A CHECKLIST OF VASCULAR PLANTS AT CASTLE ROCK, HEATHCOTE INCLUDING A NEW *HYMENOPHYLLUM* TO BANKS PENINSULA

David Glenny

Introduction

Castle Rock is the rock outcrop to your right, on the skyline, as you approach the Lyttelton tunnel from Christchurch. It is easily reached from the summit road or by walking up from Horotane Valley. It is private land owned by the Scott family. Its main use is from rock climbers, being the most popular crag accessible to Christchurch climbers. The first guide to climbs on Castle Rock was published in 1968 by the Canterbury University Tramping Club (Hutton 1968) and this guide includes sections on the history of the crag, its geology, and a section on the plants written and illustrated by Brian Fineran. Fineran mentions about thirty species and illustrates twelve but a species list is not given and does not seem to have been published . All Fineran's species still exist at Castle Rock. The area the checklist covers is ill-defined but includes the main outcrop and small cliffs below and areas of grassland in between. The list is undoubtedly incomplete particularly in the adventive flora.

Vegetation

The outcrop is surrounded by grassland in which silver tussock is common. At the base of the outcrop and more sparsely on the outcrop itself are shrubberies of *Corokia cotoneaster, Hebe strictissima, Coprosma propinqua, Sophora prostrata,* and *Leucopogon fasciculatus.* Few trees grow on or near Castle Rock; a few *Pinus radiata, Kunzea ericioides, Melicytus ramiflorus,* and a single *Podocarpus hallii* are all that remain.

This checklist has only one hundred and one species, a small number in comparison with Sugarloaf Reserve (Thompson 1984). This reflects the lack of forest and the fact that Castle Rock is an exposed site which becomes very dry in summer. However, it has several interesting species.

Celmisia gracilenta and *Gingidia enysii* are species that are unexpected in this low altitude site (420m at the summit). *Raoulia australis* is also an unexpected find, its other known occurrences on the Peninsula are Mt Berard (Akaroa) and the Monument (Purau), (Simpson 1973)

Pleurosorus rutifolius occurs as seven separate plants below the cave overlooking Horotane Valley. Two other ferns of interest grow at Castle Rock; *Hymenophyllum cupressiforme* and a *Pellaea* of uncertain identity. The *Hymenophyllum* grows in crevices on the south facing rocks along the summit in three sites. The plants are diminutive specimens but are often fertile and show the following features which distinguish the species from *H. revolutum,*

the most similar species to *H. cupressiforme:* (1) the indusia are toothed but not as sharply as they are in *H. revolutum,* (2) the rachis is winged. This is the only known site on the Peninsula at present.

Growing in shrubberies on the north-west side of the rock is a *Pellaea* which is neither *P. rotundifolia* nor the 'hot rock' *Pellaea.* It grows to c. 60cm high and tolerates shade well, climbing through shrubs of *Sophora prostrata.* Its pinnae are large as in the 'hot rock, Pellaea but not as large as that species can produce in a shaded corner. This *Pellaea* could be a hybrid of *P. rotundifolia* and the 'hot rock' species. To decide if this possibility is true, chromosome pairing and spore production in the plants needs to be examined. Irregularity in meiosis and conspicuous variation in spore quality would indicate a hybrid origin for the Castle Rock population. Adventive species are marked *.

Checklist

Acaena anserinifolia
Aciphylla subflabellata
*Aira caryophylla**
*Anthoxanthum odoratum**
Asplenium flabellifolium
Asplenium richardii

Blechnum minus
B. penna-marina

Calystegia tugoriorum
Cardamine debilis
Carex resectans
Carmichaelia violacea
Celmisia gracilenta
Cheilanthes distans
C. sieberi
*Cirsium vulgare**
Clematis afoliata
Convolvulus vericundus
Coprosma propinqua
C. propinqua x *C. robusta*
C. robusta
Corokia cotoneaster
Cotula minor
*C. australis**
C. squalida ssp. mediana
Crassula sieberiana
*Crategus monogynus**
Ctenopteris heterophylla
Cyathodes juniperinus
*Cytisus scoparius**

Dactylis glomerata
Dichelachne crinita
Discaria tomatou
Disphyma australe

Earina autumnalis
Echinopogon ovatus
Epilobium billardiereanum subsp *cinereum*
*Erodium circutarium**

Festuca novae-zelandiae
F. sp. (unnamed 'Banks Peninsula')

Galium aparine
Geranium sessiliflorum
Gingidia enysii
Gnaphhalium audax
Griselina littoralis

