

# Wellington Botanical Society

Te Rōpū Manāki i Ngā Tamariki a Tāne,  
o Te Whanganui a Tara



# NEWSLETTER

## April 2021

Previous issue: December 2020

ISSN 1171-9982

### From the President

Following our Summer Camp on Banks Peninsula in January, life has settled down to monthly field trips and evening meetings, which we now broadcast live via Zoom.

On 15 February we had a surprise return to Covid Level 2 Lockdown, necessitating hastily organising a Zoom-only monthly meeting. Luckily our speaker, Carlos Lehnebach, Curator at Te Papa, was able to present his orchid conservation talk online, a new experience for him.

On 15 March, Winifred Long of the Kōtukutuku Ecological Restoration Project discussed vegetation surveys and predator control on a 17-hectare coastal forest remnant, including innovative use of 1 m x 20 m plots to cope with small pockets of bush. 30 people attended the meeting, 22 attended via Zoom, total 52.

April saw our sedge workshop at Ōtari's Leonard Cockayne Centre. This comprised two sessions, a week apart on 11 and 18 April, 10 a.m. to 3 p.m. This followed on from last year's popular rush workshop.

*Jon Terry*

### New members

We welcome the following to the membership of Wellington BotSoc:

Ellen Blake, Olia Glade and Stirling Smidt

*Helen White, Membership Secretary*

### Articles for web site

We welcome articles for consideration for inclusion on our web site:

[www.wellingtonbotsoc.org.nz](http://www.wellingtonbotsoc.org.nz)

Please send your article to:

**Richard Herbert**

e-mail [herbert.r@xtra.co.nz](mailto:herbert.r@xtra.co.nz)

### Writing for the Bulletin

Do you have a botanical observation, anecdote, or insight that you could share with others in BotSoc? If so, please consider contributing it to the Wellington Botanical Society Bulletin. There is still plenty of space in the next issue. For more details and assistance, contact Eleanor Burton at [esmereldadoris93@gmail.com](mailto:esmereldadoris93@gmail.com) or 479 0497.

### BotSoc on Facebook

<https://www.facebook.com/groups/322939557873243/>

This is the unofficial page for Wellington Botanical Society.

### Wellington Botanical Society

<b>Address:</b>	PO Box 10 412, Wellington 6143	
<b>Web site:</b>	<a href="http://www.wellingtonbotsoc.org.nz">www.wellingtonbotsoc.org.nz</a>	
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<b>Annual subscription:</b>	ordinary \$35; country \$30; student \$10; joint / group / family \$40.	

Send your subscription to Membership Secretary, WBS, Box 10 412, Wellington 6143 or to our bank account 020536 0017812 00. Particulars: Name; Code: Membership type; Reference: amount of included donation.  
New subscribers: Please complete form at the back of this newsletter.

### Meetings

BotSoc meetings are usually held at 7.30 p.m., third Monday each month at Victoria University, WN – Lecture Theatre MYLT101, ground floor, Murphy Building, west side Kelburn Parade. Enter building 20 m down Kelburn Pde from pedestrian overbridge. No meetings December and January. QR code and hand sanitiser at door.

### Field trips

Day trips to locations in the Wellington region are usually held on the first Saturday of each month.

Extended excursions are usually held at New Year, and sometimes Easter and the first weekend in December.

**DEADLINE FOR COPY FOR NEXT ISSUE – 25 September 2021**

Articles may be edited for clarity and length

# ATTENDING FIELD TRIPS AND MEETINGS POST LOCK-DOWN

## Ideas please

We welcome your ideas about:

- places to visit on field trips, and potential leaders of those field trips.
- topics and speakers for evening meetings

Please send your ideas to Sunita Singh, PO Box 10 412, Wellington 6143, ph 387 9955.

## Field trips—single day

A field trip, usually lasting 4-5 hours, is an opportunity to learn how to identify native plants and adventive plants (weeds). During the trip, experienced participants record the species seen. After it, a new or updated plant list will be produced for the site. This list will be published on the NZ Plant Conservation Network web site, and copies sent to trip participants, landowners and managers.

If you intend to join a field trip, PLEASE phone or e-mail the leader at least TWO DAYS beforehand, so that he / she can tell you of any changes and / or particular requirements. If you cannot ring or e-mail in advance, you are welcome to join on the day. If you e-mail your intention, the leader will send you a copy of the draft plant list, so that you can print it out to bring with you. If you do not have a printer, tell the leader. At the meeting place, the trip leader will ask you to write on the registration form your name, e-mail address (so that you can receive the updated plant list), and a phone number for the leader to ring your next-of-kin in an emergency.

Booking on field trips: Give the leader/s your cell-phone number so that we can contact you if you are running late.

## What bring—clothing

Choose from the following items, according to the weather forecast, and your personal needs: sun hat, woollen or polyprop beanie or balaclava, waterproof / windproof raincoat (parka) and over-trousers, long-sleeved cotton shirt\*, singlet\*, thermal or woollen top, woollen jersey or fleece jacket, nylon shorts or trousers\*, polyprop long-johns, underclothes, thick socks, boots or walking shoes, gloves / mittens.

\*Note: In wet, cold weather, do not wear cotton shirts, singlets, t-shirts and trousers.

## What to bring—gear and food

Day pack with lunch, biscuits or scroggin, hot or cold drink, spare clothing, personal first-aid kit, note-book, pen, pencil, cell-phone, wallet. Optional: walking pole, clipboard, map or park brochure, camera, binoculars, hand-lens, sun-block, sun-glasses, insect repellent, whistle, toilet paper.

## Field trips—overnight

Field trips usually last two days; at Easter, three days. We may be based at a camp-ground with or without cabins, or a rented house, or a private bach. The field trip may last 4-7 hours each day.

## Overnight trip gear and food

Add to the day-trip gear, food and drink listed above: breakfast, fresh fruit, torch, spare bulb and batteries, candle, mug, plate, knife, fork, spoon, small towel, soap, tooth brush. If accommodation is not provided for, bring tent, fly, poles and pegs, groundsheet, sleeping mat, sleeping bag, sleeping-bag liner and stuff bag. Optional: matches in waterproof container, water purification tablets, pocket knife, large plastic survival bag to line pack, gaiters. Note: dinners may be 'pot-luck'—ask the leader to suggest what your contribution might be.

## Summer camps

These field trips last 7–10 days. Full details will appear in the newsletter.

## Health and safety

The leader will bring BotSoc's comprehensive first-aid kit, a topographic map, a cell-phone, and give a health and safety briefing.

The leader will describe the route, and approximate times for lunch, tea breaks and the end of the trip.

Bring your own first-aid kit. If you have an allergy or medical condition, bring your own anti-histamines and medications, tell the leader of any problems you may have, and how to deal with them.

Before the trip, if you have any doubts about your ability to keep up with the party, discuss this with the trip leader, who has the right to restrict attendance.

If you decide to leave a trip early, you must tell the leader, and be confident that you know your way back to the start. Enter your name on the 'register' under a wind-screen wiper on the leader's car, or other agreed place, to record your safe return.

## Fitness and experience

Our field trips are mostly on established tracks, and at a leisurely pace, but vary considerably in the level of fitness and tramping experience required. Although our main focus is botanical, our programme sometimes offers trips which, in the pursuit of our botanical aims, are more strenuous than others. Although leaders take care to minimise risks, you participate at your own risk.

## Transport

When the use of public transport is practical, details will appear in the newsletter.

We encourage the pooling of cars for trips. If you need a lift, tell the trip leader.

*Passengers:* Pay your driver your share of the running costs. We suggest 10c per km / passenger. If a trip uses the inter-island ferry, pay your share of the ferry fare. If you change cars mid-trip, leave a written note for your driver, under a wind-screen wiper on her or his car, and check that your new driver adds you to her or his list.

*Drivers:* Ensure that you know the route to the start of the trip, and that you have a written list of your passengers. Zero the odometer at the start, and agree on a return time. Check from your list that all your passengers are in the car. Collect contributions towards transport costs.

## Trip leaders

Draft a trip report for the newsletter, including a list of participants, then send it to the editor.

## Other matters

If after your first BotSoc field trip, tell the leader if you think there is information newcomers would appreciate seeing about future trips, in the newsletter, on the web site, or on Wellington Glean Report.

If you would like to offer to lead a field trip, or be a deputy leader on a field trip, contact our programme organiser, Sunita Singh, [sunita@actrix.co.nz](mailto:sunita@actrix.co.nz)

## Meetings

### Public transport to meetings

The following bus services stop on Kelburn Parade, about 50 m up it from Victoria University's Murphy Building Lecture Theatre MYLT101:

#### TO MEETINGS

**No. 18e Miramar:** 7.05 p.m. from Karori Park, 7.21 p.m. @

VUW.

**No. 18e Karori:** 7.00 p.m. from Miramar – Darlington Rd, 7.43 p.m. @ VUW, or 6.00 p.m. from Miramar, 6.43 p.m. @ VUW.

**No. 21 Courtenay Place:** 7.01 p.m. from Karori Mall – Beauchamp St, 7.13 p.m. @ VUW.

**No. 21 Wrights Hill:** 7.00 p.m. from Courtenay Place – Stop A, 7.08 p.m. @ VUW.

**No. 22 Mairangi:** 7 p.m. from Wellington Station – Stop C, 7.08 p.m. @ VUW.

**No. 22 Wellington Station:** 7.02 p.m. from Norwich Street, Wilton, 7.17 p.m. @ VUW.

**Cable Car:** 00, 10, 20, 30, 40, 50 minutes past the hour from Lambton Quay terminus to Salamanca Station. Ten-minute walk to Murphy Building lecture theatre M101 at VUW.

#### FROM MEETINGS

**No. 18e Miramar:** 8.05 p.m. is the latest bus from VUW, so catch a no. 21 or No. 22 to CBD – see nos. 21 and 22 below - then a no. 2 to Miramar/Seatoun.

**No. 21 Courtenay Place:** 9.13 p.m. or 10.13 p.m. from VUW.

**No. 22 Wellington Station:** 9.38 p.m. or 10.38 p.m. from VUW.

**Cable Car:** 01, 11, 21, 31, 41, 51 minutes past the hour from Salamanca Station

For further information ring Metlink, 0800 801-700.

## NOTICES

### Have you any botanical books for sale?

We invite you to bring up to three botanical books you no longer want to the monthly meetings of May, June and July to offer for sale at these meetings with the proceeds going to the Jubilee Award fund. Unless the book(s) is/are something special it / they will be priced on the night at \$5 or under. Members are asked to take unsold books home again after the meeting.

*The committee*

### Awards and grants

- 6 September. **Jubilee Award 2021.** Applications sought. Please see full details elsewhere in this newsletter.
- 6 September. **Wellington Botanical Society - Grant to Graduate Students.** Please see full details elsewhere in this newsletter.

### End of banking with cheques

The Bank of New Zealand has advised that as from 31 July they will no longer accept cheques. This means that as from that date members will have to find alternative ways to pay their membership or other fees. Nor will I, as BotSoc's Treasurer, be able to make refunds using cheques. Instead I need the recipient's bank account details to do a direct deposit.

