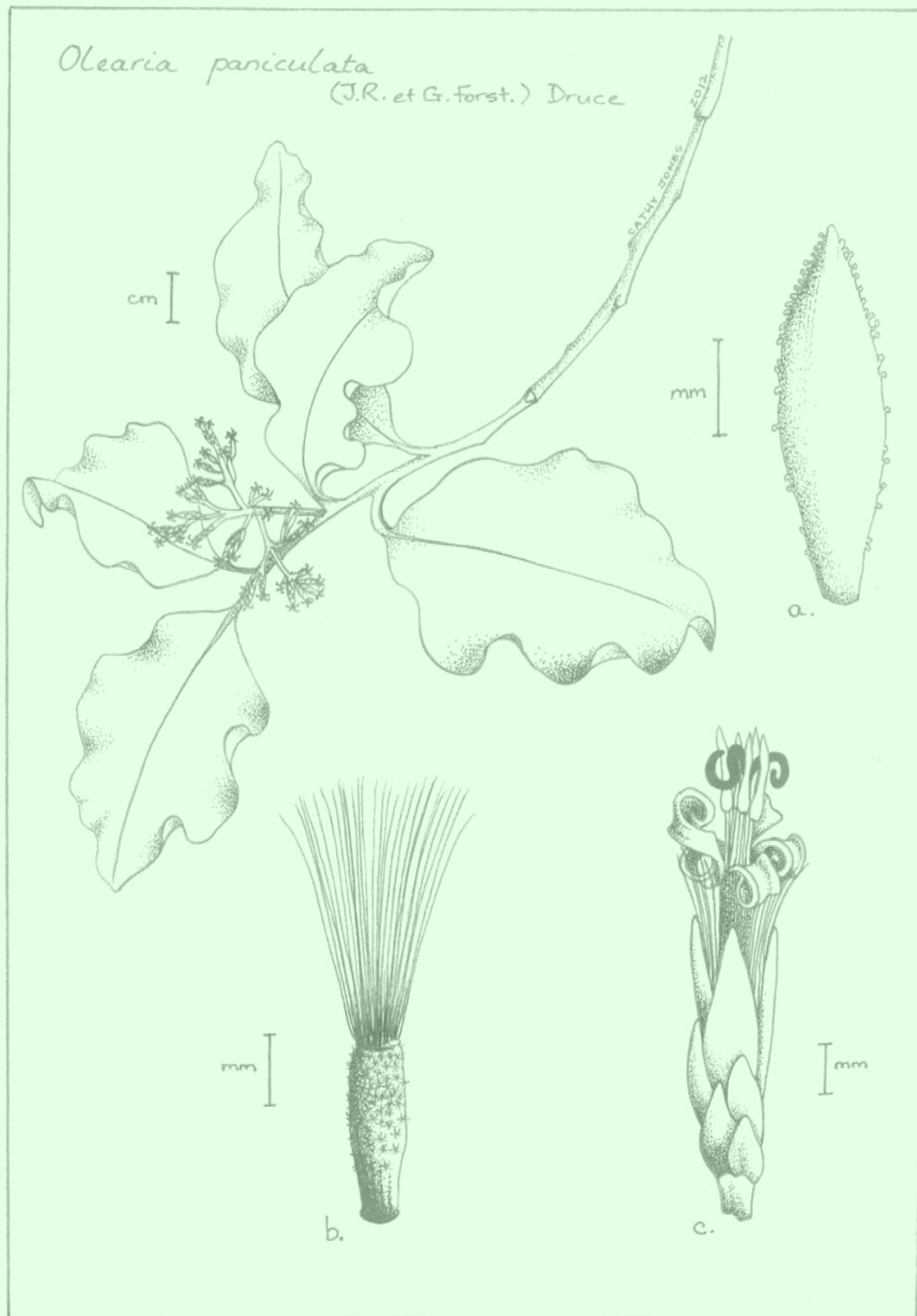


NEW ZEALAND BOTANICAL SOCIETY

# NEWSLETTER

NUMBER 108

June 2012



## New Zealand Botanical Society

President: Anthony Wright  
Secretary/Treasurer: Ewen Cameron  
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### Subscriptions

The 2012 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2011 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 September 2012 issue is 25 August 2012.

Please post contributions to:  
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Wellington 6021

Send email contributions to [editor@nzbotanicalsociety.org.nz](mailto: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

*Olearia paniculata* (J.R.et G.Forst.) Druce drawn by Cathy Jones from a specimen collected in the Brook Valley, Nelson on 6 May 2012. a. phyllary, b. achene, c. floret

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### Regional Botanical Society News

#### ■ Auckland Botanical Society

##### AGM and March Meeting

After the AGM Sarah Wyse, the 2011 Lucy Cranwell Award recipient, spoke of her studies on “Kauri: the ecosystem engineer”. Sarah’s PhD thesis examines the effect of *Agathis australis* on the plant community, and how it modifies the ecosystem and thus influences its co-habitant species. Similar studies of rimu (*Dacrydium cupressinum*) provided a contrast, as it does not have the same modifying effect.

##### March Field Trip

An unexpected road closure meant that the morning was spent at Kariotahi Beach, rather than Lake Otamatearoa as planned. However, all enjoyed the special plants to be found at the beach, including *Gunnera dentata* with striking orange fruit, and *Lilaeopsis novae-zelandiae* with minute translucent flowers. The lake was visited after lunch, but the wet summer meant that some of the promised treasures were well under water. It was good to see *Ranunculus macropus* with flowers. The native bladderwort, *Utricularia australis*, was not found, and unfortunately the pest species, *U. gibba*, was present, pretty yellow flowers and all.

##### Tasmanian Trip

Abyly led by Mike Wilcox, 28 members enjoyed 13 plant-filled days in diverse habitats on this interesting island. Staying for the first four days in Hobart, we explored to the north and south, then moved westward to the high central area, where one day was spent walking in snow. From there we moved north to end our stay at Launceston. A few of the many highlights were our visit to the Tasmanian Herbarium in Hobart, the aerial walkway at Tahune Forest, the pandani (*Richea pandanifolia*) and pencil pine (*Athrotaxis cupressoides*) at Lake Dobson, and King Billy pine (*A. selaginoides*) and deciduous beech (*Nothofagus gunnii*) at Dove Lake.

##### April Meeting

For Plant of the Month Dan Blanchon introduced us to lichens in the *Parmotrema* genus. Chrissen Gemmell then presented preliminary findings on molecular phylogenetic research on the evolution of the family Winteraceae of Zealandia (New Caledonia & New Zealand). This phylogeny was then used to look at the evolution of floral characters in the sister genera of *Pseudowintera* and *Zygogynum*.

##### April Field Trip

Forest & Bird stalwart Graham Falla lead our group on a comprehensive visit around Olive Davis Forest & Bird Reserve, Alfriston. This 8 ha reserve includes the restored Chapman-Taylor cottage set in the bush. There are fine stands of taraire, rimu is plentiful, and there is an unusual low forest of mahoe and hangehange.

##### May Meeting

On the Tasmanian trip we were intrigued by the Huon pine (*Lagarostrobos franklinii*), and wondered why our silver pine had been removed from that genus and renamed *Monoao colensoi*. For the Plant of the Month talk Josh Salter gave a very professional explanation, pointing out the features that separate the two genera.

Helen Preston Jones then showed highlights from the summer camp at Arthur's Pass, and Christine Major did likewise for the Tasmanian tour held in March.

##### May Field Trip

Dr Adah Platts-Mills Reserve, Maraetai, is an area of broadleaf/kanuka forest covering 11.3 ha. A varied fern flora includes the presence of a single specimen of *Dicksonia fibrosa*, an unusual occurrence at this latitude. Kahikatea and rimu are present in the lower reaches, with taraire, kohekohe, karaka and puriri on the slopes, grading into kanuka where the bush had been cleared in

the past. There was a weed problem around the edges, as in most urban reserves, but nothing that could not be handled by some determined effort. We were ably guided by local, John Rugis.

#### FUTURE EVENTS

6 June	"Three Kings threatened plants" - Janeen Collings
16 June	Farm bush remnants at Tauhoa
4 July	"Flora of the Canary Islands" – Ewen Cameron
21 July	Point View Reserve, Dannemora
1 August	"Pollination" – Dave Pattermore
18 August	Clevedon Scenic Reserve

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#### ■ Rotorua Botanical Society

##### March Field Trip: Little Waihi Islands

The tide was high for the proposed estuary walk so we had a leisurely walk down canal banks to the shore, along the way noting weeds. Unusual plants included *Conyza bonariense*, golden rod, yellow serradella and Mexican tea. We passed old grazed salt marsh that used to have ponds rich in salt marsh plants, including *Mimulus repens*, but now, with grazing excluded, is dominated by *Paspalum distichum* or *Myrophyllum aquaticum*. With the tide still high, we explored the *Leptocarpus/Juncus* fringe. After lunch, we just managed a stream crossing to explore the islands, which range from 50m x 100m to 1km x 30m across. Each was fringed *Leptocarpus similis*, *Juncus kraussii* ssp. *maritimus* or low mangroves. The salt fringe interior had *Olearia solandri* and salt marsh ribbonwood. On higher ground the islands differed depending on whether they were shelly, sandy or muddy but were often a mixture of acacias, gorse, pampas, manuka and a range of other shrubs over dense *Macherina juncea*. Around maimais introduced plants included cactus, dimorphotheca, gladiolus, and prickly Moses. Highlights included one lonely rewarewa and abundant large *Dianella*, tentatively identified as *D. haemata*.

