Pittosporum obcordatum and Ahi Paku, finding rare plants in the eastern Wairarapa

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INTRODUCTION

Expect the unexpected is a good botanical motto. Even though over time an exposure to a variety of botanical habitats and plant assemblages can give a reasonable expectation of what to find in an area, do not become hidebound in your thinking. This was certainly the case with a Queen Elizabeth II Open Space Covenant at Ahi Paku station in Eastern Wairarapa.

A BOTANICAL TREASURE

This 11.2-hectare area of bush is situated in a gully running SE–NW direction on the property of Mr D.I. McLaren on Whakarua Road. The stream that flows through the covenant has cut down through the siltstone forming a steep sided gully prone to slips where the stream cuts back into the gully sides. The area is in a dry part of the Wairarapa and the vegetation reflects this.

My first visit to this area was with Aalbert Rebergen and Tony Silbery, from the Department of Conservation's Wairarapa office, and my botanical field companion Olaf John. The McLaren family were enthusiastic enough about the bush on their property to have covenanted two areas in the Tawhiriwaimanuka stream valley and protect them with an electric fence. There was once a timber mill on the property that took out most of the large trees. There remain, however, a number of totara, matai and kahikatea and regeneration is good, especially for matai.

The main vegetation remaining is kanuka/kowhai with ribbonwood, lacebarks and emergent totara, matai and maire present. The shrub community beneath the kanuka comprises *Raukaua anomalus*, various coprosma species, *Myrsine divaricata* and *Lophomyrtus obcordata*. Several uncommon plants in the lower North Island were found. These included *Anemanthele lessoniana* (wind grass), *Microlaena polynoda* (bamboo grass) *Korthalsella lindsayi* (mistletoe), *Coprosma linariifolia* (one of the tree-forming species), *C. rubra*, *Nestegis montana* and *Rumex flexuosus*. A complete list of indigenous vascular plants recorded at the site is provided as an appendix to this paper.

The journey to the covenant took a while as there are some very interesting and noteworthy botanical items on the way. There are black maire and narrow-

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leaved maire, the mistletoe (*Korthalsella lindsayi*) on the coprosmas and kowhai (*Sophora* spp.) in flower. There was also a large pond with dabchicks swimming on it. The kanuka stand outside the covenant also contained some small patches of interest, notably *Adiantum diaphanum* and *Nematoceras trilobus*.

There is a marked track through the main covenant that is mainly for the benefit of the homestayers that weekend at the farm. We followed Dave and Fiona McLaren along this track which drops down to run near the stream before climbing a little and looping back through the kanuka along an old farm track to the start point. There was a variety of shrubs under a canopy of kanuka with emergent maire, kowhai and matai. Wind grass (*Anementhele lessoniana*) and *Craspedia uniflora* var. *grandis* were the two most notable finds by the time we had completed the loop. At this juncture the some of the party retired to the warmth and comfort of the homestead to watch rugby. For others the botany continued.

There are few places to cross the creek which cuts a steeply incised path through the soft mudstone but an old logging track provided a dry-shod traverse. There was not too much to get excited about on the other side so, after a while, the main objective was finding a way to get back across the creek. A suitable spot was found with a bit of a scramble up the opposite bank to get back to the track. You get rather close and intimate with the plant life scrambling up steep slopes and it was this that brought to light what I first thought was a "funny looking" coprosma. Tony Silbery made the comment that it was not a coprosma and that he knew what he hoped it was. A quick search revealed another specimen with seed which clinched his hunch. We were looking at the heart-leaved kohuhu (*Pittosporum obcordatum*, fig. 1) an exciting find as it is locally very rare in Wellington (this was only the third site ever found in the Wairarapa) and is ranked as a nationally threatened species. The mistletoe (*Korthalsella lindsayi*) was growing on it. It certainly made the day, and to cap it off Otago thrashed the opposition in the rugby.

On subsequent visits, other threatened plant species were found, such as *Coprosma pedicellata* (fig. 2) growing with the pittosporum, *Teucridium parvifolium* in quantity, the white mistletoe *Tupeia antarctica* on black maire (*Nestegis cunninghamii*), the dwarf musk (*Mazus novaezeelandiae* subsp. *novaezeelandiae*) in a small area (fig. 3), the greenhood orchid *Pterostylis porrecta* (the third population in the lower North Island) (fig. 4) and several other species of local note.

