Waikato Botanical Society December Newsletter No. 45, 2019

President's Report

Here we are at the close of another year - it seems like no time at all since I was writing a similar segment for the 2018 December newsletter. In thinking about this piece, I've been reflecting on what a great year it has been for the Waikato Botanical Society. We ran a wonderfully interesting range of field trips both locally (exploring some of Hamilton's gullies, Waikato forest remnants and wetlands) and further afield (south to the Kaimanawa Ranges and the boundaries of the Waikato Region). We also enjoyed the company of our mates in the Rotorua and Auckland Bot. Socs on some of our trips and joined some of theirs.

It has also been very pleasing to see attendances continue to grow at our evening lecture series events – even to the point of having to shift into a larger conference room to fit everyone in!

We also ran a very successful workshop at Waikato University on ferns – setting the foundation for future learning days on other plant groups.

Our public showpiece - the Threatened Plant Garden at Waikato University – continues to thrive and is a real credit to those members who gladly volunteered their time to weed, water, mulch and plant.

Waikato Bot Soc public presence and popularity on social media is slowly gaining momentum – I encourage all those who indulge to share their findings and photos on the members page.

Thanks to all members for your continued support and interest, and to you - our hard-working and enthusiastic Committee – for keeping the Society ticking over so well.

Here's wishing everyone a safe, happy and relaxing holiday – hopefully you'll find some interesting places to explore and interesting plants galore! I look forward to seeing you in 2020.

Catherine

Elected Committee Members 2019

President: Catherine Beard cbeard@doc.govt.nz

Secretary: Wyne Johns wajohns73@gmail.com

Treasurer: Mike Clearwater mike.clearwater@waikato.ac.nz

Trip Co-ordinator: Antoinette van der Weerden/ Kerry Jones

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Newsletter Editor & Night Talks: Linda Watson
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Facebook Editor & Night Talks: Rebecca Yeates & Monique Hall

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Committee members: Catherine Beard, Thomas Emmitt, Monique Hall, Rebecca Yeates, Kerry Jones, Linda Watson, Mike Clearwater, Antoinette van der Weerden, Wyne Johns

The Waikato Botanical Society

The society was formed in 1979, with the aim of encouraging the study of botany, particularly that of New Zealand and the Waikato region. Join the society to:

- Share and expand your botanical knowledge with other like minded enthusiasts
- Help conserve the indigenous flora of New Zealand
- Enjoy field trips throughout the Waikato region and beyond, exploring varied habitats from wetland to forest, coastal to montane
- Attend regular meetings and talks, with guest speakers on a wide variety of fascinating topics
- Receive our regular newsletter and emailed announcements to stay up-to-date on botanical events and happenings accross the region

Fern Work Shop – University of Waikato

11 August 2019 by Kerry Jones.

Thomas and I shot down to Pureora the day before and collected some *Hymenophyllums* and *Blechnums* for the workshop as these were the 2 species that we would be concentrating on.

On the day Catherine and Thomas led the workshop with some intermittent help from me.

The venue was excellent with microscopes and great visual overhead screens. We had the choice of what could be shown on the screen. Either what was on the teaching microscope or what was on the teaching computer where we showed photos or what was on the teaching desk.

We started of trying to work through the new *Blechnum* key which had been a result of the *Blechnaceae* reorganisation. After a while it got a bit confusing as the key included genera that we didn't have New Zealand so re reverted to the key in Brownsey and Dodsworth.

After we had worked through the *Blechnums* we had a go at the H*ymenophyllums*.

Later in the afternoon we had a go at Dicksonias and Cyatheas.

Thanks Mike for arranging the venue and Thomas and Catherine for being enthusiastic teachers.

Lomaria discolor
Was *Blechnum discolor*

Hymenophyllum scabrum showing hairy stipe

Astroblechnum colensoi
Was *Blechnum colensoi*
New *Blechnum* genera names.

Hymenophyllum sanguinolentum
showing crested indusia.

Astroblechnum :

Astroblechnum banksii

*Blechnum blechnoides (*species name change*)*
Astroblechnum colensoi

Blechnum colensoi
Austroblechnum durum

Blechnum durum
Austroblechnum lanceolatum

*Blechnum chambersii (*species name change*)*
Austroblechnum membranaceum

Blechnum membranaceum
Austroblechnum norfolkianum

Blechnum norfolkianum
Austroblechnum penna-marina

Blechnum penna-marina

Blechnum :

Blechnum deltoides

*Blechnum vulcanicum (*species name change*)*

Cranfilla :

Cranfilla fluviatilus

Blechnum fluviatile
Cranfilla nigra

Blechnum nigra

Diploblechnum :

Diploblechnum fraseri

Blechnum fraseri

Icarus :

Icarus filiformis

Blechnum filiforme

Lomaria :

Lomaria discolor

Blechnum discolor

Parablechnum :

Parablechnum minus

Blechnum minus
Parablechnum montanum

Blechnum montanum
Parablechnum novae-zelandiae

Blechnum novae-zelandiae
Parablechnum procerum

Blechnum procerum
Parablechnum triangularifolium

Blechnum triangularifolium

The fern workshop was well attended and thoroughly enjoyed by all who attended.

We are hoping to have a workshop based on Bryophytes in 2020.

Pukemako Historic Reserve and Pukemako Scenic Reserve

Sunday 15 September 2019 Led by Catherine Beard

After heavy rain at night the day cleared and a group of 18 keen botanists met at the Pukemako Historic Reserve.

Pukemako translates as 'hill of the bellbird' and we weren't quite lucky enough to hear bellbirds but the tui were out in full bird song.

Catherine talked to us about the history of the Reserve.

The area was frequently traversed by Maori on their way to and from the nearby Maungakawa Pa. Tracks led to the parliament house used by Tawhiao, second king of the Kingitanga movement. This important venue was located further in towards the hills to the north of Maungakawa.