*Chris Moore, Treasurer.*

### Events

- *2nd Saturday each month, except January.* **Ōtari-Wilton's Bush – Plant Care.** **Meet:** Te Marae o Tāne Visitor Centre, 160 Wilton Rd, Wilton at 9:00 a.m. **Bus:** No. 14 Wilton bus, Ct Pl 8.28, Molesworth St 8.36, alight Warwick St. **Planting:** winter months: **weed clearance** other months. *Wilbur Dovey. Landline 499 1044. Mobile 027 499 1044.*
- 1 May. **Weed control workshop – know them/kill them.** Leonard Cockayne Centre, Ōtari-Wilton's Bush, 160 Wilton Rd, Wilton, WN.
- 13 May, 6.30 p.m. for 7 p.m. start. **Plants and birds of Fiordland.** Talk and photographs by Jean-Claude Stahl after his two Te Papa / DOC expeditions there. St Peter's Garden Room—enter from Ghuznee St, behind St Peter's Church, Willis St. See lush forest, whales, seals, Māori historic sites. pounamu-gathering sites, lush rainforest, new seabirds' colonies and plants in Dusky Sound first described by Forster, during Cook's 2nd expedition.
- 12 June 9.30 a.m. – 5.30 p.m. **Restoration Day.** Theme: Birds, Bugs and Lizards. Samuel Marsden Collegiate School, Marsden Ave, Karori, Wellington. A chance to network with other like-minded people involved in restoration projects. Learn more about how your project can support our precious animals.. Limit: 3 people/group. [restorationday@mail.gw.govt](mailto:restorationday@mail.gw.govt)

## FIELD TRIPS & EVENING MEETINGS

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The following programme IS SUBJECT TO CHANGE. If you wish to go on a field trip, PLEASE help with planning by giving the leader 2 days' notice before a day trip, MORE notice before weekend trips, and SEVERAL WEEKS' notice before the New Year's trip.

Non-members are welcome to come to our meetings and to join us on our field trips.

If you would like to suggest an area to which BotSoc could plan a field trip, or if there is a topic you would like covered at an evening meeting, please contact our programme organiser, Sunita Singh, [sunita@actrix.co.nz](mailto:sunita@actrix.co.nz).

### JUNE – SEPTEMBER 2021

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#### Saturday 5 June: Field trip

#### Field Reserve, Kāpiti Coast

Botanise 3 ha of untracked coastal kohekohe-māhoe-northern rātā-podocarp forest. Field Reserve is owned by Kāpiti Coast Branch, Forest & Bird. We'll seek to add to an existing species list. **Meet:** 9.45 a.m. at car park, Coastlands Mall, near pedestrian underpass from station. Car-pool then travel in convoy to site. **Train:** 8.44 a.m. train on Kāpiti Line from WN Stn to Paraparaumu Stn. **Map:** NZ Topo50-BP32 Paraparaumu. **Leader:** [helenamywhite@gmail.com](mailto:helenamywhite@gmail.com) 022 413 5194 **Deputy leader:** Chris Horne 475 7025 027 474 9300.

#### Saturday 19 June:

#### Te Mārua Bush workbee, Upper Hutt

In partnership with Greater Wellington, BotSoc has been committed since 1989 to do weed control and revegetation in this important matai/tōtara/black maire remnant in Kaitoke Regional Park. Our biennial workbees must continue so that we keep ahead of re-invasion by weeds, particularly around the plantings, so *please* come to help with this important work. Bring weeding gear: gloves, kneeler, weed bag, and your favourite weeding tools, e.g., trowel, hand fork, grubber, loppers, pruning saw, jemmy. There may be some planting as well. **Meet:** 9.30 a.m. at Te Mārua Bush. (250 m north of Te Mārua Store and then left off SH2 for 50 m, on Twin Lakes Rd, Kaitoke Reg. Pk. **Train:** 8.05 a.m. Hutt line train WN to Upper Hutt—ring the leader to arrange to be met at Upper Hutt Station. **Maps:** NZTopo50-BP32 Paraparaumu; street map. **Co-leaders:** Glennis Sheppard 526 7450, Sue Millar 526 7440.

#### Monday 21 June: Evening meeting

#### Woefully Weedy Wellington

**Speaker:** Illona Keenan, Biosecurity Specialist – Pest Plants, WCC.

Wellington City Council manages weeds for a wide range of reasons and in many places. This talk will outline the reasons weed control is undertaken, where on public land it occurs, and by whom (Council staff or Contractors). Following this overview, Illona's talk will focus on ecological weed control, outlining WCC's decision processes, which species are targeted, and provision for community groups to be involved.

#### Saturday 3 July: Field trip

#### Whareroa Farm – TeAraRamaroa

We will botanise a new track (TeAraRamaroa) at Whareroa Farm. TeAraRamaroa passes through remnant tawa/kohekohe forest. Highlights include a very large *Streblus banksii* and a good diversity of ferns. You will then have the option of returning the same way to the car or via the Ramaroa wetland walk and Forest Loop track. **Map:** NZ Topo50-BP32 Paraparaumu. **Meet:** 9:30 a.m. at Whareroa Farm car park (exit SH1 at Mackay's Crossing). **Co-leaders:** Lara Shepherd 027 363 5854 / [lara.shepherd@tepapa.govt.nz](mailto:lara.shepherd@tepapa.govt.nz) and Leon Perrie/[leonp\(@\)tepapa.govt.nz](mailto:leonp(@)tepapa.govt.nz).

#### Monday 19 July: Evening meeting Wellington's dunelands and naturally uncommon ecosystems

**Speaker:** Dr Roger Uys, Senior Terrestrial Ecologist, Greater Wellington Regional Council. Dunelands used to be more abundant, but their continued loss to stabilisation, farming and development has seen them become a rare ecosystem. Like wetlands, they are now Nationally Threatened. In contrast, our naturally uncommon ecosystems have always had limited distributions. However, like the rare ecosystems, most of our naturally uncommon ecosystems have also become threatened with extinction. Wellington's Regional Policy Statement requires the regional council to identify indigenous ecosystems and habitats with significant indigenous biodiversity values so that these ecosystems can be protected in district and regional plans. This talk is about how we've been mapping the extent, surveying the biodiversity and monitoring the health of dunelands and naturally uncommon ecosystems in the Wellington Region. Roger will let you in on some fantastic botanical discoveries and give you the inside scoop on what councils, DOC and community groups are doing to protect these ecosystems.

#### Saturday 7 August: Field trip

#### Pākuratahi Forest: Tāne's Track

Botanise wetland forest in Tunnel Gully Recreation Area with tall rimu, matai, kahikatea and tawa, then along Tāne's Track in mature beech forest with a varied understorey. Boots recommended. **Maps:** NZTopo50-BP33 Featherston; Remutaka & Haurangi Forest Park map 274-04. **Meet:** 9 a.m. at Tunnel Gully Recreation Area parking area beyond the end of Plateau Rd, Te Mārua, Upper Hutt. **Co-leaders:** Kate Jordan, Ph 027 899 0018 [katejordan@gmail.com](mailto:katejordan@gmail.com); Julia White, Ph 021 112 8841 [rockwren19@gmail.com](mailto:rockwren19@gmail.com)

## Monday 16 August: Evening meeting

## Tony Druce Memorial Lecture: Peatlands— following the footsteps of APD into special places

**Speaker:** Bev Clarkson, Manaaki Whenua – Landcare Research, Hamilton.

Botanising with Tony Druce was always a special treat. He taught the importance of understanding species-environment relationships and targeting azonal habitats to assess the full variety of vegetation and flora of an area. He would always seek out open habitats such as seepages, ephemeral wetlands, turfs and lakeshores, which contrasted with the more typical forested ecosystems. My own special places are peatlands, particularly bogs, which have extreme environmental conditions and contain unique plants and animals. For example, Waikato bogs are dominated by the threatened endemic species, cane rush / *Sporadanthus ferrugineus* and greater wire rush / *Empodisma robustum*. They originally covered many thousands of hectares from north of Kaitiā to south of Hamilton, but the vegetation type is now restricted to the Waikato region. This presentation will cover their history of development from swamps through fens to bogs over several thousand years, and the typical plant communities. It will also outline the impacts of drainage and nutrient inputs at the Moanatuatua bog remnant over the last 40 years, compared with the relatively intact Kopuatai bog.

## Saturday 4 September: Field trip

## Kiripiti Scientific Reserve, Old Hautere Road, Ōtaki

Botanise this 2 ha reserve of second-growth lowland forest. Featuring a canopy of tōtara, mataī and tītoki with a dense understorey of small trees and shrubs, notably *Lophomyrtus obcordata*, *Streblus banksii*, *Coprosma crassifolia* and others, with an interesting suite of weeds. Fenced off in 1971 it was last visited by WBS in 1977 when they assisted with a plot survey. Time permitting, we will return to Rangi's Bush cemetery, north of Whenuatapu cemetery where we will botanise a 4.14 ha remnant of lowland kohekohe forest. *WBS Bulletin 45* describes a visit there in 1983 by Maggy Wassilieff and others. **Meet:** 10 a.m. Waikanae Railway Station north-end car park to travel in convoy to Ōtaki Forks Rd junction, SH1 at 10.20 a.m. **Leader:** Mick Parsons 027 249 9663 [parsonroad@gmail.com](mailto:parsonroad@gmail.com)

## PUBLICATIONS

1. **Not 100% – but four steps closer to sustainable tourism.** A4, 136 p. Parliamentary Commissioner for the Environment.
  - [pce@pce.parliament.nz](mailto:pce@pce.parliament.nz)
2. **What's up DOC? Newsletter from Department of Conservation.**
  - [what'supdoc@doc.govt.nz](mailto:what'supdoc@doc.govt.nz)
- 3a. **Join the conversation on water!** A4 brochure.
- 3b. **Sediment.** A4 leaflet.
- 3c. **Minimum river flows and allocation of water.** A4 leaflet.
- 3d. **Stream modification, biodiversity and wetlands.** A3 poster.
  - [gw.govt.nz/whaitua-te-whanganui-a-tara](http://gw.govt.nz/whaitua-te-whanganui-a-tara)  
Submissions to—[haveyoursay.gw.govt.nz/whaitua](http://haveyoursay.gw.govt.nz/whaitua)
4. **Plan Change 18: Plimmerton Farm.** Read the decision on the consultation page of Porirua City Council's web site:
  - <https://poriruacity.govt.nz/plimmertonfarm>
5. **Banks Peninsula Landscape Study.** <http://resources.ccc.govt.nz/files/policiesreportsstrategies/chapter9-naturalandculturalheritage-s32-appendix3.4-bankspeninsula-landscapestudy2007.pdf>
6. **NZ Botanical Society.** 142 12/20: *Olearia gardneri*; regional botanical societies' news; Wendy Nelson awarded Nancy Burbridge Medal; Murray Dawson & Marie Taylor receive 2020 Queen's Birthday Honours; National Forestry Herbarium, Rotorua, turns 75; Berthold Carl Seeman, 1825–71; spurge laurel / *Ocellularia jacinda-arderniae* becoming weedy; biographical sketch – Jacinda Laurell Ardern (1980 – ) – *Ocellularia jacinda-arderniae* – a crustose lichen; etc. 143 3/21: *Cladonia* sp.; financial statement for 2020; regional botanical societies' news; Dr Colin Meurk, landscape ecologist, awarded Officer of NZ Order of Merit in New Year's Honours; *Itoa orientalis* (Salicaceae) – the tree is a potential risk in NZ; biographical sketch: Helen Patricia Ramsay (1928 – ); *The secrets of the great botanists and what they teach us about gardening.* Matthew Biggs. SUBSCRIPTION: \$25; full-time students \$12.
  - [www.nzbotanicalsociety.org.nz\\_c/](http://www.nzbotanicalsociety.org.nz_c/)– Canterbury Museum, Rolleston Ave, ChCh 8013
7. **Auckland Botanical Society.** Newsheet.
  - [aucklandbotanicalsociety@gmail.com](mailto:aucklandbotanicalsociety@gmail.com)
8. **Canterbury Botanical Society.** Journal 51. 2020. “Why plants mean so much to me” – Hugh Wilson; *Bulbinella* on Banks Peninsula; *Gastrodia* in ChCh; restoration of Arowhenua Bush; purple akeake; *Ileostylis micranthus* ChCh BotGdn; blue-green algae / *Cyanobacteria* in cave entrances; *Muehlenbeckia* – biodiversity powerhouse with an image problem; resilience of podocarps to deer-antler rubbing; Motukānuka Scientific Reserve – dryland site; usefulness of students' herbarium labels; *Seeds of NZ monocotyledons* – Colin J Webb, Mānuka Press. 2019; *Leptinella nana* in ChCh BotGdn; natural hybrid – *Plagianthus divaricatus* × *P. regius*; Armstrong family & herbarium.
  - CBS, Box 88212, Riccarton, ChCh 8440, [info@canterburybotanicalsociety.org.nz](mailto:info@canterburybotanicalsociety.org.nz) <http://canterburybotanicalsociety.org.nz>
9. **Nelson Botanical Society.** Newsletter.
  - [jbconnor@icloud.com](mailto:jbconnor@icloud.com)
10. **Otago Botanical Society.** Newsletter.
  - OBS, PO Box 6214, Dunedin North 9059. [bs@otago.ac.nz](mailto:bs@otago.ac.nz).
11. **Ōtari News and Views.** 3/21: Message from new Manager, Tim Park; Message from OWB Trust chair, Dr Carol West; seed preservation research; pest control; *Brachyglottis sciadophila*.
  - Ōtari-Wilton Bush Trust, 160 Wilton Rd, Wilton, WN 6012.