Fern and orchid species were noticeably lacking. *Cyathea dealbata* was the only tree fern seen and it was sparse and the plants small. Other fern species were represented in very small numbers. There were numerous *Nematoceras trilobus* but very few other orchids. The covenant is in good health and a walking track through it is pleasant way to pass the time and become acquainted with a very interesting piece of bush for visitors staying at the station homestay. The second

covenant has fewer species but does have a large area of dwarf musk (*Mazus novaezeelandiae* subsp *novaezeelandiae*) and a small population of *Coprosma pedicellata*. It also has a better stand of podocarps as it was never logged. Just outside this covenant is a solitary specimen of *Pittosporum obcordatum*.

Fig. 1. *Pittosporum obcordatum*, heart leaved kohuhu.
Photo: John Smith-Dodsworth.

Fig. 3. *Mazus novaezeelandiae* subsp. *novaezeelandiae* (dwarf musk).
Photo: Andrew Townsend.

Fig. 2. *Coprosma pedecillata*.
Photo: Jeremy Rolfe.

Fig. 4. *Pterostylis porrecta*—one of only three records in the lower North Island. Photo: Ian St. George.

CONSERVATION MANAGEMENT

The main conservation management problem in both covenants is the presence of the weed *Carex divulsa* (fig. 5). This exotic sedge smothers everything where it grows in open areas and in light shade and seems to be spreading. It is suppressing regeneration and crowding out native herbaceous pants and grasses such as the dwarf musk. Removal and replanting with *Mazus* from the area outside the covenant may be worth trying.

Fig. 5. *Carex divulsa*—a serious weed at Ahi Paku. Photo: Clayson Howell.

Studies and tests on best techniques for controlling *Carex divulsa* are now being undertaken by the Department of Conservation especially where it grows with the dwarf musk. Exotic grasses and black nightshade (*Solanum nigrum*) are the other main weed species but do not pose anywhere near the problem that does *Carex divulsa*. The nightshade is prevalent in areas that have been previously cleared but are now regenerating. A number of bait stations have been set up for possum control but this could probably be increased and better monitoring done. For example, galls on a number of the maire trees may be monitored for emergence of live plants of the mistletoe *Tupeia antarctica*.

In terms of threatened species management the most important species of nationally threatened plants worthy of long-term monitoring are *Mazus novaezeelandiae* subsp. *novaezeelandiae* (a very small patch), *Coprosma pedicellata*, *Teucridium parvifolium* and *Pittosporum obcordatum*, growing on a flat terrace at the south end of the covenant. A Department of Conservation survey has so far located 57 plants of *P. obcordatum* with the largest seen being five and a half metres tall, and 10 plants of *Coprosma pedicellata*. This area was

a shrub community on a terrace above the stream with *C. rigida*, *C. propinqua*, *Myrsine divaricata* and some emergent *Hoheria angustifolia* along with dead and rather battered kahikitea. A number of *Teucridium parvifolium* plants were growing under the tall kanuka fringing the shrub community.

Dave McLaren (the landowner) said that the big trees of *Pittosporum obcordatum* on this terrace died off after a very wet season in 1977. The height of the trees that may correlate to this event would be between 1.89 m to 3.15 m (av. 2.31 m) (Clarkson & Clarkson 1994). 10 out of the 19 plants initially found fall within this category. The only threat to this population would appear to lie in the possibility of a fire from natural causes or from a careless cigarette discarded by walkers along the marked track. The possibility of regeneration would be greatly enhanced by removal or thinning of the rank growth of *Carex divulsa* under the scrub.

The survey was thorough over the whole covenant but a return visit to pick up on any orchid species flowering through the winter/summer would round out the species list. Several species were noted just outside the covenant that do not appear, or are uncommon, in the covenant. They include *Adiantum diaphanum*, *Rumex flexuosus* and *Mazus novaezeelandiae* subsp. n*ovaezeelandiae*. These species are in the kanuka stand alongside the covenant's western boundary and would be a great addition to the covenanted area.

REFERENCES

Cameron, E.K.; de Lange, P.J.; Given. D.R.; Johnson, P.N.; Ogle, C.C. 1995: Threatened and Local Plant Lists (1995 Revision). *New Zealand Botanical Society Newsletter 39:* 15–28.

