

Wellington Botanical Society

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



NEWSLETTER December 2017

Previous issue: September 2017

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From the President

The October WBS meeting gave me much hope for the future of botanical research in New Zealand. We were lucky to hear talks from two of our 2016 WBS prizewinners. Jubilee Award winner, Stacey Bryan, on behalf of Hannah Buckley, gave a fascinating talk on pīngao, which wove in aspects of genetics, culture, conservation and ecology. Grants to Graduate Students prizewinner, Nathaniel Walker-Hale, gave a very polished presentation on the evolution of salt tolerance and betalain pigments. Nathaniel was recently awarded a Woolf Fisher Scholarship to continue his studies with a PhD at the University of Cambridge in the UK. Lastly, Jane Humble gave an insightful talk into botanical art and brought along some of her own artworks for us to admire. The talks stimulated much discussion. I had several members tell me how much they enjoyed the evening in the days afterwards. Thanks to all our speakers, and to Sunita Singh for organising our meeting programme.

Lara Shepherd, President

New members

We welcome the following:

Barbara Hammonds, Tom Mayo, Sarah Wilcox, Joyce Wilson.

Lea Robertson, Treasurer

E-mail address update

If your e-mail address has changed, please advise the treasurer, Lea Robertson, harlea@atrix.co.nz, or Treasurer, Wellington Botanical Society, PO Box 10 412, Wellington 6143.

The committee

Articles for web site

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

www.wellingtonbotsoc.org.nz

Please send your article to:

Richard Herbert

e-mail 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 esmeraldadoris93@gmail.com or 479 0497.

Wellington Botanical Society

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Send your subscription to Treasurer, WBS, Box 10 412, Wellington 6143 or to our bank account 020536 0017812 00.	
New subscribers: Please complete form at the back of this newsletter.	

Meetings

BotSoc meetings are usually held at 7.30 p.m. on the third Monday of each month at Victoria University, W'gton – Lecture Theatre MYLT101, ground floor, Murphy Building, west side of Kelburn Parade. Enter building about 20 m down Kelburn Pde from pedestrian overbridge. No meetings December and January.

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, at Easter and the first weekend in December.

DEADLINE FOR COPY FOR NEXT ISSUE – 20 April 2018

Articles may be edited for clarity and length

ATTENDING FIELD TRIPS AND MEETINGS

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 Barbara Clark, PO Box 10 412, Wellington 6143, ph 233 8202.

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.

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, and 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

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. 23 Mairangi: depart Houghton Bay 6.30 p.m., Hospital 6.42, Courtenay Place 6.49, opposite Supreme Court 7.00, University 7.05.

No. 23 Mairangi: depart Southgate 7.00 p.m., Hospital 7.17, Courtenay Place 7.22, opposite Supreme Court 7.34, University 7.39.

No. 22 Southgate: depart Mairangi 7.00 p.m., University 7.13.

No. 17 Railway Station: depart Karori Park 6.35 p.m., University 6.52.

Cable Car at 00, 10, 20, 30, 40, 50 min past each hour from Lambton Quay terminus. Alight at Salamanca Station.

FROM MEETINGS

No. 23 Southgate: 9.12 p.m. from University.

No. 23 Southgate: 10.10 p.m. from University.

Cable Car at approx. 01, 11, 21, 31, 41, 51 minutes past each hour from Salamanca Station.

Last service 10.01 p.m.

For further information ring Metlink, 0800 801-700.

FIELD TRIPS & EVENING MEETINGS: FEBRUARY–MAY 2018

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.

Saturday 3 February: Field trip

Botanise in the valley of Waipapa Stream, which rises near Hawkins Hill, and enters the sea just west of Pari Whero / Red Rocks. See *Rubus squarrosus* / leafless lawyer, *Clematis afoliata* / leafless clematis, and other species of semi-coastal native plants near the valley's main forks c. 1 km from the sea. WCC is drafting a management plan for this c. 700-ha coastal reserve, which spans Waipapa Valley, Hāpe Stream / 'Spooky Gully', and a smaller valley. This field trip will help us to prepare detailed comments on the draft plan. When you book, give your e-mail address so that you can be sent a plant list. **Catch** no. 1 Island Bay bus at 8.40 a.m. from Wellington Station to terminus. Ask co-leaders to arrange for you to be met there. **Meet** 9.30 a.m., west end, Owhiro Bay Pde., near toilet block and WCC interpretation panels. Access to the reserve will be generously provided by Barry Insull and other members of the Wellington 4WD Club. **BOOKING ESSENTIAL**—space in 4WDs is limited. **Map:** NZTopo50-BQ31 Wellington. **Co-leaders:** Chris Horne 475 7025, Sunita Singh 387 9955. 027 4052 987, Barry Insull.

Te Kopahou Reserve

Monday 19 February: Evening meeting

Speaker Dr Matt Ryan, Adjunct researcher, School of Geography, Environment and Earth Sciences, Victoria University of Wellington. Matt will describe preliminary findings which shed light on early Māori agricultural practices using stone rows along the East Coast, North Island. The rows, thought to have been formed about 600 years ago, look like long stone mounds in shallow trenches, with soil piled on top. Macrofossil, microfossil and DNA analysis was done on small sediment samples on and surrounding the stone rows to determine what plant remains were present. Crops may have propagated on the rows which would have had an extended growing season because of the concentrated warmth.

Unearthing the secrets of the stone rows

Saturday 3 March: Field trip

Join us for a walk through regenerating broadleaf forest on the slopes of Boulder Hill 442 m, Belmont Regional Park. There is the option of a quick dash across farmland to the summit to admire the boulders and great views all round. It's a 200-m climb to the summit so bring water if it's a warm day. **Catch** 8.35 a.m. train on Hutt

Boulder Hill regenerating bush

line to Waterloo Stn, then 9.04 a.m. no. 150 Kelson bus from Knights Rd stop west of Waterloo Stn—alight at terminus on Major Drive, near Kaitangata Cres. From terminus walk to Kaitangata Cres car-park (c. 20 minutes). **Meet** 9:45 a.m. at car-park near end of Kaitangata Cres, Kelson. **Maps:** NZTopo50-BQ32 Lower Hutt & BP32 Paraparaumu. **Co-leaders:** Lara Shepherd 027 363 5854, Leon Perrie 027 419 1378

Monday 19 March: Evening meeting

Discovering ferns

Speaker: Leon Perrie, Curator of Botany at Te Papa, will talk about NZ's ferns. Topics include what separates ferns from other plants, the place of ferns in NZ culture, recent research on ferns, ferns in the broader context of conservation in NZ, and practical tips for identifying ferns.

Saturday 7 April: Field Trip

Wainuiomata catchment

Join members of Nelson BotSoc to botanise this extensive tract of podocarp-broadleaved forest in one of our drinking-water catchments. See massive northern rātā and rimu, numerous species of ferns, lianes, shrubs and ground-covers. The trip will be along the valley road in this forest subject to intensive control of pest animals. **Catch** 8.35 a.m. train on Hutt line from WN to Waterloo Station, then no. 170 Wainuiomata bus, on east side of station, to end of Hine Rd. Then walk across park to footbridge and main gate. If you will travel by car, please tell co-leaders if you can take passengers. **Meet** 9.45 a.m. at main gate, Whitcher Grove Rd, off Moores Valley Rd, Holmdale, Wainuiomata. From the main gate we will drive in convoy to the Water-Treatment Plant car-park by a toilet block. **Map:** NZTopo50-BQ32 Lower Hutt. **Co-leaders:** Chris Horne 475 7025, Sunita Singh 387 9955 / 027 4052 987.

