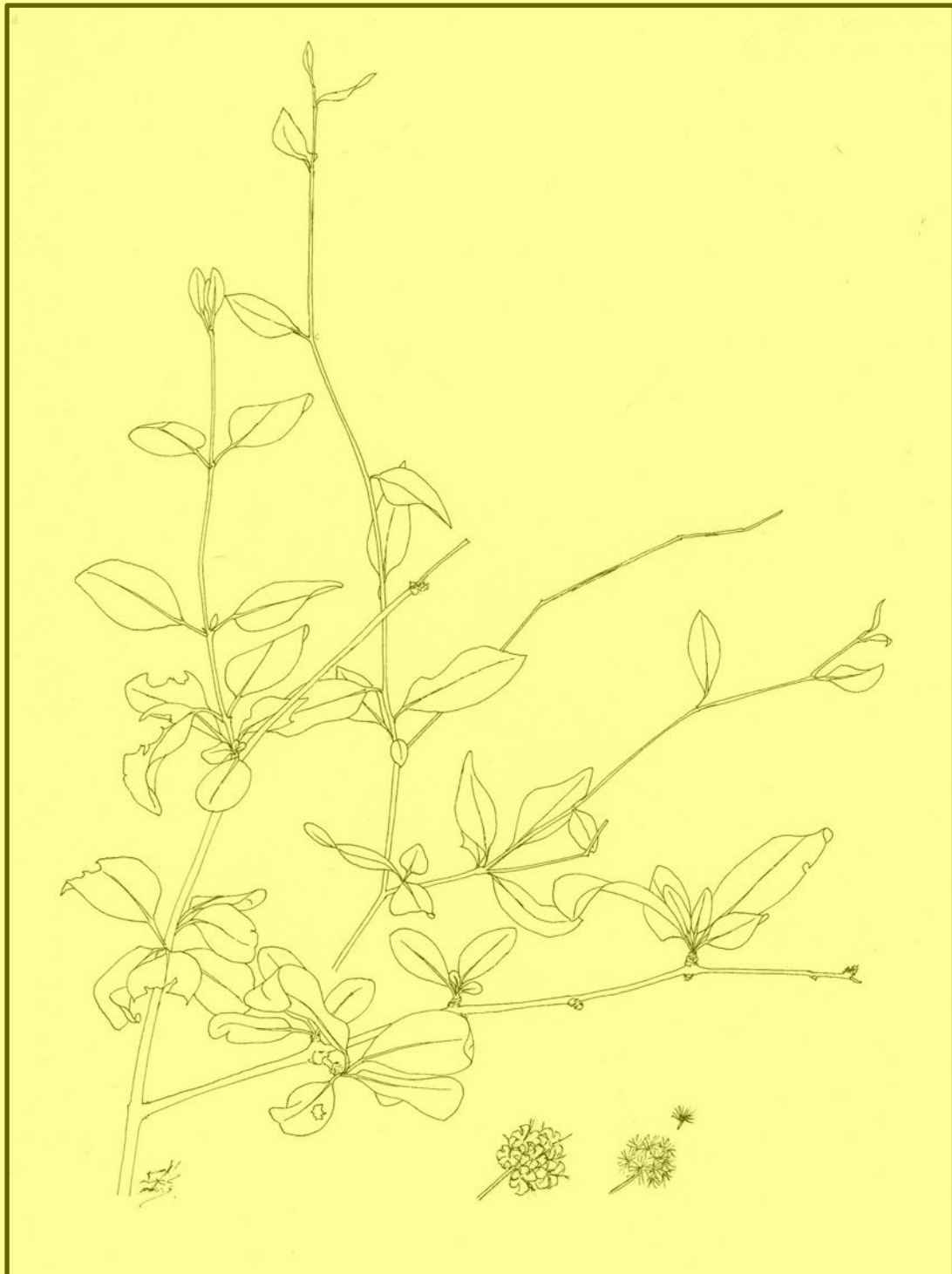


NEW ZEALAND BOTANICAL SOCIETY

# NEWSLETTER

NUMBER 142

December 2020



|                      |                                                                                  |
|----------------------|----------------------------------------------------------------------------------|
| President:           | Anthony Wright                                                                   |
| Secretary/Treasurer: | Ewen Cameron                                                                     |
| Committee:           | Bruce Clarkson, Colin Webb, Carol West                                           |
| Address:             | c/- Canterbury Museum<br>Rolleston Avenue<br>CHRISTCHURCH 8013                   |
| Webmaster:           | Murray Dawson                                                                    |
| URL:                 | <a href="http://www.nzbotanicalsociety.org.nz">www.nzbotanicalsociety.org.nz</a> |

## Subscriptions

The 2020 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2020 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 March *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 March 2021 issue is 25 February 2021.

Please post contributions to:

Lara Shepherd  
Museum of New Zealand Te Papa Tongarewa  
169 Tory St Wellington 6021

Send email contributions to [lara.shepherd@tepapa.govt.nz](mailto:lara.shepherd@tepapa.govt.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

*Olearia gardneri* by Eleanor Burton.

NEW ZEALAND BOTANICAL SOCIETY  
**NEWSLETTER**  
NUMBER 142      December 2020

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

---

**CONTENTS**

---

**New Zealand Botanical Society News**

|                          |   |
|--------------------------|---|
| Committee for 2021 ..... | 2 |
|--------------------------|---|

**Regional Botanical Society News**

|                                        |   |
|----------------------------------------|---|
| Auckland Botanical Society .....       | 2 |
| Rotorua Botanical Society .....        | 3 |
| Whanganui Museum Botanical Group ..... | 4 |
| Wellington Botanical Society .....     | 4 |
| Nelson Botanical Society .....         | 5 |
| Other Botanical Societies .....        | 7 |

**Announcements**

|                                           |   |
|-------------------------------------------|---|
| Wendy Nelson awarded Burbidge Medal ..... | 8 |
| 2020 Queen's Birthday Honours .....       | 8 |

**Notes and Reports**

|                                                                                           |    |
|-------------------------------------------------------------------------------------------|----|
| National Forestry Herbarium at Rotorua turns 75 .....                                     | 8  |
| <i>Nunquam Otiosus</i> : the never-idle life of Berthold Carl Seemann (1825–71) .....     | 12 |
| Spurge laurel ( <i>Daphne laureola</i> L.): an emerging problem weed in New Zealand? .... | 17 |

**Biography/Bibliography**

|                                                        |    |
|--------------------------------------------------------|----|
| Biographical Sketch —Jacinda Kate Laurell Ardern ..... | 20 |
|--------------------------------------------------------|----|

**Publications**

|                             |    |
|-----------------------------|----|
| Publications received ..... | 21 |
|-----------------------------|----|

---

## NEWS

---

### New Zealand Botanical Society News

#### ■ Committee for 2021

Nominations for positions of President, Secretary/Treasurer and three committee members for the New Zealand Botanical Society closed on 20 November 2020.

The following nominations, equalling the number of positions available, were received and are declared elected: President Anthony Wright, Secretary/Treasurer Ewen Cameron, Committee members Bruce Clarkson, Colin Webb and Carol West.

We are pleased to announce that Lara Shepherd has agreed to continue as editor for 2021.

### Regional Botanical Society News

#### ■ Auckland Botanical Society

##### August Meeting

Between the two periods of covid lockdown our members managed one get-together, an evening meeting in August. Helen Preston Jones' Plant of the Month talk introduced us to *Broussonetia papyrifera*, also known as paper mulberry or aute. Ben Goodwin, although his work is with animals, has set himself the task of studying the flora of the Auckland volcanic field as a hobby challenge. He has explored the volcanic cones, lava fields and explosion craters in the city, and illustrated to us the plant communities and indigenous vascular plants that are still present.

##### September Field Trip

A good number of members and friends, pleased at last to be free to wander, met in Cornwall Park to be guided by Ben to some of the interesting sites that he has found during his explorations. In a planted grove a healthy specimen of *Pennantia baylisiana*, a lone female tree of which was found on the Three Kings Islands by Geoff Baylis, was much admired as Jessica Beever explained how her late husband, Ross, had persuaded cuttings to produce a little pollen so that sexual reproduction could take place. Cornwall Park and One Tree Hill are administered separately, and a decision has been made not to graze One Tree Hill. We wondered at the wisdom of this decision, as rank grass is now threatening to smother little botanical treasures. On the summit we checked the fenced grove of trees, mainly totara and pohutukawa, one of which will one day replace the felled "One Tree".

##### October Meeting

Tiago Mahalingham has become interested in the non-green orchid, *Danhatchia australis*, and hopes to be able to study the fungal connection with this plant. For Plant of the Month he discussed some of the features of the orchid. Anyone who has botanised in Northland will have been completely confused by the sheer variety of forms of the genus *Alseuosmia* growing there. Geneticist, Lara Shepherd, together with Leon Perrie, both working at Te Papa, has been trying to unravel the puzzle of how many species there are, but nothing is simple when it comes to sorting them out. Lara began her talk by discussing mimicry in the animal world. She felt sure that *A. pusilla* is a true mimic of the unpalatable horopita (*Pseudowintera colorata*), but it is puzzling to think that northern plants should mimic ramarama, *Pittosporum pimeleoides*, *Leionema nudum*, pigeonwood, or other palatable plants.

##### October Field Trip

On a pleasant spring day a big crowd assembled at Bethell's Beach to walk northwards on the Te Henga Walkway. We visited privately owned land and heard of the great work being undertaken by the owners in eradicating pest animals, thus allowing petrels to re-establish their burrows. A particular pleasure was to be able to walk to Ihumoana Island when the tide was low enough, and clamber up the steep access to explore the coastal forest that was riddled with burrows.

### November Meeting

For Plant of the Month Rhys Gardner introduced us, with his usual flair, to the handsome London plane, a tree of hybrid origins much planted as a street tree that tolerates urban conditions. One parent, the Eurasian *Platanus orientalis*, features in literature from ancient times, and the North American *P. occidentalis* presumably hybridized with the latter in England. Peter de Lange left listeners with food for thought after his explanation about how taxonomic research is undertaken, and how New Zealand taxonomists are increasingly resorting to using indigenous names for new finds. He stressed how te reo (Māori) and ta ra (Mori) should only be used after consultation with the people who speak them, and how some errors have been made in the past.

