

Mt. Stokes, Marlborough

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The summit of Mount Stokes, 3951 feet, is the highest point in the Marlborough Sounds district. The mountain can be readily recognized from Titahi Bay, and other parts of the south-western coast of Wellington, by its "bald top," it being the only one high enough to have a patch of fellfield over the summit. All the neighbouring peaks are forested to the top. A certain amount of endemism has been reported from this cap of fellfield.

W. Martin, in "The Vegetation of Marlborough" (reprinted from "The Marlborough Express," 1932) gives a vivid account of the plant communities encountered when following a track from Endeavour Inlet up the eastern slope to the summit. The route taken by the party with which I went in February 1950, was up a western spur from Manaroa. The people in the homestead at the foot of the mountain say that native bats are quite abundant, and are always to be found flying about their sawmill building in the evenings. Opossums are completely absent from the forest there, as in most parts of the Sounds area, but goats, pigs and deer are common.

Manaroa is almost at sea-level. Up to about 500 feet the land has been cleared of forest and is now largely covered with bracken and tauhinu. *Lagenophora pumila* and a blue-flowered *Wahlenbergia gracilis* are common under the bracken.

The lower line of the forest is uneven, because of burning and felling, and the wide openings between the remaining trees are invaded by foxglove, burdock, bracken, thistles, a little *Gnaphalium japonicum* and a great deal of the big soft fern *Histiopteris incisa*. Inside the forest the canopy overhead is dense enough to eliminate these intruders, and the herb flora consists of the usual forest floor inhabitants—*Viola filicaulis*, *Ranunculus hirtus*, *Nertera dichondraefolia*, *Uncinia* spp., and the bush rice-grass, *Microlaena avenacea*.

Where a fallen tree has broken the canopy and let the light in, great patches of carex cover the ground. The principal forest trees from 500 to 3000 feet are totara (*Podocarpus hallii*), silver beech (*Nothofagus menziesii*) in this locality known as cherry birch, kamahi, rimu, *Phyllocladus alpinus* and southern rata (*Metrosideros umbellata*). Occasionally the small prostrate tree-fern *Cyathea colensoi* is to be seen



and, in the leaf-mould, the orchid *Corybas trilobus*. *Lycopodium billardieri*, *Hymenophyllum bivalve*, *H. sanguinolentum*, *H. demissum* *H. flabellatum* and various lichens, especially *Sticta coronata* and *S. latrifrons*, are among the more conspicuous epiphytes of the forest. Great glowing masses of the scarlet mistletoe *Elytranthe colensoi* appear occasionally through the beech foliage. The big black carnivorous snails, identified by Dr. H. B. Fell as *Paryphanta hochstetteri* var. *bicolor*, are to be found by kicking over the deep dry litter under beech trees where the slope is steep and the beech forms an almost pure association.

At 3300 feet the forest thins out and gives way to a scrub of tupari (*Olearia colensoi*) and *Dracophyllum filifolium* which opens on to an open boggy slope about an acre in extent. Here *Orcobolus pectinatus* is by far the most abundant plant, forming a deep, dense, mattress-like growth over practically the whole area, interrupted at intervals by soft patches of *Sphagnum*, *Dicranoloma* and *Leucobryum candidum*, and the hard, dark-green, white-starred cushions of *Donatia novae-zelandiae*. Small seepage streams and trickles run in shallow channels down the gentle slope, the courses of the larger streams marked by danthonia tussocks and *Phormium colensoi*. Downhill the boggy slope narrows into a forested valley; uphill, on the ridge, it is bordered by an impenetrable scrub of tupari and dracophyllum. Tupari, according to Martin, occurs nowhere in Marlborough except on Mount Stokes, but it is certainly in a healthy state there. At the time of our visit the tupari and dracophyllum had finished flowering, but occasional bushes of *Pimelea longifolia* were in full flower on the ridge. There seem to be no hebes at all in the subalpine scrub of Mount Stokes. Thickets of the tupari-dracophyllum mixture, with occasional beech trees, are dotted about the drier parts of the slope; *Carpina alpina* and *Juncus antarcticus* are common in places where water is lying; and in stony places there are silver-grey, rigid bushes of *Coprosma parviflora* and, occasionally, of *Hymenanthera*. *Coprosma pseudocuneata*, *Cyathodes empetrifolia*, *Lycopodium australianum*, and the creeping *Coprosma pumila* grow through the oreobolus cushions, and in the sphagnum are to be found tall, slender-stemmed, purple-flowered thelymitras. Gentians with their masses of milk-white, purple-streaked flowers in great cymes make a beautiful show; but perhaps the loveliest sight of all is *Epilobium pernitens*, which occurs in great abundance wherever there is a patch of bare ground left between the cushions of oreobolus. Its small creeping stems and tiny glossy round red leaves press close to the soil, but the dainty white flowers, large for the size of the plant, are raised high above on slender stalks and seem to be floating. This species does not seem to have been recorded before from this locality.

Beyond the *Oreobolus* bog the *Nothofagus* climax forest comes in again, but now the more open places are carpeted deeply with the densely silky leaves and pale-spined heads of *Acaena anserinaefolia* (*sanguisorbae*) var. *sericeimitens*. *Luzuriaga parviflora* and *Epilobium*

linnaeoides also occur on the forest floor, along with the other herbs found lower down. The finely-cut fronds of *Hypolepis millefolium* form a broad, waist-high bank at about 3500 feet, and almost immediately there follows a curious formation, a pure stand of very old beech trees with pillar-like trunks and the canopy about 30 feet above—in Martin's words, "A cathedral-like piece of forest with hundreds of branchless pillars of silver beech supporting the canopy above . . . each pillar draped with a bilious moss . . ." Here again, in the deep dry litter of the forest floor, is to be found the big carnivorous snail. The "bilious moss" on the trees consists of bryophytes of several species, some of the commonest being *Porella stangeri* and *Trichocolea* sp. There is scarcely any undergrowth, only a few scattered colonies of *Blechnum discolor*.

