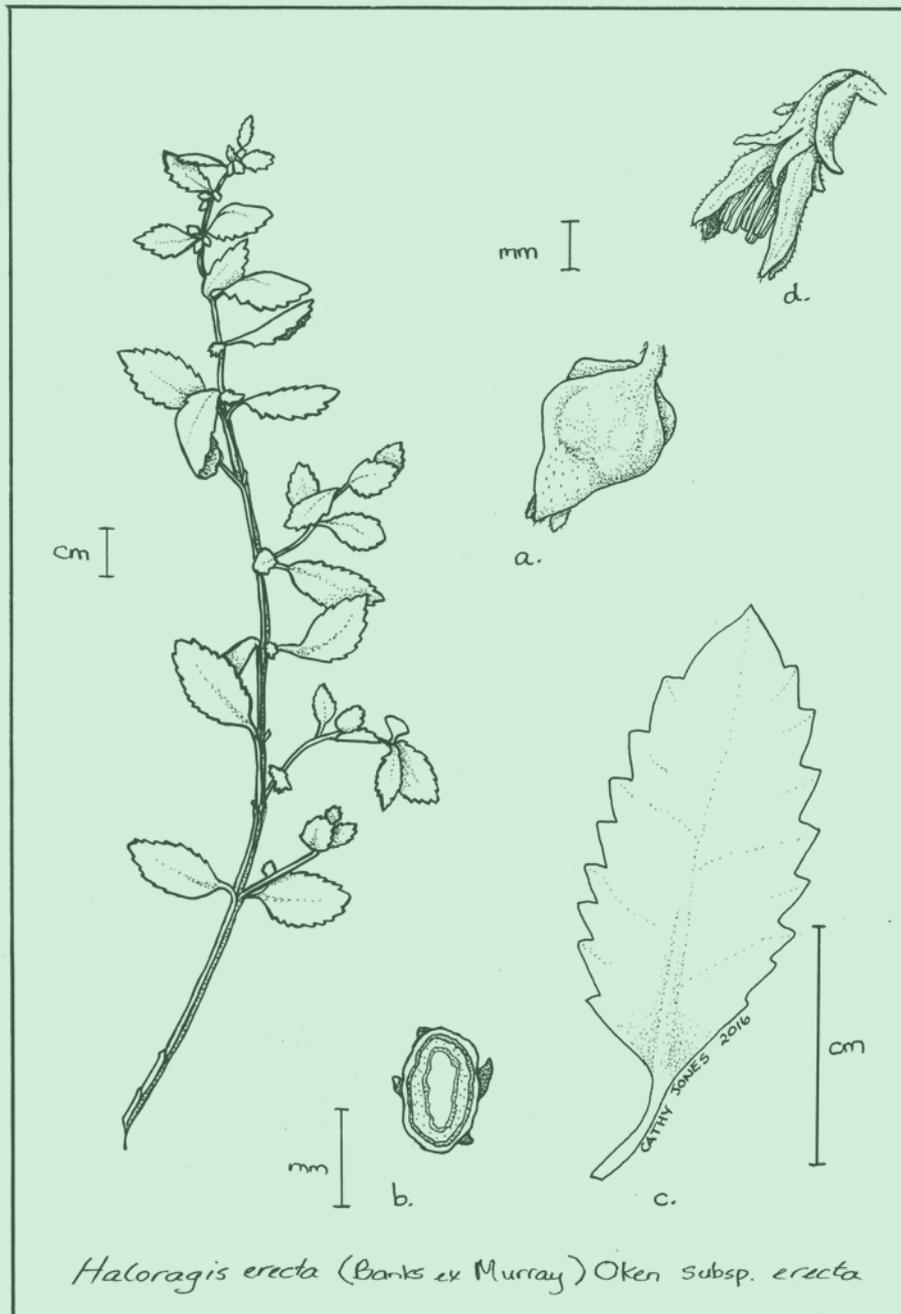


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 123

March 2016



New Zealand Botanical Society

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Subscriptions

The 2016 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 June 2016 issue is 25 May 2016.

Please post contributions to:
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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.

Editor's note

The illustration on the cover of this issue will be the last provided by Cathy Jones. I would like to thank Cathy for providing such wonderful drawings for the New Zealand Botanical Society Newsletter over the last 10 years.

Cover Illustration

Haloragis erecta subsp. *erecta* drawn by Cathy Jones. a., b., c., were drawn from a fresh plant collected in Nelson's Waimarama Brook Sanctuary on February 19, 2016; d. was drawn from a dried specimen collected at Lake McRae in South Marlborough on January 29, 2013. a. fruit, b. stem cross section, c. abaxial leaf surface, d. flower.

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New Zealand Botanical Society News

■ Presentation of Allan Mere for 2015 to Sir Alan Mark

The Allan Mere was presented to Sir Alan Mark at a special award evening hosted by the Botanical Society of Otago in the Benham Seminar Room, Zoology Department, University of Otago, on 10 December 2015 at 5pm. Amongst a great turnout of family, friends and Bot Soc members were two previous awardees of the Mere – Warwick Harris (1996) and Peter Johnson (2007). Following the presentation, three illustrated talks on some of Alan's botanical exploits were delivered by David Lyttle, Janet Ledingham and John Barkla. They were tied together by their focus on individual plant portraits in the latest edition of Alan's indispensable guide to alpine plants *Above the treeline*. Following the meeting a large group adjourned to Vogel Street Kitchen for a celebratory dinner. Here is my korero to the meeting:

Tena koutou, tena koutou, tena koutou katoa
Nga mihi nui ki a koutou
Tihei mauriora

Thank you David and Allison and members of the Botanical Society of Otago for your warm welcome and for so willingly agreeing to host this presentation of the Allan Mere. It's a pleasure to be back in Dunedin to honour another southern winner!

To give a little background to the award, the Allan Mere was donated by Dr Lucy Moore in 1982 to commemorate the 100th anniversary of the birth of Harry Howard Barton Allan, first Director of Botany Division, DSIR, and author of Volume 1 of the *Flora of New Zealand*. The Allan Mere is awarded annually by the New Zealand Botanical Society from nominations by Regional Botanical Societies or individual members to persons who have made outstanding contributions to botany in New Zealand. The Mere is housed at the Allan Herbarium at Landcare Research, Lincoln.

The NZBS Committee has voted to award the Allan Mere for 2015 to Sir Alan Mark, and it is my pleasure to present this award to Alan tonight. His nomination was made by the Botanical Society of Otago and was seconded by five other botanical societies (Auckland, Canterbury, Nelson, Taranaki and Wellington), Dunedin Forest & Bird and Jill Rapon.

I am going to read a few extracts from the fulsome nomination papers which give some insights into the range of Alan's contributions.

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

"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 Parks 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."

"...He has been involved in research on all aspects of the NZ flora and vegetation and has published some 200 scientific papers. Alan is a valued and respected colleague for many, as well as an inspiring tutor and mentor for generations of research students."

"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."

"*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 2012 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."

Before presenting the Mere, I need to let Alan know that one of Lucy Moore's rules was that the Mere be kept safe at the Allan Herbarium, and only 'let out' for the presentation ceremonies. So Alan, you should make the most of holding it this evening! I'm pleased to say that you do get to keep a fine calligraphed certificate marking the award, as well as a bound copy of your nominators' and seconders' letters leading to the award.