### November Field Trip

Dr. WM Hamilton donated the bush fringing the Mahurangi River boundary of his family property to DoC when he retired from the DSIR leadership in 1976, and this was the focus of our final trip for the year, led by his daughter, Lyn Wade. Considerable work on eliminating climbing asparagus from the reserve has left only seedlings now appearing – we did our share of digging them up. Dr. Hamilton had planted many interesting plants in his garden, and two of them, *Ceodes (Pisonia) brunoniana* and *Pittosporum umbellatum* have naturalized in the bush. An interesting bush walk led on to exploring the magnificent exotic trees in the garden, and then Lyn allowed us to visit her 127 year-old house.

### Forthcoming Activities

|                              |                                              |
|------------------------------|----------------------------------------------|
| 5 December 2020              | Christmas lunch & walk, Whatipu              |
| 29 January – 1 February 2021 | Taranaki Weekend                             |
| 20 February 2021             | Arthur Lee Titchener Reserve, Waiheke        |
| 3 March 2021                 | AGM & Lucy Cranwell recipient, Jarden Howard |
| 20 March 2021                | Mahurangi East Extension                     |

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

**President:** Ewen Cameron

**Secretary:** Stephanie Angove-Emery

[aucklandbotanicalsociety@gmail.com](mailto:aucklandbotanicalsociety@gmail.com)

### ■ **Rotorua Botanical Society**

#### September Trip - Dickies Flat

A good-sized group from Waikato Bot Soc and just three from Rotorua met at Dickey's Flat. After some discussion about the weather we headed up river towards Mangakino Stream crossing to soon be greeted by the first of several light showers. The first 10 minute section was across pasture to where we entered forest through a kahikatea pole stand. Interesting plants here were patches of parataniwha along a small seepage and the odd *Streblus heterophyllus* and native passion fruit straggling into the canopy. The track then climbed above the river through tawa forest with mahoe and the occasional kohekohe.

It was not long before we spotted leaves of our first lot of orchids - *Corybas trilobus* - and soon a few flowers with the typical red stripes on the broad labellum face. Ferns of interest here included the maidenhairs, *Adiantum cunninghamii*, *A. viridescens* with its hairy rachis and *A. diaphanum* with fine hairs beneath the pinnules. Large rocks nearby were clothed in *Trichomanes endlicherianum*. After the track descended to the river, we were greeted by swathes of crocosmia and *Selaginella kraussiana*. Perhaps the main redeeming features here were *Rhabdothamnus solandri* with scattered flowers and the odd *Alseuosmia macrophylla* that scented the forest. After lunch by the river, sheltering under a high track bank from the drizzle, we finally reached a few large kauri that marked the start of the ricker stands. Here we began to see some typical kauri associates such as toru, *Mida salicifolia* (in flower) and some characteristic orchids in flower including *Cyrtostylis oblongus*, *Pterostylis agathicola*, *P. alobula*, *P. trullifolia* and *Corybas acuminatus*. Further up the gorge cooler plants began to appear including tawari and *Dracophyllum latifolium*. Finally we reached an old river crossing and headed back into more steady rain.

#### October Field Trip - Moanui

Most of the group stayed overnight with Mike Butcher to get an early start on Sunday. Then, after

picking up three locals, we headed out to Moanui Scenic Reserve, on a plateau area between the headwaters of the Motu and Waioeka Rivers. First stop was at the end of the reserve, marked by a sign. The forest was dominated by silver beech with hard beech, rimu, tawari, pokaka and hinau. Near the road the subcanopy was quite varied including *Coprosma autumnalis*, broadleaf, rangiora and the odd tawa. As we headed up hill snow damage was evidenced by the many fallen large beech and rimu. The ground cover was quite depleted with much deer sign. This actually allowed us to find several large areas of *Corybas acuminatus* in flower. Ferns were uncommon in the ground cover but *Hymenophyllum scabrum*, *H. flabellatum*, *Microsorium novae-zelandiae*, *M. pustulatum* and orchids such as *Earina mucronata*, *E. autumnalis* and *Dendrobium cunninghamii* were common as epiphytes perching on the large logs. Near a knoll where we turned back *Gahnia setifolia* and *Astelia nervosa* were common, along with *Dracophyllum latifolium* and tawari.

After lunch we browsed the roadsides stopping at several points to locate one or more of the three previously recorded mistletoes: *Peraxilla colensoi*, *P. tetrapetala* and *Alepis flavida* marked by the banded trees hosting them. Other plants of interest here were terrestrial *Raukahu edgerleyi*, *Melicytus lanceolatus* and *Neomyrtus pedunculatus*.

#### FUTURE EVENTS

|                         |                                   |
|-------------------------|-----------------------------------|
| December 6              | McLaren Falls                     |
| January 30 - 1 February | Auckland Anniversary Weekend Trip |
| February 13             | Greyhound Road, Mamaku wetlands   |
| March 7                 | Makatiti Dome Scenic Reserve      |

**President:** Paul Cashmore 027 650 7264 [pcashmore@doc.govt.nz](mailto:pcashmore@doc.govt.nz)

**Secretary:** Elizabeth Miller (07) 343 5013 [rotorua-botanical-society@gmail.com](mailto:rotorua-botanical-society@gmail.com)

**Web Page:** [www.wildland.co.nz/botanical.htm](http://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 3<sup>rd</sup> Tuesday of each month. It is intended to continue with monthly botanical field trips to which members of the other two groups are invited.

**President:** Clive Higgie (06) 342 7857 [clive.nicki@xtra.co.nz](mailto:clive.nicki@xtra.co.nz)

**Secretary:** Robyn Ogle (06) 347 8547 [robcol.ogle@xtra.co.nz](mailto:robcol.ogle@xtra.co.nz)

#### ■ Wellington Botanical Society

##### February fieldtrip – Hawkins Hill Rd, Brooklyn

Our group of five botanised Pam Olver's and Chris Horrocks' 12.5 ha block of regenerating forest. About 1 ha adjacent to Hawkins Hill Rd is in rough pasture (from a previous owner's attempt to rear emus), the remainder being forest. The top of Southernthread Rd is all that separates the block from being contiguous with Zealandia and the 52 ha block of bush owned by Wellington Natural Heritage Trust. Starting at a wet area near the road we recorded a suite of usual weeds as well as lianes such as *Metrosideros perforata*, *M. diffusa*, *M. fulgens* and *Clematis paniculata*. A northern rātā / *Metrosideros robusta* bole of nearly 1 m diameter was one sign of this. Within the gully the canopy was dominated by putaputawētā / *Carpodetus serratus*, māpou / *Myrsine australis*, porokaiwhiri / *Hedycarya arborea*, soaring well above 10 m. We measured the d.b.h. of a māpou at 40 cm and a porokaiwhiri at over 30 cm. One ancient māhoe was 2.5 m at the base.

It was a different picture with the understorey. Years of browsing by possums, deer, goats and pigs had removed a series of potential seedling cohorts. However, the current ownership with the help of GWRC have been targeting possums, rats, and mustelids as well as encouraging pig shooting and we understood that the boundary fence is deer-proof. Presumably because of grazer control there

was an abundance of small seedlings on the forest floor.

July fieldtrip – Brookfield Wildlife Refuge & Outdoor Education Centre (Scouts NZ), Wainuiomata  
Brookfield Outdoor Education Centre was established in 1958 with 355 acres bequeathed by Mary Crowther, but has since expanded to more than 650 acres, including camp facilities and paddocks, regenerating and remnant bush, and plantings of native and introduced species. Like most places, Brookfield has its share of pest animals and plants. In 2018, 1,000 possums were removed and in the past eight months, 1,400 rodents and mustelids have been trapped. We spotted a large tree of the Australian *Lomatia fraseri* near the carpark and other weeds include selaginella and barberry.

August fieldtrip - Ngā Manu Nature Reserve and Waikanae River banks

At Ngā Manu Nature Reserve, we were welcomed by the manager, Matu Booth, then treated to two lectures on *Dactylanthus taylorii* / pua o Te Reinga / wood rose. After the talks we went to see the site where *D. taylorii* has been planted in the reserve as part of its long-term study of the lifecycle of this threatened plant.

Next we botanised both banks of the Waikanae River from the old State Highway 1 bridge to Te Arawai Footbridge. There are many plantings of native species along the riverbanks, some of which are now well established. Plantings included: *Carmichaelia australis* / maukoro / a NZ broom sp.; *Beilschmiedia tawa* / tawa; *Leptospermum scoparium* agg. / mānuka; *Olearia solandri* / takupurenga / coastal tree daisy; *Ozothamnus leptophyllus* / tauhinu. There were also some much older plantings on the north bank including a *Vitex lucens* / pūriri about 1m DBH, far south of its natural range.

**President:** Jon Terry

**Secretary:** Kate Jordan

KateLJordan@gmail.com

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

#### FUTURE EVENTS

13-21 January 2021      Summer camp – Banks Peninsula, Canterbury

#### ■ Nelson Botanical Society

August Field Trip: Onamalutu Scenic Reserve and Mt Riley track

The most striking feature of this reserve is the sheer majesty of the *Dacrycarpus dacrydioides* trees. The grey trunks of the kahikatea on the edge of the remnant contrasted not only with the tangled juveniles but also with *Melicytus lanceolatus*. There were a few *Prumnopitys taxifolia*, occasional *Podocarpus totara* var. *totara* and some dramatic specimens of *Dicksonia fibrosa*. *Lophozonia menziesii* and *Fuscospora solandri* were present and small examples of *Beilschmiedia tawa* were dotted throughout. A large *Streblus heterophyllus* was a surprise. *Coprosma rotundifolia*, *C. rigida*, *Pennantia corymbosa*, *Lophomyrtus obcordata* and *Carpodetus serratus* filtered the light in the understorey, and *Astelia fragrans*, *Leptopteris hymenophylloides*, *Polystichum vestitum* and *Microlaena avenacea* gave a lushness to the forest floor. After botanising the main reserve some of us embarked on the Mt Riley track. A feature were banks of *Hymenophyllum* sp. and we added to the species list: *Leptopteris hymenophylloides*, *Notogrammitis heterophylla*, *Pneumatopteris pennigera*, *Prumnopitys taxifolia* and *Pectinopitys ferruginea*.

