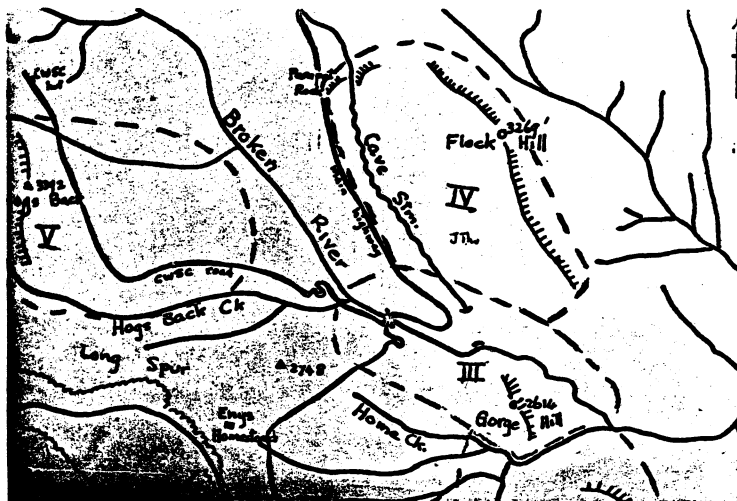


## THE VEGETATION OF FLOCK HILL

By: John Thompson

This survey of the vegetation of Flock Hill was undertaken at the suggestion of Dr. Colin Burrows. The members of the party consisted of Mr. and Mrs. R. Elder, my wife, Mr. L. Visch, who concentrated on the mosses, and the writer. Visits were made on 20th November, 1971, 4th December, 1971, 25th December, 1971, 1st January, 1972, 14th January, 1972, 19th February, 1972 and 25th March, 1972.

The area is shown on the accompanying map enclosed in the dotted lines and marked IV. It is approximately 2 miles long by 1 mile across. From the western boundary the land drops steeply down from the West Coast Highway to the Cave Stream and rises some 500 feet, again steeply, to the summit ridge of Flock Hill, the highest point of which is 3269 feet. There are two flat terraces on the eastern side of the stream with a bog on the southern end of the second terrace.



This land is part of the Castle Hill Basin a well known limestone area surrounded by high greywacke mountains some of which rise to over 6000 feet.

On the summit ridge and the upper portion of Flock Hill there are numerous limestone boulders that have been weathered to extraordinary shapes. Many are very large indeed. The upper eastern side of the summit ridge consists of perpendicular cliffs rising from steep grassy slopes.

The whole area is grassed. There are no trees but shrubs can be seen on the slopes from the Highway down to the stream, on the lower Eastern slopes, and amongst the rocks of the summit ridge. The varied topography provides situations suitable for many species of plants. Due to run off the base of many of the boulders are moist areas. The hillsides in Summer become very dry.

The following summary sets out our findings on those special plants that grow only in the Castle Hill Basin.

Ranunculus crithmifolius var. paucifolius:

No plants were seen.

Myosotis colensoi:

Numerous plants were growing in limestone rubble at the foot of cliffs and sloping flat sheets of limestone. There appear to be two forms of flowers.

Wahlenbergia brockiei:

Several very small plants were found near the summit ridge amongst the limestone boulders.

Carex opiniata:

Not noticed. This short grass like Carex with its fruit at ground level is not easily distinguished and could well be growing amongst the numerous boulders and be overlooked.

Myosotis traversii var. cinarascens:

There is some difficulty in differentiating vars. cantabrica and cinarascens. The plants, which were found in limestone rubble, are likely to be var. cinarascens.

Encalypta vulgaris var. apiculata:

A small moss found on Parapet and other rocks.

Grimmia argentea:

This bright silvery cushion moss was noticed on the rocks near the summit ridge.

Seligeria diminuta:

An extremely small moss with stems less than 1 mm. high. Not seen.

Our thanks are extended to the owner of the land, Mr. Gerald Urquart, for permission to undertake the survey, to the staff of the Botany Division at Lincoln for assistance in naming the specimens sent to them and to Mr. K.W. Allison for help in the naming of the mosses.

The following is a list of the names of the plants found in the area.

KEY:

- R. Plants found growing on or amongst rocks and cliffs.  
S. Plants found growing on stream banks, valley flats, and bogs.  
H. Plants found growing on hillsides.  
G. Mosses that grow on the ground.  
B. Mosses that grow on bark.  
+ Adventive plants.

