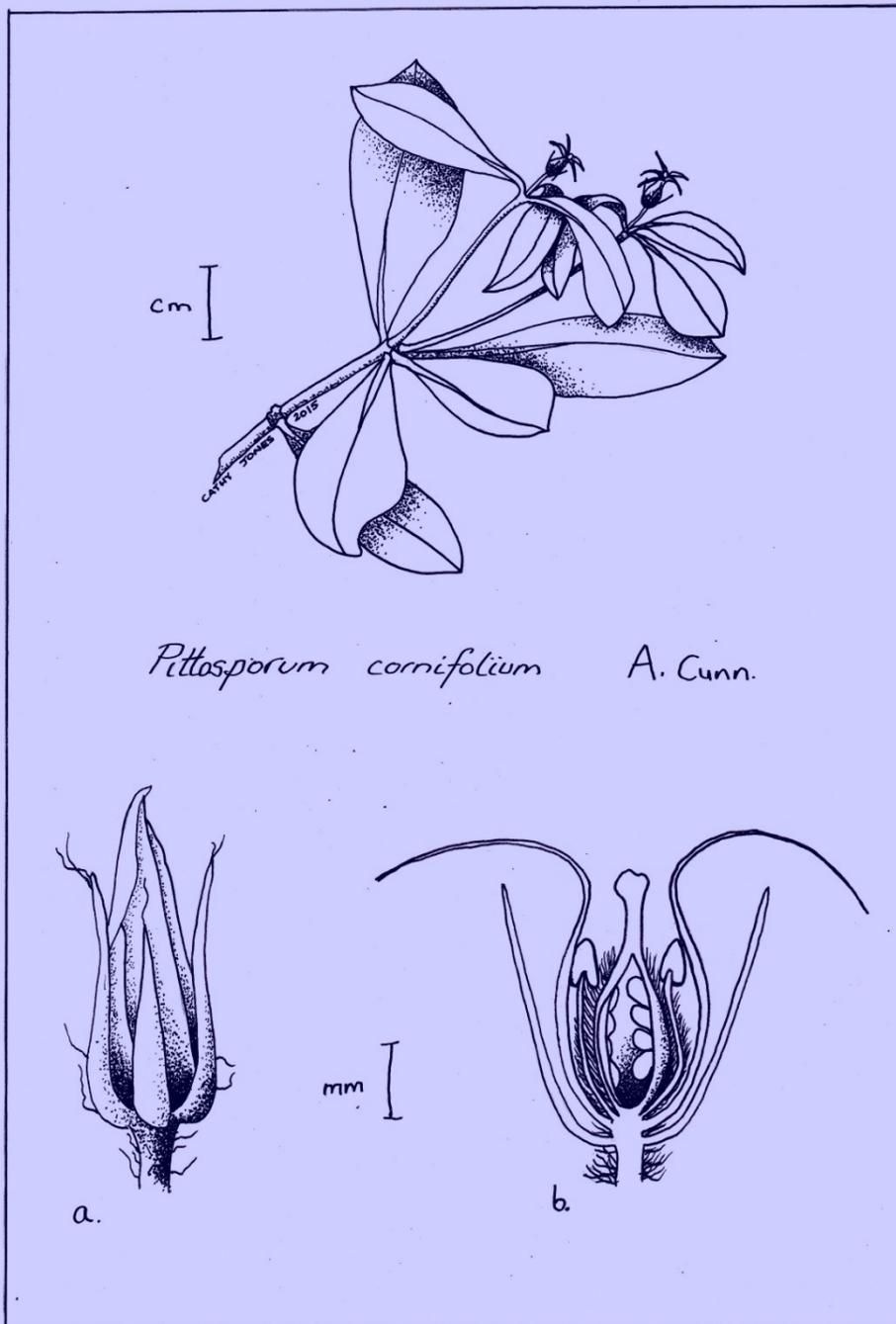


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 121

September 2015



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
URL: www.nzbotanicalsociety.org.nz

Subscriptions

The 2015 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2015 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 28 February 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 December 2015 issue is 25 November 2015.

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.

Pittosporum cornifolium in flower, drawn by Cathy Jones from a cultivated plant on 9 August 2015 (cf cover drawing, NZBS Newsletter Number 96 of the same plant in bud in June 2009). a.bud redrawn from 2009, b.vertical section of flower showing sepals, petals, stamens, ovary, style, stigma.

NEW ZEALAND BOTANICAL SOCIETY
NEWSLETTER
NUMBER 121 September 2015

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

CONTENTS

News

New Zealand Botanical Society News

Alan Mere Award 2015	2
Call for nominations	2

Regional Botanical Society News

Auckland Botanical Society	3
Rotorua Botanical Society	4
Taranaki Botanical Society	4
Nelson Botanical Society	6
Other Botanical Societies	7

Notes and Reports

A new record of <i>Brachyglottis turneri</i> from North Taranaki	8
Dragon-trees (<i>Dracaena draco</i>) on the move?	11

Biography/Bibliography

Biographical Sketch – Leslie Stuart Mackie (1884-1943)	15
--	----

Publications

Publications received	16
New book: Common Ground: who's who in New Zealand botanical names	17

New Zealand Botanical Society News

■ Allan Mere Award 2015

The NZBS Committee is pleased to announce that this year's award of the Allan Mere is to Sir Alan Mark, Emeritus professor, University of Otago. Alan was proposed by Botanical Society of Otago and supported by five other botanical societies (Auckland, Canterbury, Nelson, Taranaki and Wellington), Forest and Bird (Dunedin Branch) and Jill Rapson.

The proposers included: "Alan has enjoyed a lifetime of outstanding contributions to botany, both as an academic teacher and researcher in the Department of Botany at the University of Otago and as an ardent ecologist and conservationist, devoting much of his own time to these causes. He is one of New Zealand's leading plant ecologists, specialising in the ecology of indigenous tussock grasslands, alpine lands, wetlands, shrublands, forests and lakeshores. He has published some 200 scientific papers. He belongs to several professional and conservation organisations and has served on the Manapouri-Te Anau Lake guardians (Chair for the first 26 years), NZ National and Reserves Authority, NZ Conservation Authority, Otago Conservation Board, Land Settlement Board, NZ Mountain land Committee, Fiordland Marine Guardians and the Mid Dome Wildling Tree Control Trust."

A selection of comments below from his supporters indicates the support for Alan and the wide range of botany he has been involved in over the last six decades:

"Alan gave our Society a very enlightening lecture which summed up the extraordinary contribution he has made over his lifetime understanding the ecology of these tussock highlands, educating people about their ecology and actively campaigning to save them with sound scientific knowledge and copious data."

