



# Waikato Botanical Society Inc.

## NEWSLETTER

No. 33, March 2011

**President**

Position currently shared amongst committee members

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### ***From the committee...***

**The Waikato Botanical Society needs your support.** Our AGM is coming up shortly and we need an elected president, secretary and newsletter editor as well as new committee members! The time commitments aren't huge; committee meetings generally take place bi-monthly and last for roughly 1 hour. Activities such as developing the annual calendar and additional field trips are shared amongst the committee as are contributions to the twice yearly newsletter. If you are interested and want to support the WBS, please come to the AGM meeting and stay on to enjoy what will be a very interesting presentation by Alison Wesley on the flora of Chile including Patagonia.

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### ***Threatened plant garden update – it's on the move!***

The society has arranged to move the threatened plant garden to a new site on the Waikato University grounds, which is open to the public. We initially set up the garden within the University glasshouses compound, which is only open during work hours, as there have unfortunately been instances of plant theft and vandalism on the University grounds and additionally we were not sure how successful plants in the garden would be. However, many species (not all!) have proved they will grow very well and the committee decided it was time to have a site more accessible to the public where we can use our interpretive signs which are under development.



The new site is situated outside the science buildings at the F-G link entrance at Gate 8 on Hillcrest Rd. It is quite a high profile spot which will have a lot of people passing by so they can now become familiar with some of our threatened Waikato plants! The site has recently been cleared of vegetation, apart from a couple of trees which will provide some shade, and we hope to begin planting and transplanting at the next working bee- Saturday 14th May. Make note in your diaries now. Before then we will be sourcing new plant material where possible and moving rocks, peat and irrigation

supplies to the site to begin landscaping for the various habitats required, from peat bog to coastal cliffs, very exciting! Keep an eye out for short-notice of further working bee dates in case we need assistance before planting in May.

## 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 BOTANICAL 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.*

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### ***Waikato Botanical Society AGM and Talk***

*Monday 4<sup>th</sup> April*

The AGM will start at 5:30 pm with Alison's talk starting at 6:15pm.

**Gold coin donation** for nibbles, BYO wine.

**Venue:** Landcare Research, Gate 10, Silverdale Road. 2-storied white building opposite NIWA). The AGM and talk will take place in the large meeting room (from reception go upstairs and through the first door on your right). Please arrive on time as the front door will need to be held open for attendees - this is an after building hours function. If you arrive late, please text Monica on 021 049 2036 for entry.

### ***Talk: The Flora of Chile, including Patagonia***

*Speaker: Alison Wesley*

Alison spent 3 weeks in Chile during December 2010 with a small group of "gardeners/plant hunters" on a tour organized by the company 'Green Tours' which specializes in Natural History tours. This was primarily a botanical trip and involved visiting eight national parks stretching from Curico just south of Santiago to Torres Del Paine Park in Chilean Patagonia. The trip was led by Chris Gardner, a co-author of the book "The Plant Hunters - Two hundred Years of Adventure and Discovery around the World", so he was well qualified to lead this "plant hunting" trip. A highlight for me was the natural forests of *Araucaria araucana*. This illustrated talk will share the species with 'cousins' in New Zealand as well as plants unique to southern South America.

### ***Kaimais Easter Camp (Combined Auckland, Rotorua and Waikato Botanical Society)***

*Friday 22<sup>nd</sup> to Monday 25<sup>th</sup> April 2011*

Held at Ngamuwahine Outdoor Education Lodge, Lower Kaimais. The lodge is situated on the edge of a pristine river and within 200m of the Kaimai Mamaku State Forest Park.

**Cost:** \$25.00 per person per night, though this can reduce depending on numbers. Food is extra and is provided by the Auckland Bot Soc with shared cooking duties. **Bookings and deposit by 12<sup>th</sup> of April**

**Directions:** Take HW 29, past Kaimai School, just over bridge turn into Ngamuwahine Road, follow winding road for 3km to the lodge at end of road.

**Contact:** Jan Butcher – 092369722, 0272413701, jjbutcher@ps.gen.nz

## ***Threatened Plant Collection Working Bee #2***

*Saturday 14<sup>th</sup> May 2011*

A working bee in the threatened plant garden. We will be planting at the new garden site at this working bee, so will be moving between the glasshouses site and F-G link garden at Gate 8, Hillcrest Road. Please bring gloves, old clothes and boots for weeding, planting and propagating activities.

**Meet:** 11am at Waikato University Gate 8, Hillcrest Rd.

**Contact:** Liz Overdyck ph 07 825 9743 eg3@waikato.ac.nz

## ***Threatened Plant Collection Working Bee #3***

*Saturday 13th August 2011*

A working bee at the new garden site. Please bring gloves, old clothes and boots for weeding, planting and propagating activities.