Now I'd like to read out the formal citation entered into the Allan Mere Record Book:

Alan has enjoyed a lifetime of outstanding contributions to botany, both as an academic teacher and researcher 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 our leading plant ecologists, specialising in indigenous tussock grasslands, alpine lands, wetlands, shrublands, forests and lakeshores.

Congratulations Alan on your dedication to botany and the significant achievements you've made for plant conservation in New Zealand. I have much pleasure in presenting you with the Allan Mere.

Anthony Wright, President, New Zealand Botanical Society



NZBS President Anthony Wright presenting the Allan Mere Award for 2015 to Sir Alan Mark.
Photo: Allison Knight

Regional Botanical Society News

■ Auckland Botanical Society

December Christmas Picnic

A pot luck Christmas lunch preceded a walk up to the summit of the clifftop at Wenderholm Regional Park. The coastal forest is full of interest, including *Asplenium gracillimum*, *Blechnum molle*, *Microlaena polynoda*, a hybrid *Melicope simplex* × *M. ternata* and a few large-leaved trees of *Streblus*. It always exercises the brain to ponder – are these a result of hybridisation between *Streblus banksii* and *Streblus heterophylla*, or are they at the larger end of the *S. heterophylla* range?

Summer Camp based at Hanmer Springs

A week of dryland botanising, mostly on Molesworth Station, was a change of scenery for northerners. Hanmer Springs Forest Camp was a comfortable base for the 28 members. Our South Island friend and proposed leader, Cathy Jones, was unfortunately unable to attend, so Anthony Wright ably stepped into her shoes and we followed Cathy's itinerary.

February Field Trip

The new botanical year began with one of Sandra Jones' famous Waitakere explorations, this time shared with members of the Entomological Society. Three tracks were covered – the Donald McLean Summit Track, the Puriri Ridge Track, and the beginning of the Omanawanui Track. Sandra left cards along the way as she proceeded, pointing out the highlights, including *Hebe bishopiana*, *Lastreopsis velutina*, *Melicytus micranthus*, and *Phyllocladus toatoa*.

FUTURE EVENTS

2 March	AGM/Lucy Cranwell Award recipients (Sofie Pearson/Riki Taylor)
19 March	Manukau Heads, Awhitu Peninsula
6 April	"Green roofs using native plants" Holly Cox
16 April	SE coast, Hunua

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■ Rotorua Botanical Society

December fieldtrip - Urchin and Tree Trunk Gorge

Several of the group camped at the track start on Friday night while others arrived mid morning. With a great flourish we headed off "no stopping till the tree line" but that idea was soon abandoned. The forest on the lower slopes was tall black maire and matai forest with miro, kamahi, red beech and *Cordyline indivisa* beneath and shrubs including rohutu, pepperwood and *Coprosma tenuifolia*. The first distraction was a banded tree with *Tupeia antarctica* protected on it, but several stops were to help our newer members identify plants such as the square-stemmed rohutu. About mid slope huge red beech became prominent and these were often noted to be dead in the upper forest. There they were gradually replaced by mountain beech, a common feature of the Kaimanawa Ranges. The upper forest was even more open with many dead trees perhaps from the eruption of Ruapehu in 1995. Here the understorey was much more dense and included *Coprosma pseudocuneata* and *C. foetidissima*, but we soon burst out on to the open low shrublands and serious botany began. *Pimelea buxifolia* and *Ourisia vulcanica* were in flower amongst the *Dracophyllum recurvum*, *Epacris alpina*, pygmy pine and *Brachyglottis bidwillii*. Smaller plants amongst the rocks included *Raoulia albosericea*, *Pentachondra pumila* and *Myrsine nummularia* (with blue fruit). At the summit the fine day provided good views of Lake Taupo and the central mountains.

Sunday morning saw us gathering another two members and heading off on the Tree Trunk Gorge Track (actually an old road). The forest was mainly logged red beech with black maire and the odd matai, totara or rimu (the last mainly as young saplings). Progress was slow with a lot of time spent looking at key features of common plants such as *Coprosma robusta*/*C. lucida* (raised midrib in the

latter) and the three *Dicksonia* (*D. lanata*, *D. squarrosa*, *D. fibrosa*). One confusing pair, often growing side by side was *Astelia fragrans* with its strongly evident lateral ribs both above and below the leaf and pale undersurface and *A. nervosa* with only weak lateral nerves below on a bronze undersurface. As a result the lunch stop was just 10 minutes walk from our start. After lunch the pace was faster with fewer new things. On the descent to the main river *Lycopodium volubile* and *L. scariosum* in an open area and *Thelymitra* provided another interest. On the bluffs below there was *Asplenium hookerianum* and *A. bulbiferum* with hybrids causing some puzzlement. Imminent rain and a large creek to ford provided an excuse to return to the vehicles, which were reached in heavy rain.

February fieldtrip - Combined Rotorua and Waikato Trip to Whakamarama Wetlands

After a few days of rain, Saturday dawned clear and fine. About 20 people gathered at the Whakamarama Hall, where we met our host Anne Mackersey from the Whakamarama Community Inc. She has a group of volunteers who are looking after the area we were to visit.

We carpoled to the end of the road, and after a look at the maps of the old tram network in this area of the Kaimais, we set off along a new track, which took us two hours (at botanising pace) to reach the first wetland. This first part of the day was through regenerating native bush, which had been pasture. Here we met with the usual early colonisers (*Geniostoma ligustrifolia*, *Melicytus ramiflorius*, *Aristolelia serrata*, *Schefflera digitata*, *Dicksonia squarrosa*, *D. dealbata* etc). Shrubby weeds in this early part of the track were *Berberis glaucophyllus* (with a huge weight of fruit), *Erica lusitanica*, *Leycestria formosa* and gorse. A surprise was the appearance of *Melicytus lanceolatus* seedlings - this plant is not often seen in the Kaimais. There were also many seedlings with distinctive trifoliolate leaves, which had people guessing - using a lens to look at the hairs on the hinge between the leaf and the petiole told us it was *Raukaua anomalus*.

When we turned on to an old tramline, we were in better forest, dominated by tawa, with Hall's totoara, miro, rimu, kahikitea and *Phyllocladus trichomanoides*. There were many, unbrowsed Toropapa (*Alseuosmia macrophylla*) with their beautiful red fruit, and a solitary unbrowsed *Griselinia littoralis* on the ground, which made the deer droppings in the wetland a bit of a surprise. *Ixerba brexioides* and *Cyathea smithii* attested to the cold air drainage (we were less than 350 m). As we came to a track junction there was one individual of *Corunastylis nuda*, which had just finished flowering.

As we reached the wet area, *Astelia grandis* and *Gahnia xanthocarpa* became common, as did the wetland ferns *Gleichenia dicarpa* and *Blechnum minus*. We decided lunch was needed, and as people finished they explored the wetland. There were areas of *Machaerina rubiginosa* and what appeared to be a creeping *Carex* species, but there were only last year's spikelets, so no ID was determined. Everyone admired a very beautiful *Nestegis montana*, laden with epiphytes, standing alone as a specimen tree in the wetland. On another tree, hanging from a clump of *Astelia solandri*, was very large, bright, shiny green *Tmesipteris elongata* looking like a giant *Phlegmariurus varius*.

After all the time spent here, we decided to leave the second swamp for another day, and took the loop track back to the car park. We found a large patch of the exotic *Rhyncosperma capillata*, which was only known from the track down the Ngamawahine River (another track in the area), where it is prolific in the clearings along the track.