FERNS:

- R Asplenium trichomanes  
R Asplenium lucidum var. lyallii  
R Blechnum lanceolatum  
H Blechnum penna-marina  
R Cystopteris fragilis  
R Grammitis billardieri  
R Grammitis ciliata  
S Ophioglossum coriaceum  
SH Pteridium aquilinum var. esculentum

GRASSES:

- HR Agropyron scabrum  
HC+ Agrostis tenuis  
RSH+ Anthoxanthum oderatum  
R+ Bromus sterilis  
H+ Bromus mollis  
S Cortaderia richardii  
S Chionochloa rubra  
H+ Dactylis glomerata  
H Festuca novae-zelandiae  
R+ Festuca rubra  
S+ Holcus lanatus  
H+ Lolium perenne  
H Notodanthonia buchananii  
R+ Poa annua  
H Poa colensoi  
H+ Poa pratensis  
R Poa imbecilla  
H Pyrrhanthera exigua

SEDGES ETC:

- S Carex breviculmis  
S Carex colensoi

SEDGES ETC. (Continued):

S+	Carex demissa
H	Carex muelleri
S	Carex sinclairii
S	Carex solandri
S	Eleocharis acuta
S+	Juncus bufonius
S+	Juncus effusus
S	Juncus novae-zelandiae
S+	Juncus tenuis
H	Luzula rufa
H	Luzula picta var. limosa
S	Schoenus pauciflorus
S	Scirpus nodosus
S+	Scirpus setaceus
S	Uncinia filiformis
S	Uncinia viridis

ORCHIDS:

R	Corybas macranthus
H	Microtis unifolia
S	Microtis oligantha
H	Prasophyllum colensoi

SHRUBS:

R	Aristotelia fruticosa
R	Carmichaelia robusta
H	Carmichaelia sp.
H	Cassinia vauvilliersii
H	Coprosma parviflora
RH	Coprosma petriei
R	Coprosma pumila
S	Coriaria sarmentosa
R	Corokia cotoneaster
SH	Cyathodes fraseri
R	Discaria toumatou
R	Elaeocarpus hookerianus
R	Exocarpus bidwillii
S	Gaultheria depressa
H	Griselinia littoralis
H	Hebe cupressoides
R	Hebe glaucophylla
R	Hebe traversii (hybrid)
R	Helichrysum selago
R	Hymenanthera alpina
H	Hymenanthera obovata
H	Leptospermum scoparium
R	Muehlenbeckia axillaris
R	Myrsine divaricata

SHRUBS (Continued):

R	<i>Olearia avicenniaefolia</i>
R	<i>Olearia paniculata</i>
H	<i>Parahebe decora</i>
R	<i>Phormium cookianum</i>
RH	<i>Pimelea prostrata</i>
R	<i>Pittosporum tenuifolium</i>
H+	<i>Ribes grossularia</i>
H+	<i>Rosa eglanteria</i>

CLIMBERS:

R	<i>Clematis marata</i>
R	<i>Clematis petriei</i>
R	<i>Muehlenbeckia australis</i>

HERBS - ADVENTIVE:

H	<i>Achillea millefolium</i>
R	<i>Alyssum alyssoides</i>
HR	<i>Aphanes arvensis</i>
R	<i>Arenaria serpyllifolia</i>
R	<i>Capsella bursa-pastoris</i>
H	<i>Centaurium umbellatum</i>
R	<i>Cerastium arvense</i>
S	<i>Cerastium caespitosum</i>
SH	<i>Cerastium glomeratum</i>
R	<i>Cerastium holosteoides</i>
H	<i>Cirsium arvense</i>
RSH	<i>Cirsium lanceolatum</i>
R	<i>Crepis capillaris</i>
SH	<i>Dianthus armeria</i>
SH	<i>Digitalis purpurea</i>
RH	<i>Erodium cicutarium</i>
RH	<i>Galium aparine</i>
R	<i>Geranium molle</i>
R	<i>Geranium sp.</i>
H	<i>Hieracium aurantiacum</i>
HR	<i>Hieracium lachenalii</i>
RSH	<i>Hieracium pilosella</i>
H	<i>Hieracium praealtum</i>
R	<i>Hieracium pratense</i>
R	<i>Hypochaeris radicata</i>
RH	<i>Linum catharticum</i>
R	<i>Lotus pedunculatus</i>
H	<i>Marrubium vulgare</i>
RS	<i>Medicago lupulina</i>
S	<i>Mimulus guttatus</i>
R	<i>Myosotis discolor</i>
H	<i>Myosotis sp.</i>
R	<i>Myosotis sp.</i>
H	<i>Plantago lanceolata</i>
S	<i>Plantago major</i>

