For all correspondence:
Waikato Botanical Society
The University of Waikato
c/- Department of Biological Sciences
Private Bag 3105
HAMILTON
Email: bot_soc@waikato.ac.nz

Waikato Botanical Society Inc.

NEWSLETTER

No. 32, October 2010

President
Position currently shared amongst committee members

Secretary & Newsletter Editor:
Monica Peters
Ph 021 049 2036
map_monica@hotmail.com

Treasurer:
Jan Butcher
Ph (09) 236 9722 a/h
jjbutcher@ps.gen.nz

WBS Round-up

Seeing as the president position for the Society is shared between committee members, it makes sense that the introductory section of the WBS newsletter also becomes a shared activity!

The September edition has a range of articles to keep members botanically inspired over what's been a wet but mild winter and a spring that's had a wet and windy start. We have another trip scheduled before the year finishes to Mt Te Aroha in conjunction with the Rotorua Botanical Society. In the interests of ensuring safety for trip attendees, committee member Kerry Jones has developed a health and safety checklist for trip leaders. If members have any ideas for trips or botanical events, please let the committee know as there are still some free weekends this year and we are already looking ahead to next year.

We again sponsored our botanically related prize at the 2010 NIWA school science fair (August 19-21, Hamilton Gardens). Winners were Nishtha Singh and Hannah Amundsen from Sacred Heart Girls' College for their display "Healing Powers of Native Plants". The girls have provided us with a bit of background to their winning display which is included in the newsletter.

Another working bee will take place in the Threatened Plants Garden in early November. Sonia Frimmel (www.whatsthestory.co.nz) is updating signage for several key species in the garden to include the plant distrubution maps which have been prepared by Kerry Jones. A key aim for the Threatened Plants Garden is to further develop it as a valuable teaching resource for students at Waikato University and the general public.

Graeme Weavers was this year's recipient of the WBS sponsored Waikato University prize for the Master's level Plant Ecology paper. A summary of his thesis work on *Solanum aviculare* and S. *laciniatum* is included in the newsletter. He is currently employed by DOC Murupara to carry out pest control operations for the Whirinaki Forest Park which also includes looking at new technology, considering how existing programs can be made more efficient, managing contractors and working with local communities to bring young people into conservation work.

Can you help?
Graeme has a request from David Symon of Adelaide who wishes to get hold of some seed of *S. aviculare* var. *latifolium* Baylis (also known as *S. baylisii*) as the Botanical Gardens there no longer has it. David Symon is working with a chemist analysing the different colours & aromas of 'Kangaroo Apple' fruits and would like to include the variety from NZ. The seed can be sent directly to him at the Botanic Gardens and State Herbarium of South Australia, North Terrace, Adelaide 5000.

We have another request from Thomas Emmitt who has collected lots of duff in order to gather Pomaderris seed. The seeds are tricky to find but Thomas has found about 30 so far. If anyone is keen to help Thomas please email him at temmitt@doc.govt.nz

Finally to finish off this introduction, committee member Norm Mason and I are happy and proud to announce a new member to the society (sub fee still to be paid!), our daughter Ruby-mei, born on July 4.
- *Monica Peters*

FIELD TRIPS & EVENTS

In the event of bad weather, please contact the trip leader on the morning of field trips if you are unsure if they will go ahead and don't want a wasted trip to the meeting point. It is always helpful to notify the trip leader of your intention to attend a trip in case you are late to the meeting point, to arrange carpooling or for any last minute change of plan. Please be prepared on all trips with your own lunch, drink, sturdy footwear, and clothes for all seasons.
NOTE THAT THE WAIKATO BOTANCIAL SOCIETY TAKES ALL REASONABLE STEPS TO ENSURE THE SAFETY OF PEOPLE ATTENDING OUR FIELD TRIPS AND ACCEPTS NO RESPONSIBILITY FOR LOSS OR INJURIES INCURRED BY FIELD TRIP ATTENDEES.