**Help raise funds for BotSoc's Jubilee Award Fund –  
bring named seedlings/cuttings for sale at each evening meeting**

12. **Tieke.** Weekly e-bulletin. News alerts & events on environment and conservation topics. Become a Friend of ECO: Annual subscriptions: Waged—\$45; Unwaged—\$25; Sustaining Friend—\$120, Corporate Friend—\$500. Subscribe to *Tieke* via ECO's Kiwibank account: 38 9016 9815477 00.  
• [eco@eco.org.nz](mailto:eco@eco.org.nz)
13. **Forest & Bird.** 179. *Autumn 21*: Need to cut tourism's impacts; F&B's priorities for 2021; many donations to F&B's legal fighting fund; going carbon zero; nature tourism; wetlands to combat climate crisis; call to govt to double the number of natural wetlands; RMA reform; climate change & glacier retreat; impact of climate change on alpine species; Hon. Kiritapu Allan, Minister of Conservation; white-baiting reforms; Manawātū Estuary; shallow high-country lakes polluted; proposed Coromandel mining tunnel; protecting Hauraki Gulf; kōkako in Ark in the Park; more species of wētā found; new traps & toxins; nature, activism & climate change in sculpture; Antarctica's penguins; Raumatī's peat swamp; kākāpō; nature-friendly pest control; injured native species; Poor Knights Marine Reserve; Rangitoto ki te Tonga / D'Urville Island; shore birds; etc.  
• [www.forestandbird.org.nz\\_office@forestandbird.org.nz](mailto:www.forestandbird.org.nz_office@forestandbird.org.nz)
14. **Backcountry.** 3/21: Govt intends to overhaul entire suite of conservation legislation; Kawarau / Remarkables National Park proposal for this 'stewardship land'; Bay of Plenty CMS review; Otago CMS partial review; access matters; Te Ara Pātaka track network block on Banks Peninsula; paper roads – *Same as SH1* campaign; Tongariro National Park; Ruahine Range; Backcountry Trust; recreational opportunities from tenure review; how DOC is adapting to climate change; etc.  
• [www.fmc.org.nz](http://www.fmc.org.nz) *Federated Mountain Clubs, Box 1604, Wellington.*
15. **Butterflies.** Magazine of Moths and Butterflies of NZ Trust.  
• [news@nzbutterflies.org.nz](mailto:news@nzbutterflies.org.nz)
16. <https://www.theguardian.com/science/2021/mar/18/kew-gardens-director-hits-back-at-claims-it-is-growing-woke>
17. **NZ Post stamps to be issued in May: Feature paintings done in 1880s by Sarah Featon:** \$1.40—*Clematis paniculata*; \$2.20—karaka; \$3.50—Kakabeak / kōwhai ngutu kākā; \$4.00—a *Celmisia* sp.

## SUBMISSIONS MADE

### Te Kopahau Draft Track Network Plan

In December 2020, Wellington City Council released its 'Te Kopahou Draft Track Network Plan' for comment. The public were invited to give feedback via a five-question survey and there was also the opportunity for longer submissions, which the Wellington Botanical Society did.

The Draft Track Network Plan covers a large area, from Zealandia and Polhill Gully to Pariwhero / Red Rocks, and includes Carey's Gully Reserve, Te Kopahou Reserve, and the bush surrounding the Southern Landfill. The plan proposes improving thirteen existing tracks; establishing eight new ones; creating three trail heads; installing additional signage; and a tramping hut.

Our submission recognised that Wellington City Council had attempted to protect the environment while ensuring access and educational opportunities. We felt, however, that the balance of the plan needs to be moved more towards protection of the environment.

Te Kopahou Reserve, c. 700 ha, is perhaps the most significant landscape in botanical and ecological terms in the Outer Green Belt. It is the most rugged block of land the WCC manages with steep hills climbing to nearly 500 metres at Hawkins Hill and Te Kopahou trig and is battered by strong winds from Raukawa/Cook Strait. The reserve contains most of the remaining 1% of Wellington's coastal forest and is an excellent example of regenerating coastal forest, very rare in the Wellington region.

Through an account of a 2018 Botanical Society trip to the reserve and the plants that were observed, the

submission explained the importance of the landscape. It described how *Poa cita*/silver tussock and 'grey scrub' species are colonising former rank pasture, as the pioneer species vital for the development of coastal native forest. Birds perch on the shrubs and small trees, excreting seeds, and the plant communities trap wind-blown seeds and spores which germinate in their shelter. Eventually many of the plants growing in their shelter will over-top the 'grey scrub', as the coastal forest comprising broad-leaved species and ferns develop.

Access to Te Kopahou to view and understand these and other developments is important; however, access should not come at the price of loss of vegetation and ecosystems. The concept of 'balance' between recreational activity and recovering habitat is flawed; a track built in natural habitat is a permanent loss to nature, while a track not built is not a loss, but simply that recreational users did not gain an extra track.

The submission offered support for: gazettement the area to the south of the Radome and Tip Track as a Scenic Reserve or Scientific Reserve (Open); increased signage for interpretation, route information and maps; and the development and upgrading of existing tracks.

The submission strongly opposed the development of eight new tracks, as they would have a devastating impact on the plant communities they would cut through, whether remnant or regenerating forest. New tracks of 1–1.5m could result in canopy gaps, loss of carbon sequestration; increased erosion; ingress of wind and sun desiccating understory plant communities; increased access for pest animals and plants; and increased risk of fire.

The submission stated the existing 4WD tracks within the reserve provide good access for botanists, walkers, runners and the WCC ranger, as well as Capital Kiwi and the Wellington 4WD Club for checking chew cards, tracking tunnels and traps as part of the Capital Kiwi operation.

Kate Jordan, Secretary

### Newsletter by e-mail?

When we did the ring-around for the Level 4 Zoom meeting, some people hadn't realised that they could receive the newsletter by e-mail. This is an option.

If you would like to receive your newsletter electronically, please contact Memberships Secretary, Helen White: [helenamywhite@gmail.com](mailto:helenamywhite@gmail.com)

Ngā mihi,  
Kate Jordan, Secretary

# SUBMISSIONS CALLED FOR

Councils outline their plans for the next 10-year period in long-term plans (LTPs), and update their LTPs every three years.

## Greater Wellington Council Long-Term Plan 2021–2031

- Submissions close 2 May.
- Hearings 18–20 May.

GWRC has prepared a very readable summary of its five mega issues, and invites responses on two scenarios for one aspect of each issue. As one example, GWRC has already decided to phase out grazing on regional parks as part of its response to climate change. Grazing in regional parks has historically been a land-management tool to help reduce weeds, unwanted plant growth and mitigate fire risk – but grazing has implications for GW's carbon footprint. In 2018/19 grazing made up 20% of GWRC's carbon footprint. The two scenarios differ in areas and timeframes, but don't quantify the annual benefits to GWRC's carbon footprint.

Scenario 1: Remove livestock from 1,350 hectares of the 2,083 hectares of grazed land in regional parks and actively restore the land to its natural state over 10 years.

Scenario 2: Remove livestock from 1,115 hectares of the 2,083 hectares of grazed land in regional parks and actively restore the land to its natural state over 15 years.

The impact on rates for the first three years is the same for both scenarios, and totals \$11.81 per rate payer, per annum over 10 years.

GWRC can be commended for recognising the need to allocate resources to help develop and / or implement

central government environmental initiatives such as the replacement legislation for the RMA and the implementation of the proposed National Policy Statement on Indigenous Biological Diversity

## Wellington City Council, Long-Term Plan, 2021–2031

10 May. Submissions close on 10 May, but a revised date is possible given the complexity of the draft. WCC is seeking comments on options for seven expenditure decisions including upgrading the three waters infrastructure, implementing Te Atakura: First to Zero action plan, cycleways, treatment of sewage sludge, and the rebuild of the Central Library.

Submissions can also refer to routine operations (Opex), such as weed management and the production of eco-sourced plants at Berhampore Nursery. Some of the less expensive capital projects also deserve consideration, e.g., ensuring the nursery at Ōtari can play a greater role in ex-situ propagation, and building an enclosure for snow leopards at the zoo. Council's considerations however, usually focus on the big-ticket or potentially controversial decisions.

- Fill out the submission form and get more information at [wgn.cc/LTP](http://wgn.cc/LTP). Get a consultation document & submission form from WCC libraries. See also LTP community pop-up tour.

*Bev Abbott  
Submissions Coordinator*

## Jubilee Award 2021 – Applications sought

The Wellington Botanical Society invites applications for an Award of up to \$2,600 to encourage and assist applicants to increase knowledge of New Zealand's indigenous flora, and to commemorate the Society's Jubilee in 1989.

### Purpose of the award

The Award is open to anyone working in New Zealand. It will be granted for: fieldwork; artistic endeavour; publication; research; propagation or cultivation of NZ native plants for educational purposes and/or other studies which promote the better understanding of NZ's indigenous flora and vegetation. The interpretation of these conditions will be flexible, except that the main criterion will be the furtherance of knowledge or promotion of the intrinsic value of NZ's indigenous flora and vegetation. The Award may be used to defray costs such as travel, accommodation, materials or publication.