Monday 16 April: Evening meeting

Flora of NZ's & Australia's sub-Antarctic islands

Speaker: Dr Alex Fergus, Ecology Technician, Manaaki Whenua Landcare Research. Join Alex for an introduction to some of the remarkable elements of the flora of the Australasian sub-Antarctic islands. For the most part this will entail a slideshow of botanical extravagance, centred on the suite of megaherbs (macroforbs), but also interwoven with biogeography, human history and plant ecology. The results of four journeys in the 2017/2018 summer will also structure the evening, with particular focus on the regeneration of Macquarie Island vegetation post-rabbit eradication.

Saturday 5 May: Field trip

183 South Karori Rd

Help to prepare lists of native and introduced plants on this hill-side property owned by Jo Schofield's partner Brent Layton. The c. 22 ha site comprises: 2.5 ha of well-established native bush, following a fire c. 30 years ago; 1.25 ha of old pine plantation with some regenerating and planted native bush; 6 ha of regenerating native bush with remnant kohekohe, replacing a pine plantation felled 25-30 years ago; 1.25 ha of grassland being replanted with natives; 0.5 ha of garden & house site. Pest animals have been controlled for 14 years. **Catch** no. 3 Karori Park bus: Lyall Bay 8.25, Ct Pl 8.45, Stop F Lambton Quay 8.59, to terminus. Ring a co-leader if you would like a lift. Drive to end of Karori Rd, then c. 1.8 km down South Karori Rd. **Meet** 9.30 a.m. Park 4 cars on driveway before bridge, and rest on grass verge across road. Pick up any BotSocers who have come by bus and are standing at the start of South Karori Rd. **Map:** NZTopo50-BQ31 Wellington. **Co-leaders:** Chris Horne 475 7025, Jo Schofield, Sunita Singh 387 9955 / 027 4052 987.

Monday 21 May: Evening meeting

Members' evening

Please share your botanical slides and photographs taken on BotSoc trips, your paintings and drawings, and your favourite botanical readings. Slides, on a USB stick, limited to 20 per person. For a gold-coin koha, or even 'folding money', buy one or more books we put on display, and help build up the Jubilee Award Fund which is used to support research on NZ plants. Plant specimens to sell, or to discuss, would add to a memorable evening. Please donate any spare botanical or other natural-history books, so we can build up a collection to sell at a future meeting, to raise funds for the Jubilee Award Fund.

AWARDS

- 6 September. **Wellington Botanical Society Jubilee Award.** Please see article in this newsletter.
- 6 September. **Wellington Botanical Society - Grant to graduate students.** Please see article in this newsletter.

EVENTS

- 1st Saturday each month. **Otari-Wilton's Bush Trust plant care.**
Wilbur Dovey 499 1044.
- 1st Sunday each month at 1.30 p.m.; 2nd Tuesday each month at 9.30 a.m. **Trelissick Park Group workbee.**
www.trelissickpark.org.nz Peter Reimann, ph 938 9602.

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

- 3–10 January. **Flora of the 'Forgotten Islands'**. Botanical expedition to the Snares, Auckland and Campbell islands. info@heritage-expeditions.com
- 1st Saturday every month: 2–5 p.m. **Southern Environmental Association's Tawatawa Reserve workbee, Murchison St, Island Bay.**
- 18–26 January. **University of Canterbury summer course: Practical Field Botany.**
This BIOL305 course is an intensive, short summer course designed to meet the need for training in the collection, preparation, and identification of botanical specimens. UofC—Cass Mountain Research Area, Canterbury
Matt Walters (matt.walters@canterbury.ac.nz; 03 369 5211) or **Pieter Pelser** (pieter.pelser@canterbury.ac.nz; 03 369 5228).
- 18 February, 11 a.m. & 1 p.m. **Manawa Karioi guided walk. Tapu Te Ranga Marae, Rhine St, Island Bay.**
- 10–18 February. **Canterbury Botanical Society Summer Camp.** Gowan Valley, Lake Rotorua, Nelson Lakes National Park.
info@canterburybotanicalsociety.org.nz
- 21–23 February. **2nd Pacific Climate Change Conference.** Wellington.
- Tuesdays in March, 7.30 p.m. **Otari-Wilton's Bush Trust seminars.** Te Marae o Tāne, 160 Wilton Rd, Wilton, WN. Check web-site for topics and speakers.
www.owbt.nz.
- 20 March. **Environmental Law Conference.** Auckland.
- 30 March – 1 July. **Botanical Art Worldwide.** Exhibition, Auckland Botanic Gardens Visitor Centre Gallery.
botanicalartnz@gmail.com
- 26 May. **Restoration Day.** Theme: Community Connections – people, plants & pests. Silverstream Retreat, Upper Hutt.
- 2–6 July. **Conservation in a Changing World.** Society for Conservation Biology – 5th Oceania Congress. Wellington.

PUBLICATIONS

1. Department of Conservation briefing papers to the Minister of Conservation.

- <http://www.doc.govt.nz/Documents/about-doc/role/publications/bim-2017/briefing-to-incoming-minister-2017.pdf>

2. Ministry for the Environment briefing papers to the Minister for the Environment.

- Info@mfe.govt.nz

3. Our Atmosphere and Climate 2017.

Ministry for the Environment and Statistics NZ report on climate change - what it means for NZ.

- Info@mfe.govt.nz

4. NIWA Wellington Science and Technology Fair 2017 – 13-16 September.

Programme; list of exhibitors and their exhibits; etc. The winners of the BotSoc prizes, and the names of their projects, are reported elsewhere in this newsletter.

- www.sciencefair.org.nz

5. *Trilepidea*. 163 6/17:

Prof Peter de Lange wins 2017 Loder Cup; *Pterostylis alobula*; wilding pines in Taupō; myrtle rust response at NZ Indigenous Flora Seed Bank (NZIFSB); 166 9/17: Roger Michael Greenwood (1920-2017); *Parablechnum procerum*; Rangatira Is, (in Chatham Is group) new draft vegetation association map, and new lichen, *Lecanora kohu*; volunteers greening the Canterbury Plains; NZIFSB testing germination of *Metrosideros* sp. seed after banking in -20° C freezer; etc. 167 10/17: Lawrie Metcalfe 1928-2017; *Pachycladon*

wallii, Lucy Cranwell student grant for botanical research – applications close 15/12; NZIFSB germination of *Veronica pimeleoides* subsp. *faucicola*; eco-sourcing – misgivings & misconceptions; etc. 168 11/17: President's report to 14th AGM; *Asplenium lepidotum*; NZPCN Award winners including Special Award winner, Wellington BotSoc's Eleanor Burton, botanical artist; Lucid key for *Epacris*; Cook Islands bryophyte survey; Hawke's Bay Botanical Group formed; etc.

- NZ Plant Conservation Network, Box 16 102, WN 6242
events@nzpcn.org.nz

6. **NZ Botanical Society.** 129 9/17: *Polypodium eleagnifolium* (sic), 1828; Paul Champion, NIWA, wins Allan Mere 2017 award; *Weinmannia sylvicola*; *Pyrrosia elaeagnifolia*; new site for *Poa spania*; Rachel Chisholm – biographical sketch; *Tōtara*: A Natural and Cultural History Philip Simpson. A review; etc.

- NZBS, c/-Canterbury Museum, Rolleston Ave, CH 8013. www.nzbotanicalsociety.org.nz

7. **Auckland Botanical Society.** 10/17: Evening meetings; field trips, etc. 11/17: Evening meetings; field trips; African boneseed control; books & bulletins for sale; etc. 12/17: Evening meetings; field trips, etc.