**Meet:** 11am at Waikato University Gate 8, Hillcrest Rd.

**Contact:** Liz Overdyck ph 07 825 9743 eg3@waikato.ac.nz

## ***Appletree Road Tawarau Forest Frost Flats Field Trip, Waitomo***

*Saturday 5th November 2011*

Off Appletree road in Tawarau Forest there is a cold pocket of scrub dominated by *Olearia virgata*. Underfoot it is quite boggy and the understory is dominated by divaricating shrubs and *Astelia fragrans*. This area has been under botanised in the past so it would be great to get in there and see what we can find and compile a species list. Bring sturdy footwear and something to cover your legs (there may be a bit of blackberry).

**Leader:** Thomas Emmitt temmitt@doc.govt.nz. or ph 07 878 1080 (wk) or 07 878 4737 (hm)

**Meet:** Waitomo Tavern Carpark (Curly's Bar) 9am

**Grade:** Medium

## ***Threatened Plant Collection Working Bee***

*Saturday 12th November 2011*

A working bee at the new garden site. Please bring gloves, old clothes and 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 07 825 9743 eg3@waikato.ac.nz

## ***Paeroa Water Reserve (Combined with Rotorua Botanical Society)***

*3rd December 2011.*

Walk up to waterfall and perhaps beyond to a bluff system along an old benched track. Initially through scrub but later into quite varied mature lowland forest. Many species typical of kauri forest.

**Leader:** Graeme Jane ph 07 570-3123 gtjane@clear.net.nz

**Meet:** The carpark Rotorua at 8: 15 am at the Bottle in Paeroa at 10:00.

**Grade:** easy

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## FIELD TRIP & OTHER REPORTS

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

*Saturday 4th December*

Nine keen botanists turned up at Te Aroha on 4<sup>th</sup> December to visit the QE II covenant at Dave Mc Neil's place just north of Te Aroha. It was good to see people from Rotorua, Tauranga and 2 visitors from the United States. Dave was a friend of my fathers and was interested in what plants were growing on his place. The aim of the day was to compile a species list for this unbotanised piece of bush.

We managed to drive 2 vehicles quite a way up the farm track. We got a very good view from here out over the Hauraki Plains and Pirongia, Maungatautari and Te Tapui. From the cars it was a short walk to the bush edge. On the edge of the bush was growing ring fern (*Paesia scaberula*), braken (*Pteridium esculentum*) and gorse. Inside the bush edge was regenerating mamaku (*Cyathia medularis*), lancewood (*Pseudopanax crassifolius*), mahoe (*Melicytus ramiflorus*), pigeonwood (*Hedycarya arborea*), mapau (*Myrsine australis*). *Parsonsia heterophylla* and mangemange (*Lygodium articulatum*) were also present. In an open clearing we found the orchid *Microtis unifolia* in flower. Further on into the bush we spotted several green hood orchids (*Pterostylis banksii*).



*Members of Waikato Botanical Society and Rotorua Botanical Society at Dave McNeils QE II Covenant. (TV Mast on Mt Te Aroha in the background).*

We passed through a damp gully that was mainly consisted of *Dicksonia squarrosa* and mahoe, kanono (*Coprosma grandifolia*) with pukatea (*Laurelia novae-zealandica*) starting to come through. The undergrowth was almost entirely parataniwha (*Elatostema rugosum*). We also heard grey warbler in here. Towards the top of the gully there was a change to tawa (*Beilschmiedia tawa*) forest with putaputaweta (*Carpodetus serratus*), koromiko (*Hebe stricta*) and tawari (*Ixerba brexioides*).

We found place to have lunch and Graeme Jane gave us a quick lesson on difference between *Uncinia uncinia* and *Uncinia distans* by looking at the hook on the seed. Also at the lunch stop was growing *Morelotia affinis*.

On the way down Graeme spotted some Mexican daisy which was unfortunate but is known from around the area. On the ridge down the forest was open tawa with pigeonwood, lancewood and a small amount of kawakawa (*Macropiper excelsum*). There was very little undergrowth with some pig sign. Further down the ridge we encountered the grass tree *Dracophyllum latifolium*, rewarewa (*Knightia excelsa*) and kohekohe (*Dysoxylum spectabile*). From here could see the paddock but no obvious way of getting there.

Up until then I was quite happy with my grading of the trip as medium but then it was quite a bush bash down with lots of slipping and sliding and swinging on trees. Once we got out of the bush we had a quick rest and drink and headed back up the hill to the cars.

Thanks to Graeme for assembling the species list and thanks to Dave for letting us have a look around. I feel that we barely scratched the surface and it would be good to get back there another day especially to get up on top of the main ridge. - Kerry Jones



Map showing our travels – yellow dotted line.

