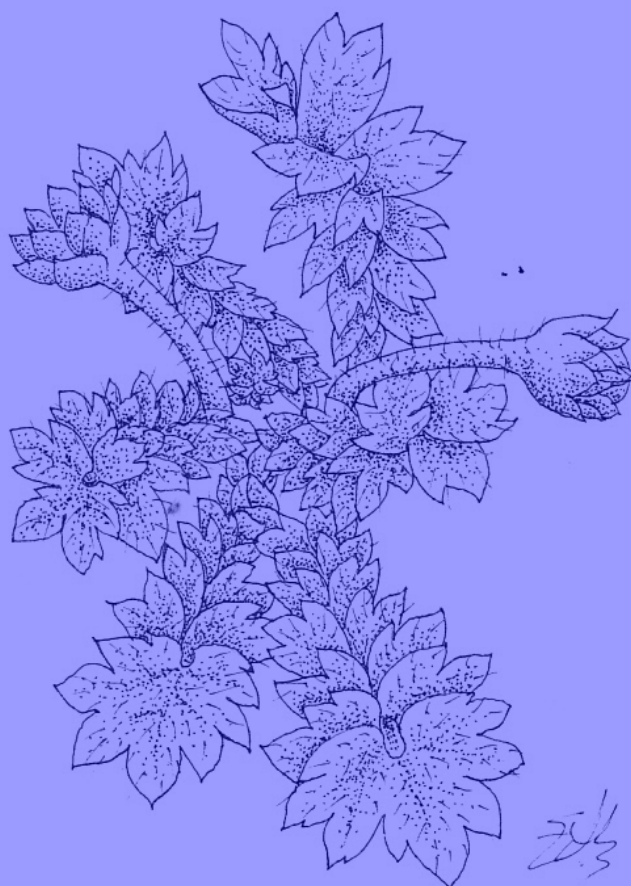


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 135

March 2019



New Zealand Botanical Society

President:	Anthony Wright
Secretary/Treasurer:	Ewen Cameron
Committee:	Bruce Clarkson, Colin Webb, Carol West

Address:	c/- Canterbury Museum Rolleston Avenue CHRISTCHURCH 8013
Webmaster:	Murray Dawson
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Subscriptions

The 2019 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2019 student subscription, available to full-time students, is \$12 (reduced to \$9 if paid by the due date on the subscription invoice).

Back issues of the *Newsletter* are available at \$7.00 each. Since 1986 the Newsletter has appeared quarterly in March, June, September and December.

New subscriptions are always welcome and these, together with back issue orders, should be sent to the Secretary/Treasurer (address above).

Subscriptions are due by 30 April each year for that calendar year. Existing subscribers are sent an invoice with the December *Newsletter* for the next years subscription which offers a reduction if this is paid by the due date. If you are in arrears with your subscription a reminder notice comes attached to each issue of the *Newsletter*.

Deadline for next issue

The deadline for the June 2019 issue is 25 May 2019.

Please post contributions to:
Lara Shepherd
Museum of New Zealand Te Papa Tongarewa
169 Tory St Wellington 6021

Send email contributions to editor@nzbotanicalsociety.org.nz. Files are preferably in MS Word, as an open text document (Open Office document with suffix ".odt") or saved as RTF or ASCII. Macintosh files can also be accepted. Graphics can be sent as TIF JPG, or BMP files; please do not embed images into documents. Alternatively photos or line drawings can be posted and will be returned if required. Drawings and photos make an article more readable so please include them if possible.

Cover Illustration

Geum pusillum by Eleanor Burton.

NEW ZEALAND BOTANICAL SOCIETY
NEWSLETTER
NUMBER 135 March 2019

ISSN 0112-6865 (Print) 2230-3502 (Online)

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NEWS

New Zealand Botanical Society News

■ Call for Nominations for Allan Mere Award 2019

Nominations meeting the following conditions are invited for the award of the Allan Mere for the year 2019.

Conditions of the Allan Mere Award

The Award shall be made annually to a person or persons who have made outstanding contributions to botany in New Zealand, either in a professional or amateur capacity.

The Award shall be administered by the New Zealand Botanical Society.

Nominations for the Award may be made by regional Botanical Societies, or by individuals, to the Secretary of the New Zealand Botanical Society. Nominations shall be signed by nominator and seconder, and accompanied by supporting information that must not exceed one A4 page.

Selection of the successful nominee/nominees shall be made by the Committee of the New Zealand Botanical Society, normally within three months of the closing date for nominations.

If, in the opinion of the Committee, no suitable nomination is received in any particular year, the Committee may refrain from making an award.

The Mere shall be formally presented to the recipient on an appropriate occasion by the President of the New Zealand Botanical Society or his/her nominee, but otherwise shall remain in the custody of, and be displayed by, the Herbarium Keeper of the Allan Herbarium (CHR) at Landcare Research, Lincoln, together with the book recording awards.

The recipient shall receive an appropriately inscribed certificate.

Nominations should be forwarded by 30 June 2019 to:

Ewen Cameron, Secretary, New Zealand Botanical Society, c/- Canterbury Museum, Rolleston Avenue, Christchurch 8013.

■ From the President: Annual General Meeting – change of Rules and approval of Financial Statement for the year ended 31 December 2018

Anthony Wright, President, New Zealand Botanical Society

Change of Rules

As outlined in the Newsletter 134, December 2018, an email ballot was notified in order to adopt recommended changes for Rule 9 as set out. Members were asked to notify us of their email address or their need for an alternative method of voting if not on email. Thank you to the one member who notified an email address and the one member who asked for an alternative method. Unfortunately, this was not going to result in a quorum, so the Committee has agreed to change to a postal vote paper covering the change of rules, and the approval of the financial statements for the year ended 31 December 2018. A voting paper is enclosed with this Newsletter.

Therefore, as President, I move, and Ewen Cameron, Secretary/Treasurer, seconds the resolution That the Rules of the New Zealand Botanical Society Incorporated be amended by replacement of section 9 with the following:

9 General Meetings and Ballots

- (b) General Meetings (including an Annual General Meeting) may be held by a quorum of **15 financial** members:

- (i) being assembled together at the time and place appointment for the meeting;
or
 - (ii) Participating in the meeting by means of audio, audio and visual, or electronic communication; or
 - (iii) By a combination of both of the methods described in paragraph 9 (b) (i) and 9(b) (ii)
- (c) **A Special General Meeting or Ballot of the Society shall be called by the Secretary within 3 months after receipt by the Secretary of a request in writing signed by at least 15 financial members requesting the calling of a Special General Meeting or Ballot.**