FUTURE EVENTS

March 6	Old Military track, Tirohonga to Blue Mountains, Opotiki
March 19	Mt Tarawera (combine with Forest & Bird)
April 3	McLaren Falls
May 8	W2K Whakaipo Bay to Kinloch
June 12	Ruahine Springs Geothermal Areas, Tikitere

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■ Wellington Botanical Society

October fieldtrip: Bodhiyanarama Buddhist monastery forest, Stokes Valley

On a sunny morning we botanised this impressive forest at the head of Stokes Valley, walking through the 51ha block with pockets of original forest. These pockets survived the last of the forest fires about 90 years ago, because they were located in damp gullies at the head of Stokes Valley stream, which flows through this block to the Hutt River.

Using a species list compiled in 1997 by Barbara Mitcalfe, Chris Horne and Tan Sugato (then the monastery's head monk), we made numerous additions to the lists of indigenous and exotic plants. As a result of their collective work, Tan Sugato had set up the monastery's Forest Committee who decided to designate the monastery block as a Native Reserve (*sic*), and prepared a policy document outlining their vision and direction strategy, to be followed later by more practical plans. This however did not eventuate.

We met in the carpark, passed another carpark by a bank with rewarewa and mānuka scrub, and many mature *Gahnia setifolia*, heavy with seed. From there, we walked along the main loop track, which wound past a majestic, gleaming golden stupa, visible from most parts of Stokes Valley. At the start of the track we saw several planted native species, including kauri. The numerous weed species gradually decreased in number as we entered the forested areas, coming to a stand of mature hard beech. We branched off the main track onto a little-used track, in need of maintenance. This led us past three large rimu with seedlings nearby. The terrain is steep, the track difficult in places, and the diversity of species was impressive. The presence of tall *Cyathea cunninghamii* featured in the gullies, and excited our interest because we do not often see it in the region. We saw numerous *Pteris macilenta* in sunny spots, to our surprise.

The several mature rimu and hard beech, and abundant kiekie, are significant, because these species are indicators of the 'primary forest' remnant status of this part of the forest. (See: *An inventory of the surviving traces of the primary forest of Wellington City*. Dr Geoff Park, Feb. 1999 for Wellington City Council).

The last part of the track follows the stream down towards the carpark. Many large, fleshy giant lily (*Cardiocrinum giganteum*), growing by the stream had spread along the track. Some pest-animal control work has been done, but the presence of territorial possum-bite marks, and browsing on main stems of e.g., some *Coprosma* species, and hangehange, show that this ecologically-important forest would benefit from sustained pest-animal control.

Not counting planted specimens, we added 35 indigenous and nine introduced plant species, three indigenous and four introduced bird species; one snail species (*Wainuia urnula*), and the cocoon of the bagmoth, *Liothula omnivera*. Hugh Robertson heard his first shining cuckoo / pīpīwharauoa for the season, and added NZ falcon kārearea to the list.

October workbee: Te Mārua Bush

A very good turnout of 18 BotSoc and Forest & Bird members meant we could weed and clear most of the old and recently planted areas, and collect seven big bags of rubbish blown or thrown in from Twin Lakes Rd and SH2. We cut and pulled weeds from around the newer plantings, then laid the weeds down to provide a protective mulch to help smother emerging weeds, and slow evaporation during summer. There has been much growth in the more recently planted part of the south-western area, with tree crowns intermingling, leaving only a few open spaces between them, so we selectively pruned the taller ones to allow the slower-growing ones to have light-wells to grow up through.

The north-eastern planting areas (i.e., the new triangle next to SH2, and the narrow strip between Twin Lakes Rd and the Pony Club paddock), showed the effects of a long, dry summer and cold winter—some plants had died or had been frost damaged, but most had survived and are growing well.

Within the original Bush, a large mataī in the northeast near SH2, has died and shed large slabs of bark from its trunk. Some of the large, old black maire have lost boughs, and one has fallen, leaving a noticeable gap in the canopy. The black maire have not fruited for at least two years, which is

unusual, though we did find some seedlings of white maire, and there are plenty of mataī and tōtara seedlings. At present, male mataī are covered in pollen-bearing cones and are noticeably yellow.

We found seedlings of *Griselinia littoralis* emerging from under the mānuka inside the fence by the gate into Te Mārua Bush on Twin Lakes Rd. These are likely to be a regular occurrence as there is a line of *Griselinia* across the road now producing fruit.

A 4m tall *Hoheria populnea* was removed along with its seedlings. It was missed when others were removed from the same area last year. This species of lacebark occurs naturally from Waikato to North Cape. Elsewhere it is often planted as an ornamental. It becomes a weed because of its prolific seeding and shade-tolerance.

November fieldtrip: Hawkins Hill area, revisited

During our March trip this year, we botanised the area southeast of the Brooklyn wind-turbine. This time, our goal was to get to the radar dome on Hawkins Hill itself, which reaches 495 m above sea level. With permission from Long Gully Station's Steve Watson, we took a few cars through the usually locked gate near the turbine, then parked at the top of Long Gully Station road. That left us with just a couple of kilometres to walk.

The banks of the cuttings along the road are home to plants not commonly seen so close to the city, e.g., *Lycopodium fastigiatum*, *Euphrasia cuneata*, *Anaphalioides bellidioides*, and *Dracophyllum filliforme*. The tiny filmy fern, *Hymenophyllum minimum*, is abundant. Lichens are numerous, with many striking forms. We saw scattered flowering plants of *Corybas macranthus*, *Viola cunninghamii* and *Geranium brevicaule*. There are reasonable numbers of *Aciphylla squarrosa* and *Poa cita* in open areas; male inflorescences of the former were abundant.

We had lunch at the radar dome, taking advantage of the shelter. On the bank below us were large amounts of flowering *Clematis paniculata*. To the south-east stretched the extensive area of Te Kopahou Reserve, which provides lots of opportunities for walking and botanising: <http://wellington.govt.nz/~media/maps/files/tekopahou.pdf>. In the distance to the southwest were the Kaikoura mountains, still capped in snow.

The weather was fine, but the northerly was very strong. So for the return trip, most of us took the 'Barking emu' walking/cycling track that sidles along, below the ridge, to the east of the road. Interesting finds along here were the orchid *Caladenia variegatus* and the fern *Botrychium bifforme*. Photos of some of what we saw are available online: <http://naturewatch.org.nz/calendar/leonperrie/2015/11/7>

FUTURE EVENTS

- | | |
|-------------|---|
| March 21 | Talk on the three curators who set up Otari-Wilton's Bush by Barbara Hampton and student talk 'The functional role of betalains in <i>Disphyma australe</i> under salinity stress' by Gagandeep Jain. |
| March 25-27 | Easter fieldtrip to northern Wairarapa, based in Eketahuna. Co-leaders: Sunita Singh 387 9955, 027 405 2987; Chris Horne 475 7025, 027 474 9300. |
| April 18 | Pacific fern fieldwork by Leon Perrie |
| May 7 | QEII covenant, South Makara. Co-leaders: Chris Horne 475 7025, Barbara Mitcalfe 475 7149. |
| May 16 | Member's evening. Share your botanical slides, paintings, drawings and readings. |

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■ Nelson Botanical Society

November Fieldtrip: Takaka Hill Walkway

Nine members gathered at the Hawkes Lookout car park. Nearby the *Fuchsia excorticata* provided us with a chance to compare hermaphrodite and female flowers. There was *Coprosma dumosa* with its distinctive layered branches; *C. linariifolia* exhibiting its narrow leaves; and *C. propinqua* with its glossy often banana-shaped leaves. The limestone-loving *Pseudopanax macintyreii* also gained a tick.

