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FERNS OF THE CHRISTCHURCH PORT HILLS

John Thompson

On the 13th July, 1918 the Lyttelton Times printed an article written by Professor Arnold Wall. In this article he listed the ferns he had seen growing on the Port Hills during an investigation made in the autumn and winter of 1918.

He also wrote a book "The Botany of Christchurch" in 1922 which was revised in 1953. In this he mentions six more ferns seen on the Port Hills not in his 1918 list.

During the period from March 1978 to June 1979 my wife and I made a survey of the ferns growing on the Port Hills. The purpose of our efforts was to check our list with Arnold Wall's and so ascertain what had happened to the fern population of the Port Hills during the past 60 years. When we commenced the task we did not quite realise how much time and how much walking and climbing would be required. In all we made over 30 trips to the Port Hills searching for ferns, though a number were half-day excursions. Arnold Wall's own words are still apt.

"One word of general advice to any person desiring to study the Port Hills ferns: Admirable as Mr. Ell's tracks are for taking the traveller from point to point, nothing can be done by sticking to them. Both the rocks and the bush must be tackled at close quarters; the most difficult and steepest and most thickly obstructed routes must often be followed; nettles five feet high, bracken over one's head; biddy-biddies and lawyars beyond belief must be fearlessly faced; precipitous rocks must be skirted, craned over, scanned from above and below, and climbed if the work is to be thoroughly done; old clothes are desirable, and not too many of them, for the slopes of the inner or harbour side of the hills are terribly steep. All these little

difficulties and drawbacks only add to the fascination of the work if it be faced in a proper spirit, and the person who will not face them does not deserve to find the first and commonest fern".

It was interesting to find that since 1918 twenty three of Wall's thirty six botanical names have been changed some twice. I have set out in my lists the present botanical names as I know them with Arnold Wall's names in brackets. Those ferns marked \* were recorded in his 1953 book but not in his 1918 list.

My first list sets out the ferns that both Arnold Wall and the author have seen on the Port Hills.

LIST 1

List of ferns found growing on the Port Hills both by  
Arnold Wall and the author

* Ophioglossum	coriaceum (O. lusitanicum)
Todea	hymenophylloides (Leptopteris hymenophyll- oides)
* Hymenophyllum	rarum
* Hymenophyllum	peltatum (H. tunbridgense)
Hymenophyllum	sanguinolentum
Dicksonia	squarrosa
Alsophila (Cyathea)	tricolor (dealbata) (Cyathea dealbata)
Alsophila (Cyathea)	smithii (Hemitelia smithii)
Pyrrosia	serpens (Polypodium) (Cyclophorus serpens)
Phymatosorus	diversifolius (Polypodium diversifolium)
Ctenopteris	heterophylla (Polypodium grammitidis)
Thelypteris	pennigera (Polypodium pennigerum)
Pteridium	acquilinum var. esculentum
Asplenium	flabellifolium
* Asplenium	lucidum
Asplenium	bulbiferum subsp. gracillimum (A. bulbiferum)
Asplenium	hookerianum
Asplenium	flaccidum subsp. flaccidum
Asplenium	terrestre subsp. terrestre (A. flaccidum)
* Asplenium	lyallii (A. lucidum var. lyallii)
Pleurosorus	rutifolius (Gymnogramme rutaefolia)
Blechnum	capense
* Blechnum	penna-marina (B. alpinum)
Blechnum	discolor

Blechnum	chambersii (B. lanceolatum)
Blechnum	membranaceum
Blechnum	fluviatile
Polystichum	vestitum (P. aculeatum)
Polystichum	richardii
Lastreopsis	glabella (Dryopteris glabella)
Anogramma	leptophylla (Gymnogramme leptophylla)
Adiantum	cunninghamii (A. affine)
Cheilanthes	distans (Nothoclaena distans)
Cheilanthes	seiberi (C. tenuifolia - C. seiberi)
Pellaea	rotundifolia

Asplenium flaccidum has now been divided into four subspecies. Arnold Wall almost certainly would have found the two sub-species that are now on the Port Hills, A. flaccidum subsp. flaccidum and A. terrestre subsp. terrestre.

This list accounts for all the fern species recorded by Arnold Wall except the following :

#### Cheilanthes tenuifolia

Botanists are now agreed that the forms of Cheilanthes on the Port Hills, not including Cheilanthes distans, are all of one species of Cheilanthes probably C. seiberi.