Financial Statement for the year ended 31 December 2018

Society Name: New Zealand Botanical Society

Society Number: 426877

Financial Statement for year ended: 31 December 2018

	2018	2017
INCOME		
Donations	\$79.00	\$218.75
Interest	\$6.88	\$13.38
Sale of Back issues	-	\$42.00
2016 Subscriptions	-	\$190.00
2017 Subscriptions	-	\$1,744.00
2018 Subscriptions	\$323.00	\$3,193.00
2019 Subscriptions	-	-
Total Income	\$408.88	\$5,401.13
EXPENSES		
Postage costs	\$1,776.20	\$2,439.29
Printing costs	\$1,565.38	\$1,587.92
Stationery	\$36.83	-
Calligraphy costs (Allan Mere)	\$86.25	\$80.50
Bank fees	-	-
Total Expenses	\$3,464.66	\$4,107.71
Total income	\$408.88	\$5,401.13
Less total expenses	(\$3,464.66)	(\$4,107.71)
Net surplus/(deficit)	(\$3,055.78)	\$1,293.42
ASSETS		
Cash in bank - current account	\$8,342.47	\$8,772.68
Cash in bank - Achiever Savings	\$2,073.62	\$2,072.94
Accounts Receivable	-	\$2,646.00
Total Assets	\$10,416.09	\$13,491.62
LIABILITIES		
Printing costs	\$364.09	\$413.08
Stationery costs	\$29.24	-

Postage costs	-	-
Total Liabilities	\$393.33	\$413.08
Total Assets	\$10,416.09	\$13,491.62
Less Total Liabilities	(\$393.33)	(\$413.08)
NET ASSETS	\$10,022.76	\$13,078.54
Represented by		
Retained earnings c/fwd from previous year	\$13,078.54	\$11,785.12
Profit for year	(\$3,055.78)	\$1,293.42
TOTAL FUNDS AS AT 31 DECEMBER	\$10,022.76	\$13,078.54

The Committee also agreed that subscription invoices for the 2019 year would be sent at the same time as the AGM voting papers. Due to this change in the billing timetable to align with the AGM voting, the accounts show a small loss in the last financial year. The Committee is happy to meet this from reserves, and no sub increases are proposed.

As President I move, and Ewen Cameron, Secretary/Treasurer, seconds a resolution That the 2018 Annual Financial Statement published in Newsletter 135 (March 2019), be adopted.

Voting in the Annual General Meeting by means of Postal Ballot, using the Postal Ballot Paper included with this issue of the Newsletter, will close at 5 pm on Friday 12 April 2019. Voting papers should be posted to reach the Secretary/Treasurer, New Zealand Botanical Society, C/- Canterbury Museum, Rolleston Avenue, Christchurch, 8013 no later than this closing time. An addressed envelope has been included to assist you.

Note that the Rules require a two-thirds majority to vote in favour to effect a change to the Rules. The adoption of the Financial Statements requires a simple majority.

The results of the Email Ballot will be notified in Newsletter 136, June 2019.

Regional Botanical Society News

■ Auckland Botanical Society

December – Christmas Picnic

The proposed picnic to Motukorea (Browns) Island had to be abandoned due to the stars not aligning, but a very pleasant alternative venue was Schlaepfer Scout Park near Pukekohe. Here a sunny outdoor luncheon on tables decorated with flowering pohutukawa and renga lily, and surrounded by towering native trees, was a fitting way to end the year with fellow Botsoccers from here and abroad. This was followed by a walk through a remnant of the broadleaf/podocarp forest that would have typically grown on the rich volcanic Pukekohe soils in the past, but has largely been cleared for agriculture. At the waterfall an eel (was it a long fin?) was lazily lapping around the swimming hole.

February Field Trip

The new year got off to an interesting start with a trip to Waiheke Island. At the ferry terminus on the island a bus was waiting to whisk us away to the Awa awaroa Eco-village, Awa awaroa Bay, where 15 shareholders have protected 75 ha of regenerating bush and wetland. Most of our time there was spent in a steep gully of largely broadleaf forest, with taraire, puriri, kohekohe and tawa. Where there had been a slip it was interesting to see two plants of poroporo (*Solanum aviculare*), as this is becoming increasingly rare in the north. *Trichomanes endlicherianum* was just holding its own in a rapidly drying gully, two plants of *Asplenium gracillimum* were seen, but the highlight of the day was a tall specimen of *Dicksonia fibrosa*, its portly trunk clad in an impressive cloak of old fronds. This species, rare in the north, has never been recorded from the island before.

Forthcoming Activities

March Meeting	AGM, Rachel Nepia "The role and impact of honey bees in NZ indigenous submontane forest"
March Field Trip	Restoration sites, private land.
April Meeting	Pieter Pelser – <i>Senecio</i>
April Field Trip	Miranda saltmarsh

Auckland Botanical Society, PO Box 26391, Epsom, Auckland 1344

President: Ewen Cameron

Secretary: Stephanie Angove-Emery

aucklandbotanicalsociety@gmail.com

■ **Rotorua Botanical Society**

February Field Trip - Arnolds Bush, Pairere

At last, third try, and nearly beaten by the weather again. In the visiting group were 8 members of the Arnold family from nearby but not currently on the farm, extending over 3 generations. Arnolds Bush is a prominent kahikatea stand on SH 29 that was described by Gudex in 1962 and has been informally protected since 1967. The original area was extended about 1972 and the original fence marks a contrast in plant pests with ivy and honeysuckle being extensive in the added area.

The canopy is predominantly young, mature kahikatea but there are a few large kahikatea, pokaka, rimu, miro and matai. In the older protected part a dense understorey of divaricating shrubs including *Melicytus micranthus*, *Melicope simplex*, *Streblus heterophylla* and *Coprosma rhamnoides* along with ferns including *Cyathea dealbata*, *Deparia petersonii*, *Diplazium australe* and *Asplenium bulbiferum* made progress difficult over much of the area. Particularly striking were apparent hybrids between *A. bulbiferum* and *A. hookerianum*.

The area is apparently flooded regularly from the ditched stream that bounds it on the eastern side because there was a good population of *Carex virgata* throughout and lower areas had aquatic plants such as *Callitriche muelleri*, and *Ranunculus flammula*, or areas of bare ground. Along the western edge, the recently cleared ditch separated the forest from a spring (which is used as a water supply) and here a line of trees had recently died from the summer drought. Within the stand there were many windfalls from drought or natural thinning that created clearings and added to the chaos within. In these light pools *Oplismenus imbecilis* was frequently abundant along with *Diplazium australe* but few herbaceous weeds.

Most of the species on the original list were located and new arrivals included karaka, titoki, nikau, kawakawa, mangeo, mapou, mamaku and a variety of sedges. The extent of the introduced adventives was unable to be compared because adventives were not included in the original list. Finally a brief foray was made to the nearby low cliffs where some of the species in the original list were located including *Trichomanes enderlicherianum* clothing the cliff near the spring.

FUTURE EVENTS

March 2	Mamaku wetland
April 7	Athenree saltmarsh and wetland
May 12	Utahina and Mangakaki Walkways
June 8	Piripiri Spit Whakatane

President: Paul Cashmore 027 650 7264 pcashmore@doc.govt.nz

Secretary: Elizabeth Miller (07) 343 5013 rotorua-botanicalsociety@gmail.com

www.wildland.co.nz/botanical.htm

■ **Whanganui Museum Botanical Group**

For monthly meetings the Whanganui Botanical Group has merged with Birding Whanganui (local branch of OSNZ) and the Whanganui branch of Forest and Bird, under an umbrella name of 'Nature Talks'. Each group will arrange a speaker for about 4 meetings per year. Meetings will normally be on the 3rd Tuesday of each month. It is intended to continue with monthly botanical field trips to which

members of the other two groups are invited.