The dull green bushes of *Melicactus obovatus* were well laden with green fruit and later we were able to find some of the small, but beautiful, flowers. Another limestone-loving species, *Asplenium lyallii* was amongst the rocks and *Libertia mooreae* was in flower. Our eyes were peeled for orchids and we were rewarded by seeing the spider orchid *Corybas macranthus*, *Pterostylis banksii* and a few *P. irwinii*. Near the end of the walkway, we paid attention to *Brachyglottis laxifolia* and *Pimelea longifolia* putting on a display of flowers. We later drove to the Takaka Hill Walkway and renewed our acquaintance with *Brachyglottis hectorii* with its large, serrated leaves having a distinctive feathery base, leading to its nickname of "frilly knickers". *Hoheria ovata*, *Myrsine divaricata* and *Olearia avicenniifolia* were three of the trees at the beginning of the walk. Of the ferns, the limestone-loving *Asplenium* aff. *trichomanes*, *Blechnum colensoi* and *B. vulcanicum* are worthy of note. Further along, we had the opportunity to compare *Astelia fragrans* and *A. "nervosa broad"*. On our return we spotted *Coprosma pseudociliata* with its hairy leaves and following the track through the walkway *Pterostylis oliveri* became frequent.

January Field Trip: Six Mile Basin (Rainbow Ski Field), St. Arnaud Range.

Sixteen of us arrived on the ski field road and our first stop was to see a *Brachyglottis laxifolia* looking amazing with its golden yellow flowers. On the same bank *Ourisia macrophylla* ssp. *lactea* had brilliant white flowers forming almost complete circles above the stalk and leaves. At the ski complex we found the minute red foliage of the nationally endangered *Crassula multicaulis*. We continued towards the ridge exploring the stream edge and the yellow flowers of *Dolichoglottis lyallii* attracted our attention. We saw many *Montia calycina* in flower and many of the sixteen *Epilobiums* that occur here. We continued to the top of the ridge and saw occasional patches of *Parahebe cheesemanii* with white flowers topping brownish, deeply cut foliage. Also present were *Haastia sinclairii* with a single flower head nestling neatly above the very hairy, grey leaves. A scramble up a steep scree onto the ridge and almost immediately we found examples of the small flowered *Myosotis "australis white"*. On the same ridge was *Myosotis traversii* with a larger head and bigger white flowers with a stunning yellow centre. Four species of *Raoulia* were present; *R. tenuicaulis*, *R. grandiflora*, *R. bryoides* and *R. eximia*. Another and more abundant vegetable sheep was *Haastia pulvinaris*, with its clusters of tiny yellow flowers in the centre of leaves looking like miniature 'Swiss rolls'. Other interesting plants included whipcord and other *Hebes*, many *Celmisia* including *C. durietzii* with purple stems and sticky leaves, *C. lateralis* with bunches of spikey leaves at the base of the flowering stem, *C. spectabilis*, *C. sessiliflora*, *C. laricifolia* and *C. alpina*. There were also small patches of the scented *Lobelia macrodon*. We made our way down over *Chionochloa australis*, to a large tarn where, in the damp ground, we found *Myosotis drucei*, *Drosera arcturi* and *Coprosma perpusilla* all in flower and a large patch of *Lobelia angulata*. We stopped on our way down to see a beautiful example of *Anisotome pilifera* in flower and on the Rainbow Road, *Peraxilla colensoi* in full flower, and magnificent.

December Camp: - Cobb Valley 19-20 December

Twelve gathered at a Cobb dam house and then walked up to the Sylvester Lakes. The track traversed through a spectacular display of *Bulbinella hookeri* and we made a detour to an emergent *Pittosporum patulum* which, with its trunk enclosed in downpipe, managed to reach adulthood and produce seed. Simon Walls, who had fitted the downpipe, explained its benefits and how it stopped ring-barking by deer and its canopy being accessed by possums. A trudge through the bush gave way to the park-like tree-land of gnarly old *Fuscospora cliffortioides* in a matrix of *Chionochloa australis*. We inspected scattered *Peraxilla tetrapetala* and *Alepis flavida* and also the bright red male flowers on the beech which was in moderate mast. Along the open track we noted various herbs including *Anaphalioides bellidioides*, *Celmisia similis*, and *Raoulia grandiflora* as well as *Kelleria tessellata*. We made our way to Lake Sylvester, stopping to look at *Euphrasia revoluta*, *Celmisia alpina*, *Drosera arcturi* and *Craspedia* "small bog" in the flushes by the track. Also in flower were *Leptinella* aff. *pyrethrifolia* with narrower pinnae than *L. pyrethrifolia* of the eastern South Island, *Carex libera*, with its orange, curly-tipped leaves, the silvery *Argyrotegium mackayi* and the box-like *Hebe masoniae*. We crossed to Little Lake Sylvester and perchanced upon *Ophioglossum coriaceum*. We circumnavigated the lake noting that the area between old and current lakeshore had become well-vegetated with tussocks and shrubs - especially *Chionochloa rubra*, *Hebe masoniae*, *H. albicans* and *H. topiaria* and *Leucopogon fraseri*. One of the more unusual finds was an unnamed *Cardamine* with distinctive purple-backs to the leaves. Along the shoreline we discovered small carpets of the rare *Euchiton paludosus*, and further along small populations of *Myosotis drucei*. At the northern end of the lake, Simon showed us several tufts of the extremely rare *Deyeuxia lacustris* that he had grown from seed and transplanted.

On Sunday we opted for the Cobb Valley frost-flat shrublands opposite Trilobite Hut. We made a beeline through the drifts of flowering *Bulbinella* to study the range of small-leaved shrubs that made up this community. The main species were *Coprosma propinqua* and *C. rigida*, along with *Aristotelia fruticosa*, *Discaria toumatou*, *Melicytus* cf. *alpinus*, *Olearia virgata* and *Pittosporum anomalum*. One of the nationally threatened we had come to see was *Coprosma obconica*. We found a healthy population here including transplanted individuals inside exclosure plots and after some searching even managed to find fruit on a few plants. The other species of note we discovered was *Clematis quadribracteolata*, interlacing itself amongst the shrubs. Another species we targeted was the recently named Cobb forget-me-not *Myosotis mooreana*. Simon had discovered one of the two known populations of this species in the forest adjoining the shrublands. We had little trouble finding it as its habitat was on the crest and sides of a car-sized boulder. It was in full flower and we spent the next half an hour photographing it as well as the riparian phalanx of *Archeria traversii*, which was festooned in flower. The various heath species we saw included *Gaultheria rupestris*, *Dracophyllum filifolium*, *Lepidothamnus laxifolius*, stunted *Leptospermum scoparium*, and *Androstoma empetrifolia*. Along the track in quartzite gravel were flowering *Drosera spatulata*. We entered the mountain beech forest and after encountering caged *Peraxilla tetrapetala*, whose flowers were just starting to colour up, we arrived at our destination - a large outcrop of ultramafic rock. It didn't take long to find the object of our interest, a small, copiously flowering population of *Myosotis brockiei*. The other notable find on this outcrop was the unnamed and highly localised magnesite cress *Cardamine* "magnesite", which is confined to the Cobb mineral belt.