- ABS, Box 26 391, Epsom, AK 1344 <https://sites.google.com/site/aucklandbotanicalsociety/>

8. **Botanical Society of Otago.** 82 10/17: 2018 calendar, \$20, \$18 ea. for 2 or more copies.

- bsotago.ac.nz

9. **Canterbury Botanical Society.** 10/17: "Where did the plants of NZ come from?"; etc. 11/17: University of Canterbury summer course: Practical Field Botany - see Events section above; etc.

- info@canterburybotanicalsociety.org.nz

10. **Nelson Botanical Society.** 10/17: Plant projects in DOC Motueka district; new names for our *Blechnum* species; etc.

- PittmanD@xtra.co.nz

11. **Waikato Botanical Society.** 41 11/17: Paul Champion wins Allan Mere Award 2017; etc.

12. **Pipipi.** 46 11/17: celebrating Hinewai's 30-year history; Ōpātuti Track; interpretation panels; effects of wet winter; tūi; tomtits; Brocheries Flat/Ōtepihi; weeds, including common polypody; myrtle rust; nikau; invertebrates; etc.

- Hinewai Reserve, 632 Long Bay Rd, Akaroa 7583. Donations welcome. Make your cheque out to Maurice White Native Forest Trust. Direct credit BNZ Akaroa 02 0832 0044225 00.

13. **Tieke.** 2211/17: Climate change – legal case; global emissions rise; UN Sustainable Development Goals; MfE & Stats NZ report on climate change; etc. 23 12/17: Myrtle rust arrives in Wellington; kauri dieback; etc.

- Environment & Conservation Organisations of NZ Inc, Box 11 057, WN, Eco@eco.org.nz

14. "Tawa the tree, the community and its reserves". Gil. Roper, a member of Tawa Historical Society (THS) and Friends of Tawa Bush Reserves. Published by THS. \$35.00. 180 pp, A4, colour-illustrated, featuring:

- detailed description of the tawa tree, its discovery and distribution in NZ;
- native vegetation associated with tawa;
- the native bush in the Tawa area – before and at the time of human settlement, and today;
- eye-witness accounts of flora observed by early settlers of the region;
- the uses of tawa;
- bird species in Tawa;
- a detailed list of the plant species in the native bush reserves in Tawa – common names, Māori names and botanical names.
- Ken Woodgate, Secretary, Tawa Historical Society: ken.woodgate@xtra.co.nz
www.tawahistory.org.nz and www.tawabush.org.nz
The first print-run of the book sold out. A reprint will arrive shortly at: Tawa Library, cnr Main Rd and Cambridge St, Tawa

15. **Zealandia – Te Māra a Tāne.** Annual Report 2016/17. Introduction of kohurangi / *Brachyglottis kirkii*; weed control; Nature Connections partnership; Sanctuary-to-Sea project; Victoria University partnership; mātauranga Māori; northern rātā research; environmental sustainability; conservation measures; measures against strategy areas; etc.

• www.visitzealandia.com info@visitzealandia.com

16. **Otari-Wilton's Bush News & Views.** 12/17: NZ Plant Conservation Network (NZPCN) Award to Eleanor Burton; Otari report; pest-animal control results over 10 years; report on NZPCN conference; Otari Open Day; glow-worms; *Leptinella rotundata*; etc.

• *Otari-Wilton's Bush Trust, 160 Wilton Rd, Wilton, WN.* www.owbt.nz

17. **Forest & Bird.** 366 Summer 17: mining on conservation land to be restricted; mining in South Taranaki Bight approved; post-election landscape; carbon-neutral NZ; changes in DOC since 1987 – time to return to its roots?; Hauraki Gulf – marine protection – 2 articles; Ngarururo River campaign; roles of spiders; pest trapping – 2 articles; protecting skinks; wilding pine control; lichen moth; etc.

• *Forest & Bird, Box 631, WN 6140.* office@forestandbird.org.nz www.forestandbird.org.nz

18. **Chirpings.** 2, 11/17: Shelly Bay; guided walks; Tanera Gully restoration; Darwin's barberry control; etc.

• *Wellington Branch, Forest & Bird Protection Society.* wellington.branch.news@forestandbird.org

19. **Gorge Gazette.** 9/17: Flood damage to vegetation; slips; pest control; planting; etc. 12/17: Pest animals recorded on 12 motion-detecting cameras; 17 town-house development proposed above park at corner of Ngaio Gorge Rd and Trelissick Cres; Kaiwharawhara Estuary & K Point; access from Oban Cres, Wadestown; etc.

• *Trelissick Park Group.* www.trelissickpark.org.nz

20. **Friends of Mana Island.** 10/17. 'Trees that Count' initiative; guided walks; weeding; light-welling plantings; etc.

• FOMI@manaisland.org.nz

21. **The Tararua Trumper.** 10/17: *Adiantum cunninghamii*; etc. 11/17: *Myrsine salicina*; etc. 12/17: *Phyllocladus alpinus* agg.; etc.

• www.ttc.org.nz Tararua Tramping Club, Box 1008, WN.

22. **A colonial naturalist – the life of Henry Suter.** Pamela Hyde. 2017.

• *Bookshops.*

23. **Backcountry.** 208 6/17: Kea Konvention; election policy wish-list; Auckland's neglected parks; trapping in Ruahine range; etc.

• *Federated Mountain Clubs of NZ Inc, Box 1604, WN* WAdmin@fmc.org.nz

24. **The Wairarapa.** Journal. 3 Winter 17: Kererū; etc. 4 Spring 17: Rātā – a rakau rangitira, by Tony Silbery & Erin Kavanagh-Hall.

25. **Muelleria.** 35 2016/17: Origins of botanic gardens and their relation to plant science with special reference to horticultural botany and cultivated plant taxonomy; etc. Available on loan from BotSoc.

• *Royal Botanic Gardens Victoria, PBag 2000, Birdwood Ave, South Yarra, VIC 3141, Australia.* muelleria@rbg.vic.nsw.gov.au

26. **Willdenowia.** Annals of the Botanic Garden and Botanical Museum Berlin-Dahlem. 47-2 8/17.

• *Available on loan from BotSoc.*

- 28.2. New Assessment of Threatened Status of NZ's Freshwater Invertebrates. To guide a revision of the assessment for this group in NZ's Threat Classification System.

Department of Conservation [Link to call for submissions](#)

SUBMISSIONS MADE

• **Draft Upper Hutt Open Space Strategy 2017**

Upper Hutt City Council (UHCC) adopted the following definition of 'open space' for its Draft Open Space Strategy; *open space is land that is, or should be, set aside for public recreation that the community has a relatively free right of access to.* 'Open space' includes parks, nature reserves, sports-fields, road reserves, pathways, public gardens, streams and civic spaces. Upper Hutt City manages 421 ha of open space. GWRC and DOC manage a further 34,600 ha near the city.

Upper Hutt faces numerous challenges. Planning challenges for recreation include the small number of places where cyclists and pedestrians can cross SH2, the Hutt River, and the railway line. Guidelines proposed to ban dense plantings and open up more open spaces to passive surveillance hint at concerns about anti-social behaviour and risks to personal safety in some open spaces. In addition, its population is growing (currently 42,000); large subdivisions are already underway; and its population is aging. The number of people over 65 is projected to rise from 5,963 in 2013 to 8,513 in 2028, an increase of 2,550 (42%) over 15 years.

A key theme in the draft strategy is to improve access to, and connectivity between, the city's open spaces. Analyses and maps in the draft show the parks and walking/cycling tracks currently available in neighbourhoods. Some of the analyses also identified opportunities for enhancing biodiversity.