September Field Trip: Eight Mile Track, Murchison

Our route took us through mixed beech forest with *Lophozonia menziesii*, *Fuscospora fusca* and *F. a solandri* present. The trackside provided suitable habitat for a good selection of ferns: *Austroblechnum lanceolatum*, *A. colensoi*, *Lomaria discolor*, *Cranfillia fluviatilis*, *C. deltooides*, *Polystichum vestitum*, *Histiopteris incisa* and *Cyathea colensoi*. *Aristotelia serrata*, *Carpodetus serratus*, *Pseudowintera colorata* and bushes of *Raukaua anomalous*, juvenile *R. simplex*, the smelly *Coprosma foetidissima*, the blotch-leaved *C. rotundifolia* and the layered-looking *C. dumosa*. A fine specimen of the false morel, *Gyromitra tasmanica*, was quickly spotted. Everyone successfully reached the lake and at the southern end of the lake the wetter ground contained *Carex secta*.

October Field Trip: Charleston camp, Labour weekend

### River Walk at Beaconstone

Four of us decided to do the River Walk to the Tōtara River. It is through native bush and contains *Pectinopitys ferruginea*, *Dacrydium cupressinum*, mature *Pseudopanax crassifolius*, *Fuscospora truncata*, *Phyllocladus* 'forest', *Aristotelia serrata* and *Myrsine salicina*. At the beginning of the walk down to the river was the heath *Epacris pauciflora* in flower. On the edge of the track was *Lycopodiella lateralis* and on the trunks of tree ferns were: *Tmesipteris elongata* and *T. tannensis*. A find that was new to us was the tangle fern *Gleichenia inclusisora*. There were many small-leaved shrubs, including *Coprosma tenuicaulis* and some leaves unfamiliar to us were identified as *Metrosideros parkinsonii*. At the river we found the leaves and some purple fruits of *Lobelia angulata*, *Raoulia tenuicaulis* and *Anaphalioides trinervis*. The riverbank was lined with flowering *Coriaria arborea* and flowering *Weinmannia racemosa*.

### Charleston coastal turfs

Taking the track from Constant Bay we broke out of the stunted coastal forest and flax-land onto the first headland where the turf was mainly *Plantago masoniae*, *Leptinella dioica* and *Goodenia radicans*, with large mats of *Pimelea carnosae*, tufts of *Poa* aff. *cita* and small fans of *Libertia peregrinans*. A track through *Phormium tenax* to the next headland led us past an amazing megaherb-field of *Celmisia semicordata* on a rocky bank. Two endemics to this coastline, *Gentianella scopulorum* and *Craspedia* 'Charleston' were hunkered down between shrubs of *Hebe elliptica*, *Coprosma rhamnoides* and *Metrosideros perforata*. We then headed to a beach where we were shown *Lepidium flexicaule*.

### Tiropahi Track

This track winds through mixed podocarp-beech forest and is characterised by spectacular limestone bluffs. First thing noticed was *Gahnia rigida* alongside *G. xanthocarpa*. In the first few hundred metres other notable plants were: *Coprosma linariifolia*, *Cardamine dolichostyla* and *Hoheria ovata*. The myriad of tiny herbs growing in the light on the track included: *Callitriche muelleri*, *Ranunculus membranifolius*, *Oxalis magellanica*, *Mentha cunninghamii*, *Leptostigma setulosum*, *Gonocarpus micranthus*, *Isolepis reticularis*, *Mazus radicans*, *Azorella nitens*, *Hypericum pusillum*, *Gratiola* aff. *concinna* and *Leptinella* 'mediana'. A member of the group discovered *Corybas acuminatus* and then *Corybas* 'whiskers' and *C. hatchii*. Many filmy ferns clothed the trunks of trees and banks, including *Hymenophyllum scabrum*, *H. revolutum*, *H. demissum*, *H. flabellatum*, *H. sanguinolentum*, *H. lyallii*, *H. frankliniae*, *H. nephrophyllum*, *Trichomanes venosum*, *T. strictum*, *Hypolepis distans*, *H. rufobarbata*, *Gleichenia microphylla*, *Lindsaea trichomanoides*, *Leptolepia novae-zelandiae*, *Pteris* cf. *pendula*, *Lastreopsis hispida*, *Parablechnum minus* x *P. novae-zelandiae* and *Leptopteris superba*. Other plants of note were *Metrosideros colensoi*, *Carmichaelia odorata* var. 'angustata', *Myrsine divaricata* x *M. salicina*, *Pittosporum* aff. *rigidum*, and *Dracophyllum townsonii*. On the base of fallen trees were the orange berries of *Nertera depressa*, as well as *Luzuriaga parviflora* and *Libertia micrantha*. We explored around the base of the cliffs and over some limestone bluffs and were rewarded by encountering *Pseudopanax macintyreii*, *Hebe townsonii* in full flower, *Asplenium lepidotum* and *Brachyglottis hectorii*. We also saw plenty of *Myosotis venosa* and large patches of *Epilobium nerteroides*.

### Argyll Track and Nile River

We began the Argyll Track behind Charleston where regenerating kāmahī and mānuka reflect the impoverished soil. *Dracophyllum townsonii* and *Diploblechnum fraseri* drew our attention. The track descended with *Dicksonia squarrosa* and *Cyathea smithii* on the banks among *Blechnum novae-zelandiae* and *Fuscospora truncata*. Filmy ferns were abundant, including *Hymenophyllum armstrongii*. We found southern and northern rātā and then *Tmesipteris elongata* perched on rocks. *Corybas oblongus* and *Pterostylis banksii* were in flower. We added four more *Brachyglottis rotundifolia* var. *ambigua* plants to those known.

One group walked part of the Nile River Valley Track where the epiphytes included both *Earina* species, *Dendrobium cunninghamii*, *Astelia solandri*, *A. hastata*, *Metrosideros perforata*, *M. fulgens* and *M. colensoi*. Kahikatea, *Fuscospora solandri* and *Cyathea medullaris* were also heavily weighed down with lianes. *Cordyline banksii*, *Austroblechnum lanceolatum* and *Pteris* cf. *pendula* were in semi-shade. Across the river the limestone bluffs rise above lush vegetation, with emergent tree ferns and nīkau palms. Branches blown down from the tree tops were searched and *Drymoanthus adversus* found among *Pyrrosia eleagnifolia*. *Phlegmariurus varius* was also spotted.

Another group set out to explore the pākihi just south of the Little Tōtara River. The induced pākihi wetland was dominated by mānuka, *Epacris pauciflora*, *Machaerina teretifolia* and *Empodisma minus*. We managed to spot three species of tangle fern – the common *Gleichenia dicarpa*, the taller *G. microphylla*, and the recently described *G. inclusisora*. An unnamed rhizomatous *Celmisia*, in the *C. gracilentia* group, was scattered through the tangle fern. Many species of filmy fern adorned trunks, along with *Bulbophyllum pygmaeum*. Other notable forest species were *Diploblechnum fraseri* and *Metrosideros parkinsonii*. On the return trip we studied a cluster of *Pterostylis* in flower and found it was *Pterostylis paludosa*.

#### Tauranga Point seal colony

Two of us visited the Tauranga Point seal colony. This coastal track led us past beds of coastal turf where starry drifts of *Colobanthus muelleri* jostled with mats of *Gunnera monoica* in full flower, *Leptinella dioica*, *Plantago masoniae*, *P. raoulii*, *Hydrocotyle 'montana'*, *Centella uniflora* and *Crassula helmsii*. These were interrupted by tussocks of *Luzula banksiana*, *Juncus caespiticius*, *Carex flagellifera* and the maritime form of *C. uncinata*, with its recurved leaves. The maritime ferns *Austroblechnum banksii* and *Asplenium obtusatum* were abundant, as was *Pteris* cf. *pendula*. We also spotted curtains of *Fuchsia perscandens*, climbing among harakeke and shrubs of kawakawa and rangiora. Out on the point we saw *Crassula helmsii*.

#### **FUTURE EVENTS**

|                |                                         |
|----------------|-----------------------------------------|
| December 11-14 | Camp at Castle Hill                     |
| January 17     | Field trip to Beeby's Knob              |
| February 5-8   | Camp at Banks Peninsula                 |
| February 21    | Field trip to Mt Campbell / Takaka Hill |
| March 21       | Field trip to Pelorus                   |

**President:** David Grinsted (03) 5424384, [davidgrinsted@gmail.com](mailto:davidgrinsted@gmail.com); **Secretary:** Don Pittham (03) 5451985, [pithamd@xtra.co.nz](mailto:pithamd@xtra.co.nz); **Treasurer:** Uta Purcell

(03) 5450280, [mupurcell@xtra.co.nz](mailto:mupurcell@xtra.co.nz)



*Pterostylis paludosa* (photo by Don Pittham)

#### ■ **Other Botanical Society Contacts**

##### Waikato Botanical Society

**President:** Kerry Jones  
**Secretary:** Wyne Johns

**General contact:** [secretary@waikatobotsoc.org.nz](mailto:secretary@waikatobotsoc.org.nz)  
**Website:** <http://waikatobotsoc.org.nz>

##### Taranaki Botanical Society

**Contacts:** Barbara Hammonds 06 7597077; Email: [barbara\\_ha@outlook.com](mailto:barbara_ha@outlook.com)  
Janica Amore 06 7520830. Email: [waiongona@clear.co.nz](mailto: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)

##### Canterbury Botanical Society

**President:** Paula Greer

**Secretary:** Fay Farrant 03 337 2622

### Wakatipu Botanical Group

**Chair:** Neill Simpson (03) 442 2035

**Secretary:** Rebecca Teele 027 314 2610

### Botanical Society of Otago

**Chair:** Gretchen Brownstein, [BrownsteinG@landcareresearch.co.nz](mailto:BrownsteinG@landcareresearch.co.nz) [www.bso.org.nz](http://www.bso.org.nz)

**Secretary:** Angela Brandt, P O Box 6214, Dunedin North. [bsso@otago.ac.nz](mailto:bsso@otago.ac.nz)

---

## ANNOUNCEMENTS

---

### ■ Wendy Nelson awarded Nancy Burbidge medal.

Botanist Wendy Nelson of NIWA has been awarded the 2020 Australasian Systematic Botany Society Nancy Burbidge Medal for her invaluable contributions to the classification and conservation of marine macro-algae ("seaweeds") for over 35 years. Wendy has also held a number of key science positions nationally and internationally, and has won several other prestigious awards for her research and science activism.

### ■ 2020 Queen's Birthday Honours

Congratulations to Murray Dawson and Marie Taylor for receiving Queen's birthday honours this year.