"*'NZ Alpine Plants'*, the beautifully illustrated field guide that he first published in 1973, has been a companion on many Botanical Society trips for decades. In 2013 it was completely revised with updated taxonomy and close-up photographs to help the next generation learn about and cherish our alpine flora and fauna."

"He has always been a strong voice in conservation, particularly advocating for plants and plant communities."

"...he has been involved in research on all aspects of the NZ flora and vegetation...and is a valued and respected colleague for many, as well as an inspiring tutor and mentor for generations of research students."

Congratulations Alan! On behalf of the Society the President hopes to be able to present the Allan Mere to Alan later in the year at a Botanical Society of Otago meeting in December (yet to be finalised).

Ewen Cameron, Secretary, New Zealand Botanical Society

■ Call for Nominations

Nominations are called for the following positions of Officers and Committee of the New Zealand Botanical Society for 2016:

- President
- Secretary/Treasurer
- 3 Committee Members
- Editor

Nominations for all positions opened 1 September 2015 and close on 20 November 2015.

Nominations shall be made in writing to the Secretary, c/o Canterbury Museum, Rolleston Avenue, Christchurch 8013, and shall be signed by the Proposer, the Secunder, and by the Nominee to indicate their acceptance of nomination. If necessary, ballot papers for a postal election will be circulated with your December *Newsletter*.

Regional Botanical Society News

■ Auckland Botanical Society

June Meeting

A previous talk by Matt Buys, Scion (NZ Forest Research Institute), Rotorua, was so packed with information about his South African studies that he was invited back to intrigue us with another group of plants. He introduced us to a term, "mesembs", not familiar in New Zealand, and which refers to the succulents often called "ice plants". The systematics of Mesembs, South Africa's second largest plant family, is so challenging that Matt referred to it as an "abominable mystery". The taxonomic boundaries are so ill-defined that there are no identification keys for the majority of taxa.

June Field Trip

Two North Shore members, Margi Keys and Neil Davies, led this trip around the Chelsea Estate Heritage Park, Birkenhead. The walk began at the Chatswood Reserve then circumnavigated one of the lakes created by the New Zealand Sugar Company in the late 19th century. Noted were regenerating mixed podocarp/broadleaf bush and plantings of natives and exotics.

July Meeting

David Wilson spoke of *Scabiosa atropurpurea* for the Plant of the Month.

Mike Wilcox gave an interesting tour of several aspects of the flora of China: The recent completion of "Flora of China", a brief history of some European botanical explorers, some examples of unusual endemic plants, and Mike's personal view of some of the areas of China that he visited during his forestry assignments. Several of our worst weeds have found their way to New Zealand from China.

July Field Trip

A very wet Saturday ensured that all participants at the plant family workshop, run by Mike at the West Lynn Garden, were pleased that they were not out in the soggy bush. A wide range of specimens had been gathered to illustrate the features of several interesting families, and a delicious lunch added to the pleasure. The serendipitous clearing of the rain for the afternoon ramble around the gardens completed the day's outing.

August Meeting

Not surprisingly, Dan Blanchon's Plant of the Month was a lichen, *Strigula novaezealandiae*.

Mark Horrocks has spent time on Easter Island studying microfossils in the soil, and the pollen, spores, phytoliths and starch grains found there have given clues to the original vegetation of the now barren island. He outlined the ecological catastrophe that had arisen from the carving and transportation of the giant stone statues which resulted in resource depletion, famine and warfare.

August Field Trip

The group visited Boulder Bay on the northern coast of Rangitoto. Highlights were the magnificent flowering of *Brachyglottis kirkii* on the forest edge, plentiful orchids (especially *Pterostylis trullifolia*, *Acianthus sinclairii* and *Corybas trilobus*), healthy populations of young plants of *Daucus glochidiatus* on the road edges, and *Psilotum nudum*. An intriguing grass on the rocky tracks was the thread-like *Poa imbecilla*. Ferns were at their best and brightest, with the usual fine patches of kidney fern, and in the open amongst rocks, *Asplenium flabellifolium*, *Pellaea rotundifolia* and *Cheilanthes sieberi*.

FUTURE EVENTS

1 September (Tuesday)	Lucy Cranwell Lecture: Leon Perrie
19 September	The Dome walkway, Warkworth
7 October	Robert Hoare: "Hunches about munches".

the habitat had changed. It seems to need some disturbance and had deliberately not been included in the fenced area of the Park so that stock could still graze the area. Stock access had been prevented in recent times by an electric fence, and weedy grasses had proliferated – a good example of how easily things can go awry, probably with the best of intentions, showing the need for occasional check-ups like this. DOC staff on the trip aimed to follow this up with the landowner. We were in luck at the 2nd known site, where it was found in a pugged area under scattered high canopy trees where cattle still had access (this was on private land), growing alongside the more common *Gratiola sexdentata*.

We then crossed the Park boundary and searched for *Myriophyllum robustum* (stoat water milfoil, conservation status: at risk, declining) in another wet area with slowly flowing clear water under a mixed canopy that included *Coprosma tenuicaulis* and *C. robusta*. The vegetation at our level was so dense we frequently lost sight of each other within one to two metres. After much searching one patch of about a metre diameter was found. The plant was almost completely submerged in the clear water, under a patchy canopy. A further search failed to find the larger patch Jim recalled from previous visits.

We didn't see *Ascarina lucida* (hutu), which in the North Island is only common in the Coromandel Ranges but we plan a return visit which will include the specific area where it is found. Ideally the timing of this trip will coincide with the flowering of the *Gratiola nana*; and with the help of the previously recorded location of the larger patch of milfoil, we would also hope to find this.

July Field Trip: Orchid hunting

John Dodunski from the NZ Native Orchid Group led us to three sites in and around New Plymouth to look for the cryptic orchid, *Corybas cheesemanii*. Lake Mangamahoe was where the largest population was found, with some in flower as we'd hoped, and some already with seed pods. The plants are often entirely covered by leaf litter so a good bit of scrabbling around the general area was needed. The site had a sub canopy of native shrubs under tall eucalypts, shaded but not deep shade. Barrett Domain was the next stop where sadly very few plants were seen, far fewer than John had seen on visits in other years. The final area was just off the walkway along the western side of the Te Henui stream. There were also fewer plants here than had been seen previously, possibly due to an abundance of karaka seedlings that had sprouted up, shading the ground. John then took us to look at *Corybas papa* – in bud - and *C iridescens* – one flower was out and admired - on a shady bank on the Te Henui Walkway above Cumberland St. We also saw the leaves of a variety of *Thelymitra* species and *Orthoceras novae-zeelandiae* in an open grassy area which is maintained as suitable habitat through his ongoing intercessions with the local council.