We expressed concern about the limited focus on strategies for protecting and enhancing the place of indigenous biodiversity, and on strategies for strengthening opportunities for contact between people and "nature". We appended the Executive Summary from Wellington City Council's Open Space Strategy 2015 to show the emphasis WCC places on encouraging and supporting residents to care for open spaces. Some of the retirees who may shift into townhouses or retirement villages from family homes with gardens may welcome opportunities to exercise their green thumbs in restoration projects, community orchards, and sustainable education projects.

The draft Strategy does not address open space maintenance or operations, but some of the draft performance measures are encouraging. Council intends, for example, to "monitor to ensure pest plants and animals are absent in open spaces." Upper Hutt City could face high pest management costs given the potential for invasions of environmental weeds and animal pests from adjacent DOC and GW land, as well as private property.

Despite the emphasis on recreation, the draft signals that the Council wants to make sure there is appropriate protection for the qualities of the environment that contribute to biodiversity, the recreational experience and sense of place.

Bev Abbott
Submissions Coordinator

SUBMISSIONS CALLED FOR

- **Early 2018. Draft Outer Green Belt Management Plan.** *Bec Ramsay, Manager, Open Space & Recreation Planning, Wellington City Council.* Bec.Ramsay@wcc.govt.nz
- **Early 2018. Te Kopahou Reserve Draft Management Plan.** JoelDeBoer@wcc.govt.nz

• **What next with DOC's Threatened Species Strategy?**

The new Minister of Conservation, Eugenie Sage, is backed by a confidence and supply agreement which commits to a "significant boost to Department of Conservation funding", and "reducing the extinction risk for 3,000 threatened plant and wildlife species, significantly increasing predator control and protecting their habitats". This commitment provides scope for responding positively to many of the submissions on the Draft Threatened Species Strategy prepared by DOC for the previous Minister. There's a report on Wellington Botanical Society's submission on the DTSS in the September newsletter.

Copies of all the submissions on the DTSS, about 800 pages, can be accessed on <http://www.doc.govt.nz/news/oia-responses/2017/>.¹ Our submission is #93.

The 11-page Summary of Analysis on the same web site shows the diversity of submitters.

Submitter Type	Number
Individuals	108
Conservation groups (local)	21
Conservation groups (national)	16
Local Government (regional and local)	11
Iwi	10
Academic/research organisations	9
Commercial business	6
Captive management institutes	6
Government-related, e.g. conservation boards	5
Total	192

The table illustrates the diversity of groups which said they wanted more done to protect New Zealand's indigenous biodiversity. It's necessary, however, to read actual submissions to understand the scale of the challenges ahead. The high quality information in many of the submissions will provide a useful starting point for developing specific plans to protect different categories of threatened species in different places.

The multi-faceted challenge ahead

The following bullet points illustrate some of the diversity of aspirations in the submissions.

- Several submitters, including Forest & Bird, promoted a whole-of-government approach. Others preferred a whole-of-nation approach, saying iwi, councils, businesses, farmers, and communities need to be involved, not just DOC and Government.
- Environment Canterbury called for greater involvement of regional councils in strategic decision-making and policy-making about threatened species and habitats, particularly where issues impact on the regional sector. They argued for more consistent, systematic and universally applied approaches to identifying, prioritising and delivering biodiversity projects across land tenures and regions.
- Submitter #50 called for a fully-featured and publicly accessible database for the storage, retrieval, and display of distribution data for NZ's threatened and other species, to allow more robust, evidence-based assessments of their distribution and status.

- NZ Freshwater Science Society (# 118) called for "a strong, well-funded flagship freshwater programme (e.g., 'Fight for our Fish'). They want recognition and action to address the impact of salmonids on threatened native species, such as galaxiids and invertebrates.
- A surprising number of submitters noticed that the fungi kingdom had been left out. The Fungal Network of NZ Inc offered a list of 1,480 NZ endemic fungal species—about 20% of the 8,000 recorded species in NZ.
- Iwi reminded Government that rights granted under Treaty Settlements will need to be recognised and incorporated.
- Federated Farmers (# 166) suggested DOC take advantage of well-established relationships between landowners and regional councils because farmers often prefer to engage on biodiversity with one rather than multiple agencies. They also recommended DOC use GIS technology to map the locations of the priority ecosystems and/or threatened species to help communicate where work should be targeted.
- Forest & Bird (# 163) raised the importance of DOC's statutory advocacy role in seeking to protect and restore threatened species and their habitats on private land.
- Predator-Free New Zealand Ltd (#117) asked for clear national policy on translocation, more funding and technical support for community conservation groups and regulations enabling the control of un-owned cats in ecologically sensitive sites. They also highlighted a need for better predator-control tools for non-expert users, and for sites where predator densities are low.
- BGANZ, the Botanic Gardens Australia and New Zealand, described work underway with DOC on an ex-situ strategy to show how the botanical community can contribute to the recovery of NZ's threatened plants.
- NIWA (# 140) reported that the 80 taxa of freshwater-dependant plants comprise about 30% of nationally threatened vascular plant taxa, and an additional 26 taxa are at-risk/ declining.

¹ Each submission is numbered (top right corner of the 1st page). There is no index but the PDF can be searched to find words and names. Personal details are blacked out.

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

Web: www.doc.govt.nz

New Zealand Government



Department of
Conservation
Te Papa Atawhai

- Forest and Bird (#163) identified dry-land and limestone plants as gaps in the lists of priority plant species for protection. They also proposed adding lupin, broom, poplar and gorse to the (previous) Minister's Dirty Dozen weeds campaign given the urgent need to control these in braided river beds and lowland dry-land sites.
- Submission #166 used references and quotes to document concerns about the lack of science in NZ conservation. S/he also queried the lack of any discussion of the ecological implications of the PFNZ 50 proposal to seek a scientific breakthrough that would enable the eradication of at least one small mammal predator from the NZ mainland.
- The Pew Charitable Trust and WWF-NZ (# 149) called for an effective by-catch policy framework because by-catch was contributing to the continuing decline of NZ's protected marine species.
- The Entomological Society of NZ (#146) presented a case for facilities for rearing threatened insects which would enable collaboration with researchers, and be enjoyed by educational and tourist audiences. The required expertise is apparently available because billions of insects are reared globally for exhibits, biological control and pet food. Translocations of insects and spiders also have more potential in conservation than is often realised.
- Many submitters supported adopting the vision from the PCE's recent report on birds, i.e., *The restoration of abundant, resilient and diverse species and habitats across their natural range*. (Nobody pointed out the challenge of identifying the 'natural range' of a species when information about distributions is often very limited.)
- The need for more investment in Data Deficient (DD) species, and/or data poor (DP) species was a frequent theme. (DD is a formal classification of conservation status; 'dd' means we don't know enough to start protecting them.)
- Submitter #120 asked DOC to declare that it sees itself, not just as a broker of partnerships and teams, but as a provider of nationally coordinated leadership in conservation science and management.

Bev Abbott, Submissions Coordinator

Letters to the editor

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

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

Thank you

The committee

Newsletter by e-mail?

If you would like to help us to reduce our postage costs by receiving your newsletter by pdf, please advise Lea Robertson: harlea@actrix.co.nz. Also, remember to advise her of any change to your e-mail address subsequently.