Threatened Plant Collection Working Bee

Saturday 6th November

A working bee in the threatened plant garden. Please bring gloves, old clothesand boots for weeding, planting and propagating activities.
Meet: 11am at Waikato University Gate 9, Hillcrest Rd, or down the hill at the glasshouses compound.
Contact: Liz Overdyck ph 846 0965 eg3@waikato.ac.nz

Dave McNeil's QEII Covenant, Mt Te Aroha (Combined with Rotorua Botanical Society)

Saturday 4th December

Dave McNeil owns a property just north of Tui mine on Mt Te Aroha. About 100 ha of bush is under QEII covenant which runs right up to the top of the ridge and adjoins Kaimai Mamaku Forest Park. He would like us to have a look around and do a species list.
Meet: 9:30am at the Te Aroha Town Clock
Leader: Kerry Jones Ph 07 858 1055 (work), 07 855 9700 (home),027 747 0733 (mob) kmjones@doc.govt.nz
Grade: Medium

FIELD TRIP & OTHER REPORTS

Pukemokemoke Bush Reserve

Saturday 17th April

A large mixed group of botanists and ornithologists set out to enjoy the treasures of the Pukemokemoke reserve. It soon became apparent that the botanists were substantially out numbered by the ornithologists as a small party of botanists began to lag the main group. At first the track sidled through forest of regenerating tanekaha, miro, rimu and totara, past a very large radiata pine into tawa forest with many large titoki. The first plant to attract special attention was a maire which after a scamble up a steep slope was disappointingly identified as white maire. The next discussion was on differences between *Coprosma spathulata* and seedlings of *C. arborea*, the former often being identified at present by the presence of black fruit on quite small plants. Redness beneath leaves of *C. arborea* are often helpful but the best character was the dark, parallel-sided, winged petiole in *C. spathulata* as opposed to clearly spatulate leaf in *C. arborea* which gradually tapered down the petiole.

The ascent began up a gully under large lemonwood and mahoe with a mass of *Selaginella kraussiana* in the clearings. At one point the lovely, tactile velvet fern seedling was spotted on a track bank. As we began the ridged climb towards the summit lookout there many very narrow-leaved white maire seedlings and then as we reached the kauri, at last quite a population of willow-leaved maire with quite broad leaves, but readily identified by their shiny leaves with wavy margins and brown stems for some distance from the branch tips. Here too there were many small thick, dark-leaved *Alseuosmia quercifolia*.

It was only when we reached the upper slope and the large kauri that we saw kohekohe (coming to flower) and pukatea, perhaps gully remnants surviving the early faming in the area. As we pushed on up the last steep section from the loop track to the summit weeds became more prominent and re-plantings were evident. Needless to say the small group of keen botanists arrived just when most people had finished their lunch and were heading off.

After lunch an even smaller group headed to the far north corner while the majority took the shorter route down the gully to the old hauler site. For all the effort though, the rewards were few as much of the track at first followed the fence line boundary with a mature pine plantation (in the process of being logged). Here there were few finds other than weedy species such as the native *Senecio bipinnatsectus*, foxglove and ragwort. The track then descended through a very young stand of tree ferns and kanuka to a small stand of kauri where several large trees of the much sought kawaka were present.

The long return walk followed the stream on an old farm track. Here a large number of adventives were noted, some were obvious problems such as Chinese privet (*Ligustrum sinense*) which was a large problem and being removed, and others of apparent lesser significance. One of particular note was *Erectites hieracifolia* which seems to be a new arrival and an aggressive coloniser. I missed several species of interest seen on a previous visit (such as *Doodia squarrosa*) and too many plants recorded by others escaped us. But I did have the satisfaction of seeing *Polystichum wawranum* and *P. neozelandicum* subspecies *neozelandicum* two segregates of what was previously recorded as *P. richardii*, the former at the top of the hill the latter at the bottom. – *Liz Overdyck*

Pukemokemoke Bush track **Map:** S14 Grid Ref: 27198 63988

Author: RE & JE Beaver & G Jane **Visit Date:** 17.8.03 **Re Visits:** 1984,2003; 18.4.10