FUTURE EVENTS

October 10: Mangorei Track, Egmont National Park – recovery of vegetation after the track work. We'll look at how the plants are recolonising after the work on the track, some of which was completed 6-7 years ago, and some 3-4 years ago. Graeme Trevathan from the NP Tramping Club will explain how it looked back then, when he and other volunteers were putting in the drainage channels and other work as the Tramping Club's contribution to the track upgrade. He has kept on eye on the recovery and suggested now would be a good time to take a look. We also hope to see some orchids in flower.

November: exact date yet TBC but possibly 15th: Cold Creek, Egmont National Park. A return visit to see *Gratiola nana* in flower, to look for the larger patch of *Myriophyllum robustum* (with the GPS location), and visit the area where the *Ascarina lucida* (hutu) is found.

December – exact date yet TBC but possibly 3rd (Thursday): South Taranaki coast - a search for *Craspedia* 'Otakeho' (at risk, range restricted) which is known from only two sites in Taranaki, both coastal, in South Taranaki. The intention would be to try to find additional sub-sites to those already known. One of these areas also is one of only two North Island sites of *Ranunculus recens* var *recens*, and the only North Island site for *Hebe elliptica* var *elliptica*.

January 16 – 17 2016: Mt Whareorino & Waikawau Beach Headland, combined with Waikato Botanical Society. Camping overnight on the 16th is an option. For more detail see http://waikatobotsoc.org.nz/?tribe_events=mt-whareorino-waikawau-beach-headland

Contacts: Barbara Hammonds 06 7597077; Email: barbara_ha@outlook.com
Janica Amoore 06 7520830. Email: waiongona@clear.co.nz

■ Nelson Botanical Society

May Field Trip: Rameka Track, Canaan Area, Abel Tasman National Park

On a clear autumn morning 9 Botsoccers gathered at Harwoods Hole carpark to walk the Rameka track. In the short turf on the marble rocks, *Lobelia angulata*, *Lycopodium fastigiatum*, *Chaerophyllum colensoi*, and *Blechnum penna-marina* can be found and the ferns *Polystichum vestitum* and *Hypolepis millefolium* are common. Just inside the bushline, *Viola filicaulis* was seen and along the track *Paesia scaberula*. The forest at the beginning of the track is red beech-silver beech with occasional *Libocedrus bidwillii*, *Prumnopitys ferruginea* and *Dacrydium cupressinum*. The subcanopy is moderately dense with *Dracophyllum elegantissimum*, *Griselinia littoralis*, Hall's totara, *Weinmannia racemosa*, *Quintinia serrata*, and *Elaeocarpus hookerianus*. The shrub layer has *Coprosma foetidissima*, *Pseudowintera colorata*, some *C. tayloriae*, *C. microcarpa*, occasional miro and *Phyllocladus* "forest". The ground is covered with luxuriant *Blechnum discolor*, other ferns include *B. novae-zelandiae*, *B. fluviale*, *B. procerum* and *Cyathea colensoi*. Also along the track were *Libertia micrantha*, *Leucopogon fasciculatus*, scattered *Raukawa simplex*, *R. anomalus* and *Coprosma foetidissima*. On damp shaded banks *Dawsonia superba* and *Blechnum colensoi* were found along with clumps of *Asplenium bulbiferum*, *Leptopteris hymenophylloides*, *Pneumatopteris pennigera*, *Blechnum vulcanicum* and *Hypolepis rufobarbata*. Around limestone outcrops were *Brachyglottis repanda*, *Fuchsia excorticata*, *Geniostoma ligustrifolium*, *Coprosma grandifolia*, *Microsorium pustulatum*, *Rumohra adiantiformis* and *Blechnum chambersii*.

May Evening Talk: Botanical Features of the Matiri Plateau. Sandra Wotherspoon.

Sandra, a DOC biodiversity ranger based in St Arnaud, spoke about her work on the Matiri Plateau situated to the north of Murchison. The plateau comprises the Thousand Acre Plateau and the Hundred Acre Plateau with The Needle, The Haystack and a peak at the northern end nicknamed Mud Mountain. The landscape is rolling tussock dotted with limestone streams and sinkholes. *Melicytus* "Matiri" (Nationally Critical) grows at the top of the limestone screes on the cliffs underneath The Needle and the Hundred Acre Plateau but suffers from browsing. The plants showed good recovery when covered with wire cages but DOC has been unable to determine the animal causing the damage. Growing on the limestone pavements of the Thousand Acre Plateau is *Crassula multicaulis* (Nationally Critical) and over the past two years staff and volunteers have found it more widespread than was previously known. Despite a concentrated survey for *Tetrachondra hamiltonii* (Data Deficient) only six patches have been found. *Gentianella filipes* (Naturally Uncommon) is also commonly found on the limestone pavements of the Thousand Acre Plateau.

June Field Trip: Kokorua Sandspit / Whangamoia River Mouth

13 members set off from the mouth of the Toi Toi Stream with the intention of reaching the sand spit via the foreshore and investigating an interesting looking remnant of kahikatea forest. We started by pushing through a patch of *Olearia solandri*, which is rarely found in the Nelson region. Further around the coast under the margin of regenerating kanuka-manuka forest we found *Pteris macilenta* and its close relative *P. comans*, which is very uncommon in the South Island. (We have since found out that this may be a mis-identification). Very thick *Plagianthus divaricatus* was growing on the banks. This is a swampy area with a few kahikatea towering above *Gahnia xanthocarpa*, three metre high *Urtica ferox*, *Carex virgata*, *Carmichaelia australis* and *Sophora microphylla*. The forest warranted further investigation but the tide was rapidly covering the mud flats so we quickly set off to get around the point before it was too high. We forced our way up through mahoe, *Coprosma areolata*, manuka, putaputaweta and silver fern. We were ready for a break and sat down, wrung out our socks and had lunch overlooking the estuary. In front of us was a carpet of *Suaeda novae-zelandiae*, *Sarcocornia quinqueflora* and *Sellieria radicans*.

June Evening Talk: "Revegetation in Nelson/Tasman". Helen Lindsay

Helen spoke about four revegetation projects that she is involved with in the Nelson/Tasman area. At Kokorua sandspit DOC have been focusing on preserving the gene pool of the last remaining natural population of pingao in eastern Tasman Bay. In the Otuwhero Valley near Marahau the Otuwhero Trust are restoring part of the wetland which has been in pasture for many years and is now overrun with gorse and blackberry, and replanting the riparian strip where willows were choking the stream.

