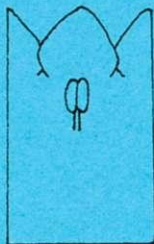
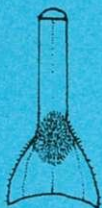
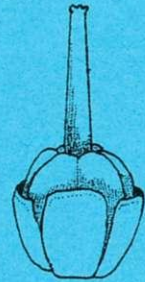


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 74

DECEMBER 2003



New Zealand Botanical Society

President: Anthony Wright
Secretary/Treasurer: Doug Rogan
Committee: Bruce Clarkson, Colin Webb, Carol West

Address: c/- Canterbury Museum
Rolleston Avenue
CHRISTCHURCH 8001

Subscriptions

The 2003 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2003 student subscription, available to full-time students, is \$9 (reduced to \$7 if paid by the due date on the subscription invoice).

Back issues of the *Newsletter* are available at \$2.50 each from Number 1 (August 1985) to Number 46 (December 1996), \$3.00 each from Number 47 (March 1997) to Number 50 (December 1997), and \$3.75 each from Number 51 (March 1998) onwards. 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 28th 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 March 2004 issue (75) is 25 February 2004.

Please post contributions to: Joy Talbot
17 Ford Road
Christchurch 8002

Send email contributions to joytalbot@free.net.nz or talbotj@cpit.ac.nz. Files are preferably in MS Word (Word XP or earlier) or saved as RTF or ASCII. Graphics can be sent as Corel 5, TIF JPG, or BMP files. 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. Macintosh files cannot be accepted so text should simply be embedded in the email message.

Cover Illustration

Dracophyllum densum W. Oliver – scrambling sub-shrub or low shrub, 3 – 50 cm tall with spreading, decumbent or prostrate branches. Characterised by dark grey deeply fissured bark; old leaves persisting for a very long time, leaves erect, clasping the stem and with obtusely acute apices; flowers solitary with the sepals having subacute to obtuse apices equalling the corolla tube; short capsule widest at the top.

Occuring on gentle to moderate (3° - 10°) slopes on mountain summits, terraces and plateaus in the NW Nelson area at altitudes ranging from 610 - 1218 m in shrubland, subalpine shrubland, herbland, subalpine tussockland and grassland.

Drawn by Fanie Venter as part of his PhD thesis on the revision of the genus *Dracophyllum* s.l. This revision is nearing completion.

NEW ZEALAND BOTANICAL SOCIETY
NEWSLETTER
NUMBER 74 DECEMBER 2003

CONTENTS

News

New Zealand Botanical Society News

From the Secretary	2
From the Editor	2

Regional Botanical Society News

Auckland Botanical Society	2
Waikato Botanical Society	3
Wellington Botanical Society	4
Nelson Botanical Society	5
Canterbury Botanical Society	7
Botanical Society of Otago	8
Botanical Society Contacts	10

Trips and Exhibitions

Uniquely Norfolk – A field course on Pacific plants taught in the Pacific	10
Nancy Adams' Botanical Drawings	10

Notes and Reports

<i>Celmisia monroi</i>	11
The Location of important papers and writing of Andrew David Thomson	12

Responses to Articles

A reply to Dr Heenan and Dr Kell	12
--	----

Biography/Bibliography

Biographical Notes (52) : Daniel Bolton (c. 1793–1860)	14
--	----

Publications

New Publication

Going Native <i>Making use of New Zealand's native plants</i>	16
---	----

Journals Received

New Zealand Native Orchid Group Journal No. 89	16
--	----

NEWS

New Zealand Botanical Society News

■ From the Secretary

Committee election for 2004

Nominations for the positions of President, Secretary/Treasurer and 3 Committee Members for the New Zealand Botanical Society for 2004 closed on 20 November 2003. As there were no nominations received other than for those already on the committee, the committee remains unchanged for 2004. It consists of Bruce Clarkson, Colin Webb and Carol West, with Anthony Wright as President and myself as Secretary/Treasurer.

Joy Talbot has been reappointed by the committee as editor for 2004. Joy has indicated that (unfortunately) 2004 is likely to be her last year as editor so if there are any volunteers for 2005 onwards please let me know.

Doug Rogan, c/- Canterbury Museum, Rolleston Avenue, Christchurch

■ From the Editor

I am really keen to have a supply on hand of drawings, or photos which will look good scanned, for the newsletter cover. They should be of a botanical nature. If selected, I will request a description; or this can be sent with the drawing/ photo. The only reward is your picture on the cover!

Joy Talbot, 17 Ford Road, Opawa, Christchurch 8002

Regional Botanical Society News

■ Auckland Botanical Society

September Meeting

The subject of this meeting was "Invasive Weeds". First Michael Browne from the University of Auckland spoke on the IUCN invasive plant species database. This was followed by a talk by Jack Craw, Biosecurity Manager, Auckland Regional Council. Jack has had a long involvement with noxious plants and spoke about the ARC policies on weed management.

September Trip

Onetangi Reserve on Waiheke Island is a 50 ha reserve owned by Forest and Bird. The largely regenerating bush has some mature broadleaf trees in the gullies, and a few kauri on a ridge top. A raised viewing platform under these trees proved to be a good lunch stop. The persistent rain of the last few weeks made the loop track rather muddy, but not enough to spoil a pleasant walk.

October Meeting – Lucy Cranwell Lecture

Dr David Galloway lectured on "The Kew Connection: the Hookers and New Zealand Botany". He gave a fascinating insight into how he uncovered long forgotten documents while working in England, and how these assisted in his private study of the Hookers, father and son, and the early botanical exploration of New Zealand.

October Trip

The northern area of Kawau Island, around North Cove and Vivian Bay, has not previously been visited by the ABS. Once accustomed to the devastation caused by wallabies, which have left little but kanuka overhead and the moss *Leucobryum candidum* underfoot, we began to find small treasures here and there. One of these, *Lagenifera lanata*, which is not seen on the surrounding mainland, was quite plentiful here. Time between ferries did not allow enough ground to be covered, and it was agreed that a return visit is desirable.

November Meeting

Ewen Cameron and Peter de Lange gave a combined presentation on the Flora of the Three Kings Islands. Geology, history and the fauna were discussed, but the main emphasis was on botany,

particularly the interesting endemic flora, and the options there are for promoting the restoration of the islands' vegetation.

November Trip

Our annual walk in the Waitakere Ranges this year followed the Donald McLean Track along a ridge at 360 m asl, and down the Karamatura Track to sea level on the Manukau Harbour. Our still incomplete species list numbered over two hundred, and this does not include fungi and bryophytes. Highlights included a colony of *Hymenophyllum armstrongii* in a bed of moss, still healthy after two years of living close to ground level on a branch of a fallen rimu, and three plants of *Chionochloa conspicua* ssp. *cunninghamii*, found a couple of years ago and identified as the only plants of this species known in the Auckland region.

