.bryoides (3a and b) has leaves somewhat rhomboid in shape with appressed silky hairs at the tip, not hiding the outline of the leaf at all and with lateral tufts of soft woolly hairs from near the leaf margins.



drawn by: B. McCulloch

1a	Raoulia eximia Hook f.	Upper surface of leaf
b		Lower surface of leaf
2a	Raoulia mammillaris Hook f.	Upper surface of leaf
b		Lower surface of leaf
3a	Raoulia bryoides Hook f.	Upper surface of leaf
b		Lower surface of leaf

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PERIODICAL EXCHANGES

Arrangements have been made to exchange this Society's Journal with publications issued by the New York Botanical Garden and the New South Wales National Herbarium of Sydney.

These publications have been placed in the Library. They are full of most interesting and useful information and it is recommended that members read them. The following summary gives brief details of the contents of the issues received.

NEW YORK BOTANICAL GARDENS. The Botanical Review.

Vol. 38	No. 1.	Continental Movements and Indomalayan. Australasian dispersal of land plants. Conidiation in Neurospora.
	2.	The cerrado vegetation of Brazil.
	3.	Phytoalexins and other natural products as factors in plant disease resistance. Carbon dioxide exchange of plants in natural environments.
	4.	Storage of sugars in stalks of sugar cane. Disease resistance in warm season forage, Range and Turf grasses. Recent research on the Nematophagous Hyphomycetes.

NEW SOUTH WALES NATIONAL HERBARIUM Contributions.

FLORA OF NEW SOUTH WALES

Flora Series:

Nos. 1 to 18	Introduction and conspectus of families. Zamiaceae. Podocarpaceae. Araucariaceae.