## Whenuakura Plains

29-31 January

We met at the car park at the start of the Waihaha Track, but some of the members who had booked didn't turn up possibly due to the floods in the Whakatane area. So somewhat delayed the six of us took off following Thomas our organiser and after a few stops to call in on farmers for permissions and gate keys, the trip really began...until we came across a big tree across the track.... Thomas was prepared though. He donned his protective gear and promptly had the tree off our path. After a wrong turn and some rough and bumpy tracks we eventually found our way to the Whenuakura frost flat (located in the southern part of Pureora Forest Park) that was to be our home for the next few nights.

Lunch brought the first surprise. We were sitting on *Hypericum minutiflorum*, one of the plants that we had intended to look for. It has tiny reddish leaves and a minute yellow flower. That afternoon we strolled along a wide road and a narrower track. We soon came across the typical frost flat species *Coprosma virgata*, and



*Botrychium australe* (naturally uncommon)

there was lots of it. The other interesting species here (to me) were the 2 species of *Geranium*: *brevicaulis* and *microphyllum* (the latter is not a real species; it only exists on the Subantarctic islands and the ones on the mainland are officially unnamed), *Raoulia albosericea*, *Acaena microphylla* (the species with very large red conspicuous seed heads, but miniscule leaves), *Luzula decipiens*, *Gaultheria macrostigma* and *Hierochloe redolens*. Many *Pittosporum turneri* trees were also identified. This is a nationally endangered species. We then left the track and found two of the other plants that were on the "To find" list: the parsley fern *Botrychium australe* and *Melicytus flexuosus*, a curious divaricating shrub with very few tiny leaves.

Another parsley fern was nearby: *Botrychium biforme*. Also in this area were *Oriobolus pectonatus*, *Herpolirion novae-zelandiae* and *Oreostylidium subulatus*. *Hypericum minutiflorum* and a similar but greener species *H. pusillum* were found here too.



*Pittosporum turneri* tree and close up of branch with seed pods

The evening and night turned into a very cold affair for those of us who had somehow missed the word 'frost' in the description of this trip and had come badly prepared for the low temperatures worsened by wind. I reluctantly admit that I was one of those :-)

The next morning it warmed up quickly and we were all happy again. We walked to a wetland where many rushes were identified. A *Pterostylis* species was located, but due to lack of flower it couldn't be decided whether it was *P. micromega* or *patens*. Another orchid, *Prasophyllum hectori*, which is also supposed to live in the area was not found. After the wetland was exhausted we entered a nearby forest, which caused a flood of 'new' species to be added to our lists including silver pine, *Lagarostrobos colensoi* and *Lycopodiella australianum* as well as many *Hymenophyllum* species. In the afternoon we went over to another wetland, where most of us got wet feet and some even wet knees. The exciting finds there were the carnivorous plants *Drosera binata* and *D. arcturi*. One species which we had been on the look-out for, but which we didn't see was the native cedar, *Libocedrus bidwillii*. On our way home we spent an hour or so on our hands and knees looking for more *Hypericum minutiflorum* and the conclusion was that it was not rare here. It is just one that is easily overlooked. It was a very full day for the mind as well as for the body and most of us were happy to be back at camp.



Graeme Jane, Thomas Emmitt and Paul Cashmore discussing floral matters

On Monday we crossed the stream near Saturday's *Botrychium* location in search of more *Meliccytus flexuosus*. We found many. We also found the only native mint, *Mentha cunninghamii*. The data deficient species *Stenostachys gracilis* was also located.

The author was suffering from morning weakness and got a bit grumpy, so she went 'home' early. She was busy getting lost when, luckily, she made it back to the stream where the others were just returning for the home journey. The rain, that had been drizzle in the morning, was now really setting in and we were all rather wet by the time we returned to camp. Another bumpy ride to the main road, but luckily no new trees to cut away, and we all went our separate ways.

It was an excellent weekend; I learnt a lot and met some great botanists who I hadn't met before. - Lyneke Onderwater

## Waikawau Bay, North Coromandel

Auckland Anniversary weekend camp 2011

A group of 25 from the Auckland Botanical Soc were hosted by Wayne Todd and Kathi Parr of the Karuna Falls Community which were kinder enough to allow us to stay there and use the facilities. As we drove up on the Friday, I wondered if we had made the right decision as Cyclone Wilma was due to come down and so many vehicles seem to be heading down the Coast to Thames. Anyway, apart from heavy rain overnight (in excess of 200ml) we had fine weather. On the Saturday afternoon after giving time for the flooded driveway to become passable, we headed off to Kelly/Knox farm going further up than when we visited in March. The highlight of that trip was the orchid *Gastrodia aff sesamoides*. It was also good to walk through some kauri and see the start of a kiwi burrow. There was also a good number of *Drymoanthes adversus*. We had fantastic views from the top, looking over the Bay and out to Cuvier Island.