#### Asplenium obtusatum

P.J. Brownsey in his revision of the Aspleniums does not mention the Port Hills as a site for A. obtusatum. No Port Hill specimens of A. obtusatum from Arnold Wall or any one else are at Botany Division. No plants of A. obtusatum were found by us on the site mentioned by Arnold Wall. Until Brownsey's revision appeared there was some confusion between A. obtusatum and A. lucidum. Arnold Wall's A. obtusatum was most likely a rock form of A. lucidum.

#### Dryopteris punctata

There is no record in Allan's Flora of a fern ever having been named Dryopteris punctata.

Arnold Wall mentions this name in his list but omits it from the schedule of ferns in his booklet. Hypolepis punctata is found only in the north of the North Island. He could be referring, perhaps, to Hypolepis rufobarbata which used to be called H. rugosula.

#### Lastreopsis hispida

This fern known by Arnold Wall as Polystichum hispidum was found by him in one spot only, the lower end of the bush in the gully next



*Lastreopsis*  
*hispida*

but one to Kennedy's Bush going South. Neither Neil and Neroli O'Brien or ourselves noticed any plants of L. hispida in that gully. The O'Brien's saw the other hairy Lastreopsis, L. velutina. Lawrie Metcalf found L. hispida in this bush in the late 1940's. The print may assist members to recognise it should they meet with it on the hills. Note the large basal pinnules on each side of the stipe and the long hairs on the stipe and rachis.

The following list sets out these ferns seen by the author but not recorded by Arnold Wall.

LIST 2

Additional Ferns seen by the author

<u>Name:</u>	<u>Locality Seen:</u>
Hymenophyllum demissum	Gibraltar Bush
Hymenophyllum multifidum	Near hang glider site
Trichomanes venosum	Lyttelton Reserve and Gibraltar Bush
Grammitis ciliata	Lyttelton Reserve
Leptolepia novae zelandiae	Gibraltar Bush
Hypolepis rufobarbata	Lyttelton Reserve - Cass Peak Gibraltar Bush - Taukahara-Living Springs
Hypolepis tenuifolia	Taukahara Bush
Paesia scaberula	Gibraltar Bush
Histiopteris incisa	Gibraltar Bush, Living Springs Bush, Ahuriri Bush
Pteris macilentia	Governors Bay
Blechnum minus	Valley beyond Gibraltar
Blechnum vulcanicum	Lyttelton Reserve
Lastreopsis velutina	Ahuriri Bush, 2 un-named Bush areas
Rumohra adiantiformis	Lyttelton Reserve

We also found a few specimens of what used to be called Asplenium colensoi. Not all botanists agree to its re-naming as Asplenium hookerianum.

Dr. Given informs me that in March last Mr. Tony Huber noticed Grammitis patagonica growing on a cliff face near Coopers Knob.

The number of fern species to be found on the Port Hills at the present time are :-

List 1	-	35
List 2	-	14
Mr. T. Huber	-	1
		<hr/>
		50 Species

Some of the species found are limited in quantity.

Hymenophyllum peltatum is to be found in a narrow crevice some 2 ft. long.

I only know of 2 plants of Asplenium lyallii both of which grow in the Lyttelton Reserve.

Grammitis ciliata was recorded by Dr. David Given south of Kennedys Bush. Two small plants grow in the Lyttelton Reserve.

Paesia scaberula is to be found in one sink hole in Gibraltar Bush.

We could only find one plant of Pteris macilenta on the waterfront at Governors Bay.

The only Hymenophyllum multifidum noticed was a patch a foot square in bush near the hang glider site.

Two small patches of Hymenophyllum demissum were found in Gibraltar Bush on the ground.

The total New Zealand fern flora consists of some 167 species. Almost one third of this flora can be found at the present time on the Port Hills.

Botrichium australe has been recorded by R.M. Laing and L.J. Metcalf a number of years ago on the Port Hills. We were unable to find any. This fern could still survive in the grasslands.

T.H. Potts of Governors Bay, found plants of Hymenophyllum minimum growing above Rapaki last century. We made two trips examining the rocks above Rapaki without sighting it.

We by no means covered the whole of the Port Hills, there is still much to be examined. It could be that further fern species are waiting for the observant eye to discover them. Our trips have been most enjoyable. What magnificent views delight the eye! How fortunate the people of Christchurch are in having such beautiful country on their doorstep!

I would like to thank the Botany Division for allowing me to use the herbarium, to Dr. David Given for much up-to-date information and to Miss Bryony Macmillan for her assistance. My thanks also go to Ross and Yvonne Elder for their help in collecting Hymenophyllum multifidum, to Lawrie Metcalf and Ross Wilson for valuable information and to Neil and Neroli O'Brien for searching for Lastreopsis hispida.

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