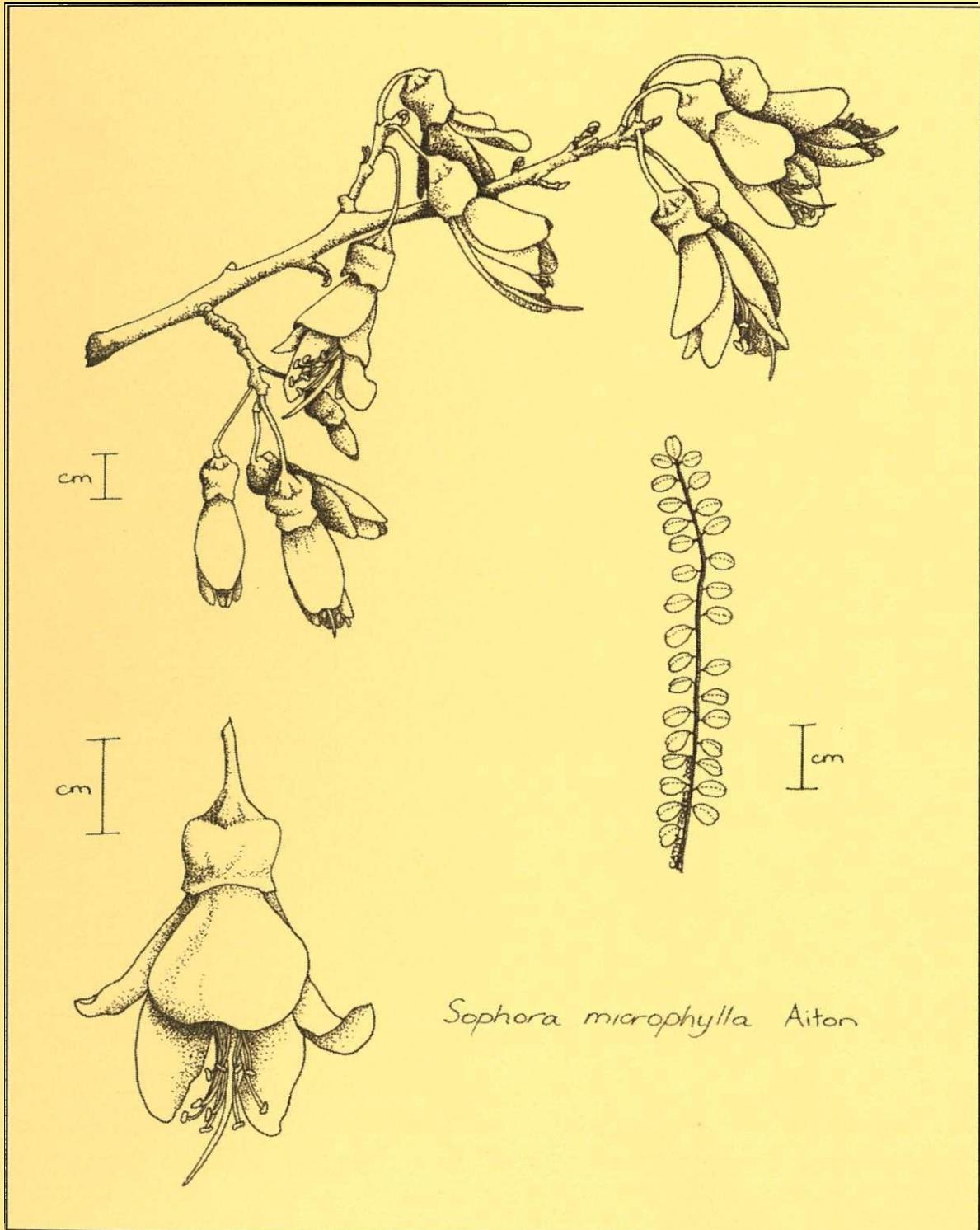


NEW ZEALAND BOTANICAL SOCIETY

# NEWSLETTER

NUMBER 82

DECEMBER 2005



## New Zealand Botanical Society

President: Anthony Wright  
Secretary/Treasurer: Ewen Cameron [ecameron@aucklandmuseum.com](mailto:ecameron@aucklandmuseum.com)  
Committee: Bruce Clarkson, Colin Webb, Carol West

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### Subscriptions

The 2005 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2005 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 28<sup>th</sup> 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 2006 issue (83) is 28 February 2006.

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

Send email contributions to [joytalbot@free.net.nz](mailto:joytalbot@free.net.nz) or [talbotj@cpit.ac.nz](mailto: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

*Sophora microphylla* in full flower. Collected by Jan Clayton-Greene just south of Oaro on the Marlborough coast, 13 August 2005. Drawn by Cathy Jones."

NEW ZEALAND BOTANICAL SOCIETY  
**NEWSLETTER**  
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## NEWS

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### New Zealand Botanical Society News

#### ■ From the Secretary

##### Committee for 2006

Nominations for the positions of President, Secretary/Treasurer and three committee members for the New Zealand Botanical Society for 2006 closed on 19 November 2005.

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

We are pleased to announce that Joy Talbot has agreed to continue as Editor for 2006.

Aaron Wilton, [wiltona@landcare.cri.nz](mailto:wiltona@landcare.cri.nz)

#### ■ From the Editor

As my house is to undergo extensive renovations in 2006 I cannot guarantee the newsletter will be produced quarterly or on time as I may need to put my computer into storage. (I did try to relinquish the position!) I will notify regular contributors when this is to begin so that contributions can be sent to my work email address for the period.

Joy Talbot

### Regional Botanical Society News

#### ■ Auckland Botanical Society

##### September Meeting

Dr Heidi Meudt spoke of the work carried out for her PhD on the genus *Ourisia*. Of the 28 species recognised in the genus, 15 are from South America, 12 from New Zealand, and 1 from Tasmania. Heidi's comprehensive talk was packed with taxonomic information, but also gave an insight into the adventurous time that she had in tracking down the various species. It was interesting to compare the red tubular flowers of some of the South American species with the invariably white flowers of the species that grow in NZ, and to ponder on the pollinators that cause such adaptations.

##### September Trip

The beginning of the Cutty Grass Track, and the Ian Wells Track in the Waitakeres, proved to be an exciting botanical area. The lunchtime streamside stop was rich in filmy fern species, (and also cave wetas), and further on *Astelia grandis* was seen in a swampy area. A grove of *Dicksonia fibrosa*, not commonly seen in the north, was worthy of a detour, and at the end of the walk we were shown a bush of *Pseudowintera colorata*, which begged the question - had it been planted there or not?

##### Spring Camp

Eastwoodhill Arboretum near Gisborne, was the venue for a five-day camp for those lucky enough not to be tied down by work commitments. Comfortable accommodation and good weather, combined with the incredible variety of trees and plants in the arboretum, made for a stimulating experience. Eastwoodhill is known for the beauty of its seasonal changes, and at this time blossom gave it a delicate air.

##### October Meeting – Lucy Cranwell Lecture

Lucy Moore, the "other" Lucy, gave the first Lucy Cranwell Lecture in 1986. This year marked the 20th anniversary of that occasion, and the speaker was Peter Heenan. Peter spoke on recent morphological and molecular research that helps to understand relationships in the New Zealand flora.

### October Trip

Fifty people travelled to Ponui Island aboard the DOC vessel, Hauturu. The party broke into two to explore the large area of bush on the island. The more energetic party lunched in a gully full of lush plants of king fern, *Marattia salicina*, and was fortunate enough to see a kiwi sleeping in a dark crevice. Bot Soc was grateful for the leadership of the Chamberlin family.

### November Meeting

Peter de Lange spoke on the Waikato peat bogs, and how, over the years, he has come to the conclusion that fires are a necessary evil to maintain indigenous biodiversity. A case in point is the critically endangered swamp helmet orchid, *Corybas (Anzybas) carsei*, which might thus be saved from extinction.

### November Trip

The Opuatai wetlands in the Huntly basin provided an unusual environment for a field trip. The terrain varied from wet swamps to dry raised islands, with damp *gleichenia/baumea/empodisma* sedgeland in between. The introduced *Osmunda regalis*, while considered a pest, was beautiful with fresh springtime growth, and reminded us of the ancient lineage of this fern. *Ophioglossum petiolatum*, *Botrychium australe* and *Viola lyaalii* were growing on the drier areas, and the rediscovery of the rare orchid, *Pterostylis micromega*, caused some excitement. The mystery of the day was – did we actually see *Schoenus carsei*, or was it all *Tetraria capillaris*?

### Forthcoming Activities

|               |  |
|---------------|--|
| 3 December    | Pot luck dinner at the Auckland Botanic Gardens            |
| 2-10 January  | Summer camp at Golden Bay                                  |
| 27-30 January | Waipoua Forest   |
| 3-6 February  | Magatepopo School Camp                                     |
| 18 February   | Scotts Landing, Casnell Island and Mahurangi Regional Park |

**President: Mike Wilcox**

**Secretary: Jenny Lux** [jennylux@mail2dream.com](mailto:jennylux@mail2dream.com) PO Box 26391, Epsom, Auckland

### ■ **Waikato Botanical Society**

If your society is not receiving the Waikato Botanical Society newsletter and would like to, please let our newsletter editor know. If you are currently receiving a hard copy and we could send an electronic version instead please also get in touch. Recent issues of the newsletter are now on our website.

<http://cber.bio.waikato.ac.nz/Waibotsoc/WaikatoBotSoc.html>

Saturday/Sunday 21 & 22nd January

Droseras to Peraxillas

Waitaanga Forest and NG Tucker Reserve

Ever wondered about the big swampy plateau land between Ohura and SH3 in the southern King Country? Take this opportunity to investigate some of this fascinating area for two days with Barry Hartley, renowned New Plymouth naturalist, to guide us.

It is an area renowned for rain so wet weather gear may be essential and R18, 1:50,000 is the Topo map for here.

Accommodation is available at \$10pp/night. Cooking facility: an oven with 3 elements, toaster, electric kettle. There is some cutlery, crockery, pots and pans. One shower and one bath, two toilets. Trip limited to 10, one room sleeps 3, rest 2's. You will need sleeping bags, pillows, towels and all food, absolutely no shops available.