FORTHCOMING ACTIVITIES

30 November-11 December	New Caledonia
13 December	Potluck Dinner/Workshop – sedges, rushes & restiads
3-10 January	Lake Ohau, South Canterbury
24-26 January	Anniversary Weekend, Cavalli Islands

Maureen Young, 36 Alnwick Street, Warkworth. Email: youngmaureen@xtra.co.nz

■ **Waikato Botanical Society**

Mangroves

The year got underway with a really interesting talk by Catherine Beard of the University of Waikato, on her PhD research into New Zealand mangroves, which involved looking at why mangroves don't grow past a southern limit at Latitude 38°S. Dispersal and the availability of establishment sites seemed unlikely to be the only problem. Catherine found all the plants tested were adequately frost tolerant, but that photosynthetic rates were much reduced in the days following a cold or frosty night. This means that southern mangroves operate at a severe physiological disadvantage – making less energy to put into growth and reproduction. Additional stresses, such as having to find extra reserves to recover from frost damage, also make survival difficult. These negative effects become more pronounced with colder temperatures, so that the environment further south of the present range may be too cold for their long-term survival.

Torehape

This field trip visited several sites, lead by Shannon Fergie. First stop was the Torehape Reserve (restiad peat bog) where Shannon pointed out the principle plants from which the restiad peat formed (i.e. the large cane rush *Sporadanthus ferrugineus*, and the small jointed rush *Empodisma minus*), and other typical wetland plants. The catch phrase for the day was "Rushes are round, sedges have edges". We then viewed the nearby Torehape peat mine, where the peat is unusual in that it has a layer of *Sphagnum* peat on top, so mining involves scraping off the top metre, leaving long strips of exposed base peat. Shannon's Masters thesis looked at how to restore this loose peat. Seeding small raised islands of processed peat with manuka slash lead to rapid re-vegetation with manuka, brought in the greatest richness of species, and re-established the main bog plants within two years. In the afternoon we visited a property where the farmers and DoC have restored a lake by clearing willows and fencing the margins, resulting in a healthy lake with regenerating natives on the margins and plenty of bird life that no longer encroaches on the paddocks.

Antarctic mosses and lichens

Even on the coldest, windiest and driest land mass on earth, plants survive. The majority of the plants growing on mainland Antarctica are lichens and mosses. Professor Allan Green of the University of Waikato presented recent data looking at survival strategies of these plants. Free water is a scarce commodity in this environment but during the brief spring, snow-melt provides enough free water for photosynthesis. Professor Green and his colleagues found an amazingly low occurrence of photosynthesis in lichens - in one case, on only 37 days within one year. Lichens were found to begin photosynthesis in response to the presence of free water (and of course light) within 2-4 hours, and mosses in 14 to 24 hours. During the rest of the year both lichens and mosses have the ability to remain in a 'freeze-dried' state. It was also found that mosses are able to 'un-couple' themselves from the freezing air temperature by being effectively insulated by the blanketing snow above.

Grass-endophyte relationships

In July we heard a great talk by Chris Miles of AgResearch on the role of endophytic fungi in grasses, the best studied of which are those in agricultural grasses. Chris and his colleagues investigated the NZ native grass *Echinopogon ovatus* and other *Echinopogon* species in Australia, and discovered the presence of a fungus related to the well known ryegrass endophyte. Further study of endophytes in grasses indigenous to the Southern Hemisphere identified several new species including that occurring in *E. ovatus* in New Zealand – *Neotyphodium aotearoae*. The same grass species in Australia was found to have two endophytes. The occurrence of gene flow between Northern and Southern hemisphere endophytes was highlighted by the occurrence of hybrids. Chris describes endophytes as a “cryptic form of biodiversity”. The lack of external signs of their presence in the plant means they were only recently discovered in *E. ovatus*. They are only transmitted through seed, so are easily lost through improper storage of seed, and we often don't realise they're gone.

Uses of Native Plants

This talk was presented by Rob McGowan who emphasised the holistic view of medicinal plant uses, which involves treating the causes and the symptoms. Many of the most effective remedies are preventative measures rather than cures. The most useful native plants tend to be those found growing in early successional communities/areas of high disturbance. Rob described the uses of some plants for treating ailments such as sunburn, toothache and indigestion, as well as the collection of water from supplejack. Traditional remedies are increasingly being trialled to help Maori prevent/overcome illnesses once uncommon e.g. diabetes. The collection of suitable native plants is becoming a more challenging exercise due to vegetation modification and the fact that many Maori live in urban areas. Rob stressed the importance of gaining knowledge about plant uses from people rather than books, and that it is very important to be careful which native plants are taken internally.

"The Botany of Waikato" is still for sale

Book orders, Waikato Botanical Society, c/- Biological Sciences, The University of Waikato, Private Bag 3105, Hamilton. Now \$20 per copy (postage included), or \$15 each (plus postage) for purchases of 10 or more.

President: Joanna McQueen jmcqueen@waikato.ac.nz

Secretary: Jenny Hurst jhurst@doc.govt.nz ;

Postal contact: Waikato Botanical Society, c/- Biological Sciences, University of Waikato, Private Bag 3105, Hamilton.

■ **Wellington Botanical Society**

Eastern Harbour Hills, above Days Bay, 1 March 2003

Some of the 11 participants enjoyed a perfect windless crossing by ferry. Route: Moana Road Track to the ridge east of Days Bay, Korimako Loop Track and down to Ferry Road. Wafts of wonderful perfume revealed *Earina autumnalis* in flower. Despite a very complete (10-page) species list, provided by John Sawyer of DOC, Chris Hopkins added *Alseuosmia pusilla*, toropapa, on the ridge in beech forest. It was not in flower. Peter Beveridge identified six mosses to add to his Te Papa list for East Harbour Regional Park. These were: *Camptochaete angustata*, *Distichophyllum rotundifolium*, *Echinodium umbrosum*, *Macromitrium retusum*, *Papillaria flavo-limbata*, *Philonotis tenuis*.

Ian Goodwin

Joint Work Party, Te Marua Bush, 21 June 2003

This was a combined work party of 18 WBS; Upper Hutt Branch, Royal Forest and Bird Protection Society and Greater Wellington Regional Council. 50 trees were planted to fill gaps in last year's planting and to replace drought and wind losses in the western windbreak. Some canopy species were planted among the existing plantings. Earlier plantings are now giving good protection to the matai, maire and totara. Native seedling regeneration has also been good, despite the dry conditions, and the revegetated area looks attractively bushy from SH2. Small weed patches were removed from the mature forest. Since Darryl Kee took over weed control the forest floor has been transformed and is almost free of the invasive weeds that had defied previous hand weeding. Since the workbee, the fence on the SH2 frontage has been removed for road widening, making the small remnant vulnerable. No doubt we will be planting in this area next season, to repair the bulldozer damage!

Sue Millar

Swamp maire translocation

In September several *Syzygium maire*/maire tawake were topped, uprooted and moved by a Transit NZ digger to their new site in Kaitoke Regional Park. John Campbell of ERANZ (Environmental Research Associates of NZ), planned and oversaw this operation to save these uncommon trees which were growing in the path of the SH2 realignment. Arrangements were made to keep the trees inundated in their new site and to guy them to prevent further destabilisation by wind. It remains to be seen whether the move will succeed. When last seen, in August, the trees had not yet begun to sprout.