Two Project Janszoon undertakings in Abel Tasman National Park are restoring kahikatea forest to the drained pasture at Hadfield's Clearing near Awaroa and a dune planting at Anchorage Bay. The dune planting is part of a larger plan to remove gorse from the foreshore in the park and restore native dune species to enhance the natural ecology and reduce the risk of fire.

July Fieldtrip: Pukatea Track, Hira Forest, Nelson

A short drive from Nelson took 9 members to Teal Saddle and along the road to the Pukatea track. The track area was logged in the 1950's but there are still some large trees including *Laurelia novae-zelandiae*, *Dacrydium cupressinum*, *Prumnopitys taxifolia*, *Dacrycarpus dacrydioides*, *Fuscospora fusca*, *F. truncata* and *Elaeocarpus dentatus*. There are abundant ferns in the gullies. *Blechnum chambersii* grows on stream banks and *Leptolepia novae-zelandiae* and *Leptopteris hymenophylloides* are common. In the bush there is an abundance of seedlings of matai, miro, and common understorey broadleaved species. *Griselinia lucida* is in the lower gully with a huge *G. littoralis* higher up. *Fuchsia excorticata* and *Cordyline banksii* occur on the bush edge. Also in the lower gully we saw *Ozothamnus leptophyllus* and *Podocarpus totara*. A small *Rhopalostylis sapida* was seen in the higher gully. *Pseudowintera axillaris*, *Olearia rani* var. *colorata*, *Leucopogon fasciculatus* and *Coprosma rhamnoides* were common shrubs. *Podocarpus laetus* was seen under beech forest with *Lindsaea trichomanoides*, *Blechnum procerum*, and *Notogrammitis billardierei* and it was here we saw *Raukaua edgerleyi* saplings. On the ridge kiekie is abundant, forming dense thickets and along the bush edge we saw *Lycopodium volubile*, *Gahnia procera*, *Paesia scaberula* and *Rytidosperma gracile*.

July Evening Talk: Adele Island Black Beech Trial Simon Moore

Simon from the Department of Conservation explained that the Abel Tasman National Park was gazetted for protection in the 1940s and has been recovering slowly ever since. This recovery has been hindered by fire, weeds and animal pests. Added to this, the most common original vegetation was beech forest which is always slow to recover because the seed relies mainly on gravity and water for dispersal. Project Janszoon was set up in 2012. It is a 30 year collaboration with private sponsorship giving \$30 million for enhancement of the park and this will mostly be spent on control of pest plants and animals. It was decided to test a theory that the quickest way to regenerate the beech forest and overcome weed species (hakea and gorse) is to plant nuclei of beech, particularly on the dry bony areas. Adele Island was chosen for a planting trial. They used potting mix inoculated with duff collected under black beech trees to ensure the presence of the mycorrhizal fungi. Two year old seedlings, about 1 m high, were helicoptered to the island and planted in May 2014, with the help of volunteers. In spite of an even drier than average summer, the results of the trial when monitored in July 2015 were extremely encouraging with 98% survival of planted seedlings and average growth of 16 cm per plant.

FUTURE EVENTS

Sept 20	Threatened Plant weeding, Wairoa Valley. Leader Shannel Courtney 03 5469922
Sept 21	"Native orchids – <i>Corybas</i> and <i>Caladenia</i> " Speaker Mark Moorhouse
Oct 18	Coppermine Saddle. Leader Penny Palmer 03 5391329
Oct 23-26	Labour Weekend Camp, Punakaiki. Leader Don Pittham 03 5451985
Nov 15	Takaka Hill Walkway. Leader Don Pittham 03 5451985
Dec 18-20	Camp. Cobb Valley. Leader Shannel Courtney 03 5469922

President: Cathy Jones 03 546 9499. Flat 1/47A Washington Rd, Nelson 7010. cathy.jones@xtra.co.nz

Treasurer: Uta Purcell 03 545 0280. 60 Marybank Rd, Atawhai, Nelson. mupurcell@xtra.co.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>

Manawatu Botanical Society

Jill Rapson: Ecology Group, Institute of Natural Resources, Massey University, Palmerston North.

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

Wanganui Museum Botanical Group

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

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

Wellington Botanical Society

President: Karen Palmer, katyp@xtra.co.nz

Secretary: Barbara Clark, 04 233 8202 bj_clark@xtra.co.nz <http://wellingtonbotsoc.org.nz/>

Wakatipu Botanical Group

Chairman: Neill Simpson (03) 442 2035

Secretary: Lyn Clendon (03) 442 3153

Canterbury Botanical Society

President: Jason Butt (03) 355 8869 PO Box 8212, Riccarton, Christchurch 8440

Secretary: Alice Shanks **Website:** www.canterburybotanicalsociety.org.nz

Botanical Society of Otago

Chairman: David Lyttle djlyttle@ihug.co.nz www.otago.ac.nz/botany/bsol/

Secretary: Allison Knight, P O Box 6214, Dunedin North. bsol@otago.ac.nz

NOTES AND REPORTS

▪ **A new record of *Brachyglottis turneri* from North Taranaki**

BD Clarkson, Environmental Research Institute, University of Waikato and **BR Clarkson**, Landcare Research, Hamilton

Brachyglottis turneri is a rare cliff dwelling daisy distinguished by its large, widely curved and pointed leaves, long leaf stalks, and clusters of bright yellow daisy like flowers in summer (Figure 1). It is generally found growing on the crests or faces of damp cliffs (with seepages) or overhanging streams and rivers. It has been recorded in several isolated localities in Taranaki including the upper Wanganui River, mid Mokau River, the middle reaches of the Waitara River, and in the Tangarakau and Mimi Scenic Reserves of North Taranaki. The species is considered nationally endangered, range restricted and sparse (de Lange et al 2013).



Figure 1: *Brachyglottis turneri* flowering at Mimi Scenic Reserve- WM Clarkson

Brachyglottis turneri is named after Edward Phillips Turner, forester and co-author with L. Cockayne of *Trees of New Zealand* (1928), who was active in Taranaki as Inspector of Scenic Reserves in the early 1900s. He was also the first Secretary of Forestry and was the Director of Forestry from 1928 to 1931.

Perhaps the most easily accessed locality in which to see this specialist cliff dweller is on the wetter portions of papa cliffs about half way along and on the eastern (inland) side of the Mimi Road ('Old Stock Route'), which is opposite to where Mangamaio Road joins State

Highway 3. The plants are clearly visible from the road, and some can be found growing quite low down, but generally binoculars are recommended for a closer look. They are seen mainly mixed in with the drooping flat green strap like foliage of the sedge *Machaerina sinclairii* (tuhara) on the upper part of the cliff.