In 1868 Daniel Thornton, a wealthy industrialist, bought the property from its Maori owner. The land was probably covered with forest but trees were felled and milled for farmland. Thornton died in 1881 and in 1890 his wife had a home built on the summit ridge. It was a local attraction...a substantial building surrounded by exotic gardens. Some of the plants still exist today.

In the early 1900s the property became used for a tuberculosis sanitorium, known as Te Waikato, and then to house and care

for convalescing returned servicemen from WW1.

It closed in 1922.

In 1963 the Crown bought 3 ha of open park land near the summit of Sanatorium Hill. A stone obelisk was erected in memory of Michael Gudex, a teacher, scientist and horticulturist, to commemorate his contribution to preservation of N.Z. natural resources. The park was named the Gudex Memorial Park.

Recently as a result of treaty negotiations with ngati Haua, the reserves formerly

known as Maungakawa Scenic Reserve and Gudex Memorial Park Historic Reserve were

renamed Pukemako Reserve and Pukemako Historic Reserve.

In 2007 the bush came under the auspices of the Halo project and thus has been subject to intensive pest control.

Remaining building from Te Waikato

It didn't take long before a discussion took place on exactly what species is this ? We were fortunate to have a species list compiled by Gudex and published in 1958.

Botanists identifying species

Catherine set about compiling a more recent species list.

A feature were the female flowers on *Coprosma repens* bending outwards ready to be pollinated by the wind. Nearby stood the plant with the male flowers in bloom.

A magnificent small grove of *Agathis australis* planted by Michael Gudex in 1960 was the next highlight. Not a bad size for nearly 60 years growth.

More recent plantings can be seen in the foreground.

There was a lot of investigation and discussion in identifying the different species of rata present.

The most magnificent *Metrosideros carminea* was seen climbing up over *Knightia excelsa.*

(see below) It would certainly be magnificent to see it in flower.

M.diffusa,M.robusta,M.perforata were also seen.

There were numbers of mangeao (*Litsea calicaris*, karaka (*Corynocarpus laevigata),* rewarewa (*Knightia excelsa),*and tree ferns forming the canopy.

Some of the old oaks left over from days gone by carried as many as 10 species of native ferns, orchids and *Astelia* on their branches.

The loop walk was easy walking and we manged to complete in plenty of time for a sunny lunch spot at the Scenic Reserve admiring the remnants of a past garden with daffodils, Prunus in flower, oaks, pines and macrocarpa trees.

An enjoyable Sunday for all ages. A big thankyou to Catherine for organising, leading and compiling the species list.

Two young budding botanists planting karaka seeds for future generations.

Hapuakohe Ecological Area Trip

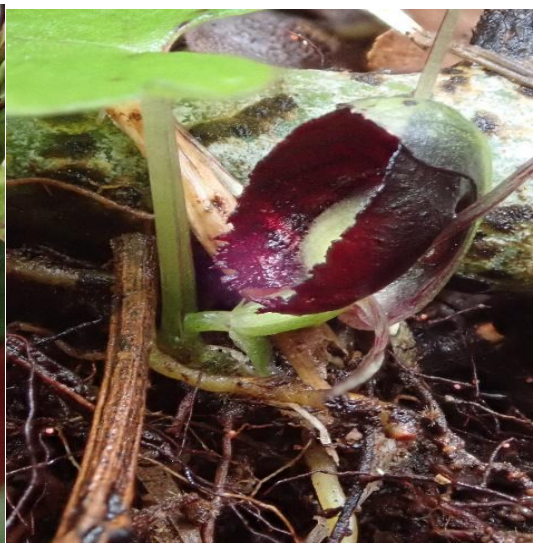
12 October Led by Kerry Jones

I guess when I rated the trip as medium hard that I might a put a few people off. I had invited the Auckland Botanical Society to attend this trip and 3 of their members turned including Jack from Warkworth. From Waikato Bot Soc were Catherine, Thomas and I.

Right at the bush edge at the bottom of the slope there was short strip of kahikatea. We headed up the hill mainly through kanuka (*Kunzea robusta*) with some silver fern (*Cyathea dealbata*), tanekaha (*Phyllocladus trichomanoides*) and rewarewa (*Knightia excelsa*).

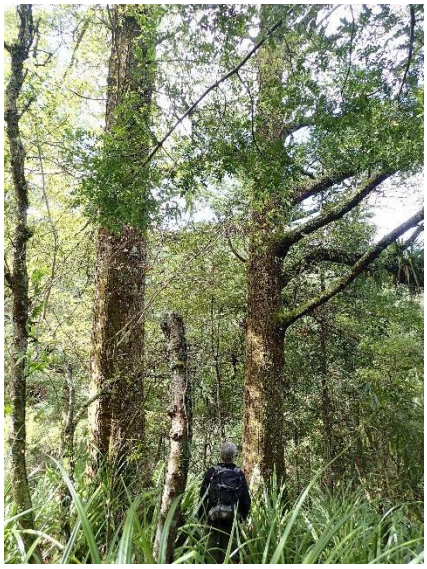
We then crossed an old fence and headed down to the stream. About half way down to the stream Jack spotted *Corybas 'rimutaka'*. It was about this time that we also came across *Alseuosmia quercifolia.*

Alseuosmia quercifolia with red stems



Corybas 'rimutaka'

We dropped down into the stream and started heading up a ridge until the going got a bit steep so we changed tack and headed up different ridge and immediately we were in hard beech (*Fuscospora truncata)* forest.