Contact: Jane Hart ph. 06 752 3688 or [jane.hart@xtra.co.nz](mailto:jane.hart@xtra.co.nz) please RSVP for accommodation arrangements and location details.

Meet: Friday night 20 Jan, at the farmhouse accommodation on SH40, Waitaanga

**President:** Liz Grove, [eg3@waikato.ac.nz](mailto:eg3@waikato.ac.nz)

**Secretary:** Andrea Brandon, [abrandon@doc.govt.nz](mailto:abrandon@doc.govt.nz)

**General contact:** [bot\\_soc@waikato.ac.nz](mailto:bot_soc@waikato.ac.nz)

Waikato Botanical Society, c/- Biological Sciences, University of Waikato, Private Bag 3105, Hamilton

## ■ Wellington Botanical Society

### Trip Reports and meetings – April to October 2005

\*\* My brief as editor is to shorten local society's contributions to one page, (or somewhat longer when it covers most of the year as here). However, I have left the May field trip report below intact as it contains some of the best descriptions I have read of common fungi likely to be seen in two major types of New Zealand forest. Hopefully it will encourage those of us who tend to ignore the fungi growing in our forests as too difficult to identify, to consider them as part of a species list – Ed

#### April Working bee - Druce Collection, Pinehaven (QEII National Trust Open Space Covenant)

This, our second working bee at this nationally important garden and regenerating forest, concentrated on clearing the two tracks, and removing invasive weeds from the upper area.

#### May field trip - Fungal Foray, Catchpool, Rimutaka Forest Park\*\*

Following his talk at the previous meeting, Geoff Ridley, Science Manager (New Organisms), ERMA led 20 enthusiasts on a five hour foray.

We saw the orange-capped *Stropharia* growing on the wood mulch in the carpark plantings; this species is now believed to be an Australian species *Psilocybe ceres*.

Across the river and the broadleaf podocarp forest was dominated by saprobic or decay fungi and the beech forest dominated by ectomycorrhizal fungi. The latter group forms a mycorrhizal association with the roots of the beech, exchanging mineral nutrients for more complex carbohydrates, whereas saprobic fungi survive by decaying wood and leaf litter. On standing dead wood in the broadleaf podocarp forest were the pure white and slimy mushroom, *Oudemansiella australis*, large pale brown mushrooms of *Agrocybe parasitica* with its large membranous ring forming a substantial skirt on the upper stem, and the dark brown and rubbery brackets of *Auricularia cornea*. Also on standing wood was the little, stemmed, brownish-white *Beenakia dacostae* that has teeth instead of pores or gills on its underside. On the fallen wood and twigs was *Crinipellis procer*, the horse hair mushroom, with its long, tough, almost black stem, and the small, white *Mycena austrororida* with a thick, clear layer of jelly coating its stem, and *Clitocybe wellingtonensis* with its funnel shaped cap and white root like rhizoids permeating the rotten wood on which it grows. The greyish and delicate *Mycena cystidiosa*, the dull red *Mycena ura*, whose stem bleeds red juice when broken, were two easily identified *Mycena* species growing on twigs. Also in the woody litter was the bright orange pouch fungus *Weraroa novaezelandica*.

In the drier *Nothofagus* forest we saw the fruit bodies of ectomycorrhizal fungi. These included *Amanita pekeoides* which is greyish brown, lacks a ring, but has a large fleshy egg at the base of its stem, from which it hatched. All through this area is a common large, whitish, fleshy *Hebeloma* which forms sometimes in fairy rings, but more often in large arcs under the beech. New Zealand has many species of *Russula* and *Cortinarius* and most are difficult to identify. In the litter was the white *Russula albolutescens*, the small, bright red, almost not-opening fruitbody of *R. miniata*, and the golden brown *Cortinarius castaneus*.

*Russula* is easily recognised by its white gills, lack of a ring, and a stem that snaps like chalk. Similarly *Cortinarius* is recognised by its wispish, fibrous ring or cortina, and its brown gills. Many species have tints of blue or purple on the stem and young gills. Only one bolete was seen and this was the big, chocolate brown, velvety *Tylopilus formosus* with its pink pore surface. Some with keen eyes also found the fans and rosettes formed by the dark brown to black *Phellodon sinclairii* which, like *Beenakia dacostae*, has teeth instead of gills or pores. Growing on beech wood was the large, woody, grey-brown brackets of a *Ganoderma* with its whitish pore surface. In contrast, lying on the ground were the soft, wet masses of *Piptoporus portentosus* which soak up enormous amounts of water during wet weather and then proceed to fall out of the trees because of their increased weight. In contrast to these large dull brackets were the troops of the little, fleshy brackets of *Favolaschia calocera* which are bright orange and can completely cover small branches with their fruit bodies, and the red-orange *Paurocotylis pilea* which is like a little puffball in the litter that does not puff and when cut in half is hollow and white.

#### June. Working bee, Te Marua

11 keen workers filled gaps in older plantings, and filled out the area along the SH2 realignment destruction zone. Only two small patches of *Tradescantia* were found on a sweep for weeds through the bush. We found three *Ileostylus micranthus* seedlings, grown from seeds, from the existing plant in Te Marua Bush, put onto other *Melicope simplex* host plants about four years ago. More mistletoe seeds have been put onto some of the shoulder-high totara in the planting area this year.

#### July field trip - Kaitawa Reserve and Raumati Escarpment Reserve

Saved from sale by local Forest and Bird members, Kaitawa Reserve, with the cooperation of the Kapiti Coast District Council, has had many areas weeded and replanted with natives by enthusiastic members. These add to the existing trees in the reserve that include swamp maire, large-leaved milk tree, hinau, kahikatea and one rimu. Led by Graeme Petterson of Forest and Bird, 23 members climbed the very steep escarpment above the railway line which is Raumati Escarpment Reserve. With the removal of livestock and control of possums, the regeneration and growth of seedlings is impressive under the predominantly kohekohe-titoki forest remnants. Several additions were made to the list compiled by B Mitcalfe and C Horne in 1994.

#### July evening meeting – Wellington Botanic Garden native forest survey

Chris Horne and Barbara Mitcalfe reported on their 2003 botanical survey of bush remnants compared with that of John Buchanan in 1875.

#### August field trip – The Forest remnants, Wellington Botanic Garden

24 botanised the five remnants described in Chris and Barbara's talk in July. South of the Begonia House in Salamanca Slope remnant, original kanuka thrive, but dryness and edge-effects may be causing the decline of the few kamahi. We saw a 12 cm diameter kohia, *Passiflora tetrandra*, at least 30 m long, and kohekohe in late flower. The Camellia Garden has encroached on the Stable Gully / Druid Hill remnant, and rhododendrons and other exotics are part of the canopy in other areas. But there were surprises. Kahikatea and matai saplings have arrived in two of the remnants. Nikau is there, and in a moist banked gully was the fern *Adiantum viridescens*, (sparse in Wellington region), and kiekie, none of which were recorded by Buchanan in 1875.

#### September field trip – Ridge Track from Te Marua to Kaitoke

In true BotSoc fashion it took 6 hours for a group of 15 to botanise a track that is of three hours nominal walking time. The group split into two and traversed an interesting selection of vegetation types on the way up to the ridge. There are areas of black, red, silver, and hard beech (the odd hybrid black x hard). Some bore *Peraxilla tetrapetala*, red mistletoe. Several species were added to an already large list, including the notable *Raukaua edgerleyi*. The sundew, *Drosera auriculata*, was evident and orchids were more advanced than on the original recce. The value of many sets of eyes was apparent to spot taxa with a short or seasonal "shelf life". A moss list was completed by Peter Beveridge, and appended to the vascular plant list.

#### October field trip – Pencarrow Lakes.

38 took advantage of the opportunity courtesy of Greater Wellington Regional Council, of driving to the two lakes. Most of the day was spent around Lake Kohangatera. A.P. Druce's list of 1992 was used and a number of additions made, including the Cook Strait endemic, *Melicytus obovatus*. The day concluded with a walk in to see the karaka dendroglyphs near Lake Kohangapiripiri.

October evening meeting – An address by Joe Zuccarello, Victoria University, on using new understandings of DNA data to answer taxonomic questions and explanations of plant diversity and evolution.

#### November field trip – Hutt Gorge; Pakuratahi Valley.

With his extensive plant list, Pat Enright led 13 on an easy walk in pristine mixed podocarp-broad leaf and beech forest communities. Highlights included a small *Rabdothamnus solandri* and kiekie in flower.

#### **FUTURE PROGRAMME**

*Saturday–Sunday 3/4 December:* Overnight Field trip – Eastern Tararua Range, Wairarapa. :  
*Saturday 17 December:* Field trip – Hutt City flowering rata walk.

Wednesday 28 December – Friday 6 January 2006: New Year's Field Trip – Eastern Ruahine Range & Hawkes Bay (Sheelagh and Gordon Leary 527 7380)

**President: Joyce Stretton** (04) 934 2437

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

#### ■ Nelson Botanical Society

##### August field trip, Moss Scenic Reserve, Riwaka Valley

Seventeen members visited this often overlooked reserve. On the alluvial flat, the forest remnant produced an interesting range of plants. Main canopy trees were *Prumnopitys taxifolia* and *Dacrycarpus dacrydioides*, while smaller trees included *Alectryon excelsus*, *Pittosporum eugeniodes*, *Carpodetus serratus*, *Lophomyrtus obcordata*, and *Pennantia corymbosa*, among others. Lianes included *Rubus* spp, *Parsonsia heterophylla* and *Metrosideros diffusa*. On the forest floor there was a good assortment of ferns and those with sharp eyes managed to locate the filmy ferns *Hymenophyllum bivalve*, *H. demissum* and *Trichomanes venosum*. Some very fine patches of a *Pellaea* species, later identified as *P. falcata*, were found, well outside its usual range.

After a lunch stop we crossed the road to explore the northern part of the reserve. There was quite a different range of species on this hillside, including *Brachyglottis repanda*, *Olearia rani* and, of particular interest, a large number of plants of *Brachyglottis sciadophilus*.

