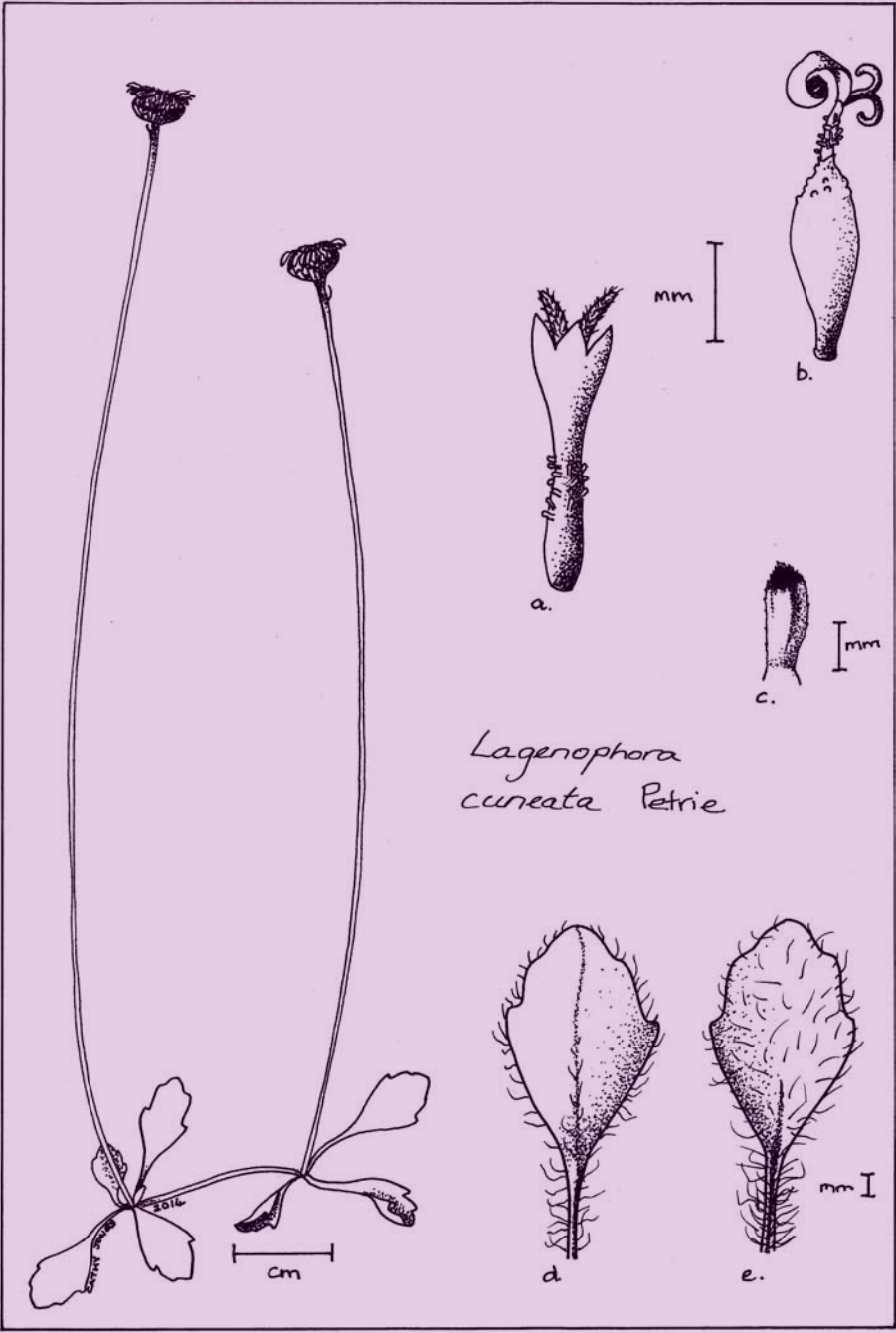


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 115

March 2014



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 2014 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2012 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 2014 issue is 25 May 2014.

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.

Lagenophora cuneata drawn by Cathy Jones from a specimen collected on the Lake Chalice Track, Richmond Forest Park on 16 February 2014. a.disc floret, b.ray floret, c.dark-tipped phyllary, d.leaf abaxial surface, e.leaf adaxial surface.

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CONTENTS

News

New Zealand Botanical Society News

Call for nominations for Allan Mere Award 2014.....	2
Committee for 2014.....	2
Call for suggestions for Loder Cup nomination 2014.....	2
Financial Statement for year ended: 31 December 2013.....	3

Regional Botanical Society News

Auckland Botanical Society.....	4
Taranaki Botany Group.....	4
Nelson Botanical Society.....	5
Canterbury Botanical Society.....	7
Other Botanical Societies.....	8

Announcements

Request for bumblebee specimens.....	9
Australasian Systematic Botany Society 2014 conference.....	9

Notes and Reports

Knight's letters to William Nylander (Paris) on New Zealand and Australian lichens (1867-1887).....	9
Paddock lovegrass (<i>Eragrostis leptostachya</i>) native to New Zealand?.....	22

Biography/Bibliography

Biographical Sketch – Gaspar Melchor de Jovellanos (1744-1811).....	24
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Publications

Publications received.....	25
Book review –The Essential Audrey Eagle, Botanical Art of New Zealand.....	25

New Zealand Botanical Society News

▪ **Call for Nominations for Allan Mere Award 2014**

Nominations meeting the following conditions are invited for the award of the Allan Mere for the year 2014.

Conditions of the Allan Mere Award

1. The Award shall be made annually to a person or persons who have made outstanding contributions to botany in New Zealand, either in a professional or amateur capacity.
2. The Award shall be administered by the New Zealand Botanical Society.
3. Nominations for the Award may be made by regional Botanical Societies, or by individuals, to the Secretary of the New Zealand Botanical Society. Nominations shall close on 30th June each year. Nominations shall be signed by nominator and seconder, and accompanied by supporting information that must not exceed one A4 page.
4. Selection of the successful nominee/nominees shall be made by the Committee of the New Zealand Botanical Society, normally within three months of the closing date for nominations.
5. If, in the opinion of the Committee, no suitable nomination is received in any particular year, the Committee may refrain from making an award.
6. The Mere shall be formally presented to the recipient on an appropriate occasion by the President of the New Zealand Botanical Society or his/her nominee, but otherwise shall remain in the custody of, and be displayed by, the Herbarium Keeper of the Allan Herbarium (CHR) at Landcare Research, Lincoln, together with the book recording awards.
7. The recipient shall receive an appropriately inscribed certificate.

Nominations should be forwarded by 30 June 2014 to:

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

▪ **Committee for 2014**

Nominations for positions of President, Secretary/Treasurer and three committee members for the New Zealand Botanical Society closed on 19 February 2014.

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

We are pleased to announce that Lara Shepherd has agreed to continue as editor for 2014.

▪ **Call for suggestions for Loder Cup nomination 2014**

The NZBS is one of the named groups able to nominate people for the Loder Cup – New Zealand's premier conservation award. The Loder Cup is entrusted to the Minister of Conservation who appoints the Loder Cup Committee and awards the Cup. The Department of Conservation handles the administration of the award and any other matters. The Cup is awarded annually to the person, group of people, or organisation, which has exceeded all other nominees in furthering the aims and objects of the donor of the Cup.

Suggestions for consideration by the Committee for the Society's nomination should be forwarded to the undersigned by 5 May 2014.

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

▪ **Financial Statement for year ended: 31 December 2013**

	2013	2012
INCOME		
Donations	\$254.89	\$475.69
Interest	\$29.00	\$29.37
2012 Subscriptions	\$0.00	\$3,980.00
2013 Subscriptions	\$2,999.00	\$1,351.00
2014 Subscriptions received in advance	\$748.00	\$0.00
Total Income	\$4,030.89	\$5,836.06
EXPENSES		
Printing costs	\$1,800.90	\$1,808.00
Postage costs	\$1,608.63	\$1,599.30
Bank fees	\$0.00	\$2.50
Website fees 2013-2022	\$484.38	\$0.00
Calligraphy - Mere	\$57.50	\$69.00
Total Expenses	\$3,951.41	\$3,478.80
Total income	\$4,030.89	\$5,836.06
Less total expenses	\$3,951.41	\$3,478.80
Net surplus	\$79.48	\$2,357.26
ASSETS		
Cash in bank - current account	\$8,988.16	\$8,330.43
Cash in bank - Achiever Savings	\$2,039.35	\$2,025.14
Total Assets	\$11,027.51	\$10,355.57
LIABILITIES		
Printing costs	\$448.50	\$451.95
Postage costs	\$595.91	\$0.00
Total Liabilities	\$1,044.41	\$451.95
Total Assets	\$11,027.51	\$10,355.57
Less Total Liabilities	\$1,044.41	\$451.95
Net assets	\$9,983.10	\$9,903.62
Represented by		
Retained earnings c/fwd from previous year	\$9,903.62	\$7,546.36
Profit for year	\$79.48	\$2,357.26
TOTAL FUNDS AS AT 31 DECEMBER	\$9,983.10	\$9,903.62

Regional Botanical Society News

■ Auckland Botanical Society

December Picnic

The shearing shed at Tawharanui Regional Park was used for a barbeque lunch and picnic where ABS combined with TOSSI (Tawharanui Open Sanctuary Supporters Inc) for an end-of-year picnic. After disposing of the seasonal fare guests were shown some of the work done in the park by way of a power point presentation. During a walk to the Ecology Trail we were shown the results of attempts to grow mistletoe (*Ileostylus micranthus*) by seed on a totara tree, and some of the more interesting plants in the park. These included *Centipeda minima*, *Streblus banksii* and *Loxosoma cunninghamii*. On a lovely sunny day some enjoyed a swim at Anchor Bay.

January Camp

Going from sweltering in the northern humidity to wearing all their winter woollies in the Catlins, didn't deter 29 ABS members from enjoying the biennial "summer" camp in the South Island. Tautuku Outdoor Education Centre was an ideal base for exploring rain forest, coastal shrublands, grey scrub, turfs and dunes. The leadership of Brian and Chris Rance, who stayed with us for a few days, was invaluable. Of the many highlights, scarlet mistletoe (*Peraxilla colensoi*) was the most spectacular, filmy ferns the most widespread, and the cryptic *Pittosporum obcordatum*, which was found on the final day, was the best surprise – a chocolate fish for Auntie Anne.

Pirongia weekend camp

A two day camp based at the Pirongia Forest Park Lodge gave members a chance to get up into higher altitude forest, among the *Dracophyllum traversii* and two species of *Pseudowintera* – *P. axillaris* and *P. colorata*. Only the two fittest members reached the summit, but neither saw the *Dactylanthus taylorii* rumoured to grow there. An unexpected highlight was the finding of two fronds, one fertile and one sterile, of the nationally critical *Ophioglossum petiolatum*, growing on the edge of the Nikau Track.

