

species. Many of the plants were >10cm below the flooded water level. Near Ninepin at Whatipu are the most extensive native meadows on the dunes being several 100m long. On the margin of the western arm of the Pararaha Stream tutu (*Coriaria arborea*) was added to the list. By the mouth of this stream arm is a sizeable (50m x 100m) salt meadow dominated by *Myriophyllum votchii*. Banded dotterel, NZ dotterel and variable oystercatchers were present.

We now turned inland and northwards to traverse the undulating dunes to inspect the many ephemeral ponds in the dune hollows and lessen the impact of the increasing NW wind. This is the best native dune vegetation of the reserve. Virtually the only woody plant present on the dunes here was again tauhinu amongst spinifex (Fig. 6). Patches of pingao are present mainly near the coast and creeping shore bindweed was locally common. Most of the ephemeral dune ponds were encircled by a narrow carpet of native herbs, especially *Myriophyllum votchii* and *Carex pumila*. One hollow was filled with oioi. A charaphyte

(a stonewort – type of green algae), *Chara globularis*, was present lining the bottoms of some of the more permanently wet hollows. A few wading birds were seen in the hollows: pied stilt, white-faced heron, and Paul spotted a bittern.

Then a brisk walk back along the beach into the strong wind (but thankfully no rain), negotiating Karekare Point should have been easier with the lower tide, but the bare sand in front of the rocky point was suddenly immersed by a forceful wave catching some unaware! An advantage of having some of the local residents along resulted in a brief story plus photos about the trip by Julia Moore in the local newspaper - Karekare Billboard News (March 2004: 4).

Special features: seeing monocots in such dominance and diversity (monocot spp. numbered 90% of the dicot total – which is unusually high), native herb fields, open wild dunes close to Auckland, which keep on changing in size, topography and species.

Acknowledgements

Bot Soc participants for a good stormy day out, Paul Asquith for his extra bird observations, Shirley Tomlinson for her sketch, Peter Johnston for the information on the tree lupin dieback, and Matt Renner for comments on the draft text.

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Field Trip: Brookfields Reserve and Oteha Stream. 17/04/04

Chris McKain, Leslie Haines and Mike Wilcox

Attendees: Amy Bazely, Harry Beacham, Steve Benham, Jenny Christianson, Lisa Clapperton, Brian Cumber, Jo Fillery, Leslie Haines (recorder), Anne Grace, Fran Hintz, Ian Hintz, Sandra Jones, Elaine Marshall, Alistair McArthur, Chris McKain (leader), John Millett, Margaret Peart, Clive Shirley, Mike Wilcox, Tony Williams, Dominik Wecke, Michael Wecke and Maureen Young.

The fieldtrip to Brookfields Reserve took us behind the Albany shops and through the carpark with the 'Albany chooks' of all varieties, then down through pittosporum plantings to Lucas Creek. We made our way along a rough track beside the Oteha Stream that starts at East Coast Bays and is part of the Greville Rd Basin catchment feeding into Lucas Creek and the Waitemata Harbour. Oteha Stream is still tidal for part of the way and there were the occasional mangroves and patches of saltmarsh plants such as *Apodasmia similis* (oioi) and *Samolus repens*, with small islands of flax (*Phormium tenax*) and *Plagianthus divaricatus* (saltmarsh ribbonwood).

The majority of the Oteha Stream Reserve though is regenerating gumland forest that is probably about 100 years since major disturbance. *Kunzea ericoides* is dominant in parts, but as we moved upstream *Phyllocladus trichomanoides* reaching heights of about 15m became common, with occasional totara. Understorey is typical *Meliclytus ramiflorus*, *Myrsine australis*, *Coprosma robusta*, *C. grandifolia*, *C. rhamnoides*, *Geniostoma ligustrifolium*, and *Cyathea dealbata*. At the stream edges, *Sophora chathamica* and *Schefflera digitata* are common.

The ground cover was healthy with many seedlings, *Uncinia uncinata*, *U. banksii* and *Carex lambertiana* amongst others. There are seven *Carex* species in the area and we enjoyed trialling Chris' Auckland *Carex* key that was then under development (McKain, 2004). Some lively discussions compared the ecology and taxonomic features of *C. dissita* and *C. lambertiana*. Typical of urban reserves (especially where they are a narrow strip between a commercial area and a

residential area with mown lawn), there were a number of weed species. Most of these were on the opposite side of the stream that has been disturbed more regularly and is currently being revegetated with natives.

There was a rocky tidal flat which was of particular interest, covered in *Leptinella tenella* with an adjacent bank displaying a number of ferns including two species of *Adiantum*. We had an interesting crossing at one point on a wire bridge and found other species, in particular *Olearia solandri* (Solander's daisy) unusual in the Waitemata. A 'monumental' *Streblus heterophylla* and a matai (*Prumnopitys taxifolia*) were in the area with numbered trails for the Albany Outdoor Centre.

The track emerged at Albany Highway where we crossed the road and had lunch under totara beside Oteha Creek in the Massey University grounds. Plantings here of *Sophora tetraptera* may pose some threat by hybridising with the local *S. chathamica*.