##### September evening talk.

Kerry Ford, Landcare Research, gave a learned talk – “Origin and Biogeography of NZ *Craspedia*”

##### October field trip, the Grampians via Matai and Kahikatea Tracks.

A group of 11 met at the car-park on a superb morning. Graeme Jane joined us which really made the day. On the way up we spent some time seeing if we could identify trees by their trunks. For example, *Alectryon excelsus*, which could almost be called “ribbed,” *Beilschmiedia tawa* which is almost black but often with a very flat whitish lichen, pukatea, *Laurelia novae-zelandiae* with its huge buttresses and so on. Roots of *Griselinia lucida* heading to the ground from high in a tree would have been at least 6cm across and with typical grooves running from top to bottom. Ferns were in abundance. On the upper part of the Matai track the easily overlooked *Adiantum viridescens* was quite common but is easily distinguished from *A. cunninghamii* by the former having dull stipes with two lines of dense brown hairs. *Lastreopsis hispida* was also common with its rough stipes unlike the soft velvety *L. velutina*. The third *Lastreopsis* of the day was *L. glabella*. It has a distinct brown felt up the midrib. We had lunch at the top with magnificent views.

##### October evening talk

Well-known wildlife photographer and film maker Rod Morris gave an excellent illustrated presentation on Biodiversity in the Pacific.

##### Labour Weekend camp, Oyster Bay, Port Underwood.

###### Saturday 22<sup>nd</sup> October

In the Esson Valley we explored 2 tracks leading to dams used as reservoirs for the Picton area. Trees in the mature beech/podocarp/tawa forest were very large. Being a water reserve catchment area they had escaped the axe and, miraculously, fires. Ferns were abundant along both the narrow valleys. Fern species included *Trichomanes reniforme*, *Botrychium bifforme* (fine leaved parsley fern; one specimen), many *Blechnum* and *Asplenium* species. Orchids included *Pterostylis banksii*, *P. graminea*, *Caladenia chlorostyla* and *Corybas trilobus*. The *Astelia fragrans* plants were very large with plenty of unripe fruits. A golden slime mould was discovered and provoked much discussion.

###### Sunday 23<sup>th</sup> October

Most began the day by investigating a track down to White's Bay. Orchid hunters were kept happy with *Pterostylis banksii*, *P. graminea* and *Caladenia bartlettii* in flower; *P. alobula*, *Acianthus sinclairii* and *Corybas cheesemanii* seeding; *Chiloglottis cornuta* coming into flower; and a magnificent group of in-flower *Corybas macranthus* surrounding a fine example of the Morel fungus, *Morchella esculenta*. The fern *Ophioglossum coriaceum* was a first for a number of the group. While having lunch at Rarangi, an unexpected find was the vulnerable *Geranium solandri* (subject to confirmation). The

leafless *Muehlenbeckia ephedrioides* was also spotted. On the track from Rarangi back up to the road above White's Bay, the star find was the rare fern *Anogramma leptophylla*. We added *Pterostylis foliata* and *Caladenia atradenia* to the orchid list. A walk part way along the Loop Track of Mount Robertson gave the photographers their chance to capture *C. atradenia* in flower. As a final treat to a grand day botanising, we found the endangered nettle *Urtica lanceolata/lineafolia*.

Meanwhile a group of four spent the day climbing to the summit of Mount Robertson. An enjoyable climb, and notable finds were several large trees laden with *Earina mucronata* in bud, and *Pimelea gnidia* in flower.

#### **Future trips:**

January 15 Mt Arthur, leader Tim McArthur, 548 6437  
Anniversary weekend camp 27 – 30 January, Collingwood Kaituna/Mt Burnett, leader Shannel Courtney, 546 9922  
February 19 Raglan Range, leader Cathy Jones, 546 9499  
March 19 Trig K Canaan, leader Rebecca Bowater, 545 1260

#### **Contacts:**

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**Treasurer: Trevor Lewis** (03) 5472812 22 Coster Street, Nelson. [tandjlewis@actrix.co.nz](mailto:tandjlewis@actrix.co.nz)

#### ■ **Canterbury Botanical Society**

##### October Field Trip: Omaha Bush

This 83 hectare reserve 10 km south of the Sign of the Kiwi on the Summit Road is made up of 3 QEII covenants. Significant altitudinal variation in communities is present, the area adjacent to the Summit Road being a climax forest dominated by *Fuchsia excorticata* – lower down being a rich mixture with some very tall kanuka (*Kunzea ericoides*). Vigorous regrowth, including possum-palatable species, suggests that trapping efforts are being successful. *Podocarpus totara* are also regenerating well. Ferns (and their relatives) were of particular interest with discoveries including an unusual *Asplenium*, probably species *richardii*, a *Tmesipteris* which did not look like either *tannensis* or *elongata*, and may be an un-named Banks Peninsula taxon, and *Trichomanes venosum*, the first example of a filmy-fern in the covenant. All up, the species list now shows an impressive 41 species of fern, all but two being native.

Trevor Blogg

##### November Field Trip: Tiromoana Bush, Waipara

17 Society members were led by David Norton through the lower reaches of Kate Valley Stream, which drains the coastal hills just east of Waipara junction. At the Friday evening talk, David spoke on restoration ecology, with particular reference to Tiromoana Bush. The field day allowed us to view this QE II covenanted 410 ha restoration project, a mosaic of scrub, wetland and forest associations, first-hand. Despite a history of grazing, the secondary forest, dominated at first by *Kunzea ericoides* with a carpet of *Poa imbecilla* and *Leptinella squalida* below, contained numerous ferns growing in refuges on the inaccessible sides of water courses, including *Blechnum chambersii*, *B. fluviatile* and *Pneumatopteris pennigera*. Livestock had only been excluded for 6 months, yet already there was a generous proliferation of palatable species including *Meliclytus ramiflorus* and *Pseudopanax arboreus*. David pointed out *Blechnum triangularifolium*, (Green Bay kiokio), looking rather like the more familiar *Blechnum novae-zelandiae* but without small lower pinnae. Occasional specimens of the fern *Asplenium lyallii* reminded us that we were close to the Mount Cass limestone ridge, which still supports patches of podocarp forest that will hopefully provide a seed source for further enrichment of Tiromoana Bush. Miles Giller

##### October Meeting: 'Highlights and lowlights of threatened plant work by DOC in the North Canterbury Area', by Anita Spencer.

With 76 threatened species in the area, 14 in the highest category of Acutely Threatened, conservation of threatened plants is a huge task. A few of these "...lights" are summarised below.

Two of the most threatened plants in the country, the small daisies *Leptinella filiformis* and *Brachyscome pinnata*, occur in Medbury Reserve, the largest plains reserve in North Canterbury. The reserve is open kanuka scrubland and short tussock grasslands. *Leptinella filiformis* was once thought

extinct until it's rediscovery in the grounds of the Hanmer lodge by Brian Molloy. Although successfully re-introduced to the reserve and growing vigorously under the shady kanuka canopy, fire in early 2003 devastated 90% of the reserve and half the *Leptinella filiformis* and nearly all the *Brachyscome pinnata* were destroyed. Both have since been replanted and protected from rabbits and hares.

An intensive survey of limestone habitats on private land is being undertaken for rare plant communities. A large, widespread population of the limestone wheatgrass *Autralopyrum calcis* subsp *optatum* has been mapped along the Mt Cass ridge line. A possible new species of *Aciphylla* was also discovered in the same area, along with some plants of the sunhebe *Heliohebe raoulia* subsp *maccaskillii*. A highlight was the discovery of thousands of the sunhebe along a limestone scarp in the Weka Pass area, a spectacular sight when in flower. The Mount Brown gentian was also confirmed present at two historic locations.

*Sebaea ovata* is an annual herb now extinct in the South Island, although it was once locally common in coastal lowland and swampy ground in NZ. Lake Ellesmere was its southern limit. It is currently found in two small areas near Wanganui and has been successfully translocated to Northland. In spring 2004, plants were planted at Ashworths Ponds, near the mouth of Saltwater Creek. Although the plants survived the off-road drivers and flowered, caterpillars were found to have bored their way into all the seeds. Checks this year will reveal whether any of the seeds survived and have germinated.

Cook's Scurvy grass was absent along the east coast of the South Island between Marlborough and Otago until discovered on a rock stack off-shore of Banks Peninsula in 2001. Seeds and seedlings were collected and the plant has been established below a seabird roosting spot on Quail Island. This year, seed was scattered on Motunau Island, which is home to large numbers of seabirds (its name translates as 'scurvy grass island'). Once abundant on this island, it became extinct here when rabbits were introduced in the early 1900s. Seedlings have also been planted into a sooty shearwater colony on Banks Peninsula which would bring the plant back to mainland Canterbury. Anita Spencer

#### **FUTURE EVENTS 2006:**

December 31 – January 7 Alternative Camp, Awakino Ski Field  
January 27 Southwest Australian Orchids - Speaker Dean Pendrigh  
January 28 Field trip: Amberley Beach wetlands.  
March 3 Show and Tell  
March 4 Field Trip: Mount Mason Station, North Canterbury, leader Paul Maurice  
April 7 Leicester Kyle: "Buller Moorlands compared with the Yorkshire Moors"  
April 8 Field Trip: Mount Grey, leader to be announced  
May 5 Peter Buchanan will talk on native fungi  
May 6 Field trip: Motukarara Nursery

**Secretary: Margaret Geerkens** (03) 352 7922 PO Box 8212, Riccarton, Christchurch.  
Email: [bert.marg@xtra.co.nz](mailto:bert.marg@xtra.co.nz)

#### ■ **Botanical Society of Otago**

##### 20 July meeting, Geoff Rogers: *Otago in the time of the moa*

Geoff availed himself of a wide suite of research tools and data to erect generalised ecological theories on why woody plants would have dominated most Otago vegetation, the patchy and infrequent pattern of natural fire, co-evolutionary relationships between extinct birds and plant traits, and the adaptive selection of a specialist guild of dryland moa.