Murray, a botanist with Manaaki Whenua – Landcare Research, received a MNZM for service to horticulture including the Royal New Zealand Institute of Horticulture where he serves on the national executive, New Zealand Garden Journal, Christchurch Botanic Gardens and the New Zealand Botanical Society.

Marie is the owner and manager of the native plant nursery Plant Hawke's Bay Ltd. She received a QSM for services to horticulture and native revegetation including the Hawke's Bay Botanical Group, Puahanui, QEII National Trust and New Zealand Plant Producers Inc.



---

## NOTES AND REPORTS

---

### ■ National Forestry Herbarium at Rotorua turns 75

#### **Matt Buys, Elizabeth Miller & Wendy Allen**

National Forestry Herbarium, Scion, Private Bag 3020, Rotorua 3046; [Matt.Buys@scionresearch.com](mailto:Matt.Buys@scionresearch.com)

2020 marks the 75<sup>th</sup> anniversary of the National Forestry herbarium, a specialist collection of permanently preserved plant specimens with a focus on cultivated tree species associated with forestry and amenity planting. The herbarium is managed by Scion as one of New Zealand's Nationally Significant Collections and houses the country's largest collection of planted and

indigenous forest tree species. Established in 1945, it is home to about 31,000 fully catalogued, geo-referenced specimens at Scion's Rotorua campus.

Over the years the herbarium's collection has contributed to a range of important research, including National Forest Surveys and identifying host species for border surveillance programmes and biosecurity responses such as to painted apple moth, Dutch elm disease and myrtle rust. The hosts added from this work include garden plants as well as plantation forest trees and adventive species.

## History

The first known mention of the Herbarium is in the Annual Report of the Director of Forestry for the year ended 31 March 1945, in the Forest Botany section, Paragraph 42, which noted that "Additions made to the herbarium during the year now bring the total number of species to approximately 500." (New Zealand Forest Service, 1945). The herbarium was founded as part of the Forest Experiment Station - the research centre at Whakarewarewa, Rotorua, that began with a handful of staff in temporary accommodation, and that was a small part of a large government department, the State Forest Service. The National Forest Survey – the decade-long survey of indigenous forests for timber (Masters et al., 1957; Kininmonth, 1997) was based at Rotorua, and the plant samples from this survey brought in to the staff for identification contributed to the fledgling herbarium.

Mick (A.C.) Forbes, a State Forest Service Botanist, was the first botanist, and Kath Bibby, a young botany graduate, joined as Assistant Botanist in 1949. Her job was to start cataloguing the range of botanical samples gathered as part of the National Forest Survey. When she arrived, the specimens were stacked in piles around the room (pers. comm.). She established careful specimen records and collected many more specimens to build up the collection, setting it up well for the future. By 1952, specimens were mainly indigenous forest species ( $\pm$  4130 specimens). After this, growth was slow, with more emphasis on exotic species (Ecroyd and Miller, 2002).

Additions to the herbarium reflect research interests of the organisation at particular times. The 1950s and 1960s saw New Zealand's indigenous timber supply begin to decrease. Specimens recorded a surge of research interest in exotic conifers, as fast-growing replacement for indigenous tree species (New Zealand Forest Service, 1958). A trip to Mexico by Hugo (H. V.) Hinds and Egon Larsen in 1959-60 to collect seeds of the Mexican pines (Hinds and Larsen, 1961) resulted in addition of voucher specimens from this area rich in *Pinus* species.

New interest in recording presence of exotic tree species in New Zealand resulted in extensive collections of specimens from parks, gardens and forests throughout New Zealand, particularly by Barbara Knowles (*née* Turner). In 1966 Barbara had instigated revival of the herbarium, which had gradually fallen into disuse after Kath Bibby's departure, and had been put into storage. In the same era, reference specimens from the Ecological Survey of indigenous forests carried out by the New Zealand Forest Service were incorporated into the herbarium at Rotorua. Eucalypts were also studied and collected in Australia in large numbers during this time (Wilcox, 1982), as well as from early plantings on farms and plantations.

During the 1970s and 1980s an ecological focus and the location in Rotorua of ecologists and botanists from government departments such as Botany Division, Department of Scientific and Industrial Research (DSIR), led to many herbarium records from regional vegetation surveys, particularly from the central North Island. These records included well preserved plant fragments from a "buried forest" at Pureora dating back 1800 years to the time of the last Taupo volcanic eruption (Clarkson et al., 1992). Later, records of biodiversity in plantation forests at several North Island and South Island sites were also added.

Further specimens have been acquired from private collections, and as gifts and exchanges of specimens from other herbaria. Today, the herbarium contains a wide range of mainly New Zealand native, naturalised and cultivated plant specimens (Figure 1). Plantation tree species from Australia, Fiji, Samoa, Vanuatu and Mexico are all well represented. Eucalypts and pines make up approximately 23% of the collection. More than 2800 specimens of cultivated eucalypts have been collected, representing 395 species.

Research vouchers and specimens that extend the collection, particularly cultivated trees and shrubs, continue to be added, as valuable reference for future research and identifications. The Myrtaceae has been of particular interest in the last decade due to work associated with myrtle rust and mānuka honey. All specimens of Myrtaceae have been imaged. The specimens and associated data provided invaluable research material for MPI-funded molecular studies (Buys et al., 2016; Buys et al., 2019), susceptibility trials of New Zealand Myrtaceae to myrtle rust (Soewarto et al., In press) and for the production and recent release of an interactive key to the most common Myrtaceae in New Zealand (Dawson et al., 2020).

Databasing of herbarium specimens commenced in 1991 and it took seven years to complete the

backlog of existing records. All new records since that time have been added to the database, and in recent years, have been imaged

and are available online. The National Forestry Herbarium is one of few fully databased herbaria in Australasia. Specimen images are being added to the database as time allows and to date about 45% of the collection has been imaged. The database is available online at [nzfri.scionresearch.com](https://nzfri.scionresearch.com) and provides a resource for researchers worldwide.

The herbarium has recently adopted the APG IV classification system (Chase et al., 2016)—the largest proportion of specimens represent Eudicots (Figure 2). Data pertaining to the xylarium collection at Scion, comprising 8164 wood samples from a wide range of countries as well as New Zealand, has also been added to BRAHMS (<https://herbaria.plants.ox.ac.uk/bol/>), the current herbarium management database.

### Main Collectors

Major sole collectors of accessioned specimens (herbarium sheets) held in this herbarium include Chris Ecroyd (4074 specimens), Mike Wilcox (2500), Elizabeth Miller (1602), John Hobbs

**Fig 2.** Number of specimens per major plant group housed in the National Forestry Herbarium.

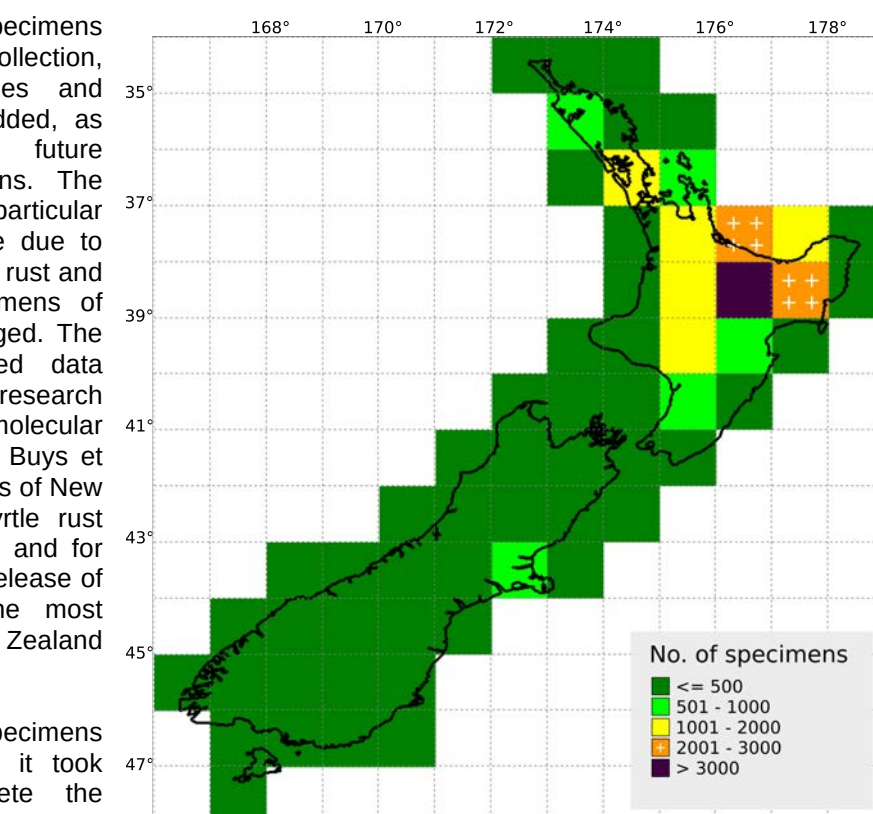
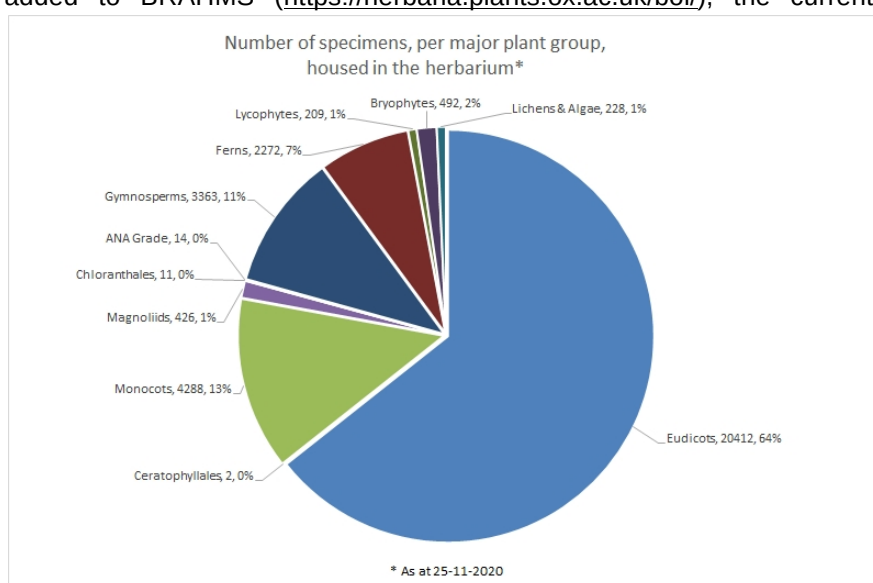


**Fig 1.** Number of specimens from New Zealand per degree square housed in the National Forestry Herbarium.



(1407), Barbara Knowles (1271), Graeme Jane (890), Bruce Clarkson (578), Kath Bibby (561), Sarah Beadel (527) and William Sykes (514) (totals as at November 2020).