After lunch we explored the Brookfields Reserve (otherwise known as Albany Escarpment) that has a

more mature vegetation regenerating after farming. The vegetation changed from tall titoki and kahikatea by the stream to conifers especially totara and into broadleaves of kohekohe, puriri and hard beech (*Nothofagus truncata*).

There was a particularly large kahikatea and the small leaved shrub species *Melicope simplex* and *Nertera dichondraefolia* were additions to the list. *Alseuosmia quercifolia* was scattered through the area and amongst the dry was a swampy patch of *Carex lessoniana*.

We made our way back along the fenceline of eucalypts and after recrossing Albany Highway followed the opposite side of the Oteha Stream through an area called The Landing, historically the access by boat to Albany village before the road connection around 1920. It will be interesting to see how these regenerating bush remnants respond to the expansion and intensification of suburban living in the Albany area.

Reference

McKain, C. 2004, *Carex in Auckland : a field guide*. Waitakere City Council. 48p.

Species list

*exotic

Ferns and fern allies

Adiantum cunninghamii
Adiantum fulvum
Adiantum viridescens
Asplenium bulbiferum subsp. *gracillimum*
Asplenium bulbiferum subsp. *bulbiferum*
Asplenium flaccidum
Asplenium oblongifolium
Asplenium polyodon
Blechnum chambersii
Blechnum filiforme
Blechnum fraseri
Blechnum membranaceum
Blechnum novaezelandiae
Cyathea dealbata
Cyathea medullaris
Deparia petersenii
Dicksonia squarrosa
Doodia australis
Gleichenia dicarpa
Hymenophyllum demissum
Lastreopsis glabella
Lastreopsis hispida
Lindsaea linearis
Lycopodium deuterodensum
Microsorium pustulatum
Microsorium scandens
Paesia scaberula
Pneumatopteris pennigera
Polystichum neozelandicum subsp. *neozelandicum*
Polystichum wawranum

Pteridium esculentum
Pteris macilenta
Pyrrosia eleagnifolia
*Selaginella kraussiana**

Conifers

Agathis australis
Dacrycarpus dacrydioides
Dacrydium cupressinum
Phyllocladus trichomanoides
*Pinus pinaster**
*Pinus radiata**
Podocarpus totara
Prumnopitys ferruginea
Prumnopitys taxifolia

Dicots

*Acacia deccurens**
*Acacia floribunda**
*Acacia longifolia**
*Acacia mearnsii**
*Acmena smithii**
Alectryon excelsus
Alseuosmia quercifolia
*Anredera cordifolia**
Avicennia marina subsp. *australasica*
Beilschmiedia tawa
Brachyglottis repanda
*Calystegia sepium**
Carpodetus serratus

*Cirsium vulgare**
Clematis forsteri
Clematis paniculata
Coprosma aerolata
Coprosma grandifolia
Coprosma lucida
Coprosma rhamnoides
Coprosma robusta
Coprosma spathulata subsp. *spathulata*
Corynocarpus laevigatus
*Crataegus monogyna**
Dysoxylum spectabile
*Elaeagnus Xreflexa**
*Euonymus japonica**
*Ficus carica**
Fuchsia excorticata
Fuchsia procumbens (pl. escape)
Geniostoma ligustrifolium
*Hakea serifolia**
Haloragis erecta
Hebe stricta
Hedycarya arborea
Hoheria populnea (pl. escape)
*Hydrangea macrophylla**
Knightia excelsa
Kunzea ericoides
Leptinella tenella
*Ligustrum lucidum**
*Ligustrum sinense**
*Linum bienne**
*Lonicera japonica**
Macropiper excelsum subsp. *excelsum*
*Medicago lupulina**
Melicope simplex
Melicytus micranthus
Melicytus ramiflorus
*Melilotus officinalis**
*Mentha pulegium**
Metrosideros fulgens
Metrosideros perforata
Myrsine australis
Nestegis lanceolata
Nertera depressa
Nertera dichondraefolia
Nothofagus truncata
Olearia furfuracea
Olearia rani
Olearia solandri
*Oxalis incarnata**
Parsonsia heterophylla
Passiflora tetrandra
Pittosporum eugenioides (pl).
Pittosporum ralphii (pl).
Pittosporum tenuifolium
Plagianthus divaricatus
Pomaderris kumeraho
Pomaderris aff. *phylicifolia*
Pseudopanax arboreus
Pseudopanax crassifolius
Pseudopanax lessonii
Rhabdothamnus solandri

Rubus cissoides
*Rubus fruticosus**
*Rununculus acris**
*Rununculus repens**
*Salix babylonica**
*Salix cinerea**
*Salix fragilis**
Schefflera digitata
*Senecio jacobaea**
Solanum americanum
*Solanum mauritianum**
*Solanum nigrum**
*Solanum pseudocapsicum**
Sophora chathamica
Streblus heterophyllus
*Ulex europaeus**
*Vinca major**
Vitex lucens

Monocots (excluding grasses)