### Applications for the Award

Applications should be made in typescript to: Secretary, Wellington Botanical Society, PO Box 10 412, Wellington 6143, or by e-mail to [esmeraldadoris93@gmail.com](mailto:esmeraldadoris93@gmail.com), by 6 September 2021.

There is no prescribed application form, but the following must be provided:

1. the applicant's name,
2. postal address, telephone number and e-mail address.
3. any relevant position held

4. a summary statement of the applicant's accomplishments in the field of botany – no more than one page
5. an outline and timetable for the proposed project for which the Award is sought
6. a proposed budget for the project

### Selection

The Award will be made to one or more applicants selected by a subcommittee nominated by the general committee of Wellington Botanical Society. Award(s) will be made and applicants informed of the results in writing, by 6 October 2021.

Successful applicants will be required to provide, at an agreed time, a short report on what they have achieved, and an account of their expenditure of Award funds. The names of the Award recipients, the value of the Award(s), and a synopsis of the project(s) will be published in the Annual Report of Wellington Botanical Society.

*Eleanor Burton*

## Wellington Botanical Society – Grant to Graduate Students

Each year the Wellington Botanical Society provides small grants to assist post-graduate students in the VUW School of Biological Sciences.

These grants can be used for travel, materials and other costs related to research projects undertaken as part of the course of study. Grants to any one student will normally be not more than \$600.

Application should be made initially through your supervisor to Prof. Kevin Gould by **6 September 2021**.

Applications should be brief and to the point. (Say two A4 pages).

They should state:

- Your name and e-mail address
- Your current education qualifications.
- The course of study you are undertaking.
- The nature and aim of your research project.
- The name of your supervisor for this project
- The budget for your project.
- The expenses that the grant is proposed to cover.

You will be advised of the results of your application by 6 October 2021.

Grants will be made through the Research Trust of Victoria University of Wellington.

Names of successful applicants will be published in the Society's newsletter.

It is a condition of the grant that you make a short presentation to the Society on your project and / or provide a one-page summary on the nature and results from your project to be included in the Society's newsletter or bulletin.

### The small print

1. Grants will usually be to post-graduate students. Consideration may be given to applications by undergraduates where the supervisor considers that there is a special case to be made because the nature of the project is similar to that undertaken by graduate students.
2. Priority will be given to projects involving native New Zealand vascular plants and cryptogams. Consideration may be given to those projects involving other vegetation. With the anticipated competition and limited funds, it is unlikely that applications for projects involving algae, fungi and coral would be successful.
3. The primary purpose of the grant is to cover field expenses—transport and accommodation but not rations. Financial assistance towards the cost of chemicals and chemical and DNA analysis will be entertained. The Society is reluctant to fund capital items but will consider applications for these.

4. Applications for grants made after the closing date may be entertained if the Society has not already allocated the funds available for the Student Grant. Priority will be given to applications received before the close off date.
5. The funds available are limited and priority will be given to those applications and those expenditures that agree with the main criteria set out above and are most in line with the aims of the Wellington Botanical Society.

*Eleanor Burton*

## Myrtle rust in Karori Sanctuary/ Zealandia

Myrtle rust has been found on two *Lophomyrtus bullata* / ramarama at Zealandia, in a very public spot right by the research area fence. We detected this through the monitoring system Pascale Michel set up a couple of years back.

We have followed the advice from DOC Kāpiti/Wellington Area office regarding reporting protocols. They have advised us to remove the two trees in question using relevant biosecurity measures due to their location and proximity to visitors. We must assume that the disease is more extensive in the sanctuary than this.

*Dr Danielle Shanahan*

*Director, Zealandia Centre for People and Nature  
Senior Lecturer, Te Herenga Waka | Victoria University of  
Wellington*

## Greater Wellington Regional Council pest-animal control

*Highlights from the 3rd-quarter financial report (January–March 2021)*

### KNE ungulate control

Ground-control work was done by contractors in the Pakuratahi and Hutt catchments. The annual aerial control operation covering the Hutt, Pakuratahi and Orongorongo catchments was completed. The Akatarawa forestry area in Puketiro was hunted in response to a Parks Department request to destroy feral cattle. Belmont Regional Park and the Speedys Stream and Belmont Quarry planting-protection areas were worked in by pest-animals staff.

Results were good. The Pakuratahi work was in response to numerous sighting of a mob of goats further into the park than they usually get—6 were shot. Aerial control shot 33 deer and 1 goat from the Hutt, 4 deer, 20 goats and 1 pig from the Pakuratahi, 7 deer, 23 goats and one pig from Orongorongo catchments. Ground hunters in the Hutt

## Letters to the Editor

We would welcome your comments on any aspect of BotSoc's activities:

- places you would like to visit on field trips
- topics you would like to have covered in evening meetings
- topics you would like covered in BotSoc's Bulletin and Newsletter
- other matters of concern or interest to you.

Thank you

*The Committee*

catchment shot 11 goats and 3 deer. Hunters spent extra time in the Akatarawa forest shooting 10 feral cattle and 21 goats. The pest-animal staff in Belmont Regional Park shot 11 deer (7 fallow and 4 red).

At Parangarahu Lakes 25 goats were shot, mostly around Lake Kōhangatera. At Baring Head 6 goats were shot. Four more were shot there during the last Pindone application.

### **Wainuiomata Mainland Island (WMI) Double Tap trial**

Double Tap pellet bait was trialled in WMI as an alternative to brodifacoum bait for possum and rat control region-wide. Double Tap comprises two toxins combined in one bait, diphacinone and cholecalciferol, which together have a synergistic effect. The trial involved two full services of the bait-station network in WMI in October and December 2020 when pig hunting with dogs was not going to occur. All bait was then removed and replaced with Ditrac blocks in early February this year. The results were impressive with 0% rats in the November and February rodent monitor. Numbers remain high in the non-treatment area with 89% recorded in the February monitor.

In August 2020 rats were at 3% in the WMI so they were already at low levels, so it will be good to trial the bait again in the future when numbers are higher.

An interim service is underway now with mixed results so far, no rats were caught on the eastern boundary however 6 of 26 traps on Drummond Ridge had caught rats. The next monitor is due in May and will be followed with a full service of the bait stations.

Possum numbers are kept very low in the WMI with trapping and are low throughout the whole catchment and the Orongorongo catchment with 2% WTI (wax tag index) recorded in a TBfree Wainui/Orongo trigger monitor in February 2021, with no possums detected in the WMI area. Therefore the effect of Double Tap on possums has not been tested. We used Double Tap to spring most of the Warrior traps during the December service to give them a rest as they are not meant to be left set for long periods and the Double Tap would kill any possums. It's hoped that Bioworks will trial Double Tap specifically on possums in the future.

### **Pindone carrot rabbit control operations**

Several large pindone-carrot operations have occurred this quarter at various locations, some of the largest since pre-Calici virus days in the mid 1990s:

- Baring Head: 640kg bait laid, split between 2 applications. Focus on coastal revegetation sites.

Reasonable bait take and reports of lower rabbit numbers based on night search and volunteer feedback.

- Otaraua Park (Kāpiti)—1000kg bait laid split between two applications. Prominent signage put up to warn dog-walkers of risk. Too early to assess the effect because the work was done recently.

### **Rabbit shooting**

Rabbit shooting has kept the team busy with continuing higher rabbit numbers on the Kāpiti Coast and in Wellington sites. Approx. 768 rabbits shot by staff this quarter.

#### *Wellington*

- Skyline Walkway: 250+ rabbits have been shot there in two visits this year
- Numbers appear to be kept in check at other Wellington City shooting sites with only 61 rabbits being shot across 11 sites over 3 months

#### *Kāpiti*

- 169 rabbits were shot in Pharazyn Reserve, Waikanae Estuary, Otaihangā Domain Ames St Reserve, Jim Cook Memorial Park, Waikanae River north and south bank.
- There have been some changes to how two of the busier parks with high rabbit numbers in KCDC are being managed. Shooting at Waikanae Park has been taken over entirely by a private contractor and Otaraua Park was treated with pindone carrot at the end of March. Rabbit numbers have been very high at Otaraua Park, night shooting alone was not sufficiently capable of sustaining control of the population. Pindone should provide the needed knockdown and hopefully this can be maintained by shooting. It could also benefit the nearby bush fragments at the sand quarry which have rabbit-proof fencing managed by GWRC Biodiversity but struggle with continuing rabbit incursions.
- Some time was spent hunting at DOC's Waikanae Estuary Scientific Reserve.

#### *Upper Hutt and Hutt City*

- 10 rabbits were shot from four sites for HCC.
- 41 rabbits were shot from 3 sites along the Hutt River for Flood Protection

In addition to all the above tasks, the staff have continued to service hundreds of bait stations and predator traps.

*Glen Falconer, Biosecurity Officer, GWRC*

## **Colin James Ryder**

**1.11.1946 – 9.3.2021**

We mourn the loss of Bot Soccer Colin, a frequent writer of articles in our newsletter about progress with conservation tasks at Baring Head / Ōruapouanui. He was a highly skilled raiser of funds for conservation projects around the city and further afield. He was treasurer for Friends of Baring Head and for Wellington Natural Heritage Trust which owns Long Gully Bush. He led the programme to eliminate mice from Mana Island.

<https://www.nzherald.co.nz/nz/conservation-community-in-shock-at-loss-of-driving-force-colin-ryder/PBKR67BT6OUVIOI4ERIDAANW24/>



## Percy Scenic Reserve News

It has been a good year for flowering, with many plants producing a profusion of blooms. This has led to a bumper year for fruits and seed. The *Melicytus orarius* are covered in fruit.

We have given many of our propagated plants accession numbers and added them to the collection. Many of these are plants we collected as cuttings and seed during our seed collection trips to the South Island in 2017, 2018 and 2019. Some are now reaching a size where we can start adding them to the glasshouse collection. These include *Celmisia traversii*, *Ourisia macrophylla* subsp. *lactea*, *Ranunculus multiscapus*, *Dracophyllum longifolium*, *Colobanthus strictus*, *Festuca matthewsii* subsp. *matthewsii* amongst others.

We have been doing some new propagation, sowing seed from *Leptinalla filiformis*, *Brachyglottis lagopus*, *Spiranthes novae-zelandiae* and *Drosera stenopetala* included in these. We have also taken some cuttings, including *Pimelea mimosa*, *Helichrysum parvifolium*, *Veronica hectorii* subsp. *coarctata* and *Veronica tetragona* subsp. *subsimilis*.

We have also been busy potting on our propagated plants from the last couple of years into larger pots. A time-consuming job, with much work to do. Many of these are from propagation material collected on our trips. But we also have a lot from material from our glasshouse alpine collection. We need to constantly bring plants through to replace those in the collection, as they tend to be relatively short-lived. In some cases, we have only one or two specimens of some plants. We ideally want three or four, so over time we are propagating to bulk up those numbers. We have a couple of hundred *Lepidium oleraceum* recently potted on for use in a project to plant out around Petone Settlers' Museum.

Our two new glasshouses are up and running now. We just need to decide which plants we are going to move in to them. Hopefully, as they are climate-controlled, this will help some of the plants we have problems with fungal diseases, such as the *Myosotis* spp, *Ranunculus* spp, *Plantago* spp. etc.