Barbara Mitcalfe

Karori Wildlife Sanctuary, 3 August 2003

This trip comprising 30 members of WBS & KWS, had two purposes: to botanise along the Te Mahanga Track to the Upper Dam, and east of the Upper Reservoir, and to choose sites along an interpretation trail to be sponsored by WBS. This will have numbered posts near plants to be described in a pamphlet available at the Visitor Centre. Features of the day included several wheki ponga/*Dicksonia fibrosa*, big tree fuchsias, a large tree tutu, the ferns *Leptolepia novaezealandiae*, *Diplazium australe*, *Blechnum colensoi*, and *Hymenophyllum flexuosum*, several kaka, a saddleback/tieke and a North Island robin/toutouwai. We also added several plants to a list of 140 native plants recorded in the Sanctuary, including big mingimingi, coastal tree daisy/*Olearia solandri*, a rata/*Metrosideros colensoi* and fireweed/*Senecio minimus*.

Chris Horne

Wilf Mexted Reserve; Larsen Crescent Reserve; Redwood Bush, 6 September 2003

15 members of WBS and Friends of Tawa Bush Reserves (FTBR), botanised Wilf Mexted Reserve, Tawa, a 1.6 ha reserve dominated by an impressive stand of tawa and kohekohe. Though lack of possum control in previous years had resulted in a sparse understorey, we added wineberry, tawa (inadvertently left off the published list), *Coprosma propinqua*, *Griselinia lucida*, rewarewa, heketara, kowhai, *Metrosideros diffusa*, and *M. fulgens*, six species of ferns, and planted tarata and kohuhu, to the plant list published in *Scenic Reserves of the Lower North Island* in 1986.

After lunch we botanised Larsen Crescent Reserve, a 0.5 ha remnant with an impressive stand of matai and tawa, a mature totara, and a high diversity of species for its size. We added the orchid *Drymoanthus adversus* and nikau to the plant list. WBS commended the Friends' possum poisoning, tree planting and track upgrading, and the WCC's boardwalk to protect the roots of a splendid matai. This tree and a totara nearby on private land, are the only "Notable Trees" listed in Tawa by WCC.

We included a brief visit to the lower part of Redwood Bush, a 10 ha forest on the southwestern slopes of Tawa. Its tawa forest is uncommon around Wellington. We saw a small stand of kahikatea on an exposed ridgeline, and large twin pukatea, one (1.27m d.b.h.) which is the largest tree in the reserve.

Richard Herbert, FTBR (abridged)

PROGRAMME

6-7 December 'Beuley' – Maungapakeha Taipo
Wed 31 December – Sunday 11 January 2004: West Coast and Murchison. First week near Stillwater, Greymouth area, 2nd week Tutaki Valley, 33 km east of Murchison
24 January Otari – Wislon's Bush off track
14/15 February Corner Creek, Wharekauhau Stream or Mukamuka Beach, South Wairarapa
16 February Fuchsia in the Tararua – Steve Ulrich, DOC
6 March Orongorongo Station, Lower Coast Rd, Wainuiomata
15 March Recent Wairarapa happenings – Tony Silbery, DOC
9 – 11 April (Easter) Mangaweka area

President: Chris Horne (04) 475 7025 (home)

Secretary: Barbara Clark (04) 233 8202 (h); (04) 233 2222 (fax); PO Box 10 412, Wellington 6036

■ Nelson Botanical Society

Abel Tasman National Park, 17th August

On a beautifully sunny winters day 14 members boarded the water taxi at Marahau to be dropped off at Watering Cove. Some time was spent exploring the vegetation around the beach and we admired a patch of *Clematis paniculata*. On the climb toward the ridge through the gully we saw a good variety of

native plants as the vegetation here had escaped the effect of the bush fires in this part of the park. Growing next to each other were hutu (*Ascarina lucida*) and pukatea (*Laurelia novaezealandiae*), both with shiny serrated leaves in opposite pairs. On the top of the ridge, where regeneration is slowly taking place within Manuka, we were spoiled by the beautiful view over Anchorage, before joining the coastal track to Marahau. The winter flowering rata, *Metrosideros fulgens*, gave a rich display of flowers along the way. Stillwell Bay proved to be a perfect spot for our lunch, with patches of the orchid *Cyrtostylis reniformis* in the vicinity. In addition to the botanizing, the trip was a good walk, with most people returning to Marahau only at the end of the day.

Jaap Noordeloos

Upper Pelorus valley, 21st September

The day started damp as we set off to explore the beginning of the upper Pelorus Valley track beyond the Maungatapu Road turn-off. Although it is one of the main routes to the Richmond Ranges beyond, the access road near its end was in rough condition suggesting it gets little use. The track followed a gentle contour above the Pelorus River and afforded wonderful glimpses of the river below and across to the misty, forest-covered mountain slopes. Most of the main species of beech and podocarp were commonly represented in the canopy: silver, hard, black, and red beech, along with rimu, miro, matai, Hall's tötara, and kahikatea. The diversity of species encountered as soon as we entered the forest required us to botanize at a very "comfortable" pace. We clocked up over 100 species of vascular plants in less than 100 metres of track! The conspicuousness of ferns was notable, with small groves of the regionally uncommon *Dicksonia fibrosa* appearing with *Cyathea dealbata* and *C. smithii* on the alluvial terraces under an excellent stand of kahikatea. The filmy ferns *Hymenophyllum rarum*, *H. sanguinolentum*, *H. multifidum*, *H. scabrum*, and *H. demissum* grew cheek-by-jowl on the track side and on trunks. The ground cover included *Hydrocotyle dissecta*, *Schoenus maschalinus*, and colonies of the giant moss *Dawsonia superba*. *Hebe stenophylla* and the cryptic *H. brachysiphon* (previously treated by us as *H. venustula*) were growing together on terrace risers and stream banks, as well as both *Lophomyrtus bullata* and *L. obcordata* and their hybrids. Also on a rocky bank near the river were two species of native broom, *Carmichaelia odorata* var. and *Carmichaelia australis* var. "flagelliformis". Tawa was also encountered occasionally, here near its southern limit. The track occasionally passed through pockets of gorse which were acting as serious nurse crops for natives, and the density of lancewood saplings here was exceptional. Further exploration of this area is warranted.

Shannel Courtney

Dry River and Rawhiti Cave, 19th October

A sunny day saw 39 people set out for Rawhiti Cave above Dry River on the western side of Takaka Hill. Interesting plants beside the river included *Australina pusilla* and the limestone kowhai *Sophora longicarinata* with its tiny leaflets. Zigzagging steeply upwards, the more interesting species on the track margins and on the steep slope included tall, thick-trunked *Podocarpus totara*, *Adiantum diaphanum*, *Anemanthele lessoniana* (gossamer grass, ranked Sparse on the national list of threatened plants), and *Microlaena polynoda*. Interestingly, the *Microlaena* had been browsed by goats, but the *Anemanthele* was untouched. *Teucrium parvifolium*, considered to be in gradual decline nationally, had also been browsed by goats along the track edge. Young seedlings of *Rorippa divaricata* were yet another nationally threatened plant found along the track margins, looking dangerously like some of the common weedy species there. A *Clematis* species with adults in flower and large numbers of tiny-leaved juvenile plants caused much discussion, turning out to be *C. foetida* in spite of its weak scent. *Libertia mooreae* was also in flower on the track. The party's tail-enders, making a species list, finally arrived at the cave mouth for a rather late lunch. The cave entrance is quite stunning with a huge overhang and large numbers of stalactites, becoming more delicate and more strongly coloured where the roof curved down into the cave. After lunch, Shirley Hayward (DOC) showed us a patch of healthy adult *Teucrium* which had taken over some of the *Rorippa* habitat at the cave mouth, and also an attractive narrow-leaved form of *Hebe albicans* which hung over the cliff above our heads.