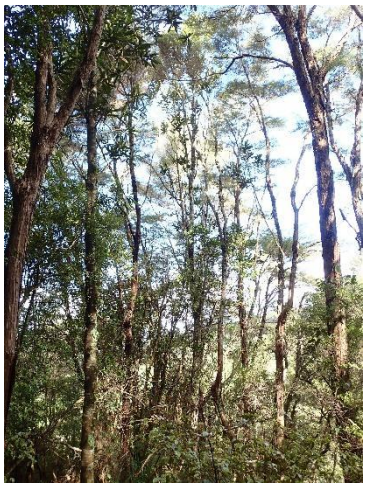
Hard beech forest

Brachyglottis kirkii

Under the beech there were occasional small kauri and *Astelia trinerva.*

We followed up the ridge and encountered rimu (*Dacrydium cupressinum*), totara (*Podocarpus laetus)* and tanekaha. In places *Brachyglottis kirkii* was seen. Presence of this indicates low goat numbers.

Eventually the hard beech ran out and we were back into kanuka forest. When we got to about the 200 metre mark the kanuka thinned out and we guessed that we were on an old fire site. There was some short hard beech and kauri along with *Gleichenia dicarpa*, bracken (*Pteridium esculentum*), soft mingimingi (*Leucopogon fasciculatus*) and *Astelia trinerva*. Unfortunately a large willow leaved hakea (*Hakea salifolia*) and smaller prickly hakea (*Hakea sericea)* were seen. These 2 Australian species have fire tolerant nuts and tend to indicate past fires.



Kanuka forest

The old fire area.

We headed further up the ridge to another hard beech site which was going to be our turn around point.

It was here that we found a slightly boggy area of *Gleichenia dicarpa* and *Schoenus tendo.* Thomas and Josh pointed out the pipe cleaner moss (*Ptychomnion aciculare).*

We then headed back to the car with Jake and Thomas taking a detour down the stream looking for mosses and other new species. Back at the cars I pointed out the single swamp maire (*Syzygium maire*) by the road.

Liverwort: *Leiomitra lanata*

The boggy area

Mosses and Liverworts list by Josh Salter with identification help from John E. Braggins

Liverworts
?*Archilejeunea* sp.
Acrobolbus knightii
Bazzania ?*novae-zelandiae*
Bazzania tayloriana (blueish, on bases of tree fern trunks; fluoresces in ultraviolet light)
Chiloscyphus muricatus (tiny leafy liverwort with ciliate leaves, growing over Riccardia
Leiomitra lanata
Lejeunea flava
Lepidolaena clavigera
Lepidolaena taylorii
Neohodgsonia mirabilis
Neolepidozia tetrapila var. *cancellata*
Riccardia ?*nitida*
Trichocolea lanata
Trichocolea mollissima

Mosses
Cladomnion ericoides
Cyathophorum bulbosum
Dicranoloma sp.
Fissidens pallidus
Hypnodendron colensoi
Leucobryum javense
Macromitrium sp.
Macromitrium prorepens
Ptychomnion aciculare
Weymouthia mollis

Whangapoua Weekend

October 12 Led By Graeme Jane Written By Graeme Jane

The weather was not promising and a week before the trip a storm closed the road between Whitianga and Whangapoua at Kuaotunu for 5 weeks, necessitating a change in accommodation for some who had planned to stay in Whitianga. We were spread around 3 batches and the motor camp at Te Rerenga. As it often turns out, the most we got was the odd light shower lasting only a few moments. We visited two rather different areas not a km apart.

On the first day we headed out from the Graeme's house near the Whangapoua wharf. At first we cut through several remnant gullies on a trap line across slope and gradually climbing to the ridge over several properties sharing the same covenant back to original property's boundary, then descending steeply back to the batch. The gullies contained remnant puriri forest with nikau, the odd regenerating rimu, miro or tawa. The understorey was quite dense with mangemange and mingimingi and occasionally dense supplejack. On the intervening ridges tall kanuka prevailed with tanekaha, the odd kauri or totara and odd looking kamahi typical of this transitional area where kamahi grades into the more northern towai. At one point there were hybrids of five-finger and lancewood. Lunch found us in the only clearing on an old midden site surrounded by kowhai, now almost finished flowering, and the Australian sedge. After lunch we reached the main ridge where dense *Pinus pinaster* saplings and old trees on the neighbouring property marked the boundary. The vegetation was quite open from the gaps created by the felled pine trees on the Graeme's property, with only scattered mingimingi or short kanuka, *Pommaderris kumaraho* and *P. amoena* (both in flower). Just off the ridge were a pair of adult *Pittosporum virgatum* in flower and fruit. They were of similar age and there were questions whether they had been planted about the time the sections were sold. No seedlings were found inspite of the abundance of fruit. (see photo below)

The steep descent to the house along a spur was mainly through tall kanuka with a mingimingi or hangehange understorey and ferns such as *Microsorum pustulatum*. *Deparia petersonii* and Diplazium australe appeared along the creek but there were few new things. Only a few species were added to the list provided by Meg Graeme most notably quite a few orchids including spring flowering *Pterostylis banksi*i and *P. alobula*. That evening there was a barbeque at the Graeme's to the chorus of bellbirds and tuis and flapping and crashing of fat pigeons all feeding on the nearby kowhai. There were a few plants near the house which had been planted and on one tree a *Drymoanthus advesus* in good bud.