He concentrated on the 10,000 years before humans arrived 750 years ago. He described how samples of radiocarbon-dated charcoal, pollen diagrams with and without a charcoal record, and relict patches of living trees and shrubs can be used to reconstruct the pattern of vegetation and fires. All the evidence is that pre-human fire was highly infrequent and patchy and there are only rare instances where those fires generated a sustained rise in tussock grasses in secondary vegetation, benefiting from their fire-adapted traits. The latest discoveries from palaeontologists tell us that a scrub-adapted guild of moa of broad-breasted and squat proportions of 150 kg weight and only 1 m tall at the

shoulder were specialised to dryland scrub. One species was a specialised wood (twig) eater, with secateur-like capability of clipping branchlets up to 15 mm diameter. Another was a grazer on softer herbaceous ground-hugging plants.

There wasn't too much back-peddling in the question session, despite searching questions. Alternatively, it threw-up interesting discussion on how fire- and mammalian-browse-adapted traits in plants from Australia might have been inherited by the New Zealand flora from long-distance dispersal.

#### 23 July, Tunnel Beach field trip

A very low tide after a full moon is a perfect time to explore Tunnel Beach, and Graeme Loh made the perfect guide to all the extra sights. As well as the fairy prions there were white-fronted terns and rock pigeons nesting on the cliffs. Embedded part way down the sandstone cliff was a partly exposed fossil whale, while on the wind-eroded top were exposed fossils of shells including cardiocrinum, scallop and the gizzard stones of ancient seabirds.

A closer look at the coastal turf revealed a mat of *Leptinella dioica*, the first flower of spring on *Samolus repens*, and the last fruit of autumn on *Selliera radicans*. *Atriplex buechananii* was also in flower while the *Sarcocornia quinqueflora* and the *Disphyma australe* (native ice plant) on the exposed slopes were looking a bit weather-beaten. Down near the shelter of the tunnel mouth we spotted *Hebe elliptica*, *Senecio lautus* with purple stems and veins, and the stout form of the native celery, *Apium prostratum*. For the daring, right on the edge of the cliff grew sea blight, *Suaeda novae-zelandiae*. Rocks and fence posts were host to a variety of lichen communities. Allison Knight

#### 21 Sept. meeting, Matt Scott: *Leaving the white line*

The audience was treated to a typically vivacious talk by Matt Scott on tropical forest conservation in a remote part of Papua New Guinea. Matt began by explaining that the flora and fauna of Papua New Guinea was a mix of Gondwanan and Asian origins, with podocarp-like and acorn-producing species occurring in close proximity to one another. We were reminded that the human diversity of New Guinea is as fascinating as the rest of the island's biological diversity, with 800 languages being spoken throughout the island. Matt, along with Rob Cadmus set out to survey areas set aside for conservation in order to devise a management plan, and to estimate species composition in other areas through conversations with local people. Matt explained that the villages tend to be sited on high ground to avoid malaria. The local people grow some cash crops such as vanilla and cocoa in order to pay for their children's schooling, but most effort is devoted to growing food crops. These include taro, the giant swamp taro, sweet potato, corn, yams, sugarcane, cassava, bananas, a type of squash and coconut (in coastal areas). Norman Mason

More information is available on our website: <http://www.botany.otago.ac.nz/bsol/>

**Chairman:** David Orlovich, [david.orlovich@botany.otago.ac.nz](mailto:david.orlovich@botany.otago.ac.nz)

**Secretary:** Robyn Bridges, [robyn.bridges@stonebow.otago.ac.nz](mailto: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 Group, Institute of Natural Resources, Massey University, Palmerston North.  
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##### Rotorua Botanical Society

c/- The Herbarium, Forest Research, Private Bag 3020, Rotorua  
**President:** Chris Bycroft (07) 346-3647 [chris@wildlands.co.nz](mailto:chris@wildlands.co.nz)  
**Secretary:** Joan Fitzgerald (07) 347 7917

##### Wakatipu Botanical Group

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

Wanganui Museum Botanical Group

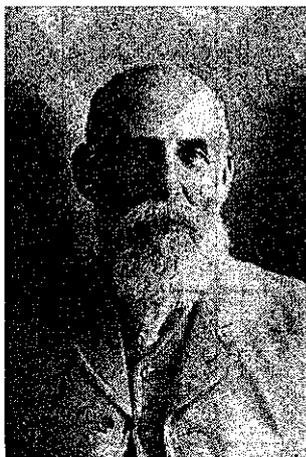
**President: Vonnie Cave**, Seafield Road, RD4, Wanganui. Ph. (06) 435 8326; [vonniecave@xtra.co.nz](mailto:vonniecave@xtra.co.nz)  
**Secretary: Robyn Ogle**, 22 Forres Street, Wanganui. Ph. (06) 347 8547; [robcol.ogle@xtra.co.nz](mailto:robcol.ogle@xtra.co.nz)

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## EVENTS

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■ **Cheeseman Botanical Symposium 2006**



- SECOND CIRCULAR

A symposium to celebrate the centenary of the first edition of Cheeseman's *Manual of the New Zealand Flora* (1906)

The Cheeseman symposium will celebrate the centenary of Thomas F. Cheeseman's *Manual of the New Zealand Flora* (1906): his life and times, taxonomic work, flora writing, and the centenary of the 1906 publication of the first full treatment of the New Zealand flora by a resident botanist.

**When:** 20-22 November 2006 (2 days for the conference, 1 day for field trips)

**Where:** Conference Centre, University of Auckland

**Session headings**

Early botanists (keynote speaker: Dr Henry Connor)

New Zealand floras and bioinformatics (to be arranged)

New Zealand flora systematics (indigenous and naturalised) (keynote speaker: Dr Rob Smissen)

Plant phylogeny and biogeography (keynote speaker: Dr Leon Perry)

Plant morphology, cytology and function (keynote speaker: Dr Brian Murray)

Pollination and reproductive biology (keynote speaker: Dr Linda Newstrom)

Science, conservation, and conservation management (keynote speaker: Dr Andrew Young)

Papers for oral presentation (20 minutes) under each of the session themes are invited. Please submit your paper title and an outline of the presentation to Peter Heenan ([heenarp@landcareresearch.co.nz](mailto:heenarp@landcareresearch.co.nz)) or Peter de Lange ([pdelange@doc.govt.nz](mailto:pdelange@doc.govt.nz)).

The New Zealand Plant Conservation Network will offer some concurrent sessions on the implementation of the Global Plant Strategy, Plant Propagation, and *ex-situ* conservation.

No financial commitment is needed at this stage. If you are interested in receiving the third circular please post your contact details (where possible please supply an email contact) to:

Cheeseman Symposium 2006

c/- Mei Nee Lee

Botany Department

Auckland Museum

PB 92018

Auckland

or put "Cheeseman Symposium" in the subject line and email your contact details to:

[mnlee@aucklandmuseum.com](mailto:mnlee@aucklandmuseum.com)

Organising committee: Ilse Breitwieser, Ewen Cameron, Peter Heenan, Peter de Lange, Mei Nee Lee, Brian Murray, John Sawyer, and Mike Wilcox.

Organised by: Auckland Museum in collaboration with Auckland Botanical Society, Landcare Research, New Zealand Botanical Society, New Zealand Plant Conservation Network, and University of Auckland.

■ **Flora of Aotearoa / New Zealand – Summer course, Waikato University**

10 – 24 February 2006 Department of Biological Sciences, Waikato University

Open to students with genuine botanical interests in the following three categories:

- Students completing first year biology and intending to major in plant biology
- Second and third year plant biology students
- Others with a background in horticulture or botany (will be admitted at discretion of Course Coordinator)

The course begins with a weekend field trip where a wide range of plant species and habitats will be studied. This is followed by two intensive weeks of lectures and labs at the University, after which students will be expected to complete an individual assignment. The course is internally assessed and final results will be available mid-year.

Topics covered during the course include:

- The origin of New Zealand's unique flora
- The basics of plant taxonomy
- Modern methods of plant classification and identification
- Field identification of plants

Enquiries to:

Dr. Chrissen Gemmill, email [c.gemmill@waikato.ac.nz](mailto:c.gemmill@waikato.ac.nz) (phone 07 838 4053) Dr. Bruce Clarkson, email [b.clarkson@waikato.ac.nz](mailto:b.clarkson@waikato.ac.nz) (phone 07 838 4237) Or contact the Department of Biological Sciences (phone 07 838 4022), Waikato University, Private Bag 3105, Hamilton

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## REQUEST

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■ **Information On Indigenous Forestry Research Data**

Tane's Tree Trust has been granted funding from the Sustainable Farming Fund to create a database which will hold references to all research involving the growing of indigenous species. The Trust will be searching archival records held by Archives New Zealand, Forest Research, the Macmillan Brown Library and other institutions which may hold data.

We have anecdotal evidence which suggests that, at the dissolution of the Forest Service, many staff saved material which would otherwise have been lost and may still hold this. Alternatively, retired officers may still hold material that they were working on.

The Trust would like to hear from anyone who holds indigenous research data, or knows of others who do. We are interested in recording this information and discussing its future care and storage.

Please contact Ian Barton at [<ibtrees@wc.net.nz>](mailto:ibtrees@wc.net.nz); telephone 09 239 2049 or write to P O Box 1169, PUKEKOHE 1800

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## NEW TRUST FUND AWARD

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■ **Tom Moss Student Award In Bryology**

Tom Moss, who died recently in Wellington, was a very private man, but members of the Wellington Botanical Society and participants in the annual John Child Bryophyte Workshop will remember him for his love of native plants. His dedication to finding rare and unusual plants is legendary, and species such as *Fissidens berteroi* and *Leptinella nana* in the Wellington region will always be associated with him. Tom was also the finder of the type and only collection of the liverwort *Triandrophyllum symmetricum* during his wanderings on Hawkins Hill.

Tom was an active member of the Wellington Botanical Society from 1967 and became a life member in 1974. He was a participant in the very first John Child Bryophyte Workshop in 1983. He helped to organise the second Workshop at Akatarawa in 1984 and attended most years after that until the

Kaikoura Workshop of 1993. He was always keen to encourage students and beginners, and had an unerring eye for plants that he knew were of particular interest to experts. Above all, he had a wicked sense of humour and an infectious laugh that always endeared him to his colleagues.

To commemorate his name, his contribution to New Zealand botany, and his particular interest in bryology, it is proposed to set up a Trust Fund. Interest from the Fund will be used to provide a small annual prize for the best student contribution to New Zealand bryology. This will be known as the Tom Moss Student Award in Bryology. Presentations at the John Child Bryophyte Workshop, or papers published in the previous year and submitted to the awarding Committee prior to the Workshop, will be considered.