Apodasmia similis
*Asparagus asparagoides**
*Asparagus scandens**
Astelia solandri
Baumea rubiginosa
Baumea tenax
Bolboschoenus medianus
Carex dissita
*Carex divulsa**
Carex flagellifera
Carex lambertiana
Carex lessoniana
Carex ochrosaccus
Carex virgata
CollospERMUM hastatum
Cordyline australis
Cordyline pumilio
*Cortaderia jubata**
*Crocsmia Xcrocsmiiflora**
*Cyperus eragrostis**
Cyperus ustulatus
Dianella nigra
Freycinetia banksii
Gahnia lacera
Gahnia setifolia
Isolepis cernua
Isolepis prolifera
Isolepis reticularis
*Hedychium flavescens**
*Hedychium gardnerianum**
*Juncus effusus**
*Juncus tenuis**
Morelotia affinis
Phormium tenax
Rhopalostylis sapida
Ripogonum scandens
Schoenus maschalinus
Schoenus tendo
*Tradescantia fluminensis**
Uncinia banksii
Uncinia uncinata

Grasses

Microlaena avenacea

The 18th New Zealand Fungal Foray, Nelson

Petra White

Introduction

The 18th annual New Zealand Fungal Foray was held this year from 9-18 May 2004 at Brightwater, Nelson. Forty professional and amateur mycologists from around New Zealand and a few from overseas attended the Foray. Accommodation was at the Teapot Valley Christian Camp, owned and operated by a Christian Trust represented by five churches in the Nelson region.

Each day's foraging involved collecting in the field and then identifying our finds back at the Teapot Centre, labeling them and displaying them on tables set aside for the purpose. Many of the collections were then dried to take back to the Landcare herbarium in Auckland. This was my second Foray and, as with last year's Foray, I set myself the task of keeping track of all the species collected and where found.

Some highlights from the Foray include finding *Gloniopsis praelonga*, the second NZ record of this species; *Sarcosoma orientale*, a rare cup fungus; an undescribed *Russula* (*R.* 8); a new species of *Ileodictyon* (*I.* sp.); an undescribed *Tricholoma* (*T.* 7); and a new species of *Tricholoma* (*T.* sp. 5).

Monday 10 May

For the first day of foraging most of us went to Flora Ridge, a forest of red beech (*Nothofagus fusca*) and silver beech (*N. menziesii*) with magnificent displays of mosses and lichens in the understorey. Lichens of the genus *Pseudocyphellaria* were common. The tiny black fruiting bodies of *Hypoxylon bovei* var., with spherical shape, flattened apex and central nipple, were commonly seen on rotting wood in ground litter. There were wonderful displays of the purple fruiting bodies of *Cortinarius magellanicus* and *Laccaria* spp. were commonly seen growing from the ground.

Tuesday 11 May

This day many of us went to Abel Tasman National Park (Canaan area) – also red and silver beech forest – but this time set amongst a dramatic karst limestone landscape. This was a day for the dedicated mycologist as it rained and was bitterly cold! Two species of honey mushrooms were recorded from this site (*Armillaria hinnulea*, *A. limonea*), growing in groups on living trees. One fascinating find from this area was *Vuilleminia* sp., a bright red fungus coating dead wood.

Some people went to Eve's Bush with TVNZ and there was an article in the *Tasman Times* about the Foray. After dinner that night Pam Catcheside showed pictures of fungi collected in South Australia during the 2003 season.

Wednesday 12 May, The Colloquium

The Colloquium is an event started on the 16th Foray, a day set aside for talks on various fungal subjects.

Jerry Cooper, Landcare Research, started the day with a talk on aquatic fungi, approximately 95% of which are ascomycetes and 5% basidiomycetes. Examples of these fungi cause gill rot of fish, crayfish plague and amphibian plague. He spoke on two groups of aquatic fungi. Ingoldian fungi are 10-100 microns in size and grow and sporulate asexually on submerged terrestrial litter in running water, and the spores are four-armed in shape. Aero-aquatic fungi grow and sporulate asexually on litter in still and stagnant water and are helical or basket shaped.

Andrew Millar from Chicago, USA, next spoke to us about his fungi group, the Sordariales, of which there are 3 families and 35 genera. He told us that the 33,000 known ascomycete species represent 45% of all described fungi, though there may be more than this with the addition of aquatic fungi. His research has shown that ascomal walls are more useful in predicting phylogenetic relationships in the Sordiales than ascospores.

Then came Jennifer Bannister, Dept of Botany University of Otago, who spoke of fossil epiphyllous fungi on preserved fern leaves from the Late Eocene. In the fungal records fungi are preserved as hyphae, spores and fruiting bodies. Over 1,000 fossil fungal species are recorded. Julia Russell, University of Canterbury, then talked about arbuscular mycorrhizal fungi in New Zealand forests. Her work is on fungal infection on the rhizoids of liverworts and the roots of podocarps.

Peter Johnston, Landcare Research, then talked about how wild plants need mycorrhizal fungi. Some overseas research indicates mycorrhizal association helps in plant diversity. In New Zealand there are more than 900 fungal species associated with five species of *Nothofagus* and they play key roles in basic ecosystem health. He asks will fungal species come of their own to restoration areas? Nursery plants are