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-
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*.
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.

![Carex divulsa](image)

**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 *Teucrium 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. novaezeelandiae. These species are in the kanuka stand alongside the covenant’s western boundary and would be a great addition to the covenanted area.

**REFERENCES**


Druce, A.P. 1993: Indigenous higher plants of New Zealand (9th Revision). Unpublished checklist, Manaaki-Whenua, Landcare Research, Lower Hutt New Zealand
Enright—Rare plants in the eastern Wairarapa

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 mingiminingi
Coprosma rhamnoides
Coprosma rigida
Coprosma robusta karamu
Coprosma rotundifolia
Coprosma rubra (unc)
Coprosma propinqua × C. robusta pokaka
Elaeocarpus hookerianus koromiko-taranga
Hebe parviflora (unc)
Hebe stricta var. atkinsonii koromiko
Helichrysum lanceolatum (unc) niniao
Hoheria angustifolia houhi puruhi
Hoheria sexstylosa houhi ongaonga, narrowleaved lacebark

Hoheria sexstylosa × H. angustifolia mistletoe
Korthalsella lindsayi
Kunzea ericoides  
Leptecophylla juniperina  
Leptospermum scoparium  
Leucopogon fasciculatus (unc)  
Lophomyrtus obcordata  
Melicope simplex  
Melicytus ramiflorus subsp. ramiflorus  
Melicytus micranthus  
Myrsine australis  
Myrsine divaricata  
Myrsine australis × Myrsine divaricata?

Neomyrtus pedunculata (unc)  
Nestegis cunninghamii  
Nestegis lanceolata  
Nestegis montana  
Olearia paniculata (unc)  
Ozothamnus leptophyllus (unc)  
Pennisetia corymbosa  
Pittosporum eugenioides (unc)  
Pittosporum obcordatum  
Pittosporum tenuifolium  
Plagianthus regius  
Pseudopanax arboreus (unc)  
Pseudopanax crassifolius  
Raukaua anomalus  
Sophora microphylla  
Sophora tetrapetra

Streblus heterophyllus  
Teucridium parvifolium  
Tupeia antarctica (unc)

Monocotyledonous trees and shrubs
Cordyline australis  

Monocotyledonous lianes
None recorded

Dicotyledonous lianes and related trailing plants
Calystegia tuguriorum  
Clematis foetida  
Clematis forsteri  
Clematis paniculata  
Fuchsia perscandens (unc)  
Metrosideros colensoi

Flowers with long keel, leaflets 13mm long

turepo, milk tree
puawananga
akakaiku
Metrosideros diffusa
Muehlenbeckia australis
Muehlenbeckia complexa
Parsonsia capsularis
Parsonsia heterophylla
Passiflora tetrandra
Rubus cissoides
Rubus schmidelioides

Psilopods, Lycopsids and Quillworts
None recorded

Ferns
Adiantum cunninghamii
Adiantum diaphanum
Asplenium bulbiferum
Asplenium flabellifolium
Asplenium flaccidum s.s.
Asplenium gracillimum
Asplenium hookerianum
Asplenium polyodon
Asplenium bulbiferum/gracillimum × A. flaccidum
Asplenium bulbiferum/gracillimum × A. hookerianum
Blechnum chambersii
Blechnum discolor (unc)
Blechnum fluviatile
Blechnum novaezelandiae (unc)
Cyathea dealbata (unc)
Histiopteris incisa
Hymenophyllum sanguinolentum (unc)
Hymenophyllum rarum (unc)
Hypolepis ambiguа
Lastreopsis glabella
Lastreopsis microsora
Leptopteris hymenophylloides (unc)
Microsorum pustulatum
Paesia scaberula (unc)
Pellaea rotundifolia
Pellaea aff. rotundifolia (pinnae much longer and plant bigger than P. rotundifolia)
Pneumatopteris pennigera
Polystichum occulatum
Polystichum richardii
Pteris tremula (unc)
Pyrrosia eleagnifolia

Orchids
Corybas trilobus agg. (Trotters?)
Earina mucronata

None recorded
Microtis unifolia
Pterostylis graminea
Pterostylis porrecta

Grasses
Anemanthele lessoniana (unc)
Cortaderia sp. (unc)
Dichelachne inaequiglumis
Echinopogon ovatus
Microlaena avenacea
Microlaena polynoda
Microlaena stipoides
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
Eleocharis acuta
Isolepis reticularis
Uncinia leptostachya
Uncinia uncinata

Rushes and allied plants
Juncus australis
Juncus gregiflorus
Juncus sarophorus
Luzula picta var. picta (unc)

Remaining Monocotyledonous plants
Arthropodium candidum
Astelia fragrans (unc)
Libertia ixioides
Phormium cookianum

Daisy-like herbs (Composites)
Anaphaloides trinervis (unc)
Cotula australis
Craspedia uniflora var grandis
Euchiton audax (unc)
Euchiton gymnocephalus
Euchiton involucratus
Lagenifera pumila
Leptinella squalida
Senecio glomeratus
Senecio hispidulus
Senecio quadridentatus
* Senecio rufiglandulosus

Dicotyledonous herbs other than Composites

Acaena anserinifolia
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)
Galium propinquum
Geranium microphyllum
Haloragis erecta
tutumako
Hydrocotyle elongata
tamunamu
Hydrocotyle heteromeria
toatoa
Hydrocotyle moschata
Hydrocotyle novae-zelandiae
Mazus novaezeelandiae subsp novaezeelandiae (unc)
Oxalis exilis
tyellow oxalis
Oxalis magellanica
tukarehu
Plantago raoulii
Pratia angulata
Ranunculus reflexus (pp R. hirtus)
Rumex flexuosus
Solanum americanum
Stellaria decipiens (unc)
Urtica incisa
Wahlenbergia rupestris (unc)
Wahlenbergia violacea (unc)