Myosotis brockiei. Photo by Andrew Macdonald.



Little Lake Sylvester. Photo by Andrew Macdonald.

FUTURE EVENTS

March 20	Chromite Mines, Hackett. Contact: Susan Cook 03 5446175
April 1-4	Cape Campbell Camp. Contact: David Grinstead, 03 542 4384
April 17	Dun Mountain Rush Pools. Contact: Sue Hallas 03 5450294
April 18,	Dinner, AGM & talk by Cathy Jones: South Marlborough botany.
May 15	Stanley Brook. Contact: Janet Blount 03 5224132.
May 16	Talk by Sue Hallas: French alpine flowers.

Acting President: Don Pittham, 03. 545 1985, pitthamd@xtra.co.nz

Treasurer: Uta Purcell, 03 5450280, mupurcell@xtra.co.nz

■ Botanical Society of Otago

FUTURE EVENTS

Saturday 5th March, 8.30am Field Trip: Taieri Mouth Track to John Bull's Gully – This track runs from Taieri Mouth upstream along the true right of the Taieri River towards Henley through native bush in varying degrees of recovery and includes some estuarine salt marsh and a fine example of native carr vegetation. The area has an interesting Maori and European history still evident in some of the landmarks to be found on the way. The track is in good condition and fairly easy. Leave the Department of Botany car park at 8.30 a.m. returning early afternoon. Contact John Steel 021 2133 170, email john.steel@otago.ac.nz

Wednesday 9th March 5.20pm The Moriori: an example of precontact innovation in plant management. Speaker: Dr. Justin Maxwell, Department of Anthropology and Archaeology, University of Otago. The technical challenges to successful Polynesian colonisation were substantial in the New Zealand archipelago at the cool-temperate margins of south-western Polynesia. This talk is concerned with the last and arguably most difficult place to be permanently settled by Polynesians in the New Zealand region: Rekohu of the offshore Chatham Islands. A combination of archaeology, anthracology, palynology and ethnographic records are used to determine how the Moriori, the first people of Rekohu, modified the environment and adapted ancestral Polynesian ideas and technologies. The results demonstrate the resilience and technical skills of early Polynesian settlers to successfully adjust to a new climate zone. Central to the success of Moriori settlement was the translocation of *Corynocarpus laevigatus* from mainland New Zealand to Rekohu and the management of the coastal broadleaf forests. The management of fruiting *Corynocarpus* trees was a core economic activity with major implications for questions of Moriori socioeconomic development. This research also highlights the historical adaptability of Polynesian societies to overcome major changes in climate.

Wednesday 13th April 5.20pm BSO AGM and Photographic Competition – A popular and eagerly anticipated event for anyone interested in botanical photography. Learn what makes a good photograph and how to improve your photographic skills from our panel of expert judges. The best photographs will be chosen for the BSO Calendar so this is your opportunity to have one month of fame. Start organising your entries now and don't wait until the last minute.

Saturday 23rd – Sunday 24th April. Harbour Cone Bioblitz – Using the Pukehiki hall as a base, the BSO will run a Bioblitz as part of the 'Wild Dunedin' event (a three day nature festival with various groups and organisations coming together to host events celebrating Dunedin's natural environment and wildlife). Details will be updated on the Botanical Society's website and Facebook page.

Wednesday 11th May 5.20pm - Diversification of New Zealand Lineages. Speaker: Gregory T. Nelson, MSc Student, Botany Department, University of Otago/Landcare Research. New Zealand has many charismatic plant lineages that have diversified profusely. Understanding how this process occurs contributes greatly to our understanding of the evolutionary history of New Zealand and the interplays between ecological and evolutionary dynamics. Using resolved phylogenies of representative New Zealand groups, I explore morphological and environmental differences between closely related species with the hypothesis that New Zealand's diversity of habitats have contributed to its diversity of species.

Saturday 28th May 9.30am - Field Trip to Stevensons Bush Scenic Reserve – Probably one of Dunedin's least known and least visited public reserves. This substantial remnant of dry, coastal, native bush with some mature podocarps surrounded by regenerating trees and shrubs forms a large V-shaped gully from McGregors Hill down to St Leonards and is a remnant of the extensive forest that once covered the north-harbour hills. Access to the reserve is by climbing the boundary fence and can be quite steep in places; there aren't any tracks! Leave the Department of Botany car park at 9.30 a.m. returning early afternoon. Contact John Steel 021 2133 170, email john.steel@otago.ac.nz

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

Wakatipu Botanical Group

Chairman: Neill Simpson (03) 442 2035
Secretary: Lyn Clendon (03) 442 3153

ANNOUNCEMENTS



The NZ polymath: Colenso and his contemporaries

Wellington 17–19 November 2016

Call for papers

The nineteenth century was full of scholars who turned their intellectual interest to a dazzling array of subjects: botany, languages, geology, conchology, ethnology, religion. William Colenso was one of them, as were Sir George Grey, Lady Jane Franklin, James Hector, Julius von Haast and Augustus Hamilton. What were the worlds of knowledge these men and women explored? *The New Zealand Polymath* aims to deepen our understanding of nineteenth century knowledge, especially matauranga Māori, and knowledge networks. How was knowledge acquired and recorded? How did disciplinary fields intersect and inform each other? What interested nineteenth century polymaths? What were the networks? Colenso's regular papers to the Philosophical Society covered a huge array of topics from Māori vocabulary and social life to botanical description. How accurate were they? What do we know now about matauranga Māori in the early years of colonization? Who were the women scholars?

Papers are invited which address any area of nineteenth century knowledge making and collecting for a conference to be held at Victoria University from 17-19 November. We would particularly welcome proposals of panels, such as 'collectors' or 'flower artists'.

Possible topics might include:

- Māori knowledge
- Botanical drawing
- Astronomy
- Social and cultural practices
- Object making
- Fishing
- Cultivation practices
- Collecting
- Networks
- Women in science
- Women collectors
- Relationships between European scholars and their Māori collaborators
- Any other relevant field

Abstracts of not more than 200 words should be sent to Deborah.Levy@vuw.ac.nz by 30 April 2016.

NOTES AND REPORTS

- **Have you seen this lichen??**

Allison Knight, alli_knight@hotmail.com

The search is on for *Dibaeis absoluta*, one of the 975 lichens (54%) that were classified as Data Deficient¹ in 2012, since not enough is known to assign a meaningful category.

At last year's John Child Bryophte and Lichen Workshop, Jon Terry drew attention to this shocking deficit. He set up the nucleus of a group to work towards improving this situation. *Dibaeis absoluta* is the first lichen we are tackling. It is quite striking and beautiful (at least to a lichenologist!) and is easy enough to recognize, with its distinctive sessile, pale candy-floss pink apothecia. These have a faint white powder coating when dry and are brighter pink when wet. The apothecia are sessile and lie flat against the thallus, which is pale to bright green when wet, fading to pale grey as it dries. I suspect this lichen is relatively common (though often overlooked or unrecorded). It grows on shady disturbed ground around tracks and uprooted soil mounds in the forest, spreading over soil banks or damp rock.

You could help address this data deficiency by keeping an eye out for *Dibaeis absoluta* and noting date, location, substrate, size of thallus and number of thalli seen. If possible take photos and send all these details to us and, ideally, put them on NatureWatch where the identification can be confirmed and they will provide a permanent record for all to see. Please send copies to: alli_knight@hotmail.com and jon@jonterryecology.com

The more photos and records of distribution that come in, the closer we will get to understanding the real distribution and conservation status of this striking lichen.