The latest on Myrtle Rust

Karin van der Walt, Conservation & Science Adviser, Wellington Gardens (Karin.VanderWalt@wcc.govt.nz)

Myrtle Rust (*Austropuccinia psidii*), also known as Guava/Eucalyptus Rust, is a fungal pathogen native to South America. The rust has been spreading globally since 1900 and now consists of several "strains" or "biotypes", and although these strains vary in host preference and severity, it is found only on Myrtaceae species. Globally, some highly susceptible species include *Agonis flexuosa* (peppermint tree), *Syzygium smithii* (common lily pilly; monkey apple), *Rhodamnia rubescens* (scrub turpentine) and *Lophomyrtus* species and cultivars.



Infected *Metrosideros kermadecensis*. Photo: Peter Wilson.

Myrtle Rust spreads rapidly through highly mobile spores which can be dispersed by wind, animals (including insects), humans (on clothing or equipment) and movement of infected plants. Spores can remain viable for up to 90 days at 15°C and 35-55% Relative Humidity, with shorter lifespans expected at higher temperatures. The spores can also survive cold storage conditions, with viability still present after 150 days at up to -190°C (Salustiano et al., 2008). It is suspected that the arrival of Myrtle Rust in New Zealand (Raoul Island and North Island) happened during a major wind event (NIWA, 2017).

Myrtle Rust was confirmed on Raoul Island, 1000 km north of NZ's North Island in early April 2017. At the time of the detection, more than 1000 ha of *Metrosideros kermadecensis* forests were already heavily infected. With less than 2% of the Island surveyed, infestations are likely to be more extensive. By September 2017, Myrtle Rust was confirmed in 116 sites in the North Island. Until December 2017, the Ministry for Primary Industries (MPI) was hoping that infections could be confined or perhaps even eradicated. Unfortunately a positive find in Naenae, Lower Hutt on 1 December 2017 made confinement or eradication of Myrtle Rust from NZ highly unlikely.

The latest information (7 December 2017) reveals that myrtle rust is now present in 172 sites, with 11 new sites confirmed between 1 and 11 December 2017. Infected regions include Northland (4), Taranaki (91), Waikato (19), Bay of Plenty (40), Auckland (16) and Wellington (2). Property types include nurseries, private property, public land and schools.

Plant species on which myrtle rust has been detected, and prevalence of the disease, include (MPI, 2017):

- **Ramarama:** *Lophomyrtus bullata* (4.31%)
- **Bottle brush:** *Callistemon* (0.10%)
- *Eucalyptus* (0.03%)
- **Monkey apple:** *Syzygium smithii* (0.12%)

- **Mānuka:** *Leptospermum scoparium* (0.011%)
- **Pōhutukawa, Northern rātā, Southern rātā:** *Metrosideros excelsa* and species (0.63%)
- **Willow myrtle:** *Agonis flexuosa* (0.35%)

Prevalence is based on the percentage of total trees of that species surveyed which were positive for myrtle rust.

December was also the first time Myrtle Rust was detected on *Acca sellowiana*, more commonly known as feijoa. Although this raises cause for concern, the infected feijoa was located underneath an exotic *Syzygium* species which was covered with Myrtle Rust.

MPI is compiling a long-term plan for Myrtle Rust and will in coming weeks hold workshops in affected areas. MPI, with support from other local and central government agencies, industry and tangata whenua, is still the lead agency for the Myrtle Rust response.

If you think you have seen Myrtle Rust call MPI on 0800 80 99 66, **do not touch the plant**, but take a photo if you can. Please check any plants that you have in your garden, or any that you may have planted in your local reserve as a part of our Two Million trees programme.

There is a smartphone app to help people report Myrtle Rust on plants in the myrtle family, so we know where these are located. Search Myrtle Rust Reporter in Google Play, or the app store, and give it a go. The app is bilingual and contributes information to a public database of nature observations.

Links

<https://www.mpi.govt.nz/protection-and-response/responding/alerts/myrtle-rust/>

<http://www.scionresearch.com/about-us/news-and-events/news/2017/myrtle-rust-reporter-app-now-available>

Otari-Wilton's Bush news

Kia ora koutou,

Thank you to Wellington BotSoc for their support of the NZ Plant Conservation Network conference, particularly for nominating and supporting Otari staff member Eleanor Burton. The conference was held 16–20 November in Hokitika, where nearly 100 Network members gathered to enjoy a host of informative speakers, several well-run workshops, interesting field trips, and a combined exhibition dedicated to botanical artwork. At the conference dinner, one of the annual NZPCN awards was awarded to Eleanor for her talent and dedication to botanical illustration.

We have just started some exciting new work at Otari, in partnership with Te Papa, on rātā moehau (*Metrosideros bartlettii*). Some of you will be aware that these trees are one of our rarest—apparently down to only 13 in the wild, spread across three disjunct populations in the Far North. Over the last two weeks we have been cross-pollinating rātā moehau by hand from two different populations after being sent flowers from a tree in Auckland University (from Radar Bush) that is from a different population than ours (from Kohuranaki). Karin van der Walt, our Science and Conservation Advisor, is leading the work for us, which involves both assessing the viability in long-term storage of *M. bartlettii* pollen, and hand-pollinating *M. bartlettii* at Otari, with pollen from another tree from a different population.

To assist with this conservation work, we are considering the state of the Otari plant nursery. To support and increase our contribution to research and conservation of NZ's threatened flora, we would like to upgrade to the nursery's infrastructure and equipment, rearrange the layout to increase work efficiencies and safety, and we would like to integrate the nursery into our visitor experience. To start this, we are exploring a partnership with landscape-architecture staff at Victoria University to consider how we might rearrange the nursery to achieve the above objectives.

Anneke Mace, our Educator on staff, has recently succeeded with a funding bid to the Ministry of Education. The funding runs over a three-year period, and includes capacity to support the revival of the Bush Guides programme at Otari School. The Bush Guides are a small bunch of environmentally-minded enthusiastic students who took time from their school week to learn more about NZ's natural environment, a lot of which was undertaken in the gardens or forest at Otari. With the knowledge they gained, the students were then equipped to design guided tours for their peers and other visiting schools to Otari. Due to budget pressures the funding for the Bush Guides was cut last year, however last week we were pleased to have our first discussions with the school about its revival.

In the gardens and forest we are getting drier and drier. Fingers crossed we get a little rain to ease the stress.

I hope you all have a merry time over Christmas and the New Year.

Rewi Elliot, Team Manager, Otari-Wilton's Bush.
rewi.elliott@wcc.govt.nz

Jubilee Award 2018—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 bj_clark@xtra.co.nz, by **6 SEPTEMBER 2018**.

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 2018.

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.

Wellington Botanical Society—grant to graduate students

Each year the Wellington Botanical Society provides small grants to assist post-graduate student 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 2018**.

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

They should state:

- Your name and email address.
- Your current education qualifications.
- The course of study being undertaken.
- The nature and aim of the research project.
- The name of your supervisor for this project
- The budget for this project.
- The expenses that the grant is proposed to cover.

You will be advised of the results of your application by 6 October 2018.

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 the project to be included in the Society's newsletter or bulletin.

The small print

1. Grants will normally 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.

Biosecurity's new boat

GWRC's Biosecurity field team have christened their new boat by using it to survey for *Iris pseudacorus*/yellow flag at Parangarahu Lakes Key Native Ecosystem (KNE) site. Yellow flag is a pest plant that displaces native vegetation.

The boat is an invaluable addition to the team. It will enable them to access and survey aquatic weeds such as yellow flag, purple loosestrife, Senegal tea, Manchurian wild rice and spartina. All these aquatic weeds have previously been too difficult to reach in the region's waterbodies.