Cliff Keilty, Gardener

## DOC Wellington Visitor Centre

*Te Pae Manuhiri, Te Rohe  
ō Te Whanganui ā Tara*

Conservation House,  
18–32 Manners St

- Track, hut, conservation information
- Kapiti Island visitor permits
- Hut tickets, backcountry hut passes
- Hunting permits

Open: Mon–Fri 9 a.m. – 5.00 p.m.  
Sat 10 a.m. – 3.30 p.m.

Tel: 04 384 7770 Fax: 04 384 7773

E-mail: [wellingtonvc@doc.govt.nz](mailto:wellingtonvc@doc.govt.nz)

Web: [www.doc.govt.nz](http://www.doc.govt.nz)

New Zealand Government



Department of  
Conservation  
*Te Papa Atawhai*

## George Harris Braithwaite

8.4.1927 – 21.12.2020

We mourn the loss of George, a life member of BotSoc. George was a keen photographer of nature and carer for that part of the Wellington Town Belt near his home in Brooklyn.

## Bronwen Shepherd honoured

We congratulate BotSoccer 'Brony' (Bronwen) Shepherd who won a 2020 Environment Welly Award. She was described as 'an intrepid conservation volunteer for over a decade in Zealandia, on offshore islands and on Te Ahumairangi'. On a BotSoc field trip on Te Ahumairangi, Brony showed us the tiny endangered pond snail, *Potamopyrgus oppidanus*.

## TRIP REPORTS

### 13–21 January 2021: Camp Wainui, Banks Peninsula – Horomaka – Te Pātaka o Raikaihautū

We stayed at Wainui YMCA, a staffed facility with three wings with bunkrooms for four people each and en suites, and a lawn nearby for campers. We were able to book two wings which meant each room held only two people and everyone had a bottom bunk. The facility is about 20 years old, purpose-built. It has a kitchen and dining room for self-catering or for meals provided by the resident chef, Tristan Sexton. We arranged a combination: we made our

own breakfasts and lunches in their well-set-up kitchen (walk-in chiller, dish steriliser etc.) on our usual roster system. Cooking breakfast is a great experience in teamwork as we recall lost recipes e.g., scrambled eggs and corn fritters in the bleary kitchen at 7 a.m. The cups all look the same, so one's coffee cup can get misplaced several times. People may look a little asleep on the outside, but on the inside there's a swift, whirring, scientific mind. We had the evening

meals cooked by Tristan at 6.30 p.m. This meant we could be back from our field trips as late as 6 p.m. We liaised with a resident staff member, Jemma Murphy, who was on call. She was usually doing activities with large school groups, also in residence over the road in the old camp, Powell Village. There was also a housekeeper on staff, Sandy, who worked there on weekdays.

We had a problem with bed bugs in one room, which affected three of us.

The staff got fumigation services in as we left. After they'd spent time in the freezer Shelley took some bed bugs back to Auckland Museum where they are now accessioned for posterity.

Their rubbish sorting, into recyclables, tip rubbish and food scraps for their bokashi, was excellent. Chris Horne, our expert, kept everything properly sorted and our rubbish went in their rubbish system.

Wainui YMCA is 7 km off SH 75 which links Christchurch and Akaroa. Most days we went back to SH 75 to get to our field trips, leaving the facility sometime after 8 a.m. to meet our local contact on site. One day we took nearby Bossu Rd over the hills from Wainui to Oashore on the SW corner of Banks Peninsula. Often the tops of the hills were in low cloud. We struck a long spell of fine weather with just one day with exhilarating, strong, gusty wind. All field trips happened as programmed. Unfortunately on Day 1 at Hinewai, Margaret Herbert had a bad fall on the steps of the information centre and was taken by ambulance to Christchurch Hospital. The staff at Hinewai handled the accident very competently. It happened about a 5 min walk from the road. We were all very relieved when she returned to Wainui YMCA late that night after treatment for a bad cut and bruising to the side of her face.

Ian Goodwin's Law: When travelling in convoy to our field trips Ian had a set of rules which, when followed, meant we all stayed together over these winding roads with their complex intersections, typical of rugged Banks Peninsula. These are worth repeating here:

1. Keep your headlights on.
2. Keep the vehicle **behind** yours in view.
3. Lead car to contain leaders of field trip.
4. Have a designated tail ender.

As well as our having day trips, Antony Johnson, manager of Oashore, came to dinner with his wife Fran one night and told us how this American property owner, Doug De Angelis, has been inspired by Hugh Wilson to restore the vegetation at Oashore, a property he rarely visits. This was a common theme on Banks Peninsula—Hugh Wilson has become an inspiration to local land owners. There are both nation-wide QEII National

Trust covenants and unique Banks Peninsula Covenant Trust covenants in this area. As at 31.3 2020 the BPCT had 76 covenants which provide legal protection for 1,501 ha of land.

Another night Jon talked about the history of Banks Peninsula, Māori occupation, Te Rauparaha's bloody invasion of Onawe Peninsula, followed by European colonisation and timber removal, then farming. When he mentioned the Akaroa cocksfoot grass-seed boom, Gael recalled collecting grass seed from the road side as a child in Southland and earning 5/- per pound for clean seed.

We had selected Banks Peninsula in part because over this summer, due to Covid-19 travel restrictions, there would be no cruise boats, crowds of people and traffic in Akaroa. Although it suited us very well we were conscious of the reduced income for locals at places like Barry's Bay Cheese shop and Okains Bay Museum. Despite the constant possibility of increased Covid-19 restrictions ending our trip in disarray, we got through without disruption.

Akaroa is a small town so we had to get 8 days' worth of groceries from the Halswell New World supermarket on the way from Christchurch. Jenny Fraser's camper-van hauled it all over the hill to Wainui. Luckily their good quality, fresh produce lasted well. We supplemented the apples and oranges with fresh apricots and nectarines from an orchard shop in Little River.

We are very grateful to all participants, many of whom have years of experience of previous BotSoc camps. This meant everyone saw what had to be done and did it willingly, in all areas of the camp. It made the co-leaders' job so much easier.

**Participants:** Julia Stace & Jon Terry (co-leaders), Eleanor Burton, Barbara Clark, Gavin Dench & Sunita Singh, Michele Dickson, Pat Enright, Jenny Fraser, Julia & Ken Fraser, Ian & Jill Goodwin, Bryan & Robin Halliday, Barbara Hammonds (New Plymouth), Richard & Margaret Herbert, Shelley Heiss-Dunlop (Auckland), Chris Horne, Megan Ireland & Tom Mayo, Graeme Jane & Gael Donaghy (Tauranga), Brenda Johnston, Kair Lippiatt, Allison & John Knight (Dunedin), Darea Sherratt, Neill & Barbara Simpson (Queenstown).

*Julia Stace & Jon Terry*

## 14.1.2021: Hinewai Reserve.

*Map: NZTopo50-BY25 Akaroa*

What better way to start a botanical visit to Banks Peninsula than a visit to Hinewai. We were met by the effervescent Hugh Wilson, reserve manager (from the beginning, 33 years ago), botanist and all-round mine of information, and Paul Newport, currently the only other full-time worker.

On the way to the Visitor Centre we visited *Celmisia mackauii* (At Risk – Naturally Uncommon), planted by what had been the Manager's house before the earthquakes. This was top of many people's 'plants we want to see' list. A Banks Peninsula endemic restricted to a 10 km<sup>2</sup> area, it ranges from sea level to the tops. It is a beautiful, lush-looking daisy with leaves 30–50 cm-long and striking white flowers. We also admired a planted *Pittosporum obcordatum* (Threatened – Nationally Vulnerable). Until rediscovered by Melissa Hutchinson, this had been thought to have been extinct on the peninsula for 170 years. And then there was a carefully delineated patch of the tiny *Leptinella nana* (Threatened – Nationally Endangered).

We settled in at the Visitor Centre for a fascinating talk by Hugh on the history and ecology of Banks Peninsula and of Hinewai itself, based on Hugh's own observations, historical records and what the science tells us. Some snippets from the talk: many years ago seabirds nested on the misty heights (ocean-derived imprints in the soils tell us that); Māori cleared ¼–½ of the land and Europeans cleared the rest, creating clouds of smoke from the burning forests, the equal of the recent wildfires in Australia; trees from the remnant forests were still being milled until the 1920s.

And on pest animals: possums, goats (eliminated 15–20 years ago), and red deer (feral farmed ones) are the ones they control; rats, while a big problem, are predated by cats and mustelids (their scat contains fur not feathers). In general: 'Don't do anything unless you know it's going to do good'. Things are complex and dynamic; observe, observe, observe. Pest plants? They control only the five or six that compete with natives.

In the early days of Hinewai, when he suggested protecting a whole

catchment from sea to summit, a local farmer proclaimed 'Heaven help us from fools and dreamers', hence the title of the recent documentary about Hinewai. Watch Fools and Dreamers here: <https://vimeo.com/350528205>

On reforestation using natural regrowth: 'Nature is a million times better at doing it than we are'. And why is this better than us planting? Where plants grow naturally is based on subtle patterns of temperature and moisture, and these can be blurred by planting.

Hugh, Paul and other Hinewai helpers then took us on a walk traversing the top part of Hinewai on West Track, into Purple Peak Curry Reserve, along Brocherie's Road and back down to the carpark on Long Bay Road. The route took us through many different forest types, including areas that 30 years ago had been grassy pasture and were now kānuka or mixed hardwood/podocarp forest, original red beech forest alive with the calls of pipipi and open areas with stunning views.

As we went, Hugh shared more history and ecological insights: at the early stages of regeneration, kānuka and gorse came up together in pasture. One wins in one area, one in another. Kānuka forest eventually gets invaded by red beech; gorse by hardwoods and podocarps.

The scrambling daisy, *Brachyglottis sciadophola* (At Risk – Declining) was another botanical highlight. We were at the wrong time of year to see it flowering, so make a note in your diaries to visit in late March.

To cap it all off, we walked along Brocherie's Road and down Long Bay Road to the Hinewai carpark, admiring the vegetation thriving on the roadside banks, much of it flowering splendidly: the snow tussock *Chionochloa rigida*, *Aciphylla aurea*, *Brachyglottis lagopus* and much more, carefully encouraged by Hugh and helpers through removing exotic invaders. At the Cabstand junction, Hugh took some of us down the road towards Akaroa to show us another Banks Peninsula endemic, *Heliohebe*

*lavandiana* (At Risk – Declining). Only those with a head for heights got a close look as it was high above the road. We were all exhorted to live somewhat dangerously by Hugh who told us in his inimitable style not to give way to cars 'it only encourages them'.

Barbara Hammonds

## 15.1.2021: Wairewa / Lake Forsyth

Map: NZTopo50-BY24 Birdlings Flat

Lake Forsyth is a stronghold for several species on Banks Peninsula, if not for the greater Christchurch area. Sea holly (*Eryngium vesiculosum*), the small sedge *Isolepis basilaris* and the colourfully flowered small native musk (*Thyridia repens*) being good examples. Jason Butt, Principal Biodiversity Advisor – Wetlands from ECAN joined us to give us an introduction to the area and provide local expertise and advice.

Unfortunately with the onset of a dry spell the lake was eutrophic and cyanobacteria posed a health risk to people and beasts and also caused an unpleasant smell probably added to by masses of macrophytes washed up and decomposing along the lake shore. Not to be deterred, the group soon spilt up and spread along the shoreline. The button daisy/ *Leptinella dioica* was very common and varied in size from the more exposed areas to the plants growing in the shade and shelter of the rushes and grasses. *Lobelia perpusilla*, *Lilaeopsis novae zelandiae*, *Glossostigma elatinoides*, *Eryngium vesiculosum*, *Centipeda aotearoana* and the unnamed entity in the *Dichondra brevifolia* agg. were all in flower. The dichondra grows in the coarse gravel and appears to be summer green.