February Field Trip

Te Haupū (Saddle) Island, a 6 ha island off the mouth of the Mahurangi Heads, was burned in 1945, and has regenerated into pohutukawa/karo/coastal karamu forest. All pest animals have been removed. We were told of experiments carried out to see how long it took for mice to completely reinvade the island, before they were finally eliminated. Grey-faced petrels have survived, despite the predations of rodents. It was interesting to debate why some plants common to the mainland forest nearby had not regained a foothold.

Forthcoming Activities

5 March	AGM & Lucy Cranwell recipient, Corin Gardner: <i>Utricularia</i>
15 March	Kaukapakapa Scientific Reserve
2 April	Peter de Lange: <i>Flora of Sardinia</i>
19 April	Awhitu Peninsula, Pollock wetland/saltmarsh

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

President: Ewen Cameron

Secretary: Kristy Hall

aucklandbotanicalsociety@gmail.com

■ Taranaki Botany Group

1 December 2013: Whenuakura Estuary

Two carloads of us joined the Whanganui Botanical Society for a very enjoyable day botanising coastal cliffs, swamps, estuary and dune slacks. Many thanks to Colin Ogle for sharing his wealth of knowledge and to Mick Parsons for his superb organising of access.

19 January 2014: Omoana

Eight members and one child set out to visit the 333 acre NZNFRT Omoana property, 36km inland from Eltham. Our leader had been advised to contact a neighbouring farmer to gain access through his property, taking the group to within a half hours walk of the valley to be visited. This plan was to

avoid the extremely steep hillsides if we attempted to enter from the metal road. However, as we walked up the valley we found the native plants around and under the overhanging shellrock so interesting that we failed to reach the NZNFRT property. Later on we did drive up the road and found the forest mature and healthy in spite of growing on very steep hillsides. A good day out.

16 February 2014: Manganui Gorge and Skifield from the Stratford Plateau

Five of us headed off from the Plateau carpark, so thoroughly botanising the large and small that we only got as far as the first seat by morning teatime. Many plants were in full flower, including *Gonocarpus montanus* and *Hebe stricta* var *egmontiana*. We were fascinated to see the flowers of *Raukawa simplex* arranged in groups of just female flowers and groups of male flowers on the same plant. This plant was adjacent to the dioecious *Pseudopanax colensoi*.

While the day was young, water droplets edging the leaves of the tiny *Agrostis muscosa* made a delightful sight. *Coprosma depressa* elicited much interest – its tendency to be rather tucked away meant some hadn't noticed it before. Heads were shaken over the variety of epilobiums seen. On the skifield itself, the typical heads down pose was employed to examine the differences between two small rushes and a sedge - *Juncus novae-zelandiae*, *J. pusillus* and *Oreobolus pectinatus*. Some of the group then climbed higher, to the herbfields and beyond, where the reward for the persistent was finding *Montia calycina* in flower and a *Colobanthus*.

Whether we were getting to grips with small things, anything at all, or just marvelling at nature's gardens - we all had a great day.

FUTURE EVENTS

- 29 or 30 March (TBC) Moumahaki Lakes & Catchment (Mt Hiwi Key Native Ecosystem).
- 6 April Dactylanthus in the Pouakai Ranges, Egmont National Park. Rain date: 13 April.
- 18 May A private planting including a few different mistletoes on Wayne Peters' Kent Rd property.
- 15 June Omata Bush KNE (tentative). A 10ha piece of lowland bush to be explored.

Contacts: Barbara Hammonds 06 7597077; Email: barbara_h@xtra.co.nz
Janica Amore 06 7520830. Email: waiongona@clear.co.nz

■ Nelson Botanical Society

Labour Weekend Camp: Taipare Bay, Marlborough Sounds

Fourteen members of the society were hosted in the guest quarters by Anneke and Rob Schuckard at their 1500 ha property at Taipare Bay in the western Marlborough Sounds, between French Pass and Okiwi Bay. Rob and Anneke's vision for their property is to let much of it revert to native vegetation and after 20 years of destocking and vegetation recovery, it is well on the way to becoming tall forest.

Day 1: Askews Hill

Our mission was to get up to the mineral belt above Taipare Bay and study the special stunted flora characteristic of this rock type. Before we set off Rob was keen for us to see planted specimens of the Three Kings Islands endemic, *Pennantia baylisiana*, flowering profusely. After crossing Taipare Stream we followed a track through manuka and kanuka until we reached the forest of black and hard beech with occasional rimu. The most striking occurrence in the forest was the presence of large boulders and bedrock outcrops that were like magnets for ferns and orchids. It was here that we saw *Bulbophyllum pygmaeum* and *Drymoanthus adversus*, *Hymenophyllum sanguinolentum*, *H. minimum* and *Cardiomanes reniforme*. The rocks provided refuge for the more palatable elements of the native flora including *Astelia solandri*, *Collospermum hastatum*, *Coprosma lucida* and *Asplenium oblongifolium*. A view across the valley revealed tall pukatea and nikau in the valley bottom. Other components of the ridge forest included *Elaeocarpus dentatus*, *Lophomyrtus bullata* and *Ascarina lucida*. We discovered the tiny *Corybas cheesemani* in fruit in the beech litter and in the more open manuka, *Corybas macranthus*, *Acianthus sinclairii*, *Cyrtostylis rotundifolius*, *Caladenia variegata* and *Pterostylis banksii*. In the open scrubby mineral belt, the heath-like vegetation was home to two interesting native daphnes, *Pimelea nitens* ssp. *aspera*, and *Pimelea gnidia*. Other interesting plants were an unnamed species of *Brachyglottis*, an unnamed subspecies of *Celmisia gracilentia*,

Pittosporum divaricatum, *Ozothamnus vauvilliersii*, *Carex devia*, *Corokia cotoneaster* and *Korthalsella salicornioides*.

Day 2: Pahakorea Headland

On Sunday we set off towards the bay and on the way admired plantings of *Knightia excelsa*, *Melicope ternata* and *Dysoxylum spectabile*. *Senecio hispidulus*, with its raspy leaves and *S. minimus*, *S. glomeratus* and later on, *S. lautus* var. *lautus* and *S. quadridentatus* were all compared. The ferns *Pteris tremula* and *P. macilenta* were found and a nice group of *Pterostylis banksii*. Soon we came to the site of the old homestead in a grove of nikau palms, arum lilies and exotic conifers. We came out onto the beach of Big Bay, then to the next bay, which ended in the dramatic limestone bluffs of Pahakorea Point with its prominent pillow lavas, some carrying green copper-rich veins. A typical collection of maritime species growing on the banks included *Lobelia anceps*, *Samolus repens* var. *repens*, *Pimelea prostrata* subsp. *seismica*, *Calystegia soldanella*, *Apium prostratum*, *Einadia triandra*, *Crassula sieberiana*, *Pseudognaphalium* "coast", *Senecio lautus* var. *lautus*, *Ficinia nodosa* and *Cyperus ustulatus*. The regionally rare *Muehlenbeckia ephedroides* was spotted on some rocky bluffs with *Linum monogynum*. We headed up the slope towards the 407m peak above Pahakorea Point and found swards of *Microlaena stipoides* and *Rytidosperma unarede*. Ferns characteristic of dry rocks were seen including *Pellaea calidrupium*, *Cheilanthes sieberi* and *C. distans*. Other interesting ferns were *Asplenium flabellifolium*, *A. oblongifolium*, *A. appendiculatum* subsp. *maritimum*, *A. polyodon*, *A. flaccidum* and *Doodia australis*. A specimen of *Caladenia variegata* received attention and the blue flowers of *Wahlenbergia violacea* were dotted through the grass. We explored a rockfall area on which was perched coastal forest including some magnificent specimens of terrestrial *Griselinia lucida*, *Myrsine australis*, *Olearia paniculata*, *Melicactus ramiflorus* and *Hebe stenophylla* var. *stenophylla*. Almost every rock seemed to carry some *Drymoanthus adversus* and also present were *Microtis unifolia*, *Collospermum hastatum* and *Clematis forsteri* var. "rutifolia".

Day 3: Taipare Stream

We set off up the access road and then zig-zagged down, crossing two streams. Totara that had been planted by Rob were scattered on the track side. On the sunny track banks were delicate sundews (*Drosera auriculata*), *Geranium potentilloides* and the pink flowering *Caladenia bartlettii*, a species more at home in kauri forest. Next we spotted the rarely encountered *Pterostylis foliata*. We followed down to the constructed lakes and wetland passing a lovely specimen of *Melicope simplex*. Several species of *Juncus* and *Carex* lined the water's edge along with *Bolboschoenus tabernaemontani*, *Apodasmia similis* and *Austroderia fulvida*. Smaller aquatic herbs included *Myriophyllum triphyllum*, *Lemna minor* and *Potamogeton cheesemaniae*. Lastly, we were shown some planted *Syzygium maire* grown from seed collected at nearby Okiwi Bay.

End Of Year Camp: Whites' Bay, Marlborough.

In a month of predominantly sunny weather, the days of our camp at Whites' Bay were wet. We started from Whites' Bay on a gentle track through regenerating coastal forest, finding beautiful white-flowered *Calystegia tuguriorum* scrambling over shrubs, creeping pink-flowered *C. soldanella* and what was possibly a hybrid between the two which had pink flowers but leaves and climbing habit like *C. tuguriorum*. On banks beside the track were several orchids: *Pterostylis foliata*, *P. irsoniana*, *P. graminea*. *Acianthus sinclairii*, *Microtis unifolia*, *P. alobula* and *P. banksii* were still flowering, and leaves were found of *Corybas macranthus* and *Cyrtostylis oblonga*. One stretch of track had a lovely population of the miniature renga lily in flower. A streamside wetland added *Carex cockayneana*, *C. virgata* and *C. solandri* to our list. There was also a good variety of ferns including *Asplenium appendiculatum* subsp. *maritimum*, *Pellaea rotundifolium*, *P. calidrupium*, *Arthropteris tenella*, *Pteris macilenta* and *Cyathea dealbata*. The group explored the short Monkey Bay track which yielded *Peperomia urvilleana*, *Melicactus crassifolius*, *M. "Waipapa"*, *Gingidia montana*, a *Crassula* species, *Senecio lautus*, *Ficinia nodosa*, *Disphyma australe*, *Apium prostratum*, and many others including *Briza maxima*, *Aira praecox* and *A. caryophyllea*. We were also shown a very small population of the Nationally Vulnerable spring annual fern, *Anogramma leptophylla*.