We were recently guided to the picturesque Matapeka Falls, North Taranaki (Figure 2) on the Mohakatino River by Leigh Honnor and Sean Gardiner to determine the identity of a small pink flowered plant photographed on a previous trip by Leigh. It turned out to be the common weed *Centaureum erythraea* but, as is often the case, the trip to a poorly botanised area revealed a number of interesting new records. Most notable was a good sized population of *Brachyglottis turneri* growing on damp cliffs only about 100 m away from the falls (Figure 3) although hidden behind a curtain of mahoe and other small broadleaved trees.

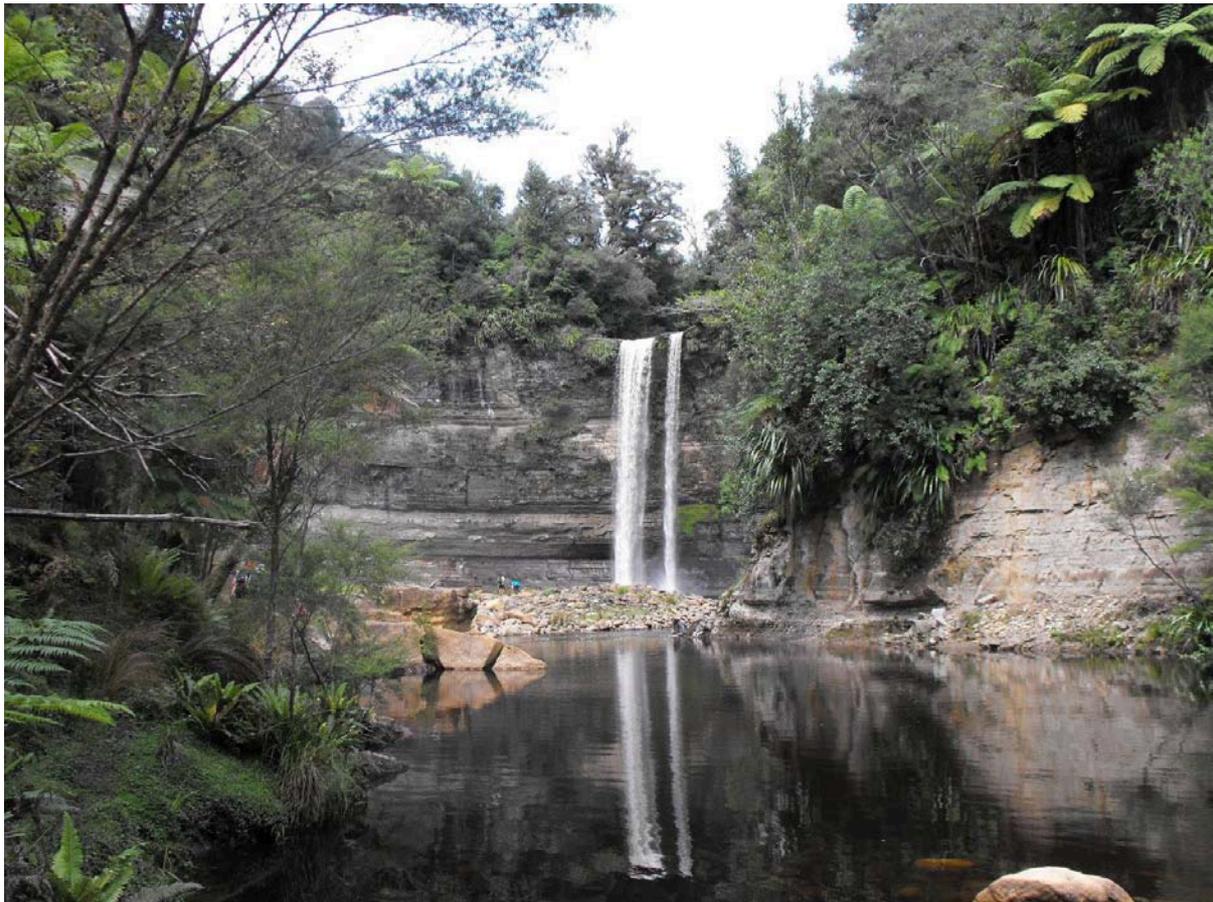


Figure 2: Matapeka Falls

This appears to be the first record of *Brachyglottis turneri* from the Mohakatino catchment, and the northernmost record, with most recent records concentrated in the Hutiwai and Tongaporutu catchments to the south (see the Virtual Herbarium and NZPCN distribution maps). The land to the north of the Mohakatino River is within the Mohakatino Conservation Area while south of the river is the Hutiwai Conservation Area.

The substrate the plants were found growing on was limestone. Professor Campbell Nelson (University of Waikato) has advised this is the Middle Miocene (c. 14 my BP) Mangarara Formation described in Puga-Bernabéu et al. (2009). The distinguishing feature of this formation is its highly calcareous nature compared to most of the enclosing sandstone and mudstone strata. It is sufficiently calcareous (i.e. >50% CaCO₃) to be considered a limestone. The other North Taranaki sites where *Brachyglottis turneri* has been recorded have mudstone (papa) or siltstone substrates.



Figure 3: Bev Clarkson & Leigh Honnor at the *Brachyglottis turneri* site

In addition to this new record, we noted *Lindsaea viridis* (classified at risk - naturally uncommon) and *Parahebe lanceolata* (*P. catarractae* subsp. *diffusa*) (not classified as threatened but is uncommon in North Taranaki) growing within the flood zone on the banks of the Mohakatino River. The parahebe was also seen on the cliff face near the *Brachyglottis turneri* population.

The whole area warrants a more intensive survey and extensive cliff habitat in the catchment is likely to harbour more *Brachyglottis turneri* populations.

Acknowledgement

We are grateful to Leigh Honnor and Sean Gardiner for the opportunity to visit Matapeka Falls with their family and friends. Special thanks to Ben Hutchinson for allowing access across his farm to the Department of Conservation lands.