HERBS - ADVENTIVE (Continued):

RS	<i>Prunella vulgaris</i>
S	<i>Rumex acetosa</i>
H	<i>Rumex crispus</i>
S	<i>Sagina procumbens</i>
R	<i>Satureja acinos</i>
R	<i>Sedum acre</i>
RH	<i>Sherardia arvensis</i>
R	<i>Stellaria media</i>
R	<i>Stellaria sp.</i>
RSH	<i>Taraxacum officinale</i>
S	<i>Trifolium arvense</i>
SH	<i>Trifolium campestre</i>
R	<i>Trifolium pratense</i>
S	<i>Trifolium repens</i>
H	<i>Verbascum thapsus</i>
S	<i>Veronica serpyllifolia</i>
R	<i>Veronica verna</i>
RS	<i>Vicia angustifolia</i>

HERBS - NATIVE:

SH	<i>Acaena caesiiglauc</i>
H	<i>Acaena inermis</i>
SH	<i>Acaena microphylla</i>
H	<i>Acaena saccaticupula</i>
H	<i>Aciphylla subflabellata</i>
R	<i>Angelica montana</i>
RS	<i>Anisotome aromatica var. aromatica</i>
H	<i>Brachycome sinclairii</i>
SH	<i>Cardamine debilis</i>
R	<i>Cardamine uniflora ?</i>
S	<i>Celmisia gracilent</i>
H	<i>Celmisia spectabilis</i>
S	<i>Celmisia sp.</i>
R	<i>Colobanthus apetalus</i>
R	<i>Colobanthus strictus</i>
S	<i>Coriaria plumosa</i>
RH	<i>Cotula dioica</i>
R	<i>Cotula perpusilla</i>
S	<i>Craspedia major</i>
S	<i>Craspedia minor</i>
H	<i>Dichondra repens</i>
S	<i>Drapetes dieffenbachii</i>
R	<i>Epilobium chloraefolium</i>
R	<i>Epilobium cinereum</i>
H	<i>Epilobium elegans</i>
R	<i>Epilobium glabellum</i>
S	<i>Epilobium nerterioides</i>
S	<i>Epilobium nummularifolium</i>
R	<i>Epilobium sp.</i>
R	<i>Erechtites quadridentata</i>
S	<i>Galium perpusillum</i>

HERBS - NATIVE (Continued):

R	<i>Galium tenuicaule</i>
H	<i>Gentiana</i> sp.
H	<i>Geranium microphyllum</i>
HS	<i>Geranium sessiliflorum</i>
S	<i>Geum leiospermum</i>
R	<i>Gingidium decipiens</i>
RH	<i>Gingidium filifolium</i>
H	<i>Gnaphalium collinum</i>
H	<i>Gnaphalium luteo-album</i>
H	<i>Gnaphalium traversii</i>
R	<i>Haloragis erecta</i>
S	<i>Haloragis micrantha</i>
H	<i>Helichrysum bellidioides</i>
H	<i>Helichrysum filicaule</i>
S	<i>Hydrocotyle microphylla</i>
R	<i>Hydrocotyle novae-zelandiae</i>
R	<i>Hypericum japonicum</i>
H	<i>Lagenophora pumila</i>
H	<i>Lycopodium fastigiatum</i>
H	<i>Mazus radicans</i>
S	<i>Mentha cunninghamii</i>
S	<i>Microseris scapigera</i>
H	<i>Myosotis australis</i>
R	<i>Myosotis colensoi</i>
R	<i>Myosotis traversii</i> var. <i>cinerascens</i> ?
R	<i>Myosotis</i> sp.
S	<i>Nertera balfouriana</i>
S	<i>Nertera ciliata</i>
H	<i>Oreomyrrhis colensoi</i>
R	<i>Oreomyrrhis ramosa</i>
R	<i>Oreomyrrhis rigida</i>
S	<i>Oxalis lactea</i>
S	<i>Pernettya nana</i>
SH	<i>Plantago spathulata</i>
S	<i>Potentilla anserinoides</i>
S	<i>Pratia angulata</i>
S	<i>Ranunculus hirtus</i>
SH	<i>Ranunculus lappaceus</i>
S	<i>Ranunculus rivularis</i>
S	<i>Raoulia monroi</i>
S	<i>Raoulia subsericea</i>
S	<i>Raoulia tenuicaulis</i> var. <i>dimorpha</i>
S	<i>Rumex flexuosus</i>
H	<i>Scleranthus biflorus</i>
S	<i>Scleranthus uniflorus</i>
H	<i>Senecio bellidioides</i>
R	<i>Senecio glaucophyllus</i> -subsp. <i>raoulii</i>
RH	<i>Senecio haastii</i>
H	<i>Stackhousia minima</i>
R	<i>Stellaria gracilentia</i>
R	<i>Stellaria parviflora</i>
R	<i>Urtica incisa</i>