December Field Trip: Upchurch QEII Covenant, Herring Stream, Motueka Valley

David Upchurch's parents set up this covenant, known as the Omanga Native Bird Sanctuary, in the 1960's. On the property there was hard, black, and silver beech, *Astelia fragrans* and the swamp astelia, *A. grandis*. We learned that the identifying features of *Pittosporum rigidum* are its columnar and compact form, short, stiff twigs, and varying leaf shape. One of the highlights of our rambling was seeing a wonderful display of the scarlet mistletoe *Peraxilla colensoi* and we were privileged to watch

a tui feeding on these flowers. New finds included *Asplenium polyodon*, *Pterostylis banksii*, *Simpliglottis cornuta*, pigeonwood *Hedycarya arborea*, *Pellaea rotundifolia* and *Olearia rani*. We were impressed that the bush was almost weed-free, only on the roadside margin were there a few “undesirable nasties”.

January Field Trip: Beeby's Knob

Initial botanising near the cars discovered *Griselinia littoralis*, *Fuscospora cliffortioides* and *Halocarpus bidwillii*. Among the *Chionochloa pallens* subsp. *pallens* we found *Acaena anserinifolia*, and *Celmisia incana*. The conditions were very windy so hunkering down in the tussock allowed us to look at the detail of *Brachyglottis lagopus*, *Celmisia sessiliflora* and *Gaultheria depressa* var. *novaezealandiae*. Among the many coprosmas at this height we found *C. cheesemani*, *C. fowerakeri*, *C. perpusilla* subsp. *perpusilla* and *C. pseudociliata*. A flock of brown creepers was seen and heard at the hut. Here we were introduced to a specimen of *Pittosporum anomalum*, saw a flourishing representative of *Celmisia spectabilis* subsp. *spectabilis* and *Prasophyllum colensoi* in flower. On the way back to the cars we found, on an eroded site, *Montia calycina* with its star-shaped flowers.

FUTURE EVENTS

March 16	Otuwhero Wetland, Marahau: Helen Lindsay 03 528 4020
April 18-21	Easter Camp, Mistletoe Bay, Marlborough Sounds: Contact Cathy Jones by March 20 . 03 546 9499
April 28	Pot luck dinner, AGM and talk by Rebecca Bowater “A Visit to Alaska”
May 18	Fern Covenant, Delaware Bay: David Grinsted 03 542 4384
May 19	Talk by Uta Purcell “Tien Shan Mountains, Kazakhstan”

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

■ **Canterbury Botanical Society**

Report on November 2013 Spring Camp – Island Hills.

Up to 10 members botanised sections of the Hurunui High Country Track on Island Hills Station, inland from Culverden, North Canterbury. Our base was the farm shearer's quarters, from where we took 4WD vehicles to the upper Mandamus River, north-east of Clay Knob. Our first day had us heading for the 600 ha QEII covenant area in Bush Stream. This began with what should have been a quick river crossing, however the wealth of ferns, herbs, liverworts and mosses on the rocky banks kept several of us occupied for quite some time. On the terrace above we found *Clematis quadibracteolata*, *C. forsteri* and *C. marata*, the former with green fruit, the latter two still in full flower. The short tussock grassland revealed our first orchids, *Microtis unifolia*, *Prasophyllum colensoi* and *Hymenochilus tristis*. A steep scramble up a rubbly face under kanuka revealed a brown-leaved senecio, the same entity recently seen on a Bot Soc field-day at Medbury Reserve, which currently keys best to *Senecio dunedinensis* (Nationally Vulnerable). Stunted kanuka trees on the bony ridge crest carried numerous pygmy mistletoes *Korthalsella salicornioides* (Naturally Uncommon). In contrast kanuka on a fertile toe-slope nearby were exceptionally tall, often carrying long strips of hanging bark. After lunch we descended towards a frost flat in search of a known population of *Olearia fimbriata* (Nationally Vulnerable). We first encountered a lone tree over 6m tall, which had been damaged by recent snows, but still appeared healthy. Plants of the main olearia population on the frost flat were variable in form and had us wondering whether we were looking at young *O. fimbriata* or perhaps mature *O. virgata*. We could find no flowers to definitively sort the issue. Wetter areas on the frost flat also supported a good population of *Carex tenuiculmis* (Declining), their red leaves conspicuous among other sedges and herbs. A bush-bash led us back to the walking track, where we saw a range of beeches and discussed the recent name changes for this group. Red beech (now *Fuscospora fusca*) and silver beech (now *Lophozonia menziesii*) were common on deeper soils, whilst mountain beech (now *Fuscospora cliffortioides*) occupied harder sites. Our walk out led us past the log cabin, built in 1931 from beech poles and still looking sound and inviting. Camp participants added a significant number of additions to the already extensive covenant species list.

The next day had us exploring a section of the Hurunui High Country Track further to the north-east, starting just beyond the well-appointed Valley Camp Hut. Almost immediately we began seeing

numerous white flowers of *Caladenia lyallii*, usually individuals but occasionally in photogenic groups. *Pterostylis areolata*, *P. banksii*, and *P. australis* were also found in flower, sometimes side-by-side. *Thelymitra* orchids were not yet in open flower, however careful dissection of a flower bud revealed a definite blue colour to one. Another had very broad leaves indicative of *T. longifolium*, whilst another smaller bronze-leaved species left us in some doubt. Small patches of *Chiloglottis cornuta* (*Simpliglottis cornuta*) were not uncommon, and Graeme Jane's keen eyes spotted both *Aporostylis bifolia* and a delightful pink-flowered *Caladenia bartlettii* (*Petalochilus bartlettii* - Naturally Uncommon). We agreed that this section of track might be of particular interest to orchid enthusiasts, and were very thankful to have had Graeme's knowledge available to us. Interest was not confined to the orchids however. One section of the track supported several species from higher altitude, including *Carmichaelia crassicaulis* (Declining), *Celmisia spectabilis*, *C. semicordata*, and a single specimen of *C. angustifolia* in full flower. As an end of day bonus, Alice Shanks found a small but healthy patch of the native carrot *Daucus glochidiatus* (Nationally Vulnerable) as we returned to our vehicles. Alastair Macdonald took particular interest in the various hebes, eventually confirming 12 species over the two days. With much of the locality still unexplored, including extensive subalpine and alpine areas, we agreed that a return camp might be in order.

Report on December 14th 2013 Field Trip to Mt Hutt

Fourteen gallant botanists attended the field trip to Mt Hutt. Half way up the long steep gravel road to the ski base, we stopped by a northeast facing scree slope to search for the penwiper, but instead found the already-flowered *Ranunculus haastii* and the just flowering *Hebe haastii*. Along this slope, Rosemary discovered two ferns, *Hypolepis millefolium* and *Polystichum cystostegia*, the alpine shield fern. Among the more common species we found *Leptinella atrata*. Alice pointed out *Montia erythrophylla* (status-naturally uncommon). Continuing our drive to the ski basin, a nearby stream highlighted many flowering *Euphrasia*, *Taraxacum magellanicum*, *Caltha obtusa* and *Leptinella dendyi*. Most of us scrambled up the scree slope above the ski base, to discover to our delight, a higher slope almost covered in flowering *Ranunculus haastii*. One species that caused bewilderment amongst us was *R. insignis*, which showed a variety of leaf shapes, sizes and hairiness. The original plant list was made in 1984 by M Simpson and Bryony MacMillan. New additions were *Abrotanella* sp., *Aciphylla montana*, *Brachyglottis bellidioides*, *Caltha obtusa*, *Carex* sp., *Chionohebe thompsonii*, *Euchiton traversii*, *Gaultheria depressa*, *Hypolepis millefolium*, *Luzula crinita*, *Montia sessiliflora*, *Poa b Buchananii*, *R. haastii*, *R. gracilipes* and *Raoulia subsericea*. A great day out was had by all, the weather was warm and calm and at least ninety species were identified. A highly recommended field trip, where you don't have to walk too far from vehicles at such a high altitude to explore the alpine plants.

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

Secretary: Alice Shanks Website: www.canterburybotanicalsociety.org.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>

Rotorua Botanical Society

President: Paul Cashmore (07) 348 4421

pcashmore@doc.govt.nz

Secretary: Elizabeth Miller (07) 343 5013

rotoruasbotanicalsociety@gmail.com

Web Page: www.wildland.co.nz/botanical.htm

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

Wanganui Museum Botanical Group

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

Secretary: Robyn Ogle (06) 3478547 22 Forres St, Wanganui. robcol.ogle@xtra.co.nz

Wellington Botanical Society

President: Richard Herbert. 04 2326828 herbert.r@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

Botanical Society of Otago

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

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

ANNOUNCEMENTS

▪ **Request for bumblebee specimens**

Kate Ashley is a Massey University student studying the distribution of the four bumblebee species found in New Zealand. If you are able to help Kate by collecting bumblebee specimens for her then please contact her for more information at: katie.ashley99@gmail.com.

▪ **Australasian Systematic Botany Society 2014 conference**

The Australasian Systematic Botany Society is holding its 2014 conference in Palmerston North, 24–28 November. The society's focus is on the relationships and evolutionary history of the Australasian flora. Note the recent name change to Australasian – New Zealand participation is strongly encouraged. More details on the conference will be made available through the society's website www.anbg.gov.au/asbs/, or contact this year's organiser, Jen Tate (ASBS2014NZ@gmail.com).

NOTES AND REPORTS

▪ **Knight's letters to William Nylander (Paris) on New Zealand and Australian lichens (1867-1887)**

David Galloway, Landcare Research, Private Bag 1930, Dunedin 9054 gallowayd@xtra.co.nz

In this note, one of a short series on New Zealand's first Auditor-General, Charles Knight (1808-1891) and his correspondence with Scandinavian and European lichenologists in the latter part of the 19th century (Galloway 2013a, 2013b), I discuss his letters to the Finnish lichenologist William Nylander (1822-1899) who is widely recognised as one of the greatest lichen taxonomists who ever lived (Ahti 1992). The Knight letters are transcribed from the William Nylander Correspondence which is held in the Archives of the University of Helsinki Library.