The Fund will be administered by the Wellington Botanical Society, which already has experience of running a number of similar Funds such as the Jubilee Award and Student Award schemes. The Society also enjoys a charitable status which means that no tax is paid on accrued interest, and all donations to the Trust Fund are tax deductible.



Tom Moss at Kaitoke Regional Park, Upper Hutt during the 2<sup>nd</sup> Bryophyte Workshop in 1984. From Left to right Rodney Lewington, Darea Sherratt, Tom, Barbara Polly, Bryony MacMillan.

The Award will be advertised annually by the Wellington Botanical Society in association with the John Child Bryophyte Workshop. The Award will be made by a panel of three appropriate judges appointed by the Wellington Botanical Society Committee on the recommendation of the organisers of the John Child Bryophyte Workshop. The panel may reserve the right to make no award if there are no suitable contributions in any one year.

Contributions to establish the Fund are now invited from all those who knew Tom, or would like to promote the study of bryology in New Zealand. Cheques should be made payable to the Wellington Botanical Society and sent to The Treasurer, Wellington Botanical Society, P.O. Box 10412, Wellington. As **all donations are tax deductible**, if you would like a receipt please provide details of your name and address.

If you would like any further information, please contact Patrick Brownsey, Te Papa, P.O. Box 467, Wellington (or after 6pm on 04 476 4047; or by email [patb@tepapa.govt.nz](mailto:patb@tepapa.govt.nz)) .

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## AWARD

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### ■ Landcare Research acknowledges Bill Sykes' Queen's Birthday Honour

Several of the old guard of New Zealand botany gathered with staff at Landcare Research to congratulate Society member Bill Sykes on his Queens Birthday award. Bill was made an Officer of The New Zealand Order of Merit (ONZM) for services to botany. Those present included colleagues, and research associates and former director of Botany Division DSIR Eric Godley, and Arthur Healy, Brian Molloy, and Peter Wardle.

Plant systematics research leader Ilse Breitwieser spoke on Bill's behalf and Research Manager David Penman presented him with a certificate of congratulations from Landcare Research.

As Ilse outlined, ...after a biologically inquisitive childhood, Bill's botanical career started in 1943 as an apprentice at seed company Thompson and Morgan, Ipswich. After national service he gained the National Diploma of Horticulture at the Royal Horticultural Society school at Wisley in 1953. Bill graduated BSc (Hons) in botany and zoology from London University in 1960.



David Penman, Research Manager, congratulating Bill (photo: Greg Comfort)

In his early 20s, Bill joined two of the last great plant-hunting expeditions from the UK. In 1952 and 1954 he was selected as the

Royal Horticultural Society member of a three-person team from the British Museum of Natural History to discover and collect plants from biologically unknown western and central Nepal. Each expedition lasted 8 months from spring to autumn, through the monsoon.

The 1952 expedition was based at Jumla in western Nepal, Bill working along the Karnali River and in West Dolpo. In 1954 it was based at Pokhara and Annapurna in central Nepal, Bill working along the Dhaulagiri Range. In 1952 it was a 4 week trek to the collecting area from the Indian border. In 1954 the expedition was positioned by aircraft – Bill's first ever journey by air.

The Society was particularly interested in extending the range of temperate plants that could be grown in Britain, especially *Rhododendron*, *Primula*, *Meconopsis*, and *Gentiana*. This required collecting from mountain slopes above 7000 ft. not just in the valley floors. From one expedition, 90 boxes the size of tea chests filled with live plants and seeds as well as herbarium specimens were carried out by porters and railed to Bombay, and from there shipped or flown to England (a biosecurity risk by today's standards in any language.) A prolonged bout of amoebic dysentery in 1952 laid Bill low and he was eventually evacuated from the field in a bamboo basket.

Back in England, Bill worked at Wisley before moving to New Zealand in 1961 to work at DSIR Botany Division. He remembers well being met off the *Southern Cross* at the Wellington dockside by his new Director, Dr Eric Godley (as does Eric). True to his horticultural roots Bill has always retained a special interest in the many families of plants that were introduced to New Zealand - the weeds as well as cultivated plants. (Bill recalled how the Department's weed specialist Arthur Healy was partly responsible for this - that Bill came from where they came from, so they can be 'his'.) This interest culminated in Bill's co-authorship of *The Flora of New Zealand Vol 4*, published in 1988.

Since developing an interest in Pacific Islands, Bill has become New Zealand's foremost authority on plants of the South Pacific, with strong hands-on knowledge of the flora of Niue, Tonga, the Kermadecs, and the Cook Islands in particular. He has authored *Contributions to the Flora of Niue and Kermadec Islands Flora* and is working on the *Flora of the Cook Islands*. By now the horticulturalist had fully metamorphosed into a botanist. Bill says he never collected – well hardly ever – plants from the Pacific to grow in cultivation. 'Just the occasional plant I think, yes, this would be nice in cultivation, but then New Zealand is the most difficult country in the world to get plants into.'

Bill retired in the early 1990s and since 1992 has been a Research Associate of Landcare Research. Actually he hasn't retired, it's just that he's no longer on the payroll. Bill comes to Landcare Research

at Lincoln three or four days most weeks. He is working on the Cook Island Flora, is publishing on naturalised plants, and working on other publications.

Amongst these endeavours Bill finds time to assist colleagues at Lincoln with all sorts of botanical questions, particularly with identification of introduced species. He is so willing to help, and his knowledge is so relevant and indispensable, that it is easy to forget to respect his personal space and time. Bill is one of 10 research associates that are contributing work without pay towards New Zealand's plant systematics research goals.

Bill gives many fascinating talks about botany to all sorts of community groups. He can't even relax and be lazy on his birthdays. Each birthday he gives a talk and the gold coin donations go to a botanical or conservation project. As we know, and more recently through this award the whole country knows, our 'Botany Bill' is a treasure. Thank you, Bill.



Bill shows off his medal, his wife Peggy beside him  
(photo: Greg Comfort)

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## NOTES AND REPORTS

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### Note

#### ■ Hailstorms As Defoliating Forces

**Willie Shaw** Wildland Consultants Ltd, PO Box 7137 Te Ngae, Rotorua [willie@wildlands.co.nz](mailto:willie@wildlands.co.nz)

I would like to follow up on Jill Rapson's article in the September 2005 issue of the newsletter. Hail damage is known for both indigenous and introduced plant species, and I wrote a short paper on it in the 1980s (Shaw 1987). Hailstorms are relatively common in New Zealand, with more than 400 occurrences recorded between 1924 and 1973 (Neale 1977), and there have been many since then. Many hailstorms are also undoubtedly not recorded. Damage has been recorded in New Zealand for a wide range of indigenous and introduced species and severe hail damage to forests has also been reported in Australia, South Africa, continental Europe, and North America. The significance of hail damage to economic crops is well known, but ecological effects to indigenous forests are still unclear and worthy of further consideration. This would require detailed investigation of direct and indirect effects originating from a particular severe storm event, or a series of events.

#### References

Neale A.A. 1977: A climatology of severe hail storms in New Zealand. *New Zealand Meteorological Service technical note 230*.

Shaw W.B. 1987: Severe hailstorms: a factor in the ecology of the indigenous forests of New Zealand. *New Zealand Journal of Botany* 25: 615-620.

## Report

### ■ New Zealand plant species on "Interactive Flora of the British Isles", DVD

Ian Popay, Department of Conservation, P O Box 112, Hamilton

I recently received a copy of this DVD – a searchable flora – and amused myself by seeing how many plant species occurring in Britain originally hailed from New Zealand. I was amazed to find a total of 46, although some of these were not originally restricted to New Zealand and may have reached Britain from Australia. Here are the entries for these species. I love the term 'wool-alien', implying taken to Britain in wool from here or Australia. The first botanical name is as it appears on the DVD. Where it's different, I've added, in brackets, the name given in New Zealand. The descriptions of habitat and location are as given in the DVD. The funny-sounding place names are county abbreviations.

1. *Acaena anserinifolia*  
Naturalized; probably originally a wool-alien, now naturalized on barish ground. Very few places from South England to Central Scotland, North Ireland.
2. *Acaena inermis*  
Grown in gardens and naturalized on barish ground. Very scattered in Scotland, Carms.
3. *Acaena novae-zelandiae*  
Naturalized; grown in gardens and introduced with shoddy, now well naturalized on barish ground. South and East Britain to Southeast Scotland, very scattered in Ireland.
4. *Agrostis avenacea* (= *Deyeuxia avenacea*)  
Casual; wool-alien in waste and rough ground and by roads and railways. Scattered in Britain.
5. *Brachyglottis munroi* (= *Brachyglottis monroi*)  
Naturalized. Persistent and more or less naturalised in Man and on dunes near Llandudno (Caerns).
6. *Brachyglottis repandra*  
Survivor. Used as hedging in Scilly, often long persistent after neglect.
7. *Cardamine corymbosa*  
Naturalized, but only in gardens; spread as horticultural contaminant to paths, rockeries and pavement cracks. Scattered in Central and North Britain and Northeast Ireland, first recorded 1985.
8. *Carex buchananii*  
Naturalized; on rough ground. 1 site in Glasgow (Lanarks) since 1990, self-sowing and increasing.
9. *Coprosa repens*  
Naturalized. Planted as a windbreak in Scilly and sometimes self-sown.
10. *Cordyline australis*  
Naturalized. Much planted and persistent by sea in West Britain, Man, Ireland and Channel Islands; producing seedlings in Man, Channel Islands and West Cornwall.
11. *Cortaderia richardii*  
Naturalized; similar places to *Cortaderia seloana*, but less common. Reported from several sites in South England and Wales, well naturalized among *Ulex* on hillside in South Cards.
12. *Cotula australis*  
Naturalized; rather frequent wool-alien, sometimes persisting in rough or arable ground. Very scattered in England, naturalized in South Devon since 1946.
13. *Cotula coronopifolia*  
Naturalized; wet, usually saline places. Naturalized in Cheshire since c. 1880, Midwest and Southwest Yorks since 1959, South Hants since 1991, West Cork, rare casual elsewhere, perhaps increasing.
14. *Cotula dioica*  
Survivor; garden plant becoming established in mown lawns, often not flowering. Extremely scattered in British Isles.
15. *Cotula squalida*  
Naturalized; spreading in lawns and roadside grassland. Scattered in Britain and Ireland, especially Scotland.

