

Mosses of Mt Stokes, Marlborough Sounds

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Mt Stokes, at 1203 m, is the highest peak in the Marlborough Sounds. Located at 41°05'S 174°06'E, it dominates the peninsula between Pelorus and Queen Charlotte Sounds. The vascular vegetation and flora of the area have been the subject of two previous articles in the Wellington Botanical Society Bulletin (Hay 1950; Park 1968), and of a more recent account in the extensive report on reserves in the Marlborough Sounds by Walls (1984). The summit of Mt Stokes has particular botanical interest, as it bears an isolated pocket of alpine vegetation which includes two endemic vascular plants, *Celmisia macmahonii* var. *macmahonii* and a variety of *Anisotome haastii* (Walls 1984). However no list of mosses in the area has been published.

During a visit by the Offshore Islands Research Group to Queen Charlotte Sound in January 1992 an ascent was made of Mt Stokes along a route from Titirangi Road, at 600 m above sea level, via the Okaha Saddle to the summit. Observations were made on the moss flora, and a species list was prepared (Table 1).



Fig. 1 Degraded forest floor in *Nothofagus menziesii* forest on slopes of Mt Stokes.

Photo: R.E. Beever.

The beneficial effect of fencing around the summit area, in reducing animal damage to the vegetation, was clearly evident. In *Nothofagus menziesii* forest on the upper slopes, outside the fenced area, the ground cover of mosses typical of such forest was absent, and extensive areas of the forest floor had been degraded to bare eroding soil (Fig. 1). In contrast, within the fenced area, a diverse vegetation was present, with very little bare ground (Fig. 2). A total of 61 species of mosses were recorded, 15 species being found in the tussock shrubland around the summit. Of the species recorded around the summit, seven were also found in the beech forest at lower altitudes, or in coastal vegetation in the vicinity of Ship Cove 10 km to the east (Beever and Brownsey 1993). The eight mosses recorded only near the summit of Mt Stokes are all alpine/subalpine species common in other

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Fig. 2 Tussock shrubland around summit of Mt Stokes. Photo: R.E. Beaver

parts of New Zealand. A particularly puzzling moss present in the beech forest is listed here as *Fallaciella* aff. *gracilis*. This was seen several times, in one case growing on a forest floor boulder contiguous to *Fallaciella gracilis*, and, although showing similarities to the latter, was clearly distinct in its robust, more erect growth form.

In the species list (Table 1) registration numbers of voucher specimens held in WELT are given; other records are unvouchered sight records. Nomenclature follows Beaver, Allison & Child (1992) unless authorities are given.

ACKNOWLEDGEMENTS

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Table 1: Mosses recorded on Mt Stokes.

Species	<i>Nothofagus</i> forest	Summit tussock shrubland	WELT regis- tration number
ANDREAEACEAE			
<i>Andreaea acutifolia</i>		•	
<i>Andreaea mutabilis</i>		•	M 28131
AULACOMNIACEAE			
<i>Leptotheca gaudichaudii</i>	•	•	
BARTRAMIACEAE			
<i>Bartramia papillata</i>	•		
<i>Conostomum pusillum</i>		•	M 28132
BRYACEAE			
<i>Leptostomum inclinans</i>	•		M 28142
CALOMNIACEAE			
<i>Calomnion complanatum</i>	•		
DICNEMONACEAE			
<i>Dicnemon calycinum</i>	•		
<i>Dicnemon dixonianum</i>		•	
<i>Dicnemon semicryptum</i>	•		M 28135
DICRANACEAE			
<i>Campylopus clavatus</i>	•	•	
<i>Campylopus introflexus</i>	•		
<i>Dicranoloma fasciatum</i>	•		
<i>Dicranoloma menziesii</i>	•		
<i>Dicranoloma plurisetum</i>	•		M 28136
<i>Dicranoloma robustum</i>	•	•	M 28137
<i>Holomitrium perichaetiale</i>	•		M 28141
<i>Leucobryum candidum</i>	•		
<i>Mesotus celatus</i>	•		
<i>Trematodon flexipes</i>		•	
DITRICHACEAE			
<i>Ditrichum cylindricarpum</i>	•		

Species	<i>Nothofagus</i> forest		Summit tussock shrubland	WELT regis- tration number
<i>Ditrichum difficile</i>	•			
ECHINODIACEAE				
<i>Echinodium hispidum</i>	•			
FISSIDENTACEAE				
<i>Fissidens pallidus</i>	•			
GRIMMIACEAE				
<i>Racomitrium crispulum</i>	•		•	
<i>Racomitrium pruinosum</i>			•	M 28144
HEDWIGIACEAE				
<i>Rhacocarpus purpurascens</i>			•	
HOOKERIAACEAE				
<i>Achrophyllum dentatum</i>	•			
<i>Achrophyllum quadrifarium</i>	•			
<i>Distichophyllum pulchellum</i>	•			M 28138
<i>Distichophyllum rotundifolium</i>	•			
HYPNACEAE				
<i>Hypnum chrysogaster</i>	•			
<i>Hypnum cupressiforme</i>			•	
HYPNODENDRACEAE				
<i>Hypnodendron arcuatum</i>	•			
HYOPTERYGIACEAE				
<i>Cyathophorum bulbosum</i>	•			M 28134
<i>Lopidium concinnum</i>	•			
LEMBOPHYLLACEAE				
<i>Camptochaete arbuscula</i>	•			
<i>Fallaciella gracilis</i> (H. f. & W.) Crum	•			
<i>Fallaciella</i> aff. <i>gracilis</i>	•			
<i>Lembophyllum divulgum</i>	•			
METEORIAACEAE				
<i>Papillaria flavo-limbata</i>	•			

Species		<i>Nothofagus</i> forest		Summit tussock shrubland		WELT regis- tration number
<i>Weymouthia mollis</i>		•				
<i>Weymouthia cochlearifolia</i>		•				
NECKERACEAE						
<i>Thamnobryum pandum</i>		•				
ORTHOTRICHACEAE						
<i>Macromitrium longipes</i>		•		•		
<i>Ulota lutea</i>		•				M 28147
<i>Zygodon intermedius</i>		•				M 28148
POLYTRICHACEAE						
<i>Pogonatum subulatum</i>		•				
<i>Polytrichum juniperinum</i>				•		
<i>Psilopilum australe</i>				•		
<i>Psilopilum crispulum</i>		•				M 28143
PTYCHOMNIACEAE						
<i>Cladomnion ericoides</i>		•				
<i>Glyphothecium sciuroides</i>		•				
<i>Hampeella alaris</i>		•				M 28140
<i>Ptychomnion aciculare</i>		•				
RHIZOGONIACEAE						
<i>Cryptopodium bartramioides</i>		•				M 28133
<i>Goniobryum subbasilare</i>		•				M 28139
<i>Pyrrhobryum bifarium</i>		•				
<i>Rhizogonium distichum</i>		•				
<i>Rhizogonium novae-hollandiae</i>		•				
SEMATOPHYLLACEAE						
<i>Sematophyllum amoenum</i>		•				M 28145