Cathy Jones

FUTURE TRIPS

November 16, Wangapeka, Rob Landau, 522-4472

December 19-21, Mt Maling, Sedgemere (two nights), Cathy Jones, 546-9499

January 30–February 2, Anniversary Weekend, Pine Valley, Mt Richmond, Julie McLintock, 545–0989

President: Cathy Jones (03) 546 9499 Flat 2, 5 North Rd, Nelson. Email: cjones@doc.govt.nz
Treasurer: Gay Mitchell (03) 548 3351 13 Albert Rd, Nelson.

■ Canterbury Botanical Society

October Meeting

Jon Sullivan spoke on "The botany and conservation of Costa Rica's tropical dry forests" focusing on the Area de Conservación Guanacaste (ACG) where he lived for three years. The ACG is estimated to contain about 10,000 species of plant (including bryophytes), and about 2% of the world's total species biodiversity. Included in the flora are many Gondwanan species, since the bulk of the Central American flora originates from South America. The largely deciduous dry forests that dominate the ACG once covered much of the tropics, but now only 2% remains worldwide. Like the dry forest of Canterbury and Otago, tropical dry forests were easily burnt and their climate well suited human agriculture and settlements.

The ACG began as a 10,000 ha national park designed to protect an historic military site, and grew through the 1980's and 1990's to a conservation area of 120,000 terrestrial ha and 70,000 marine ha. It now contains the largest conserved area of largely regenerating tropical dry forest in Central America, surrounded by the habitats that many dry forest species need at some time of the year. The ACG is run as a demonstration of how large areas of wildlife can be sustainably used in ways that make real contributions to the local economy (ecotourism, bioprospection, bioeducation, etc). The central idea is to ensure the wildland's long term survival, and encourage other poorer tropical countries to conserve more of their remaining wildlands.
Jon Sullivan (abridged)

September Field Trip – Ashworths Beach

After Trevor Partridge, trip leader, gave us a brief history of this highly dynamic dune system north of the Ashley River and Saltwater Creek, mid-Canterbury, so that we could understand the present-day patterns, we set off to the beach. We passed remnant patches of *Leptocarpus similis* and *Juncus kraussii*, which probably represent former dune slack or salt marsh, as well as an area of *Coprosma acerosa* which is uncommon here. The track ends at the central of three small dune lakes known as Ashworth Ponds. 4WD vehicles had destroyed the central part of the sequence around the lake margin but we observed *Schoenoplectus pungens*, *Samolus repens*, *Selliera radicans*, *Isolepis nodosus*, *I. cernuus* and *Sarcocornia quinqueflora*. Around the foredune face we passed some patches of *Carex pumila*. The dynamic nature of the dunes including blowouts, rolling dunes and undercutting were obvious as we walked to the northern pond. The vegetation was similar but included *Triglochin striatum*, *Juncus kraussii* and *Spergularia marginata* as well as a good range of larger marginal plants including flax and *Bolboschoenus caldwellii*. The south pond used to join the middle pond through a series of dune slacks where the water table is confined close to the surface and containing mostly *Samolus repens*, *Selliera radicans* and *Plantago coronopus*. The slacks and their plant communities still exist but the south pond had been completely captured by Saltwater Creek. Visible on the island once part of the pond but now part of the creek, were big patches of *Cakile edentula*.
Trevor Partridge (abridged)

FORTHCOMING ACTIVITIES

Friday 5 December short talks from the two students who received grants from the Society followed by Fayla Schwartz on the Flora of the Puget Sound
Saturday 6 December Foggy Peak Ridge from the summit of Porters Pass
Friday 30 January members show and tell
Waitangi Weekend Camp: Based on Punakaiki, West Coast, Waitangi Day Weekend, 6 - 8 February 2004. Participants are asked to book their own accommodation, preferably near the Motor Camp.

President: Neil O'Brien (03) 384 6090 obrien.nj@xtra.co.nz

Secretary: Margaret Geerkens (03) 352 7922 PO Box 8212, Riccarton, Christchurch.

Email: bert.marg@xtra.co.nz

■ Botanical Society of Otago

27 September – Landis Garden, Warrington

To begin the visit our hosts guided us around their Rhododendron Dell which included geographical collections from Nepal, China/Japan and North America. We moved on to a forest remnant of mature kanuka, perhaps 100 years old, overtopping an understorey of mahoe, lemonwood, broadleaf, fuchsia, marbleleaf and mapou. Immediately after removing stock several species of hitherto unseen natives appeared, including *Melicope simplex* and *Cyathea smithii*. Many native seedlings have fared well after grass competition was removed by spraying Roundup; Chuck Landis considers spraying the grass may be the only way to obtain bush regeneration in old pasture land. Elsewhere in the garden many non-local natives thrive including many northern species such as *Ixerba brexioides*, tawa, titoki, kohekohe, toro, makamaka, rewarewa, kawakawa, kaiwhiri, whau and karaka. It was a treat to find a puriri (*Vitex lucens*), with much vigorous young growth and toropapa (*Alseuosmia macrophylla*), which occurs from North Cape to Marlborough and North Westland, thriving and sporting numerous buds that would soon open into fragrant, tubular red flowers.

Alison Evans (abridged)

Truby King Reserve

At the nearby Seacliff Reserve, site of the former Seacliff Mental Hospital, Chuck Landis showed us around a collection of magnificent mature trees, exotic and native, that were planted during Sir Truby King's reign as superintendent from 1889 – 1920. From 1973 the spacious grounds overlooking the sea fell into disrepair. Now the plantings are slowly being rescued from the wilderness and Chuck is composing a species list of the trees and shrubs present. The highlight for me was coming round a corner and seeing in full bloom the magnolia that Janet Frame had written about in *Faces in the Water*.

Allison Knight (abridged)

11 October 2003 – Cliff Donaldson's Garden

Cliff and Linda started the garden in the 1960s and it contains many superb exotics and natives. Of the natives, pride of place was a weeping tree broom (*Carmichaelia stevensonii*), the large dimensions of which came as quite a surprise to many. North Island trees feature strongly and many of these were unfamiliar to members. The trees were flourishing in the well chosen micro-climate of the various sectors of the garden. Even plants of the far north such as *Tecomanthe speciosa*, *Elingamita johnsonii*, *Meryta sinclairii*, *Cordyline kaspar* and *Ackama* (= *Caldcluvia*) *rosifolia* were present. At least six species of rata were on display including the uncommon Bartlett's rata (*Metrosideros bartlettii*) and *Metrosideros carminea*. Other northern South Island and North Island highlights included several species of maire (*Nestegis* spp.), false maire (*Mida salicifolia*), tawa, taraire, kauri, tainui (*Pomaderris apetala*) and kawaka (*Libocedrus plumosa*).