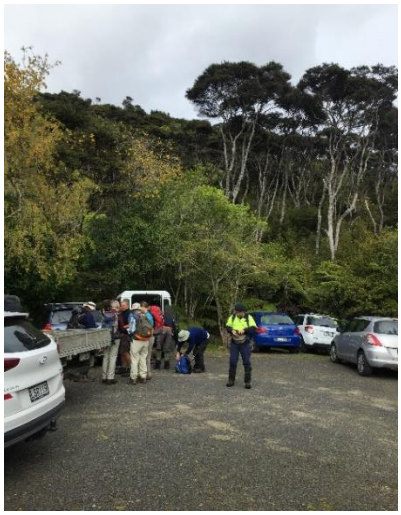
The next morning we visited the lower part of a nearby QEII covenant, following an old bulldozer track to a solitary kaiwaka. The track was through tall kanuka with a wide variety of regenerating species, including kohekohe, matai, kahikatea and hinau. Understorey plants included akaake and *Brachyglottis kirkii.* Highlights were *Schizaea fistulosa, S. bifida* and *Caladenia atradenia* in flower. Weeds were much more prominent especially near the start and included the Australian sedge, mistflower and the blue iris, *Aristea ecklonii*. From the kaiwaka we diverted to a stream and the surrounding flat where there were kahikatea, scattered kauri rickers, the odd mature kohekohe or pukatea and scattered seedlings of loquat and karaka which were invading

After lunch many people departed but a smaller group visited Opera Point Historic Reserve, a early occupation site for Maori and a former kauri mill site which was grazed till relatively recently. Much of the area, especially on the main ridge is still open in kikuyu and near the Point one large patch of *Vinca major* prevails over an area of perhaps several ha. But there are large old pohutukawa, dense patches of *Pinus pinaster* and areas of kanuka only 4-5 m tall. We followed the shore track out to the dunes and spit near the harbour mouth. The initial part of the track was through pine forest with scattered *Pittosporum umbellatum* in flower, mingimingi and *Coprosma rhamnoides and Pterostylis alobula* and *Acianthus sinclairii* on the track banks. The track then descended to the shore where it was lined with pohutukawa and more *P. umbelatum* then crossed the spit to the harbour mouth through *Vinca, Watsonias* and grasses to a spinafex lined shore with odd patches of planted pingaeo.

Thanks to Graeme Jane for organising the wonderful weekend and allowing the Waikato Bot Soc to include his report in our newsletter.

And a big thankyou to the Graeme’s for their hospitality.

Canopy of Kanuka with regenerating bush underneath



Getting ready for Sunday walk in QE11 reserve

Felled pines left in situ

Pittosporum virgatum. a rare find

Uncommon North Island species found mainly on Great Barrier Island. Status: naturally uncommon

Cordyline pumilio

*Alseuosmia macrophylla (*out in flower with strong perfume)

Photos by Linda Watson

Hamilton Gully Crawl

Saturday 7 December Organised by Kerry Jones/Catherine Beard Write up by Linda Watson

On 7 December twenty five enthusiastic Bot.Soc. members turned up to have a look at two Hamilton gullies. At 10.00am we met at Humare Park on Cranwell Place in Hillcrest. Gerard Kelly (Community Planting Co-ordinator of Parks and Recreation Division of Hamilton City Council) was there to meet and talk us through the history, plantings, and ongoing maintenance of the gullies.

Humare Park (Humare meaning beautiful) was formed in the 1960s as part of an open space requirement of a subdivision housing development .During the formation of the park excess soil and debris was deposited over the gully edges which created some fairly steep bankment areas making some areas prone to erosion.

The gully had a few mature trees, in particular, a *Cordyline australis* which is 100 years old and a few aged *Dacrycarpus dacrydioides*. In years gone by kahikatea and pukatea would have been prominent.

Many of the residents whose properties form and border the gully have cleared the landscape and planted natives and exotics.

In 2013 a bridge and walkway was built which provided a link to both sides of the gully enabling easier access.

There were many weeds evident including ivy, privet, bamboo, woolly night shade and convolvulus.

Gerard talked about eradicting one of the most prominent weeds Tradescantia.

A few tips I learnt:.start in the shady areas; start with the small patches rather than the large patches; look up into trees for clumps which fall and re infest areas; weed and store in large plastic bags and take to organic recycling centre. It may take 3 years to eradicate. However I also learnt Tradescantia does protect against erosion, and can be the home for native land snails !

“Every weed isn’t necessarily bad “

Gerard also pointed out the merits of our native mahoe and cabbage trees for stabilisation of banks rather than planting poplars and exotics.

Melcytus ramiflorus roots stabilising banks

We looked up at the mature gum tree that had been standing dead for over 5 years. “Every weed isn’t necessarily bad “ Gerard reminded us. ‘The dead gum tree is home to the home of long tailed bats so we are reluctant, while it is still sturdy, to take it down.’

One of the highlights was the kahikatea grove that Catherine had planted 6-8 years ago, and through the many weeds, was thriving.

Catherine Beard proudly showing us the kahikatea trees she planted. Note the younger members of our group taking such an interest.

As it was by this time nearly 12 noon we headed back to David and Linda Watson’s place for lunch.

I was pretty delighted to have a *Cordyline obtecta* (Three Kings Cabbage tree) to show everyone. It had decided to bloom a few days before the gully crawl.

Cordyline obtecta in flower

Many of us agreed it was great to sit down and share with botanical like minds.

After lunch we met up with Gerard again at the start of the A.J.Seeley’s Gully Reserve on Armagh Street Hamilton East.

At the start of the A.J.Seeley Gully Reserve

Dr Seeley purchased the land in the 1960s and set about planting the bare land. The land was gifted back to the public and came under the ownership of the HCC in 2004. After decades of planting the gully is filled with thriving native species such as kanuka, manuka, totora, matai, mahoe, rimu, kahikatea,and kauri.

There is one large, mature *Litsea calicaris* tree which has been producing seeds and we found many young seedlings growing along the track.