Psilopsids, Lycopods & Quillworts

*	*Selaginella kraussiana*	

Ferns

	Adiantum cunninghamii	maiden hair fern
	Adiantum diaphanum	small maidenhair
	Adiantum fulvum	
	Adiantum viridescens	
	Arthropteris tenella	jointed fern
	Asplenium bulbiferum	hen and chickens fern; moku
	Asplenium bulbiferum x A. flaccidum	
	Asplenium flaccidum	hanging spleenwort; makawe
	Asplenium gracillimum	
	Asplenium oblongifolium	shining spleenwort
	Asplenium polyodon	sickle spleenwort; petako
	Blechnum chambersii	nini; lance fern
	Blechnum filiforme	Climbing hard fern; thread fern
	Blechnum fluviatile	kiwakiwa; kiwikiwi
	Blechnum membranaceum	
	Blechnum novae-zelandiae	kiokio
	Blechnum novae-zelandiae	kiokio
	Cyathea dealbata	ponga; silver fern
	Cyathea medullaris	mamaku; korau; black tree fern
	Dicksonia squarrosa	wheki; harsh tree fern
	Diplazium australe	
	Doodia australis	pukupuku; rasp fern
	Doodia squarrosa	
	Histiopteris incisa	water fern
	Hymenophyllum demissum	piripiri; irirangi
	Hymenophyllum flabellatum	fan fern
	Hymenophyllum flexuosum	
	Hymenophyllum revolutum	
	Hymenophyllum sanguinolentum	blood-scented filmy fern
	Hypolepis rufobarbata	sticky pig fern
	Lastreopsis glabella	felted fern
	Lastreopsis hispida	hairy fern, hairy legs
	Lastreopsis microsora ssp. pentangularis	
	Lastreopsis velutina	velvet fern
	Leptopteris hymenophylloides	single crepe fern; heruheru
	Leptopteris hymenophylloides	single crepe fern; heruheru
	Lygodium articulatum	mangemange; bushmans mattress
	Microsorum pustulatum ssp. pustulatum	hounds tongue; kowaowao
	Microsorum scandens	mokimoki; fragrant fern
	Pellaea aff. rotundifolia	
	Pellaea rotundifolia	tarawera; button fern
	Pneumatopteris pennigera	gully fern; pakau; pakauroharoha
	Polystichum neozelandicum ssp. neozelandicum	
	Pteridium esculentum	bracken; rauaruhe
	Pteris macilenta	sweet fern
	Pteris tremula	turawera
	Pyrrosia eleagnifolia	leather-leaf fern
	Tmesipteris lanceolata	

Gymnosperm trees and shrubs

	Agathis australis	kauri
	Dacrycarpus dacrydioides	kahikatea, white pine
	Dacrydium cupressinum	rimu, red pine
	Libocedrus plumosa	kawaka
	Phyllocladus trichomanoides	tanekaha; celery pine
*	*Pinus radiata*	Monterey pine; radiata
	Podocarpus hallii	Hall's totara; thin bark totara