16. *Crassula helmsii*  
Naturalized; grown by aquarists and discarded or planted in ponds. Well naturalized in many places in south England and Channel Islands, scattered North to Central Scotland, Co. Down, rapidly spreading.
17. *Cyathea delabata*  
Self-sown in wild gardens in South Kerry and might become naturalized in the wild.
18. *Ehrharta stipoides* (= *Microlaena stipoides*)  
Casual; rather infrequent wool-alien. Scattered over England.
19. *Epilobium brunescens* (= *Epilobium brunescens*)  
Naturalized; all sorts of damp, barish ground, especially gravely hillsides, railway sidings, waste tips. First collected in 1908, still spreading, now over most of British Isles.
20. *Epilobium komarovianum*  
Barely naturalized garden weed in few places in England, Scotland and North Ireland.
21. *Epilobium pedunculare*  
Naturalized. Weed of barish damp ground, naturalized by roads in West Perth, Wigtowns, West Galway and West Mayo, 1st found 1953, rare garden weed in England and Scotland.
22. *Griselinia littoralis*  
Naturalized; commonly planted in South & West, especially near sea, persistent and sometimes self-sown. Very scattered in South and West Britain, north to Central
23. *Hebe brachysiphon*  
Naturalized. Scilly, Dorset.
24. *Hebe x lewisii* (= *Hebe salicifolia* (Forst.) Penn. x *Hebe elliptica*)  
Naturalized. Man, Devon, Cornwall and Guernsey.
25. *Hebe salicifolia*  
Naturalized; by sea in Devon, Cornwall and Man, marginally elsewhere in South England, North Wales, Southwest and Westcentral Scotland, West Ireland and Channel Islands.
26. *Helichrysum bellidioides*  
Naturalized; in rocky turf by stream. 1 place in Shetland, since 1975.
27. *Hoheria populnea*  
Naturalized; rare garden plant found as relic or self-sown in old gardens or on rough and marginal ground. Man.
28. *Hydrocotyle moschata*  
Naturalized; in lawns and on grassy banks. Well naturalized on Valencia Island, South Kerry, less so in East Cornwall, East Sussex and Ayr.
29. *Hydrocotyle novae-zeelandiae*  
Naturalized; in lawns and golf courses and in turf. West Cornwall and Angus.
30. *Juncus pallidus*  
Casual. Wool-alien formerly naturalized in Middlesex and Beds, now sporadic in England.
31. *Juncus planifolius*  
Naturalized; damp pathsides, lake shores and wet meadows. Over c. 40 square km. in West Galway, discovered 1971.
32. *Muehlenbeckia complexa*  
Garden escape naturalized on cliffs, walls and rough ground and in hedges. Channel Islands, Scilly, extreme Southwest England, South Hants and formerly East Suffolk, relic in Man.
33. *Nertera granadensis*  
Naturalized; on damp lawns. Few places in Westcentral Scotland.
34. *Olearia avicenniifolia* (= *Olearia avicenniaefolia*)  
Naturalized. Grown in Scilly and naturalized on dunes.
35. *Olearia hastii* x (= *Olearia avicenniifolia* x *Olearia moschata*)  
Naturalized; the hardiest species and much grown in gardens and shrubberies, often well established and rarely self-sown on walls and on open ground. Very scattered in Southwestern and Westcentral Britain.
36. *Olearia macrodonta*  
Naturalized; grown by sea, sometimes self-sowing (the best naturalized species), in hedges, scrub, on banks and rough ground. Scattered in Ireland, Man and West Britain, north to Wigtowns, Guernsey.
37. *Olearia paniculata*  
Naturalized. Grown in Guernsey for hedging, frequent relic, rarely self-sown, also more or less naturalized West Cornwall.

38. *Oxalis exilis*  
Naturalized; similar places and distribution to *O. corniculata*, usually but not everywhere less common.
39. *Phormium cookianum*  
sown.
40. *Phormium tenax*  
Naturalized; very persistent where planted on cliffs, or rocky places by sea. Naturalized in West Cornwall, Scilly, West Cork, Man and Channel Islands, self-sown mainly in Scilly.
41. *Phymatosorus diversifolius* (= *Polypodium pustulatum* Forster f., *Phymatosorus diversifolium* Willd., *Microsrum pustulatum* (G.Forst.) Copel.)  
Grown in gardens, naturalized on shady walls and damp places in woods. South Kerry, Guernsey, Scilly.
42. *Pittosporum crassifolium*  
Naturalized; planted as screen or windbreak by sea. Persisting and sometimes self-sown in Scilly, rarely in west Cornwall and Jersey.
43. *Pittosporum tenuifolium*  
Naturalized; planted as screen or windbreak by sea. Self-sown in west Cornwall.
44. *Pratia angulata*  
Naturalized; grown and becoming established on damp lawns. Scattered in Scotland, Surrey and West Kent.
45. *Rytidosperma racemosum* (described as coming from Australia and NZ, Vol. V of our Flora says 'Naturalised from Australia'.)  
Casual; occasional wool-alien in fields and waste places and on tips. Scattered in England.
46. *Tetragonia tetragonioides*  
Cultivated as a leaf-vegetable and found on rubbish tips and waste ground in south England, sometimes persisting for a few years. Scotland, Man, Co. Down.

## Research Report

### ■ *Myriophyllum robustum* (robust milfoil) in the southern North Island

C.C Ogle, 22 Forres St., Wanganui; J Clarkson, Department of Conservation, Stratford

Records of *Myriophyllum robustum* come from 10 of the 13 administrative divisions (conservancies) into which New Zealand has been divided by the Department of Conservation (DoC). These range from Northland to Southland, and the species still occurs in eight conservancies (Dopson et al. 1999). Despite being widespread, robust milfoil has a national conservation status of 'Chronically Threatened – Gradual Decline' and is noted as being Conservation Dependent (CD) (de Lange et al. 2004). It is mostly an emergent aquatic plant, in shallow water around edges of lakes, ponds, sluggish streams (including those in kahikatea [*Dacrycarpus dacrydioides*] forest) and limestone sinkholes (Dopson et al. 1999). The main threats identified by Dopson et al. (1999) were loss of wetland habitat, weed competition and mammalian browsing (goats and possums). Populations are often small and extremely localised. To these have been added water eutrophication, herbicides, and increased sedimentation (de Lange 1985). In a revision of New Zealand's species of *Myriophyllum*, Orchard (1979)'s distribution map showed just three locations for robust milfoil in the North Island from Taranaki and Hawkes Bay southwards, and he cited only two collections, namely those of Kirk and of Mason appearing in Table 1 below. Records from the coastal Manawatu and Wairarapa (de Lange 1985) do not appear to be supported by voucher specimens or other publications.

The recent discovery of a population of robust milfoil far removed from previous records is, therefore, of note. On 3 November 2003, I was invited by staff from the Wellington Fish & Game Council and Horizons Regional Council to inspect a privately owned wetland in the Rangitikei region. It was on a farm off Tapuae Road, about 4 km east of Rewa and some 6 km NNE of Waituna West. The site was reached after a 20-minute drive along slippery mudstone farm tracks on steeply dissected hill country with little extant native vegetation. In the head of a minor valley, just off a leading ridge was about 1 ha of bog. It was teardrop-shaped with the wider end downstream, and appeared to have formed behind an old landslide. The centre of the wetland was domed, built up from sphagnum moss (*Sphagnum cristatum*) with 2-3 m manuka (*Leptospermum scoparium*), unfortunately sprayed and dead, although seedlings are appearing. Only the edges of the wetland were trampled by stock.

Between the edge and the domed centre was a zone of swamp plants, including *Carex virgata* and mats of *Ranunculus amphitrichus*. Forming a single patch of several square metres, bordered on one side by sphagnum, was robust milfoil. No other records of robust milfoil are known from the region. A flowering specimen was collected as a voucher (AK 284889).

Natural wetlands would always have been uncommon in the hilly Rangitikei Ecological Region, and have been made even rarer by drainage (Lake & Whaley 1995). Remaining examples are mostly on valley floors and river terraces. Limited habitat means that robust milfoil could never have been a common species in the region. It is a matter for speculation as to how it got to this geologically recent, hillside wetland, and from where. Peter de Lange (pers. comm. 2005) has some evidence that mallard/grey ducks eat the fruits and young growing tips, and speculates that some may get through their gut and is able to germinate. He notes that the species has turned up in recently excavated duck ponds in the Whangamarino in the Waikato Region – though notes, too, that it might be dormant seed that is germinating.

Because more collections have been made of robust milfoil around the country since Orchard's (1979) review (de Lange 1985; Dopson et al. 1999, P. de Lange pers. comm.), a new search was made for herbarium records of robust milfoil from the southern North Island. The results appear in Table 1.

Two locations are known for robust milfoil in Taranaki. The earlier record was in a plant list for Mataru Scenic Reserve on the Mount Damper Plateau, part of a published survey report for scenic reserves in 'East Taranaki' (Bayfield et al. 1986). No further comment was made about this species in the report, not even in the section of text headed 'Plant distributions of special note'. Voucher specimens from that survey were stored in the Department of Lands and Survey office at New Plymouth but could not be found after April 1987 when portions of that department were merged into the new Department of Conservation (DOC). However, the herbarium was rediscovered in 2004 in the basement of the DOC Conservancy Office at Wanganui. Among the mounted specimens was one of robust milfoil from Mataru Scenic Reserve, which supports the published record. Because this is an important record, the specimen was sent to Peter de Lange to verify its identity, then deposited in the Auckland Museum (Table 1). On 9 February 2005, Barry Hartley and Bill Messenger from New Plymouth visited Mataru Scenic Reserve, specifically to search for robust milfoil, but they found no species of *Myriophyllum* (B Hartley, pers. comm.). Water levels were low but they found evidence that there would be water through much of the kahikatea swamp forest during wet weather. Plants were found of other aquatic species, including the pondweeds *Potamogeton cheesemanii* and *P. ochreatus* (B. Hartley, pers. comm.), which suggests that another search for robust milfoil should be made at a time with higher water levels.