John Barkla (abridged)

Moore's Bush

In 1945 Percy and Ellie Moore bought 4 ha of grazed dairy farm with the aim of enclosing the remnant podocarps with native forest. By 1974, when the land was bequeathed to Forest and Bird, much of the bush cover was restored, and in 1992 the Department of Conservation vested control of the adjoining 2 ha of scenic reserve in Forest & Bird. A total animal control programme was begun in 1996 to aid the regeneration of podocarps - miro, matai, totara, kahikatea and mountain cedar (*Libocedrus bidwillii*). Armed with copies of Ken's species lists we explored the forested depths leading down to a stream. 12 lichens and a fern were added.

Allison Knight

29 October 2003 – Second Geoff Baylis Lecture

Peter Wardle on "New Zealand's forest limits and the vegetation above them, compared with South America and other regions."

Peter first set the scene with many views of the New Zealand situation where usually sharp beech-dominated treelines are generally consistent with those in many other countries in their conformity with a mean midsummer month isotherm of 10 deg. C, though this was clearly only a "surrogate" for something more critical. Where ours differ from many (but not all) other areas is with the tall tussock grassland, usually with a range of associated megaherbs, which occupies the adjacent higher zone, which he referred to in his early writings as the "low-alpine" zone. Dominant or co-dominant shrubs may share this zone with the tussocks, occupying the steeper slopes where snow doesn't lie. Further up the mountains these taller plants are replaced by a usually sparse cover of dwarfed plants, which he had earlier referred to as the "high-alpine" zone.

This pattern was repeated on New Zealand's subantarctic islands, as Peter showed for Campbell Island, and to a more limited extent on several of the tropical high mountains: Peter showed examples from his own travels in New Guinea, on the high Andes of Ecuador, and on Mt Kenya. The tall tussock grasslands on these mountains, Peter claimed, were largely the result of fires, of human origin, over long periods. By contrast, the vegetation pattern on the high continental mountains of the northern hemisphere (North America, Europe, Asia all featured), and on the central and southern Andes, showed a different pattern with the vegetation and climatic equivalent of our high-alpine zone occurring immediately above the treeline. Tall tussock grasses were essentially absent.

Invasion of the so-called low-alpine tall grasslands, characteristic of oceanic regions, particularly New Zealand, by some high-mountain tree and shrub species from continental North America and Europe, has convinced Peter that we should cast aside his "low-alpine" term in substitution for a new one, "penalpine". Reference to Christian Körner's recent book on "Alpine Plant Life" showed that the situation was far from simple and Peter acknowledged that there were still a few local sceptics but named only one, the reviewer.

Alan Mark

Cannibal Bay and Nugget Point

The beach at Cannibal Bay is dominated by parallel rock formations, tilted sandstones of the Southland syncline, running out to sea. Above these, clumps of *Anisotome lyallii* interspersed with the endemic *Celmisia lindsayi* cascade down the cliffs. Nearby Nugget Point is the northern limit for this southern coastal species of *Celmisia*. In the dune flats/hollows we found the woody New Zealand daphne, *Pimelia lyallii* flowering in abundance. Other plants of interest were *Raoulia hookeri*, *Colobanthus apetalus*, *Hydrocotyle hydrophila*, two plants of *Myosotis pygmaea* var *pygmaea* in flower, *Ranunculus acaulis*, *Coprosma acerosa*, *Libertia peregrinans* (with magnificent orange leaves), and large quantities of *Corybas* sp. Unfortunately there was also abundant *Hieracium pilosella*, marram grass and other introduced weeds.

Nugget Point is home to over 800 *Olearia* plants and the scent of *Olearia fragrantissima* greeted us as we headed down the track to the lighthouse; a definite aroma of ripe peaches was the consensus. Spectacular wind-shorn kowhai and mahoe at knee height reflect the severity of the terrain and climate. Demonstrating the effect of good shelter, *Clematis paniculata* was happily flowering on one of the most exposed parts of the headland near the lighthouse, nestled down in the bracken. Other plants of interest were *Linum monogynum*, *Clematis foetida*, flowering magnificently, *Helichrysum lanceolatum*, *Rubus schmidelioides*, *Calystegia* sp., *Urtica ferox*, *Coprosma virescens* and *C. crassifolia*. We didn't climb down to check it out ourselves, but we were assured that there is a considerable quantity of *Lepidium oleraceum* (Cook's scurvy grass) growing on the rocks below Nugget Point.

Robyn Bridges (abridged)

PROGRAMME

- | | |
|-------------|---|
| 3 December | Flora and Vegetation Zones of Washington State, USA, Dr Fayla Schwartz |
| 6 December | Mt Watkin podocarp forest |
| 24 January | Full-day field trip to Tokomairiro Mouth – Sand dune communities |
| 11 February | Mycorrhizal fungi, Prof. John Cairney, University of Western Sydney |
| 18 February | Nature conservation and grazing management in Europe and New Zealand, Dr Jan Bokdam, The Netherlands |
| 5 March | A BBQ to welcome new botany/ecology students and new BSO members |
| 8 March | The All Taxa Biodiversity Inventory being carried out in the Great Smoky Mountains National Park Steve Stephenson, University of Arkansas |
| 13 March | Full-day field trip to the top of the Blue Mountains |
| 21 April | AGM – "Gardens without Weeds?" Guest speaker Associate Professor Helen Leach, an Anthropologist with a special interest in Palaeoethnobotany. |

Chairman, David Orlovich, david.orlovich@botany.otago.ac.nz

Secretary, Robyn Bridges, robyn.bridges@stonebow.otago.ac.nz, ph 479 8244, P O Box 6214, Dunedin North

■ Other Botanic Society Contacts

Manawatu Botanical Society

Jill Rapson Ecology, Institute of Natural Resources, Massey University.

Rotorua Botanical Society

President: Willie Shaw 07 362 4315

Secretary: John Hobbs 07 348 6620 c/- The Herbarium, Forest Research, Private Bag
3020, Rotorua. See also www.wildland.co.nz/botanical.htm

Wakatipu Botanical Group

Chairman: Neill Simpson (03) 442 2035

Secretary: Lyn Clendon (03) 442 3153

Wanganui Museum Botanical Group

Chairman: Ian Bell (06) 343 7686 115 Mt View Road, Wanganui

Secretary: Robyn Ogle (06) 347 8547 22 Forres Street, Wanganui

TRIPS and EXHIBITIONS

■ Uniquely Norfolk – A field course on Pacific plants taught in the Pacific

Department of Biological Sciences & The Centre for Continuing Education, The University of Waikato

Discovered by Captain Cook and colonised by the British, Norfolk Island is rich in history and a treasure trove of endemic species. Ironically, the site of the first British landing is now named Botany Bay. With such a name, there is surely no better place to treat yourself to a unique learning experience.

The opportunity to explore such an environment is beyond compare. Discover the art and science of plant identification in a spectacular island setting. Course facilitators Bruce Clarkson and Chrissen Gemmill are internationally renowned specialists in the field of Pacific plants and will expertly guide your learning throughout the trip. This not to be missed experience is the botanical adventure of a lifetime!