References

- Cockayne, L.; Phillips Turner, E 1928: The trees of New Zealand. Government Printer, Wellington.
- de Lange, P.J.; Rolfe, J.R.; Champion, P.D.; Courtney, S.P.; Heenan, P.B.; Barkla, J.W.; Cameron, E.K.; Norton, D.A.; Hitchmough, R.A. 2013: Conservation status of New Zealand indigenous vascular plants, 2012. 70 pp. *New Zealand Threat Classification Series 3*. Department of Conservation, Wellington.
- Puga-Bernabéu, A; Vonk, A.J.; Nelson, C.J.; Kamp, P.J.J. 2009: Mangarara Formation: Exhumed remnants of a middle Miocene, temperate carbonate, submarine channel-fan system on the eastern margin of Taranaki Basin, New Zealand, *New Zealand Journal of Geology and Geophysics*, 52: 73-93, DOI: [10.1080/00288300909509880](https://doi.org/10.1080/00288300909509880)

■ **Dragon-trees (*Dracaena draco*) on the move?**

Ewen K. Cameron, Auckland War Memorial Museum, Private Bag 92018, Auckland 1142, ecameron@aucklandmuseum.com

Dragon-tree (*Dracaena draco*) is a pachycaul tree (= swollen trunks) in the monocot family Asparagaceae and is native to the Canary Is., Madeira Is., Cape Verde Is., and SW Morocco (Anti-Atlas Mtns) (Mabberley 2008). Although they have been cultivated in Auckland for more than a century (Fig. 1), dragon-trees have only become a popular landscaping species in New Zealand over the last 20 or so years (Fig. 2). It is currently marketed as a fantastic sculptural plant requiring low maintenance and is grown outside in the warmer parts of New Zealand. There is at least one plant grown outside as far south as Banks Peninsula (*WR Sykes*, CHR 610425). In Auckland it is now a common and very fashionable garden plant especially in the newer suburbs. It is also drought-tolerant – an ideal trait when grown in a pot.



Fig. 1. Planted c.1898, possibly New Zealand's oldest dragon-tree? 9 St Stephens Ave, Parnell, Auckland. Photo: 2 Jul 2012. All images by the author.

The two notable tall dragon-trees in Auckland are atypical: one because it hasn't branched at all: 14.8 m tall, 35 cm diameter at 1.4 m, 42 King Edward Parade, Devonport; and the other because it is sparingly branched: 11.0 m tall, 86.9 cm diameter at 1.4 m, 9 St Stephen Ave, Parnell (Fig. 1) – both measured in May 2015

(The NZ Tree Register). Mabberley (2008) records branching occurring every ten years, probably after flowering. Presumably the two historical Auckland trees rarely, or in the case of the Devonport tree, never flower. The multiple branching trees form the more-typical umbrella-shape of the older dragon-trees in the Canary Islands (Fig. 3).



Fig. 2. A fruiting dragon-tree centre of an Auckland roundabout. Newmarket, 9 Aug 2015.

Young plants have a single fat trunk and as they age they become multi-headed. Branching is dichotomous (in twos) apparently after each flowering. I saw the reputedly largest and oldest living dragon-tree in Tenerife (Canary Is.) in 2011, which stood c.17 m tall and the trunk was >2 m thick (Fig. 3). It was estimated in 1971 to be no more than 365 years old, not several thousand as had previously been claimed (Mabberley 2008). Being a monocot there is no secondary thickening but the descending aerial roots from the lower branches reach down to the



Fig. 3. The world's largest and oldest dragon-tree, called "El Drago Milenario" is at Icod de los Vinos, Tenerife, Canary Islands. Photo: 5 May 2011.

ground and coalesce, adding to the trunk's circumference. The red sap "dragon's blood" has a wide range of uses, such as: a medicine, high quality varnish, for staining violins and for embalming the dead. The glaucous sword-shaped leaves are bunched at the ends of the branches similar to a cabbage tree (*Cordyline australis*), which is in the same family. The flowers are produced in large terminal panicles with pink-white tepals. Once pollinated (isolated plants set good seed), the shiny olive-green fleshy globular fruit develops and ripens to orange (Fig. 4). Each fruit contains two fat, roundish seeds (7-10mm across) with a slight flattened face where they abut. Each terminal cluster produces several thousand fruit. These fleshy fruit are attractive to frugivorous birds – in fact, once the fruit turn orange (Fig. 5) they are usually quickly devoured. Tui and kereru have been observed eating the fruit (H. Geary pers. comm.). However, based on gape size (Wotton & McAlpine 2015) frugivorous birds which

could swallow fruit that size would be limited to kereru, song thrush and myna; blackbird and starling could

possibly swallow the smaller-sized fruit; and it is unlikely that tui could swallow them at all. However, blackbirds and song thrush sometimes carry larger fruits than they can swallow away from the parent tree before consumption (Snow & Snow 1988, Hernández 2008, Wotton & McAlpine 2015). Blackbirds have been recorded moving *Syzygium australe* and *S. smithii* fruit in this manner for over 50 m (Karan 2000).

Collections of dragon-trees in New Zealand herbaria are few, with six cultivated specimens in Landcare Research (CHR) (disregarding duplicate specimens), and three



Fig. 4. Two dragon-tree seeds, a ripe orange fruit (13-17mm across × 13-15mm long) and a green fruit. Scale: 10 mm.



Fig. 5. A single ripe orange dragon-tree fruit in a large terminal fruiting cluster, St Mary's Bay, Auckland. Photo: 19 Jul 2015.

cultivated and 13 wild seedling collections in the Auckland Museum herbarium (AK). The seedling collections of wild dragon-trees range from Takou Bay in Northland, south to Mt Maunganui by Tauranga (Table 1). Seven records are from Auckland City, and most of them collected since 2010. The first wild collection, by Doug Rogan, was near a large cultivated dragon-tree at Mairangi Bay, Auckland in 1997 (AK 233465). Most of the seedling collections have been made close to a cultivated adult plant. However, there are three seedling collections in secondary native forest in Auckland City (Kepa Road Bush, Campbells Bay bush and Chatswood Reserve (Fig. 6)), where there were no adults

observed and they appeared to be bird-dispersed. Two of these were under a bird perch as the seedlings were close together and mixed with other seedlings from fleshy-fruited species.

Table 1. Wild New Zealand seedling collections of dragon-tree based on AK herbarium specimens arranged chronologically.