### Herbarium Personnel

There have been six people in charge of the herbarium in its 75 years of operation:

A C (Mick) Forbes 1946–1949

Kath Bibby 1949–1953

Martin Bannister 1953–1965

Barbara Knowles (*née* Turner) 1966–1971

Dianne O'Donnell 1972–1973

Chris Ecroyd 1974–2011

Matt Buys 2011–present

Barbara Knowles continued her association part-time with the herbarium, apart from a few breaks, until 2000. In 1991 the electronic database was set up by Barry Spring-Rice, and just three students helped enter the backlog of data over seven summer vacations. Elizabeth Miller joined the herbarium team in 1993, covering a range of botanical tasks, and since 2005 Wendy Allen has mounted specimens, entered data to the database, and taken images of specimens. From time to time other staff have assisted with mounting specimens. John Hobbs became an Honorary Associate of the herbarium in 2015 in acknowledgement of his contribution to the collection.

### References

- Buys, M.H., Flint, H.J., Miller, E.M., Yao, H., Caird, A.R. & Ganley, R.J. 2016. Preparing for the invasion: efficacy of DNA barcoding to discern the host range of myrtle rust (*Puccinia psidii*) among species of Myrtaceae. *Forestry* 89: 263–270.
- Buys, M.H., Winkworth, R.C., de Lange, P.J., Wilson, P.G., Mitchell, N., Lemmon, A.R., Moriarty, Lemmon, E., Holland, S., Cherry, J.R. & Klápště, J. 2019. The phylogenomics of diversification on an island: applying anchored hybrid enrichment to New Zealand *Leptospermum scoparium* (Myrtaceae). *Botanical Journal of the Linnean Society* 181: 1–17.
- Chase, M., Christenhusz, M., Fay, M., Byng, J., Judd, W., Soltis, D., Mabberley, D., Sennikov, A., Soltis, P. & Stevens, P. 2016. An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *Botanical Journal of the Linnean Society* 181: 1–20.
- Clarkson, B.R., Clarkson, B.D. & Patel, R.N. 1992. The pre-Taupo eruption (c. AD 130) forest of the Benneydale-Pureora district, central North Island, New Zealand. *Journal of the Royal Society of New Zealand* 22: 61–76.
- Dawson, M., Buys, M.H., Ecroyd, C.E., Miller, E.M., Ogle, C. & de Lange, P.J. 2020. NZ Myrtaceae Key – interactive key to Myrtaceae species of New Zealand. Published on the internet; <https://www.landcareresearch.co.nz/tools-and-resources/identification/key-to-the-myrtaceae-of-new-zealand/> Retrieved 25-11-2020.
- Ecroyd, C.E. & Miller, E.M. 2002. Forest Research Herbarium (NZFRI). *New Zealand Botanical Society Newsletter* 69: 11–15.
- Hinds, H.V. & Larsen, E. 1961. Collecting tree seed in Mexico. *Empire Forestry Review* 40: 43–53.
- Kininmonth, J.A. 1997. A history of forestry research in New Zealand: commemorating 50 years of research at the Forest Research Institute (FRI)(1947–97). New Zealand Forest Research Institute, Rotorua.
- Masters, S.E., Holloway, J.T. & McKelvey, P.J. 1957. The national forest survey of New Zealand, 1955. Volume. I. The indigenous forest resources of New Zealand. Government Printer, Wellington.
- New Zealand Forest Service. 1945. Annual Report of the Director of Forestry for year ended March 1945. New Zealand Forest Service, Wellington.
- New Zealand Forest Service. 1958. Annual Report, Forest Research Institute, for the year ending 31 March 1958. New Zealand Forest Service, Wellington.
- Soewarto, J., Somchit, C., Du Plessis, E., Barnes, I., Granados, G.M., Wingfield, M.J., Shuey, L., Bartlett, M., Fraser, S., Scott, P., Miller, E.M., Waipara, N., Sutherland, R. & Ganley, B. In press. Susceptibility of native New Zealand Myrtaceae to the South African strain of *Austropuccinia psidii*: a biosecurity threat. *Plant Pathology*.
- Wilcox, M. 1982. In search of *Eucalyptus*. Report on 1981 ANZAC fellowship programme in Australia. Unpublished Forest Research Institute report.

■ ***Nunquam Otiosus*: the never-idle life of Berthold Carl Seemann (1825–71)**

**Rhys Gardner**, rhysogardner@hotmail.com

Reading from my own bookshelves during lockdown this year I was moved to find, in a humble Everyman edition of *The Naturalist in Nicaragua* (Belt 1911), a most poignant and I think hitherto overlooked mention of Seemann's last days. I already knew of the regrettable events that followed his 1860 visit to Fiji (Snow 1973; Robson 2004, 2008; Gardner 2016: 91, 104), and further research has confirmed my feeling that the neglect he received at that time from influential colleagues was completely undeserved (Note 1). Here I describe just his accomplishments as a traveller and botanist, but he was also a prolific writer to newspapers and magazines, an officer-bearer of scientific societies, and a collector of antiquities and ethnological material. In addition he was a musician and a publically-performed dramatist—in all, a man of great talents, as well as one of resolute character and attractive personality.

According to the biographical notices (Trimen 1873; Gardiner 2000; Grout 2004; Anon. 2016) Seemann was born and educated in Hanover in eastern Germany. In 1844 he went to Kew on his own initiative, to learn more about collecting and herbarium work. He soon came to the attention of its director, William Hooker (1785–1865), and in 1846 Hooker posted this young man to Panama as naturalist on H.M.S. *Herald* (Captain Henry Kellett), which had already begun its long voyage of exploration along the western coasts of the New World.

When Seemann reached Panama the ship was elsewhere so he went travelling and collecting inland for more than three months. Other adventures (including a near scalping in Mexico) followed during the next four and a half years in South, Central and North America. He returned to England in 1851 and in the next two years completed, with the assistance of others, including J. D. Hooker, preliminary Floras of Panama and north-west Mexico, Alaska, and Hong Kong. He also wrote the official Narrative of the voyage, normally the captain's job! We can suppose that his extraordinarily retentive memory and an increasing facility with English and Spanish (he has been described as a brilliant natural linguist) must have made this task a relatively straightforward one.

In London, not yet thirty years old, Seemann found himself unemployed. So together with his brother he founded the German-language botanical magazine *Bonplandia* (Note 2), which after ten years was reformed as the English *Journal of Botany, British and Foreign*. In 1851 he had written his first popular book and now, to keep himself and his journal afloat, he wrote two more, one on British ferns and the other a gathering of all that had been written by the great botanists, travellers and explorers (not to mention much first-hand information of his own) on the world's palms (Seemann 1856). A *carte de visite* of this time (Fig. 1) gives, to my eye at least, an extraordinary impression of energy and confidence.

Early in 1860, again on William Hooker's recommendation, Seemann was sent to Fiji to help a certain Colonel William J. Smythe of the Royal Artillery assess whether these islands should become a British Colony. Of this trip the eminent Pacific botanist A. C. Smith (a notorious overachiever himself) has said, "Although Seemann carried out his [political] duties conscientiously...his zeal and industry also permitted the assembly of an excellent [duplicated] series of herbarium specimens. The achievements of this remarkable man during the brief six months that he spent in Fiji now seem unbelievable" (Smith 1979: 45).

Back at Kew and the Natural History Museum Seemann began to collate his specimens with the older Fijian and Pacific Islands ones. The attention he paid to the latter, beginning with those from Cook's Voyages, shows that he intended to follow his Fiji volume with a *Flora Polynésica*. But he and the person he had become firm friends with in Fiji, the British consul William Thomas Pritchard (1829–1907), had fallen foul of Colonel Smythe, a prissy churchman who was not interested in Fiji's people or its natural productions (Note 3).

Smythe conspired with members of the Colonial Office and the Wesleyan Missionary Society to deprive Seemann of government funding for his Flora (see quotes from Smythe's letters in Robson 2004). He also arranged a kangaroo-court for Pritchard, which relieved him from his consular post, thus taking from Fiji a man whom one historian has described as having had the potential of

becoming there the equivalent of Raffles in Singapore (Derrick, quoted in Robson 2004: 102). A book by Pritchard (1866) about his time in the Pacific does not dwell on his demotion, but its preface by Seemann is a little masterpiece of restrained scorn.

Undeterred by the lack of official support Seemann (1862) produced a popular account of his time in Fiji and in it advertised that he would be publishing a *Flora Vitiensis* by subscription, in ten parts to be issued successively, with 100 colour plates by the great Walter Fitch. (The artwork, of chromolithographs with tonal areas added by hand, must have cost a fair penny but Seemann was never afraid to spend money where needed: for example, he had hired on his own account the young Sydney botanist Jacob Storck to help him collect in Fiji).

Fortunately for us Seemann completed, a short time before he died, the nine parts he was responsible for, and in 1873 the last part appeared, on the fungi, lichens and mosses (Stearn 1963). This quarto-size *Flora* is famous for the amount of taxonomic and ethnobotanical information it contains and for the beauty of its illustrations (Fig. 2). Only 150 copies were printed. They hardly ever come to market, and the last one I saw being offered had a price of nearly thirty thousand dollars.



Fig. 1 B. C. Seemann in 1855. Photographic *carte de visite* from The Lindley Library, London; with permission.