Two other crustose lichens with pink or pinkish apothecia are the common *Dibaeis arcuata* and *Baeomyces heteromorphus* but in both of these species the apothecia are distinctly stalked. *Icmadophila splachnirima*, in the same family as *Dibaeis*, also has sessile candy-floss pink apothecia, but it has a glaucous green, distinctly foliose thallus. Images of all these species can be found by searching on NatureWatch: <http://naturewatch.org.nz/observations> and in *Lichens of New Zealand: an introductory illustrated guide*²: http://www.nzpcn.org.nz/page.aspx?flora_non_vascular_lichens

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Knight, A, 2014. *Lichens of New Zealand: an introductory illustrated guide*. Botanical Society of Otago.

Images by Allison Knight



Dibaedis absoluta pink apothecia, green thallus



Dibaedis absoluta habitat: clay bank in forest



Dibaëis absoluta on soil and rock bank



Dibaëis absoluta on dry soil bank

■ **Christchurch botanist/conservation honoured**

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

Few botanists feature prominently in their city, but while recently visiting central Christchurch I was pleasantly surprised to see Hugh Wilson looking down on me. Eight artists have created new works in Christchurch city centre for the Spectrum Street Art festival. Hugh's portrait is one of these, painted by Jorge Rodriguez-Gerada, an American-Cuban artist. Hugh was reported in *The Press* (30 Dec 2015), though he had only seen a photograph: "It took me by surprise a bit, but I do feel honoured. I normally try and avoid publicity; I always think the reserve should get the publicity rather than me. It looks like me, but I rather think he made me look a bit more handsome than I really am. I suppose I will get covered in pigeon poo at some point."



Fig. 1. Hugh Wilson featuring in a large street mural in central Christchurch, 11 Jan 2016.

The artist wanted to paint an “unsung local hero”. Hugh was nominated by Paddy Cotter who said (The Press 30 Dec 2015): “We thought Hugh was a definite unsung hero. He has been really involved in preserving the botanical life of Banks Peninsula and Canterbury. He is a remarkable person in many respects so we thought it was appropriate. He deserves recognition and this is one way of doing that because it will be there for a while.” Hugh has been working on Hinewai Reserve since 1987.

Great choice Christchurch!

BIOGRAPHY / BIBLIOGRAPHY

■ Biographical Sketch – John Matthew Richardson (1797-1882)

Val Smith, 80 Mill Road, New Plymouth 4310.

This article attempts to rectify an error in *Common Ground: who's who in New Zealand plant names* (Val Smith, 2015, p. 68). If anyone would like the new article in PDF to print and slip into their book, please email Val: valdsmit@xtra.co.nz

Although several plant species, mainly North American, commemorate the Arctic explorer and naturalist Sir John Richardson (1787–1865), *Hibiscus richardsonii* is almost certainly named after his contemporary but less well-known namesake.

John Matthew Richardson was born on 28 April 1797 at Slinfold in Sussex, England, and worked as a nurseryman at nearby Horsham. In March 1816 he was convicted of larceny and sentenced to seven years transportation. After his arrival in New South Wales on the *Lord Eldon* in September 1817 he was assigned work in the newly proclaimed Sydney Botanic Garden. Pardoned by Governor Macquarie in 1821, he was sent back to England on the *Dromedary*, in charge of a collection of Australian plants and seeds, but was convicted again in March 1822, this time for burglary. His death sentence was commuted to transportation for life, and on 6 November 1822 he arrived at Hobart on the *Arab*. He worked there as a gardener (but was twice accused of stealing) until Colonial Botanist Charles Fraser arranged his transfer to oversee the government gardens at Sydney. He subsequently joined several collecting expeditions, including those of John Oxley in 1823 when the Brisbane River was discovered, and again in 1824, accompanied by Allan Cunningham, when a penal colony was established at Moreton Bay. *Hibiscus richardsonii* is thought to have originated from one of these trips. In Edwards' *Botanical Register* (1825) the eminent English botanist John Lindley wrote, "This beautiful addition to the Trionum section of Hibiscus was raised at Mr Colvill's nursery, from seeds collected by Mr John Richardson at Port Macquarrie [sic], in New South Wales. We are informed by Mr Sweet that he has named it after its discoverer. We long ago received specimens of it from Mr Charles Frazer [sic], collected on the banks of the Nepean River."



Hibiscus richardsonii

On 13 July 1824 at St Phillip's Church, Sydney, John Richardson married Jane Nelson, a former convict who had arrived on the *Mary Ann* on 19 January 1816. Eight months after the birth of their son Matthew William on 9 March 1825, the family left Sydney on the *Phillip Dundas* for Melville Island near Darwin, where John was to take charge of the Fort Dundas military settlement gardens. He did some botanical collecting there, and in August 1826 brought back plants and seeds from Timor, which was closer (but more dangerous) than Sydney for supplies. The first breeding herd of water buffalo in Australia was introduced from Timor in 1826 for use as draught animals and to provide the settlement

with milk and meat. After the birth of the Richardson's second child, Elizabeth Melville Richardson, on 27 March 1827, permission to return to Sydney because of Jane's poor health was withdrawn when her husband was involved in illicit trading in spirits. However, the settlement was abandoned in 1829 and the family returned to Sydney where another son William was born on 8 October that year. When Jane died in 1830 the two eldest children were placed in orphanages but it is not known what happened to William.

Richardson continued to flout the law, facing drunk and disorderly and insubordination charges, and on one occasion received fifty lashes for absconding from a road gang. A letter in June 1829 from Charles Fraser to the Colonial Secretary, upholding Richardson's character and skills and urging clemency, seems to have had the desired effect. Richardson was taken off the road gang and assigned to a settler at Cook's River. In 1836, as botanical collector with Thomas Mitchell's expedition along the Murray River, he discovered many new plants, 68 of which were described by John Lindley as new species. Mitchell praised Richardson's "indefatigable industry" and recommended him for a conditional pardon, but in his private journal never mentioned him by name. John Richardson is known to have worked as a gardener at Redbourneberry Estate, near Singleton in the Hunter Valley, and on 13 June 1852 at Patrick's Plains (now Singleton) he married Catherine Doyle, with whom he had seven children. He seems to have had no more altercations with the law, and died at Newcastle on 28 July 1882 at the age of 85, survived by two sons and three daughters of his second marriage.

On 10 July 2002 four generations of his descendants gathered at the Darwin Botanic Gardens for a ceremonial planting of a kauri pine (*Agathis robusta*) in his honour. Today's Australians are proud of their convict ancestors.

Hibiscus richardsonii

The genus *Hibiscus* (the Latin name for marsh mallow) contains about 200–220 species of flowering herbaceous plants, shrubs and small trees throughout the world. Puarangi, the New Zealand native *Hibiscus richardsonii*, is an annual to short-lived perennial herb up to one metre tall. Unlike the naturalised *Hibiscus trionum*, to which it has been erroneously referred, *H. richardsonii* has uniformly white, cream to very pale yellow flowers, sometimes with pale reddish-pink striations near the base of the petals. Strictly coastal, in recently disturbed habitats, it is found in northern New Zealand and a small area of eastern Australia. Our other indigenous species, *H. diversifolius*, is a prickly shrub with dark purple-centred yellow flowers.

