

MOSS FLORA OF KAKEPUKU HISTORIC RESERVE, TE AWAMUTU

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The forest remnant on the conspicuous volcanic cone of Kakepuku, nine kilometres south-east of Te Awamutu in the Waikato, was well scrutinised by botanists during 1985. Our own Society visited the reserve in March, followed by the Rotorua Botanical Society in October. Articles on the vascular plant flora, based largely on those visits, have been published by Wright (1985) and Boase (1985) respectively. The present account of the mosses of Kakepuku is based on observations and collections made during the March 1985 visit of the Auckland Botanical Society. Vouchers for all species are deposited in the Herbarium of the Auckland Institute and Museum.

The reserve was found to support a diverse moss flora, with 69 species recorded in all. Some 37 of these, more than half the total, were growing as epiphytes, indicating relatively moist atmospheric conditions in the forest. Of particular interest to us were Eriodon cylindritheca growing on Schefflera digitata, and Dichelodontium nitidum on both Schefflera digitata and Knightsia excelsa. Several families of moss characteristic of damp forest habitats are well represented on Kakepuku. We recorded 8 species from the Fissidentaceae, including the rarely seen Fissidens hylogenes. These minute plants, whose leaves lack both a nerve and a border, were found on very wet soil at the edge of an intermittent watercourse. From the Hookeriaceae and the Hypopterygiaceae, both generally good indicators of moist forest conditions, six species each were found. Families which are surprisingly poorly represented in our list, and which could perhaps be profitably searched for on a future visit, are the Rhizogoniaceae, with only one species, Hymenodon pilifer, and the Hypnodendraceae, with only two species: Braithwaitea sulcata and Hypnodendron arcuatum. Four species characteristic of exposed habitats were added to the list during the lunch break. Bryum argenteum, B. sauteri, B. dichotomum and Ceratodon purpureus were all growing on disturbed soil at the base of the trig. Some adjustment of focus was needed to turn from these tiny treasures and spy Mt Egmont (or Mt Taranaki) some 175 km away to the south-west.

An interesting statistic: the number of native mosses here recorded for Kakepuku (i.e. 69) is greater than the number of native flowering plants recorded by the 'higher' botanists on the same visit (i.e. 66), and that with the number of searching eyes loaded in favour of the flowering plants!

THE LIST

Achrophyllum dentatum (Hook.f. & Wils.) Vitt & Crosby
A. quadrifarium (Hook.) Vitt & Crosby
Braithwaitea sulcata (Hook.) Jaeg.
Bryum argenteum Hedw.
B. billardieri Schwaegr. var. *platyloma* Mohamed
B. dichotomum Hedw.
B. sauteri B.S.G.
Calomnion laetum Hook.f. & Wils.

- Calyptopogon mnioides* (Schwaegr.) Broth.
Camptochaete angustata (Mitt.) Jaeg.
C. arbuscula (Smith) Reichdt.
C. gracilis (Hook.f. & Wils.) Par.
C. pulvinata (Hook.f. & Wils.) Jaeg.
Catharomnion ciliatum (Hedw.) Hook.f. & Wils.
Ceratodon purpureus (Hedw.) Brid.
Crosbya straminea (Mitt. ex Beck.) Vitt
Cryphaea dilatata Hook.f. & Wils.
Cyathophorum bulbosum (Hedw.) C.Muell.
Cyrtopus setosus (Hedw.) Hook.f.
Dichelodontium nitidum (Hook.f. & Wils.) Broth.
Distichophyllum microcarpum (Hedw.) Mitt.
D. pulchellum (Hampe) Mitt.
Echinodium hispidum (Hook.f. & Wils.) Reichdt.
Eriodon cylindritheca (Dix.) Dix. & Sainsb.
Eriopus brownii Dix.
Eurhynchium muriculatum (Hook.f. & Wils.) Jaeg.
Fissidens anisophyllum Dix.
F. humilis Dix. & Watts var. *angustifolius* Dix.
F. hylogenes Dix.
F. leptocladus C.Muell. & Rodw.
F. pallidus Hook.f. & Wils.
F. pungens C.Muell. & Hampe
F. rigidulus Hook.f. & Wils.
F. tenellus Hook.f. & Wils.
Homalia falseifolia (Hook.f. & Wils.) Hook.f. & Wils.
H. pulchella Hook.f. & Wils.
Hymenodon pilifer Hook.f. & Wils.
Hypnodendron arcuatum (Hedw.) Lindb ex Mitt.
Hypnum chrysogaster C.Muell.
Hypopterygium rotulatum (Hedw.) Brid.
H. filiculaeforme (Hedw.) Brid.
H. commutatum C.Muell.
Lembophyllum divulsum (Hook.f. & Wils.) Par.
Leptostomum macrocarpum (Hedw.) Pyl.
Leucobryum candidum (P.Beauv.) Wils.
Lopidium concinnum (Hook.) Wils.
Macromitrium gracile (Hook.) Schwaegr.
M. ligulare Mitt.
Mittenia plumula (Mitt.) Lindb.
Neckera pennata Hedw.
Orthorrhynchium elegans (Hook.f. & Wils.) Reichdt.
Papillaria crocea (Hampe) Jaeg.
P. flavolimbata (C.Muell. & Hampe) Jaeg.
Pogonatum subulatum (Brid.) Brid.
Ptychomnion aciculare (Brid.) Mitt.
Racopilum convolutaceum (C.Muell.) Reichdt.
Rhynchostegium tenuifolium (Hedw.) Reichdt.
Sematophyllum amoenum (Hedw.) Mitt.
Tetraphidopsis pusilla (Hook.f. & Wils.) Dix.
Thamnobryum pandum (Hook.f. & Wils.) Stone & Scott
Thuidium furfurosum (Hook.f. & Wils.) Reichdt.
T. sparsum (Hook.f. & Wils.) Jaeg.

Trachyloma diversinerve Hampe in F.Muell.
T. planifolium (Hedw.) Brid.
Weissia controversa Hedw.
Weymouthia cochlearifolia (Schwaegr.) Dix.
W. mollis (Hedw.) Broth.
Wijkia extenuata (Brid.) Crum
Zygodon intermedius B.S.G.

REFERENCES

- Boase, M.R. 1985. Kakepuku Mountain field trip: 13 October 1985. Rotorua Botanical Society Newsletter 6: 9-13 and 16-18.
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CITY OF TREE FERNS

James Beaver

How many cities list hedges of tree-ferns among their attractions? Few if any I imagine, yet Rotorua which seldom misses a tourist promotion hardly seems aware of the uniqueness of its many gardens with such hedges. They do not appear to be planned, they "just grew", and have only now reached the age which makes the best of them a fine feature for the proud owner.

They had their origin some years ago when tree ferns or pungas as they are popularly, if incorrectly known, became easily available from the pine forests where they grow readily under the pine canopy. When the pines are cut they are removed and the trunk or caudex used in various ways. Most are built into walls from 1.5-2 metres in height as screens for privacy or as retaining walls. Shorter trunks about half a metre long are also used for similar purposes and as garden edges.

At this stage they are a fairly permanent and pleasantly rustic wall but then comes a change. In many cases upwards of one in six of the trunks begins to put out new shoots usually from the cut top and in some way continues to live and produce the usual umbrella tops. Most trunks appear to be *Dicksonia squarrosa*, known to the Maori as tuakura or wheki or at least five other names. In a few years the wall has a fine top of tree fern heads. Sometimes a shoot comes from the side of the caudex and grows upwards in the same way completing a splendid tree fern avenue.