Date	Location	Collector(s)	AK #
26 Jul 1997	Mairangi Bay, Auckland	<i>DB Rogan, G & D McBeth</i>	233465
2 Sep 2003	Omaha spit, Rodney District	<i>K Connolly</i>	284247
27 Dec 2008	Mt Albert, Auckland	<i>PJ de Lange 7876</i>	304874
8 Jan 2010	Ruakaka, Northland	<i>PJ de Lange 8391</i>	308927
16 Feb 2010	Waiheke I, Hauraki Gulf	<i>PJ de Lange 8758</i>	309995
28 Feb 2010	Waihi Beach, Bay of Plenty	<i>PJ de Lange 8799, GM Crowcroft</i>	310590
6 Jun 2010	Takou Bay, Northland	<i>TJ Martin 475</i>	313516
19 Jul 2011	Mt Wellington, Auckland	<i>TJ Martin</i>	327733
28 Nov 2011	Kepa Bush, Orakei, Auckland*	<i>SA Heiss-Dunlop</i>	329780
28 Nov 2011	Orakei, Auckland	<i>L Bethell</i>	329781
1 Jan 2012	Mt Maunganui, Tauranga	<i>PJ, FJ & TJ de Lange</i>	329825
13 Feb 2012	Campbells Bay bush, Auckland*	<i>RJ Hursthouse</i>	330221
20 Jun 2015	Chatswood Reserve, Auckland*	<i>EK Cameron 16529</i>	357731

* = seedlings from secondary native forest with no adult dragon-trees insight.

It is interesting to note that although dragon-tree is widespread in cultivation world-wide, wild dragon-trees are very rare in their native regions (apart from the remote Anti-Atlas Mountains). Furthermore they are reproducing well in New Zealand. I don't think this slow-growing magnificent plant is a current threat to the New Zealand environment, but the recent occurrence of wild seedlings from bird-transported seed makes it certainly worth keeping an eye on.

A condensed version of this article was published in *Auckland Weedspotters Network*, July 2015.



Fig. 6. Seedlings which were clumped together under a kereru roost (?), secondary native bush, Chatswood, N Shore, Auckland. Photo: 20 Jun 2015.

Acknowledgements

Helen Geary for access and information of bird visitors to her two fruiting dragon-trees in St Mary's Bay, Auckland; staff of CHR, NZFRI and WELT herbaria for checking their holdings of dragon-tree; and Joshua Salter for commenting on a draft and improving figure 4.

References

- Hernández, A. 2008: Cherry removed by seed-dispersing mammals: mutualism through commensal association with frugivorous birds. *Polish Journal of Ecology* 56: 127-138.
- Karan, A. 2000: Diet of kereru in an urban area: implications for weed dispersal. Unpublished MSc thesis, University of Auckland. 73p.
- Mabberley, D.J. 2008: *Mabberley's plant-book. Third edition.* Cambridge University Press, Cambridge. 1021p.
- Snow, B.; Snow D. 1988: *Birds and berries: a study of an ecological interaction.* Calton, England, Poyser. 268p.
- The New Zealand Tree Register: <http://www.notabletrees.org.nz/> (accessed 12 Aug 2015)
- Wotton, D.M.; McAlpine, K.G. 2015: Seed dispersal of fleshy-fruited environmental weeds in New Zealand. *New Zealand Journal of Ecology* 39: 155-169.

BIOGRAPHY / BIBLIOGRAPHY

■ Biographical Sketch – Leslie Stuart Mackie (1884-1943)

Val Smith, 80 Mill Road, New Plymouth 4310.

In the third edition of his popular *New Zealand Ferns*, H B Dobbie (1852-1940) made several references to Les Mackie, and he would undoubtedly have been one of the fern enthusiasts who welcomed Dobbie when he visited New Plymouth some time between the opening of the new Pukekura Park fernery in 1928 and the writing of the preface of his book in 1930.

Leslie Stuart Mackie was born on 18 August 1884 at Kohi in South Taranaki, where his father leased a smallholding and from 1894 managed the local creamery. George Mackie, from a line of Aberdeenshire wood turners and joiners, had arrived in New Zealand on the *Edwin Fox* in 1875 and worked initially on railway construction at Whangaehu and then managed a farm near Waverley. On 24 March 1877 he married Prussian-born Marie Louisa Johanna Domin (born Sieloff). The Domin family was from Lauenburg (now Lębork in north-western Poland) and landed in Wellington on the *Fritz Reuter* in August 1876, with more than 500 other new arrivals from Eastern Europe.



Asplenium lyalli

Leslie Mackie was the sixth of George and Marie's ten children, six of whom survived childhood. He attended the small Kohi School, but like many of the other children, was often kept home for seasonal farm work: potato planting and digging, sheep shearing and later grain harvesting. After Les's marriage in 1907 to Violet Mary Hone, daughter of Thomas Hone and his wife Florence Elizabeth (née Miller) of Kohi, they moved north to Kaimata to help Les's father. George Mackie had been appointed manager of the Mōa creamery in 1902; he also administered the post and telephone service from his home, and shortly afterwards built and established the first Kaimata store. Les and Violet's daughter Mara – their only child, was born in Kaimata. Back in South Taranaki in the employ of the Joll Dairy Company, Les became manager of its Otakeho branch from 1911 until his untimely death in Auckland on 4 July 1943.

His interests were many and varied, and his skills mainly self-taught; among his books *The Maori Canoe* by Elsdon Best (1925) and manuals on the New Zealand flora by both Kirk and Cheeseman. Interested in Māori culture, he was an early visitor to the Kohi Gorge shelter and made careful drawings of the unique incised designs on the crumbling walls, which he replicated on a wooden panel. His better-known carvings are a set of bed ends and a waka huia (treasure box) exhibited at the 1924–25 Wembley Exhibition in London, and a model waka taua (war canoe), all with intricate Māori patterns, but he also carved walking sticks and other items. He collected artefacts for his private museum, and liked nothing better than scouring the wind-blown Oeo sand hills for uncovered treasures. Rigby Allan, Taranaki historian, art collector and museum director, recalled in 1973 that when he was an apprentice at Okaiawa in the 1920s, a meeting with Les Mackie sparked his own interest in local history.

From a visit to conservationist and horticulturist Ebenezer Maxwell at Rahotu in about 1922, Les Mackie returned with cuttings, seedlings and inspiration for his own bush and garden developed from a rough gorse-clad hillside at his Otakeho home. He brought back young plants, especially ferns, from his fishing and pig hunting trips, and in 1928 donated a collection to the new Pukekura Park fernery. His article "Small Coastal Plants on South Taranaki Coast" published in the *New Zealand Flower Grower* (5 August 1935) is further indication of his botanical interests and expertise. Nearly 200 delightful illustrated rhyming letters to his grandson Winston Miskelly (born 1936) reflect his day-to-

day life and observations in the years leading up to and including the early years of World War II. Te Papa scientist Colin Miskelly is Leslie Mackie's great-grandson.