##### April Field Trip: Pokopoko SR

A good-sized group gathered for a bush scramble across two deep gullies and along long ridges besides the Tauranga - Rotorua highway. It was mainly regenerating forest at the stage where rewarewa was well established over kanuka, mahoe and tree ferns, especially mamaku. In the first gully we struck the only substantial stand of residual tawa forest, which was dominated by tawa and included large kamahi, pukatea and a good range of ferns. The second descent into the stream was very steep in low manuka. The low vegetation allowed a few orchids including *Corybas cheesemanii*, almost in flower, *Dracophyllum strictum*, *Gaultheria oppositifolia* and *G. paniculata*. The gully narrowed quickly, was filled with sedges, blackberry and buddelia and so soon abandoned. From the next ridge a stand of pukatea with two large "rata" attracted attention which, after crossing another blackberry filled gully, skirting a wasp nest and avoiding trip wires around a dope patch, revealed itself as a gully head swamp with pukatea and five large swamp maire to admire. Further climbing brought us to an old farm track in tall hakea that soon led us to the main road and our vehicles.

##### May Field Trip: Te Tuhi Track

After a half-hour long walk across pasture we neared the bush edge and overlooked the steep ridge we would soon follow. The canopy was tawa, mahoe and mamaku with tall pukatea, rewarewa and the odd rimu standing well above it. After crossing the creek into the trees, the forest revealed a rich understorey of ferns and shrubs including abundant pukatea seedlings, *Alseuosmia macrophylla* and hangehange. The first stop was to note *Nertera dichondifolia* near its southern limit, and the lovely *Hydrocotyle dissecta*. Debate then followed over a 1 m tall plant with fronds of *Cyathea smithii* with thin stipe bases resembling *C. medullaris* perched on slender stems. The issue was finally resolved when the scales showed the mucro typical of *C. cunninghamii*.

The forest changed little on the ascent, except for a few grasses and introduced herbs where the track overlooked an old slip providing vistas of the plains below. Near here a surprise find was

*Rhabdothamnus solandri* remaining after the slip started to heal. After lunch at the edge of the plateau, the track crossed three streams in the first of which *Hymenophyllum atrovirens* and *Libertia micrantha* were present. The plateau forest was more broken with small clearings but somewhat damper with *Blechnum nigrum* and *H. frankliniae* common. At one point *Raukaua edgerleyi* was quite common on tree ferns. The return descent was more rapid and we were soon enjoying the afternoon sun before the long walk back to the vehicles through boulder fields of long past landslide events (perhaps earthquake induced) and pasture.

#### FUTURE EVENTS

6 June	Upper Rangitaiki River wetland oxbows and frost flats
1 July	Matawhaua Bluffs
11 August	Lake Atiamuri
9 September	Lathams Track
29-30 September	East Cape revisited

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**Secretary:** Vacant

#### ■ Nelson Botanical Society

##### February Field Trip: Six Mile Basin, St Arnaud Range

Twenty members made their way up the Rainbow Skifield road and into the alpine zone of Six Mile Basin. The nationally endangered *Crassula multicaulis*, with a profusion of pinky-white flowers, and *Myosotis drucei*, bearing minute flowers, were in the gravel-field around the lodge buildings. Higher up on the rocky ridge separating the two basins were three species of vegetable sheep: *Haastia pulvinaris*, *Raoulia bryoides* and *R. eximia*. Flowering was still evident for many *Hebe* species including: *Hebe lycopodioides*, *H. hectorii* subsp. *coarctata*, *Leonohebe tumida*, *Hebe pinguifolia*, *H. cryptomorpha*, *H. canterburiensis* and around the tarns, *H. pauciramosa*. Carpet grass was densely studded in places by drifts of *Gentianella bellidifolia*. *Celmisia* species were well over flowering but made up a moderate diversity of the flora: *Celmisia spectabilis*, *C. monroi*, *C. du-rietii*, *C. laricifolia*, and *C. sessiliflora* being the most conspicuous.

A broad saddle supported small cushions and turfs of *Chionohebe pulvinaris*, *Luzula pumila* and *Kelleria villosa*. The orange and green leaved rush relative, *Marsippospermum gracile*, was a surprise find near the basin headwaters, and tucked at the base of rocky outcrops were the nodding poa, *Poa novae-zelandiae*, *Epilobium rubromarginatum*, *Ourisia sessilifolia*, *Wahlenbergia albomarginata* and *Schizeilema roughii*. Peaty depressions were covered in *Celmisia alpina*, *Drosera arcturi*, the starry, white-leaved *Euchiton laterale*, and the curious buttercup relative, *Psychrophila novae-zelandiae* with its upturned leaf lobes and parasol seed heads. Flushes hosted *Schizeilema pallidum*, rafts of *Epilobium macropus*, and *Coprosma perpusilla*. We found *Crassula sinclairii*, along with *Limosella lineata*, in a silty tarn margin just on the edge of a cirque lip. The fuzzy pinkish smear lining the outside edge of the road for around 100m, on closer inspection proved to be a large colony of our elusive *C. multicaulis* that had colonised the fine gravel of the road verge!

Eight members left the main party at the skifield and clambered up to the top of the ridge, crossed it and walked over some easy slopes where there were masses of flowering *Gentianella bellidifolia*. On the scree were occasional small plants of *Myosotis traversii* and well-camouflaged *Haastia sinclairii* so very different from the related vegetable sheep. Also noticed was the occasional purplish-brown *Notothlaspi australe* with large fruits. Eventually we reached the spur, which would take us down to the lake. There was an amazing display of flowering *Hebe leiophylla* along the last few metres of track and we arrived at Kerr Bay at 6.30 pm.

##### March Field Trip: The Brook-Waimarama Sanctuary

A total of 14 people met in the Brook Valley to begin our walk up the Valley Floor Track to Forks Crossing. Along the way, we passed titoki, kaikomako, pigeonwood, kawakawa, rangiora, *Myrsine australis*, tawa, five-finger, pate, kamahi, various species of *Coprosma* and *Carmichaelia australis*, to name just a few. The shady forest also hosted a variety of ferns such as *Pellaea rotundifolia*, *Microsorium scandens*, *M. punctatum*, *Blechnum filifolium*, *B. chambersii*, *B. vulcanicum*, *Pteris*

*tremula*, *Asplenium oblongifolium*, *A. bulbiferum*, *Lastreopsis velutina*, *L. hispida*, *Pneumatopteris pennigera* and several species of *Hymenophyllum*.

The Falcon Ridge track lived up to its name: first one then another falcon was heard calling, and the second one then did a “fly over” as we sat. The habitat was drier around here, with *Collospermum hastatum* surprising many by living not just as an epiphyte but also on bare rock. We had started seeing podocarps like matai and miro earlier in the day, and finally came to two majestic totara right on the track, just before Totara Crossing. After re-crossing the stream, we followed the Koru Track back down the valley, passing through much drier and sometimes disturbed vegetation.

#### Easter Camp Day 1, Denniston Plateau

Our first trip was to Denniston, 2000ft above sea level. At Conn’s Creek at the bottom of the famous Denniston Incline, we met up with Peter Robertson, chairman of Denniston Heritage Trust, who showed us the history of Denniston settlement and the plateau. We walked from the brakehead past The Camp and made our way past *Coprosma*, *Quintinia* and other shrubs to the Banbury Arches, two half-bridges which supported the rail line into Denniston’s oldest mine. After coming back along the rail track we followed the road towards Mount Rochfort. We found ourselves on bare sandstone outcrops interspersed with acidic boggy areas and patches of bush in gullies, with views across the plateau to bush-clad Mount William. We found a patch of what appeared to be tiny, bright red fungi – however, the caps were hard with no gills or pores visible. With the help of Bill and Nancy Malcolm these were identified as the moss, *Pleurophascum ovalifolium* – not common but known to be on Denniston Plateau. Among the more down-to-earth botanics were *Oreobolus strictus*; *Celmisia monroi*; pygmy pine; and pink pine or was it yellow-silver pine? Delighting the eye among the slabs of sandstone here on the plateau was *Coprosma perpusilla*.

#### Easter Camp Day 2, Charming Creek Walkway and Mt Glasgow

We began at the Ngakawau end by the Stockton Mine. Almost immediately, Don spotted *Lycopodiella cernua* which is greatly branched and very attractive. Further along the track we were able to see various orchids: *Winika cunninghamii*, *Earina mucronata* and *E. autumnalis*. A puzzle was a leafy broom which is most likely *Carmichaelia odorata*. There were many *Metrosideros* species: *M. diffusa*, *M. fulgens*, *M. perforata*, *M. robusta* and *M. umbellata*. Hiding amongst the mosses was the comb fern, *Schizaea australis* and towards the falls, probably the most interesting plant of all, *Celmisia morganii* growing on the banks, with some still in flower.

#### Easter Camp Day 3, Gentle Annie Coast and Charming Creek Mine

The group headed up the road with the aim of making the beach while the tide was favourable. Along the way, we saw toro, *Myrsine australis*, tutu, *Astelia fragrans*, *Cyathea medullaris*, *Dicksonia squarrosa*, kawakawa, *Coprosma grandifolia*, some *Metrosideros perforata*, plenty of pigeonwood, a few tree fuchsia, *Hebe salicifolia*, fruiting mahoe, pate and *Parsonsia heterophylla*. At the top of the hill the group split into two. One half explored the ‘maze’ mown into the hilltop vegetation, while the second group continued botanising the area and then enjoyed a brief display by a pod of dolphins. A specimen of hutu with head-height berries was found and much photographed. The main component of the maze walls was *Phormium tenax*, but also there was *Muehlenbeckia australis*, supplejack, *Hebe elliptica*, bracken and *Coprosma x cunninghamii*. We carried on along the road, encountering an unknown *Lobelia*, *Cyathea smithii*, *Asplenium flaccidum*, *Blechnum fluviatile*, a young nikau, *Paesia scaberula* and of course cabbage trees and an abundantly flowering *Olearia avicenniifolia*. Tucked among the rocks overhung with coastal ‘scrub’ were *Adiantum cunninghamii*, *Asplenium oblongifolium*, *Muehlenbeckia axillaris*, and *Anaphalioides trinervis*.

Ten of us made our way to Charming Creek again and split into two groups. The vegetation was mainly silver and mountain beech with manuka also featuring predominantly. Some of the many berries to be seen were those of *Coprosma tayloriae* (white) *C. rhamnoides* (red), *C. tenuicaulis* (shiny black), *C. propinqua* (blue), *C. lucida* and *C. grandifolia* (both orange), lots of *Neomyrtus pedunculata* (glossy translucent orange), *Myrsine divaricata* (whitish purple) and *Raukaua anomalus* with black fruits. We also saw several *Pittosporum rigidum* with round green fruits, many split open revealing sticky black seeds. We saw one plant of each of yellow silver pine and celery pine, showing the juvenile and mature leaves.