FUTURE EVENTS

March 10 Fieldtrip to Koitiata (Turakina Beach)
March 19 NZ animal/plant interdependencies - Alastair Robertson
April 6-7 Fieldtrip to Tonagiro National Park
May 12 Fieldtrip to 42 Stafford St, Springvale.
May 21 Totāra – Philip Simpson

President: Clive Higgie (06) 342 7857 clive.nicki@xtra.co.nz
Secretary: Robyn Ogle (06) 347 8547 robcol.ogle@xtra.co.nz

■ Nelson Botanical Society

November Field Trip: Lake Rotoiti, Peninsula and Moraine Walks

As we neared Rotoiti, the scale and intensity of the beech forest mast became apparent with the St Arnaud range coloured red-brown. We walked around the Peninsula Track towards West Bay and had barely left the carpark when the first *Alepis flavida* were spotted in the *Fuscospora solandri*. The group soon started spotting *Pterostylis montana* and *Gaultheria macrostigma*, *G. depressa* var. *novae-zealandiae* and their hybrid were all flowering. The *Phyllocladus alpinus* male cones were releasing clouds of pollen. Further around we encountered *Chiloglottis cornuta* and *Adenochilus gracilis* then *Caladenia lyallii*, *Corokia cotoneaster* and *Pittosporum divaricatum* in flower. Under the flowering *Aristotelia fruticosa* and *Discaria toumatou* was a mat of *Muehlenbeckia axillaris* with *Acaena inermis*, a *Cardamine* species and *Geranium brevicaule*. We also encountered masses of *Clematis forsteri* in flower. Glancing down we found the little yellow stars of *Stackhousia minima*. On the grassy flats there was *Ranunculus multiscapus* and *Galium perpusillum* in flower with *Raoulia subsericea*, *Viola cunninghamii*, *Wahlenbergia albomarginata* and *Chaerophyllum colensoi*. Some headed back over Black Hill and found *Gingidia montana* in flower.

December Camp to the Volcanic Plateau

Day 1: Tukino Access Road

We botanised from the flat areas, moving towards higher ground. At the lowest site we saw the uncommon *Pimelea microphylla* and *P. prostrata* subsp. *vulcanica*. At a slightly higher altitude we came across *Carmichaelia nana* and a few specimens of the lovely *Ourisia vulcanica* and the equally attractive *Pterostylis patens*. Finally among the loose stones were *Parahebe spathulata* and *Montia campylostigma*.

Day 2: On the western side of Mt Ruapehu.

Stop 1: Rimu Loop Walk, Ohakune. This track loops off the Mangawhero Forest Walk and meanders through *Weinmannia racemosa*, *Prumnopitys ferruginea*, *Elaeocarpus dentatus* and *Dacrydium cupressinum* forest. *Alseuosmia turneri* was common. Very thick vines of *Metrosideros colensoi* wound their way up fat trunks together with *Parsonsia heterophylla*.

Stop 2: Turoa Skifield. Close to the carpark in a wet area, *Ranunculus insignis*, *R. carsei* and creeping mats of *Ourisia caespitosa* made a wonderful show. On the barren-looking lava flows, *Dracophyllum recurvum* was common. *Kelleria dieffenbachii* was flowering close to a stream.

Stop 3: Massey University Ski Club hut. We were able to see the progression from bare lava flows to shrublands of *Brachyglottis bidwillii*, *Hebe odora*, *Olearia nummulariifolia*, *Phyllocladus alpinus* and *Podocarpus nivalis*. *Celmisia incana* was flowering.

Stop 4: Mangawhero Falls Track. The highlight here was flowering *Parahebe hookeriana*. On the track down to the falls we noted the red flowers of *Fuscospora cliffortioides*.

Stop 5: Blyth Track. We stopped here to look for *Pterostylis montana* and on the way back we spotted *Astelia grandis* and *Microsorium novae-zealandiae*.

Day 3

We began at the Round the Mountain Track and found *Kelleria dieffenbachii* in flower as well as *Anaphalioides alpina*, *Caladenia lyallii* and *Prasophyllum colensoi*. We descended to the Silica Rapids walk where the outstanding plant was *Pimelea buxifolia*. Prominent in this area was *Dracophyllum subulatum* together with *Hebe venustula*. We found *Empodisma minus* growing with *Androstoma empetrifolia*, cushions of *Oreobolus pectinatus* and *Lepidothamnus laxifolius*. *Coprosma perpusilla* grew along with *Pentachondra pumila*. The dry slopes in this area had a variety of small-leaved shrubs: *Aristotelia fruticosa*, *Olearia nummulariifolia*, *Coprosma pseudocuneata* and *C. tayloriae*. *Raukaua simplex* and *Pseudopanax colensoi* occurred together. As we descended, more woody vegetation became prominent, with *Podocarpus nivalis* and *P. nivalis* x *laetus*, together with *Halocarpus biformis*, *Olearia arborescens* and *Griselinia littoralis*. There were *Pterostylis banksii*, *P. montana* and *P. humilis* in flower. A grand finale to the day was seeing *Cordyline indivisa* in flower.



Coprosma perpusilla with its four stigmas (photo by Beryce Vincenzi).

Day 4: Erua Forest

The track starts in podocarp forest that transitions into *Beilschmiedia tawa* forest. The *Libocedrus bidwillii* trunks were massive. *Nestegis lanceolata*, *Podocarpus totara*, *Prumnopitys ferruginea*, *Dacrydium cupressinum*, *Phyllocladus alpinus* and *Elaeocarpus hookerianus* were some of the species towering above us and often smothered with epiphytes such as *Astelia microsperma*, *Metrosideros diffusa* and *Hymenophyllum nephrophyllum*. Notable shrubs flowering were *Gaultheria paniculata*. Other ferns included *Leptopteris superba* and *Tmesipteris tannensis*. There were patches of *Libertia micrantha* along the track. The *Lobelia angulata* flowers were deceptively larger than in our area. Then there were *Earina mucronata*, *Pterostylis montana* and *P. banksii* in flower. Another striking plant was *Machaerina sinclairii*.

January Fieldtrip: Rainbow Skifield, St Arnaud Range

Botanising began about halfway towards the main ridge from the carpark. *Parahebe cheesemanii* ssp. *cheesemanii* was immediately evident and abundant throughout the slopes. In contrast, *Parahebe lyallii* had attractive blue-striped flowers. In the grassy vegetation we found *Coprosma perpusilla* with its four stigmas and *C. atropurpurea* with its two stigmas. *Haastia sinclairii* and *H. pulvinaris* were in flower. Many members of the group were delighted by the fragrance of the abundant *Lobelia macrodon* and the displays of *Gentianella bellidifolia* flowers. The tarn revealed an exciting find of



Coprosma atropurpurea with its two stigmas (photo by Beryce Vincenzi).

Abrotanella fertilis. Also around the tarn were many *Drosera arcturi* and clumps of flowering *Euchiton lateralis*. A few that stood out were the bright yellow *Dolichoglottis lyallii*, the attractive pink epilobiums, the white of *Hebe* flowers and *Euphrasia*.

FUTURE EVENTS

March 17 Lake Rotoroa waterfall walk and nature walk.
April 15 Dinner & AGM. Speaker; Paul Maurice.
May 19 Fungal Foray along the Red Hills track.