Knight's interest in lichens developed as a natural progression from an earlier fascination with New Zealand mosses which began in Auckland in 1852 with the encouragement of no less a bryologist than Sir William Jackson Hooker, the Director of the Royal Botanic gardens at Kew (see Galloway 1998: 40-41; 2013c. 2013d). However, by 1856 Knight had changed his interest and was actively committed to New Zealand lichens as he wrote to Joseph Hooker at Kew:

"...I have been busy with the lichens. I have completed about 80 drawings of the asci, sporidia etc. I now draw with the aid of the Camera and have no difficulty in using it. I persevere... To return to the Lichens; what would the philosophical student say to the ordinal arrangement of Lichens proposed in Lindley's Veg. King. Three orders are proposed – two bearing asci, of which I will only observe that more unphilosophical characters could not well be thought of; and that to separate the pulverulent or cellular from the gelatinous or cartilaginous genera is simple nonsense – the terms mean nothing, if we except "cellular". The third order the Graphidaceae, is characteristic as including the genera in which the "nucleus breaks up into naked spores" – it is clear that nothing could be more

unphilosophical than such a character; but it is incorrect as a matter of fact if, as I understand, it means that the Graphidaceae have not spores contained in asci. All that I have examined have asci and although in some cases the ascus exquisitely thin and diaphanous yet the linear arrangement of the spores at once directs the eye to the delicate outline of the enveloping membrane. We must go back I suspect to some simple vegetable forms to find spores without the enveloping membrane.

Take the *Graphis scripta* sp I have lately analysed it. I send a tracing of my work. In the early stages of its growth the ascus (a) contains a mass of endochrome closely invested by its proper membrane. This investing membrane undergoes an 8-fold division, and each division or cell is converted into a spore. The separation into spores is effected by the closely investing membrane and its several partitions splitting into lamellae. The inner lamella becomes the spore coat and the outer the proper sac (b) of the spores. When the spores are ripe they break through their proper sac and through the upper end of the ascus. But the nucleus does not break up into naked spores; the Graphidaceae cannot therefore be separated from the Collemaceae and the Parmeliaceae on the ground that their spores are not contained in an ascus.

I send you tracings of all my work on the Lichens. I shall be much obliged if Mr Babington¹ would name them for me. It has occurred to me that it would be well to publish from time to time in the Annals of Natural History or some similar publication such novelties as would render your work more complete; and it seemed to me that drawings of the spores and asci with a slight sketch of sections of the apothecia would be favourably received by those who make Lichens a study. I would propose therefore to Mr Babington as soon as sufficient material could be collected to publish a paper on the Lichens of New Zealand accompanied by plates showing the size form and number of the sporidia the outline of the ascus and in some cases the apothecia. I am willing to incur some expense on this, provided you would like to see it done and Mr Babington would join in it. If you think anything could come of it will you bring the proposal under his notice and request him to inform me of his ideas on the subject and what would be a fair remuneration for each page of his descriptions and also what would be the probable cost of the plates and the printing. It would be well also to know what would be the cost of 75 separate copies in addition to the usual 25 (I think) issued to contributors.

If the tracings I now send are of any value I should wish you to give them to Mr Babington with the Lichens accompanying them. I have ordered of my agents Smith Elder & Co a set of "Lichenes Helvetici Exsiccati" of Schaerer². Would you please inform them where they are to be obtained. I am afraid they will fail to procure them.

I am giving you more trouble than I ought; but I need not tell you how happy I should be to have an opportunity of returning your kindness could I at any time be useful to you or to any of your friends..." (Knight 1856: Galloway 2013d: 21-23).

Knight's growing lichenological interest was undoubtedly encouraged by Churchill Babington's recently published account of the then known New Zealand species in Hooker's *Flora Novae Zeelandiae* (Babington 1855). In that work, Babington made several observations that found in Knight a ready disciple. (1): "...It thus becomes clear that the lichenological flora of a country requires to be studied by a native botanist, who may recognize a protean species by a knowledge of its living forms, or, as Fries expresses it, of its history..." (Babington 1855: 266). Knight, it turned out would soon become that "native botanist". (2): in listing published works most useful to a student of lichens, Babington indicated that, "...The 'Lichenes Helvetici Exsiccati' of Schaerer, containing 650 species and varieties of dried specimens of European (principally Swiss) Lichens, will be found exceedingly useful..." (Babington 1855: 276). This exiccata Knight purchased in 1856 (see above) and within three years had examined most of its species microscopically (see letter to W.J. Hooker below). As evidence of this, Knight's personal copy of Schaerer's book on European lichens (Schaerer 1850) is copiously annotated with microscopic measurements for individual taxa examined in the exsiccata. Schaerer's book is the last great European lichen work to have been written with no mention whatever of microscopic characters in the otherwise complete descriptions. Serendipitously, H.H. Allan purchased Knight's copy of Schaerer in 1948, and this volume is now part of the Landcare Library at Lincoln. (3): Babington's third comment which has relevance in the context of Knight's growing lichenological interests and expertise is this, "...A general work on Lichens is most urgently required, and there is some reason to believe that an able hand is now engaged upon the task..." (Babington 1855: 268). That "able hand" was none other than William Nylander, whose great "general" work on lichens of the world, the *Synopsis methodica lichenum omnium hucusque cognitorum*, was never finished, although its first two published parts (Nylander 1858b, 1860b) are ample testament to Nylander's profound knowledge of lichens and of their geographical distribution. Nylander's published works were to prove vital to Knight and it will become apparent that he studied them well.

Two further letters from Knight, one to Joseph Hooker written on 15 September 1857, and one to Sir William Hooker written on the 8th September 1859 (see below) show how Knight's interest and industrious enthusiasm for New Zealand lichens had become a dominant avocation with him. One moreover, that was to last for the rest of his life.

“... My Dear Dr Hooker

I am greatly indebted to you for the trouble you have taken about the lichens and the drawings. I send you through Smith Elder & Co a collection of New Zealand Graphideae with sketches, together with drawings of some of Schaerer's plants – working drawings which may be of service. I am not practiced in colouring; indeed these drawings were nearly my first attempts in colour. You will see that I have added several species to your New Zealand Flora. I leave the whole to be used in any way you think best; if they can go to the Linnean Society I beg you would incur any expense to render them fit for general inspection or publication...” (Knight 1857; Galloway 2013d: 23).

“... Dear Sir William

I have received your kind present of North American Mosses for which I beg you to accept my most grateful acknowledgements. To a solitary student collections authoritatively named are most acceptable, and to me particularly necessary, as really I have not time to devote to their identification from written descriptions.

I am at work at the Lichens of New Zealand. I generally give my spare time before breakfast to them. I have made drawings and microscopic measurements of most of Schaerer's *Lichenes Helv. Exsic.* and of the whole of the New Zealand Lichens. I am thus stored with much new information. I have forwarded by this mail a paper on the *Verrucaria* of New Zealand with dried specimens. These may perhaps interest Dr Hooker as he might wish to some use of them in his *Flora of Van Diemen's Land*, if they should be received before the completion of that work. I had not time to make up a collection of the *Verrucariae* for Dr Hooker but will do so on my return from a trip into the bush. I start this afternoon and will return in about three weeks. I should have sent the paper through Dr Hooker, but I was afraid it might in some way give him unnecessary trouble. I am desirous of obtaining specimens of the Lichens of South America. There is a gentleman of the name of Spruce³ collecting in South America. I should think myself fortunate in obtaining at the usual prices a set of his collections of Lichens and Mosses...” (Knight 1859; Galloway 2013d: 19).

By the late 1850s, William Nylander, was firmly established in Paris as the world's leading lichen taxonomist, through his rapid publication rate, his willingness and ability to describe new lichens from all parts of the world sent to him by local and regional collectors, and by his development of simple chemical methods to assist lichen taxonomy (Ahti 1992; Vitikainen 2001). Nylander's system of arrangement of lichens (Nylander 1858a, 1860b) was used by Joseph Hooker (in preference to the older system of Fée⁴) when he came to write the account of lichens for the *Handbook of the New Zealand Flora* (Hooker, 1867; Galloway 1998). Nylander, without any official position, lived a spartan and frugal existence in Paris, mainly living from the sale of his publications, and charging for identification work, a 19th century consultant no less.

At this time also, Knight was disenchanted with Babington's treatment of New Zealand lichens (Babington 1855), so he turned to Nylander for help with identification, sending him over the years (via Joseph Hooker), copious duplicates from his expanding herbarium, and paying him an agreed honorarium for this service. Knight's first consignment of lichens, amounting to some 300 numbers was sent to Nylander in 1867 (many Knight specimens in H-NYL bear this date) and his first letter to Nylander dates from December of that year (see below). In several of his lichen papers (e.g. Knight 1875, 1876, 1880, 1883) Knight acknowledges Nylander's help (through letters received) with naming of his material. Although Knight accepted Nylander's views on the systematic arrangement of lichens (Nylander 1860b), he did not subscribe at all to Nylander's use of chemical tests, as an aid to species identification, or to the description of new taxa based solely on chemical characters. In his paper on lichens collected in New South Wales, Knight makes his position on lichen chemistry plain:

“...I have made no use of chemical reagents. A classification eminently natural should not in any way be founded on a chemical basis. The chemical properties of a Lichen may doubtless be changed or influenced by its matrix, from which it draws nourishment; and plants which differ *only* in their chemical properties should be considered the same. Dr. Lindsay, in his valuable paper on “Chemical Reaction as a specific character in Lichens”, comes to the conclusion that the frequent uncertainty of results, the inconstancy of colour-reaction even in the same species, render it impossible to place

confidence in chemical characters as a means of diagnosing botanical species..." (Knight 1882: 37-38).

After his retirement from Government office in 1878, Knight visited Australia in 1880, staying in Sydney for three months during which time he collected lichens, and described many new species (Knight 1882). As he later wrote to Thore Magnus Fries. "...I don't know whether you are a family man, if you are, you will understand that when travelling with your family, your wife considers every hour given to Natural History is a dead loss..." (Galloway 2013a: 12), so his collections appear to have been made under a certain degree of sufferance on his wife's part. Although Knight hoped to visit Victoria and Tasmania on a later visit, this did not eventuate and instead his interest in Australian lichens was kept alive by the receipt of parcels of lichens for identification from his friends: (1) Frederick Manson Bailey (1827-1915), Queensland Government Botanist in Brisbane; (2) Carl Heinrich Hartmann (1806-1891) from the Toowoomba-Darling Downs region (Filson 1992) who sent both Queensland lichens and lichens from Thursday Island in Torres Strait; and (3) Frances Robert Muter Wilson (1832-1903) who posted lichens from Victoria (Wilson 1890; Galloway 1985: 179; Ralston 2001). From these various collections, Knight contributed descriptions of mainly Queensland lichens to several publications (Bailey 1883, 1884, 1886, 1888, 1890; Müller Argoviensis 1887, 1895a, 1895b, 1895c; Shirley 1889a 1889b; Wilson 1891) as well as circulating duplicates of some specimens to European lichenologists.