#### Easter Camp Day 4: Chasm Creek Walkway and Coalbrookdale

Our group of 11 agreed to fit in a visit to the nearby Chasm Creek Walkway before returning to the Denniston plateau and exploring Coalbrookdale. We paused to identify many trees including *Pittosporum eugenioides*, *Carpodetus serratus*, *Sophora microphylla*, *Myrsine salicina*, *Quintinia serrata*, and *Schefflera digitata*, complete with berries. A *Hoheria ovata* was both in flower and seed. The *Metrosideros* genus was well-represented with *M. fulgens*; *M. perforata*; *M. umbellata* - and *M. robusta*. Ferns included *Blechnum novae-zelandiae*, *B. chambersii*, *Adiantum cunninghamii*, *Asplenium bulbiferum* and *A. flabellatum*, and *Microsorium scandens* plus, at the tunnel entrance, the filmy fern, *Hymenophyllum frankliniae*. There was a good show of *Lycopodium scariosum* and *L. volubile*, *Lycopodiella cernua*, with its looping form, and *Huperzia varia*. The last walk of the weekend was to Coalbrookdale. There was a scattering of small trees amongst the manuka and *Dracophyllum*, including mountain beech, horopito with its colourful leaves, the mountain toatoa, *Brachyglottis buchananii* and a large broadleaf. We saw the leathery-leaved *Pseudopanax linearis* and *P. "ternatus"* with its three leaflets. *Raukaua simplex* was also present, a small tree demonstrating the mature foliage, with a shoot from its trunk in the juvenile form. *Gaultheria rupestris* and *G. antipoda* had berries, and the pink berries of *Lobelia angulata* were prolific along damp track edges. There were a few lingering flowers on *Olearia cheesemanii* and a *Celmisia*, probably *C. monroi*. Other plants seen were the prickly mingimingi, *Sticherus cunninghamii*, *Gleichenia dicarpa*, *Lycopodium scariosum* and *L. fastigiatum*.

#### April Field Trip: Split Apple Rock

Ten members had a delightful blue and gold sunny day at Split Apple Rock Beach. We delighted particularly in the first of the winter orchids, *Acianthus sinclairii* and *Diplodium alobulum*, both in fresh flower. As we had our morning tea we were fascinated by little piles of stones on the beach that we thought were probably the result of "shag spitting". Along the beach cliffs, *Poa anceps* cascaded gracefully below clumps of *Linum monogynum*, *Asplenium polyodon* and *A. oblongifolium*. The group explored the northern end of the beach including fascinating caves, tunnels, ravines and lovely round boulders. New plants here were *Cordyline banksii*, *Isolepis cernua* and a tiny succulent, *Crassula colligata*.

#### May (AGM) Talk: Uta Purcell on a trekking tour to Mongolia in 2011

Uta described the unusual methods of travel by foot, vehicle or horseback and the challenges presented not only for the guides but for the trekkers, too: like arriving to restock in a village where the shops were shut, the Kazakh translator's poor English and the guides' poor planning. Uta's photos showed the contrasts of the landscape with meadows along river borders, larch and juniper forests, steppes, jagged mountains, glaciated mountains, canyons in the west, sandy trails, rocky passes, falls, lakes and then glimpses of the Gobi desert all beneath the most beautiful deep blue sky - then often thunderstorms at the end of the day. The wildlife of ibex, marmot, elk, anthills and roaming herds of re-introduced przewalski horses contrasted with the domestic herds of goats, cows, yaks, sheep and a cow/yak cross whose milk was used to make a rock-hard yoghurt which they stored. She described the tiny fenced-in settlements of the nomads with the ger covered with felt then cotton and how three generations of one family shared the ger with beds around the outer wall, a cooking corner and maybe even a motorbike inside; their tour group drank tea boiled in milk which tasted salty. Her talk concluded with photos of the brilliantly coloured wild flowers including blue and white gentians, edelweiss, wild onions, czarzoria, yellow poppies, delphiniums, roses and beautiful butterflies.

#### FUTURE EVENTS

- |            |   |
|------------|---|
| 17 June    | Field Trip Herring Stream Rd, Motueka West, Upchurch QE II covenant. Leader Cathy Jones 03 546 9499   |
| 18 June    | Evening Meeting David Sissons speaking on the use of spinifex and pingao for the restoration of the coastal dunes of Tasman and Golden Bays.      |
| 2 - 4 June | Queen's Birthday Weekend Camp: Pohara. Leaders: Julie McLintock 03 545 0989 and David Grinsted 03 542 4384.                                       |
| 15 July    | Field Trip Nelson's Boulder Bank from the Cut to Boulder Bank Drive via ferry, foot and bus. Leader Sue Hallas 03 545 0294                        |
| 16 July    | Evening meeting: Simon Moore of DOC speaking about Protection of native vegetation on private land over the last 10 years with associated plants. |
| 19 August  | Field Trip: Blackwater Stream methane flare sausage sizzle. Leader Beryce Vincenzi 03 528 4549  |
| 20 August  | Evening meeting: Leon Perrie of Te Papa speaking about his taxonomic work with <i>Pseudopanax</i>   |

16 September Field Trip: Brown River Scenic Reserve. Leader Uta Purcell 03 545 0280  
17 September Evening meeting: Craig Potton speaking about the forests of Poland.

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Botanical Society of Otago

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**Secretary:** Allison Knight, P O Box 6214, Dunedin North.

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## NOTES AND REPORTS

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▪ **New Andean shrub naturalised in southern New Zealand**

**Brian H Patrick** ([Brian.Patrick@wildlands.co.nz](mailto:Brian.Patrick@wildlands.co.nz)), **Peter Heenan** ([HeenanP@landcareresearch.co.nz](mailto:HeenanP@landcareresearch.co.nz))

**Introduction**

The Andean shrub *Margyricarpus pinnatus* (Lam.) Kuntze (Rosaceae) has established in the fore and hind dune plain at Fortrose Spit, at the mouth of the Mataura River southern Southland. Known as pearlfruit, *Margyricarpus pinnatus* is found in a wide variety of environments in the South American Andes from Columbia through Ecuador, Bolivia, Peru, Chile, Argentina, Uruguay and Brazil. Figure 1 shows details of the plant's morphology. It is an evergreen species of mainly dry areas that can both grow in full sun or in shade of other vegetation. While it prefers well-drained soils such as sand dunes, it can also grow in many other soils including clay soils and can tolerate poor soils. It is found growing in coastal areas, inland valleys and on coastal mountains to 2000m. It has hermaphrodite flowers that are pollinated by insects. The plant has medicinal uses and the fruit are edible. In New Zealand it is widely grown in rock gardens as an ornamental plant on account of its bright green foliage, neat shape and pearl-coloured fruit which are produced in abundance.



**Fig. 1** *Margyricarpus pinnatus*. A, branch with crowded pinnate leaves and white fleshy fruit; B, flower with two stamens and two large anthers and a plumose stigma; C, immature fruit with 4 persistent sepals and subtended by two bracts; D, achene.

shrubs of *Pimelea lyallii* and on nearly bare sand amongst *Geranium sessiliflorum* var. *arenarium*, *Colobanthus muellerii*, *Calystegia soldanella* and several exotic weeds (Figures 2 and 3). Not familiar with the plant, samples were sent to Brian Rance of the Department of Conservation in Invercargill, who, also unfamiliar with the species, handed them to his colleague who deals with weeds, Lynne Huggins. She too was unable to place the plant. She sent them onto the junior author at Landcare Research at Lincoln who consulted with colleagues worldwide and finally it was identified.

*Margyricarpus pinnatus* was initially difficult to identify because the flowers are somewhat atypical of Rosaceae in having an inferior ovary, a plumose stigma, two stamens each with a large black-brown anther, and a white fleshy one-seeded fruit. In a phylogenetic analysis of the Rosaceae it is in the tribe Sanguisorbeae where it is sister to *Acaena* (Potter et al. 2007).



**Fig. 2** Pearlfruit growing on the sand plain at Fortrose Spit amongst indigenous plants.

close to adult plants and are relatively deeply rooted (10cm). Individuals that grow in open sandy habitat are smaller at 5-12cm tall, rounded and often sit neatly on a mound of sand they have collected. Others grow amongst native and exotic plants. Small and inconspicuous flowers were abundant on the plants when first discovered, while the plants bore distinctive white fleshy fruit when revisited in January 2012. Old and dead foliage is retained on the plants that grow amongst marram, but apparently not on the plants in the open ground.

## Discussion

The presence of this species in a relatively remote area of the Southland coastline presents a dilemma as to its biostatus and management. In regard to its biostatus, did it arrive naturally by sea or perhaps some other mechanism and should therefore be treated as indigenous? Some plants are growing on the foredune crest and might appear to have arrived by sea. Alternatively, is it a garden discard that has established from the dumping of garden refuse or has it colonised the site after the fruit from cultivated plants have been ingested by a bird and later defecated there? According to the

The species has now also naturalised in New South Wales, Australia where it occurs in disturbed eucalypt woodland.

The senior author found the first specimens at Fortrose Spit on 28 October 2011 amongst both taller marram grass and in the open hind dunes amongst native cushions of *Raoulia beauverdii*, low

The senior author returned to further observe the Fortrose Spit population in mid January 2012 (E1271046 N4833830). Located mostly between two vehicle tracks that lead to a number of cribs, and stretching for just over 270 metres by 30 metres deep a population of 81 plants were recorded. Thirteen plants of this population are closer to the sea on the crest of a nearby sand dune and spreading downhill on the landward slope. No plants were found outside of this relatively small area, including the disturbed ground around the many cribs a few hundred metres away.