	Podocarpus totara var. totara	totara
	Prumnopitys ferruginea	miro; brown pine
	Prumnopitys taxifolia	matai; black pine
Dicotyledonous trees and shrubs		
	Alectryon excelsus ssp. excelsus	titoki
	Alseuosmia macrophylla	toropapa; shrubby honeysuckle
	Alseuosmia quercifolia	
	Alseuosmia quercifolia	
	Aristotelia serrata	wineberry; makomako
	Beilschmiedia tawa	tawa
*	*Berberis glaucocarpa*	barberry
	Brachyglottis repanda	rangiora; bushmans friend
	Carmichaelia australis	whip broom; maukoro
	Carpodetus serratus	putaputaweta; marbleleaf
	Coprosma arborea	mamangi; tree coprosma
	Coprosma areolata	thin leaved coprosma
	Coprosma cunninghamii X	
	Coprosma lucida	karamu; shining karamu
	Coprosma propinqua var. propinqua	mingimingi
	Coprosma rhamnoides	thorny coprosma
	Coprosma robusta	karamu
	Coprosma rotundifolia	round-leaved coprosma
	Coprosma spathulata ssp. spathulata	
	Coriaria arborea var. arborea	tree tutu
	Corynocarpus laevigatus	karaka; kopi
	Dodonaea viscosa	akeake
	Dysoxylum spectabile	kohekohe
	Elaeocarpus dentatus	hinau
	Fuchsia excorticata	fuchsia; kotukutuku
	Geniostoma ligustrifolium var. ligustrifolium	hangehange; privet
	Hebe stricta var. stricta	koromiko
	Hedycarya arborea	pigeonwood; porokaiwhiri
	Hoheria sexstylosa	houhere
	Knightia excelsa	rewarewa; NZ honeysuckle
	Kunzea ericoides var. ericoides	kanuka; white teatree
	Laurelia novae-zelandiae	pukatea
	Leucopogon fasciculatus	mingimingi; kaikaitau
*	*Ligustrum sinense*	Chinese privet
	Litsea calicaris	mangeo
	Lophomyrtus bullata	ramarama
	Macropiper excelsum ssp. excelsum	kawakawa; pepper tree
	Melicope simplex	poataniwha
	Melicytus micranthus	manakura; swamp mahoe
	Melicytus ramiflorus	mahoe
	Mida salicifolia	willow-leaved maire
	Myrsine australis	red matipo; mapou
	Nestegis cunninghamii	black maire
	Nestegis lanceolata	white maire
	Nestegis montana	orooro; narrow-leaved maire
	Nothofagus truncata	hard beech; tawhairaunui
	Olearia rani var. colorata	heketara
	Pennantia corymbosa	kaikomako
	Pittosporum eugenioides	lemonwood; tarata
	Pittosporum tenuifolium	black matipo; kohuhu
	Pseudopanax crassifolius	lancewood; horoeka
	Pseudowintera axillaris	horopito
	Raukaua anomalus	whauwhaupaku
	Schefflera digitata	pate; patae; kotete
	Solanum aviculare f. aviculare	poroporo
*	*Solanum pseudocapsicum*	Jerusalem cherry
	Streblus heterophyllus	turepo; milk tree
*	*Ulex europaeus*	gorse
	Weinmannia racemosa	kamahi; towai; tawhero

Dicotyledonous lianes and related trailing plants

	Calystegia sepium ssp. roseata	
	Clematis cunninghamii	scented clematis; pokopoko
	Clematis foetida	scented clematis
	Clematis foetida	scented clematis
	Clematis forsteri	pataua; green clematis
	Clematis paniculata	clematis; puawhananga
*	*Lonicera japonica*	Japanese honeysuckle
	Metrosideros colensoi	
	Metrosideros diffusa	white climbing rata; akatea
	Metrosideros perforata	aka; small white rata; torotoro
	Muehlenbeckia australis	poheuheu
	Parsonsia heterophylla	maori jasmine; kaihu; kaiwhiria
	Passiflora tetrandra	passionfruit; kohia
	Rubus australis	bush lawyer
	Rubus cissoides	bush lawyer; tataramoa
*	*Rubus fruticosus*	blackberry
	Rubus schmidelioides var. schmidelioides	bush lawyer; tataramoa

Daisy-like herbs

*	*Bellis perennis*	lawn daisy
*	*Cirsium arvense*	Californian thistle
*	*Cirsium vulgare*	Scotch thistle
*	*Crepis capillaris*	hawkesbeard
*	*Erechtites hieraciifolia*	american fireweed
*	*Hypochoeris radicata*	catsear
*	*Lapsana communis*	nipplewort
*	*Senecio bipinnatisectus*	Australian fireweed
	Senecio hispidulus	fireweed
	Senecio hispidulus	fireweed
*	*Sonchus arvensis*	perennial sow thistle
*	*Sonchus oleraceus*	sow thistle; puha; puka
*	*Taraxacum officinale*	dandelion