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PUBLICATIONS

- **Book review – “The Flowering Plants Handbook: a practical guide to families and genera of the world”, by James W. Byng. 2013. Plant Gateway Ltd, Hertford, U.K. Soft-cover, 619 pp., 235 x 115 x 30 mm. ISBN 978-0-9929993-0-8. [Out of print, but available as a (printable or not) e-book, US\$30/10)].**

Rhys Gardner, Auckland War Memorial Museum, Private Bag 92018, Auckland 1142, rhysogardner@hotmail.com

In 1965 Bentham and Hooker's *Genera Plantarum* was reissued in facsimile, and in a note on the history and character of this great work an eminent reviewer asserted that, even a hundred years on, it still was a model of usefulness: "Although its keys are of the conspectus type, and its geographical distributions are not elaborate, it is particularly excellent in the quality of its generic descriptions, and also in its critical notes, which often point at problems still unsolved" (Stafleu 1966: 38).

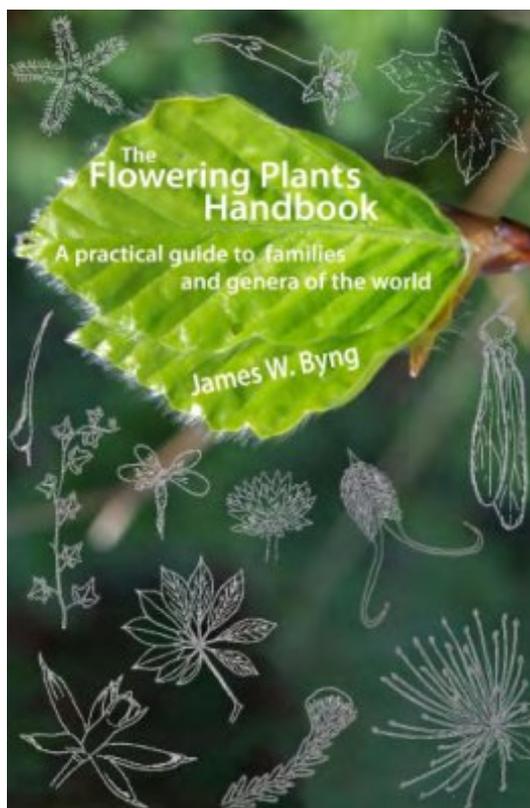
Genera Plantarum was a work of aggregation, the world's flora divided into only 202 family-rank taxa, of which just 14 were monotypic (Footnote 1). It is ironic, then, that its reissue came just as the giants of mid-twentieth century morphological taxonomy - Hutchinson, Airy Shaw, Cronquist, Melchior, Thorne and Takhtajan – had begun to hurl about blockbuster volumes of their own, in which the predominant tendency was not to aggregate but to split, split and split again. Nor was it long before their subtle discriminations (if not their grand schemes; Footnote 2) were being confirmed by molecular and cladistic methods.

And so, in the last fifty years, families and genera have been reorganized along monophyletic lines, ranks changed to achieve consistency, deep-rooted convergences detected, and ancient geographical affinities documented (Garnock-Jones 2014; Heads 2014; Parenti 2014). This trend to divide the flowering plants ever more finely has resulted in the current "APG III" classification of 413 families (107 monotypic), and a total, some think, of c. 15 000 genera (twice as many as in *Genera Plantarum*).

Linnaeus would have recognized the ensuing problem, of having to sift a huge amount of information (some of it rather inaccessible to the solo botanist, or at least, expensive to acquire) in order to identify a plant to its most appropriate family or genus (Footnote 3).

Admittedly, printed works today go out of date rather more quickly than *Genera Plantarum* did, but for identification purposes many of us will still want to turn to a good big book. The full title of the one being reviewed (hereafter abbreviated FPH; Footnote 4) suggests that this APG III-based compendium might be a contender. We would like to know, though, if it really is "practical", and how it might stack up against classics like "Thonner's Analytical Key" (Geesink et al. 1981) and van Balgooy (1997) (Footnote 5).

Let's imagine we are testing FPH's effectiveness on a flowering piece of what will turn out to be a *Corokia*. We begin by looking over an illustrated three-page description of six phylogenetic groups (basal angiosperms, monocots, basal eudicots, rosids, minor core dicots, asterids) , to choose the most likely-looking of them. We see that we are lucky in having flowers (Bentham & Hooker, and Thonner, require them too) because nearly all the associated 50 photographs, and the small amount



of text too, feature them. The next three pages are lists of "spot characters": grass-like plants, plants with exudates, plants with epiphyllous inflorescences, etc. They are given to help us in our first choice but seem rather limited; types of hair, for example, are omitted (to be fair: quite a few of the family-descriptions mention hairs, but an extensive list at this early stage might have helped us realize that our *Corokia* has T-hairs, thus avoiding grief to come).

We see nothing more like our *Corokia* flower in these first three pages than that of the asterid genus *Mentzelia* (Loasaceae) - perhaps it helps that both are yellow. Anyway, we proceed on that basis, and within the asterids now try to determine which order our plant belongs to. Again, the relevant two pages have no key, just a photographically illustrated cladogram and a several lines-long summary of the characteristic morphological features of each order (most-informative features underlined). We decide that the four pictures of flowers in Cornales (*Mentzelia* again!) are the best fit, but they are only a couple of centimeters square and we have to wonder whether Aquifoliales might be just as likely.

So we try Cornales, and, as throughout, there is at last a conventional key, to the cornalean families. Its leads seem rather skimpy though, especially by contrast with those of Our Friend Thonner (Footnote 6); we miss having a number of characters in each lead that together would apply to *Corokia* and thus rule out plants with just one or two shared features.

Anyway, we now seem to have reached a family for *Corokia*, that is, Cornaceae, which is treated over a single page: family description, notes and literature references, six thumbnails, and a synopsis of the seven genera, these briefly characterized and their size and distribution noted. Unfortunately, as a Web-search confirms, none of these genera look very much like *Corokia*. At this point, even if just conducting a thought experiment, we will probably be getting the feeling that a tea-break might help (Footnote 7).

After the break we sadly backtrack. We wonder if our flowering piece of *Corokia* might have gone on to have capsular fruits, thus Hydrangeaceae ...? We try Aquifoliales, then Escalloniales ... Escalloniaceae looks promising but the only reasonable candidate there turns out to be *Eremosyne* of Australia and besides the conspicuous disc of *Corokia* is not mentioned wait, what the ... what are those little fringed scales at the base of each petal ? ... We turn back to the spot-character pages, but nothing doing ... we were sure that when skimming the book earlier (or in a previous trek) we saw a picture of those peculiar structures ...

Eventually we find such "epipetalous ligules" in the photograph of an *Argophyllum*, in a family we had not hitherto approached, Argophyllaceae of the Asterales. This character is underlined in the family description, and there is also a photograph of a flowering piece of *Corokia macrocarpa*, which looks much like our specimen, especially in the leaves' silvery undersides —though we are left wondering why the generic synopsis says *Corokia* does not have this character.

All in all, perhaps, successful and only moderately painful, with a fair amount of new knowledge acquired along the way (Footnote 8).

It is lucky too that we had a *corokia* to identify and not a genus in one of the 15 largest families: daisies, grasses, orchids, beans, Rubiaceae, ... melastomes. For these FBH just gives a skeleton account, e.g., Poaceae only 2 pp. (20 thumbnails); Leguminosae hardly more than a single page (synopsis of subfamilies with only 14 "representative" genera" cited); Compositae 2 pp. (synopsis of subfamilies, only a few genera noted in each, 19 thumbnails).