The largest plant is 25cm tall and 50x45cm, and is growing amongst marram grass where it is difficult to see from a distance. Thirty-five other plants are growing nearby both within marram and in bare sandy areas. Seedlings are numerous, especially

Department of Conservation (L. Huggins pers. comm.) garden refuse is sometimes found in this vicinity. Because the species is grown in Southland gardens, the most likely scenario is that it is a newly recorded invasive species that has been dumped in the area within the last few years by the nearby crib owners travelling to their dwellings or dumping rubbish after clearing their gardens.

Pearlfruit is an attractive bright green low-growing shrub, but it does appear to be spreading reasonably quickly within this dune system. Because Fortrose Spit is among the best remaining examples of a near natural dune system left on either the Southland or eastern South Island coastlines (Johnson, 1992), it is imperative that all invasive weeds are controlled or eliminated. Therefore, we recommend that pearlfruit is eliminated from this site as soon as possible.

### Acknowledgments

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- **Julius Haast's letters concerning the drowning of Dr Andrew Sinclair (1796-1861) while crossing the Rangitata River, 26 March 1861**

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When I went to London in January 1973 to start work on a New Zealand Lichen Flora, I resolved to have one day a week at Kew, and under the guidance of Miss Smith who was then in charge of the Archives Room, I gradually acquainted myself with the card index system that held the secrets of the correspondence and manuscripts in that densely packed room (Galloway 2004). On my "Kew days" I transcribed letters written by various New Zealand botanists and scientists to the Hookers: William Jackson Hooker and his son, Joseph Dalton Hooker, successive Directors of the Royal Botanic Gardens at Kew. My first project entailed the letters that Julius Haast sent to Kew (Galloway 1976), beginning with the death of the Hookers' friend Andrew Sinclair in 1861, and ending 23 years later with Haast asking Joseph Hooker's assistance in getting him the award of CMG (Galloway 1876). In total, Haast wrote some 80-odd letters to Kew between 1861 and 1884, a rich store that some day would make a rewarding published collection as a pendant to Colin Burrows's magisterial account of Haast's explorations in the Southern Alps (Burrows 2005). The Haast letters that I transcribed at Kew left me with the thought that some day I should go up to Mesopotamia to see Sinclair's grave. My opportunity for this came many years later when, over the 2010 Labour Weekend, the Dunedin Naturalists' Field Club made a day trip up the Rangitata Valley to Mesopotamia and out onto the riverbed there to find the grave.

Dr Andrew Sinclair (1796-1861), a former Colonial Secretary and a fine amateur botanist and collector, was companion to Julius Haast, during Haast's geological explorations to the head of the Rangitata Valley in 1861 (Haast 1848, Maling 1960; Galloway 1976; Burrows 2005). While Haast added to his geological map of Canterbury, Sinclair collected alpine plants for Joseph Hooker at Kew who was then actively writing his *Handbook of the New Zealand Flora* (Galloway 1998). Tragically, on 26 March 1861, Sinclair was drowned while attempting to cross a swollen Rangitata River on his way



**Fig. 3** A view of the sand dune system at Fortrose Spit showing pearlfruit in the centre.

back to Samuel Butler's Mesopotamia Station. He was buried out on the river flat, his gravestone now entirely covered with an amazing mosaic of lichens. Sufficiently so for the inscription on the stone to be almost illegible. According to Peter Maling's book, *Samuel Butler at Mesopotamia* (Maling 1960), the inscription reads "In memory of Andrew Sinclair, M.D., late secretary to the General Government of New Zealand under the administration of Sir George Grey. He was drowned crossing the Rangitata on the 1 April 1861". This unfortunate gravestone error is now almost completely covered by a mosaic of lichens (Fig. 1, Fig. 2), a covering that would no doubt have pleased Sinclair.

On 29 March, 1861 Julius Haast, Geologist to the Canterbury Provincial Council, buried his friend Sinclair, reading the service from the Mass Book of Butler's bullock driver (Haast 1948; Maling 1960). The same day he also wrote three letters recording the circumstances of Sinclair's drowning and his responses to it. These were (1); to Sir William Jackson Hooker, Director of the Royal Botanic Gardens at Kew (2); to his friend W.T.L Travers in Nelson and (3); a detailed "official" account to Thomas William Maude (1832-1905) the Provincial Secretary (Scholefield 1940, Vol. II: 74-75). Although Haast's letter to Hooker is published (Galloway 1976: 90), those to Travers and to Maude have remained unpublished. For a complete record of that sad event the three letters are reproduced here, from the originals in the Kew Archives, by kind permission of the Director of the Royal Botanic Gardens, Kew.

(1) With his letter to Sir William Jackson Hooker, Haast introduced himself to Kew, a poignant opening to a long and varied correspondence with both W.J. and J.D. Hooker that would last until 1884.

"...Rangitata River Mr Butler's Station  
Province of Canterbury  
29 March 1861

Dear Sir!

I have a very painful duty to perform in communicating to you that our common friend Dr Andrew Sinclair was drowned in the Rangitata last Tuesday the 26<sup>th</sup> of this month, by endeavouring to cross a smaller branch of the swollen river, his horse having run away. He was returning from my camp eight miles up the river, to this station.

No need to say in what state of mind I am and in what anxiety I have been till we found the body of my poor and deeply lamented friend and companion. He was a good and honest man and all those who knew him will cherish his memory. After his intention I shall send you from Christchurch after my arrival there end of May a part of our common collections with the necessary notes. How much I would have liked to enter in correspondence with you under happier circumstances it will be not necessary to state.

I am Sir,  
Yours very truly  
Julius Haast

My address is J. Haast, Christchurch. New Zealand." [Archives, Royal Botanic Gardens, Kew. J.D. Hooker Correspondence, Vol. 174, letter 271]

(2) Haast's letter to his Nelson friend W.T.L. Travers is more personal in tone.

"...Rangitata Mr Butler's Station,  
29 March 1861

My Dear Friend-

The enclosed copy will tell you as terrible tale, I have no time and the necessary strength to relate it any more. Please communicate it to the numerous friends of our poor and deeply lamented friend. My messenger starts instantly therefore I have to be short. It was for the first time that we separated and he parted from me with a kind joke.



**Fig. 1** The author contemplating the lichens on Andrew Sinclair's grave at Mesopotamia Station.

You may imagine in what state of mind I am and what anxiety and pain I have suffered. I do not know what I would give if I had some body with me, the more as I have to go twice over the same ground. I am not in a state to tell you about the magnificent glaciers, which we visited and the alps covered with ice and snow. I hope to relate it to you verbally when I come back to Christchurch where I wish fervently to see you installed.

My kind regards to Mrs Travers and the children and all enquiring friends  
Adieu my dear Travers – je vous serre la main en vrai amitié  
Julius Haast

This copy is of course only for private communication” [Archives, Royal Botanic Gardens, Kew. Asian & Pacific Letters 1859-1865, Vol. 75, letter 74]

(3) Haast's letter to T.W. Maude, Provincial Secretary is a full and frank account of Sinclair's drowning and the circumstances preceding it. It is reproduced here for the first time in full.

“...Mesopotamia Mr Butler's Station  
Rangitata  
29 March 1861

Sir

I have a very painful duty to perform in communicating to you and for the information of his Honour the Superintendent [William Sefton Moorhouse] the death of my deeply lamented friend and companion Dr Andrew Sinclair of Auckland who was drowned in the Rangitata on Tuesday 26<sup>th</sup> of this month. In order that you may understand how this sad event occurred I shall relate the circumstances which preceded and accompanied his death. -

After having finished the survey of the western source branch of the Rangitata we returned to Mr Butler's Station to take new provisions and proceeded then again up the river with the intention to explore the eastern and middle source branches. Returning Monday the 25<sup>th</sup> March from the survey of the eastern branch one of my horses lost a shoe and as I had to remain a few days at the junction of the two last mentioned source branches to make some important geological investigations and to collect some highly interesting fossils – I intended to send Richard Stringer my servant down to the station of Mr Butler to fetch a new horse-shoe up as I was afraid that otherwise the hoof of the horse would be broken on the shingle making it unfit for further traveling. On speaking on the matter with the deceased he approved of it and told me that as he thought the weather looked dull all the principal plants in this region were collected and Mr Butler's return from Christchurch with his letters would be expected very soon, it would be better that he went down with Richard Stringer observing at the same time that the rough work became a little too much for him and that he could occupy himself better during my intended absence of 8 days with writing letters – finishing some sketches, drying the plants and make drawings of some very fine fossil shells which I had already collected.

It had rained a little during the last day but the eastern branch near where we were camped at the western foot of Mount Potts had risen only very little. The deceased Dr Sinclair started with Richard Stringer and the remaining horse on Tuesday 26<sup>th</sup> March at 9 o'clock in the morning for the Station of Mr Butler distant about 8 miles from our camping place.