Obituaries comment on Les Mackie's community involvement, assisted in many cases by his wife, and his unaffected kindness and generosity. A lectern in the Otakeho church, and gates to the cemetery, are donated memorials to him. Some of his carvings, artefacts and letters are in the care of Taranaki's Puke Ariki. In the 1930 edition of *New Zealand Ferns*, Dobbie named a variety of *Asplenium lucidum* after Les Mackie who collected it, but as there was no description accompanying the photo, the name was not validated. Today Mackie's fern is included with the variable *Asplenium lyallii*. Nothing remains of the garden into which he poured so much labour and love.

Asplenium lyallii

Asplenium, spleenworts, are so named because of the old belief in the usefulness of some species for ailments of the spleen, due to the spleen-shaped sori on the backs of the fronds. The New Zealand species have elongated sori and indusia extending along the veins, often in a herringbone pattern. *Asplenium lyallii* (syn. *Asplenium anomodum*), which includes the fern Dobbie named *Asplenium lucidum* var. *Mackie*, is named after 19th century Scottish naturalist and naval surgeon David Lyall. It is a variable species of mainly calcareous soil or rock in coastal to subalpine areas, often in cave entrances. Mainly found in the drier eastern parts of the North and South islands, it extends coastally from Port Waikato south to Wellington, northwest Nelson, Stewart and Chatham islands.

References

- Bowen, D 2015. Mackie family records, photos, reminiscences (sighted 6 November 2014).
- Brownsey, P 2011. pers. comm.
- Mackie, L S. Collection of illustrated poems written for his grandson Winston Miskelly between 1939-1942. www.vernon.npdc.govt.nz (sighted 9 June 2015).
- Mackie, L S 1935. Small Coastal Plants on South Taranaki Coast. *New Zealand Flower Grower* pp 8-9, 17.
- McCraw, J D. Dobbie, Herbert Boucher - Biography, from the *Dictionary of New Zealand Biography*. Te Ara - the Encyclopedia of New Zealand, updated 1 September 2010: <http://www.TeAra.govt.nz/en/biographies/3d9/1> (accessed 24 June 2011).
- Miskelly, C. 2011. pers. comm.
1908. Opunake: Mister Ebenezer Maxwell. *The Cyclopedia of New Zealand [Taranaki, Hawke's Bay & Wellington Districts]*. Christchurch, Cyclopedia Company Ltd. <http://nzetc.victoria.ac.nz/tm/scholarly/> (accessed 7 June 2015).
- Phillipps, W J 1950. Incised Designs, Kohi Gorge Shelter, near Waverley. *Journal of the Polynesian Society* 59(2):191-196.
- Profile on Rigby Allan (curator-historian Taranaki Museum) ... history is a living thing. *Taranaki Herald Weekender* 8 December 1973.
- Schweikers, F 1964. The Late Mr L S Mackie - a unique personality. *Otakeho School 1884-1964 Jubilee Celebrations: Eighty Years of Progress*.

PUBLICATIONS

■ **Publications Received**

The New Zealand Native Orchid Journal 137 August 2015 *Drymoanthus*, Iwitahi Heritage Protection Area, *Prasophyllum*, Australia notes, New Zealand native orchid list, orchid 'common' names.

Canterbury Botanical Society July 2015 Upcoming meetings and trips, AGM report – battling with weeds and pests in covenants.

Canterbury Botanical Society August 2015 Upcoming meetings and trips, talk on Philippine ferns, trip report for Canterbury Botanic Gardens.

Canterbury Botanical Society August 2015 Upcoming meetings and trips, including summer camp details, photo competition winners.

Auckland Botanical Society Journal 70 (1) June 2015 Trip report for Journeys End, Oruawhero, Lord Howe Island and Warkworth. Articles on the flora of a Great Barrier Island islet, algae recorded from Katikati BioBlitz, Kohimarama lichens, a Gallipoli memorial planting, *Pelargonium inodorum*, Auckland's weedy buttercups, Japanese walnut and obituaries for David Galloway and Lyn Craven.

■ **New book: Common Ground: who's who in New Zealand botanical names**

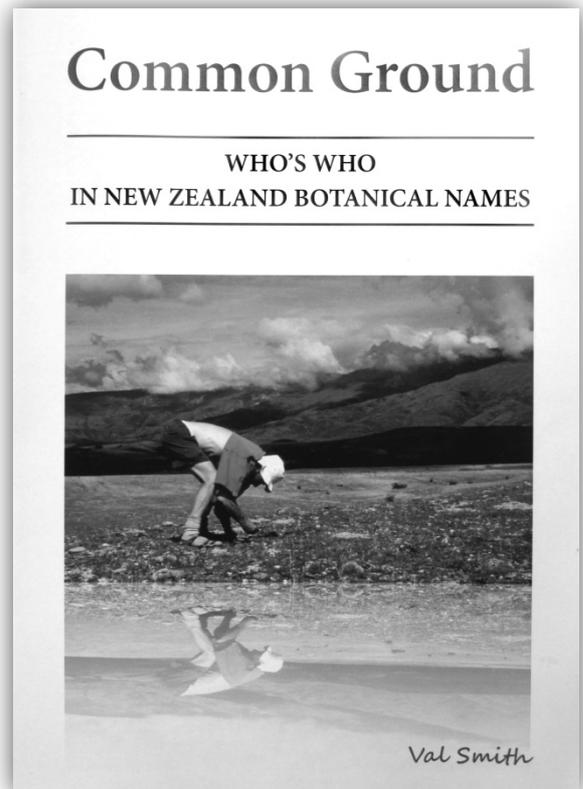
Val Smith, 80 Mill Road, New Plymouth 4310.

A4 format, 304 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 978-0-473-30847-6

This book brings together the stories of 250 people commemorated in New Zealand botanical names, not only of flowering plants, but also ferns, seaweeds, mosses, lichens and fungi. Arranged chronologically from the Greek philosopher Aristotle, 384 BC–322 BC, (*Aristotelia serrata* – makomako or wineberry) to contemporary New Zealand botanists, *Common Ground* includes early European physicians and herbalists, later explorers and scientists, New Zealand pioneer settlers and visitors, and locally born and educated naturalists. Each biographical entry is on a separate page, accompanied by a relevant colour image and plant information. A social and botanical history with an amazing number of connections is revealed.

Price: \$30.00 (plus \$5.00 postage within New Zealand)

Orders and enquiries to: Val Smith valdsmit@xtra.co.nz
Ph. (06) 758 3521
80 Mill Road
Lower Vogeltown, NEW PLYMOUTH 4310



Manaaki Whenua Press offers Society Members 10% discount*

Please indicate Society Membership when ordering!

*excludes special set prices, eg Flora of NZ set

www.mwpress.co.nz