However, some big families (Aizoaceae, Amaryllidaceae, Araceae, Cactaceae, Cyperaceae, Celastraceae, Gentianaceae, Myrtaceae, Rutaceae, Sapindaceae) are very well covered, generally over four or five pages. The modern references cited, c. 2500 of them, make FPH a major resource. The generic distributions have been assessed conscientiously too. Naturally, there remain some errors and inconsistencies, perhaps especially for the Asia-Pacific region: "Australasia" is left undefined, and near-homologues like "Pacific Islands", "SW Pacific", and "Polynesia" are used somewhat at will.

The New Zealand flora wrongly gets the addition of *Harpullia* (Sapindaceae) and is depleted by the omission of *Dactylanthus* (an index that included generic names would have helped the reviewer make sure of this). *Mida salicifolia* is given the erroneous distribution "New Zealand to the Juan

Fernandez Is.", and *Corokia* is said to occur on "Rapa Nui (Easter I.)" rather than just plain Rapa I. *Geniostoma* (Loganiaceae) is given the range "Mascarenes, Madagascar, Malesia to Japan and Tahiti, Australia", even though it is our *G. ligustrifolium* that is pictured.

If it had been my book I would not have bothered to note that Easter I. and Juan Fernandez I. belong to Chile, and Norfolk and Lord Howe Is. to Australia, while sales in Argentina will not be helped by "Falklands Islands (UK)".

In conclusion then, despite its detail (fine print right the way down!) and high standards of proof-reading and design, FPH might not quite make a "practical" guide: it seems to me to be suited to a less task-driven sampling, say, whenever one hears a name one doesn't know. But for its price, and as an indication of things to come from the same source, it is, as they say in Aberdeen, pure dead brilliant (Footnotes 9, 10, 11).

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Footnotes

1 The monotypic families of Genera Plantarum are based on: Balanops, Casuarina, Ceratophyllum, Columellia, Coriaria, Frankenia, Lacistema, Leitneria, Mayaca, Moringa, Myrica, Myristica, Platanus, Stackhousia.

2 Such evolutionary morphologists, trying to find ancestral traits, were likened by Agnes Arber (1879–1960) to "treasure hunters looking for the family silver hidden in an old mansion: some thought it might be in the cellar, others in the attic" (quoted by M.C. Flannery, "The Many Sides of Agnes Arber", <https://www1.umn.edu/ships/gender/arber.htm>, accessed 30 Nov 2015.)

3 Linnaeus seems to have been the first data-baser (Müller-Wille 2006): he invented index cards, and grasped the classificatory flexibility of the single-sheet herbarium over the bound-book one. Basement toilers, constantly relabelling specimens and moving boxes around to avoid paraphyly, have a proud heritage.

With respect to good big books, Families and Genera of Flowering Plants (ed. K. Kubitzki, 1993–, Springer Publishers) is the gold standard, with specialist input to its descriptions and keys, but the series is incomplete and even in electronic form is, to use a traditional term, "damned expensive".

4 In the gamers' world FPH is Frags Per Hour, its meaning obvious, a nice coincidence with botanical "identification hits".

5 "Thonner's Analytical Key", which uses the c. 350 Engler-Melchior families, has been reworked by uncompromising Dutch taxonomists into a powerful and reliable tool. Second-hand copies are advertised online, and the work is also available as a (damned expensive, thanks again Springer) e-book.

Van Balgooy (1997) lists 105 taxonomic characters applicable to the plants of Malesia, each list containing the families or genera the character is best represented in. Five kinds of hair are featured, the *Corokia* T-hair ("balance hair") being one of them.

6 Thonner keys out *Corokia* twice, the characters for one of the terminal leads being: "Leaves linear-spathulate, tomentose underneath. Pedicels not articulated. Petals with a small scale at base". Getting to this point is straightforward; it is necessary to understand ovule morphology, but a diagram assists.

7 Tea or coffee. But while taxonomy was once said to be the art of converting tobacco into determination slips smoking in herbaria is now considered completely unacceptable.

8 We must remember that Pollyanna saw an Opportunity, not a Problem. For example, the confining of FPH's index to family-names (but also, peculiarly, a few common names of useful plants), that is, its omission of generics, can be regarded as promoting a closer bond between book and reader through prolongation of the search process. Just as Bentham and Hooker, then, deplored the provision of keys, we might come to deplore the ease of searching offered by e-books. (But never, the higher quality of their images).

9 The author of FPH, a relatively young man, is associated with the University of Aberdeen. He has recently completed a similar work on gymnosperms, and spends his spare time bringing order to *Syzygium* (1200 spp.). Perhaps "The De'il drives" particularly hard in that city (Footnote 10). FPH is currently available only as an e-book, but the publisher's website is promising a second edition, and also something bigger, to be called "Genera Plantarum" [sic].

10 In fact, in modern oil-rich Aberdeen it seems that the Devil does not drive particularly hard—they say He prefers clubbing with visiting Texans and their wives, and cruising the early morning streets in his black Mini Asbo, looking for lesser sinners to have a mochaccino with. Disco lighting and illegally tinted windows notwithstanding, all say "He looks an awfu' lot" like Jeremy Clarkson.

11 As an excuse for the style of this review I follow the example of the world's best grass-Flora (Edgar & Connor 2000: xviii) and quote Agnes Arber ("The Mind and The Eye" p. 57; 1954): "The biological writer is not only expected to offer clarity, regardless of what it costs, but also to meet the cognate demand for extreme brevity, especially in scientific journals. The obligation to be brief may, it is true, have great advantages; Coleridge, whose prose tended to diffuseness, often achieved concentrated expression in the marginal notes wherewith he decorated his own (and his friends') books, since here he had no choice but to submit to confinement of space. In scientific writing, however, brevity is often harmful rather than helpful... Brevity may be the soul of wit, but it can never be the soul of science. In general it can be attained only by sacrificing many details, and many qualifications of statements, which ought to form part of the record ... "

■ Publications Received

Waikato Botanical Society Newsletter December 2015 Threatened native plant garden update, fieldtrip reports and species lists for Table Mountain, Kauaeranga Valley, Walter Scott Reserve trip, Koroki Kahukura ki Hinuera Scenic Reserve and Pehitata Kahikatea Forest Reserve. Report of the Awaroa *Ganoderma* hunt.

Wellington Botanical Society Newsletter October 2015 Upcoming meetings and trips, submissions made, John Sawyer obituary, trip reports for Bodhiyanarama Buddhist monastery, Te Marua Bush workbee and Hawkins Hill.

Nelson Botanical Society Newsletter February 2016 Upcoming meetings and trips, trip report for Rainbow ski field and Cobb Valley, publications available for loan.

Canterbury Botanical Society Newsletter January & February 2016 Upcoming meetings and trips, fieldtrip report for Ashley Gorge and Lees Valley.

Canterbury Botanical Society Newsletter March 2016 Upcoming meetings and trips, meeting report on the Allan Herbarium, fieldtrip report for Arapawa Island.

The New Zealand Native Orchid Journal 139 February 2016 New combinations and a replacement name for three New Zealand spider orchids (*Corybas*), Kawakawa river and *Pterostylis banksii*, on the desirability of tag names, bringing back native forest orchids, Ohakune fieldtrip report, Hatch Medal to Judith and Brian Tyler, *Microtis*.

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