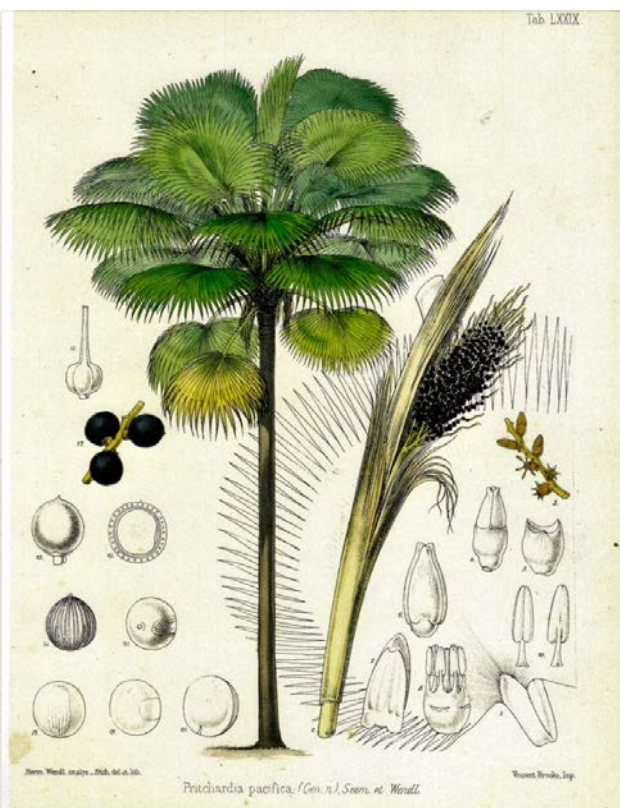


Fig. 2 *Pritchardia pacifica*. "*Flora Vitiensis*", t. 79.

Smythe was a small-minded nonentity—there were others of more substance who did not want Seemann to succeed. One sees that *Flora Vitiensis*, unlike Seemann's previous books, and not in conformity with the practice of the day, has no dedicatee. Its preface warmly refers to Sir William Hooker but J. D. Hooker, by this time Director at Kew, is given only a short mention, just "for his counsel". (For practical help in making identifications and correcting proofs Seemann thanks two botanists from the Natural History Museum, J. J. Bennett and W. Carruthers, and then several other contributing taxonomists, including his old Hanoverian mentor and palm-specialist H. A. Wendland).

To save space here—readers should search "Seemann" in the Cambridge University Press's marvellously indexed and annotated online site "The Darwin Correspondence Project". Smoking guns

abound: "he had the impudence to ask me for a testimonial"; "has a grudge against me" (Darwin was particularly sensitive to the poor reception the Germans were giving to Natural Selection); "I never liked the fellow...I looked upon him as a sort of adventurer"; and the dreadful and self-incriminatory "too friendly". These say it all. Of the three eminent men who make these statements, Darwin, J. D. Hooker and the American Asa Gray (1810–88), only the latter (Gray 1873) published a review of *Flora Vitiensis*, although each man bought a copy! Clearly Seemann was not welcome in their world (Notes 4, 5).

So it was to his practical side that Seemann now turned to. South America was opening up to the Industrial Revolution and investors from Europe and Britain were projecting there all manner of railroads, mines, plantations and canal routes. His probity and capabilities might not have been recognized by Hooker *et al.* but were obvious to others and from 1864 on he made several responsibility-laden trips overseas, which culminated in the purchase in May 1866, for the very substantial sum of \$150 000 (Pim & Seemann 1869: 139), of the Javali gold mine in the Chontales province of Nicaragua (Fig. 3).



Fig. 3 The Javali mine. Pim & Seemann (1869, frontispiece).

Seemann then became manager of this mine (as well as manager at the same time of a sugar plantation in Panama). He died at the mine on 10 October 1871 after several weeks of "fever" and was buried alongside his house.

To return to the start of this article and Thomas Belt, geologist, mining engineer and dedicated Darwinian naturalist: Belt went to Nicaragua in early 1868 and managed a mine just a mile or so away from Seemann's one. His book (Belt 1911) has just two very brief mentions of the two of them together; neither mention concerns natural history. When Seemann died, Belt read the burial service over him, "as was his custom on the death of any European", and took care of Seemann's pet monkey. The information in this sentence appears in an unsigned footnote in Belt (1911: 94) but does not occur in the two earlier editions of the work. It was probably written by "Anthony Belt, F.L.S." [T. Belt's older brother?] (Note 6).

An account of Nicaragua's mines in the middle of last century (Parsons 1955) makes no mention of Seemann's grave. There is no relevant GoogleEarth 'pin' at Javali or any of the neighbouring towns, and the ongoing extensive mining operations there seem very unlikely to have gone round the lonely grave of a 19th C. botanist. In London, Heritage England has not produced a plaque for Seemann at his home at 22 Canonbury Square, North London.

Seemann was a son of Gottfried Wilhelm Seemann, clarinetist at the court in Hanover, and Frederika Johanna Carolina Schickenberg. In the 1860s he married Englishwoman Elizabeth Julia Anderson whom he had known in connection with a midshipman from the H.M.S. *Herald* days (Pim & Seemann 1869: 164). She died in December 1868, aged 37. They had one daughter, Hildegard Carolina. (Oddly, Belt (1911: 285) refers to Seemann's "son"—a nephew?—being present at Javali at the time of Seemann's death; another indication that the two did not know each other at all well).

According to Robson (2004) William Pritchard named one of his sons William Berthold Seemann Pritchard (b. 1863).

Those interested in more botany than appears above could now go to Seemann's palm book (don't bypass its preface with the letter from Alexander von Humboldt, quoted in full by the unselfconscious Seemann). The notes on ethnobotany and plant-products in *Flora Vitiensis* and *Viti* are thorough and vivid (that on the "cannibal tomato" particularly so) and still repay study. And anyone who likes whimsy ought to read his original tale "The Mistletoe [*sic*] and the Appletree" (Pim & Seemann 1869: 142).

Seemann is remembered in the three genera *Seemannantha*, *Seemannaralia* and *Seemannia* (conserved over one of the same name published in 1848 by William Hooker), and by somewhat more than 200 specific epithets (none originating with J. D. Hooker!).

## Notes

Note 1 This neglect continued into the next century. Seemann appears in Allan (1961) just as the author of a few araliad names, notably that of *Meryta sinclairii* (thus tweaking J. D. Hooker's nose by pointing out that he had overlooked the Forsterian generic). Seemann's world revision of the family is not mentioned by Allan, nor is his *Flora Vitiensis*, even though this has a great deal of original (and not-superseded) ethnobotanical information with respect to Pacific Ocean plants and has information on New Zealand ones, including a list of those shared with Fiji.

Seemann was the first to recognize that the Polynesian name kumara for *Ipomoea batatas* was also found in the Quichua language of Peru and Ecuador. Similarly, his discussions of the history and ethnobotany of the paper mulberry and the coconut were ground-breaking, and raise questions still unanswered, e. g. why, if the Polynesians come from the direction of Asia, did they not ferment the sap of the coconut inflorescence?

Two 20th C. botanical giants also stumble. Corner (1966), writing of Seemann's palms book, bizarrely dismisses it as the work of a boastful near-plagiarizer. Admittedly, for modern tastes its title-page does seem rather rich. But there are names of travellers, writers and botanists on almost every one of its subsequent pages, and the work's "boast" of its richness in information (included that contributed by Seemann, e.g., on the enigmatic New World genus *Phytelephas*) is quite true. At least Corner did not deplore the book's preface—perhaps he was inhibited from doing so by the fact that Alexander von Humboldt himself had read the whole work in proof, admired it, and thought that the humorous story at its start, about the hijacking of a hated schoolmaster's canes was too good to leave out.

Secondly, van Steenis (1981, 1987), in his account of the world's rheophytes (plants adapted to fast-moving water), mentions the Fijian species but not their discovery by Seemann, who raised the topic of "Humboldt's willow form" in *Flora Vitiensis* (Seemann 1865–73: *xiv*) and also in *Dottings* (Pim & Seemann 1869: 46). The largest Fijian rheophyte, a tree Seemann called *Eugenia rivularis*, is now to be known as *Syzygium seemannianum*.

Note 2 See the commendation of this journal and its contents by William Hooker (1857). The title *Bonplandia*, that is, "writings from Bonpland" refers to the adoption by Seemann, in his membership of the German Leopoldina scientific society, of "Bonpland" as his cognomen (dignified nickname, as a fraternal bond across the generations), in admiration of the great botanist in South America, Humboldt's companion Aimée Bonpland (1773–1858).

Note 3 Two modern historians (Snow 1973; Robson 2004; 2008) make it clear that both politics and personal feelings entered the equation with respect to Smythe, Seemann and Pritchard. The

latter pair became close friends and were happy spending most of the time away in their own boat, carrying out the political mission and doing good botany. Seemann's sense of humour, e.g., pretending to take Smythe's dress-uniform for a gloriously coloured new species, and asking Smythe and his wife, after a trivial boating accident in which the two were wringing out their spare clothes, "whether any mangling was taken in", would not have eased tensions.

Note 4 In addition to their discomfort with his 'full on' personality (confidence, facetiousness, unselfconsciousness of possible defects, these including his relative youth, appropriation of the name "Bonpland", immodest use of "Never Idle" as motto for his journal, etc., etc.). Hooker *et al.*, would have also disliked Seemann because of what we must regard as his major intellectual flaw: he was not a convert to Natural Selection. Indeed, Darwin thought he was actively opposed to it and was writing or instigating negative reviews for popular magazines. I cannot say why Seemann resisted the concept—a result of his early German botanical training, perhaps?. There is certainly no trace of conventional piety in his writings.

Note 5 Asa Gray knew a considerable amount about Pacific floras. His review of *Flora Vitiensis* (Gray 1873) mainly praises the popular aspect of the work, though noting its general comprehensiveness, including the extra-Fijian references. His assertion that Seemann's critical investigations on botanical affinities are "acute and often ingenious, seldom fanciful or vague" is rather undercut by his also saying that "they are never of the very highest order" and "like all his botanical knowledge, truly remarkable under his circumstances and training". His lament that Seemann was forced to finance his Flora by risky ventures in the tropics seems less than genuine when one knows of his "sort of adventurer" quote that I cite above.

Note 6 Thomas Belt was no luckier than Seemann. He was to die "of a fever" himself just a few years later in Colorado and never had the pleasure of knowing that Darwin was to call his book the best of all natural history journals.