Trip Details:

The field course runs 22-29 February, 2004.

Course Fee: \$900.

Travel package is about \$1085 (as of 2/9/03; Note: Prices are subject to change), including flights on Air New Zealand departing from Auckland International Airport, rental car (petrol and insurance not included), and accommodation at the Hibiscus Aloha Motel (right in town, very convenient).

For more detailed information including who to book through go to:

<http://www.conted.waikato.ac.nz/flora.shtml>

Please contact Scott Gemmill for more information on course booking. Phone 07 858 5207 or email scottg@waikato.ac.nz

■ Nancy Adams' Botanical Drawings

Approximately 100 botanical watercolours and drawings, which are widely known through reproduction in the many books that Adams has written and illustrated, are now on display in the Nature Galleries in the Otago Museum, Dunedin until 18th January.

Nancy Adams grew up in Wellington and was educated at Wellington Girls College and then at Victoria University where she studied botany and zoology. Adams' contribution to botany in New Zealand has been frequently acknowledged during her career. In 1964 she was awarded the Loder

Cup for her work illustrating booklets for the National Parks Board, she was awarded the Queen's Service Order in 1989 and in 1990 she was awarded a Commemorative Medal for services to New Zealand Botany. She has been an honorary research associate of the Te Papa Museum since her retirement in 1987.

These vividly colourful artworks have been created over a 50-year period and have never been exhibited before, so don't miss out! **Admission is free.**

NOTES AND REPORTS

Notes

■ *Celmisia monroi*

(for David Monro, with reference to NZ Botanical Society Newsletter, No 73, p 24)

You are confused with your siblings —
 dubia coriacea morgani,
but your lineage is clear —
 from Edinburgh
and naturalised
 in Nelson
where you put down roots, bred
 and entirely adapted
 in high countries and low
to this looking-glass and undercover world.

Your name is in a multitude of households —
 Ranunculus
 Aciphylla
 Senecio
 Carmichaelia
 Raoulia
 Euphrasia
 Myosotis,
 each eponymy debuted by you.

They grace their habitats
as you did yours —
medicine, botany, in law and state,
and sign to us
your bright population
of new-named beings,

that you sighted tamed ordered
and showed to the wondering.

We see
in your *Celmisia*
that your memory grows on the ranges
 you trod
and makes a monument.

Leicester Kyle, c/- Postal Agency, Ngakawau, Buller

■ **The Location of important papers and writing of Andrew David Thomson**

1. Research files compiled by Dr Andrew Thomson about botanist Dr Leonard Cockayne, 19702-1990s.

Manuscripts, pictorial held at the Documentation Centre, Canterbury Museum.
Accession No. 2003.58.12

2. Essays and photographic portraits of New Zealand Women in Science are held at the Turnbull Library, Wellington.

This work was the result of a grant offered for projects to celebrate 1993 Women's Suffrage Centennial Year.

This collection comprises 142 essays of both pioneer and contemporary women scientists supported by 100 portraits.

3. Index Botanicorum Novae Zeelandiae

The basis of the Index was a collection of biographical items and newspaper clippings relating to New Zealand botany and botanists to complement the resources of the library and Herbarium. The Index is held in the Herbarium at Landcare, Lincoln.

4. Dr H.H. Allan's scrapbooks

These scrapbooks were left with Dr Thomson on 14/5/1979 by Dr Lucy Moore. The scrapbooks are an addition to the existing botanical resources. Dr Thomson states that a shortcoming in the scrapbooks is the absence of the identity source and date on many of the items.

The scrapbooks will be held at the Herbarium, Landcare, Lincoln

D F Thomson, 5 Karitane Drive, Christchurch 8002

RESPONSES TO ARTICLES

■ **A reply to Dr Heenan and Dr Kell**

Michael Heads, Biology Department, University of the South Pacific, PO Box 1168, Suva, Fiji Islands.
Email: heads_m@usp.ac.fj

In my earlier note (Heads 2003a) I pointed out that in 1994 I 'described, illustrated and mapped' a *Mazus* species and 'recognized it as new'. Heenan et al. (1996) later formally described the species and named it *Mazus arenarius* without mentioning my work. Heenan (2003) wrote that my statement 'strongly suggests' that I 'provided a formal description and a name'. Of course, it does not suggest anything of the kind. I did not provide a formal description and a name simply because at that time Dr W.R. Barker in Australia was revising the group. Heenan wrote that I 'only mapped two populations' and that this 'hardly constitutes mapping the species'. This is ludicrous. Many species only comprise a single population. Heenan claims he was unaware of my work because it was published in an 'overseas journal' (from the Geneva herbarium, one of the world's largest) but the Landcare library receives this journal. It is especially necessary for a taxonomist to ensure he is up-to-date with relevant literature before publishing.

In my note I pointed out that in his study of *O. virgata* Heenan (2001) did not mention, let alone analyse, the characters I had used as diagnostic (Heads 1998). Heenan (2003) now states that he did not mention these characters because I had analysed them badly. But this is no reason to ignore them – the only reason would be that they are not taxonomically useful, and if this was Heenan's conclusion he should have refuted my argument and said so. For the last 100 years leading botanists in New Zealand, including Kirk, Druce, etc., have all recognised taxonomic variation in *O. virgata*. In my study I attempted to find the characters they had used, often implicitly. My comments on Heenan's legume work were simply to point out that the trivial characters he uses result in radical generic rearrangements (e.g. the recognition of groups such as *Montigena*) that have not been supported by

other workers or by molecular studies. Heenan suggested that my comments represent an 'unsubstantiated opinion', but this is not true; I cited Wagstaff et al. (1999) in support.

In my note I wrote that 'Most of the work I have submitted for publication in the *New Zealand Journal of Botany* (including anything more than bare species descriptions) has been rejected outright'. Kell (2003) claims this implies the work was rejected without peer review, but it does not. It implies, as any author knows, that the work was rejected without reservation and that I was not given the opportunity to revise the manuscripts. She also claims that my statement is 'incorrect' as I have published four papers in the journal since 1993. However, these papers are bare species descriptions, which, as I stated, I am allowed to publish in the journal. Kell's editorial policy is to send my more substantial manuscripts to hostile reviewers. For example, she sent my critique of Swenson (Heads 1999) to Swenson to review. Naturally, he insisted it was not suitable for publication. When I submitted the manuscript of Heads (2003a), criticizing several New Zealand authors, to the *New Zealand Journal of Botany*, she sent it to these same authors for review. Again, not surprisingly, they rejected it. Reputable journals send work to 'independent' reviewers, but at the moment the *New Zealand Journal of Botany* does not, at least with my work. Because of this I have been forced to publish larger papers (anything more than bare species descriptions) overseas, after rejections by the *New Zealand Journal of Botany* (e.g. Heads 1990, 1999). Amazingly, it took less time to publish a 138-page paper (Heads 2003b) in Sydney than a two-page note (Heads 2003a) in New Zealand. Of course, Dr Kell might be right and London, New York, Paris, Geneva, Sydney etc. might all be wrong.