At the start of his correspondence with Nylander, Knight was 59 and at the height of his powers as New Zealand's most influential civil servant, while Nylander, aged 45, was making a very precarious living from his published work. At its end, Knight was actively retired at 81, and Nylander still working and publishing in Paris aged 67.

The Letters

(1) "...Wellington, New Zealand. 16th December, 1867

Dear Sir,

I am unexpectedly required to proceed to the northern part of this Island. I shall be absent from home for some weeks; I hasten, therefore, to complete a set of New Zealand Lichens. These you have kindly promised to determine for me. In my haste I am afraid I have put many duplicates, but I think it better to incur this risk than delay the collection until; I have more leisure.

I hold a duplicate set with the like numbers. It will suffice if you kindly send me a list of those you find with their respective numbers. If there are any of the Lichens of which you would wish to have a larger number of specimens, I can send them to you through our mutual friend Dr Hooker. Accept my thanks for the three brochures you had the kindness to send me with the returned *Stictas*. If I can be of any assistance to you in any way in New Zealand pray command my services.

Believe me

Yours very truly
Charles Knight

Address
Dr Knight
Auditor General
Wellington
New Zealand..."

Almost a year later, September 1868, Knight sailed for England with Sir George Grey, and during his stay of several months in London (Galloway 2013b) he spent time in the Kew lichen herbarium working on their collections of *Sticta*, a prospect that he long hoped for and from which he published a note on his findings (Knight 1871) which showed him to be very well informed on a group that Nylander had contributed much to (Nylander 1860a, 1860b, 1865, 1868).

(2) "...5 Devonshire Terrace, Kensington. 6th February 1869

My Dear Sir,

Your letter of the 13 Sept^r communicating to me the result of your examination of the N.Z. Lichens, so far as you had progressed with them, was forwarded to me from New Zealand. I hasten to give you a thousand thanks for your kind attention. I have also to thank you for the useful brochures⁵

which you had the goodness to send me for my guidance. On my return to New Zealand – (I shall leave England in about two months from this) – I intend sending the remainder of my collections together with duplicates of such of the Lichens already sent to you, as may be of interest.

I am at present busy in the examination of the Sticti in the Kew Museum. If I can be of any service to you while in London, do not hesitate to let me know.

Believe me

Yours very truly

Charles Knight

Dr Nylander Paris...”

(3) “...5 Devonshire Terrace, Kensington. 20th March 1869

My Dear Dr Nylander,

I propose leaving England on the 5th April. On my arrival in New Zealand I will transmit through Dr Hooker further collections of New Zealand Lichens.

I have lately been engaged in examining the Sticti in the Kew collections, as I mentioned in my former note. Your separation of the Stictae from the Stictinae is a very happy one [Knight here is not being strictly honest for, in a letter to Joseph Hooker, he makes the following observation. “...I have lately compared Nylander's descriptions with the Stictae of N.Zd. I am satisfied his division of the genus into Sticta, Stictina & Ricasolia will not stand...” (Knight 1867)]. A very exceptional case occurs in your Sticta punctulata Syn. p. 364 from Ceylon. The specimen in the Kew Museum, named by you, is unquestionably a Stictina. The Revd. Mt Leighton⁶ has sent me a Lichen named by you Stictina fragillima v. subpunctulata. Now this latter one is identical with the other. One portion of the thallus, however, contained free cells with bright green granules, as in Sticta, and in another part of the same plant bluish granules embedded in cellular nodules, as in Stictina.

I find all the plants (whether named by you or by Babington) arranged under St. faveolata belong to the genus Sticta with the exception of Lechler's plant ticketed “No. 598c – St. cervicornis β atrovirens Fw.” And one from the Paris Museum ticketed “St. faveolata” = but as these two are identical, it seems to me it will be more convenient to substitute Stictina cervicornis for Stictina faveolata and refer other lichens which have hitherto been arranged under Stictina faveolata to the genus Sticta under the name of St. faveolata.

St. carpoloma. The plants arranged under this name in the Kew collections all belong to the genus Sticta with the exception of two specimens. One (Stictina gilva) collected by Mr Lyall in the Falkland Islands, and the other (also Stictina gilva) collected by Dr Mueller (No 154 Victoria). In one case you have yourself named Mueller's Lichens St. gilva. As far as one can determine from the Kew collections, which are extremely rich in specimens, St. gilva has been mistaken for St. carpoloma. In your Synopsis you quote as synonyms of St. carpoloma Del. the St. Desfontainii Del & St. gyrosa Flot. in Lechler's pl. Maclov. No 66. The specimens of St. Desfontainii in the Kew Museum (No 562 Lechl. pl. Chil.) are widely different, and those of St. gyrosa from the Falkland Islands bear no resemblance whatever to it – Lechler's plant 562 is undescribed. It is a true Stictina, in appearance almost identical with Sticta endochrysa. Thallus intus flavus, supra raro sorediis citrinis guttatus. Ap. Sparsa. Sporae aciculares v. fusiformes 3-septatae. The thallus above is minutely tuberculated – in Sticta endochrysa the thallus is clothed above with the most minute tomentum as well as the thalline receptacle of the apothecia. 562 of Lechler might be named Stictina Desfontainii.

Mr Leighton has named one of Spruce's South American Lichens, Sticta carpolomoides Nyl. It is, however, a Stictina; and I strongly suspect that your Sticta carpolomoides will be found to be a Stictina. In your description p. 354 Syn. you give “Thallus luridus”. I know of no Sticta to which the term “luridus” would apply. All the Stictinae put on this lurid color when moistened, owing to the blue “granulae gonimiae” showing through the outer thalline stratum.

Stictina granulata and St. filicina belong to the genus Sticta, as you have already pointed out.

Sticta retigera Ach. is a true Stictina. There are numerous specimens in the Kew Museum, arranged under Sticta pulmonaria from which it is generically distinct.

Sticta scrobiculata – belongs to Stictina.

Sticta linita Ach. Several specimens under this name belong to Stictina. – Thallus reticulato-foveolatus, subtus passim gibberoso-inaequilis, pseudocyphellae alba, tomento-rhizineo pureo ochraceo fusciscenti. – This Lichen is undescribed and might be named Stictina reticulata.

Sticta macrophylla Del. The Lichens collected in the Mauritius (by Dr Ayres) and Madagascar and the specimens from Mus. Hist. Nat. Paris belong to Stictina; but Sticta damaecornis v. macrophylla Schaer. will stand as in Synopsis.

Sticta obvoluta Ach. belongs to the genus Stictina, pseudocyphellae flavae, apothecia marginalia.

Sticta Guillemini Mont. Also a Stictina. There is, however, a pretty fawn color delicate lichen referred by Babington to St. Gueillemini Mont., a true Sticta with large gonidia, the thallus above covered with soft white hairs, pseudocyphellae citron color, apothecia pedicellated scattered and the thalline redceptacle hairy.

Sticta punctulata Nyl. The specimen collected by Dr Maxwell in Ceylon, and named by yourself, is unquestionably a Stictina, and differs in no respect from your Stictina fragillima v. subpunctulata. There is another lichen, however, also collected in Ceylon, but a very much larger plant, referrible [sic.] to the genus Sticta.

There is much confusion about St. carpoloma, St. faveolata, St. variabilis and St. Richardii. I should arrange them as follows:

a) Pseudocyphellae flavae

Thallus intus albus, grosse scrobiculato-foveolatus, cyphellae raris albida. Sporae atro-fuscae polari-biloculae, septo plerumque crasso.....St. carpoloma
[Synon. St. physciospora Nyl. St. glauco-lurida Nyl.]

b) Pseudocyphellae albae – sporae dilute flavo-fuscentes

Thallus grosse scrobiculato-foveolatus, totus lineari-laciniatus
Thallus cervine spadiceus nitidus, subtus fuscus.....St. faveolata
Thallus pallidus, laciniis margine crassis, subtus albidus.....St. Richardii

Thallus pallidiores leviter scrobiculato-inaequalis aut leavis varie laciniato-divisus, margine lobules minutis fimbriato, subtus albidus passim lineis arcuatis impressus,
pseudocyphellae minutae.....St. multifida
Thallus pallidus laevis laciniatus, laciniis canaliculato-impressis sinuoso-pinnatifidis, lobis margine passim lobuliferis, subtus fuscescens, pseudocyphellae
minutae.....St. variabilis

The following Notes on well known collections in the Kew Museum may interest you.

Stictina ciliaris (Mont.) idem valent St. tomentosa Lechler pl. Chil. 3124
Stictina fragillima (Bab.) idem valent Sticta variabilis (Ach.) Nyl. Nos 135 &
152 coll. Mueller, Victoria; St. filicina Ach. (Bab.) Nos 170, 171, 173 & 196 coll. Oldfield, Tasmania.
Ricasolia Schaereri Mont. idem valent St. sinuosa Pers. (Nyl.) No 2176, coll.
Cumming Phillip. Is.
Stictina reticulata n.sp. idem valent St. pulmonacea coll. Dr Lyall, Oregon.
Stictina retigera Ach. id. valent St. pulmonacea Herb. Ind. Or. Hook. pl. et
Thoms. Nos 1964, 1968 = 75, 1977 & 83
Sticta Urvillei v. flavicans Hook. id. valent St. Desfontainii Del., W. Lechler
Pl. Chil. No 562 a Valdivia
Stictina marginifera Mont. id valent St. Kunthii Del. (Fw.) W. Lechler, pl.
Chil. No 647; St sylvatica Herb. Ind. Or. No 2004
Stictina Desfontainii Fw. Idem valent Sticta Desfontainii Lechl. pl. No 462 St.
d'Urvillei Del. (Gay) Herb. Mus..." [letter ends]

(4) "...5 Devonshire Terrace, Kensington. 3 April 1869

Dear Dr Nylander

I write in great haste. I enclose specimens of Stictina subpunctulata and of Sticta punctulata. Of the former at (A) you will find granula gonimia and at (B) true (?) gonidia. I shall not leave England until the 10th.

I also send a specimen which you named "Sticta episticta" I think in mistake – it seems to be a new species. You will understand it is a N.Z. Lichen.

Believe me

Yours very faithfully

Charles Knight..."

A gap of 12 years (1869-1881) followed in the Knight-Nylander correspondence, due mainly to Knight's position as Auditor-General, his work in that responsible office taking up nearly all of his time and energy (see letter 6 below). On his retirement from the Public service aged 70, in 1878, Knight was at last free to devote his considerable energies to lichenology and this he did with enthusiasm and drive. As he later noted in a letter to Joseph Hooker, "...I have retired from Government Service on my pension of £600 a year. My work is now in the uses of the lathe and in the study of Lichens" (Galloway 1985: xx; 2013d: 61).