For both men, though, the risks they took in their too-short lives must have seemed worthwhile: "In the shady forest, mosquitoes and sand-flies are rather troublesome; but the large cleared space about the houses of the mining company is almost free from them, and in the beautiful light evenings one can sit under the verandah undisturbed, watching the play of the moonbeams on the silky leaves of the bananas, the twinkling north star just peeping over the range in front, with "Charlie's Wain" [the Big Dipper] in the upper half of its endless circlings, whilst in the opposite direction the eye rests on the beautiful constellations of the southern hemisphere. On the darkest nights innumerable fire-flies flash their intermittent lights as they pass amongst the low bushes or herbage, making another twinkling firmament on earth. On other evenings, sitting inside with lighted candles and wide open doors, great bats flap inside, make a round of the apartment, and pass out again, whilst iris-winged moths, attracted by the light, flit about the ceiling, or long-horned beetles flop down on the table. In this way I made my first acquaintance with many entomological rarities." (Belt 1911: 81).

"In these mountains a species of caoutchouc (known here by its Aztec name of Ule), vanilla, sarsaparilla, quassia, fustic, and other valuable woods abound, and there are many vegetable productions which are rare or perfectly new to science [such as] a tree (*Herrania purpurea* Decaisne) with fingered leaves and small round seeds, which are occasionally offered for sale by the Indians, and from which chocolate of a flavour superior to that of the common cacao is manufactured ..." (Pim & Seemann 1869: 115–16).

"The Chontales gold region appears to be a favourite haunt of plants with variegated leaves. There are some fine species of *Costus*.... two beautiful species of *Cissus*, one with bright scarlet flowers (introduced by me into English gardens) ... But the finest of these is the one I have named *Cyrtodeira Chontalensis*, a Gesneraceous plant...it grew in only a very small spot—shady groves on the banks of a rivulet ... [it] now ornaments our hothouses." (Pim & Seemann 1869: 116–17).

## References

- Allan, H.H. 1961: *Flora of New Zealand*. Vol. 1. Government Printer, Wellington.  
Anon.["ozqite"] 2016: Berthold Carl Seemann 1825–71. <http://kewguild.org.uk/2016/12/16>  
Belt, T. 1911: *The naturalist in Nicaragua*. J. M. Dent, London. [Everyman's Library edition. First ed. 1874, 2nd rev. ed. 1888].

- Corner, E.J.H. 1966: *The natural history of palms*. University of California Press.
- Darwin, C.R. [and others]: *The Darwin Correspondence Project*. <https://www.darwinproject.ac.uk/>, accessed 22 Oct 2020.
- Gardiner, B.G. 2000: Picture quiz—Berthold Carol [sic] Seemann. *The Linnaean* 16: 6–12.
- Gardner, R.O. 2017: A dictionary of Fijian higher-plant genera. *Auckland Botanical Society Bulletin* 32.
- Gray, A. 1873: *Flora Vitiensis* [review]. *Journal of Botany, British and Foreign* 11: 181–82.
- Grout, A. 2004 [2012 online]: Seemann, Berthold Carl (1825–1871). Oxford Dictionary of National Biography, <https://doi.org/10.1093/ref:odnb/25029>.
- Hooker, W. 1857: Bonplandia. *Hooker's Journal of Botany and Kew Miscellany* 9: 62–64.
- Parsons, J.J. 1955: Gold mining in the Nicaragua rain forest. *Yearbook of the Association of Pacific Coast Geographers* 17: 49–55. <https://www.jstor.org/stable/24042217>
- Pim, B.C.T.; Seemann, B.C. 1869: *Dottings on the roadside, in Panama, Nicaragua, and Mosquito*. Chapman & Hall, London. [pp. 1–208 by Seemann, incl. pp. 142–8 "The Mistleto and the Appletree"]. <http://mertzdigital.nybg.org/digital/collection/p9016coll23/id/30394>
- Pritchard, W.T. 1866: *Polynesian Reminiscences, or, Life in the South Pacific Islands*. [Editor's Preface v–viii by Seemann]. Chapman & Hall, London.
- Robson, A.E. 2004: *Prelude to empire*. Vol. 5 of *Novara*, Contributions to Research on the Pacific. LIT Publishers, Vienna.
- Robson, A.E. 2008: On writing a biography of William Pritchard. Pp. 195–204 in B.V. Lal & V. Luker (eds), *Telling Pacific Lives*. ANU Press, Canberra. <http://doi.org/10.22459/TPL.06.2008>
- Seemann, B. 1852–57: *The botany of the voyage of H.M.S. Herald*. Lovell Reeve, London.
- Seemann, B. 1858: *A popular history of the palms and their allies*. Lovell Reeve, London.
- Seemann, B. 1862: *Viti: an Account of a Government Mission to the Vitian or Fijian Islands in the Years 1860–61*. Macmillan & Co., Cambridge. [Reprinted in 1973, with an introduction by P. A. Snow].
- Seemann, B. 1865–73: *Flora Vitiensis: a Description of the Plants of the Viti or Fiji Islands, with an Account of their History, Uses and Properties*. Lovell Reeve, London.
- Snow, P. 1973: [see above under Seemann 1862].
- Stearn, W.T. 1963: Seemann's "Flora Vitiensis" (1865–1873). *Journal for the bibliography of natural history* 4: 151–52.
- Steenis, C.G.G.J. van 1981: *Rheophytes of the world*. Springer, Netherlands.
- Steenis, C.G.G.J. van 1987: Rheophytes of the world: supplement. *Allertonia* 4: 267–330.
- [Trimen, H.] 1872: Berthold Seemann. *Journal of Botany, British and Foreign* 10: 1–7

## ■ Spurge laurel (*Daphne laureola* L.): an emerging problem weed in New Zealand?

**Lara D Shepherd**, Museum of New Zealand Te Papa Tongarewa, 55 Cable St, Wellington 6011, [Lara.Shepherd@tepapa.govt.nz](mailto:Lara.Shepherd@tepapa.govt.nz) and **Dave Holland**, Papatowai, [kiwihunter@gmail.com](mailto:kiwihunter@gmail.com)

*Daphne laureola* (spurge laurel, green daphne laurel, laurel-leaved daphne) is a small shrub native to Europe and North Africa (Lei 2014) that has escaped cultivation to become a weed in a number of countries, including New Zealand. Although it has been naturalised in New Zealand for over 60 years and has not yet become a significant weed, we believe it has the potential to do so. Here we describe the species and the features that make it weedy, provide information on its history in New Zealand and describe how it can be controlled.

### Identification of spurge laurel

Spurge laurel is a small evergreen shrub typically 0.4 - 1.5m in height (Fig 1). Its stems can be upright or decumbent and have a strong odour when cut or bruised. Spurge laurel has alternate leaves that are arranged spirally on the top 15-20cm of the stem; below this leaf scars are prominent (Baker 2013). In the shade it produces dark, glabrous leaves but in direct sunlight leaves are thicker and chlorotic with downturned edges (Strelau et al 2018). Spurge laurel has fragrant yellowish-green flowers in axillary racemes (Fig 2) from May to August, followed by single-seeded fleshy fruits that turn purplish-black when ripe (Fig 3) (Webb et al 1988). Its fruits are dispersed by birds and rats but the plant can also spread through layering (Baker 2013). All parts of spurge laurel are poisonous, especially the bark and berries.

### Spurge laurel in New Zealand

It is unclear when spurge laurel was first introduced to New Zealand. A search of Papers Past (<https://paperspast.natlib.govt.nz>) indicates a first mention in 1883 in the Clutha Leader (<https://paperspast.natlib.govt.nz/newspapers/CL18830921.2.6>) where it is recommended as one of a number of shrubs unlikely to be eaten by rabbits. In the New Zealand Mail in 1884 it is mentioned as a rootstock for grafting scions of *Daphne indica*, which is a synonym of *D. odora* (<https://paperspast.natlib.govt.nz/newspapers/NZMAIL188403.21.2.52>). The cultivar 'Phillipii' of *Daphne laureola* was listed for sale in a Duncan & Davis catalogue in 1938 and described as an improved form of spurge laurel, suggesting that the species was already in the country.

Spurge laurel was first reported as naturalised in New Zealand in 1957 in Riccarton Bush in Christchurch (Healy 1959). In Webb et al (1988) it is recorded as naturalised in Rotorua, Canterbury, Otago and Stewart Island. The current distribution of spurge laurel in New Zealand, based on research grade iNaturalist records and herbarium records from the Australasian Virtual Herbarium (<https://avh.ala.org.au>), is shown in Fig 4 and indicates its distribution in expanding. Spurge laurel is most common in Canterbury. However, it is not accorded pest status in Canterbury's Regional Pest Management Plan (Environment Canterbury, 2018) but is included as an 'organism of interest', in recognition of its potential future risk to biodiversity values.



Fig 1 Shrub of *Daphne laureola* near Hanmer Springs. Photo by Lara Shepherd.

### Spurge laurel overseas and the features that contribute to its weediness.

Spurge laurel is considered a noxious weed in the moist forests of the Pacific Northwest lowlands, where it can rapidly form monotypic stands in native forest, inhibits native plant regeneration (Prasad 2005) and may alter soil chemistry (Webb 2006). Spurge laurel has also naturalised in a number of European countries including Denmark, Ukraine and Sweden. Spurge laurel was first reported as a weed in Australia in Tasmania in 2012 (Baker 2013), where there is a programme to eradicate it.



Fig 2 Flowering *Daphne laureola*. Photo by dobroide, CC-BY-NC, iNaturalist.

Webb et al (1988) describes spurge laurel in New Zealand as growing around plantations, old cemeteries and forest margins near settlements. However, its ability to tolerate both moderate and deep shade (Lei 2014) means it also has the potential to invade our native lowland forest. Furthermore, it is unpalatable to introduced browsing mammals, which could contribute to its spread in New Zealand's highly browsed native forests.

As well as its shade tolerance and unpalatability there are other features that contribute to spurge laurel's weediness. It is long-lived (over 30 years; Strelau et al 2018) and can begin fruiting when only 2-4 years old (Webb 2006). Within its natural range each plant has been observed to produce up to 600 fruit per year (Strelau et al 2018) and birds can disperse the seeds to new areas.

## Control

Contact with spurge laurel sap can cause skin irritation, including blistering in some people, so gloves and protective eyewear should be worn during control efforts. Mechanical removal of plants, such as with brush cutters, can release toxins that can cause throat, skin and eye irritation (Strelau et al 2018).

Small plants are shallow rooting and can be pulled out by hand (Baker 2013). Plants up to three years old can be killed by cutting them off beneath the soil, below the point where there is a visible color change from brown stem to orange root (Webb 2006). Cutting too high up the stem can result in plants resprouting but cutting combined with applying herbicide (triclopyr) or mulching under plastic is more successful (Prasad 2005). Resprouting is less likely in plants that are flowering, fruiting or stressed (Strelau et al 2018). Seed germination around adult spurge laurel plants decreases substantially after two years following shrub removal, suggesting a short-lived seed bank (Webb, 2006).