Once the team accesses the weeds, they will record their location and kill them using various methods. In the case of yellow flag, Biosecurity Officers pull out the plants and collect them in bags for disposal at the landfill. Now is an ideal time because the plant is flowering and easy to spot.

It's still early days so the team aren't sure of all the sites that they will be able to use the boat across Greater Wellington. However, it will most definitely be used at various times during the year to survey for, and control, aquatic pest plants at Wairarapa Moana and KNE sites such as Wainuiomata-Orongorongo, Te Harakeke and Te Hāpua wetlands. These sites have been scheduled as 'Outstanding' in the proposed Natural Resources Plan, so it's important to control pest plants like yellow flag. Check New boat on Instagram and Facebook?

For more information about how our Biosecurity team are helping fight pest plants across our region visit <http://www.gwrc.govt.nz/pest-plants/>

Kieran McLean,
GWRC

Taputeranga Marine Reserve

If you see any conservation-related illegal activity, call

DOC HOTline
0800 362 468

For Search & Rescue—call 111

All other enquiries to your local DOC office or visit our website www.govt.nz



Department of Conservation
Te Papa Atawhai



Queen Elizabeth Park—exciting news

An agreement has been signed between Greater Wellington Regional Council (GWRC) and the Maclean Trust for a restoration project to implement the Sustainable Land-Use Plan in the north-east corner of the park, over the next six years. The area is next to SH1, and immediately south of Poplar Ave, Raumati South. GWRC has worked closely with Chris and Sam Maclean over several weeks to develop this project that will have very beneficial results for the park. The Maclean Trust will invest \$300,000 in the park, along with investment and considerable staff time from GWRC. The total area to be restored will be c. 25 ha. Most of this is now grazed and will be withdrawn from the farm licence, with a smaller area already retired just south of the Kāpiti Expressway pond on Poplar Ave.

A walking/biking track will be constructed as part of the project, shown as the solid red line on the QEP Restoration Project Map.pdf on the GWRC web site. The red shaded area will have some hydrology investigation work done to investigate whether the recently formed “lakes” are permanent features. This work will help guide future management decisions in this area. The two key areas of restoration works are shaded green and pink.

We have engaged Wildland Consultants to prepare the restoration plan which will include Groundtruth doing the planting using techniques developed during recent trials.

*From 10.11.2017 news release by Wayne Boness,
Principal Ranger, Western Sector Parks, GWRC.*

Percy Scenic Reserve news

We have had a lot of plants flowering well this spring, including one of our *Metrosideros bartlettii*, the rare white-flowered rātā moehau. This specimen flowered well last year. The *Pomaderris kumeraho* and *Parsonsia heterophylla* put on a good show early in spring. Our *Passiflora tetrandra* and *Metrosideros robusta* are in full flower.

Our glasshouse alpine collection has been doing well throughout the spring—looking great with lots of fresh spring growth and flowers. The *Anaphalioides bellidioides* has flowered for the first time in the three years I have worked here. The *Celmisia* “Mangaweka”, *C. gracilentia* × *Olearia arborescens*, a natural hybrid, *Veronica jovellanoides*, *Mazus impositus* f. *hirtus* and *Leptinella filiformis* have all done well.

We have been potting up our seed and cuttings from our 2016 trip to the Cobb Valley, and from our stored seed collection. We have done well with our *Australopyrum calcis* subsp. *calcis*, *Celmisia* “Mangaweka”, *C. incana*, *C. dahlii* and *Pimelea actea* amongst others. The benches are filling up with *Myosotis laeta*, *M. pottsiana*, *M. lytteltonensis*, *Veronica hookeriana*, etc. as we continue to pot on plants into larger pots. We have also been taking more cuttings for next year, including *Coprosma ciliata*, *C. obconica*, *Brachyglottis hectori*, *B. huntii*.

A lot more *Veronica bishopiana* have been planted around the reserve, and we are trial planting some *Peperomia urvilleana*, *P. sp.* ‘purple vein’, along with *Myosotis explanata* and *M. spathulata* in the hope they will survive outside.

*Cliff Keilty
Percy Scenic Reserve*

EDS report on Biobanking in NZ

The Environmental Defence Society has released a new research report aimed at exploring how habitat banking could contribute to the management of NZ’s biodiversity. *Banking on Biodiversity: the feasibility of Biobanking in NZ* is available free on the EDS web site.

“We are aware that offsetting the harm to nature in development by providing biodiversity gains elsewhere has a chequered track record in this country,” said EDS CEO Gary Taylor. “Biobanking, where a formal structure is set up akin to a trading platform for habitat, holds some promise as a policy instrument to improve such transactions which are now ad hoc and lack definition. But this report shows biobanking needs to be developed carefully so as not to do more harm than good. Internationally the approach has a history of poor implementation, often because of bad design.

The report’s author, Dr Marie Brown, said that the way offsetting was done at present was often deeply flawed and led to net biodiversity loss. “Key weaknesses include poor compliance, lack of expertise in implementing offset projects, and an inability to carry out offsets in advance of impacts. Biobanking could help address some of these issues,” said Dr Brown. “The mitigation hierarchy—avoid, remedy, mitigate—should be pursued vigilantly and offsetting brought in to play only where there are unavoidable, residual impacts on biodiversity. But the weak policy framework for offsetting must be addressed first.

“The report’s overall conclusion is that biobanking has a potentially useful role in formalising an offsetting regime, but there is more work to do before it could be credibly used in NZ, including strengthening the legal basis for offsetting,” said Marie Brown. “EDS is keen to further explore the feasibility of biobanking, and will be doing so as part of our major review of the resource management system, now underway,” Mr Taylor concluded.

*Dr Marie Brown 021 808 764,
Gary Taylor (09) 810 9594*

BotSoc award winners

Matt Biddick received a Graduate Student Grant. He is studying morphological differences between offshore island plants and their mainland relatives.

Kat de Silva received the Jubilee Award. She is studying factors that constrain or promote urban reforestation in revegetation projects, and how these change over time.

Eleanor Burton

Congratulations

We congratulate Glennis and Allan Sheppard who on 30 November received a Civic Award from Upper Hutt City Mayor Wayne Guppy for their decades of voluntary work in the city’s indigenous ecosystems by, controlling possums, planting and weeding. Glennis has co-led, with Sue Millar, the combined BotSoc/Upper Hutt Forest & Bird biannual workbees in Te Mārua Bush, since about 1991. BotSoc supported the nomination prepared by Te Mārua School.

New names for our *Blechnum* species

Recent genetic research has argued in favour of treating hard ferns (*Blechnum*) as a number of separate genera within the Blechnaceae. The worldwide study of members of the Blechnaceae has placed the New Zealand species into seven different genera, none of which is *Blechnum*! The research places species which are morphologically similar to each other, and which can hybridise among themselves, into respective genera. These genera include *Doodia* and *Lomaria*, genera that have already been in use in NZ, and five new genera: *Austroblechnum*, *Parablechnum*, *Diploblechnum*, *Cranfillia* and *Icharus*.

The new names, alongside their old names, are provided in the concordance table below.