Litsea calicaris Mangeao

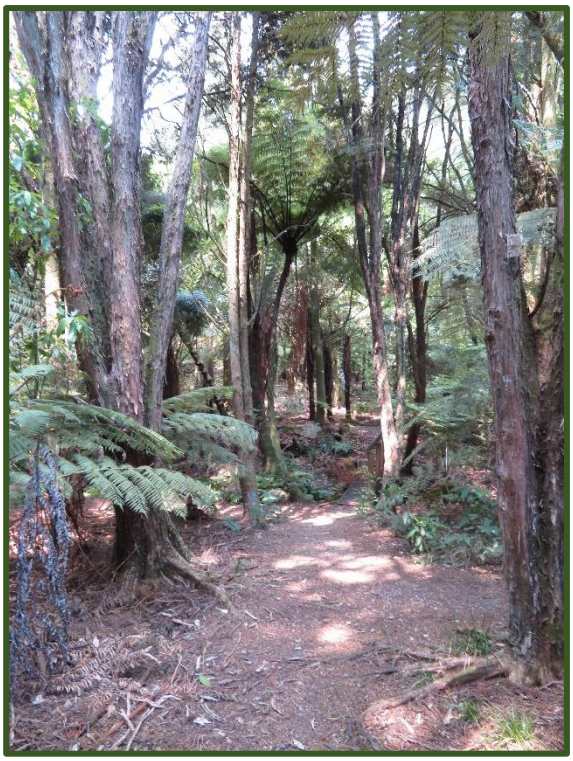
The Putikitiki Steam runs through the gully, underneath Grey Street and finally flows out into Parana Park.

Note the very brown water colour due to large amounts of iron oxides in the water

Maori used the colour for dying flax.

The reserve is well maintained with paths and railings for easy and safe access.

A community group meets on a regular basis most Mondays at 9.30 a.m. to undertake various environmental conservation tasks i.e removal of weeds, track maintenance, restoration planting and stream erosion control.



Well maintained tracks throughout the reserve

It was a great Gully crawl and we all enjoyed looking at the two quite different gully systems.

A big thankyou to Gerard for accompanying us and providing us with such valuable and interesting information.

Waiwhakareke/Hamilton Zoo School's Conservation Day

Thursday 19 September Written By Linda Watson

Hamilton Zoo staff worked with HCC Parks and Recreation staff to create an event at Waiwhakareke Natural Heritage Park for schools during Conservation Week this year. They asked the Waikato Botanical Society to take .part armed

with their knowledge and passion for plants. Kerry Jones, Linda Watson and

Wyne Johns took up the challenge by

manning a station for groups of school children to learn about some of our native flora.

Kerry planned the day using his superb photography skills and organising laminated sheets showing different native plants with Common, Maori and Latin names underneath. Children walked around the area trying to identify as many plants as they could and tick off any they found with a whiteboard marker.

Some of the 30 plants the children looked for were : four different parts of the kowhai : (bark ,seedpods, flower and leaf); flax: (leaves and seedpods); wood ear fungus; lichen; buttercup; and clover.

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The children were eager to learn and took to the task enthusiastically.

A delightful quote :

Two girls were trying to remember the name for *Cordyline australis*

"I know," said one " it's a cucumber tree."

"No," said the other, "it's a cauliflower tree."

"Mmmmm," I said," you are close, it is a vegetable."

"I know," they said together, "it's a cabbage tree!"

It was a great day. The sun came out, the plantings at the Waiwhakareke looked magnificent and Kerry even got to drive his vehicle for the first time off road in Hamilton.

Plantings of Phormium tenax,Cordyline australis,Coprosma spp, Leptospernum scoparium,Sophora sp., Myrsine australis, Melicytus ramiflorus growing in Waiwhakareke Natural Heritage Park

Hopefully we might have inspired some of the participants to develop an interest in our native flora.

Waikato Botanical Society Proposed Trips for 2020.

Saturday 25th Jan – Mon 27th January Auckland Anniversary Weekend Trip - Taihape district (Combined with Rotorua Botanical Society)

Leader : Mark Smale 027 855 2240 smalem@landcareresearch.co.nz
Meet: Ohinewairua Station, 12 km east of Moawhango on the Taihape-Napier Road, Saturday midday 25 January.
Grade : Easy
Accommodation: Shearers' quarters (6 to 8 rooms some have 3 to 4 beds) , with plenty of camping sites available.
Bring : Food, bedding, tent (if camping).
Please confirm attendance by 19 January.
Cost per person per night: To be confirmed.
The Taihape district, although largely cleared for farming a century and more ago, is home to some of the most interesting forest remnants in the North Island. We will visit Paengaroa Scenic Reserve at Mataroa, podocarp forest reknowned for its diversity of small-leaved shrubs, the richest array of divaricating plants at any one site in the country and several very rare species like Gardner's Tree Daisy. There are many possibilities for additional visits: the Karioi Lakes (beech forest), Rangataua Conservation Area (logged podocarp/beech forest and wetlands, with good access along old tramways and the biggest population of Lyall's Violet I know), Hihitahi Forest Sanctuary (Pahautea-Hall's totara forest), and privately owned forest podocarp forest remnants in the district.

Saturday 22 February – Mangaonua Gully

Leader: Kerry Jones / 027 747 0733 / kn8j1s@gmail.com

Meet: Humare park on Cranwell Place in Hillcrest, Hamilton

Time 9.00a.m.

Grade: Medium

Sunday 8 March – Puaiti Scenic Reserve, Atiamuri (Combined with Rotorua Botanical Society)

Leader : Paul Cashmore 07 349 7432 (wk) /027 650 7264 pcashmore@doc.govt.nz
Meet : The carpark Rotorua at 8:15am or cnr of Te Kopia and Puaiti Rds, Atiamuri 9am.
Grade : Medium

This reserve was last visited by the Rotorua Botanical Society in late 1990's. It contains an example of late successional forest with rewarewa as the dominant canopy cover. Of interest are the pre-emergent matai and miro in combination with a large number of adventive species which indicates a considerable European influence within this area, this site being used by early settlers for picnics.