Biocontrols have been investigated in controlling spurge laurel in the Pacific Northwest, with a fungus showing considerable potential but further research is required (Dennehy et al 2011).

## Conclusions

Spurge laurel has many features that suggest that it could become a highly invasive weed in New Zealand – it is unpalatable, hardy, bird dispersed and highly shade tolerant. Furthermore, its toxicity complicates its control. But why has it not become a significant problem in the 60 years it has been naturalised here? It is possible that it has not yet invaded the regions of New Zealand to which it may be best suited (i.e., those with climates most similar to the Pacific Northwest, where it is a highly invasive weed). Estimating spurge laurel's potential distribution in New Zealand using species distribution modelling (Elith and Leathwick 2009) based on its invasive distribution both here and overseas may be able to test this hypothesis. In the meantime, we would encourage regional councils, DOC and local weeding groups to keep an eye out for spurge laurel and control it to prevent further spread.

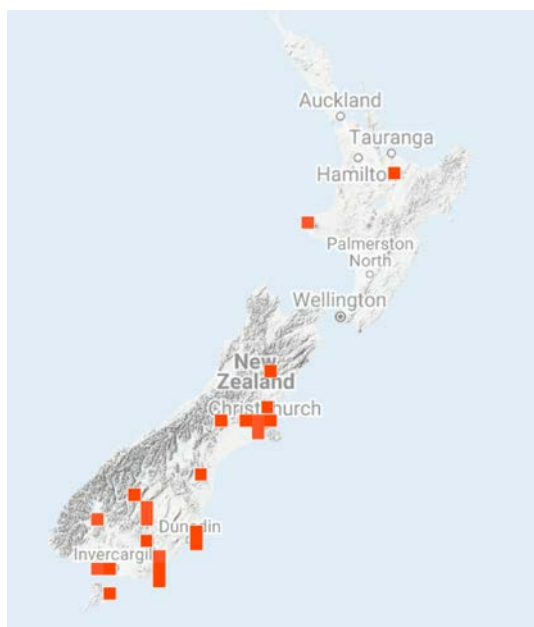


Fig 4. Distribution of naturalised *Daphne laureola* in New Zealand based on records from iNaturalist and the Australasian Virtual Herbarium (accessed 19.11.2020).



Fig 3 Fruiting *Daphne laureola*. Photo by [gerrybates](#), CC-BY-NC, iNaturalist.

## References

- Baker ML (2013) *Daphne laureola* L. (Thymelaeaceae): A weedy alien species new to Australia. Plant Protection Quarterly 28(1): 3-5.
- Dennehy C, Alverson ER, Anderson HE, Clements DR, Gilbert R, Kaye TN (2011) Management strategies for invasive plants in Pacific Northwest prairies, savannas, and oak woodlands. Northwest Science 85 (2): 329-351.
- Duncan & Davies (1938) Choice Nursery Stock, p. 31. (Available at [www.rnzih.org.nz/pages/nurserycatalogues.html](http://www.rnzih.org.nz/pages/nurserycatalogues.html)).
- Elith J, Leathwick JR (2009) Species distribution models: ecological explanation and prediction

across space and time. *Annual Review of Ecology, Evolution and Systematics* 40: 677-697.

Environment Canterbury (2018) Canterbury Regional Pest Management Plan 2018-2038. Environment Canterbury Regional Council, Christchurch.

Healy AJ (1959) Contributions to a knowledge of the adventive flora of New Zealand, No. 7. *Transactions of the Royal Society of New Zealand* 86 (1): 113-118.

Lei T (2014) Environmental preferences and constraints of *Daphne laureola*, an invasive shrub in western Canada. *Canadian Journal of Plant Science* 44: 1462-1467.

Prasad R (2005) Current status and management options of exotic and invasive weeds of forestry in coastal British Columbia, Canada. *Outlooks in Pest Management* 16: 225-229.

Strelau M, Clements DR, Webb C, Prasad R (2018) The biology of Canadian weeds: 156. *Daphne laureola* L. *Canadian Journal of Plant Science* 98: 947-958.

Webb CJ, Sykes WR, Garnock-Jones PJ (1988) *Flora of New Zealand*, Volume IV. Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division DSIR, Christchurch.

Webb C (2006) *Daphne laureola*: environmental weed control of spurge-laurel. *Botanical Electronic News – BEN*. Issue #364, 19 July 2006. Available online at <http://www.ou.edu/cas/botany-micro/ben/ben364.html>

---

## BIOGRAPHY / BIBLIOGRAPHY

---

### ■ Biographical Sketch – Jacinda Kate Laurell Ardern (1980 - )

**Val Smith**, 80 Mill Road, New Plymouth 4310.

In 2018 a new lichen was discovered by a group of Unitec scientists looking at forest remnants in the Auckland region. They named it *Ocellularia jacinda-arderniae*, honouring Prime Minister Jacinda Arden and recognising the 25th anniversary of women's suffrage in New Zealand.

Jacinda Kate Laurell Ardern was born in Hamilton on 26 July 1980 to a Mormon family, the second daughter of Ross Ardern, a police officer, and his wife Laurel (née Bottomley), who worked as a school-catering assistant. After a few years at the isolated forestry town of Murapara, the family moved to Morrinsville where Jacinda attended primary and secondary schools and found her first job working in a fish and chip shop. Matriculating to the University of Waikato, she graduated in 2001 with a Bachelor of Communication Studies (BCS) in politics and public relations. By then she had already become politically active through her aunt Marie Ardern, a staunch Labour Party member, who recruited the teenager to help her with New Plymouth MP Harry Dunhoven's 1999 re-election campaign. After graduation Jacinda became a researcher for another Labour Party MP, Phil Goff, and went on to a position on the staff of her political hero and mentor, Prime Minister Helen Clark.



*Ocellularia jacinda-arderniae*. Photo by Andrew Marshall.

In 2005 Jacinda left the Church of Jesus Christ of Latter-day Saints because of its stance on homosexuality and same-sex marriage, and described herself as agnostic. She also left on her "overseas experience" and worked for two and a half years in the cabinet office of British Prime

Minister Tony Blair. In 2007 she was elected president of the International Union of Socialist Youth (IUSY) and visited Algeria, China, India, Israel, Jordan and Lebanon. Chosen as Labour Party candidate for the staunchly National Waikato district in 2008, she entered Parliament as a list candidate, and at the age of 28 was its youngest member, becoming Labour's spokesperson for Youth Affairs. In 2011 and again in 2014 she was narrowly beaten for the Auckland Central seat, and Labour leader Andrew Little expanded her portfolio to include Arts, Culture and Heritage, Children, Justice and Small Business.

As her political profile increased, details of her personal life became better known. At an awards event in 2012 she met broadcast personality Clark Gayford, the next year they began dating, and a close relationship developed. In 2017 Ardern registered a by-election landslide victory in the solidly Labour district of Mount Albert, Auckland but, as the parliamentary election approached, Labour's preference polling remained abysmal. Little eventually stepped down as leader after securing Ardern's pledge to stand as his replacement. Unopposed, she was elected leader of the Labour party on 1 August, and in October 2017 was sworn into office as Prime Minister of New Zealand.

With the birth of Nēve Te Aroha Ardern Gayford on 21 June 2018, Ardern became the second elected world leader in history to have a baby while in office. She has been applauded for her outspoken voice against sexism and racism and praised internationally for her response to the Christchurch mosque shootings. Currently (27 May 2020) she and her team are guiding New Zealanders through a coronavirus pandemic, with a significantly lower infection rate and death toll than most other Western countries.

#### ***Ocellularia jacinda-arderniae***

*Ocellularia* (Graphidaceae) is a genus of some 200 species of crustose lichens, five of which are known from Australia and New Zealand. The unusually large dark spores (one is visible in the photo) of a specimen collected at random in 2018 from a tānekaha (*Phyllocladus trichomanoides*) trunk in the Auckland area suggested it was a new species. Images were sent to Robert Lücking, an expert in Berlin, for confirmation, and the formal description of *Ocellularia jacinda-arderniae* was published in the *New Zealand Journal of Botany* the next year. So far it is known from only five sites in regenerating coastal forest north of Auckland, growing on kauri, tānekaha and rewarewa, and is considered at risk.

#### REFERENCES

Hancock, F. Jacinda's lichen-ness: <https://www.newsroom.co.nz> (accessed online 9 April 2020).

Wallenfeldt, J. Jacinda Ardern, Prime Minister of New Zealand: <https://www.Britaannica.com> (accessed 9 April 2020).

Marshall AJ et al. (2019) A new *Ocellularia* (lichenized Ascomycota: Graphidaceae) from New Zealand indicates small-scale differentiation of an Australasian species complex. *NZ Journal of Botany* 58 (1): 13. (accessed online 9 April 2020).

---

## PUBLICATIONS

---

### ■ Publications Received

Nelson Botanical Society September 2020: Upcoming trips, Allan Mere Award to Bill and Nancy Malcolm, trip report for Onamalutu Reserve and Mt Riley track, talk report about botanising in Jordan, information on male fern.

Nelson Botanical Society September 2020: Allan Mere presentation, trip reports on Eight Mile Track, Charleston camp and Tiropahi Track, talk report on North Canterbury QEII covenants.

Canterbury Botanical Society October 2020: Upcoming trips, talk report on *Tupeia antarctica*, trip report for Awa-Awa Rata Reserve.

Canterbury Botanical Society November 2020: Upcoming trips, trip reports for weedy walk and dryland kanuka remnants, Culverden.

Botanical Society of Otago newsletter October 2020: Upcoming trips and talks, articles on beech seeding, vegetation recovery from fire, City Nature Challenge, Lucy Cranwell and Leon Croizat, talk reports on sexy lichens, the relationships of spiders and plants and taxonomic changes.

The New Zealand Native Orchid Journal November 2020: Identity of winter-blooming sun orchid, *Thelymitra hiemalis*, wild hybrids of NZ orchids, *Thelymitra sanscilia*, winter flowering NZ orchids.

Wellington Botanical Society September 2020: Upcoming trips and talks, submissions made, *Polypodium vulgare*, wilding pines, Wairarapa moana, GWRC pest plant and animal reports.