Shannel Courtney

New names in NZ's hard ferns—Blechnaceae

New Name	Old Name
1 <i>Austroblechnum banksii</i> 39 spp. in this genus. S. Hemisphere; tropics to temperate.	<i>Blechnum blechnoides</i>
2 <i>Austroblechnum colensoi</i>	<i>Blechnum colensoi</i>
3 <i>Austroblechnum durum</i>	<i>Blechnum durum</i>
4 <i>Austroblechnum lanceolatum</i> The hybrid between this sp. and <i>A. membranaceum</i> is named: <i>A. × aggregatum</i>	<i>Blechnum chambersii</i>
5 <i>Austroblechnum membranaceum</i>	<i>Blechnum membranaceum</i>
6 <i>Austroblechnum norfolkianum</i>	<i>Blechnum norfolkianum</i>
7 <i>Austroblechnum penna-marina</i>	<i>Blechnum penna-marina</i>
8 <i>Cranfillia fluviatilis</i> 9 of the 12 spp in this genus are endemic to Oceania.	<i>Blechnum fluviatile</i>
9 <i>Cranfillia nigra</i>	<i>Blechnum nigrum</i>
10 <i>Cranfillia vulcanica</i>	<i>Blechnum vulcanicum</i>
11 <i>Diploblechnum fraseri</i> 6 spp. in this genus; Melanesia, Australia, Oceania.	<i>Blechnum fraseri</i>
12 <i>Doodia aspera</i> Returned to previous name	<i>Blechnum neohollandicum</i>
13 <i>Doodia australis</i> Returned to previous name	<i>Blechnum parrisiae</i>
14 <i>Doodia milnei</i> Returned to previous name	<i>Blechnum kermadecense</i>
15 <i>Doodia mollis</i> Returned to previous name	<i>Blechnum molle</i>
16 <i>Doodia squarrosa</i> Returned to previous name	<i>Blechnum zeelandicum</i>
17 <i>Icharus filiformis</i> Monotypic genus endemic to New Zealand. Trimorphic leaves unique and climbing habitat very rare in Blechnaceae.	<i>Blechnum filiforme</i>
18 <i>Lomaria discolor</i> 6 spp. in this genus; all S. Hemisphere continents.	<i>Blechnum discolor</i>
19 <i>Parablechnum minus</i> 65 spp. in this genus; mostly pantropical; NZ ones are temperate exceptions.	<i>Blechnum minus</i>
20 <i>Parablechnum montanum</i>	<i>Blechnum montanum</i>
21 <i>Parablechnum novae-zelandiae</i>	<i>Blechnum novae-zelandiae</i>
22 <i>Parablechnum procerum</i>	<i>Blechnum procerum</i>
23 <i>Parablechnum triangularifolium</i>	<i>Blechnum triangularifolium</i>
24 <i>Parablechnum "Raoul I."</i>	<i>Blechnum "Raoul I."</i>

(after A.L. de Gasper et al. 2016, *A Classification for Blechnaceae*. *Phytotaxa* 275 (3): 191-227)

Source: Nelson Botanical Society October newsletter.

Melicytus obovatus complex revised

Three new species of *Melicytus* have been described and the circumscription of *M. obovatus* has been revised after research by Peter Heenan, Shannel Courtney, Peter de Lange and Brian Molloy.

Melicytus obovatus sens. str. is confined to calcareous substrates in northwest Nelson. It is dioecious and the petals have a prominent purple margin.

Melicytus improcerus also occurs in northwest Nelson but has a much more restricted distribution on marble substrates in upper montane and subalpine areas. It is also dioecious but the petals lack a purple margin.

Melicytus orarius petals do have a purple margin but this species is hermaphrodite. It occurs in coastal habitats of the Cook Strait area, including the Wellington coast from Kapiti Island in the west to the south Wairarapa coast in the east, and throughout the Marlborough Sounds.

Melicytus venosus is known to have female flowers only and may be apomictic. It is found in the western Marlborough Sounds and on the western side of Kapiti Island.

Reference

Heenan PB, Courtney SP, de Lange PJ, Molloy BPJ. 2017. Three new *Melicytus* species from central New Zealand and a revised circumscription of *Melicytus obovatus* (Violaceae). *New Zealand Journal of Botany* 2017. <https://doi.org/10.1080/0028825X.2017.1387156>

Jeremy Rolfe

Cardamine in New Zealand revised

Just as this newsletter was being prepared, Peter Heenan's taxonomic revision of *Cardamine* was published. Ten previously named taxa are accepted and 31 new species have been named and described.

Reference

Heenan PB. 2017. A taxonomic revision of *Cardamine* L. (Brassicaceae) in New Zealand. *Phytotaxa* 330: 1–154. <https://doi.org/10.11646/phytotaxa.330.1.1>

Allan Mere Award 2017

We congratulate Paul Champion, Principal Scientist and Programme Leader (Aquatic Plants and Freshwater Biosecurity), NIWA who has won this year's award. He was nominated by Waikato Botanical Society with support from Wellington BotSoc and others.

Paul has more than 30 years' experience in the field of plant ecology and has authored more than 200 significant publications during this time. He has an extraordinary breadth of knowledge in biosecurity, plant ecology, and threatened plant conservation.

Source: NZ Botanical Society newsletter 129, 17/11

NIWA Science Fair 2017 winners

The following people shared the \$150.00 Wellington Botanical Society prize:

Katie Harford, year 13, Queen Margaret College: "Native NZ Plants vs Bacteria." \$75.

Lucy Hegan & Sarah Scott, Year 10, Wellington Girls' College: "Does sea lettuce reduce nitrogen in polluted water?" \$75.

Lea Robertson, Treasurer

Eleanor Burton's artistic skills recognised

We congratulate BotSoc committee member, Eleanor Burton, who received the Special Award for Botanical Illustration at the recent NZ Plant Conservation Network conference in Hokitika.

Readers will be familiar with Eleanor's pen-and-ink drawings of native plants which often accompany field-trip reports in the BotSoc newsletter. Since 2000, she has provided drawings for Otari-Wilton's Bush Trust's quarterly *News and Views* newsletter, and since 2016, for the cover of NZ Botanical Society's newsletter

Eleanor has produced drawings on commission from the French Government for John Dawson's *Flora of New Caledonia*. She has produced botanical illustrations for WCC's interpretation boards, and for the Botanic Garden's Discovery Gardens. For the last ten years, Eleanor has been working on her project to illustrate the NZ *Celmisia* genus. In 2012, twenty-five of her colour-pencil illustrations were exhibited in the foyer of DOC's Conservation House.

Eleanor, who is editor of Wellington BotSoc's bulletin, and leader of field trips, has worked part-time at Otari-Wilton's Bush for nine years, maintaining the native-plant database. She has also worked on the Botanic Garden database, and volunteers at Te Papa, mounting and databasing plant specimens.



Nikau (*Rhopalostylis sapida*). Illustration: Eleanor Burton.

Source: *Trilepidea* 168 November 2017
Wellington BotSoc's committee

Subscriptions for year ended 30.6.2018

Some subscriptions for this financial year remain unpaid.

A yellow invoice is attached to the print newsletter, and further reminders will be e-mailed to those receiving newsletters electronically.

Payment is to the Society's bank account 020536 0017812 00, with your name as reference.

Donations are tax-deductable, and receipted.

Subscription rates remain:

- Ordinary member \$35
- Country \$30
- Group/family \$40
- Student \$10

Lea Robertson, Treasurer

Wellington Botanical Society Bulletin—back-issues

Expand your collection of our informative "flagship" publication.

Limited numbers of copies of the following back issues are available:

- 1950s: no. 23 (9/50), no. 30 (12/58).
- 1960s: no. 32 (12/61), no. 33 (2/66), no. 34 (11/67), no. 35 (10/68), no. 36 (12/69). Index to Bulletins nos. 1-35.
- 1970s: no. 37 (11/71), no. 38 (9/74), no. 39 (10/76), no. 40 (8/78).
- 1980s: no. 41 (9/81), no. 42 (9/85), no. 43 (4/87), no. 44 (11/88), no. 45 (11/89).
- 1990s: no. 46 (12/94), no. 47 (9/96).
- 2000s: no. 48 (9/02), no. 49 (12/05).