Dicotyledonous herbs other than Daisies

	Acaena anserinifolia	bidibid
*	*Anagallis arvensis var. arvensis*	scarlet pimpernel
*	*Apium nodiflorum*	water celery
	Callitriche muelleri	starwort
	Cardamine "Long Style"	
*	*Conium maculatum*	hemlock
*	*Digitalis purpurea*	foxglove
*	*Euphorbia maculata*	spotted spurge
*	*Euphorbia peplus*	milkweed
*	*Galeobdolon luteum*	aluminum plant
*	*Galium aparine*	cleavers
	Haloragis erecta ssp. erecta	toatoa
*	*Lotus pedunculatus*	lotus major
*	*Oxalis corniculata*	horned oxalis
	Oxalis exilis	yellow oxalis; creeping oxalis
*	*Phytolacca octandra*	inkweed
*	*Plantago lanceolata*	ribwort; narrow-leaved plantain
*	*Plantago major*	broad-leaved plantain
*	*Plantago major*	broad-leaved plantain
*	*Prunella vulgaris*	selfheal
*	*Ranunculus repens*	creeping buttercup
*	*Rumex brownii*	hooked dock
	Solanum americanum	small-flowered nightshade
*	*Solanum nigrum*	black nightshade
*	*Stachys sylvatica*	hedge woundwort
*	*Trifolium repens*	white clover

Monocotyledonous trees and shrubs

	Cordyline australis	cabbage tree; ti-kouka
	Cordyline banksii	forest cabbage tree; ti ngahere
	Rhopalostylis sapida	nikau

Monocotyledonous lianes

	Freycinetia banksii	kiekie
	Ripogonum scandens	supplejack; kareao

Sedges

	Carex coriacea	cutty grass; toetoe rautahi
	Carex dissita	
	Carex geminata	
	Carex lambertiana	
	Carex solandri	
	Carex virgata	
*	*Cyperus eragrostis*	
	Cyperus ustulatus f. ustulatus	coastal cutty grass
	Gahnia lacera	
	Gahnia pauciflora	
	Gahnia setifolia	
	Gahnia xanthocarpa	giant sedge
	Isolepis reticularis	
	Lepidosperma australe	four square
	Schoenus tendo	
	Uncinia banksii	
	Uncinia laxiflora	
	Uncinia uncinata	watu

Rushes and allied plants

*	*Juncus tenuis var. tenuis*	track rush

Grasses

*	*Agrostis capillaris*	browntop
*	*Anthoxanthum odoratum*	sweet vernal
*	*Axonopus fissifolius*	narrow-leaved carpet grass
*	*Bromus willdenowii*	prairie grass
*	*Cortaderia selloana*	pampas
*	*Dactylis glomerata*	cocksfoot
	Echinopogon ovatus	hedgehog grass
*	*Holcus lanatus*	Yorkshire fog
*	*Lolium perenne*	perennial ryegrass
	Microlaena avenacea	bush rice grass; oat grass
	Microlaena stipoides	forest rice grass
	Oplismenus hirtellus ssp. imbecillis	oat grass
*	*Paspalum dilatatum*	paspalum
	Poa anceps ssp. anceps	coastal poa
*	*Rytidosperma penicillatum*	
*	*Schedonorus arundinaceus*	tall fescue
*	*Setaria pumila*	yellow bristle grass

Remaining Monocotyledonous herbs

	Astelia fragrans	bushflax; kakaha
	Astelia solandri	kowharawhara
	Collospermum hastatum	kahakaha
	Dianella nigra	blueberry; turutu
	Phormium tenax	flax
	Typha orientalis	raupo

Orchids

	Drymoanthus adversus	
	Earina mucronata	spring orchid; peka-a-waka
	Pterostylis agathicola	