(5) "...Wellington, New Zealand. 23rd April 1881

My Dear Dr Nylander,

I have sent to my Agents, Henry S. King & Co, 65 Cornhill, London, a small collection of New South Wales Lichens, made by me in the neighbourhood of Sydney. I trust you will not withhold from me any comments or criticisms which you think important; especially if I have, from want of information, assumed as new, plants previously named and described. I am at a loss for your present address. Will you kindly send your address to my agents, and also let me hear from you. I have lately retired from the service of the Colonial Government, and my whole time is at my own disposal; and I am now making a complete collection of Lichens – I hope in a couple of months to have prepared one or two complete sets and as soon as I hear from you that they are desired by you I will then enclose a specimen of Thysanothecium Buchananii, Kn. of which I now enclose a very hurried description.

I intend to extend my trips to Tasmania, Victoria & New South Wales as soon as I have made up my New Zealand sets.

With Many wishes for your health and happiness,

Believe me,

Dear Dr Nylander,

Yours faithfully

Charles Knight

I may add that only four or five specimens of the Thysanothecium were collected; and it may be years before we get any more...C.K...."

In 1886, Nylander published a brief account of Knight's New South Wales collections (Nylander 1886) listing 36 names of which the following were newly described: *Parmelia insinuata* Nyl. (= *Relicina limbata* (Laurer) Hale), *Lecidea pelophaea* Nyl. (= *Ramboldia petraeoides* (Nyl. ex C.Bab & Mitt) Kantvilas & El;ix), *L. subpromiscua* Nyl. (= *Paraporpidia leptocarpa* (C.Bab & Mitt.) Rambold & Hertel), *L. tetrapla* Nyl (= *Buellia tetrapla* (Nyl.) Müll.Arg.), *Graphis (Fissurina) devalatula* Nyl. (= *Enterodictyon velatum* (Nyl.) Zahlbr.), and *Verrucaria zosta* Kn. ex Nyl. At the end of his account Nylander appended a note to the effect that Knight's new species, *Thysanothecium buchmanii* (Knight 1881) collected by John Buchanan from the Buchanan Peaks (see Galloway 2007: 1459) was better accommodated in the genus *Psoroma* than it was in *Thysanothecium*.

Knight's next letter, much more friendly and accessible in tone to Nylander, informed him of the loss of a large cargo of New Zealand lichens in the wreck of the S.S. *Tararua* (Galloway 2013a).

(6) "...Wellington 28th July 1881

Cher Confrère

I thank you greatly for the kind assurances contained in your Letter of the 8th June last. It was at the time of the horrible Siege of Paris that I was first in doubt as to your address. Since then, until very lately the exigencies of my office, as Auditor General, put a stop to botanical pursuits.

In respect of the Parcel of New South Wales Lichens, I regret to inform you that the Steamer in which it was dispatched, along with a heavy collection of New Zealand Lichens for distribution among friends in Europe, was wrecked on the coast of the Middle Island. By a singular chance the Brindisi Mail, in which my letter to you was enclosed, was not on board the unfortunate Steamer. It was sent on separately to the Port from which our Steamers take their final departure. But the English mail was lost and with it my Letter of Instruction about the distribution of the Lichens addressed to my agents – Henry S. King & Co.

I will immediately set about making up a fresh set of the New South Wales Lichens. A paper addressed to the Linnean Society of London with drawings of the spores and of sections of the apothecia was also lost in the same Mail. I was so thoroughly discouraged by this misfortune and by the impossibility of replacing many of the more valuable and rare specimens that in my chagrin I felt careless and indifferent about taking further trouble in the matter. Your kind letter, however, and the interest you continue to take in the work, induce me to recommence collecting and renew a study which has been one's delight and amusement amid the cares and anxieties of a very responsible public office. I have now retired from the Public Service, and my time is entirely at my own disposal.

Your kind offer of specimens of Lichens I acknowledge with thanks; they would undoubtedly be of great assistance to me. I have collections by Schaerer, Massalongo, a small but valuable set from Fries of Upsala [sic], a set from Leighton, Spruce's South American Lichens and an imperfect set of Ceylon Lichens. My late friend, Professor Schimper of Strasburg, sent me a few years since, an interesting collection of European Lichens collected by himself, A. Metzler, Dr Rehm and others.

I am sorry to add that I have not a single specimen left of the *Thysanothecium Buchananii*, and I see no chance of getting it again. My own specimen is mislaid or lost, or I would have willingly sent it, and I find that Buchanan gave me all he had collected. In a few days I shall have completed a set of New Zealand Lichens for you, and will send these through my agents by the first Sailing vessel leaving this Port for London. I send by book post two brochures on N.Z. Lichens.

I have been unfortunate in my attempt to open communication with your friend Mr. Crombie⁷. Bearing in mind your reference to him when I was in England & his address which you very kindly sent to me, on my return to New Zealand, I sent him a small collection of N.Z. Lichens with a promise to complete the set at a future opportunity. My agents assure me that the Parcel was duly delivered at the address you gave me; but nevertheless I have failed to obtain from Mr Crombie any acknowledgement. I observe that his address is not very permanent, and I suppose he has never received the Lichens.

Again thanking you for your letter, believe me
Yours very faithfully
Charles Knight

Address

Dr Charles Knight
Wellington
N. Zealand..."

(7) "...Wellington, New Zealand. 28 Jan'y 1882

My Dear Dr Nylander,

Many thanks for the copy of your xxxvii "Addenda Novae ad Lichenographiam europaeam". Your onslaught on Dominus Schnetzler's Paper is capital; I agree with you that "*Microgonidismus alia fabula est, non minus absona quam Schwendenerismus*" I have lately been coquetting with the Sporologists. Whatever may eventually be the fate of the School, it must be admitted that its disciples have enforced a more careful analysis of Lichens. Much of their work, however, is useless and unphilosophical. Yesterday I met with the absurd transfer of *Baeomyces icmadophilus* to a separate genus. No one who has seen a section of the apothecium of that Lichen could for a moment (I should have thought) hesitate to retain it where it is placed by you in your Synopsis. The result of my dissipation is to satisfy me that the great convenience of breaking up such an unwieldy genus as that of *Lecidea* will eventually lead to its being broken up. I regret that you have not yet seen your way to adopt some scheme for the purpose, so that the names of the new genera should carry with them some distinguishing notion – such as "*Petractis, Gyalecta, Biatora, Heterothecium, Dolichospora*" etc. The genera *Hypnum* & *Bryum* among Mosses have been broken up as too unwieldy. The change might be effectively carried out by a temporary duplex nomenclature which I see Fries in his Lichen. Scand – such as "*Lecid. (Dolichospora) –*" etc.

I shall send you by the next sailing vessel leaving this Port such duplicates of N.Z. Lichens as I have by me, rather than waiting until I have an opportunity of adding to my collection in my visits to other localities than Wellington. This arrangement will necessitate my sending you a second batch sometime during the present year.

In reference to the hopes you hold out to me, I shall indeed be very grateful to you for any specimens you can spare. I have this day written to my agents in London, and instructed them to defray any expense attending the carriage of the parcel to London.

I have not yet made up my mind, whether or not, to visit New South Wales next autumn. If I do go I can safely promise you an interesting collection of Lichens from that colony. My bad luck in losing so many collections in the wreck of the "Taratua" deprives me of the pleasure of sending many Sydney Lichens, but such as I have will be sent to you in the first parcel. I shall be much indebted to you if you will name these for me correctly.

I enclose a specimen of Stirton's Lecidea kelica⁸ described Lin. Journal 1874 p. 476, this is your L. stillata in litt. – Have you published a description? I also put in a scrap of Stirton's Baeomyces pertenuis which I thought is your Lecidea planella (Syn. Lich. Nov. Caed. p. 45)

Believe me

Yours very faithfully

Charles Knight

Dr Nylander

61 Passage des Thermopyles

à Plaisance, Paris..."

(8) "...Wellington, New Zealand. 24th April 1882 (a)

Dear Dr Nylander

I have this day shipped on board the "Peru" a case of "Botanical Specimens" addressed to my Agents Henry S. King & Co 65 Cornhill, London, with directions for the same to be forwarded to your address 61 Passage des Thermopyles, Paris.

I hope it will reach you in good condition. I am hurrying to be in time for the Mail via Naples which leaves Wellington in half an hour.

Believe me

Yours very faithfully

Charles Knight..."

(9) "...Wellington 24 April 1882 (b)

Dear Dr Nylander,

I wrote to you this morning in some haste. Now I learn that the Mail via Naples does not depart until tomorrow. The case of Lichens sent by ship Peru is rather a large one but it will not be less acceptable on that account.

I have promised Sir Joseph Hooker to make up a typical set of New Zealand Lichens for the Museum at Kew. I shall wait, however, until I obtain from you the determination of the set sent to you this day, in order that your claims may not be overlooked.

I see that the Revd W.A. Leighton in his Paper on New Irish Lichens, collected by Mr Labalastier, has described as a new and rare plant under the name of "Pertusaria incarnata" what appears to me to be a variety of Lecanora pallescens. I have not seen a specimen but the illustrations in the Trans. Linn. Socy Vol. 1 (1878) p. 241 especially the figures of the spores shew pretty plainly that he has fallen into an error, which the thin epispore might have warned him of [see his Lichen Flora 3rd edn p. 235].

Fissurina (2.3.76) I examined several specimens with a capital 1/8 of Powel[?] and Lealand, but failed to discover either asci or spores. The paraphyses are quite straight, cellular, & of the same thickness to the very apex.

I enclose a specimen of Leighton's "Pannaria nigrocincta (Mont.) No 57 Ceylon" [attached to the letter]. Ap. intus luteo-fuscum; Excipulum proprium nullum; hypo[thecium] tenue; Sporae simplices, long. .015 mm, crass. .0075 mm; gran. gonimiae maximae. A beautiful lichen but not Montagne's Ps. nigrocinctum.

Psoroma nigrocinctum (Mont.) mihi. Is this your Lecanora sphinctrina (Nyl. Lich. N.Z. p. 250) vide Contributions to the Lichenographiae of N.Z. 1880, p. 368 for my remarks on Montagne's plant.

The peculiar dacryoid form of the spores of Verrucaria margacea is not noticed in any description within my reach.

Porina endochrysa (Mont.) Bab. Stirton has named it Thelonella Wellingtonii. I cannot at the moment recall to mind your name for it. Babington no doubt is correct, as I observe that he submitted Colenso's specimen for determination to Dr Montagne⁹, who confirmed his supposition that the N.Z. Lichen is P. endochrysa.

Verrucaria nitidella v.12.2.82 apo minuta (diam. 0.4 mm). An V. aspistea (Ach.) Nyl. ? vide Syn. Lich. Nov. Caled. P. 88.