I have here to observe as we had only one riding horse that generally when we had to cross any stream which seemed the least difficult to pedestrians, the first person riding over sends the horse back over the river so that others of the party may make use of it. At one o'clock Richard Singer returned in great haste to communicate to me that he thought Dr Sinclair had perished in a smaller branch of the swollen Rangitata and he related the circumstances in the following manner – Arriving at the eastern and middle branches they found that the river was very much swollen and dirty the middle branch being very high. Dr Sinclair selected against the advice of Richard Stringer (who thought it better to go down the left bank as far as opposite Mr Butler's Station and to light a fire there in order that they might bring a second horse over the river, beside the fords being much easier) a ford where the river was divided into two branches of which the one nearer to the traveler was the larger; Dr Sinclair rode over the first branch the water reaching to the saddle flaps – he descended and sent the horse over but be it that the horse was afraid of the swollen water, or that it was frightened at the small stick which he had in his hands, it came out again turned around and Dr Sinclair not being able to catch it, it went over the opposite stream and was very soon through the shallower branch on its way to Mr Butler's station. – The deceased (now standing on an island but not endeavouring to communicate in any way either verbally or by signs with Richard Stringer who was still standing on the left bank and who could easily have fetched the pack-horse at my camp only two miles distant) went resolutely into the second stream having probably observed by the crossing horse

that the water was shallow although the ford was broad – he went in at one place but came out very soon finding that the water was either too deep or too strong he tried another place and Richard Stringer seeing that Dr Sinclair was more than halfway across sat down to take some gravel out of his boots which prevented him from walking fast, after having finished it in a few moments he began to run down the banks of the river to see if he could not find a ford not being able to swim, he turned round to see whether Dr Sinclair had reached the banks and he was not a little frightened to see no signs of him notwithstanding that he could look over the level shingly banks he thought perhaps he had sat down or was going fast after the horse – during nearly two hours Richard Stringer was running up and down calling and looking in vain until he became exhausted and as he observed the horse nearly 2 miles away disappear among some higher bushes it having fed occasionally on its way – he returned bringing me the sad news. I instantly broke camp and proceeded with every possible speed down the river finding that we had to cross several times the western branch it had in the meantime become very high so that several times we were nearly washed from our feet. Arriving at the spot where the sad event occurred we found the river so high and rapid that it was impossible to cross it. – I fixed on the banks of the river a long pole with a letter relating the circumstances thinking that as soon as the horse arrived at Mr Butler's Station some of his men would ride up instantly to see what had become of its rider. We now proceeded down the river on its left bank looking out anxiously if the deceased had not been washed upon one of the spits – very soon the river beds became impracticable and we had to strike inland. There are some very swampy places on that side of the river and it is therefore difficult for persons unacquainted to come on as fast as I desired: it became dark when we were stopped by a very swampy creek and not being able to find a passage through it so late we had to camp – soon after the evening was more advanced we observed a large fire burning on the other side of the river by which we concluded that our camp fire had been seen or that it was a signal for guidance.

The next morning 27th March we started after daylight and having crossed several branches of the still rather swollen Rangitata we arrived at the main branch, which was impassable for pedestrians. We lighted a large fire as a signal for the station about 2 miles distant but nobody arrived. At last at half past ten we observed three men on horseback on our side of the river and in the direction from which we had come advancing as fast as the broken ground would admit of – at last they came up and I found that it was Mr Reuben Cooke, Manager of Mr Butler's Station, Mr John King of Timaru and Mr Fred Shrimpton also of Timaru, the last two gentlemen being on a visit to the Station.

They related to me that the horse had arrived last evening about dusk and fearing that some accident had happened to the rider they lighted a large fire as a signal for the rider who had perhaps been thrown off and as a sign that the horse had arrived – they had not seen our camp fire. They started the next morning at daybreak following the track of the returned stray horse and found my letter and had come down to take us over the river they had seen no sign of Dr Andrew Sinclair. After a short rest for the horses I started again accompanied by the 3 above-mentioned gentlemen and having arrived at the river 3 miles below where the sad event occurred we crossed (being all mounted) the still swollen river scattered over the large shingle bed and searched in every direction until we came near the place of accident where we found the body of my unfortunate companion at sunset about 300 yards below the spot where he had endeavoured to cross on foot.

His body was lying upon a spit with his head resting upon his right arm and his left extended along his body his head and principally his face was bruised very much and life was entirely extinct – It is evident that he had lost his footing probably by a rolling boulder and that he was stunned his head being brought in contact with the rocks -. His body was lying nearly dry and there was very little water in it so that we came to the conclusion that life was not entirely extinct when he was washed on the shallower place but that he was unable to rise – the position in which he was lying with one arm under his head indicating probably such an occurrence – fording the river at the place when he crossed it was found that the water was only to the horses knees – even admitting that the river had fallen since the melancholy occurrence took place the water could not have reached his hips when he attempted to cross.

We conveyed the body of my unfortunate friend the same night during a heavy Southeastern gale to Mr Butler's Station where he body remained until Friday 29 March when we buried him in a wooden coffin (as fortunately there were some workmen on the station occupied in the erection of a house) on the flat about a quarter of a mile from the river and at the same time I had by the same workmen a substantial fence erected round the burial place.

As I do not know the legal proceedings upon the occurrence of such a sad event I have sent Richard Stringer down to Christchurch to make the necessary declaration before the law officers – he

will present you this letter. At the same time we have drawn up the enclosed declaration and you will instruct him to do with it what the law directs.

I have also written to the Revd Mr Bruce at Auckland husband of a niece of the deceased sent one of the copies of the enclosed declaration and given him an account of the death of Dr Sinclair. In conclusion I may add I shall always be grateful in the highest degree to those gentlemen who assisted me with the greatest promptitude to ascertain the fate of my poor and lamented friend, No need to say how much this fatal event has affected me, but I shall in a few days continue with my work.

I have the honour to be Sir,

Your most obedient

Julius Haast" [Archives, Royal Botanic Gardens, Kew. W.J. Hooker Correspondence, Asian & Pacific Letters 1859-1865, Vol. 75, letter 75].

On hearing of Andrew Sinclair's drowning, Joseph Hooker wrote to Sinclair's family Agnes in Auckland, offering to curate Sinclair's personal herbarium and botanical papers. To this offer Sinclair's niece, Agnes Sinclair, replied as follows.

"...Auckland Nov. 29/[18]62

My Dear Sir

I have just received your note and am very grateful to you for your kind offer to arrange my dear Uncle's Botanical specimens. They are principally Microscopic drawings over which he spent many of his mornings but to what purpose he intended them I do not know.

Feeling sorry that the labours of one so dear to us should be lost I asked Dr Lindsay\* to look over them while in Auckland, but owing to his short stay here and his many engagements he was unable to do so, but offered to speak to you about them. Knowing my uncle's regard for you and all your circle, I felt very much obliged, feeling assured that in your hands they will be safe. I shall have much pleasure in forwarding them first opportunity addressed to your honoured father. Would you be so kind as [to] tell him of them, and please make whatever use of them you think best and you will much oblige

Yours truly

Agnes Sinclair..." [Archives, Royal Botanic Gardens, Kew. J.D. Hooker Correspondence, Vol. 175]

\* [William Lauder Lindsay (1829-1880), the Scottish botanist/geologist/physician who visited Otago, being based in Dunedin at William Martin's farm of Fairfield from October 1861 to January 1862, and who was briefly in Auckland and the Thames Goldfields in February 1862 prior to his returning to Scotland.]

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**Fig. 2** Andrew Sinclair's gravestone with its lichen mosaic covering.

### ■ Three letters from James Stirton to John Buchanan on New Zealand lichens, 1877-1882

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The Scottish lichenologist James Stirton (1833-1917) corresponded with John Buchanan (1819-1898) over a period of some ten years between c. 1872 and 1882, about Buchanan's collections of New Zealand lichens. Stirton, although a busy Prof of Midwifery at Glasgow University's St Mungo's College, was also widely known as a knowledgeable bryologist and lichenologist who was actively publishing on both mosses and lichens between 1869 and 1912 (Traill 1917; Galloway 2012). Stirton and Buchanan were both members of the Glasgow Field Naturalists' Society (Stirton was its first President) and the Natural History Society of Glasgow (Buchanan was elected a Corresponding Member of the Natural History Society of Glasgow on the 29 October 1867), so it was both logical and convenient that Buchanan should send his material to Stirton for study and naming and thereby maintain his (Buchanan's) "home" contacts with fellow Glaswegians.

Buchanan began seriously collecting lichens as part of his study of the flora of Wellington, the only publication to which he appended lichens to his plant lists, using Stirton's determinations (Buchanan 1874). It seems that Buchanan maintained his lichen herbarium as a private resource not associated in any way with the herbarium of the Colonial Museum where he was employed as Botanist-draughtsman and general right-hand-man of Sir James Hector (Adams 1990a, 1990b, 2002). On his death Buchanan's lichen collection was transferred to the Otago Museum, where it was discovered 62 years later abandoned in a basement cupboard by the late Dr James Murray of the University of Otago's Chemistry Department (Galloway 2011: 53).

Although most of the lichens sent to Stirton were from the Wellington region, a few are from other areas and Buchanan also sent two collections made by Henry Travers from the Chatham Islands, and Stirton himself added New Zealand collections that he had obtained from Hugh Paton and Robert Pinkerton (Stirton 1873, 1874, 1875a, 1875b, 1877a, 1877b, 1878, 1881a, 1881b, 1883a, 1833b, 1898, 1900). Stirton's lichen names comprise a significant tranche of those described from New Zealand collections in the 19th century, and between 1873 and 1900 Stirton described 116 new lichens from Buchanan's collections (Galloway, 1985, 2007). The contact with Stirton was obviously important to Buchanan, as his accumulated papers on his death that passed to his brother and residuary legatee, Peter Buchanan in Sydney, contain three letters from Stirton that are transcribed here.

#### The Letters

Letters from Stirton to Buchanan were written from Stirton's residence, 15 Newton Steet, Glasgow (latterly he changed his address to the nearby 5 Newton Terrace, Glasgow, from where he wrote to T.W.N. Beckett [see below]) and are held in the John Buchanan papers in the Mitchell Library, Sydney. Earlier letters from Stirton to Buchanan that would have accompanied the lists and descriptions of new lichen names, based on Buchanan's collections have not so far been located.

#### [Letter 1]

"... 8 February 1877

My Dear Sir

I am in receipt of your letter dated 14 Decr. 1876 enclosing lichens gathered about 30 miles from Wellington. With one exception all have already been secured by you. It is somewhat extraordinary that every one of the Lecideae with black fruit is *Lecidea Otagensis* [= *Sarrameana albidoplumbea*] and not only so, the specimens are not in a good condition for determination inasmuch as the spores are not well developed. I would appear that there has been an arrest of development almost simultaneously. Is the part of the country where you picked them up subject to heavy almost continuous rains succeeded by long periods of drought? It would appear so. I enclose a scrap of a lichen as representing a class that I wish you to search for particularly. The genus *Coenogonium* of which the enclosed is a sample is largely represented with you and I wish you to search diligently for other specimens. They are found creeping over the bark of trees and are composed of a mass of very fine threads or filaments densely compacted. A *Codington lens* will enable you to see the structure. The fruit as you will see is in the form of small yellowish disks and should be searched for but you should not limit yourself to those containing fruit although of course it is of importance to have fruit etc. In your former packet I find a lichen of this kind sent which constitutes a new genus. This one instead of creeping over the surface of the bark in the form of a

thin layer of felt rises up into flatish prominences thus [small drawing] but the whole composed of the same felt-like structure. The fruit is scarcely different in colour from the rest and instead of disks is in the form of small mealy Knobs i.e. as if covered with flour. The knobs are seated either on the sides of the stems or near their apices. The whole is of a pale sickly white and soft or woolly. I am sorry I cannot send you a scrap as I have merely a fragment myself but sufficient to determine the plant. The last paper was read before the Philosophical Society of Glasgow, Sir Wm. Thomson in the Chair and was very well received. Your name (on stating your antecedents) was received with applause. I mean to send you copies of this paper as soon as received.