Carmichaelia williamsii on Mahurangi Island

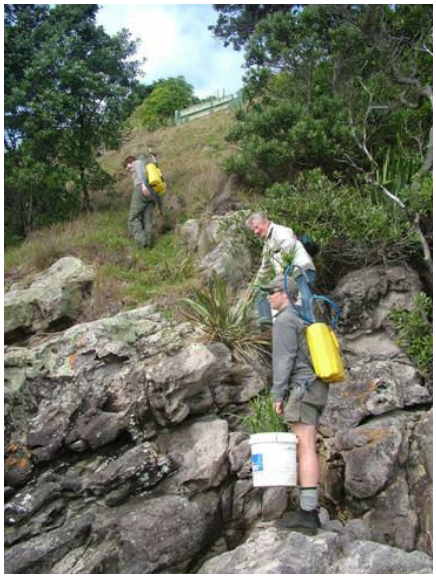
The Waikato Botanical Society has been carefully nurturing a number of giant-flowered broom (*Carmichaelia williamsii*) seedlings for several years now at Waikato University as part of an initiative to raise threatened plants of the Waikato Region. By August this year several of the *Carmichaelia* had reached a suitable size for transplanting into an appropriate area of natural habitat (in the words of a birding friend – "the time had come for their release into the wild").

Carmichaelia williamsii is a New Zealand endemic, impressive for its wide flattened branchlets and large pale-yellow flowers with purplish veins (check out the photos of it on the New Zealand Plant Conservation network site; http://www.nzpcn.org.nz/). It is a coastal species, now mainly confined to offshore islands around the east of the North Island. Mahurangi Island (sitting a small distance out to sea from Hahei) was chosen as a future home for the Waikato plants as it has some suitable areas of coastal cliff top habitat that this species prefers. Mahurangi is a Department of Conservation managed recreation reserve.

Low tide at Mahurangi Island

To avert any introductions of unwanted hitchhikers to the island (such as ants and fungi), the plants first had to undergo a pre-planting decontamination treatment to ensure nothing untoward was transferred on roots or soil. The team, comprising several DoC staff and two Waikato Bot Soc members, treated then transplanted the plants into temporary paper pots of sterile soil at the Whitianga DoC field centre just prior to taking them out to the island.

Natasha Priddle and John Smith-Dodsworth rebag plants in sterile soil following decontamination treatment



A short boat ride from Whitianga followed by a steep climb from the water finally saw the *Carmichaelia* to their new home; two sheltered spots atop the island. Grasses, bracken and gorse were cleared from the sites and each specimen was carefully planted alongside a small plastic container (a clever way to improve the water supply to each plant via stored rainwater). An area of ground was also cleared to take seed, and it is hoped that this sowing will be successful in further boosting the number of *Carmichaelia* on the island.

Natasha Priddle, John Smith-Dodsworth and Andy Wills head up to the planting site on Mahurangi Island with the Carmichaelia and all the necessary planting paraphernalia

The planting team in action. From left: Rob Chappel (DoC), John Smith-Dodsworth, Natasha Priddle (DoC) and Cynthia Roberts (DoC)

The work is done. Cynthia and Natasha checking out the freshly planted Carmichaelia with watering containers in place.

Article by Catherine Beard

RESEARCH

Graeme Weavers was this year's recipient of the WBS sponsored Waikato University prize for the Master's level Plant Ecology paper.

"My research was on the indigenous nightshade *Solanum aviculare* and the closely allied *Solanum laciniatum*. My interest in the species' came about after being given *S. laciniatum* plants by an ecologist friend. After searching many lowland areas of the Bay of Plenty I was unable to locate wild plants until I discovered two populations of *S. aviculare* growing on slip sites in Tarawera forest after large rain events. I was intrigued as to how they got there as they were not growing in the area. That got me to considering the dynamics associated with dispersal, as well as growth habits, as many appeared to be senescing after maturing in a short period of less than 4 years. Being a glutton for punishment I decided I wanted to know all about the plant, including conservation, as it was listed in the threatened plants listing, and cultural issues".