President: David Grinsted (03) 5424384, davidgrinsted@gmail.com **Secretary:** Don Pittham (03) 5451985, pitthamd@xtra.co.nz **Treasurer:** Uta Purcell (03) 5450280, mupurcell@xtra.co.nz

■ Botanical Society of Otago

Wednesday 13th March, 5.20 pm: The vision of a Pest-Free Peninsula. Speaker: Rod Morris and trustees of the Otago Peninsula Biodiversity Group (OPBG), a community led conservation initiative to control animal pests on Otago Peninsula to make the area a better place for people and native wildlife. They will talk about reclaiming the biodiversity values of the Otago Peninsula, and how OPBG are promoting and enhancing these values through predator control. Since 2011, the OPBG has removed 14,500 possums from Otago Peninsula and as a result several native bird species are increasing in abundance and spread, including korimako, tui and kereru. In addition to this, monitoring of forest remnants and reptile and invertebrate numbers is beginning to document other signs of recovery. This growing achievement is thanks to the concerted effort of an increasing number of volunteers - the backbone of this initiative - ably guided by staff, and assisted by funders and supporters.

Saturday 16th March 9.00 am Botanical Field trip to the Otago Peninsula. We will start off at Smaills Beach where we will look at dune and coastal vegetation. We will then go to the top of the Karetai Track where there is an extensive area of *Veronica elliptica* shrubland and associated coastal plants including *Linum monogynum*, *Pimelea prostrata*, *Samolus repens* and *Epilobium komarovianum*. This is your chance to see some spectacular coastal and clifftop scenery. Depending on the time available there is the potential to visit several other sites. We shall return to Centre Road where we will look at a newly initiated conservation planting project on a piece of fenced bush on the property of Mr Donald Lyttle.

Following the field trip there will be a barbeque at 189 Centre Road to which all participants are invited. Meet at the Botany Department carpark at 9.00 am. If the weather is unsuitable we will hold the trip on Sunday 17th. Contact: David Lyttle (03) 454 5470. Email: djl1yttle@gmail.com

10th April 5:20pm. Willows for baskets. Speaker: Maia Mistral. Willows introduced to New Zealand can be subject to bad press. Often neglected in the debate are willow species that humans have depended upon for centuries for their high utility values. One such group of willows selected over time specifically for their flexibility and amenability to cultivation are referred to collectively as basket willows. For those interested in learning willow basket making or considering it as a vocation, a lack of access to suitable willow can be a major barrier to progress. In fact securing a reliable supply of raw material has been an ongoing concern even amongst professional willow basket makers who first began to work in New Zealand from the mid-19th century. This talk will use insights from the past to discuss the relative value of importation, wild harvesting and traditional coppice management of selected basket willow varieties as pathways for securing material supplies in the future.

27th April 8:30am. Livingstone Wetland Restoration Project, Taieri Mouth. This is a family run restoration project of a wetland and forest remnant. The project has been going a number of years now and been quite a success with reforestation, increased birdlife and pest eradication. Recently they hosted the bird watching society who assisted them greatly with a bird count and a list of birdlife in the wetland and native bush. Now the Greens have asked the BSO to help create a plant species list for the native bush. We will spend the day exploring the tracks around the bush and wetland to compile a species list. Meet at Botany Department carpark at 9am. Contact Gretchen Brownstein 021 065 8497 or brownsteing@landcareresearch.co.nz.

8th May 5:20pm. BSO Annual General Meeting and Photographic Competition. The photographic competition is a popular and eagerly anticipated event for anyone interested in botanical photography. Enter your best photos and learn what makes a good photograph and how to improve your photographic skills from our panel of expert judges. Your photographs may be chosen for the BSO Calendar so this is your opportunity to have one month of fame. Start organising your entries now and don't wait until the last minute.

25th May 8:30am. Fungal Foray to Knights Bush, led by keen mycologist David Orlovich. This forest bordering the Clutha River at Tuapeka West has many different ecosystems to explore. Plantings of macrocarpa, pine, eucalyptus and Douglas fir grow on the edge of a diverse area of native forest. Inside the forest are stands of old kanuka, silver and mountain beech, ancient totara and matai on the shady slopes, with mixed podocarp/broad leaved forest on the river flat and a kowhai/korokia/divaricating shrub mix on the sunniest slopes. A list of known fungi from the area will be circulated and there will be a prize for the person who adds the most new species to the list! Meet at the Botany Dept car park at 8.30 am to carpool. 4WD to cross the access paddocks and footwear with good grip for the steep slopes recommended. Contact Allison Knight 027 4878265.

8th June 9:00am. Field trip to Okia Reserve, Otago Peninsula. Okia Reserve is a large coastal reserve on the Otago Peninsula that is jointly owned by the DCC and Yellow-eyed Penguin Trust. It comprises an old dune system that is rapidly changing from its dominant bracken cover to woody coastal species. The hollows between the dunes hold a variety of wetlands that include turf, bogs and ponds. The Otago Regional Council regards the dune hollow vegetation to be the best example in the Otago Coast Ecological Region. Along with the Pyramids - a significant geological feature, and Victory Beach - the longest beach on the Peninsula, there's plenty to keep us occupied. We'll do a walk that encompasses all these features. Meet at Botany Department carpark at 9am or the Okia Reserve carpark at the end of Dick Road at 9.30 am. Contact John Barkla 03 476 3686 or jbarkla@doc.govt.nz

Chairman: Gretchen Brownstein, BrownsteinG@landcareresearch.co.nz www.bso.org.nz

Secretary: Allison Knight, P O Box 6214, Dunedin North. bsotago.ac.nz

■ Other Botanical Society Contacts

Waikato Botanical Society

President: Paula Reeves

Secretary: Kerry Jones

General contact: secretary@waikatobotsoc.org.nz

Website: <http://waikatobotsoc.org.nz>

Taranaki Botanical Society

Contacts: Barbara Hammonds 06 7597077; Email: barbara_ha@outlook.com

Janica Amooore 06 7520830. Email: waiongona@clear.co.nz

Hawke's Bay Botanical Group

<https://www.facebook.com/Hawkes-Bay-Botanical-Group-590670161140095/>

Manawatu Botanical Society

Jill Rapson: Massey University. Ph (06) 350 5799 Ext 7963; [G. Rapson@massey.ac.nz](mailto:G.Rapson@massey.ac.nz)

Wellington Botanical Society

President: Jon Terry

Secretary: Lara Shepherd, lara.shepherd@tepapa.govt.nz

<http://wellingtonbotsoc.org.nz/>

Canterbury Botanical Society

President: Paula Greer

Secretary: Fay Farrant www.canterburybotanicalsociety.org.nz

Wakatipu Botanical Group

Chairman: Neill Simpson (03) 442 2035

Secretary: Rebecca Teele 027 314 2610

ANNOUNCEMENTS

■ Conference - Taxonomy for Plant Conservation – Ruia mai i Rangiatea

24–28 November 2019, Wellington, New Zealand

The Australasian Systematic Botany Society and the New Zealand Plant Conservation Network are proud to announce our joint conference *Taxonomy for Plant Conservation – Ruia mai i Rangiatea* in November 2019.

This conference will be held at Wellington's premier venue, the Museum of New Zealand Te Papa Tongarewa.