Saturday 21th March – Mt Tarawera (Combined with Forest and Bird and Waikato Botanical Society and Forest and Bird) (Sunday 22th reserve day if Sat is wet)

Leader: Paul Cashmore 07 349 7432 (wk) or 027 650 7264 pcashmore@doc.govt.nz
Meet : DOC Ashpit Road campground, Lake Rerewhakaaitu at 9am.
Grade :Medium-Hard and in particular confident walking on steep mobile scoria slopes and along high and sharp ridges. **Registration**: Minimum age 14 years old. Maximum of 25 people on trip on a first come basis but must register first with Paul Cashmore by Monday 16 March at latest.

18th April 2020

Trip to Awhitu Pennisula with Auckland Botanical Society.

May : *No trip currently*

June : *No trip currently*

Sunday 5 July – Jim Barnett Reserve, Waotu (Combined with Rotorua Botanical Society)

Leader: Kerry Jones. 07 855 9700 / 027 747 0733 / km8j1s@gmail.com
Meet : The carpark Rotorua at 9am or Puketurua Hall at 10:00 AM
Puketurua hall is on the road between Putururu and Arapuni
(https://www.southwaikato.govt.nz/our-services/halls/puketurua-hall)
Grade : Easy/Medium
Jim Barnett Reserve is administered by the South Waikato District Council
Website : https://www.southwaikato.govt.nz/our-district/sport-and-recreation/parks-and-reserves/jim-barnett-reserve

Tawa, mangeao and rewarewa dominate the canopy but strands of tōtara, rimu, kahikatea, mātai and miro can also be found. Māhoe, pate and five-finger are common in the understory with lemonwood, tītoki and kohekohe in the damper gullies. Around the edge of the forest you will see large areas of retired pasture replanted with everything from tōtara to koromiko.

Sunday 2 August – Glovers Farm, Waiohotu Rd, Fitzgerald Glade, Western Mamakus (combined with Rotorua Botanical Society)

Leader : Jacqui Bond ph 021 1259 273, E-mail supajac@yahoo.com
Meet: The carpark Rotorua 8:15am or corner of Waiohotu Rd and SH 5 at 9am
Grade : Medium
We will explore the bush surrounding the Glover farm. This will include parts of the Kaimai-Mamaku Forest Park and the Selwyn Scenic Reserve. Highlights will be historic sites, old tracks, water falls and old tawa forests. An historical clearing in the middle of old forest gives climbing rata an opportunity to go wild!!

Sunday 6 September –Dickeys Flat, Kaimai-Mamaku Forest Park (Combined with Rotorua Botanical Society)

Leader : Graeme Jane & Gael Donaghy 07 5703123 gtjane@kinect.co.nz
Meet : 9:30am TBC
Grade : Moderate
Several options are available and the best will be determined on the day. The longest could take us to the summit of Karangahake, the shortest an easy stroll down river into the Gorge. The area has a long mining history with many tracks, some now long abandoned, so the forest is quite modified, ranging from kanuka forest and treefernland to kamahi forest or more or less mature kauri with the possibility of kauri orchids and lowland species such as puriri.

31 October –1 November Whitianga Weekend (Combined with Rotorua Botanical Society)

We will be based in Whitianga for the weekend. Please arrange your own accommodation.

Day 1 : Saturday 31st October : 309 Kauris to 309 summit calling in at Egans park to see the mistletoe and possible wander up McIssacs Creek.
Meet : Whitianga I-Site (Corner of Albert Street and Blacksmith) at 9:15 AM.
Or at the 309 Road Kauri Walk Entrance at 10:00
Grade : Medium
Bring: Usual day walk gear.

Day 2 : Sunday 1st November : Tapu - Coroglen Road to Waiwawa River.
Meet : Whitianga I-Site (Corner of Albert Street and Blacksmith) at 9:00 AM.
Or Coroglen Pub at 9:30AM
Grade : Medium
Bring: Usual day walk gear + togs if you wish to swim in the river.
There is a great waterhole at the lunch spot.

November : *No trip currently*

Sunday 6 December – McLaren Falls Park - Bits and pieces (with Rotorua Botanical Society)

Leaders: Graeme Jane & Gael Donaghy 07 5703123 gtjane@kinect.co.nz.
Meet : The carpark Rotorua at 8.30am or McLaren Falls at 9:30am
Grade : Easy to moderate. All routes well formed or across pasture with steeper bits stepped. Four forest remnants, each with a different flavour. The first is a small area of forest containing swamp maire (easy); the second a gully walk through remnant lowland podocarp forest (easy to moderate); the third another gully walk through some beech forest to a site containing marehau (moderate); and forthly (sic) a lakeside walk with some wetlands (easy). All or some of these may be attempted. And for those otherwise inclined an extensive exotic arboretum scattered throughout with trees often labelled.
Bring bathing togs - an excellent site for a picnic. Lots of other walks.

There are still some months with no trip so please put up your hand and run trip for next year.

Thanks Kerry.

Bryophytes: A Beginners Workshop

Night Talk Aug 19, 2019 Presented by Thomas Emmitt

Bryophytes comprise the other half of the plant kingdom.

They are classed in the Cryptogams, that being the division of plants producing spores integral to their reproduction method and have no flowers or seeds.

Bryophytes include Mosses, Liverworts and Hornworts, bryophytes do not possess true roots, stems, or leaves, although the plant body is differentiated into leaflike and stem like parts

Many Mosses have a serrated leaf shape, never lobed, with the leaves generally being arranged in whorls. Most moss leaves have a midrib or nerve. Capsules generally extend above the body of the moss on a stalk called a seta. Capsules have a mouth with teeth called a peristome. The capsules contain spores, and the peristome opens in humid damp conditions to release the spores. The seta and capsules are rather long lived so stick around for some time and are easy to see on the surface.