Haloragis erecta
Hebe lavaudiana
H. strictissima
Helichrysum bellidioides
Histiopteris incisa
Hydrocotyle microphylla
H. moschata
H. novae-zeelandiae
Hymenophyllum cupressiforme

*Hypochoeris radicata**
Juncus gregiflorus
Korthasella lindsayi (on weeping matipo)
K. salicornioides (on kanuaka)
Kunzea ericoides

Lachnagrostis sp.
Leucopogon fasciculatus
L. fraseri
Linum monogynum
Luzula banksiana var. *orina*
*Marrubium vulgare**
Melicytus ramiflorus
Myrsine divaricata

Olearia paniculata
Ophioglossum coriaceum

Pellaea rotundifolia
Pellaea. sp.
Phormium cookianum
Phymatosorus diversifolius
*Pinus radiata**
Pleurosorus rutifolius
Poa cita
P. colensoi
Podocarpus hallii
*Polycarpon tetraphyllum**
Polystichum vestitum
Pseudognaphalium luteoalbum
Pteridium esculentum
Pyrrosia serpens

Raoulia australis
R. monroi
*Rosa canina**
Rubus squarrosus
*Rumex acetosella**
Rytidosperma caespitosum
R. clavatum
R. racemosum

Scandia geniculata
*Sedum acre**
Senecio lautus
S.saxifragoides
Silene gallica
*Silybum marianum**
Sonchus oleraceus
Sophora prostrata
Stellaria media
S. parviflora

Tetragona trigyna
Thelymitra longifolia
Trifolium repens
*T. subterraneum**

*Verbascum thapsus**
*Vicia sativa**
Vittadinia australis

Wahlenbergia albomarginata
W. gracilis

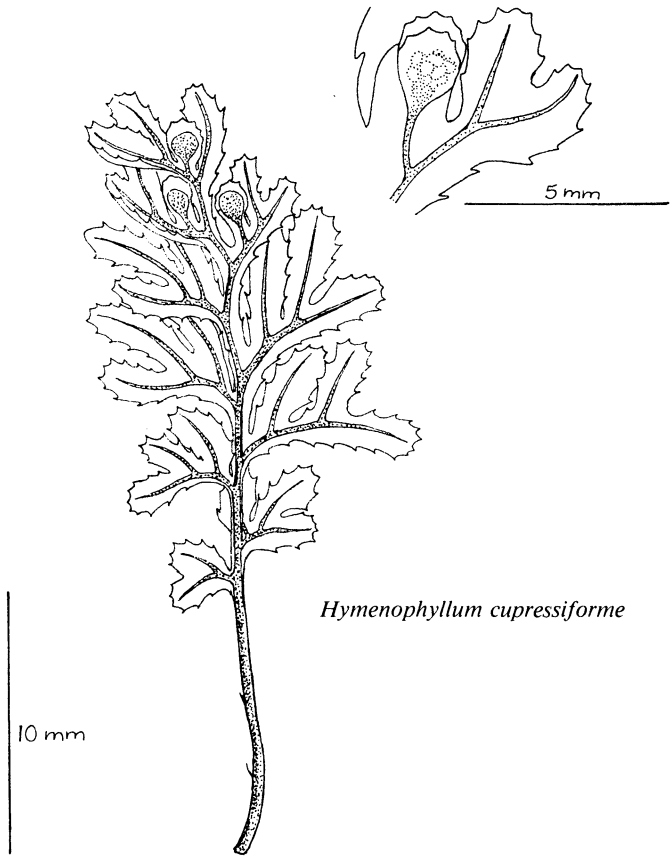
Acknowledgements
I wish to thank John Lovis and Hugh Wilson for help with plant identifications and for an enjoyable afternoon at Castle Rock looking at the *Hymenophyllum*. Hugh pointed out several species I had missed and John Lovis found the *Raoulia australis*. I also wish to thank Patrick Brownsey of the National Museum for showing me herbarium material of *Hymenophyllum cupressiforme* .

References
Hutton, D. 1968 *Guide to the Port Hills. Castle Rock and Rapaki Rock: History, Geology, Rock Climbing, and Plants.* Canterbury University Tramping Club, Christchurch.

Parris, B.S. & Croxall, J.P. 1972 *Hymenophyllum cupressiforme* Labill. (Hymenophyllaceae) in New Zealand. *New Zealand Journal of Botany,10*, 259-266

Simpson, M.J.A. 1973 *Raoulia australis* Hook.f. on Banks Peninsula. *Canterbury Botanical Society Journal 6,* 4-6.

Thompson, J. 1984 Sugar Loaf Reserve. *Canterbury Botanical Society Journal, 18,* 10-19



Hymenophyllum cupressiforme