- Get up to date with our stimulating and comprehensive range of speaker presentations
- Explore Wellington's forests and rugged coastlines on our field trips
- Network with people involved in a wide variety of plant conservation work
- Discuss and learn about a range of issues at our workshops
- There will be opportunities to tour the Te Papa herbarium and Otari Native Botanic Gardens

Conference contacts and information

Key conference organisers: Rewi Elliot (NZPCN) and Heidi Meudt (ASBS): plants2019nz@gmail.com

Updates: follow us on our Facebook page: [ASBS NZPCN Wellington 2019](https://www.facebook.com/ASBSNZPCNWellington2019)

Conference website: https://systematics.ourplants.org/asbs_2019/

NOTES AND REPORTS

■ Obituary - Rodney John Lewington 1935 – 2018

Allison Knight, allison.knight.nz@gmail.com

Anyone fortunate enough to have been on a WEA (Workers' Educational Association) Botany trip, a Wellington Botanical Society trip, a John Child Bryophyte (and Lichen) Workshop or, more recently, an Otari-Wilton Native Botanic Garden and Forest Reserve or Zealandia tour is likely to be all the richer from Rodney Lewington's cheerful and generous sharing of his extensive botanical knowledge.

An extraordinarily active member of the Wellington botanical community since 1961, Rodney made a point of welcoming newcomers and passing on his enthusiasm for New Zealand's native plants in all their diversity, from trees and shrubs to ferns and sedges to mosses and liverworts, and everything in between. Who could forget his many memorable hints on identification, such as "scaly *Cyathea* and hairy Dick" to distinguish between different genera of tree fern! Rodney would cheerfully help with the identification of anything from the tallest tree to the smallest bryophyte. He was instrumental in updating Gill Rapson's *Beginners Guide to Mosses, Liverworts, Hornworts and Mosses* and expanding the content by adding Lichens.

Rodney was active right up to a few weeks before his death in September, still freely disseminating his knowledge of botany and of botanists. He made sure that he passed on all the material needed to keep the Otari and Zealandia tours going and that his botanical literature went to good homes and he continued to contribute to Botanical Society activities.

Over the last 57 years, Rodney must have passed on his enthusiasm for New Zealand's native plants to many hundreds, if not thousands of people. An outstanding contribution, and he will be greatly missed. Our condolences to his family, and especially to his companion botanist and supportive wife Darea.



Rodney, Darea and Allison on a liverwort hunting expedition to Mt Cargill. Photo John Knight.

- **Book review - Beever, J.E.; Malcolm, N.G.; Malcolm, W.M. (2018) *The moss genus Fissidens in New Zealand*. 130 pp. Micro-Optics Press, Nelson.**

John Steel, john.steel@botany.otago.ac.nz

Price NZ\$36 (includes GST and shipping inside New Zealand). Order from Bill by e-mail at nancym@micro-opticspress.com or by post at P.O. Box 320, Nelson 7040, or by phone at 03-545-1660. Payment options: PayPal or direct credit.

At 130 pages, this is not so much a revision, but rather an updated and much extended version of their 2002 treatment of the distinctive moss genus, *Fissidens*, which, with 34 taxa, is a significant component of the New Zealand bryoflora. Jessica has been the go-to authority for this genus for many years and coupled with Bill and Nancy have produced this excellent addition to the bryophyte library; if you haven't obtained a copy by now then this is the perfect opportunity to justify yourself a belated Christmas treat – you will not be disappointed.

Bryophytes are generally green and rather small which, sadly for many field trippers, puts them straight into the too-hard basket. However, *Fissidens* is so widespread, morphologically distinct and commonly found in such a broad range of habitats that, with this treatment, it is well worth making the effort to try to identify them. The shoots are feather-like with the leaves in one plane and often overlapping. They can be very small with some species being less than one centimetre tall, but with others up to five. The give-away is the leaf, each of which has a fold or slot on its upper edge into which the lower edge of the next leaf fits. Spot that and you have *Fissidens*!

The book begins by defining this feature, clearly and with detailed descriptions accompanied by the relevant microphotographs and diagrams. A key to the genus follows and, having disdain for the use of subjective adverbial and adjectival descriptors, I was surprised to find "strongly undulate" in the first lead of the first couplet. I turned immediately to the species description and there it was – the perfect photograph showing the feature perfectly to justify its description! This highlights an excellent feature

of the authors' writing by never taking the reader's knowledge for granted and being able to do so without appearing condescending. I have tried the key a couple of times and it works just fine. Then there follows outlines of a leaf from every species and variety before dealing with each taxon individually in two to four pages of detailed photographs of all its requisite characters.

The first page is divided into three. The top third of the page consists of the character descriptions, separately and individually rather than in a large block and so much easier (for me at least) to follow, and lastly the leaf outline. The next comprises four or five, numbered pictures of more general features such as habit, leaf, shape, capsule, cells *etc.* The remaining third consists of three higher magnification photographs of the leaf characters. All this in one A5 page and not a hint of clutter!

***Fissidens taxifolius* Hedw.**

form: tufted to densely gregarious, yellow-green, branched at the base,

10–15 leaf pairs, overlapping in mid-stem, 5–10 mm tall

habitat: soil in moderate shade, mostly urban parks and gardens, to 400 m

leaf: size: 1.4–2.4 × 0.4–0.8 mm, in 10–15 pairs on the stem

shape: oblong-lanceolate; bistratose patches distally

tip: acute to broadly acute, mucronate to cuspidate on some leaves

vaginant laminae: 0.5–0.7 of the leaf length, almost closed

base: dorsal lamina reaching the leaf insertion, often undulate there

costa: percurrent to excurrent in a mucro or cusp

border: not differentiated

margin: serrulate, plane

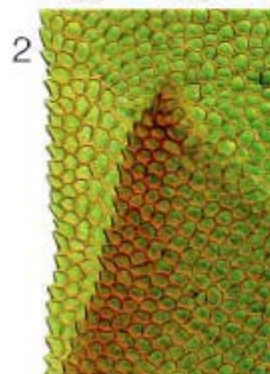
cells: 8–10 µm, quadrate to hexagonal, firm-walled, bulging, smooth

capsule: capsules not found in New Zealand

notes: adventive and invasive, nearly cosmopolitan but not recorded from Australia