Chroolepus aureus [= Trentepohlia aurea] may also be sent to me as it is now included under the Lichens. And I could wish you to search on it for the fruit or disks.

I am sure you will secure largely, specimens of this curious genus of which Chroolepus is an offshoot. You need not off [sic.] course confine yourself to these exclusively but send others as well, as there is a fair sprinkling of Novelties in your later packets. The Lichen Flora of N.Z. is not nearly exhausted. Send also specimens of the genus Parmelia of which I included two species in my first return of 39.

You are wrong in your surmises about my giving up the study of Lichens. I am still going on although for some little time I cannot devote continuous efforts to them. I should like the Lichen Flora of New Zealand well worked up and sooner or later I mean to give you specimens of every one gathered by yourself or others although time will be necessary for this. I mean too, to send much larger specimens.

Yours truly

James Stirton”

In this letter, Stirton is referring to his new genus Sagenidium Stirton, that he described from material sent by Buchanan (Stirton 1877a; Galloway 1985). The meeting of the Philosophical Society of Glasgow took place on 26 January 1877 (Stirton 1877: 285) and although the published paper is entitled “On New Genera and Species of Lichens from New Zealand” the introductory pages (pp. 285-292) have the running head “Remarks on the Influence of Microscopic Fungi”.

## [Letter 2]

“...12 September 1881

My Dear Sir

I have long felt a desire to reopen our correspondence but I feared to intrude upon your time which, as you said once, was fully occupied with matters pertaining to the Museum. In the hope that you have now shaken the heterogeneous mass of matter into something like order and that accordingly you may have some leisure to bestow on such trifles as lichens I now write to you.

Since the close of our correspondence I have been engaged with lichens from almost every quarter of the globe. My last production (a copy of which is posted along with this) is on the genus Usnea. And as your collections of lichens contain very scanty specimens of this I am most anxious to have representations of this genus and its allies from N.Z. Will you help me for the sake of “old friendship”? You must be familiar with the appearance of species of this tribe, but in order to avoid mistakes I enclose a scrap of one (loose). Some time ago I got through a Dr. Pinkerton a beautiful and as it turns out new species of Stereocaulon, which partakes of the characters also of Sphaerophoron. The specimen was secured in your neighbourhood in all likelihood on the ground. I have only a very small specimen and accordingly cannot afford to send more. I can guess that seen in its native habitat it presents much the appearance of a dense compact tuft of something like coral. Do try and get me good specimens especially in fruit as what I possess is barren.

Any of the fruticose lichens with flattened stems as the Ramalina etc will also be welcome. Probably at the time you collected for me you may have overlooked this tribe or referred the members of it to a different section of Botany. Of course any curious specimens of the crustaceous forms will also be welcome.- I am again coming round to your N.Z. collections and mean to work them up again.- All my types are destined by promise to Sir J.D. Hooker to Kew but I think it is due to the different collectors throughout the world that I should give specimens so far as I can to the various Museums with which they are connected. I cannot promise as to time as my hands are so full but I can fairly say that sooner or later I shall implement my promise.

I have lately been dipping in to Dr. Knight's two papers on N.Z. lichens and the more I peruse them the less satisfied I am with them. His [L]atin is execrable and in one instance at least he has corrected my species and referred them to one of Montagne's species when he evidently is ignorant of the lichen in question as the description given by Montagne himself cannot apply to my species etc etc.

Yours truly  
James Stirton..."

To this letter Stirton on a separate page has appended a small specimen of what is now called *Sphaerophorus stereocauloides* Nyl. (see Galloway 2007: 1646-1647) with the following annotation "...*Stereocaulon Pinkertoni* (Strn.) Stems vary from 1 to 2 cm high and densely coralloid. Now put under a new subsection *Thysanocaulon*...". Stirton later published a description of a new genus *Thysanophoron*, to accommodate his species *T. pinkertoni* Stirt. (Stirton 1883: 359) with the following notes of explanation: "...The only specimen in my possession is from Dr. R. Pinkerton of Glasgow, who gathered it in New Zealand, but he cannot recall the exact situation, very probably in the neighbourhood of Wellington...This lichen presents characteristics which link it on the one hand to *Sphaerophoron*, and on the other of *Stereocaulon*. Its chemical reactions are exactly those of *Sph. coralloides*, to which it otherwise approaches in its general habit and mode of branching, while the presence of cephalodia containing gonimia [= cyanobacteria] exactly scytonemoid warrants association with *Stereocaulon*.

Professor Th. M. Fries of Upsala [sic.], Sweden, to whom a specimen was submitted, has pronounced in favour of association with *Sphaerophoron*.

The system of cephalodia in the present instance is, however, far too thickly and constantly disposed over the plant to warrant the assumption of the individuals being merely accidentally located. I have examined numerous specimens of *Sphaerophoron*, not only of this country, but from various parts of the world, and have not detected cephalodia on any, accordingly they must be very rare, and very probably accidental...On the whole, then, I am still inclined (in the absence of fructification) to separate the lichen under consideration from both *Stereocaulon* and *Sphaerophoron*".

Dr Robert Pinkerton (1850-1882) was a surgeon who graduated M.B., C.M. from Glasgow University in 1876. Writing of him Stirton comments "...Since writing the above Dr Pinkerton has died, at the early age of 32. He did much in the interests of his profession while serving under the Turkish flag during the late Turco-Russian war, and gave abundant promise of more. There are good grounds for believing that the exposure and irregular mode of living had much to do in determining the fatal result. While he kept himself well up in surgery, his favourite branch of study, he often diverged during his travels to natural history pursuits, and made collections of plants etc., which would have done credit to one with more pretensions to a knowledge of the subject than he professed to have." (Stirton 1883: 361-362). Pinkerton contributed a short account of tendon tearing as a result of a donkey bite (Pinkerton 1877) and a highly readable account of his surgical experiences in Bulgaria during the above-mentioned war (Pinkerton 1879). In introducing this he writes "...During the late Russo-Turkish war, I was sent out by Lord Blantyre, as a surgeon, to assist the Turkish wounded, and in that capacity acted both independently, and attached to Ottoman Red Crescent ambulances, and also, for a short time, took charge for Stafford House Society of their hospitals at Philippopolis..." (Pinkerton 1879). He subsequently visited New Zealand where he collected *Sphaerophorus stereocauloides* near Wellington (Fig. 1; see also above), and Stirton named *Usnea pinkertoni* in his honour, from a collection that Pinkerton made in Egypt (Stirton 1881: 294-295).

### [Letter 3]

"...17 April 1882

My Dear Sir,

I am in receipt of your packful of lichens but I am very sorry to report that the barks are in a horrible condition. They have been submitted to severe treatment. I cannot otherwise account for the broken and bruised condition in which I find them unless on the supposition that some one had repeatedly sat upon them and not only so but that he turned gradually round and at each turn crushed them with the weight of his body. The consequence is that in the great majority of cases the lichens growing on the barks have all or nearly all been rubbed or bruised off, and the small number recognizable show apothecia only here and there. My task of discrimination usually a very pleasant one is rendered difficult and tedious and I fear I shall not make much progress. It is evident that the sac-means of transit will not do. [Buchanan always placed his specimens either loose, or pasted on light card or paper, in small envelopes]. Even in collecting lichens in this country I am obliged to fold the specimens up in pieces of newspaper to prevent the one specimens from rubbing against another by interposing a fold of the paper between them and screwing the ends together so that the specimens do not fall out. A pasteboard box is the only article suitable for enclosing the specimens or 2 boards as you were formerly in the habit of doing. The previous package also enclosed in a canvas

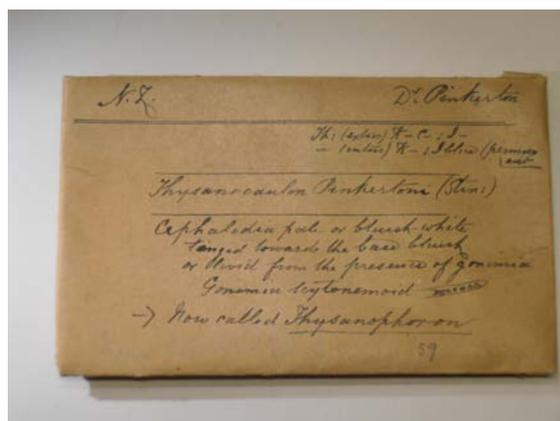
bag and addressed in the elegant handwriting has not suffered nearly to the same extent but on looking over the specimens again I find a large proportion of the apothecia rubbed off.

I have not yet received the copy of your work on N.Z. grasses. I see in the present packet a considerable number of barks on which grow a Fungus viz. a Nectria. I presume this puzzled you at the time of collecting. Strange to say this fungus has suffered least of all. So far as I have gone there does not appear to be [a] great variety of lichens in the present package. I can recognize at sight many of the commoner species. I presume you had reached an elevation the least prolific or just at the boundary line between the alpine and subalpine. This has to me been the least interesting and in my mountain ascents I now do not botanize at all at such elevations i.e. I hurry over such ground. At such elevations rock-lichens are by far the best and the more so the greater the elevation. Afterwards lichens growing on earth or creeping over mosses etc are the best and especially so near the summits of high mountains.

The only one on stone sent this time is curious but I think I have it already – but not sure.

Yours truly  
James Stirton..."