Carkson, B.D.; Clarkson, B.R. 1994: Ecology of an elusive endemic shrub, *Pittosporum obcordatum* Raoul. *New Zealand Journal of Botany 32*: 155-168

Druce. A.P. 1993: Indigenous higher plants of New Zealand (9th Revision). Unpublished checklist, Manaaki-Whenua, Landcare Research, Lower Hutt New Zealand

APPENDIX 1: INDIGENOUS VASCULAR PLANTS AT AHI PAKU QUEEN ELIZABETH II COVENENT, AHI PAKU STATION, LONGBUSH (110-150M A.S.L.), NZMS 260 S27 290 950

Aalbert Rebergen, Tony Silbery, Pat Enright, Olaf John, Dave McLaren, Fiona McLaren 11/10/98
Aalbert Rebergen 12/10/98, 23/10/98
Aalbert Rebergen, Garry Foster 14/10/98
Aalbert Rebergen, Tony Silbery, Pat Enright, Olaf John 17/10/98
Pat Enright 24/10/98, 30/1/99
Pat Enright, Olaf John 11/11/98
Peter de Lange, John Sawyer, Garry Foster 24/11/98
Wellington Botanical Society 24/1/99
Tony Silbery, Pat Enright 18/4/99
Pat Enright. Olaf John, John Kirby, Tony Silbery 13/5/00
unc = uncommon
* herbarium specimen lodged

Gymnosperm trees and shrubs	
Dacrycarpus dacrydioides	kahikatea
Podocarpus totara	totara
Prumnopitys taxifolia	matai
Dicotyledonous trees and shrubs	
Alectryon excelsus subsp. *excelsus*	titoki
Brachyglottis repanda	rangiora
Carmichaelia australis	makaka
Carpodetus serratus	putaputaweta, marbleleaf
Coprosma areolata	
Coprosma crassifolia	
Coprosma linariifolia (unc)	
Coprosma pedicellata	
Coprosma propinqua subsp. *propinqua*	mingimingi
Coprosma rhamnoides	
Coprosma rigida	
Coprosma robusta	karamu
Coprosma rotundifolia	
Coprosma rubra (unc)	
Coprosma propinqua × *C. robusta*	
Elaeocarpus hookerianus	pokaka
Hebe parviflora (unc)	koromiko-taranga
Hebe stricta var. *atkinsonii*	koromiko
Helichrysum lanceolatum (unc)	niniao
Hoheria angustifolia	houhi puruhi
Hoheria sexstylosa	houhi ongaonga, narrowleaved lacebark
Hoheria sexstylosa × *H. angustifolia*	
Korthalsella lindsayi	mistletoe

Kunzea ericoides	kanuka
Leptecophylla juniperina	mingimingi
Leptospermum scoparium	manuka
Leucopogon fasciculatus (unc)	kaikaiatua
Lophomyrtus obcordata	rohutu
Melicope simplex	poataniwha
Melicytus ramiflorus subsp. *ramiflorus*	mahoe, whitey wood
Melicytus micranthus	small leaved mahoe
Myrsine australis	red matipo
Myrsine divaricata	weeping matipo
Myrsine australis × *Myrsine divaricata* ?	Both species growing together. Leaves similar to *M. divaricata* but at leaf twice the normal size (unc)
Neomyrtus pedunculata (unc)	rohutu
Nestegis cunninghamii	black maire
Nestegis lanceolata	white maire
Nestegis montana	narrow leaved maire
Olearia paniculata (unc)	akiraho
Ozothamnus leptophyllus (unc)	tauhinu
Pennantia corymbosa	kaikomako
Pittosporum eugenioides (unc)	tarata, lemonwood
Pittosporum obcordatum	
Pittosporum tenuifolium	kohuhu
Plagianthus regius	ribbonwood
Pseudopanax arboreus (unc)	whauwhaupaku
Pseudopanax crassifolius	horoeka, lancewood
Raukaua anomalus	whauwhaupaku
Sophora microphylla	kowhai
Sophora tetraptera	kowhai Flowers with long keel, leaflets 13mm long
Streblus heterophyllus	turepo, milk tree
Teucridium parvifolium	
Tupeia antarctica (unc)	pirita, mistletoe

Monocotyledonous trees and shrubs

Cordyline australis	ti kouka, cabbage tree

Monocotyledonous lianes

None recorded

Dicotyledonous lianes and related trailing plants

Calystegia tuguriorum	
Clematis foetida	
Clematis forsteri	
Clematis paniculata	puawananga
Fuchsia perscandens (unc)	
Metrosideros colensoi	akakaiku

Metrosideros diffusa	akatea
Muehlenbeckia australis	pohuehue
Muehlenbeckia complexa	pohuehue
Parsonsia capsularis	
Parsonsia heterophylla	akakiore
Passiflora tetrandra	kohia, passion vine
Rubus cissoides	tataramoa, bush lawyer
Rubus schmidelioides	tataramoa, bush lawyer