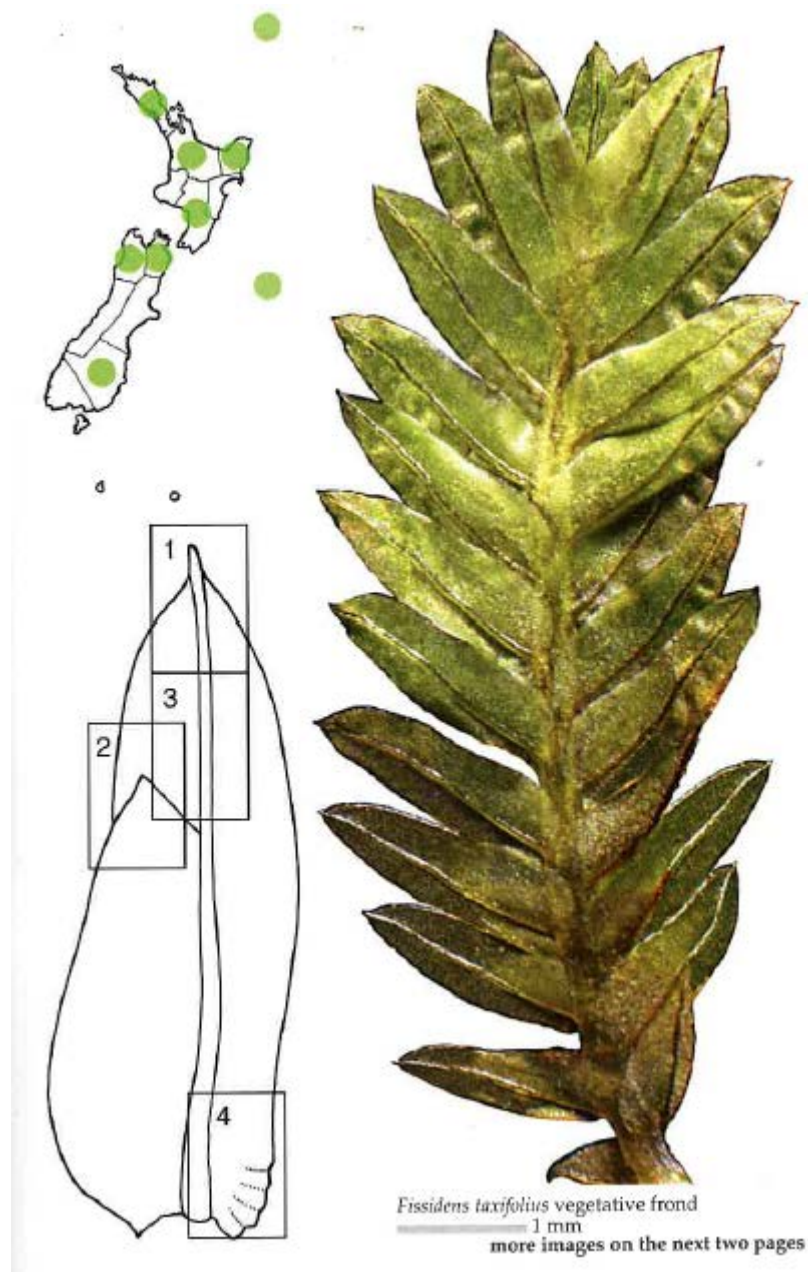


habit, vegetative shoot (dry), leaf outline, and leaf apex
 1 mm, 1 mm, 0.5 mm, 50 µm



junction of apical and vaginant laminae, costa in midleaf, and undulate leaf basal angle
 50 µm, 50 µm, 50 µm

The following page is a gem! A large, full-length picture of one or more of the major plant features is accompanied by a distribution map and below that a leaf outline cleverly delineating where the numbered pictures from the previous page fit on the leaf. For many of the species there follow a couple more pages with higher magnification pictures of the significant features.



A hundred pages later, there follows an expanded glossary with many of the terms from the text often accompanied by a photograph to highlight their meaning.

My first impulse is to end saying this book is just crammed full of necessary information, but crammed, to me, implies that there isn't any space left. On the contrary, with their book the authors have managed to include all that information in an open and completely uncluttered format, a lesson worth noting by any budding author of similar genres. What with Jessica's *Flora of New Zealand* treatment and now this, there cannot now be any excuse for not attempting this fascinating group of mosses.

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■ DNA and Plant Classification

W. Arthur Whistler, Ph.D., Isle Botanica, Honolulu, Hawai'i

The branch of science concerned with the classification of organisms is called taxonomy. Scientists in this field, called taxonomists, have long classified the higher plants (tracheophytes) of the world into three living groups—pteridophytes (ferns and fern allies), gymnosperms (cone-bearing plants, such as conifers), and angiosperms (flowering plants). The flowering plants have traditionally been divided into two subgroups, dicots (plants usually with 2 seed leaves, flower parts in 4s or 5s, and netted leaf venation) and monocots (plants with 1 seed leaf, flower parts in 3s, and parallel leaf venation). Based upon visual and presumably actual similarities, taxonomists arrange species into higher groupings called genera (genus is the singular). Genus names are always italicized and the first letter capitalized, while the specific name (the one following the genus) is also italicized but with all lowercase letters. Genera in turn are arranged into plant families based on broader similarities. Well known plant families include the Orchidaceae (the orchid family), Zingiberaceae (the ginger family), Ericaceae (the heather family), and Solanaceae (the potato family). The first letter of families is capitalized, but the name is never italicized.

Plant family names can be recognized by their suffix, -ceae. This was not always the case, however, because most of the time since Linnaeus (1753) eight of them were named contrary to this rule. This includes the pea family (Fabaceae, formerly called Leguminosae), the aster family (Asteraceae, formerly called Compositae), and the grass family (Poaceae, formerly called Gramineae). In recent times all eight of these families have been given replacement names ending in -ceae, although their former names are still found in old (and sometimes new) botanical publications. Further complicating the issue is the fact that tight-knit botanists who study the aster family still refer to it by its old name, Compositae.

Since the times of Linnaeus, who is known as the “father” of taxonomy, a species has been defined as a group of living organisms consisting of similar individuals capable of interbreeding with each other and incapable of successfully breeding with other species. Since interbreeding studies can be complicated and very time consuming, the physical appearance of individuals has in practice received the most emphasis in delineating species. Thus morphology, the branch of biology that deals with the form of living organisms and with relationships between their structures, has always been the primary basis for taxonomy and recognition of species. One distinguishes, for example, different species of oaks by looking at significant and consistent differences in leaf shape, flowers, fruits, etc., and likewise recognizes the species as being related to each in the oak genus (*Quercus*) because of the presence of their characteristic acorns and flowers born in tassels.

Taxonomy is not an exact science, however; it is more of an art based on science. Ideally, the categories recognized by taxonomists and the species names have been considered to be the closest to reality, but they are also constructed for the convenience of humans to facilitate understanding of the plant world. Taxonomy provides the scientific names for plants we see or use every day. When the names are immutable, taxonomy is user-friendly, and people can talk about plants without confusion. That has generally been the guiding principle of taxonomy—to give names to plants so everyone can recognize and talk about the species. Because of the inexact nature of taxonomy, however, scientists often have differences of opinion with each other as to how species and higher groups should be named and categorized. The predominant systems in place until recently were based on the original Linnaean system of 1753, with changes made over time based on new morphological evidence. A modification by the German botanists Engler and Prantl (1886) has held sway on the European continent, and one by Bentham and Hooker (1862 and 1883) did likewise for Britain and elsewhere since the 1800s.

Recently, however, everything has changed with the use of DNA rather than morphology as the main criterion for plant taxonomy. Dramatic advances in plant (and animal) classification and nomenclature (naming of species) have been made over the last two decades as biochemists working with DNA are now able to compare species genetically. Based on this, DNA taxonomists are renaming species, genera, and families, bringing upheaval to plant taxonomy and confusion as to which scientific names and higher categories should be used. To summarize and present the recent developments based on DNA, a group of plant taxonomists calling themselves the Angiosperm Phylogeny Group (APG)

published a DNA-based system of plant classification referred to as APG in 1998. Based upon ongoing research, the original publication was updated in 2003 to a system referred to as APG II. This was followed by another update in 2009 to APG III, and again in 2016 to the current system, APG IV, which is currently followed by most plant taxonomists.