There is quite a bit of traffic in the area from the New Brighton Power Boat Clubrooms along to the first inlet to the north as it is used by fishermen and other groups. Ironically the boat launch area is one of the easiest places to see *Isolepis basilaris* with the taller species being absent. Behind and along from the clubroom there is extensive grassland and rush land with a smattering of shrubbery. A lot of the grasses are introduced *Austrostipa* and *Rytidosperma* species, but here and there the odd native grass can be found. The area of lakeside in front of



Hugh Wilson declaims *Follow me* on the bridge amidst forest that 30 years ago was an open, grassy area. Photo: John Knight.

the Christchurch City Council reserve towards the southern end of the lake is bounded by shrubbery comprising marsh ribbonwood / *Plagianthus divaricatus* and coprosma species. A long inlet was the practical boundary for botanising and those who ventured that far were rewarded with masses of *Ranunculus limosella* in flower as well as several other species.

One interesting weed growing in the area was *Solanum nitidibaccatum*.

On the way home some people stopped at Catons Bay to look at the bird life and some managed to see the pair of Australasian crested grebe / *Podiceps cristatus australis* which seem to frequent the area. Black swan / *Cygnus atrata* with cygnets were also present and pūkeko / *Porphyrio melanotus melanotus* were using the raupō beds fringing the lake for shelter.

Pat Enright

### 16.1.2021: Okains Bay

Map: NZTopo50-BX25 Duvauchelle

Led by Melissa Hutchinson and joined by members of Canterbury BotSoc, we went to a bush remnant in Okains Bay. This was on private land and unfenced, so much of it had pasture underneath it except where it was dense enough to shade the grass out, so there was not much recruitment of seedlings. This was a fascinating remnant however, with quite a number of species we didn't see anywhere else. Melissa knows what BotSocs are like—she took us across pasture as far as she could and didn't let us near any botany until we were most of the way to the far end. Then we botanised our way back. Pretty much the first thing we saw was *Pittosporum obcordatum*, which was recorded from Banks Peninsula when it was first explored but not since, until Melissa rediscovered it. We also saw *Olearia fimbriata*, *Lophomyrtus obcordata*, *Melicytus micranthus*, *Pseudopanax ferox*, a scary combination of *Urtica ferox* (which seemed to be everywhere we went all week) and *Rubus squarrosus*, plus a lot of *Coprosma virescens*, among others. There were two mistletoes, *Ileostylus micranthus* and *Korthalsella lindsayi*, and several climbers and scramblers including *Clematis afoliata*, *Scandia geniculata*, *Rubus squarrosus* and *Calystegia tuguriorum*. We worked

our way down to the beach, where we saw *Wahlenbergia akaroa*, *Parietaria debilis* and hybrid *Disphyma*, and then back up along the edge of the bush, finding *Cheilanthes sieberi* and *C. distans* growing around rocks in the pasture. By this time we had lost Melissa who had gone looking for more *Pittosporum obcordatum*, and eventually we lost most of the Wellington BotSoc who went to look at the impressive museum in Okains Bay. Three of us decided that the bush remnant was a rare opportunity and we would maximise our time in it. The top end was denser and we started finding seedlings in it, and also herbs such as *Arthropodium candidum*, *Geranium potentilloides* and *Ranunculus reflexus*. We then found our way back to the road through an inordinate number of fences, to find that everyone was out except Melissa who was presumably still hunting *P. obcordatum*. She did turn up for dinner though, so made it out alright.

As well as Wellington BotSoccers, we were joined by Canterbury BotSoccers, Melissa Hutchinson (leader), Miles and Gillian Giller, Jason Butt, Tom Ferguson, William Reinders, Tayla Hooker, Felix Collins, Allegra Collins,

Eleanor Burton



*Melicytus micranthus*. Illustration: Eleanor Burton.

### 16.1.2021: Little Okains Bay

While most people went over to NW Okains Bay with Melissa Hutchinson, Darea Sherratt, Alison & John Knight, Robin & Bryan Halliday and I chose to go to Little Okains Bay to see the historic karaka grove or 'Pa karaka' which is protected by a QE11 covenant.

The rough 4-wheel drive clay track left the motor camp at the edge of Okains Bay and went up and over the spur to Little Okains Bay to the

east. The coast is very shallow and the tide was way out. Many walkers and joggers were using this track.

Over the edge of the track we could see that the steep hill became cliffs down near the sea. There were big shallow caves in the cliffs at sea level. At Little Okains Bay, at the back of the beach *Salicornia australis* was in flower outside these caves. Jason Butt told me that climbing asparagus had once been found there too but I found none.

The plants were conspicuously weedy, with so much *Cotyledon orbiculata* / pig's ear in flower, *Vittadinia gracilis* / Australian fuzz weed in flower and seed. Predominantly grazed grassland with scattered shrubby native plants, there were however, some gems to be seen. Clumps of *Linum monogynum*, scrambling *Convolvulus verecundus*, *Clematis afoliata* in seed and *Rubus squarrosus* agg. with an unusual amount of leaves as well as being in berry. We looked down on the remains of two wharfs left over from the days when all goods came to this area by sea. Afterwards we had time to visit the amazing Okains Bay Māori and Colonial Museum with its huge collection of Māori artefacts collected by a local farmer, the late Murray Thacker (1933 – 2017) which he left to the community. We saw two seaworthy waka under cover by the river's edge which feature in the well-known Okains Bay Waitangi Celebrations and may one day paddle to Lyttelton Harbour. The museum complex is struggling with paying four staff and general maintenance since the overseas cruise-boats tours no longer come here.

Julia Stace

### 17.1.2021: Oashore

Map: NZTopo50-BY24 Birdlings Flat

The weather determined our visits to the Oashore property, which runs over the hills from Wairewa / Lake Forstyth to near Birdlings Flat, at the eastern end of the spit which contains Te Waihora / Lake Ellesmere. The manager of the property, Antony Johnson, was our guide for the day.

The drive from Camp Wainui over to our first site was along Bossu Rd on one of the higher ridges in the area. The views both to the south and to the foothills of the Southern Alps were

spectacular. Our morning visit was to Wairewa Conservation area—an area of open grassland dominated by exotic grasses and dotted with shrubby vegetation. The scattered rocks provided a little shelter for herbs like *Leptinella minor* and *Crassula colligata* subsp. *colligata* and the occasional patch of necklace fern / *Asplenium flabellatum*. We found a few bushes of *Muehlenbeckia astonii*. Two *Wahlenbergia* species were in flower. The one growing in the long grass had violet flowers and very wiry, much-branched flower stems. This turned out to be the Australian species, *W. stricta* subsp. *stricta*. The other, the local endemic, *W. akaroa*, grew in the shelter of shrubs. Its flowers emerged, supported by the vegetation. They were pale blue or white, and were smaller than the Australian species' flowers.

After lunch on the verandah of an old homestead on the property, we walked down to the Tokoroa QEII covenant, which was a remnant of mature forest in a gully kept moist by an ephemeral stream. Here there was a fine variety of mature trees and shrubs. The large trees were lowland tōtara, mataī, kōwhai / *Sophora microphylla* and *Hoheria angustifolia*—in full flower. The shrub layer was dominated by *Coprosma* species: *C. propinqua*, *C. virescens*, *C. rhamnoides*, *C. crassifolius*, *C. rotundifolius*, and *C. areolata*, a few of which had the pygmy mistletoe / *Korthasella lindsayi* growing on them. There were several large *Olearia frangrantissima* around the margins. Some of the margin of the covenant was protected by large *Urtica ferox*. Because of the intact canopy, there was little light reaching the forest floor so herbs were largely absent.

Gael Donaghy

### 18.1.2021: Hauroko Covenant & Kaitorete Spit

Map: NZTopo50-BY24 Birdlings Flat

Arriving mid-morning at Hauroko Covenant, Birdlings Flat, our group met Sophie Hartnell, volunteer coordinator for Banks Peninsula Conservation Trust (<https://www.bpct.org.nz>). The trust was set up in 2001 for the promotion of conservation, indigenous biodiversity and sustainable land practices. Hauroko Covenant lies 300 m from

the ocean on the corner of Poranui Rd and Hillview Rd. It is fenced to exclude stock. The area is predominantly a sandy, stony pan with natural bunds the result of weathering. The task set for us was to weed through as much of the covenant as was possible before lunch. There were many weeds present though we focused on *Pittosporum crassifolium*, *Petroselinum crispum*, *Cotyledon orbiculata*, *Echium vulgare*, *Plantago lanceolata* and *Linaria purpurea*. Exciting native highlights included seeing *Carmichaelia appressa* and huge swathes and patches of *Muehlenbeckia ephedroides*.

In the afternoon we followed Bayleys Rd off Poranui Rd to reach the DOC Kaitorete Spit Foreshore area. Kaitorete Spit separates Te Waihora / Lake Ellesmere from the sea. We were lucky to see *Convolvulus waitaha*, *Carmichaelia appressa* and two large balls of *Pimelea prostrata* in the back-dune area. The impressive fore-dune system was covered in *Ficinia spiralis*. We also visited the nearby Waihora Scientific Reserve and were rewarded by seeing healthy *Muehlenbeckia astonii*.

Tom Mayo

### 19.1.2021: Montgomery Park Scenic Reserve

Map: NZTopo50-BX25 Duvauchelle

The day started with the usual skirmish of roadside botanising, complicated by the narrow road, blind corner, and sympathy offered to a traveller who had his overnight parked car broken into and burgled of valuables.

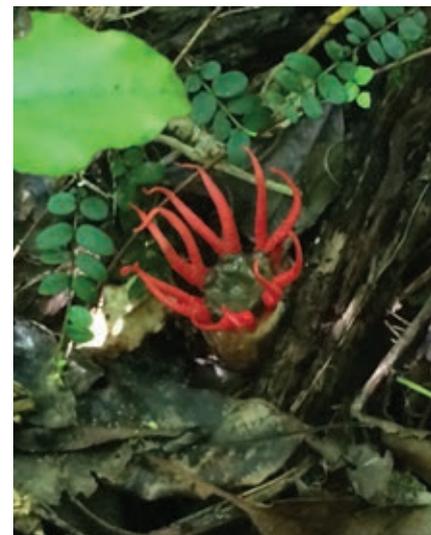
Eventually we seventeen started up the track, and immediately found ourselves surrounded by more ferns than we had seen in the previous three days. *Asplenium gracillimum*, *A. flabellifolium*, *A. flaccidum*, *Asplenium* hybrids, *Blechnum fluviatile*, *B. discolor*, *B. nz*, *B. membranaceum*(?), *B. vulcanicum*, *B. chambersii*, *Dicksonia squarrosa*, *Microsorium pustulatum* subsp. *pustulatum*, *Notogrammitis* spp, *Polystichum vestitum*, *Pteridium esculentum* and more.