I have put together, under L. atra v. fulvo-cinerea, varieties closely allied to L. subfusca.

Your Astrothelium ochrocleistum is V. pyrenastroides (mihi). I have in deference to your views called it Astroth. pyren[astroides] but the union of several apo[thecia] under one cover is not more common than solitary ap[othecia].

It is remarkable that my original drawings of Sticta granulata show granulae gonimiae in nodules well defined with a note "faintly blue". Again in Sticta rufa my original drawings exhibit granulae gonimiae in nodules, but only true gonidia free in the field of the microscope both in the latter and former cases.

I forgot to send you in the Box of Lichens, copies of Papers on the Lichens of N.Z. I am now quite aware how very imperfect my notes are. I will send them by next Frisco Mail.

Believe me

Dear Dr Nylander

Yours very faithfully

Charles Knight..."

(10) "...Wellington, New Zealand. July 15th 1882

My Dear Dr Nylander

Many sincere thanks for your valuable contribution of European Lichens.

I mentioned in my last Letter that I was anxious to obtain Wright's West Indian Lichens¹⁰. Since then I have got the necessary directions for securing a set of his Cuban Lichens through Dr Müller of Geneva, and by this Mail have written to my Agents in London to purchase a set.

Thanks for your remarks re the breaking up of the genus Lecidea. I observe that yours would be a good argument for uniting the Lecidea to the Lecanora on Ray's dictum "Methodum intelligo naturae convenientem quae nec alienas species conjungit, nec cognates separat". Nevertheless I am of [the] opinion that, for the sake of mere convenience, Genera overburdened with species will be broken up. Bacon says one ought not to join with those "who object too much, who consult too long, who adventure too little, and seldom drive business home".

With many kind wishes

Believe me

Yours faithfully

Charles Knight..."

(11) "...Wellington, New Zealand. Sepr 20th, 1886

Dear Dr Nylander

I received by last Mail the copy of your Report on a small collection of New South Wales Lichens which you had the kindness to forward for my guidance [Nylander (1886)]. I am much interested in your valuable observations in a Science you have so greatly advanced. I should have continued to send you duplicates of a large collection of Australian Lichens especially many collected on an Island in Torres Straits; but I was deterred from troubling you by frequent reports from Germany of your health having alarmingly failed; and it was feared you could not rally. If, as I trust is the case, your health admits of your continuing to devote some time to further contributions to Lichenology, I will do my best to supply you with specimens for determination.

I do not know on what terms such work is usually done in the Old Country; but I should wish that your assistance, if you please, should be somewhat on a business footing. I would propose, therefore, to divide my collections into three sets [sic]. First, those of Queensland and Torres Straits. Second, those from New South Wales & Victoria. Third, those from Van Diemens Land.

I will send you as many duplicates as I can spare at the time – those from Torres Straits I can promise to be liberal in.

For each of the three regions I offer 200 francs, with the understanding that you return me at least one specimen of each species or variety, named in your own hand writing, and in the case of new species accompanied by a short analysis of differential characters. If it is convenient to accept this proposal, will you kindly inform, me as early as possible, that I may give my Agents in London the necessary Instructions – (Henry S. King & Co 65 Cornhill, London).

Believe me

Yours truly

Charles Knight..."

It is not known whether Nylander agreed to this proposal, as the present whereabouts of Knight's inwards correspondence is unknown. Certainly Nylander published nothing further on Knight's Australian lichen collections (McCarthy 1992), and by February 1887 Knight decided that Müller Argoviensis and not Nylander, should have the first opportunity to study the Queensland lichen collections sent to him by F.M. Bailey in Brisbane and C.H. Hartmann in Toowoomba, as Knight's last letter to Nylander shows.

(12) "...Wellington. 8th Feby 1887

Dear Dr Nylander

I received this morning a letter from Dr Mueller of Geneva informing me that he was about to publish a Paper on the Lichens of Australia, & requesting me to supply further information respecting a set of Queensland Lichens which I had sent to him about a year since. It seems to me that under the circumstances I ought to send the whole of my Queensland Lichens to Dr Mueller, and I have accordingly shipped this day a large case to my agents in London to be forwarded to Geneva. This arrangement precludes my sending Queensland Lichens to any other botanist, until Dr Mueller has had an opportunity of first publication.

Believe me

Yours truly

Charles Knight..."

The following year, Nylander published *Lichens Novae Zealandiae* (Nylander 1888), a major work giving descriptions and records of 371 taxa in 60 genera. Knight, along with Lauder Lindsay and Richard Helms (Galloway & Vitikainen 2013), was one of the main collectors to this work. Indeed, Knight's contribution of specimens is by far the largest at 225 taxa, comprising 60% of the total. But by now, Nylander was *persona non grata* with Knight, as a comment in a letter he wrote to Müller Argoviensis in Geneva shows:

"... Nylander is an Ishmaelite; he seems to me of an unhappy disposition and soured in temper. It is a misfortune to the Science to have such an irascible person at the head of it. I have made many mistakes in my determinations of Lichens and no doubt deserved a Lecture; but there are many excuses for a person residing in a distant colony and unable to obtain either books or specimens from European Botanists. It is very pleasant to look back upon the encouragement one has received from the Hookers..." (Knight 1887).

Notes

- 1 Churchill Babington (1821-1889). British lichenologist who contributed the account of lichens for Hooker's *Flora Novae Zelandiae* (Galloway 1991).
- 2 Ludwig Emmanuel Schaerer (1785-1853) Swiss lichenologist who between 1823 and 1852 published an exsiccata (*Lichenes Helvetici Exsiccati*) of 26 fascicles, comprising 650 species. Individual fascicles were bound into octavo books and were sold for 4 Swiss francs each (Sayre 1969: 163-165).
- 3 Richard Spruce (1817-1893) Botanist and explorer (see Galloway 2013a: 17, note 21). His Amazon and Andean lichens were published by Leighton (1866).
- 4 Antoine Laurent Apollinaire Fée (1789-1874) French cryptogamist who is best remembered for his work on ferns. Professor of Botany in the University of Strasbourg. He also contributed many articles on lichens and their classification to the *Dictionnaire Classique d'Histoire Naturelle* edited by Bory de St-Vincent and his major work on the lichens growing on exotic medicinal tree bark (Fée 1824-1825: 1837) elaborated his system of lichen classification ("méthode lichénographique")..
- 5 The Library of Victoria University of Wellington holds a number of lichen books belonging to Charles Knight which were purchased at auction in December 1909, in Wellington. Among these are the following works of William Nylander:
 - 1) **W. Nylander** (1863) *Lichenograpia Novo-Granatensis* [inscribed in red ink in Nylander's hand "...Clarissimo Ch. Knight offert W.Nylander.."] - bound into a single volume with 4 other lichen works.

2) **W. Nylander** (1860) *Synopsis Methodique Lichenum*, pp. 1-430 [Knight has interleaved indices to species under each genus]

3) **W. Nylander** (1888) *Lichenes Novae Zealandiae* [an interleaved copy]

The Library of Landcare Research at Lincoln in September 1976 received 13 bound volumes (numbered 2 to 14) of lichen pamphlets from the Library of Victoria University of Wellington. These proved to be Charles Knight's collection of lichen reprints which he had bound into collections, each volume having its Contents page neatly written out in Knight's hand. These volumes contain a wide selection of Nylander's works, being bound into vols. 3, 4, 5, 7, 8, 9, 10, 11, 12 and 14 and comprising a significant proportion of the total.

6 William Allport Leighton (1805-1889). English lichenologist (see Galloway 2013a: 17, note 20). He published an account of Richard Spruce's Amazon and Andean lichens (Leighton 1866).

7 James Morrison Crombie (1831-1906) English lichenologist and a major figure in lichenology in the 1870s and 1880s (Hawksworth & Seaward 1977: 21-23).

8 *Lecidea kelica* Stirton, the type of the genus *Stirtoniella* (Galloway et al. 2005).

9 Jean Pierre François Camille Montagne (commonly known as Camille Montagne)(1784-1866) French cryptogamist who worked at the Jardin des Plantes in Paris making important taxonomic contributions to algology, bryology, mycology, lichenology and flowering plants.

10 Charles Wright (1811-1885) American botanist, assistant to Asa Gray at Harvard University, who collected bryophytes and lichens from Cuba between 1856 and 1865 (see Sayre 1969: 169; 1971: 260-261; 1975: 418). Exsiccatae of his lichens were distributed by Edward Tuckerman under the title *Caroli Wright Lichenes Insulae Cubae, Curante E. Tuckerman* in 1864, comprising 246 numbers (Sayre 1969: 169).

I am grateful to Prof. T. Ahti, and Dr O. Vitikainen (Botanical Museum, Finnish Museum of Natural History, P.O. Box 47, FIN-00014 University of Helsinki, Finland) and the staff of the University of Helsinki Library for access to the William Nylander Correspondence; to the late Dr Patricia Geissler for access to the Müller Argoviensis Correspondence held in the Library of the Conservatoire et Jardin Botaniques, Geneva; and to Miss Sylvia Fitzgerald, former Librarian and Archivist, Royal Botanic Gardens, Kew, for access to, and permission to publish from, the Director's Correspondence held in the Archives Room at Kew. My thanks also to the late Bruce Hamlin, the late Nancy Adams, Miss Fiona Pitt, Dr Patrick Brownsey and Mrs Barbara Polly, for their ready assistance with matters pertaining to the Charles Knight lichen collection at WELT. Warm thanks also to Pam Byrne and Margot Bowden (Landcare Research Library, Lincoln) for help with obtaining references.

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■ **Paddock lovegrass (*Eragrostis leptostachya*) native to New Zealand?**

Ewen Cameron, Auckland Museum, Private Bag 92108, Auckland 1142,
ecameron@aucklandmuseum.com

Paddock lovegrass, *Eragrostis leptostachya* (R.Br.) Steud., is treated as endemic to eastern Australia, occurring from Cairns (17° S) down to east of Melbourne (38° S), from the coast and up to c.400 km inland (Palmer et al. 2005). It is a loosely tufted perennial grass, over-topped by a large open inflorescence, to 1 m high.



Fig.1. The only paddock lovegrass specimen so far collected in New Zealand (AK 171282).

I believe the most likely way paddock lovegrass reached New Zealand was as seed attached in some way to a gannet (amongst the feathers, or in attached mud) in eastern Australia and carried by it across the Tasman Sea to establish on Mahuki. Because this method lacks human involvement paddock lovegrass would be better treated as an indigenous addition to the New Zealand flora and not as a naturalised species. Mahuki Island needs to be surveyed for paddock lovegrass to ascertain its present status and abundance.