However, although DNA studies are based upon sound scientific principles, they have some of their own inherent difficulties when applied to the real world. Most importantly, they only take into account certain genes, and not how the whole set of genes expresses itself (i.e., what the plants look like). DNA studies can detect differences between “genetic species” on a molecular level, but these differences often cannot be seen outside the lab, making it problematical for use by laymen and non-DNA taxonomists. APG does not sufficiently take into account morphology (how the plants look), which is the basis for how most people distinguish between species and higher plant categories. Traditional morphology has fallen by the wayside in a headlong rush to base taxonomic judgments solely on the results of DNA comparisons. However, many of the scientists in APG are biochemists rather than botanists, and may not have sufficient understanding of plant morphology. Consequently, APG has found only partial acceptance outside of the arcane world of taxonomy. Most herbaria in the world still arrange and name their collections in the traditional way, although partly because of the prohibitive cost of reorganization and renaming of specimens. There is, thus, a disconnect in how the lab-bound scientists view the plants as compared to how laymen and non-DNA botanists in the field do.

Despite the recent rush to embrace DNA-based taxonomy, the new classification has its limitations. On the species level, for example, there are currently 19 recognized endemic Hawaiian species in the genus *Bidens* (sunflower family, Asteraceae, and “beggar’s-tick” genus), based on morphological differences. The species can be distinguished visually, which is to be expected. However, DNA studies have found amazingly little genetic differentiation among them, much less than what is found within a single population of the original founder species in its presumptive California homeland. Despite this contradiction, the traditional morphological species have been retained on the updated eflora of Hawai’i website.

Another example of a problematic case at the species level is the genus *Metrosideros* in Polynesia. Since the time of Linnaeus, one wide-ranging species has been recognized from the Marquesas to Vanuatu, *Metrosideros collina*. However, a recent DNA-based study (Pillon et al. 2015) recognized two species in this area, the traditional *M. collina* from the Marquesas to the Cook Islands, and *M. vitiensis* from Vanuatu to Samoa. Nowhere in the paper is there a taxonomic key to visually distinguish the species, nor are any descriptions provided. With no description of morphological differences, even the trained eye might not be able to distinguish the two DNA species. It is probable that most of the multiple authors have not even seen their subject plants in the field! The Pillon et al. study is essentially a biochemical paper disguised as taxonomy, and of little use to anyone outside of the DNA labs.

There are also problems at the genus and family levels. APG places the genus *Cassytha* in subfamily Cassytheae of the laurel family (Lauraceae), which comprises mostly leafy trees. *Cassytha*, however, comprises leafless herbaceous vines. There is no apparent usage of plant morphology in this reclassification. How different do plants have to be (trees vs. leafless parasitic herbaceous vines in this case) to be in separate families? In a second example, APG IV places the genus *Calophyllum* in a new family, Calophyllaceae, rather than its traditional family, Clusiaceae. It is unclear what morphological differences distinguish the two similar looking families, which APG places next to each other in relationship diagrams. Calophyllaceae has met with only weak acceptance. In three recent regional taxonomic papers—the *Flora of the Cook Islands* (Sykes 2016), *The plants of Waya Island, Fiji* (Gardner 2017), and the *Flora of Tokelau* (Whistler 2018)—the three separate authors retain Clusiaceae.

In a third example, Sykes (2016) and Whistler (2018) recognize the genus *Glochidion* in the family Phyllanthaceae, and Gardner puts it in Euphorbiaceae (where it has been traditionally placed), but APG includes it within the genus *Phyllanthus* in the Phyllanthaceae. The practical problem for herbarium workers is not only in which genus folder the specimen belongs, but also in which family to place it. There is also the problem of APG changing its collective mind. Taccaceae has long been placed in its own family, but APG II relegated it into the morphologically dissimilar yam family (Dioscoreaceae), only to switch it back to its own family in APG III and IV. How many other families

are going to be switched in APG V when it is eventually published? Future studies may contradict older studies, and reverse some of the changes that the APG has made. And still, morphology will probably be given short shrift.

Another problem is that there are other important sources that sometimes also do not agree with APG or even, sometimes, with each other. An online site, theplantlist.org presents extensive information on species names and family affiliations, but it is based upon its review of literature rather than upon its own studies, and its information is not always up-to-date. A second useful website is the International Plant Names Index (IPNI, ipni.com), which hosts a database of the published names of plant species. It is the product of collaboration between The Royal Botanic Gardens, Kew, Harvard University Herbaria, and the Australian National Herbarium. However, it too is based on the literature of others rather than practical current research.

Both of the aforementioned sources are web-based, but many people prefer to use printed publications. The most comprehensive and up-to-date of these, *Mabberley's Plant- instead Book: A Portable Dictionary of Plants, their Classification and Uses*, 4th Edition (Mabberley 2017), lists and briefly describes the families and genera of the world. A similar book, *Plants of the World: an Illustrated Encyclopedia of Vascular Plants* (Christenhusz et al. 2017), is also frequently used to extract the same information. However, these two resources do not always agree with each other, or with APG or the aforementioned websites. Mabberley, for example, recognizes *Glochidion*, but Christenhusz sinks it into *Phyllanthus*.

There is no easy solution to this problem. Gardner (2018) alleviates the problem by keeping most of the traditional genera and families, but cites the APG genera and families if different. The *Flora of Tokelau* does the same thing. Likewise, the *Flora of Samoa* (Whistler, in prep.), although written, is not yet slated for publication because the editors assigned to it refuse to accept this practical solution, and want every name to match APG and any other more recent studies. The crux of the matter is that most people who use plant names are not able to see the subtleties discovered by the lab-bound biochemists, and are confused about which names to use, since the names they find in the literature are often different. The dust has not settled in the debate, and following everything proposed by APG IV seems to be premature. Only time will tell where this is all going to end. Meanwhile, all sides should show flexibility and not get too hung up in a problem with no perfect solution.

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BIOGRAPHY / BIBLIOGRAPHY

■ Biographical Sketch -- Piotr Ernest Jan Scheffler (1739 – c.1809)

Val Smith, 80 Mill Road, New Plymouth 4310.

The genus *Schefflera* in the family Araliaceae was published by J R and G Forster in *Characteres*

Generum Plantarum (1776) with the Latin citation, "Scheffler, Medicus et Botanicus Gedanensis", but for many years there has been confusion about the identity of the person acclaimed. Further research has revealed that it was named for Piotr Ernest Jan Scheffler (Johann Peter Ernst von Scheffler) or one of the many other variations of his name (1739–c.1809), physician and botanist of Gdańsk and later of Warsaw, who contributed plants to Gottfried Reyger's book *Tentamen Florae Gedanensis*.

Piotr Ernest Jan Scheffler is one of the almost forgotten figures of the Polish Enlightenment. He was born in Gdańsk (Danzig) on 23 September 1739 and, although the names of his immediate family are not known, he was almost certainly a descendent of the noted Gdańsk physician Johann Scheffler (1606–1675) who co-authored the first Polish Pharmacopoeia, the official list of recipes for medicinal preparations. Piotr completed his medical studies at the University of Königsberg on 27 June 1761, and a year later obtained his doctorate. The university was also an active centre of chemical research at that time, and Scheffler would have met and been influenced by some of the professors working in that field.