The bush was cool, and sheltered from the wind, so we meandered up, noticing and commenting on the number of very large trees, of various species: *Fuchsia excorticata*, *Hoheria angustifolia* (d.b.h. 55 cm, and about 5 m to first branch), mataī (d.b.h. 120 m), *Aristotelia serrata*. The most massive was the tōtara where we gathered for morning tea. It had two main trunks (had this formation saved it from being milled?), d.b.h. 3 m, or seven people holding hands around it. The heavy-handed lopping of planted rangiora—not naturally occurring on Banks Peninsula—and other undergrowth around the tōtara upset some of us.



BotSoccers inspect a large tōtara.

As we gained height, we noticed more epiphytes, including *Metrosideros diffusa* in flower, and *Griselinia lucida*. We also walked through a population of stinkhorn fungus *Aseroe rubra*.



*Aseroe rubra*.

Then we had the impressive and steep rocky track to ascend the volcanic escarpment, with lots of well-placed stone steps. We started

noticing the smaller plants, e.g., *Microtis unifolia*, *Corybas trilobus*, *Ourisia*, *Anaphalioides bellidioides*, *Astelia* (many in fruit), *Phlegmariurus varius*, *Lycopodium deuterodensum*.

The last ten minutes to the top of 'Rocky Peak' were in the open, where the wind was savage, so it was a matter of up, round and down, to a sheltered sunny spot for lunch, the view of Akaroa Harbour and across the nearby hills where standing remnant tōtara trunks were dotted around.

Some interesting animal life: A perching kererū carrying a large, lopsided, unstable stick—nest material?

A stick insect, looking very full of eggs, and measuring 20 cm toe to tail.

A red wasp (golden hunting wasp, *Cryptocheilus australis*) dragging a large spider across the roots of the giant tōtara, to her cosy underground lair.

Jill Goodwin

## Onawe Peninsula

On the way home seven of us explored this geologically interesting promontory, thought to be the centre of the Akaroa volcano. It is a near-island, being cut off at high tide. The orange swirling patterns in the volcanic ash rock seemed more interesting than the grass and regenerating plant cover of kānuka, ngaio, five-finger and native broom, although the view from the high point was well worth the climb.

### 19.1.2021: Nikau Palm Gully

#### NZTopo50-BY25 Akaroa

The sky was full of scudding cumulus clouds with a strong northerly wind and plenty of sun requiring several layers of sun-block. It took two hours from Onuku Farm Hostel to the gully using the coastal track. Hugh Wilson advised on no account to use the track from Lighthouse Rd which is marked on the topo map but only goes around the head of the gully. The coastal track has many ups and downs but good views all the way. There was very vigorous regeneration of native trees in the reserve among big old trees such as māhoe, ngaio and kōwhai. In some places there was abundant kōwhai forming nearly a monoculture. In the gully there were ongaonga, māhoe, nikau and many species of ferns, and where the gully drops into the sea there was impressive cliff scenery.

Many tourist boats run from

Akaroa to Te Ruahine Point, and the sound of voices disturbed the silence in the gully. The whole trip took us 6.5 hours including lunch and frequent stops.

Ken Fraser

### 20.1.2021: Tutakakahikura Scenic Reserve

#### Map: NZTopo50-BY25 Akaroa

The notes provided to us by Hugh Wilson informed us that this stream-side strip of land was donated to the nation by the Helps family of Flea Bay, reserved in 1991, and is now securely fenced to exclude stock. It borders the stream that flows into Pōhatu/Flea Bay, ranging in height a.s.l. from about 300 to 500 m. A most significant feature of the reserve is a stand of red beech (tawairaunui) forest, storm-damaged in 1975 but regenerating.

We drove out to a high point above 600m on Flea Bay Road, where some of the cars were parked for the trip while 4-wheel drive cars continued to the lower entrance to the reserve at the DOC sign, ready to help ferry people back up the road at the finish. A glance around at this windy high point showed scattered clumps of *Kunzea ericoides*, *Podocarpus totara*, *Chionochloa conspicua*, a large flowering *Aciphylla aurea*, *Melicytus alpinus* and other species we had seen in the previous few days common at this altitude. A little further down the road, on the uphill bank were numerous *Polystichum vestitum*, *Asplenium appendiculatum*, *Corokia cotoneaster*, *Veronica (Hebe) strictissima*, among other species and occasional *Astelia fragrans*, *Brachyglottis lagopus*, *Ourisia macrophylla* subsp. *lactea*, and fruiting *Gaultheria depressa* var. *novae-zealandiae*. Below the other side of the road were large flowering *Carpodetus serratus* and *Fuchsia excorticata* trees, often cloaked with *Rubus cissoides*. Pest-control boxes were present at intervals. At the 'Mortlocks Mistake' sign we entered the reserve while listening to a pīpī / brown creeper. The 4-wheel drive people entered at the lower DOC sign and reported hearing a miromiro / tomtit.

What a lovely sight this section of the stream was, with an enormous abundance of *Blechnum colensoi*, *B. procerum* and *B. chambersii* draped

down the sides of this little gorge. *B. fluviatile*, *Asplenium gracillimum* agg., *Polystichum vestitum* and *Leptopteris hymenophylloides* were also plentiful with the taller *Cyathea smithii*, *Dicksonia squarrosa*, *Fuchsia excorticata* and *Schefflera digitata* extending way above us. A little further on, at a small open area with picnic tables and an historic loo, we noted that the track from the DOC sign further down Flea Bay Road joined the gully and this was the start of the red beech stand. These trees we estimated to be about 20 m high, providing a good leaf-litter carpet. *Myrsine australis*, *Pseudowintera colorata*, *Pseudopanax arboreus*, *P. crassifolius* and other species provided a mid-storey in this lower section of the gully. A very healthy, localised, lush patch of flowering and fruiting *Ripogonum scandens* scaled a large tree and formed a dense leafy clump at track level. Down a bank we spotted about four stems of *Gastrodia molloyi*, two about 75 cm high and one still remaining in full flower.

Lower down the gully, a huge red beech standing behind a sign advising "400 years", we estimated it had a d.b.h. of ca. 160 cm. Close by, on the stream banks below we saw three species of *Hymenophyllum*, four species of *Notogrammitis*, including the feintly hairy *N. ciliata* and *Schizeilema (Azorella) hookeri*.

On trunks of *Cyathea smithii* and *Dicksonia squarrosa*, we were pleased to see *Tmesipteris horomaka*, with distinctive tips on the leaves and good sporophylls. Also, *Trichomanes venosum* and *Rumohra adiantiformis* on an old ponga trunk, we pleasingly ticked off against Hugh Wilson's list of species we might encounter. Some good eyes spotted the bright green foliage of a *Tupeia antarctica* perched well up a *Myrsine australis*, before we reached a track junction where we took the uphill branch, leading us to the road and our 4-WD vehicles.

Michele Dickson

### Lichens of Tutakakahikura Reserve

*Acarospora otagensis*  
*Austromelanelixia calva*  
*Buellia* sp.  
*Candelariella vitellina*  
*Carbonea verticosa?*  
*Cladia schizopora*

*Cladonia* sp.  
*Diploschistes muscorum* subsp. *bartlettii*  
*Hypogymnia subphysodes*  
*Lecanora* spp.  
*Lecidea atramorio*  
*Lecidea sarcogynoides?*  
*Lepraria finkii*  
*Maronea constans*  
*Megalania* sp.  
*Nephroma plumbeum* var. *isidiatum*  
*Parmotrema perlatum*  
*Pertusaria sorodes*  
*Pseudocyphellaria fimbriatoides*  
*Psoroma melanizans*  
*Stereocaulon corticulatum*  
*Tetramelas concinnus*  
*Usnea cornuta*  
*Usnea flavocardia*  
*Usnea inermis*  
*Xanthoparmelia amplexula*  
*Xanthoparmelia congesta*  
*Xanthoparmelia flavescens*  
*Xanthoparmelia mougeotina*  
*Xanthoparmelia pulla*  
*Xanthoparmelia verisidiosa*

Allison Knight

## Lichen Highlights

Wellington Botanical Society summer camp, Banks Peninsula, 14–21 January, 2021

Lichens make up a sizeable proportion of the flora of Banks Peninsula (if you accept a fungus teamed up with a photosynthesising green alga and/or a cyanobacterium partner as a plant). They are especially dominant in the harsher environments where more vulnerable vascular plants struggle to survive—on rocks above the treeline and on the exposed coast. Lichens are abundant in and around the forest, too, growing on rocks and bark and sometimes the ground. Pale *Usnea* / beard lichens hung from branches and twigs almost everywhere we went. Jennifer Bannister is revising this genus and was pleased to get specimens from such a rich area. She has identified 7 different species from our trip: *Usnea cornuta*, *U. dasaea*, *U. flavocardia*, *U. inermis*, *U. molliuscula*, *U. oncodes* and *U. xanthopoga*.

On fence posts in the regenerating forest below Hugh Wilson's house at Hinewai there was a suite of foliose lichens with sorediate (powdery) vegetative propagules which all looked rather similar. Features that aid in their identification include

the colour and structure of their lower surfaces and their chemistry. *Punctelia borrieri* has a black lower surface while *P. subrudecta* has a paler one, while *Hypotrachyna* (formerly *Parmelina*) *labrosa* has a few tiny projecting rhizines. These three species are common in urban settings and contain chemicals that react with sodium hypochlorite (household bleach) to give a pinkish-red colour. In contrast *Notoparmelia* (formerly *Parmelia*) *cunninghamii* is negative in bleach but reacts deep red with potassium hydroxide.

Deeper into the forest one of the more striking green foliose lichens was *Nephroma australe*, whose brown, kidney-shaped apothecia are on the lower surface of the lobes. Only when it rains do the lobes rise up and expose the fruiting bodies (Fig. 1).



Fig. 1. *Nephroma australe*, with brown, kidney-shaped apothecia. Regenerating forest above Hinewai.

Above the tree-line, in the Native Forest Restoration Reserve managed by Hinewai the rocks were splashed with the very white *Lecanora farinacea*, with its pinkish brown apothecia (fruit bodies) and the greyish *Tephromela atra*, with jet-black apothecia. Less common amongst them were two species of *Pertusaria* covered in warty lumps containing little dark specks of fruiting bodies, grey-white *Pertusaria otagoana* and the faintly cream *P. lophocarpa* (Fig. 2).

We noted two bark-living *Pertusaria* in the forest, *P. novaezelandiae* at Hinewai and the warty *P. sorodes* at on a fallen beech branch in Tutakakahikura Scenic Reserve and a flake of matai bark at Montgomery Park Scenic Reserve.



Fig. 2. *Pertusaria lophocarpa* infected by grey lichenicolous fungus. Rock in grassland above Hinewai.

At Okains Bay we had a mission to accomplish. Ulrik Søchting in Copenhagen is revising (and splitting) the genus *Caloplaca* and had asked me to seek a fresh sample of *Gondwanea* (formerly *Caloplaca*) *cribrosa* so he could sequence the DNA for his phylogenetic analyses. We had to go back a second time and follow his GPS coordinates more precisely to locate it. Also at Okains Bay I found some distorted *Xanthoria parietina*, which on close inspection appeared to be infected by a lichenicolous fungus. Coincidentally, Eleanor Burton found another distorted orange lichen, *Teloschistes chrysophthalmus*, at Kaitorete Spit (Fig. 3). This too looked as if it might be infected by an orange lichenicolous fungus. Adam Flakus, a colleague in Austria, who studies lichenicolous fungi, will be very interested to see these.