A more recent finding of robust milfoil in Taranaki was in December 1995, during a survey of private land adjoining the southern side of Egmont National Park, between the Punehu and Cold Streams (Ogle 1998). The area has since been purchased and added to the national park. In an area of lahar mounds and quite extensive 'intermound' flats, the site with robust milfoil is nearly level with very slow-flowing water. The plant is in three dense patches, each 6-10 m<sup>2</sup>, but there are strands of robust milfoil in water that connects all three patches. Robust milfoil grows under light shade of native shrubs, dominated by *Coprosma tenuicaulis*. The surrounding forest is dominated by kamahi (*Weinmannia racemosa*) on slightly higher ground and rather spindly pukatea (*Laurelia novae-zelandiae*) and kahikatea in the wettest parts. Two of the milfoil patches are relatively free of weeds, but one is being invaded by *Juncus* aff. *microcephalus* (AK 286115), *Carex demissa*, *Glyceria striata* (CHR 510272), Yorkshire fog (*Holcus lanatus*) and other pasture grasses.

Monitoring of the Cold Stream population since 1999 entailed measuring the maximum extent of the population and taking repeated photos from fixed photopoints. The full extent of robust milfoil in the weediest patch was 5.7 m x 4.1 m when measured in December 1999, but this patch had divided in two by June 2003 with patches of 1.75 m x 1.75 m and 5 m x 3 m, several metres apart. The weediest patch has been the most easily accessed site for monitoring and by other visitors, including a Television New Zealand news crew in October 1996. Trampling has tended to create water channels that have probably led to reduced water levels. Lowered water levels have allowed weeds to establish. When last surveyed in June 2003, the two little-visited patches showed no obvious signs of change since 1999. Although there are other areas of swamp scrub in the wider area, casual surveys of these have not revealed any more robust milfoil.

In Hawkes Bay, the most recent substantiated record of robust milfoil is a collection made by Dr Ruth Mason in 1961 at Horseshoe Lake, Patangata County (Table 1). The species could not be re-found in June 1985, during a survey of Horseshoe Lake which was at the time heavily infested with the invasive water plant brandy bottle (*Nuphar lutea*) by P de Lange (pers.comm. 2005). No specimen has been found in New Zealand herbaria to support the record shown by Orchard (1979) in his distribution map for robust milfoil at Lake Poraiti or nearby. This might be the location of the Colenso record cited by Cheeseman (1925) from 'Hawkes Bay', and might even be the location of the type collection of *M. robustum*, lodged at Kew, made in 1844 and labelled 'Northern Island' (Orchard 1979).

In the Wellington region, all collections have been labelled or reported as being from either Upper Hutt or Mangaroa (sometimes spelt 'Mungaroa' – see Table 1) Swamp. It seems likely that the Buchanan collection (Table 1) from 'Upper Hutt' was actually from Mangaroa Swamp as well. Why Aston (1910) should have said that the species ascends to 2000 feet (c. 550 m) when Mungaroa Swamp is at about 140 m is unknown. The greatest elevation from which robust milfoil has been collected in the southern North Island is the Rangitikei site (Table 1) at 400 m; Mataru Scenic Reserve (Mt Damper) is at about 370 m (although Bayfield et al. 1986 stated 1100 m, in error) and that on the south edge of Egmont National Park is about 300 m.

### Conclusions

Robust milfoil (*Myriophyllum robustum*) appears to have always been a rare species in the southern North Island, with records from only six (or a maximum of seven) discrete places. However, because three of these were completely new locations since 1984, watches should be made for robust milfoil in suitable habitat, even in places remote from previous records.

In addition to threats identified by various authors in the past, the experience of monitoring robust milfoil in Egmont National Park over the past decade suggests that human trampling of the habitat can be a significant threat. Robust milfoil has declined in the areas most visited by people, apparently through changes in patterns of water flow that led to an influx of weeds. Propagules of new weeds also may be brought to the robust milfoil sites on boots or other clothing.

### Acknowledgements

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### References

- Aston, B.C. 1910. List of phanerogamic plants indigenous in the Wellington Province. *Transactions of the New Zealand Institute* 43: 225-247.
- Bayfield, M.A.; Benson, M.A.; Kelly, D.; Boase, M.R.; Sait, S.M. 1986: Scenic reserves of East Taranaki. *Biological Survey of Reserves Series*. Department of Lands and Survey, Wellington. 372p.
- Cheeseman, T.F. 1925: *Manual of the New Zealand flora*. Government Printer, Wellington.
- de Lange, P.J. 1985: *Myriophyllum robustum* Hook. f. in the North Island. *Rotorua Botanical Soc. Newsletter* 8: 10-22.
- de Lange, P. J.; Norton, D. A.; Heenan, P. B.; Courtney, S. P.; Molloy, B. P. J.; Ogle, C. C.; Rance, B. D.; Johnson, P. N.; Hitchmough, R. 2004: Threatened and uncommon plants of New Zealand. *NZ Journal of Botany* 42: 45-76.
- Dopson, S.R.; de Lange, P.J.; Ogle, C.C.; Rance, B.D.; Courtney, S.P., Molloy, J. 1999: The conservation requirements of New Zealand's nationally threatened vascular plants. *Threatened species occasional publication* 13. Biodiversity Recovery Unit, Department of Conservation, Wellington. 194p.
- Kirk, T. 1899: *The students' flora of New Zealand and the outlying islands*. Government Printer, London.
- Lake, C.M.; Whaley, K.J. 1995: Rangitikei Ecological Region – survey report for the protected natural areas programme. *New Zealand protected natural areas programme No. 32*. Department of Conservation, Wanganui. 316 p.
- Ogle, C.C. 1998: Statement of evidence on 'Proposed regional freshwater plan for Taranaki' 15 Dec. 1998. File SCI 0001, Department of Conservation, Wanganui. 10 p.

Orchard, A.E. 1979: *Myriophyllum* (Haloragaceae) in Australasia. 1. New Zealand: a revision of the Genus and a synopsis of the Family. *Brunonia* 2 (2): 247-286.

| Location   | Collector   | Date          | Voucher   | Notes   |
|--|---|---------------|---|---|
| Mangaroa Swamp, Wellington <sup>1</sup>  | T Kirk  | 26 Dec 1887   | WELT 44978  | Cited by Orchard (1979).                        |
| Mangaroa Swamp, Wellington   | T Kirk  | (undated)     | WELT 67978A/B   |   |
| Upper Hutt   | J Buchanan  | (undated)     | WELT 44987  |   |
| Mangaroa, Upper Hutt   | B C Aston   | 1910          | <i>In lit.</i>  | 'Ascends to 2000 ft.:' the record cites T. Kirk |
| Hawke's Bay  | W Colenso   |               |   | Cited by Cheeseman (1925)                       |
| Horseshoe Lake, Patangata County NZMS1/N141/180870 (=NZMS260/V22/30-35-)           | R Mason 8184                                      | 21 Jan 1961   | CHR 119703  | Specimen with fruit. Cited by Orchard (1979).   |
| Lake Poraiti, Napier, or nearby  |   |               |   | Location marked by Orchard (Fig. 3, 1979)       |
| Mataru Scenic Reserve, Mount Damper plateau, North Taranaki                        | M Bayfield  | 17 March 1984 | AK 289476<br>Also <i>in lit.</i> (Bayfield et al. 1986) | Recorded as present by Bayfield et al. (1986)   |
| East of Rewa, Rangitikei River: NZMS 260/T22/384315                                | C C Ogle  | 3 Nov 2003    | AK 284889   |   |
| Between Punehu and Cold Streams, Te Kiri (area now added to Egmont National Park): | C C Ogle 3015<br>NZMS 260/P20/972002              | 8 Dec 1995    | CHR 510242  | These two collections are from the same colony  |
|  | C C Ogle 4451 & J Clarkson<br>NZMS 260/P20/972002 | 15 Dec 2003   | AK 284807   |   |

Table 1: herbarium and literature records of *Myriophyllum robustum* in the southern North Island

## BIOGRAPHY/BIBLIOGRAPHY

### ■ Biographical Notes (60) : Thomas Chapman (1792–1876) and Anne Maria Chapman (1791–1855)

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

On 1 August, 1830, Thomas and Anne Chapman arrived at Paihia, Bay of Islands, on the *Active* from Sydney, to work for the Church Missionary Society. They had left England on 18 January 1830 on the *Arab* and reached Sydney via Hobart (1,2). William Colenso, later their colleague and friend, and our greatest resident botanical collector, did not arrive at Paihia until 30 December, 1834 (3).

The Chapmans came from Henley-on-Thames in Oxfordshire. Here Anne was born on 13 January 1791, the daughter of a butcher (Thomas Maynard) and Thomas was born on 20 June, 1792, the son of a schoolmaster; and they were married here on 14 December, 1822 (1,2).

<sup>1</sup> According to the WELT database, Kirk's spelling was 'Mungaroa'; this is also the spelling used by Kirk (1899), Cheeseman (1925) and Orchard (1979). Mangaroa Swamp lay east of Upper Hutt and is now mostly drained.

Scholefield (3), in an entry based on an obituary in the *Bay of Plenty Times* for 3 January 1877, states that Chapman was born in 1791 (sic) and that before he offered himself for missionary work in New Zealand had spent "some years at sea and seven farming."

For a few months after they arrived at Paihia, the Chapmans lived "in the vestry room, a low lean-to attached to the chapel, with door and windows opening onto the graveyard." Colenso, when he arrived four years later, used this too (4).

The Chapmans were "lay agents" or "lay missionaries" and from 1831 to 1833 they were at Kerikeri where Thomas had charge of the mission store and Anne had charge of the female school (1). Thomas is described as "experienced in farming, medicine, and seamanship. Literate, liberal, good-humoured and resolute --." (1). These attributes would have recommended him to the Rev. Henry Williams when the Rotorua Maori asked for a missionary. Williams, Chapman, and Taiwhanga (who had studied under Samuel Marsden at Parramatta near Sydney) left the Bay of Islands on 18 October 1831 on the mission vessel *Karere* bound for Tauranga and Maketu in the Bay of Plenty, before walking inland to Lake Rotorua. Here, on 30 October, Williams preached at Ohinemutu, on the south-west shore, and, during a brief visit, selected a site for a mission station at nearby Te Koutu (5,6).