Cost \$5 per issue, incl. p&p; \$15 for any five issues incl. p&p.

Copies of more recent Bulletins, no. 50 (3/07), no. 51 (11/08), no. 52 (4/10), no. 53 (6/11), no. 54 (11/12), no. 55 (11/14), and no. 56 (5/16) are \$11 each incl. p&p, to members and other individuals, and \$21 each incl. p&p, to organisations, posted within NZ.

Contact Chris Horne to confirm availability: JCHorne15@outlook.com, phone 04 475 7025.

Please either:

- make your cheque payable to Wellington Botanical Society, PO Box 10 412, Wellington 6143
- or pay direct to the Society's bank account 020536 0017812 00, with your name and Bulletin as reference.

Many thanks

Lea Robertson, Treasurer

Roger Michael Greenwood 1920-2017

Michael was a member of Manawatu BotSoc, Wellington BotSoc, and Forest & Bird. For over 30 years, he devoted five hours a day, five days a week, to look after Keeble's Bush, near Palmerston North. From 1943 until his retirement in 1980, he worked in DSIR's Plant Chemistry Division, isolating *Rhizobium* bacterial strains for inoculating white clover, to enable it to fix nitrogen.

Michael was a tireless advocate for protecting native forests and bush remnants. He was awarded the prestigious Loder Cup in 1993, NZ's premier conservation award. Michael was probably NZ's foremost restoration ecologist, as well as being an inspired scientist, and an active and effective conservationist.

Reference: *Forest & Bird*, 366 Summer 2017, page 52.

TRIP REPORTS

7 October 2017: Saline wetlands, eastern Wairarapa

Report to follow in May 2018 newsletter.

4 November 2017: Moa Point seaweeds

A strong northerly and the threat of showers weren't enough to deter nearly 30 participants in the second seaweed trip of 2017. We began by using what had washed up in the drift to reacquaint ourselves with some of the common Wellington seaweed species. Interestingly, the artificial intelligence newly installed in the *iNaturalist* app proved to be able to identify *Ecklonia radiata*. We then took advantage of the low tide to cross the 'moat' and venture out on to the peninsula itself.

We saw several seaweed species there that we didn't find on our March trip to Te Rae-kaihau. The habitat diversity of the former is maybe greater.

Thanks to Maren Preuss for her expert identifications during the trip. (It is probably worth pointing out that artificial intelligence/machine-learning approaches to identification can be useful for common, distinctive species, but they do not work well for uncommon species, or those whose differences are subtle). I encourage those keen to continue learning their seaweeds to upload photos to the *iNaturalist* app, or to the web site www.naturewatch.org.nz (the NZ brand of *iNaturalist*), and/or the *Wild Plants of Wellington* Facebook group. I'll do my best to provide identifications, or to source them from experts. If anyone would like my two-page picture guide to some of Wellington's common seaweeds, you can e-mail me at leon.perrie@tepapa.govt.nz.

In addition to its wonderful seaweeds, Moa Point is big enough to support a sizeable land-plant community. *Pimelea prostrata*/pinatoro/NZ daphne was in flower, as was the weedy *Senecio elegans* (with the stronger pink colour of the inflorescences being one of the ways to distinguish this coastal daisy from the usually weaker pink of *Senecio glastifolius*, which is now so common on Wellington's hills). The mākaka/*Plagianthus divaricatus* population was being supplemented by plantings,



Intrepidly exploring the rock pools towards the southern end of Moa Point. Photo by Gavin Dench.



Alison and Rodney contemplate what looks to be the introduced and invasive brown seaweed *Undaria pinnatifida*. Photo by Gavin Dench.



Hormosira banksii. Illustration: Eleanor Burton.



The brown seaweed *Dictyota kunthii* has a furry appearance, with its blades covered in small, tongue-like proliferations that bear its reproductive structures.



Comments on the appearance of this brown seaweed *Colpomenia (claytoniae?)* were generally not complimentary.

which appeared to be struggling. The wharariki flax (*Phormium cookianum*) was coming into fruit, allowing Carol to point out its distinguishing features (drooping and twisted, rather than upright and straight as in harakeke/*Phormium tenax*).



In contrast to the *Colpomenia*, the stiffly-branching architecture of the red seaweed *Melanthalia absissa* was deemed attractive.

Participants: Eleanor Burton, Ryan Burton, Gavin Dench, Flo De Ruiten, Carolyn Dimattina, Jenny Fraser, Ken Fraser, Judith Jones, Chris Horne, Jane Humble, Alison Lane, Rodney Lewington, Tom Mayo plus Megan, Lissa Mitchell and family (plus four), Leon Perrie (leader), Maren Preuss, Hugh Robertson, Lea Robertson, Terri Shaw, Darea Sherratt, Sunita Singh, Caroline Smith, Julia Stace, Carol West.

Leon Perrie

11 November 2017, 9.30 a.m. – 12.30 p.m.: Te Mārua Bush workbee

Sixteen Botanical Society members and Forest & Bird members, including Kim Broad from GWRC, met to do releasing and checking through Te Mārua Bush.

We started with the plantings at the northern end. In the strip bordering the Pony Club and Twin Lakes Rd, we removed convolvulus and seedlings of sycamore, wilding cherry, English ivy and broom. On the Pony Club side, the fast-growing mānuka and kānuka were cut back to make 'light-wells' for the tōtara to grow up through. In the rest of this planting, light-wells were also cut for matai, kahikatea, and maire wherever they had been over-topped by faster-growing species. This area had very good growth over the past wet, mild winter, and the trees have mostly grown together, forming a good windbreak for Pony Club activities.

The newest planting area—the triangle beside SH2—had weeds

removed. Blackberry, broom and larger weeds were cut and pasted with herbicide. Convolvulus and fennel were cut and long grass cut and placed around the plantings to prevent them drying out, and to promote seed development. Replacement plants put in earlier this year have survived, and more self-seeded mānuka and kānuka have grown where grass cover near the fence is sparse.

After morning tea, we moved to the southern plantings and weeded and cut light-wells there. Blackberry, ivy, sycamore, cherry, convolvulus, one jasmine, alstroemeria and montbretia were removed. The trees here have grown well all year, and the tōtara, kahikatea, matai and maire are now emerging through the canopies of the koromiko, karamu, mānuka and other short-lived pioneer species.

Several bird nests were noticed through the bush. In the southern planting, we found a fantail nest very

low down - it contained four small blue eggs. Throughout the bush there are plenty of seedlings, but these may find survival difficult if the present hot, dry weather continues during summer.

We collected and sorted rubbish. It was around the edges of the bush, not inside it. There was very little compared with the piles we used to collect.

Participants: Kim Broad (GWRC), Barbara Clark, Gavin Dench, Michele Dickson, Julia Fraser, Ian Goodwin, Jill Goodwin, Chris Horne, Alison Lane, Rodney Lewington, Graeme Sheppard, Darea Sherratt, Sunita Singh, Julia White. Glennis Sheppard and Sue Millar (joint leaders/scribes).



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 2017 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 make your cheque payable to Wellington Botanical Society Inc, and send it with this form to:

Wellington Botanical Society Inc., PO Box 10 412, Wellington 6143

My cheque is enclosed for Ordinary membership \$.....

Country membership \$.....

Student membership \$.....

Group / family membership \$.....

Donation \$.....

TOTAL \$.....

Alternatively you may pay direct to the Society's bank account 020536 0017812 00

and e-mail this completed form to the Treasurer at harlea@actrix.co.nz

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.