Mosses occur worldwide and are divided into three main classes including sphagnum, lantern mosses, and true mosses

Common Mosses in NZ

- Dawsonia superba, New Zealand's largest moss, growing up to 1m in height
- Ptychomnium aciculare, the Pipe cleaner moss
- Leucobryum javense, the milk moss, drying to a white colour
- Dendroligotrichum dendroides, in the same family as the Dawsonia and looking like a Rimu
- Campylopus introflexus (introflex hairs on the top). This is very common on the side of tracks
- Leptostomum macrocarpum, the pincushion moss, of which we have two species in New Zealand
- Dendrohypopterigium filiculaeforme, a very beautiful spherical umbrella type moss

<u>Liverworts</u>

Definition of a liverwort: has no roots either but have rhizoids, which enable it to attach itself to surfaces. There is no nerve present, leaves are lobed, flattened and in rows, and they have under leaves (a third row of leaves on the underside of the stem).

The setae and capsules are short-lived, and are split into 4.

Liverworts can be split into 2 groups based on their growth habit

The thallose liverworts- Marchantiopsida

The leafed liverworts-Jungermanniopsida.

Common Liverworts include the following:

- Schistochila nobilis & Schistochila appendiculate – two of the largest leafy liverworts
- Monoclea forsteri, common thallose liverwort
- Hymenophyton flabbellatum, common on the ground
- Sympyogyna hymenophyllum

- Marchantia foliacea, and introduced liverwort

Hornworts

Definition: not that different from liverworts, but they have undefined margins, are layered with multiple cells, their reproductive parts look like horns.

Bryophytes in New Zealand

Mosses comprise 550 species in NZ, with 108 being endemic, and 14 species are exotic One of the common exotic species is Pseudoscleropodium purum, the common moss found in peoples' lawns. This was first recorded in the 1970s, being introduced from Europe.

We have 5-10% of the worlds species of Liverworts, with 400 species being endemic to these islands. There are about 1100 species in total, 45 being exotic.

Hornworts are less common with only 13 species present.

Resources

"The Mosses of New Zealand", available from https://www.otago.ac.nz/press/books/otago710662.html

"NZ Flora" from the following link https://nzflora.landcareresearch.co.nz/

The annual Bryophyte Workshop gathers a great group of helpful, friendly people, and an excellent place for beginners to unpack the secrets of the Bryophytes. Held alternately between the North and South Island

Pin cushion moss – Leptostomum species

The *Liverwort Leiomitra lanata*

Hornwort species – showing the horned reproductive parts

Moss – Fissidens asplenioides showing capsules

A fascinating Night talk which made many of us very keen to learn more about Brypophytes

Thanks Thomas for you expertise and thankyou to Antoinette for the initial write up for the newsletter

Ecology and Biogeography are Critical to Place-Making and Well-being - your neighbourhood and garden will make a difference".

A talk by Colin Meurk, a senior ecologist at Manaaki Whenua Landcare Research, Lincoln

On Monday 16 September Dr Colin Meurk gave a very insightful and relevant talk that blended urban ecology and landscape architecture to a diverse audience of approx. 45 people. The theme was how to enhance nature into our neighbourhoods.

Colin is a landscape ecologist working for Manaaki Whenua, Landcare Research, Lincoln. He has been active in community research and with community groups for more than thirty years and his current activities include the study of vegetation patterns and processes in cultural landscapes and community based ecological restoration.

Urban Biodiversity – we need it and it needs us

- Economy is the bread and butter
- Physical environment is the heart
- Biodiversity (or nature) the soul –of the nation –the place –the whenua

The message was clear. While access to all types of nature has positive effects to our well being indigenous nature is seen as a vital and important element in our identity. Many of the urban areas in New Zealand were created as the result of European colonial settlements during the past 200 years and this effect is still prominent today.

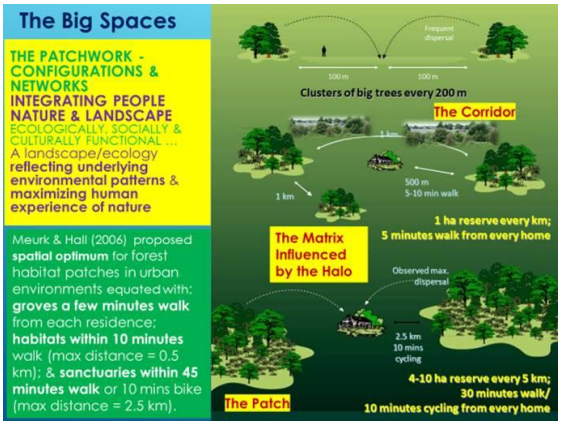
He stated there had been a sad loss of iconic species of our indigenous fauna and flora.

Examples given were competitive exotic grasses smothering native species, ivy smothering native ground cover when such plants as *Muehlenbeckia* or *Leptinella* could be an alternative, wilding conifers dominating landscapes.

Cities are cultural and ecological keys to biodiverse futures (intersections of ecosystems) and it is essential in planning and policy making to incorporate native plants.

Colin talked about spatial optimum for forest habitat patches in urban environments equated with groves minutes' walk from each residence, habitats within a 10 walk & sanctuaries within a 4 minute walk or cycle.

This involves patches of trees every 200m (the corridor), a 1 hectare reserve every km; a 5 minute walk from every home; a 4-10 ha reserve (the patch) every 5 km; a 30 minute walk or10 minute cycle ride from every home. The magical distance of pockets of bush called the patchwork integrates people, nature and landscape. It provides corridors for natural regeneration, and restoration of native fauna and flora.



'The Big Spaces' With permission from Colin Meurk

Through his talk, Colin emphasized the need to protect and enhance existing patches as well as the need to protect people and cities with nature. Reconnecting people and cities with nature could include planting roadsides, creating inner city roof gardens , e.g DOC office in Wellington, linear corridors e.g woods, stream edges, corneates, wetlands filter and detention ponds, replacing

Colin gave many other examples where New Zealanders can start on the road to recovery.