Fig. 3. Distorted *Teloschistes chrysophthalmus*, Kaitorete Spit.

Robin Halliday kindly brought me another striking lichen that sprawled over pebbles in the sun at Kaitorete Spit. It turned out to be a puzzling brown *Xanthoparmelia* sp. which I sent to Jack Elix in Canberra for further identification (Fig. 4).



Fig. 4. Brown *Xanthoparmelia*, on a pebble at Kaitorete Spit.

The brown colouring is a melanin sunscreen and the higher the UV exposure the darker the protective brown. In contrast *Xanthoparmelia verisidiosa* growing on shaded rock by the track through Tutakakahikura Scenic Reserve was a much paler shade of brown. *X. verisidiosa* often occurs on footpaths alongside, but less conspicuous than, the infamous *X. scabrosa* and it was interesting to see them both in their natural habitat. There were many species of yellow-green *Xanthoparmelia*, including a beautiful shade form of *X. mougeotina* in the reserve, (Fig. 5), while a quick look on the sunny rocks by Flea Bay Road revealed *X. amplexula*, *X. congesta* and *X. flavescens* among the many species there. New Zealand has over 80 species of *Xanthoparmelia* and they are not easy to tell apart without chemical analysis.

I am collaborating with Jack Elix on a revision of Buellioid lichens in New Zealand and have sent



Fig. 5. *Xanthoparmelia mougeotina*, on shady rock bank, Tutakakahikura Reserve.

him four species to confirm, from rocks in the saddle above tree-line in Montgomery Park Scenic Reserve, under regenerating forest in Tutakakahikura Scenic Reserve, and in the splash zone on the point of Wainui Beach. The apothecia of *Buellia* look like tiny black dots, but so do the apothecia of genera such as *Tetramelas*, *Amandinea*, *Rhizocarpon*, *Lecidea*, *Carbonea*, *Megalaria* and several others, so it takes many hours of examining under a high-power microscope to get down to a genus, let alone a species. *Rhizocarpon*

*geographicum* has a distinctive bright yellow-green thallus but then there are brown or grey *Rhizocarpon* species as well.

*Lepraria* is a leprose (scurfy) genus, made up almost entirely of fluffy little balls of soredia (vegetative propagules made of fungal hyphae wrapped around a few cells of green algae). Pale glaucous green *Lepraria finkii* (formerly *L. lobificans*) is not fussy about substrate and was growing in sheltered crevices of rock, bark or soil. It glows a pale green under UV light and is one of the many lichens that can convert UV light into visible light, often a useful distinguishing factor, and probably useful for the lichen as well.

Vegetative propagules themselves can be a useful distinguishing factor, though they sometimes have to be looked for carefully, as with *Hypogymnia subphysodes*, where soredia can form little granular clumps on the inflated mature lobes (Fig. 6).

Many thanks to Wellington Botanical Society for tolerating two interlopers from Otago, and especially to Julia Stace and Jon Terry for running another excellent camp. Also to Hugh Wilson for his hospitality and for his extensive lichen list. Above all I am indebted to my lichen-hunting partner John for tolerating, aiding and abetting my passion for lichens.

Allison Knight



Fig. 6. *Hypogymnia subphysodes* on red beech, Tutakakahikura Reserve.

## 13 February 2021: Mt Climie, Remutaka Forest Park

We met at Tunnel Gully, Pakuratahi Forest, at 200m a.s.l. for a quick briefing. The car park is close to the original tunnel of the old Rimutaka Incline Railway Line traversed by trains pulled by Fell locomotives. It is now part of the Remutaka Rail Trail. We jumped into five 4wd vehicles to head up the hill. Out of the windows we saw the transition from the regenerating lowland forest to silver beech forest and some *Cordyline indivisa* / mountain cabbage tree / tōi beside the road, before getting out into the open ridgetops. It didn't seem like a steep 4wd climb, but we had climbed 600 m. It was a short drive along the top of the ridge to the second radio tower (862 m) where we left the vehicles and continued on foot out along the spur to the east

and through *Astelia nervosa* herb field which was being colonised by kāmahi, *Dracophyllum* and others. Some highlights on the day included *Drosera binata*, *D. stenopetala*, *Nertera ciliata* and *Gentianella montana* subsp. *ionostigma*.

The low vegetation is not naturally above the treeline. The original beech forest was razed by accidental fire in the early 20th century. A few people descended to the beech forest further down the spur. In damp undergrowth, *Pseudowintera colorata* dominated the understorey, suggesting heavy browsing.

We couldn't have planned better weather, with sunshine and a light breeze. A handful of paragliders were also out enjoying the conditions. While sitting down for lunch we

commented on how unusual it was to be in the subalpine zone without the climb! A big thanks to Ranger Thane Walls from GWRC for the road access and to all our 4wd drivers for a fantastic day out.

**Participants:** Dennis Asher (4WD), Gavin Dench (4WD), Michele Dickson, Gael Donaghy, Raewyn Empson, Pat Enright, Jenny Fraser (4WD), Olia Glade, Chris Horne, Aman Hunt, Graeme Jane (4WD), Kate Jordan, Mick Parsons (4WD), Emile Powell, Sunita Singh, Stirling Smidt, Heidi Snelson, Julia Stace, Jon Terry (co-leader), John van den Hoeven, Helen White (co-leader), Martine Yockney.

*Helen White & Jon Terry*



*Drosera binata*. Growth habit (left) and flower (above). Photos: Kate Jordan.

## 6 March 2021: Queen Elizabeth Park, Maclean and Northern Peat Wetlands

The Saturday morning dawned fine but with a promise of heavy rain and showers. In spite of this 16 keen botanists met 9.30 a.m. at MacKay's Crossing for the chance to botanise this frequently seen but seldom accessed site. The promised forecast proved accurate and we all got suitably wet. Thankfully, there was little wind, and it was not too cold. The plan for the day was to botanise the Maclean Wetland area first, and then if time permitted to botanise the paddocks further to the south. The base substrates of the area are degraded peats up to 8 metres deep

bounded on the western side by an old and stable sand dune with a thin, weakly structured organic soil. To the east and north the area was bounded by SH1 and Poplar Avenue.

Entering the park at the Kāpiti Pony Club off Poplar Ave, and organising with the club in regards leaving, we botanised first the area around the club amenities. This area was notable for its selection of uncommon exotic species so we did much sample collecting. We then proceeded to botanise the Maclean Wetland area that Greater Wellington Regional Council and the Maclean

Trust have been restoring. The area contained large revegetation plantings included mānuka, kānuka, harakeke, karamu amongst other native species, however we decided not to include the revegetation species on the plant list. The area comprises exotic grasses and herbs almost entirely, plus juncus species and sedges in places. However, along the drains were mature mānuka and kānuka with an understorey of more diverse native flora. Botanising along the drain was very limited due to the dangers involved. As the morning progressed, the rain became heavier and more

continuous. By lunch we were suitably wet and by mutual consent headed for the dry of the pony club barn which we were allowed to use to eat. We all appreciated the facility greatly.

Over lunch the rain became heavier and there was much discussion over what to do in the afternoon. Some decided to call it a day, while for others a close inspection of the rain radar on Met Service and the apparent easing at the end of lunch proved decisive. The afternoon proved fine as we walked along the farm track down the dune to access the paddocks further south past the shelter belt of pines. These paddocks had not been grazed for some time and along with the Maclean Trust area the Regional Council intends to rewet and restore the peat wetlands in this area. In these we found areas that were quite wet and there were large areas of native plants

coming up through the exotic herbs and grasses. These were often turfs of wetland species namely *Sphagnum* sp, *Isolepis prolifera*, *Centella uniflora*, *Gonocarpus micranthus* subsp. *micranthus*, *Hypericum pusillum*, and *Lobelia anceps*. In places the native rushes dominated with *Juncus australis*/wīwī/leafless rush, *J. edgariae*/wīwī/leafless rush, *J. pallidus*/wīwī/leafless rush, *J. planifolius*/grass leaved rush, and *J. sarophorus*. However the paddocks were in the main dominated by gorse and exotic wetland grasses and rushes namely, *Agrostis stolonifera*/creeping bent, *Paspalum distichum*/mercer grass, *J. articulatus*/jointed rush, *J. bufonius* var. *bufonius*/toad rush, and *J. dichotomus*/forked rush. A plant list was compiled that contained a large exotic component due to the land use and management over many

years. It is not an area that has been farmed intensively. Most people have uploaded their botanical finds to iNaturalist and the list will be passed on to the NZPCN for uploading. It is hoped this list will be useful as the land is allowed to revert to wetland and the composition of the plant communities changes.

### **Acknowledgements**

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**Participants:** Eleanor Burton, Gillian Candler, Gavin Dench, Michelle Dickson, Pat Enright, Jenny Fraser, Olia Glade, Chris Horne, Kate Jordan, Leon Perrie and Lara Shepherd (Te Papa), Sunita Singh, Stirling Smidt, Jon Terry, Carol West. Owen Spearpoint (leader/scribe).



# Membership application

(For new members, **NOT** for renewal of existing membership)

I wish to join the Society

My name Mr/Mrs/Ms/Dr..... Phone (.....) ..... (h)

My address ..... Phone (.....) ..... (w)  
 ..... Fax (.....) .....

I would like to receive my newsletters by e-mail as a PDF: YES / NO (Delete as appropriate)

My/our e-mail address .....@.....

Signature ..... Date:..... / ..... / .....

The membership year is from 1 July to 30 June. Dues received after 1 May will be credited to the following year.

Membership fees for the year ended 30 June 2021 are:

Type of membership: *Ordinary* \$35; *Country* \$30; *Student* \$10; *Group/family* \$40.

*We welcome donations to support research into NZ native plants and to the Jubilee Award Fund.*

Please pay direct to the Society's bank account 020536 0017812 00

using the following details:

Particulars: *Name*

Code: *Membership type*

Reference: *amount of any included donation*

and e-mail this completed form to the Membership Secretary at [helenamywhite@gmail.com](mailto:helenamywhite@gmail.com)

or post to: **Membership Secretary, Wellington Botanical Society Inc, PO Box 10 412, Wellington 6143**

Payment enclosed for	Ordinary membership	\$.....
	Country membership	\$.....
	Student membership	\$.....
	Group / family membership	\$.....
	Donation	\$.....
	TOTAL	\$.....

*Alternatively you may make your cheque payable to Wellington Botanical Society Inc, and send it with this form to:*

**Membership Secretary, Wellington Botanical Society Inc., PO Box 10 412, Wellington 6143**

## Authority to release your name, address and phone number to other members of the Society.

The Society holds the names and addresses of all members to use for post-outs of newsletters etc.

The committee sees benefit in circulating the membership list to all members. This is done by many societies to enhance social interaction as well as being of practical value.

Under the Privacy Act the circulation of names on such lists requires the approval of the individual members.

If you are agreeable to your name and address being on the circulated list, please sign the authorisation below and return it with this membership application.

*I agree to my name, address and telephone number being on the membership list to be circulated to members of the Wellington Botanical Society. I understand that this list is to be used only by members, and that the circulated list will include the caveat that the list is for social and society use and is not to be used for any other purpose.*

***Specifically the list is not to be used for marketing, soliciting or political purposes.***

Name..... Signed..... Date / /

Name..... Signed..... Date / /

***If you do not agree, it would assist processing if you could please put a line through paragraphs above and return the form unsigned.***