Psilopods, Lycopods and Quillworts

None recorded

Ferns

Adiantum cunninghamii	maidenhair fern
Adiantum diaphanum	
Asplenium bulbiferum	manamana, hen and chicken fern
Asplenium flabellifolium	necklace fern
Asplenium flaccidum s.s.	makawe, hanging spleenwort
Asplenium gracillimum	manamana
Asplenium hookerianum	
Asplenium polyodon	petako, sickle spleenwort
Asplenium bulbiferum/*gracillimum* × *A. flaccidum*	
Asplenium bulbiferum/*gracillimum* × *A. hookerianum*	
Blechnum chambersii	nini
Blechnum discolor (unc)	piupiu
Blechnum fluviatile	kiwakiwa
Blechnum novaezelandiae (unc)	kiokio
Cyathea dealbata (unc)	ponga, silver fern
Histiopteris incisa	
Hymenophyllum sanguinolentum (unc)	
Hymenophyllum rarum (unc)	
Hypolepis ambigua	
Lastreopsis glabella	
Lastreopsis microsora	
Leptopteris hymenophylloides (unc)	heruheru, single crepe fern
Microsorum pustulatum	kowaowao
Paesia scaberula (unc)	
Pellaea rotundifolia	tarawera
Pellaea aff. *rotundifolia* (pinnae much longer and plant bigger than *P. rotundifolia*)	
Pneumatopteris pennigera	
Polystichum occulatum	
Polystichum richardii	pikopiko
Pteris tremula (unc)	turawera, shining brake
Pyrrosia eleagnifolia	leather-leaf fern

Orchids

Corybas trilobus agg. (Trotters?)	
Earina mucronata	pekāwaka

Microtis unifolia	
Pterostylis graminea	
Pterostylis porrecta	

Grasses

Anemanthele lessoniana (unc)	
Cortaderia sp. (unc)	
Dichelachne inaequiglumis	
Echinopogon ovatus	
Microlaena avenacea	bush rice grass
Microlaena polynoda	
Microlaena stipoides	patiti
Poa anceps subsp. *anceps*	
Poa imbecilla	
Rytidosperma unarede	

Sedges

Carex dissita	
Carex flagellifera	
Carex forsteri	
Carex geminata ss	
Carex lambertiana (unc)	
Carex lessoniana	
Carex raoulii	
Carex solandri	
Carex virgata	purei
Eleocharis acuta	
Isolepis reticularis	
Uncinia leptostachya	
Uncinia uncinata	watu, hook grass

Rushes and allied plants

Juncus australis	
Juncus gregiflorus	wiwi
Juncus sarophorus	
Luzula picta var. *picta* (unc)	

Remaining Monocotyledonous plants

Arthropodium candidum	
Astelia fragrans (unc)	kakaha
Libertia ixioides	mikoikoi
Phormium cookianum	wharaki

Daisy-like herbs (Composites)

Anaphaloides trinervis (unc)	
Cotula australis	
Craspedia uniflora var *grandis*	
Euchiton audax (unc)	
Euchiton gymnocephalus	

Euchiton involucratus	
Lagenifera pumila	papataniwhaniwha
Leptinella squalida	
Senecio glomeratus	
Senecio hispidulus	
Senecio quadridentatus	
* *Senecio rufiglandulosus*	

Dicotyledonous herbs other than Composites

Acaena anserinifolia	piripiri, bidibidi
Australina pusilla	
Callitriche petrei	
Cardamine sp. (*C. debilis* agg.) (“Glossy Leaf” of Pritchard 1957)	
Cardamine sp. (*C. debilis* agg.)(“Long Style” of Pritchard 1957) (unc)	
Cardamine sp. (*C. debilis* agg.) (“Narrow Petal” of Pritchard 1957)	
Cardamine aff *corymbosa*	
Crassula sieberiana (unc) (*C. tetrameria* of Vol 4)	
Dichondra brevifolia agg.	
Epilobium nerteroides	
Epilobium nummulariifolium	
Euphrasia cuneata (unc)	tutumako
Galium propinquum	
Geranium microphyllum	namunamu
Haloragis erecta	toatoa
Hydrocotyle elongata	
Hydrocotyle heteromeria	
Hydrocotyle moschata	
Hydrocotyle novae-zelandiae	
Mazus novaezeelandiae subsp *novaezeelandiae* (unc)	
Oxalis exilis	yellow oxalis
Oxalis magellanica	
Plantago raoulii	tukarehu
Pratia angulata	panakenake
Ranunculus reflexus (pp *R. hirtus*)	maruru, hairy buttercup
Rumex flexuosus	runa
Solanum americanum	
Stellaria decipiens (unc)	raumangu
Urtica incisa	
Wahlenbergia rupestris (unc)	
Wahlenbergia violacea (unc)	