Thesis Profile

The aim of this research was to gain, in an integrated holistic manner, an overall understanding of the systematics, ecology, and conservation status and related cultural aspects of *S. aviculare*, as the two appear

to be related. This may then suggest possible reasons for the decline, and provide some potential sustainable long term management, enhancement and restoration solutions.

The thesis included analysing & studying the successional structure, regeneration strategies and tactics of *S. aviculare*, including population structure, reproductive status, lifespan estimation, cohort development and metapopulation data; investigation of the presence of a viable seed bank, dispersal agents and mechanisms involved in viable seed spread and the dispersal tactics employed by *S. aviculare*; viability of gut recovered seed was endeavoured through chemical and germination trials; seed germination experiments to consider preferential germination times, seasonal differences relating to day-length and temperature, any species differences, colonisation and germination tactics relating to stasis or fresh seed and depth reduction responses; leaf morphology studies documented differences between *S. aviculare* and *S. laciniatum*, determined heteroblastic development, influences on juvenile and adult leaf development, documented flowering timing, insect association and damage monitoring.

The genetic diversity study of *S. aviculare* attempted to identify polymorphic loci, investigate and document genetic variation between and within spatially distinct populations of *S. aviculare*, document any monomorphic status of *S. aviculare* and any invariance between *S. aviculare* and *S. laciniatum*; the final chapter considered the current conservation status of *S. aviculare* as a declining species defined in de Lange et al. (2008), attempting to provide further information on the 'declining ' 'sparse' and 'data poor' status, suggest reasons for the increased uncommon situation in the North Island, provide an initial generalised nationwide assessment, and increase confidence in the current classification by providing increased quality data on *S. aviculare*, and included an estimation of the status of *S. laciniatum,* an attempt was made to understand the cultural aspects and the current cultural status of *S. aviculare* as poroporo and a Māori taonga species, and explain the conservation decline and current cultural status of poroporo from the mātauranga koiora Māori perspective (Māori biological knowledge) by utilising the information gained with associated published information on mātauranga Māori (Māori traditional knowledge base) and mātauranga koiora Māori.

Further work…

Also through David Symon I contacted Geoff Carr from Ecology Australia and the University in Melbourne who had observed that *S. aviculare* plants growing on the Miocene limestone areas of the Otway Ranges always produced white flowers, but the plants not on the limestone did not. No-one has done any common garden work and he has offered to send seed and vouchers, so I am in preliminary stages of going through the process to get the seed over here. I will then grow them on and see what happens over the next generation or two and if they continue to produce the white flowers we may have found another variety, the first for Australia!!

"Healing Powers of Native Plants"

We learnt in class how certain plants have medicinal properties and how Maori culture used these plants as a first aid kit. We were inspired by our classroom lessons to carry out experiments on native plants to test for their effects on bacteria. We discovered that plants can kill bacteria naturally and if we repeat out experiment again we need to look at other ways to test for benefits of these plants. The big thing we learnt was that native plants should be explored more closely and scientists should ask the different Maori elders for their knowledge of plant medicines. We are grateful to out teacher Mrs Cox who helped us with our Science Fair and for the Waikato Science Fair and Waikato Botanical Society for acknowledging our efforts. We now think plants are very useful.

- *Hannah Amundsen and Nishta Singh*

NOTICES – WAIKATO REGION

University of Waikato Bio -Seminars

The Waikato University Biology Department invites members of the public to attend a weekly department seminar series. Seminars are usually held on Fridays at 1 pm in room A.G.30 (Gate 8). For upcoming seminar titles and further information, please check on http://bio.waikato.ac.nz/. Each week, a staff member or special guest speaker presents for 50 minutes on an exciting aspect of their research, and often this relates to botany or ecology. Keep an eye on the website to see what's coming up next (usually three upcoming seminar titles are available).