Spinoffs is wildlife value an increase in bird, lizard and butterfly life.

Motorway plantings along Wairere Drive in Hamilton with kowhai in bloom, pittosporum, flax, and low growing coprosma.

Visibility is the key We need to be planting out native trees in cities streets and parks. Many of our species are most suitable but been superseded by plantings of European trees, flora from another country's history e.g.oaks, plane, ash.

At the least we could be respectfully sharing ecosystems e.g Oaks and kowhai (deciduous and flowers).

Local Hamilton school replacing oaks, bamboo, and poplars with native trees

Distinctly New Zealand needs promoting.

The key message from Colin's talk was that cities are the key to biodiverse futures and the creation and enhancement of patches within cities are important for all New Zealanders to understand our total heritage through biogeography, ecology, cultural history.

Roundabout along Wairere Drive planted with Cordyline, Sophora , Coprosma and Phormium species

Many thanks to Moari West for input into this write up I went on a hunt around Hamilton to photograph some examples of our road to recovery. Linda Watson

A forest on our doorstep: Restoring Aotearoa's urban forests

Our October Night-Talk brought a new direction to our discussion, we talked about the ecology of the forests that grow in our cities. Our guest speakers were **Dr Kiri Joy Wallace** (Post-doctoral fellow at the University of Waikato) and **Sarah Busbridge** (MSc student at the University of Waikato).

Kiri discussed how the ultimate goal is to restore native forests so they become self-sustaining and require less and less maintenance. However, in cities, environmental conditions (eg. air pollution, hotter temperatures because of buildings and roads, weeds coming from people's gardens, small in area and fragmented etc.) are different which means that we need to do ongoing maintenance to ensure the plants survive and the forest continues to grow. This also means that we must pass our knowledge and lessons on between each other now and also to the upcoming generations as they will be the people tending to the forest in years to come.

Sarah discussed her research on how people in the councils and volunteers are going about creating and maintaining these forests in our cities. She found that the best way for knowledge to be passed around is verbally through discussions. This means that this scientific research will be going unheard by the people who would be the most interested. Furthermore, the lack of resources and money are commonly the issue with being able to monitor the ongoing progress of the sites.

It was fantastic to see so many people who came to listen and ask questions. The final presentation slides (attached below) show what Kiri and Sarah suggest that we put into action to restore the land to aim for a self-sustaining forest.

- Monique Hall

A big thankyou to Dr Kiri Joy Wallace and Sarah Busbridge for an extremely interesting night talk.

And many thanks To Monique Hall for the photos and write up.

Rangatira revisited

Night talk November 18
by Catherine Beard

Catherine's talk about her trip to Rangatira Island (one of the smaller islands off to the south east of Rekohu, Chatham Island), was pretty much hot off the press as it was given a little less than a week after arriving home.

At 218 hectares Rangatira is the third largest island in the Chatham Islands archipelago. The island was farmed until the 1960s, but quite miraculously remained free of the pests that plague mainland New Zealand.

Rangatira is now a nature reserve, regularly visited by teams of researchers and conservation workers, but with no permanent residents. It is perhaps most famous for its rare birdlife, vast numbers of seals, skinks and burrowing seabirds, giant spiders and other interesting endemic invertebrates.

However, for Catherine and her small team of fellow botanists there were additional treasures to be found among the island's remarkable flora. The team had a week to do some much-needed plant work which included an evaluation of forest restoration planting programme, updating the island's plant species list, ground-truthing a vegetation map and assessing the threatened plant populations on the island (all Chatham endemics and some that are found in less than a handful of places).

Although the days were long and the weather not always favourable, the team were rewarded with sights such as a spectacular field of Chatham Island forget-me-not (*Myosotidium hortensium)* in full bloom. hundreds of plants of the coastal cress *Lepidium oligodontum* scattered along a coastal strip occupied by NZ fur seals, Chatham Island button daisy (*Leptinella featherstonii*) just coming into bloom and Dieffenbachs speargrass (*Aciphylla dieffenbachii*) complete with it's resident giant coxella weevil (*Hadramphus spinipennis*).

Myosotidium hortensium

Gigantism is not uncommon in the Chathams flora and examples are very noticeable in Rangatira's forests and herbfields. Akeake (*Olearia traversii*), one of the world's largest tree daisies, is a dominant forest tree on the island. Other examples include the Chatham Islands karamu (*Coprosma chathamica*) and Barkers koromiko (*Hebe barkeri*), both of which are the largest species in their genera.

Spring is a wonderful time to visit the Chatham islands as many species are in flower. On Rangatira the coastal fringe was awash with pink cascades of Chatham Island iceplant (*Disphyma papillatum*), bright yellow *Senecio* spp. offset by the rich greens of Muehlenbeckia vinelands and akeake.

Chatham Island Ice Plant

Disphyma papillatum

The work done by the team will be reported back to the Department of Conservation to inform the future management of the island ecosystem and the threatened plant species.

Thanks so much Catherine for an extremely interesting talk and the write up . It was great to learn there were other members of the Waikato Bot.Soc. that accompanied Catherine on her visit to this remote island.
We look forward to further talks and updates on this amazing group of islands and the botanical treasures that are surviving there.

2020 Waikato Botanical Society Night Talks

We intend to have a great line up of speakers for 2020 .

We will continue to meet at The Links, cnr Te Aroha and River Rd.on the third Monday of the month, February to November at 6p.m.

Keep an eye out through the following venues for speakers :

- **Bot Soc web page http://waikatobotsoc.org.nz**
- **Our facebook page www.facebook.co./WaikatoBotSocBot Soc ,**
- **Further emails sent to you all with detailed information**

Many thanks to everyone who has contributed to supplying articles for this newsletter.