In 1892, the Christchurch orchardist, T.W.N. Beckett wrote to Stirton on 22 November introducing himself and his interest in mosses: "...I am working up the moss flora of New Zealand and I write to you for help if possible about some New Zealand mosses of which you are the author. In the 6<sup>th</sup> volume of the *Trans. N.Z. Inst.* (p. 210) Mr J. Buchanan published a paper on the mosses of the Province of Wellington, N.Z. In it there are five mosses (see end of letter) which you have named and I am unable to learn where they have been described. I wrote to Mr Buchanan some time ago, but he has long been in failing health and has not answered my letters owing to illness..." (T.W.N. Beckett Correspondence books. Vol. 1, Letter Book 1, letter 57, CHR). Stirton replied to Beckett's letter the following year on 24 June, 1893: "...I have just alighted upon your letter rec'd on the 8<sup>th</sup> Jany: of this year. Being busy professionally I was constrained to put your letter aside, and unfortunately I put it aside too well (like the squirrel) and could not find it. I am sorry to learn that Mr Buchanan's illness which I fear is merely a presage of decay and death. For several years he was a constant and diligent correspondent and sent me many rare and excellent specimens first of mosses, latterly of Lichens. I have a distinct recollection of publishing descriptions of the five mosses whose names are quoted, but through what channel I cannot now recall. You must remember that the publication is now twenty years ago...I do not know where the specimens now are. I must have scraps of them but they must have been thrust aside to be replaced by Lichens...Mr Buchanan must have sent me at least 200 specimens. Do you go in for lichens? This department is now my speciality. Of this tribe I possess specimens from almost all parts of the world. Christchurch and its vicinity have not been investigated in this respect. You presumably are familiar with all the forms of Lichens although you may not know them critically. Do you think you could send me fruiting specimens of the foliaceous Lichens as well as the fruticose. The crustaceous are more difficult to discriminate. I may say however that almost every tree in your vicinity has its bark covered with the crustaceous forms. I know that the foliaceous forms are particularly well represented with you. You may not however choose to diverge from your mosses. Still during your rambles you cannot fail to notice them on the ground; on scrub, on large trees etc. You might from time to time put into your vasculum a specimen and send the whole to me. Of course you will carefully retain a duplicate for yourself numbered identically etc. Let the No's be progressive even although you may send several specimens of the same lichen. Although you may not now go in for lichens you will insensibly be led ultimately to their study. Meanwhile what you send may lie beside you. I shall send the names. Some of the minuter foliaceous lichens have not been investigated and much might be discovered..." (T.W.N. Beckett Correspondence books. Vol. 1, Letter Book 2, letter 58, CHR). This encouraging letter was the start of Beckett's interest in lichens (see Galloway 1998).



**Fig. 1.** Stirton's packet of *Thysanophoron pinkertonii* (GLAM)

On 26 November 1895 Beckett wrote to Stirton mentioning Buchanan: "...I saw an old moss friend the other day a Mr Wm Bell from Dunedin who lives near Mr Buchanan & knows him well. He gives a very sad account of the state of the old man's health. He is in his dotage and has quite given up botany indeed seems to have forgotten all about it..." (T.W.N. Beckett Correspondence books. Vol. 2, Letter Book 4, letter 183, CHR). And in a letter of 11 August 1899, Beckett informed Stirton: "...Mr Buchanan died a year or more ago. He had been failing for some time and his mind for some years had been quite a blank..." (T.W.N. Beckett Correspondence books. Vol. 2, Letter Book 12, letter 665, CHR). Beckett's Canterbury lichens are discussed in Stirton (1898, 1900) and Galloway (1998). A detailed account of the Stirton-Beckett correspondence is in preparation.

With two lichen papers published in the Transactions, Stirton wrote to James Hector on 19 May 1902, mistakenly assuming him to be Buchanan's successor as Botanist to the Colonial Museum.

"... Dear Sir, I take the liberty of intruding upon you for the purpose of ascertaining whether your Museum includes all sections of botany, or only those plants likely to turn out of economic value. My doubts have lately been aroused on the part of one who pretends to know a good deal of Wellington and its surroundings.

I was long a correspondent of Mr John Buchanan who, I presume, was your immediate predecessor. Mr B. collected Lichens for me & I published papers on them in several Journals. I am now in correspondence with Mr Naylor Beckett of Christchurch, N.Z. and we are still adding to the Lichen-Flora of N.Z. You may have seen the two papers on the subject in the Journ. of the N.Z. Institute.

Now I am anxious to know whether your Museum admits a small section for the disposal of Specimens of Lichens. I am now in possession of the largest Herbarium of N.Z. lichens in the possession of anyone & I am beginning to be anxious as to the disposal of the plants. Perhaps you will favour me with an answer. If on the other hand you have lichens unnamed apart from those of Mr Buchanan I shall be glad to overhaul the lot & report.

Yours truly

James Stirton M.D..." (Te Papa Archive ref.#MU000095/103/0086; James Stirton MD, Glasgow; 10.05.1902).

Hector apparently did not reply to this suggestion of Stirton's as there is no letter to Stirton in the Museum's Outward Correspondence (Jennifer Twist, *pers. comm.*).

I am grateful to Alan Ventress (Mitchell Library, Sydney), to Bryony Macmillan, and the staff of the Allan Herbarium (Landcare Research, Lincoln), and to Jennifer Twist (Archivist, Museum of New Zealand Te Papa Tongarewa), for access to correspondence held in their care; to Linda Tyler (University of Auckland) for her helpful comments, and to Keith Watson (Glasgow Museum and Art Gallery) for providing the illustration used in this paper.

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■ **The biostatus of *Pteris vittata* in New Zealand.**

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*Pteris vittata* was first recorded as a naturalised species by Cameron & Parris (1998) and subsequently listed as a casual by Heenan et al. (1999), citing specimens from Manukau Road, Epsom, Auckland (AK 223419-21) and Thompson Street, Napier (AK 224154). Cameron & Parris noted that the plant had then been in cultivation for at least 10 years. However, in the 2008 revision of threatened and uncommon plants of New Zealand (de Lange et al. 2009), the status of *Pteris vittata* was changed to coloniser, albeit without any documented evidence to explain the change.

In email correspondence (31 March 2009), and more recently on the New Zealand Plant Conservation Network, Peter de Lange (2012), the Chairman of the Committee, indicated that coloniser status was determined on the basis of a suggestion from Chris Ecroyd that John Buchanan had collected this species from Tarawera Springs in the 19th century, suggesting that it was "at least partially native", and that there may have also been a Colenso record from the same era. As far as we are aware this suggestion has never been formally published anywhere. Ecroyd certainly did observe this species on the banks of Lake Rotomahana in 2007, and it was later collected by Crump, Cashmore and Adams in August 2007 (WELT P023250) where 30 clumps were found in one area of 40 sq. metres, as well as in three other patches. The species is common in eastern Australia, and the question was

raised as to whether it could be regarded as indigenous, self-established since at least the 1870s. de Lange (2012) suggests that it could be self-established in the Rotorua area, and more recently naturalised from the horticultural trade in Auckland and Napier.

The basis of Buchanan's record of *Pteris vittata* from Tarawera is presumably his brief report of a new species in New Zealand, which he identified as *Pteris longifolia* L. (Buchanan 1882). The relevant paragraph states "Specimens of this fern have lately been forwarded to the Museum by Mr Lascelles of Napier. They were collected by him in the Tarawera country under circumstances which preclude the possibility of its having been introduced". The "circumstances" are not elaborated, and no description of the plant is given, other than the final sentence of the account which reads "It may be mentioned that the New Zealand plant has the pinnae serrated, which may claim for it the position of a variety". *Pteris longifolia* is a name which has been confused with *P. vittata*, so it is likely that Buchanan was writing about the plant we now call *P. vittata*. However, no specimen is extant at WELT where Buchanan was based, and so it is impossible to verify either its identification or its origin.

This is unfortunate because, quite apart from the uncertainty of identification, the provenance "Tarawera" covers at least two quite different localities. An assumption has been made that Buchanan's record came from Lake Tarawera, supporting the idea that Ercroyd's reported populations from that locality had existed there since the 1870s. However, there is another "Tarawera". It was a major staging post on the Napier-Taupo road in the 19th century, and a popular collecting site for earlier collectors such as Colenso, Hamilton, Petrie, Sainsbury and others who were based in the Napier/Gisborne region. About one third of 336 collections at WELT labelled "Tarawera" definitely come from this site. Another third are definitely attributable to Lake or Mt Tarawera, and the rest cannot be confidently assigned to either locality. Since Mr Lascelles was said to be based in Napier it seems more likely that he, too, collected from the Hawke's Bay site and not from Lake Tarawera.

Further confusion about the origin of Buchanan's material comes from the account by Field (1890) in *Ferns of New Zealand*. He states "This fern was reported, about five years ago [presumably a reference to Buchanan's publication], as having been gathered in the vicinity of Lake Tarawera". Field thus makes the same, possibly erroneous, assumption about its origin. He goes on to say that J.B. Armstrong of Christchurch had told him that he had twice received specimens of this fern from "the neighbourhoods of Napier and Gisborne". Field therefore listed *P. longifolia* as "doubtfully a New Zealand species". But he further states that "The plant is easily cultivated, and rather a favourite one with fern-growers at home. I have also seen it in ferneries in Christchurch, but have never heard of anyone but myself in the North Island cultivating it. If, however, plants of it do occur in ferneries at Gisborne and Napier, spores from dead fronds which had been thrown out might get scattered by the wind and produce plants, but this would hardly account for the Tarawera example". Needless to say, if the correct locality for Buchanan's record is Tarawera on the Napier-Taupo road, the last comment has little validity. On the other hand, Field clearly indicates that the plant was in cultivation at this early period.

We have found no evidence to suggest that Colenso collected this species. He did describe *Pteris lomarioides* from Tapuaeharuru, on the Napier-Taupo road, and this might be a source of confusion. However, that species is almost certainly a synonym of *P. cretica* (although the type has not been seen) and therefore introduced, but is not relevant to *P. vittata*.