Sunday morning took us up a stream behind the Community to the kauri/hard beech (*Nothofagus truncata*). A *Grammitis rawlingsii* was found, this being only the 2<sup>nd</sup> record for the Peninsula. 9 species of Hymenophyllum and 5 species of Metrosideros were found. Sunday afternoon took us over towards Port Charles on a block that Wayne refers to as the rat-attack block. We walked up a stream with steep sides, with the highlight being swards of *Loxsonia cunninghamii* ending up at a plant of *Dracophyllum latifolium*. Monday morning, we went back up another stream behind the community. This time, 3 moreporks came out from a silver fern and provided a lot of interest for us. Botanical highlight was the finding of a couple of young hutu (*Ascarina lucida*) and one the rock where we had lunch near a waterfall, was lovely flowering *Wahlenbergia* and the native carrot *Daucus glochidatus*. At one stage, we did a wee side trip to a large old puriri (*Vitex lucens*) and found a large number of pigeonwood (*Hedycarya arborea*) taraire (*Beilschmiedia tarairi*) kohekohe (*Dysoxylum spectabile*) and titoki (*Alectryon excelsus*) –all looking very promising for the natural succession of this bush.

It would be great to have another opportunity to go into the bush behind the Community to find the Ixerba of which Kathi had a dried specimen. - Jan Butcher

# RESEARCH

This year's Waikato Botanical Society Waikato University prize winners are Kieran Miller for the Masters level Plant Ecology course and Jackson Efford for the Flora of NZ summer course. They each receive a cash prize and one years botanical society membership.

My name is Kieran Miller. I'm born and bred in the Waikato, hailing from the small rural community of Te Aroha. I moved to Hamilton at the start of 2006 to begin tertiary education at the University of Waikato. I completed a BSc in ecology at the end of 2008 and have almost finished writing my thesis for my MSc. Over my time spent at university I have developed into a plant enthusiast and have enjoyed studying ecology especially the terrestrial side.

My Masters thesis is entitled 'Understory restoration in Hamilton urban forests' and has involved identifying which native understory species are absent in Hamilton urban forests compared to larger and less disturbed forests surrounding the city. Other aspects to the research include determining why differences exist and experimenting with selected native species to evaluate if they can become a more prominent component in Hamilton urban forests.



My Name is Jackson Efford. I am a MSc student at Waikato University under the supervision of Professor Bruce Clarkson. I have a strong interest in plant succession and volcanology, and am currently beginning my thesis research into treeline (timberline) forest dynamics at Mt Taranaki. I would like to thank the Waikato Botanical Society for this prize, and share a brief summary of my research proposal to those who are interested.

The most recent eruptions from dormant strato-volcano Mt Taranaki were of volcanoclastic form and occurred around AD 1500 (the Newall eruption) and AD 1655 (the Burrell eruption). Pyroclastic flows, airfall tephra and associated forest fires from these eruptions inflicted widespread vegetation damage on the



flanks of the mountain, which is indicated today by the growth form of current vegetation and the buried charred logs which have been discovered.

Previous botanical research has suggested that the treeline (zone where trees are replaced by shrubs along an altitudinal gradient) area of Mt Taranaki in particular has been considerably altered in both position and composition by the recent Newall and Burrell eruptions, and is thus the focus of this research. Isopach mapping of the tephra deposits from these eruptions has revealed lateral eruptive axes, on account of wind directions at the time of eruption. It has been inferred that the current vegetation pattern on the mountain is related to these isopachs, or more specifically, the variable effects of eruptions at different positions on the mountain. However, no such hypothesis has been tested or measured in any way; and therefore it is the objective of this research to describe and explain treeline vegetation composition and pattern as it relates to the influence of these eruptions.

The dominant treeline species on Mt Taranaki are *Weinmannia racemosa*, *Podocarpus hallii*, *Libocedrus bidwillii* and *Griselinia littoralis*, and their distribution on the mountain has been tentatively related to their ability to either; survive following volcanic damage; preferentially colonise in areas where canopy was destroyed; or colonise/persist in the shade of less-affected canopy. Methods used to unravel the complexities of this treeline vegetation will involve a quantitative quadrat based vegetation survey (with quadrats stratified on the basis of tephra thickness such that the variable affects of the eruptions can be directly inferred); soil profile descriptions and reassessment/conformation of Burrell lapilli deposit thickness; and an accompanying shade tolerance/grow analysis experiment involving the dominant treeline species.

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