In his influential account of contemporary systematics Hull (1988) coined the term 'New Zealand school' of biogeography for the New Zealand panbiogeographers (Heads 2003c). The key role that our research group had in the development of biogeography is now widely acknowledged by a growing number of panbiogeographers in countries such as Argentina, Mexico, Venezuela, Brazil, Colombia, Spain and Italy (e.g. Llorente Bousquets and Morrone, 2001; Llorente et al., 2003). This is the first time that a group of New Zealand biologists has had such a direct influence on the science in South America and Europe.

References

- Hull, D.L. 1988. *Science as a process: an evolutionary account of the social and conceptual development of science*. University of Chicago Press, Chicago.
- Heads, M. 1990. A taxonomic revision of *Kelleria* and *Drapetes* (Thymelaeaceae). *Australian Systematic Botany* 3: 595-652.
- Heads, M. 1998. Biodiversity in the New Zealand divaricating tree daisies: *Olearia* sect. nov. (Compositae: Astereae). *Botanical Journal of the Linnean Society* 127: 239-285.
- Heads, M. 1999. Vicariance biogeography and terrane tectonics in the South Pacific: an analysis of the genus *Abrotanella* (Compositae), with a new species from New Zealand. *Biological Journal of the Linnean Society* 67: 391-432.
- Heads, M. 2003a. A note on some attitudes in New Zealand botany. *New Zealand Botanical Society Newsletter* 72: 12-14.
- Heads, M. 2003b. Ericaceae in Malesia: vicariance biogeography, terrane tectonics and ecology. *Telopea* 10: 311-449.
- Heads, M. 2003c. The current status of biogeography in New Zealand. *Journal of the Auckland Botanical Society* 58: 83-84.
- Heenan, P.B. 2001. Natural variation in *Olearia virgata* (Asteraceae). *New Zealand Journal of Botany* 39: 381-393.
- Heenan, P.B., Webb, C.J., and Johnson, P.N. 1996. *Mazus arenarius* (Scrophulariaceae), a new, small-flowered, and rare species segregated from *M. radicans*. *New Zealand Journal of Botany* 34: 33-40.
- Heenan, P.B. 2003. An 'attitude' in New Zealand botany: a response to Heads. *New Zealand Botanical Society Newsletter* 73: 17-19.
- Kell, F. 2003. Reply to note. *New Zealand Botanical Society Newsletter* 73: 19-20.
- Llorente J, Morrone JJ, Bueno A, Pérez-Hernández R, Viloria A, Espinosa D. 2003. Un ensayo sobre las ideas biogeográficas de Léon Croizat. In: Morrone JJ, Llorente Bousquets J, eds. *Una perspectiva Latinoamericana de la biogeografía*. Universidad Nacional Autónoma de México, México D.F., 39-68.
- Llorente Bousquets, J. and Morrone, J.J. (eds.) 2001. *Introducción a la Biogeografía en Latinoamérica: teorías, conceptos, métodos y aplicaciones*. Universidad Nacional Autónoma de México, México D.F.
- Wagstaff, S.J., P.B. Heenan & M.J. Sanderson. 1999. Classification, origins, and patterns of diversification in New Zealand Carmichaelinae (Fabaceae). *American Journal of Botany* 86: 1346-1256.

BIOGRAPHY/BIBLIOGRAPHY

■ Biographical Notes (52) : Daniel Bolton (c. 1793–1860)

E.J. Godley, Research Associate, Landcare Research, P.O. Box 69, Lincoln

The first chapter of Joseph Dalton Hooker's Introductory Essay to his *Flora Novae-Zelandiae* (Pt.1 1853) is entitled "Summary of the history of the botany of New Zealand". After mentioning the great explorers, Hooker wrote "it remains for me to observe that within the last three years, indeed since the announcement of this work being forthcoming, I have been favoured with more than a dozen collections from various parts of the island. Of new gleaners in the field I would especially mention Dr Monro, Mr Knight, the Rev. Mr. Taylor, Captain Drury, Mr Jolliffe, Captain D. Rough, and Lieutenant-Colonel Bolton; all of whom have sent valuable contributions."

The last of these "new gleaners", Lieutenant-Colonel Daniel Bolton R.E., is my present concern. But before writing about him I have to confess that in 1970 (1), when describing his visits to the Auckland Islands, I gave his initials as "R.E.", the acronym for the Corps of Royal Engineers of which he was a distinguished career officer.

Bolton was born c. 1793, but I have not yet traced his place of birth. On 14 December 1811 he was gazetted 2nd Lieutenant and was promoted Lieutenant on 1 July, 1812 (2). His obituarist writes (3): "The deceased served under the Duke of Wellington in the Peninsula from 1813 to the end of the war, and was present, among other actions, at the siege and storming of St. Sebastian. He served also in the memorable campaign in Belgium in 1815, and was employed in fortifying the city of Ghent, where Louis the 18th took refuge before the Battle of Waterloo. [He then served in France until 1818 (2)] Major General Bolton was afterwards employed in Canada where he served for [?] years, during which time he superintended among many other important works, the great undertaking of the 'Rideau Canal', which has subsequently proved so advantageous in opening up the inland navigation of Upper Canada." Resultant promotions were to 2nd Captain (7 June, 1825), Captain (10 Jan. 1837), and Major (28 June, 1837). Then, after a spell in England and promotion to Lieut.-Col. on 9 Nov. 1846, he was posted to Auckland, New Zealand.

Bolton left Tilbury Port by the *Ramillies* on 14 April 1847, in charge of 12 sappers and miners. Also on board was a party of 67 pensioners, 57 women and 123 children (4). This was the 1st Detachment of the Royal NZ Fencibles, "a pensioners' corps raised in England in accordance with Sir George Grey's scheme for the defence of Auckland," and this first group was settled at Howick (5). Auckland was hardly 7 years old when Bolton arrived on 5 August 1847, to become a friend of Governor Grey, Bishop Selwyn, and Dr Andrew Sinclair (the Colonial Secretary and a botanist); and to play an important part in the development of the infant colony.

Bohan (6) wrote that Grey "encouraged Maori to earn wages in road gangs working from Porirua along the Kapiti Coast and into the Wairarapa, and in Auckland, as general builders, carpenters and apprentice-stonemasons for Colonel Bolton's construction of pensioners' cottages and the new barracks." Grey also arranged for Lieut. Clarke and his detachment of sappers to be sent over from Tasmania to reinforce Bolton. They arrived in September, 1848, and were first employed in making the Kerikeri to Okaihau road (7).

In the far south, in December 1849, the Southern Whale Fishery Company had begun to establish a settlement in Ross Harbour in the north of Auckland Island, and Bolton inspected this on two occasions in 1850 (1).

1. The first visit was recorded as follows in an abstract of a letter from Samuel Enderby, the leader of the enterprise who had been made Lieutenant-Governor of the Auckland Islands. "Between the date of his [Enderby's] arrival [4 Dec. 1849] and that of his letter (the 21st of February) he had made a series of boat and land excursions, some by himself, others in the company of the Hon. Captain Erskine, of her Majesty's ship *Havannah*, and Captain Oliver, of her Majesty's ship *Fly*, as well as Hon. Captain Stewart, R.N., Colonel Bolton, Royal Engineers, who were passengers, and the officers and professional gentlemen of these ships, which arrived there on the 11th of February." (1)
2. On his second visit to the Auckland Islands Bolton accompanied Sir George and Lady Grey, who were at the Enderby settlement on *HMS Fly* from 29 November until 5 December 1850. They arrived back at Lyttelton on 13 December (1).