In summary, we know that:-

1. *Pteris vittata* has been recorded in recent years (after 1995) from urban sites in Auckland and Napier, and from Lake Rotomahana.
2. *Pteris vittata* was very likely first recorded by Buchanan (as *P. longifolia*) from "the Tarawera country". However no specimen exists and its identity cannot be verified. The balance of probability suggests that the collector, based in Napier, found this specimen at Tarawera on the Napier-Taupo road, not at Lake Tarawera.
3. Field records that *P. longifolia* (i.e. probably *P. vittata*) was definitely in cultivation in Christchurch and in his garden (Wanganui) in the late 19th century.
4. Field also records that *P. longifolia* (i.e. probably *P. vittata*) was collected from the Napier and Gisborne districts in the late 19th century, though whether from wild or cultivated sources is unknown.

In conclusion, it seems clear that *P. vittata* was in cultivation in New Zealand in the latter half of the 19th century, and that it was collected from a few places around Napier and Gisborne, potentially

including the Napier-Taupo road. More recently it has been found in Napier and Auckland as well as at Lake Rotomahana. Whilst we may never be certain, this pattern of distribution seems more likely to have resulted as escapes from cultivation in the East Coast region, rather than colonising events from eastern Australia. If so, the plant should be recognised as naturalised in New Zealand, rather than as a coloniser.

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### ■ Biographical Sketch/Obituary – James Bruce Irwin (1921-2012)

Val Smith, 80 Mill Road, New Plymouth 4310.



Bruce Irwin and Judith Tyler Ruahine Forest Park, Bruce Irwin and Judith Tyler, Ruahine Forest Park, November 2006.

Egmont National Park, to explore with new friends Sid Gibson and his son Owen, and more orchids to find and draw. But war intervened, and despite life in army camps, military mapping back with Lands and Survey, pilot training with the RNZAF, and a year in Japan with J-Force, he pursued his orchid interests whenever possible. Much of his work with Owen Gibson on Mt Taranaki and most of his orchid watercolours were done during or soon after the Second World War. In about 1951 at Timaru he married Joan Mary Graham, and during twenty years or so together their son Murray and daughter Robyn were born.

Bruce Irwin's love affair with New Zealand orchids began in Wanganui, where he was born on 17 November 1921. His father Samuel Irwin, a Scot from Ballyboley, County Antrim, Ireland, was a men's outfitter in Wanganui for many years; his mother Margaret (nee Howie) was born in Invercargill. Bruce was the fourth child in their family of five – three sons and two daughters. During his secondary school years at Wanganui Technical College Bruce had two unusual friends – unusual because of their interest in native plants – and on weekends the three boys would bike and walk miles in the vicinity, looking for new plants, including orchids.

In 1939, at seventeen, Bruce joined the Lands and Survey Department in New Plymouth as a draughting cadet and after about three months was elevated to the position of survey draughtsman. Close by was

Later, when he was working in the Cartographic Branch of Lands and Survey in Wellington, his paintings attracted the attention of botanist Lucy Moore. Bruce left the department in 1962, and for the next five years managed a run-down holiday camp in Marlborough Sounds. Dr Moore visited him there, and a long and productive collaboration began, starting with work for Volume II of the *Flora of New Zealand* (1970) and culminating in *The Oxford Book of New Zealand Plants* (1978). By then Bruce was working at the Art Department of the Otago Medical School, and had long been doing detailed large-scale pencil drawings, rather than watercolours. Lucy Moore advised him on the purchase of a microscope and gave him lessons in botany, and for 11½ years all his spare time was spent on illustrations for the Oxford book.



***Pterostylus irsoniana***

Retiring to Tauranga in 1981 to grow exotic orchids, he became a valued member of the local orchid society. He also continued to observe New Zealand orchids in the field, and to study, draw and write about them. He made the drawings for Bruce Clarkson's *Vegetation of Egmont National Park* (1986), and was a major contributor to publications of the New Zealand Native Orchid Group, of which he was a life member. In 2007 a coffee-table book *Bruce Irwin's drawings of New Zealand orchids* was published by the group, and the following year a selection of his work was exhibited at the Tauranga Art Gallery. He



***Pterostylus irwinii***

was a recipient of the New Zealand Botanical Society's Allan Mere (donated by Lucy Moore), the John Easton Award, the Wellington Botanical Society's Jubilee Award, and in 2010 the New Zealand Native Orchid Group's Hatch Medal. In 1950 Dan Hatch named *Pterostylis irsoniana* in recognition of 'the labours and enthusiasm of Messrs J B Irwin and O E Gibson [hence '*irsoniana*'], who between them have done much to elucidate the orchid flora of Mount Egmont'. More recently, in 1997, *Pterostylis irwinii* was named for him by Brian Molloy with D L Jones and M A Clements.

Bruce shared his perceptions and extensive knowledge in a quiet and unassuming manner, often laced with dry humour. He cared for orchids at Te Puna Quarry Park when well into his eighties, and tended his garden and corresponded with friends and fellow orchid enthusiasts until a few weeks before his death at Tauranga on 4 January 2012, at the age of 90.

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## ■ Biographical Sketch - Marie-Anne Libert (1782-1865)

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

The twelfth of thirteen children, four of whom died at a young age, Marie-Anne Libert was born on 7 April 1782 in Malmédy, a small village near the present Belgian-German border. Her parents, Henri-Josef Libert, a tanner and property-owner, and his wife Marie-Jeanne-Bernadine (née Dubois), were literate, middle-class people who, perceiving Marie-Anne's intelligence and early interest in her

surroundings, arranged for her to be educated. Her first teachers were the Sepulchrine nuns of Malmédy, a community in which her aunt had twice been Superior. When she was twelve, she was sent to a girls' boarding school in Prüm, 30 miles southeast of Malmédy, in the Rhineland, to learn German and arithmetic to facilitate her help in the family business. Her studies soon progressed to include algebra and geometry, as well as violin lessons from a Benedictine of the Prüm abbey.

On her return to Malmédy she became absorbed in natural history, and during long walks in the countryside observed and collected specimens of plants and minerals. Her father's library was her only resource for their identification, but the scientific works were all in Latin – so she taught herself, and became proficient in the language. When she took her first plant collections to Alexandre Louis Lèjeune, a physician and prominent botanist in the region, he asked her to collect for him, and offered her the necessary references. She soon became expert on the Malmédy flora, and many of the plants listed in his *Flore des environs de Spa* were found by her.



***Libertia micrantha***

In 1810 the celebrated Swiss botanist Auguste-Pyrame de Candolle, then professor of botany at Montpellier University, made a scientific tour through Belgium, and Lèjeune and Marie-Anne accompanied him through the high country north of Malmédy. At de Candolle's suggestion, Marie-Anne began a study of the cryptogamic flora of the region, and early in her explorations discovered a new, almost microscopic, genus of liverwort that she named *Lèjeunier*; it became the type for a tribe within the Jungamanniaceae family. Her first publication, a report of *Lèjeunier*, appeared in 1820, and her description of a new fungus genus she named *Desmazierella* after her contemporary, Lille mycologist Jean Baptiste Desmazières, came out in 1829. These, and other scholarly publications, enhanced the reputation she had acquired among European botanists, and led to a number of honours, including the naming in 1924 of the genus *Libertia* by the German botanist Sprengel.

At the age of 55, deciding she was too old for plant collecting, she diverted her focus to her other long-time interests, local history and archaeology, but continued to guide visiting botanists on plant excursions around Malmédy and further afield. Her scientific work did not prevent her from doing her share of the work in the family business, which she and her brothers inherited and expanded. Of the nine surviving Libert children only three married, and Marie-Anne, a sister and four brothers lived a simple life in the family home. Upright in character, and unwilling to accept injustice, Marie-Anne Libert was active in civic and community affairs and was always staunchly Belgian, in spite of changing political boundaries. She died on 15 January 1865, after three days of illness, in her 83<sup>rd</sup> year.

***Libertia micrantha***

*Libertia pulchella*

**Iridaceae**

Originally identified in 1824 by the German botanist Sprengel, when he was sent herbarium specimens from one of Cook's voyages, the genus *Libertia* was named after Belgian botanist Marie-Anne Libert. Seven species are recognised in New Zealand as endemic; another six or seven species are found in Australia, New Guinea and Chile.

*Libertia micrantha* (star herb or forest iris) is a dainty plant up to 12 cm high. Slender rhizomes, lightly anchored by thin wiry roots, put forth erect to semi-erect fans of leaves with a dull lower surface. Relatively large white flowers up to 15 mm across are borne in sparse panicles from November to February. The smooth, round seeds that follow are yellow when mature. A widespread and locally common species of high rainfall forests and riverbanks, *Libertia micrantha* favours montane habitats, or cooler places in lowland forests.

## References

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## PUBLICATIONS

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### ■ Publications Received

The New Zealand Native Orchid Journal no. 124 April 2012. Editorial, Whangaruru Bay Thelymitras, notes and reports, archives, spider orchids and fungus gnats, Aussie orchids, *Thelymitra* 'blinkers'.

Canterbury Botanical Society Newsletter no. 4 April 2012. Upcoming trips, Eugene McNeill obituary, new books about Otamahua/Quail Island.

Canterbury Botanical Society Newsletter no. 5 May 2012. Milliken's Bush and Mount Grey trip reports, upcoming trips and talks.

Canterbury Botanical Society Newsletter no. 6 June 2012. *Usnea* talk summary, Milliken's Bush QEII covenant trip report, Denniston Bioblitz report, upcoming meetings and trips.

Botanical Society of Otago Newsletter no. 65 March 2012. Upcoming meetings and trips, Chairman's and Editor's notes, correspondence and news, *Lilium formosum* var. *pricei*, mistletoe cultivation, a new lichen, Cedric Smith, meeting and trip reports including 10<sup>th</sup> Annual Geoff Baylis lecture, Akatore, John Child Bryophyte and lichen workshop, Mackenzie country.

Manawatu Botanical Society Newsletter no. 46 May 2012. Trip reports for the Ian McKean Pinetum and Marton Reserves, bristlecone pines, upcoming meetings and trips.

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