This aged forest probably extends as a belt around the mountain, since Martin encountered it on his climb up the opposite side. He also described a dense growth of tupari and stunted beech "most easily negotiated by scrambling over the top" as occurring between this belt of forest and the fellfield of the summit; but on the west side the tall forest goes right to the summit, where it gives way abruptly to the fellfield, the only transition being the increasing occurrence of low bushes of tupari in the forest.

The fellfield area is about five acres in extent, with a convex slope downhill from west to east, so that it extends much lower on the eastern side than on the west, where the forest comes level with the ridge. The physiognomic plants of the formation are the snowgrasses, *Danthonia flavescens* and *D. rigida*, except in a boggy, low-lying part at the northern end, where *Oreobolus pectinatus* is dominant, with cushions of *Phyllachne colensoi* and occasional thelymitras and prasophyllums. In the drier true fellfield amongst the snowgrass there are *Carpha alpina* (commonly infested with the smut *Cintractia waiouru*), *Luzula campestris*, *Danthonia gracilis*, *Poa colensoi*, *Aciphylla colensoi*, *Anisotome aromatica*, two species of *Gentiana*, *Epilobium pernitens* and *E. pedunculare*, *Drapetes dieffenbachi*, *Pentachondra pumila*, and *Celmisia graminifolia*.

On and between the great slabs and blocks of schistose rock which are strewn over a considerable part of the top, are to be found the following: a small, completely prostrate dracophyllum (*D. rosmarinifolium?*), *Gaultheria depressa*, *Viola filicaulis*, an astelia (*A. solandri?*), a tall carex (either *C. cockayneana* or *C. semi-forsteri*), *Euphrasia monroi*, *Coprosma parviflora*, *C. pseudocuneata*, *Pimelea longifolia* (not var. *lanceolata* as recorded by Martin), *Anisotome haastii*, *A. deltoideum*, *Schizeilema roughii*, *Hymenophyllum villosum* (with wiry rhizomes entangled among the roots of the *Schizeilema*), *Senecio lagopus*, and *Celmisia rutlandii*. The two latter are plentiful south of the highest point, in rock clefts and sheltered places. There is also an interesting series of plants referable to *Ranunculus geraniifolius*, but apparently consisting of two distinct forms and intermediates between them.



MT. STOKES

Top: View to the east, overlooking Endeavour Inlet. Snowgrass and *Coprosma parviflora* in foreground. Dense scrub of tupari and silver beech clothing shoulder in middle distance.

Bottom: Looking south towards the highest point. *Danthonia* tussocks and prostrate silver beech among rocks in foreground. The forest of the western side is seen in the distance rising level with the ridge top.

Stunted, shrubby, wind-shorn trees of silver beech and rounded bushes of tupari are quite thickly dotted about the eastern slope, and lower down they form the dense impenetrable scrub referred to by Martin.

Towards the north end, on the flanks of a prominent rock outcrop, are found the small yellowish rosettes of *Celmisia hieracifolia* var. *oblonga*. This variety was first described from specimens collected on Mt. Stokes by J. B. Macmahon. It differs considerably from the large form of *Celmisia hieracifolia* found in the Tararuas, but seems to be matched by specimens from other parts of Nelson and Marlborough.

The beautiful endemic *Celmisia macmahoni* I did not see, but it is confined to steep rock faces inaccessible to goats. A closely related variety grows in similar habitats on some mountains of inland Marlborough. The species is distinct from all other celmisias in being densely clothed—leaves, scapes, and involucre—in a tomentum of long silky buff hairs.

Celmisia rullandii was formerly reported as being endemic to Mount Stokes, with a distinct variety in the Wairau Mountains. Martin has proved, by growing the two forms together, that they are identical (*Trans. N.Z. Inst.*, 65: 169), so that the endemism of Mount Stokes is less than it was formerly thought to be, and may be reduced completely as the flora of the mountains of Marlborough and Nelson becomes better known.

Through Gollans Valley

(Field Trip, May 6; leader, Mr. A. Morris Jones)

At Days Bay heavy rain had fallen during early morning but pleasant conditions for a bush walk developed as we ascended the main spur behind the pavilion, and it was decided to do the almost trackless walk down to the regenerated area in mid Gollans Valley.

We followed the main ridge southwards and joined a spur projecting eastwards into the basin of the valley. On the spur we encountered a considerable number of uprooted beeches, havoc wrought by a southerly gale. In skirting the uprootings we got on to a wrong spur but regained the correct one lower down by crossing the heads of two shallow gullies interesting in themselves as being at the limit of the fire-destroyed forest. Our descent continued through regenerated growth, mainly of beech. Across the valley the slopes of broad-shouldered Pukeatua hill were observed, clad to the summit in young native growth similar to that through which we moved. As we neared the bottom, occasional tall remnant gorse trees were noted, their weak spindly seedlings beneath telling the tale of hopeless struggle for survival amid the beeches. (The writer recalls having to thrust through thick gorse on this spur in earlier years.) After lunch we crossed the stream and scrambled on to a somewhat open