After graduating, Scheffler returned to Gdańsk where he worked as a physician and a natural history teacher. In 1763 he was admitted to the Society of Nature Researchers and by 1778 he had become treasurer. He was also a correspondent of the Royal Society of Sciences in Göttingen, a member of the London Society for the Advancement of Arts, Manufacture and Trade, and a member of the Berlin Science Association. From 1782 he lived in Warsaw as an adviser to Bishop Michał Poniąkowski, head of the Ministry of Education and brother of the king, and was also engaged as an associate of the Metallurgical Commission for the search for mineral deposits. He became involved in freemasonry and the Circle of the Rosicrucian Order, and from 1805 was a member of the Friends of the Sciences in Warsaw. His several published papers were on natural science and mineralogy. King Stanisław Poniąkowski conferred upon him the title of baronet and mine councillor and he was also an honorary professor of the Jagiellonian University in Cracow. The exact date of Scheffler's death in Warsaw is unknown, but is thought to have been around 1809.



Schefflera digitata

It is known from a letter written by George Forster to his fiancée Teresa Heyne on 13 October 1784, that he (Forster) was then staying with his "old friend" Scheffler in Warsaw, and that they had met earlier in London when Scheffler had journeyed through countries of Western Europe to England in the early 1770s. George and his father Johann Reinhold Forster (who was born a few kilometres south of Gdańsk) were botanists on James Cook's second voyage. The *Resolution* anchored at Dusky Bay, Queen Charlotte Sound on 27 March 1773 – too late in the season to obtain many plants in flower – but there were some, including *Schefflera digitata*, which they described and illustrated.

Schefflera digitata

Schefflera, in the Araliaceae or ivy family, is a genus of about 200 tropical and subtropical species of trees and shrubs. New Zealand's only species is endemic. *Schefflera digitata* (Latin *digitatus* 'finger', referring to the palmate leaf) is sometimes known as seven-finger. A small spreading tree up to 8 m tall, or an epiphyte (mainly on tree-fern trunks), it prefers damp, sheltered and partly shady sites in lowland to low-montane forest throughout New Zealand. Mature leaves usually have 7–10 thin, textured, serrated leaflets on a long stalk. Clusters of small greenish flowers are produced in late summer and the fruits, when mature, are dark purple. Commonly known as patē, it was used by early Māori as a soft wood for fire making by friction.

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PUBLICATIONS

■ Publications Received

Auckland Botanical Society Journal December 2018, 73 (2): trip report for Awhitu wetlands, botany of Craigavon Park, Blockhouse Bay, Mt Eden/Maungahau urban rock-forests, range expansion for *Hymenophyllum bivalve*, frugivory and seed dispersal, *Corybas rotundifolius*, book review for *Flore de la Nouvelle-Calédonie* 26: Cunoniaceae, how *Wollastonia* and *Youngia* got their names.

Whanganui Museum Botanical Group newsletter January 2019: upcoming meetings and trips.

Nelson Botanical Society Newsletter December 2018: upcoming trips, trip report for Lake Rotoiti, notes from Northland with an emphasis on orchids.

Nelson Botanical Society Newsletter February 2019: upcoming trips, trip report for Rainbow Skifield, St Arnaud Range, comment on *Coprosma dumosa* and *C. tayloriae*.

Wellington Botanical Society Newsletter December 2018: upcoming trips and meetings, Otari-Wilton's Bush report, obituary for Rodney Lewington, GWRC report, urban forest restoration ecology, Darwin's barberry, trip reports for Mt Maunganui, Akatarawas.

Canterbury Botanical Society Newsletter January and February 2019: upcoming trips and meetings, meeting report for Ata Whenua (Fiordland National Park), trip report for Coringa limestone outcrop, North Canterbury and Murchison summer camp.

The New Zealand Native Orchid Journal 151, February 2019: the type locality of *Thelymitra fimbriata*, *Corybas macranthus*, *Corybas* in the Wairarapa and Wellington, 2018 Hatch medal to Graeme Jane and Gael Donaghy, *Caladenia minor*, *Pterostylis speciosa*.

Botanical Society of Otago Newsletter February 2019: upcoming trips and meetings, committee notes, obituaries for Emeritus Professor Peter Holland and Rodney Lewington, Paradise Lost - Daniel Solander's legacy, cyanotypes, spiders as bioindicators of vegetation complexity in urban environments, *Astelia* variants, evotourism, book review – the moss genus *Fissidens* in New Zealand, meeting and trip reports.

Common Ground: who's who in New Zealand botanical names Supplement

Val Smith

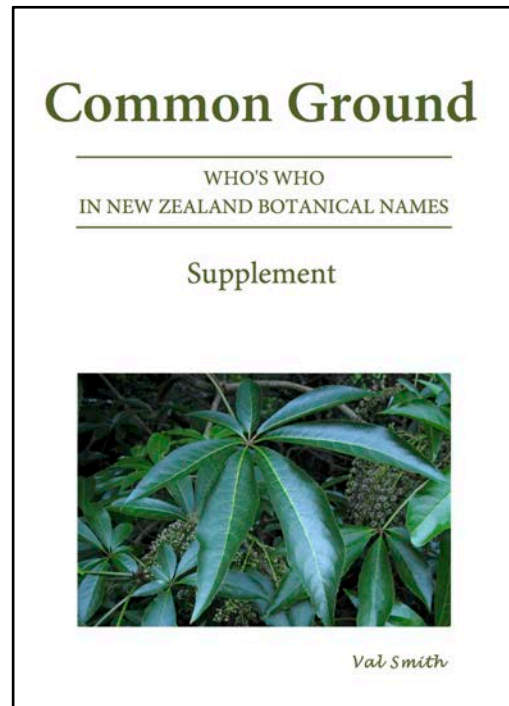
A4 format, 122 pages, soft cover

Published in a limited edition by Wordsmith, New Plymouth, assisted by Wellington Botanical Society's Jubilee Fund and the George Mason Charitable Trust
ISBN 978-0-473-45089-2

This supplement to *Common Ground* embraces the stories of a further hundred people commemorated in botanical names of New Zealand flowering plants, ferns, seaweeds, mosses, lichens and fungi. In a similar format to its predecessor, it is arranged chronologically from biblical times to the present day, each biographical entry on a separate page, together with relevant plant information and image.

Price: \$20 (includes delivery/postage within New Zealand)

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Postal Ballot Paper for Annual General Meeting to conduct two items of business as set out in the New Zealand Botanical Society Newsletter 135, March 2019.

Resolution 1: Moved Anthony Wright, seconded Ewen Cameron
THAT the Rules of the New Zealand Botanical Society be amended by the replacement of section 9 as set out on page 3 of Newsletter 135.

FOR / AGAINST
(please circle the word you are voting for)

Resolution 2: Moved Anthony Wright, seconded Ewen Cameron
THAT the Financial Statement for the year ended 31 December 2018, published in Newsletter 135 (March 2019), be adopted.

FOR / AGAINST
(please circle the word you are voting for)

Please provide your email address for possible future ballots or indicate your preferred alternative means of communications:

.....
.....
.....

Please affix a postage stamp to the enclosed addressed envelope and post to arrive no later than 5pm Friday 12 April 2019.