Job Opportunity - Lecturer /Senior Lecturer in Plant Ecology /Plant Biology

We seek a Lecturer or Senior Lecturer in Plant Ecology or related areas of Plant Biology. We are particularly interested in candidates with expertise in areas that complement our existing expertise in plant biosystematics, physiology and restoration ecology, and strengths in field ecology and quantitative methods would be advantageous. You will be a developing leader in your field, have postdoctoral experience, an excellent publication record, evidence of international connections and will contribute to teaching in the areas of plant ecology and biology and advanced courses in areas of expertise. Research is an integral component of this position and experience in research student supervision will be advantageous. You will also have a developing or well-developed research record and potential ability to attract external funding for your work. The Department of Biological Sciences ranked first in the 2006 New Zealand Performance Based Research Fund assessment in the Ecology Evolution and Behaviour, and Molecular, Cellular and Whole Organism Biology areas. You will have the potential to contribute to a high ranking in the next assessment (2012). The Department is entering the fifth year of its NZ Foundation for Research, Science and Technology (FRST) funded program in Freshwater Ecology, research worth $10M over ten years. Other FRST funded research programmes include urban ecosystem restoration and a terrestrial Antarctic research programme. Synergies with any of these programmes will be an advantage, as will development of connections with industry based plant biology (pastoral agriculture, horticulture or forestry), depending on your expertise and interests. This position is available from February 2011. Current salary range for Lecturers is $63,327 to $77,318 per year and for Senior Lecturers is NZ$79,266 to $106,319 per year. Enquiries of an academic nature should be directed to Dr Mike Clearwater, telephone +64 7 838 4613 or email: m.clearwater@waikato.ac.nz Further information about the Department is available at http://www.bio.waikato.ac.nz **Closing date: 1 November 2010 (NZ time) Vacancy number: 300269 For more information and to apply, visit www.jobs.waikato.ac.nz**

Course: Flora of Aotearoa/New Zealand

Dates: 11-25 February 2011
Venue: University of Waikato.
No prerequisites required, just a keen interest to learn more about plant identification and New Zealand's amazing flora. This popular second year paper is for anyone keen to learn how to identify plants and about the origins of New Zealand's unique flora. This course provides an introduction to field identification, philosophy and techniques of plant systematics focusing on endemic New Zealand plants. Skills include field identification of plants and knowledge of plant families, genera and species representative of the New Zealand flora.

This intensive two week course starts with a field trip to Pureora Forest Park. The next two weeks are spent in lecture, labs, and two more day trips. Students then complete an independent project.
This course historically attracts students from a broad range of backgrounds, including university students, professionals wanting to up skill to amateur botanists wanting to learn more, ecologists, ethnobotanists, landscape architects, etc.
Contact Chrissen Gemmill for further information, email gemmill@waikato.ac.nz.

NOTICES – OTHER REGIONS

University of Canterbury summer course: Practical Taxonomy for Field Biologists

Practical Taxonomy for Field Biologists (BIOL305) is an intensive, short summer course designed to meet the need for training in the collection, preparation, and identification of botanical specimens.

Venue: Mountain Biological Field Station at Cass, Canterbury
Dates: 27 January – 4 February 2011

This course will be of interest to amateur botanists, members of the workforce (e.g. Crown Research Institutes, Department of Conservation, Local and Regional Councils, Botanic Gardens, horticulturists and teachers) and biology students who need to acquire or upgrade taxonomic skills and are interested in field ecology, conservation, biodiversity and biosystematics. The course is targeted at participants with various entry levels: from students with a limited plant knowledge to experienced career professionals.

Goals of the course
To enable participants to

- become familiar with the common plants of the Cass and surrounding areas quickly,
- identify and name plants correctly and accurately,
- maximise usefulness and minimise environmental impact when collecting specimens,
- prepare high quality voucher specimens of plants,
- use scientific names to access detailed information about New Zealand plants,
- understand the patterns of variation within populations, and
- appreciate unique and unusual aspects of the New Zealand flora.

More information
Visit www.biol.canterbury.ac.nz/biol305 or contact Dr. Pieter Pelser (pieter.pelser@canterbury.ac.nz; 3-364-2987 ext 45605).