HERBS - NATIVE (Continued):

S Viola lyallii  
R Vittadinia australis  
H Wahlenbergia albomarginata  
R Wahlenbergia brockiei

MOSESSES:

G Astomum austro-crispum  
G Barbula torquata  
G Bartramia papillata  
S Brachythecium paradoxum  
S Brachythecium rutabulum  
S Brachythecium salebrosum  
S Breutelia affinis  
S Breutelia pendula  
G Bryum argenteum  
S Bryum blandum  
G Bryum caespiticium  
S Bryum chryseuron  
G Bryum curvicollum  
S Bryum laevigatum  
G Bryum truncorum  
G Ceratodon purpureus  
S Climacium dendroides  
S Cratoneuropsis relaxa  
S Dicranella cardotii  
G Distichium capillaceum  
G Ditrichum flexifolium  
S Drepanocladus aduncus  
R Encalypta vulgaris var. apiculata  
R Eucladium irroratum  
S Fissidens adianthoides  
G Fissidens leptocladus  
S Fissidens rigidulus  
R Grimmia argentea  
R Grimmia pulvinata  
R Hypopterygium rotulatum  
R Hedwigia ciliata  
G Hypnum cupressiforme  
G Gypopterygium rotulatum  
R Lembophyllum divulgum  
S Leptobryum pyriforme  
R Leptodon smithii  
R Lepyrodon lagurus  
S Meesia muelleri  
S Mnium longirostrum  
R Orthotrichum austro-cupulatum  
B Orthotrichum hortense  
B Orthotrichum tasmanicum  
S Philonotis pyriformis  
G Philonotis scabrifolia  
G Pohlia cruda



MOSSES (Continued):

G	<i>Polytrichum commune</i>
G	<i>Polytrichum juniperinum</i>
S	<i>Pterygophyllum dentatum</i>
R	<i>Racomitrium crispulum</i>
G	<i>Racomitrium lanuginosum</i> var. <i>pruinatum</i>
R	<i>Racomitrium ptychophyllum</i>
S	<i>Racopilum strumiferum</i>
G	<i>Rhizogonium mnioides</i>
R	<i>Schistidium apocarpum</i>
R	<i>Seligeria cardotii</i>
S	<i>Spagnum</i> sp.
S	<i>Thuidiopsis furfurosa</i>
G	<i>Tortella knightii</i>
R	<i>Tortula muralis</i>
R	<i>Tortula phaea</i>
G	<i>Tortula princeps</i>
G	<i>Tortula rubra</i>
G	<i>Tortula serrulata</i>
S	<i>Tridontium tasmanicum</i>
G	<i>Triquetrella papillata</i>

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The Kawdi, Cowri, Kaudi, Kauri or Cowdi Pine of New Zealand, as it is indifferently spelt or mis-spelt and pronounced is too well known a tree to require a detailed description for its identification.

Ibid.

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Cowrie pine:

In most of what is here called "Cowrie land" the trees are often a quarter of a mile assunder, and rarely closer than a hundred yards; it is, in my opinion, the least beautiful of the pine tribe, especially in its young state, which is in general the most beautiful age of the pine: in fact until it gets thirty feet high it is absolutely ugly. It retains the appearance of a regular coniferous tree until it becomes about eighteen inches in diameter, when it begins to change, and after that period ceases to resemble the rest of the tribe in the slightest degree.

Rambles in New Zealand 1839

John C. Bidwell.

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