Acknowledgement

I thank Graeme Taylor for comments about gannet movements.

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There is a single New Zealand collection of paddock lovegrass from pasture on Mahuki Island (36° 14' S, 175° 18' E; 45 ha) on the western side of Great Barrier Island collected by Anthony Wright (Wright 6878, 2 Jan 1985, AK 171282), and identified by Elizabeth Edgar (Fig. 1). It has been treated as a naturalised species in New Zealand (Edgar et al. 1991, Edgar & Connor 2010: p. 529).

Mahuki Island supports an expanding Australasian gannet colony (*Morus serrator*) (Fig. 2) where in 1980/81 2,681 pairs of gannets were recorded (Wodzicki et al. 1984). The present vegetation of the island is a mix of rough pasture, gorse (*Ulex europaeus*) and young kanuka (*Kunzea ericoides*) (pers. obs.). Cattle roamed most of the island until September 2009 when they were removed for a bait drop to poison the rats. There is a single house on the island, which is infrequently occupied.

Gannets in New Zealand regularly cross over to eastern Australia during the winter. All juvenile birds disperse there and quite a few adults do as well. Gannets will roost ashore on islands and rocks at night outside the breeding season. Gannets fly back rapidly across the Tasman Sea to New Zealand at the start of breeding season in just the few days.



Fig. 2. Australasian gannet colony on Mahuki Island bordering the pasture where the paddock lovegrass occurred. Photo: looking west, EC, 20 Nov 2009.

BIOGRAPHY / BIBLIOGRAPHY

■ Biographical Sketch – Gaspar Melchor de Jovellanos (1744-1811)

Val Smith, 80 Mill Road, New Plymouth 4310.

Gaspar Melchor de Jovellanos was born into a family of minor nobility in Gijón in Asturias, Spain, on 5 January 1744. It was customary for large families to have a son or daughter become a friar or nun, and Gaspar, intended for the church, received preliminary training at Aviedo, Ávila, and later Alcalá, where he spent two years continuing his study of canon law. However, his uncle, the Duke of Losada, advised him to practise law. At aged twenty he received the tonsure, the ritual shaving of the head for the priesthood, before becoming a judge in the criminal court of Seville in 1767. His ability and integrity came to the notice of Carlos III, and in 1778 he was transferred to the courts in Madrid.



Parahebe jovellanoides

At both Seville and the capital, Jovellanos integrated official duties with his love of study and writing, especially relating to the development of industry and agriculture, the economy, art and philosophy, based on the ideas of the Enlightenment. He tried to improve the lot of the working man and was enthusiastic about the proposed scientific expedition by Alejandro Malaspina. Jovellanos became a prominent member of the scientific and literary societies, and an adviser to the king. But Carlos III died in 1788 and the reactionary administration of Carlos IV put a stop to Enlightenment reforms. Those who had taken an active part were persecuted, and Jovellanos was implicated in the falling from grace of his friend, financier Francisco de Cabarrús. He spent the years 1790-1797 in virtual exile at Gijón, writing and establishing the Asturian *Instituíte*.



Jovellana sinclairii

He was summoned back to public life in 1797 and accepted the post of minister of justice under Godoy, but disliking Godoy's policy and conduct he conspired to procure his dismissal. With the return to power of Godoy in 1798 Jovellanos was again banished to Gijón. In 1801 he was imprisoned in Castillo de Belver (Mallorca) and his projects came to a halt until 1808, when he was freed by order of Prince Ferdinand. He accepted a place on the *Junta Central* as the representative of Asturias, but soon had to flee before the advance of the French. Developing pneumonia on board a ship bound for his native province, he died at Puerto de Vega on the border of Asturias on 27 November 1811.

During his confinement Jovellanos had written of his interest in botany, his love of trees and the pride he felt that a small flower had been given his family name. On an expedition to Peru and Chile in 1777-1788, Spanish botanists Hipólita Ruiz López and José Antonio Pavón collected about 3,000 plant species, 500 of them previously unknown. When Jovellanos became minister in 1798 and found that publication of their

work was on hold, he authorised the payment of over 1000 reales for the four volumes of *Flora Peruviana et Chilensis* (1798-1802). In it the new genus *Jovellana* was "dedicated in honour of the celebrated Gaspar Melchjor de Jovellanos, supporter of this publication". Currently, four species are recognised, two in southern Chile and two, *Jovellana sinclairii* and *Jovellana repens*, in New Zealand. A mysterious plant first collected in 2007, near Auckland, initially had botanists "bamboozled"; in 2009 this highly threatened little plant was given an identity: *Veronica jovellanoides* ('resembling *Jovellana*'). In 2010 it was transferred to *Parahebe*.

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Parahebe jovellanoides

Plantaginaceae

Parahebe jovellanoides is a creeping, hairy herb spreading 2-3 m and rooting freely at the nodes, the stems up to 2 m long but only to 50 mm tall. With its dull green, spatulate, hairy, usually toothed leaves appearing through litter on the forest floor, it could be mistaken for *Jovellana* when not in flower. The flowers, which are rather large (10-12 mm diameter) in relation to the rest of the plant, have broad white corolla lobes, a magenta ring outside the throat and very short nectar guides, and in the wild are sparingly produced between October and December. Known only from a small mixed-podocarp forest remnant at Riverhead, it is vulnerable to invasive weeds and trampling. It is hoped that nursery-grown plants distributed to gardeners will help its survival.

PUBLICATIONS

■ Publications Received

[Auckland Botanical Society Journal 68, December 2013](#) Allan Mere, fieldtrips including Ravensthorpe and Dingle Dell reserves, Motukaha, Samoan *Coprosma*, *Bromus*, John Kendrick.

[Wellington Botanical Society Newsletter December 2013](#) Upcoming meetings and trips, submissions, Percy Scenic Reserve report, awards available, trip reports including Pukerua Bay and Wairarapa.

[The New Zealand Native Orchid Journal No. 131, February 2014](#) Conservation status of NZ orchids, *Pterostylis areolata*, *Diplodium brumale*, *Nematoceras macranthum*.

[Canterbury Botanical Society Newsletter 2013: 12](#) Upcoming meetings and trips, meeting report on biocontrol, trip report on Island Hill station.

[Canterbury Botanical Society Newsletter 2014: 1/2](#) Upcoming meetings, trip report on Mt Hutt.

[Canterbury Botanical Society Newsletter 2014: 3](#) Upcoming meetings and trips, meeting report on gravel beach plant community structuring, trip report on Waitakere River and Ananui Cave.

[Botanical Society of Otago Newsletter 71 February 2014](#) Upcoming meetings and trips, botanising southern ultramafics, rare plant issues, meeting and trip reports.

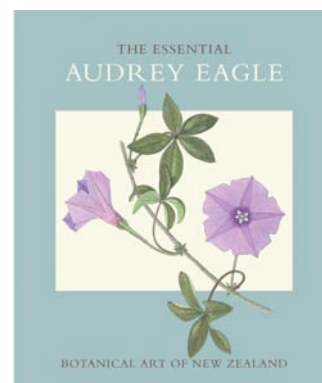
■ Book review - **The Essential Audrey Eagle. Botanical Art of New Zealand**

By Audrey Eagle with an introduction by Patrick Brownsey
Published by Te Papa Press, Wellington, New Zealand, 2013
Soft covered, colour paintings and drawings, 232 pages, 260 x 215mm

ISBN 978-1-877385-90-2

\$49.99

Reviewed by Cathy Jones



This is a beautiful book designed to bring a selection of Eagle's tree and shrub paintings to a wider public than the botanical fraternity who have relished, and will continue to relish, the completeness and detail of her "Complete Trees and Shrubs of New Zealand". As she says in her preface, she recognises "New Zealanders' deep love for their natural world" and is motivated "to make New Zealand plants accessible to as many people as possible."

Her preface describes her involvement with plants which grew from a desire to learn about them for her own education into a goal of illustrating every one of our woody plants and make them available to all New Zealanders. She was able to translate her skill as a paid draughtswoman into accurate as well as beautiful interpretations of the flora. It has been a lifetime's unpaid work to bring us these illustrations, a huge effort which, in later years, has been recognised with conservation and botanical awards and an honorary doctorate.

Following Eagle's preface, there is an extensive introduction by Patrick Brownsey, Research Fellow at Te Papa, which gives the reader a history of New Zealand plant illustration from Cook's 1769 voyage to Eagle's work in the present. It is long as introductions go but provides a very interesting summary in readable language, with carefully chosen images interspersed with the text. It is certainly an easier way to access information about the various artists and techniques than in some of the weightier tomes on the subject.

After being well introduced we come to the paintings. A collection of Eagle's most beautiful paintings has been chosen. They illustrate a mix of plants that are iconic, stunningly attractive, representative of their families or genera, some of them very common and some less well-known or with limited distributions. She has a gift for mixing just the right colours, capturing the essence of each plant and drawing sufficient botanical detail to hold the viewer's interest. It is possible to open the book at any page and be attracted by the beauty of the images, and then be drawn to turn the page and look further.

The list of plates which opens the final section contains summarised information about each taxon. For this Eagle has used enough information to satisfy the curiosity of her chosen audience, providing scientific name and its meaning, a Maori name or common name where these are known, a brief description of the type of plant it is, and its distribution.

This section also contains endnotes, a bibliography, details of where to find botanical artwork online, and an index. The index includes scientific names, common names, people's names and occasional subject matter. It has page numbers for illustrations usefully bolded.

By keeping the illustrations and printed information in separate sections, it is possible for the book to be enjoyed at different levels. A casual coffee guest may dip into the paintings and enjoy them without the interruption of text, while the final section provides basic information for those seeking more depth.

To me there seem to be only two minor flaws. The first is that Plates 52 and 86 are missing their labels, "*Hoheria glabrata* houhere, whauwhau, mountain ribbonwood" and "*Schefflera digitata*, pate, sevenfinger" respectively. The other may not be of concern to a casual reader, but did strike me as a botanist: the indication of scale, which is in the other books, is missing here and this could create a false impression of the size of leaves and flowers.

This is a book that provides visual pleasure and tempts people to look further into the wonders of our flora. It is not primarily a book for botanists to use as a resource for identifying plants, although it will help with that in the absence of Eagle's other publications. It is a book that those of us who own the others will nevertheless want to own because of its beauty and our wish to celebrate Eagle's monumental achievements and share her images with **all** our friends, not just those with a serious botanical bent.

The first definition of "essential" in my dictionary is "of or pertaining to the essence of anything". It is in this sense that Eagle uses the word in her title. Certainly the book succeeds in portraying the spirit or essence of New Zealand's woody flora and communicating it in a way that will be of interest to a wide potential audience.

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