Bolton collected plants on the Auckland Islands, the first to do so after the Americans, French and British in 1840 (1) and it is very likely that the specimens were included in a consignment sent from Auckland on 15 June, 1852, to Sir William Hooker at Kew, under cover of the following note: (8)

"Dear Sir,

Although I fear there is little worthy of your notice in the accompanying small collection yet I have great pleasure in presenting it to you, relying more on the judgement of Dr Sinclair in these matters than on my own.

Believe me

Dear Sir

Very sincerely yours

D. Bolton"

Bolton specimens began to be cited in Part 2 (Flowerless Plants) of J.D. Hooker's *Flora Novae-Zelandiae* (1855), and are as follows:

1. Mosses : *Eremodon purpurascens* (Auckland, Colenso, Bolton, Knight); *Catharomnion ciliatum* (Wangaroa, Col. Bolton).
2. Liverworts : *Gottschea unguicularis* (Auckland, Dr Sinclair and Col. Bolton); *Symphogyna rhizobola*, *Fimbriaria australis*, *Anthoceros jamesoni* (all Auckland, Col. Bolton); and *Anthoceros colensoi* (Auckland, Sinclair, Col. Bolton).

In the supplement to the *Flora Novae-Zelandiae* Hooker wrote:

1. (p.336). *Chrysobactron rossii*. "I have seen two specimens of this plant (a native of Auckland and Campbell Islands) communicated by Col. Bolton R.E. who assures me that they were gathered at Otago, in the Middle Island by Sir G. Grey."
2. (p.338). *Todea africana*. "Colonel Bolton has informed me that this plant was found at the northern extremity of the island, where it occurred abundantly, and not, as was supposed, at Auckland."

I have not seen any letters containing this information and wonder whether Bolton gave it personally to Hooker while on leave in England between New Zealand and South Africa.

Bolton's Auckland Island specimens are not cited in the *Flora Novae-Zelandiae* because Hooker had already dealt with our subantarctic islands in the *Flora Antarctica*. The New Zealand Botanical Region (from the Kermadecs to Macquarie Island) was first covered in Hooker's *Handbook of the New Zealand Flora* which began in 1863, 3 years after Bolton's death. In Part I of this work 19 species are cited as collected on Auckland Is. by Bolton. Of these, *Tmesipteris tannensis*, *Hymenophyllum flabellatum*, *Lagenophora petiolata*, *Corysanthes rivularis* and *C. macrantha* were new records; while *Leptopteris superba*, *Metrosideros scandens* and *Lepidium oleraceum* have never been reported since and may have been accidentally mixed with the Auckland Island gatherings (1).

On 21 June, 1851, Bolton was appointed a member of the Executive Council of the Province of New Ulster (the North Island as far south as the mouth of the Patea River) (9). He was obviously highly thought of by Grey and when Grey left New Zealand late in 1853 to become Governor of Cape Colony Bolton followed him. There are newspaper references to the auction of his property and his departure on the *Moa* (a brigantine voyaging to and from Sydney) (10). Leaving Auckland on 28 November 1853, Bolton arrived at Sydney on 7 December; and leaving Sydney on 13 December on the steamer *Antelope* he arrived at Melbourne on 17 December (11). McNicoll (12) wrote: "At La Trobe's invitation Ross presented his recommendations in person to the Executive Council on 19 January 1854, supported by Lieutenant-Colonel Daniel Bolton, C.R.E. in New Zealand, who was passing through Melbourne and who took the same view as Ross."

After a period in England, Bolton went to the Cape in May 1855, "principally at the instance of Sir George Grey" (3). From Grahamstown in the south-east of Cape Province he wrote two letters to Sir William Hooker (13); one on 29 August, 1857, the other with an illegible date. They are mainly concerned with the despatch of succulents gathered locally. On 31 December 1859, he received a sun-stroke "during a long ride in search of scientific pursuits". Although brought down to Capetown he did not recover and died there on 18 May, 1860 at the age of 67. "His remains were interred in the St. George's burying-ground, Capetown, attended by His Excellency the Lieut. Governor and

Commander of the Forces, the whole of the troops in garrison, with officers and men from Her Majesty's steamer *Brisk*, and a large assembly of civilians." (3).

Acknowledgments

I am particularly indebted to Pamela Englefield (Christchurch) for her searches on the internet, and for obtaining valuable contributions from Ed de Santis (RE *Ubique* etc.), Karen Mackney (National Library of Australia, Canberra), Graham Langton (Archives NZ, Wellington), Bruce Ralston (Auckland War Memorial Museum), Peter Larson (ozships etc.), Clair Daniel (Royal Botanic Gardens, Kew who kindly sent copies of the Bolton letters), and Pearl's Pad (internet). I also thank Colin Webb for help at the Alexander Turnbull Library (Wellington), Hilda Godley (Mosgiel) for help at the Dunedin City Library, and Wendy Weller for her typing.

References

- (1) E.J. Godley (1970): Botany of the Southern Zone Exploration, 1847-91. *Tuatara* 18(2): 49-93; (2) T.W.J. Connolly (1898): *List of officers of the Corps of Royal Engineers*. The Royal Engineers Institute, Chatham, Kent; (3) Extract from a Cape newspaper, 1860, held at Kew and the Alexander Turnbull Library, Wellington; (4) Pearl's Pad (2003): Ships to Auckland, New Zealand, with sincere thanks to Pam Pakes; (5) B.N. Davis & E.S. Dollimore (1966): Howick *Encycl. N.Z.* 2: 121; (6) E. Bohan 1998: *To be a hero. Sir George Grey, 1812-1898*; (7) R.H. Vetch, ed. (1905): *Life of Lieut.-General the Hon. Sir Andrew Clarke*; (8) Director's correspondence 74 (31) Roy. Bot. Gdns, Kew; (9) *New Ulster Gazette*, 26 June, 1851; (10) in litt. Bruce Ralston; (11) *Shipping Gazettes* 12, 19, 26, December 1853; (12) R. McNicoll (1977): *The Royal Australian Engineers, 1835-1902*; (13) Director's correspondence 59 (57) & 59 (75) Roy. Bot. Gdns, Kew.

PUBLICATIONS

New Publication

Going Native *Making use of New Zealand's native plants*

Edited by Ian F. Spellerberg and David Given, published by Canterbury University Press.

Advice on landscaping with natives and on cultivating from seed or cuttings is presented in richly illustrated chapters.

If you wish to receive an order form then please send your contact details to: Cant. Univ. Press, Private Bag 4800, Christchurch or via email to mail@cup.canterbury.ac.nz

Journal Received

New Zealand Native Orchid Group Journal No. 89 – December 2003

Edited by Ian St George [ISSN 1170-4543]

Original papers in this issue are: Bruce Irwin – A personal tribute to Bob Goodger; Graeme Jane: Kauri Orchids of the Kaimai Ranges; Bruce Irwin – On A pickled *Prasophyllum* from Paranui