In July 1833 the Chapmans returned from Kerikeri to Paihia to teach (1). On 2 February 1835 Chapman and an assistant, Mr Pillely, left for Rotorua to organise the commencement of buildings for the mission, and stayed at Te Koutu from 19 March to 13 May (5). Then on 8 August 1835, they left Paihia again with a party including Mrs Chapman, reaching Tauranga on 13 August where the Chapmans remained until 11 September. They finally reached Koutu, via Maketu, on 24 September 1835 (5).

The Koutu Mission Station was short-lived. On Christmas Day, 1835, a Maori chief was killed, leading eventually to an attack on Ohinemutu in August 1836 by Te Waharoa, and the destruction and evacuation of the site (1,5). Later in 1836 James Busby, the British Resident, suggested that Chapman act as his locum during his absence (3).

Finally, on 13 January 1838, the Chapmans and two other missionaries, Mr & Mrs Morgan, were landed from the mission schooner, *Columbine*, at Waihi, near Maketu, and proceeded inland to reopen a mission station at Rotorua, this time on less vulnerable Mokoia Island in Lake Rotorua. (Other passengers on the *Columbine* were the Rev. William Williams, Mr R. Matthews, and William Colenso, on their way to the East Coast.) (4). The Chapmans remained on Mokoia Island until 1840 when they removed their station to Te Ngae, on the eastern shore of Lake Rotorua, and where they remained until 1851 (1, 2, 7). During these 13 years, Thomas and Anne not only helped their Maori brethren, but gave hospitality to early explorers passing through on the route between Tauranga and the centre of the North Island. The most notable were J.C. Bidwill, J.K.E. Dieffenbach, and W. Colenso.

1. John Carne Bidwill (19–c. 21 Feb and 12–21 Mar. 1839)

This young Sydney merchant arrived in the Bay of Islands on 5 February 1839 and proceeded to Tauranga (where he was assisted by the missionary Mr Stack. On 17 February, with an interpreter and 7 Maori bearers (1 with his "books for specimens of plants" and "papers for specimens") he left for Lake Rotorua. Here, on the 19th, Bidwill hired a canoe, recording that "all were so eager to go in order, as I afterwards found, to participate in the payment, that the canoe was very nearly swamped several times before we reached the island; and my paper for specimens was so soaked that it took a whole day to dry." On Mokoia Bidwill received a hearty welcome from Chapman, who "had just returned from Taupo, and was the first white man who had ever penetrated so far --"; and for the "next two or three days" he employed himself "in visiting the hot springs etc. on the lake" (8).

After reaching Taupo and making the first ascent of Ngauruhoe (4 March) Bidwill arrived back at Lake Rotorua on the morning of 12 March but did not get across to Mokoia until teatime. He wrote: "I cannot describe the delight I felt in again visiting a house belonging to one of my own countrymen – heightened by the extremely kind manner in which Mr and Mrs Chapman received me. I shall never forget the pleasure of the evening. The tea and bread were great delicacies to me, as I had not tasted either for several days, although I had been very sparing of the supply of bread I took with me, and had managed to keep it much longer than I otherwise should, by cutting it into slices and drying it before the fire; my tea and sugar had been washed away in crossing Towpo." (8) Because of a war-

party abroad Bidwill was delayed at Mokoia until 11 March, but he employed himself "very pleasantly in examining the different hot springs and solfataras around the lake; at the same time I made several valuable additions to my collection of plants." These included "a species of *Eugenia*, bearing an eatable fruit, and a most beautiful epiphytal orchidaceous plant, with a very powerful perfume". He arrived back at Tauranga on 23 March, 1839 (8).

2. Johann Karl Ernst Dieffenbach (Te Ngae, 4-11 June 1841)

Dieffenbach worked in New Zealand as naturalist to the New Zealand Company during 1839-40, and was the first to climb Mt Egmont. He then continued his explorations while hoping for a position in this country. On 31 March, 1841, he left Auckland with Ensign Best, reaching Lake Taupo on 11 May, via the west coast and the Waikato. Forbidden to climb Tongariro by the Maori he returned north via Lakes Taupo, Rotomahana (where he described the pink and white terraces) Tarawera, and Okareka, arriving at Rotorua as follows: "On the morning of the 4th [June] our hosts conveyed us in a canoe to the end of the lake [Okareka], whence we crossed a chain of low wooded hills, about seven miles broad on our way to Rotu-rua. The road lay through ravines, which although at present much above the level of the two lakes, seemed to indicate a former communication with both of them. The morning was fresh and stirring, and our road as beautiful as the primitive wildness of the country could make it. It was still early when we descended towards the large lake of Rotu-rua which is here surrounded by a low flat, consisting of pumice stone, gravel, and decayed earth. We passed a small lagoon of rather sulphurous water, separated from the lake, and soon arrived at the mission-station of Mr Chapman; that excellent man received us with the greatest kindness under his hospitable roof." "The mission-station is on the eastern shore of the lake. About 150 natives who have become Christians have built themselves houses there." "We stayed here during a week; and I had a good opportunity of becoming acquainted with the lake of Rotu-rua and its neighbourhood" (9).

From his many important observations on the Maori, the climate, geology, soils and the vegetation we could quote his description of Mokoia. "Almost in the middle of the lake, but somewhat towards its eastern shore, is the island of Mokoia. It is almost a mile long, and hilly, with a belt of low land around it. The hills rise to the height of about 300 feet above the lake, and are in many places covered with shrubs and small trees. From having formerly been the principal abode of the Rotu-rua natives and their great stronghold against the Nga-pui and Waikato tribes, it was always well cultivated, and grasses, both native and European, plantain, chickweed, and others, which in such cases generally spring up, vary agreeably the usually brown tint of the lower native vegetation. Formerly the mission-station was on this island, and many of the shrubs which were planted in the garden of the station are still remaining." (9)

3. William Colenso (Te Ngae, 7-13 Jan. 1842)

On 21 November 1841, Colenso left Paihia by sea to visit the mission-station at Poverty Bay. His return overland led him through the Urewera via Lake Waikaremoana and on to Rotorua, which he approached as did Hochstetter. "After breakfast [on 7 Jan. 1842] they canoed across Lake Tarawera, and travelling thence by way of Okareka, gained the summit of a high hill to see Rotorua spread before them, with Mokoia Island inset like a jewel on the placid waters. An hour's walk brought them to the mission-station at Te Ngae, on the eastern side of the lake, where the very hospitable reception extended by the Rev. and Mrs Chapman soon helped to dim the recollection of past hardships and stimulate interest in experiences still in store." (4). During his week at Te Ngae, Colenso assisted Chapman with his mission and church work and visited Ohinemutu and Koutu. He left for Tauranga on 11th and reached Paihia on 22 Feb. 1842.

In 1842 Chapman was not an ordained minister although he is so-called in the above quotation (3). But in 1844 Thomas and Anne were transferred to Waimate North, the headquarters of the CMS west of Paihia, for further study. William and Elizabeth Colenso were also based there, and on 1 February 1844, the Chapmans acted as godparents to the Colenso's daughter, who was baptised by Bishop Selwyn. Colenso had married Elizabeth Fairburn on 27 April, 1843. On 22 September 1844, both Chapman and Colenso were ordained deacons by Selwyn (1,2,4). The Chapmans then returned to Te Ngae and Colenso went to Hawke's Bay to found a mission station near Napier.

Writing in Feb-March Bidwill noted: "I think it is probable that there are many hot springs in the deep part of the lake, as it is pleasantly warm to bathe in; which is not to be expected from the natural temperature of the atmosphere, which here is exceedingly chilly – the missionaries say it is the coldest part in the island: the thermometer was rarely above fifty-eight indoors, and in the evening the

fire was always very much in request." (8) And in June, Dieffenbach observed: "It is right that I should make one observation about the climate of this interior district. It is far more chilly than I ever experienced it on the coast: in the morning and evening the thermometer sank often to the freezing point. Several kinds of acacias, from Van Diemen's land or Australia, and also the ricinus tree, had been frozen, and the missionaries told me that it was scarcely possible to grow the acacias, although on the coast they are never attacked by frost and are as vigorous as in their native land." (9)

Ihaia Te Ahu, Chapman's principal mission teacher, and his wife Rangirauaka, who helped manage the Chapmans' household, suffered from this cold, and in September 1846 moved to Maketu on the coast with their 2 children. The Chapmans had also begun spending the winter at Maketu, and moved there permanently in 1851 (7).

In the second volume of J.D. Hooker's *Flora Novae-Zelandiae* (Flowerless Plants, 1855) there are records of the following seaweeds from "Maketu, Chapman": *Ectocarpus*, *Polysiphonia*, *Champia*, *Nitophyllum*, *Plocamium*, *Gigartina*, *Ceramium*, and *Callithamnion*. I suspect that Anne Chapman played a part in collecting these. She died at Maketu on 12 December 1855 and was buried there. Thomas married Mary Jane Moxon in Auckland on 19 December 1856 but continued at Maketu (1,2). Mary Jane's sister, Margaret Kissling, was in charge of St Stephens School for Native Girls in Parnell, Auckland, but when she suffered a stroke in 1860 Thomas and Mary left Maketu in 1861 and took over the management of the school (10). Mary Jane died on 31 December 1873 and Thomas died on 22 December 1876 while bathing in a hot pool during a return visit to Mokoia (1,2). There is an account of his last hours and a portrait in (5). He is buried at Maketu.

### Eponymy

1855 *Gigartina chapmanii*. J.D. Hooker & W.H. Harvey in Harvey, W.H. *Algae, Flora Novae-Zelandiae* 2: 251. Maketu. *Chapman*.

### Acknowledgments

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### References

(1) Philip Andrews (1990): Chapman, Anne Maria 1791–1855; Chapman, Thomas 1792–1876. *Dict. NZ Biogr. 1*: 78; (2) P. Lineham (1992): Biographical index of CMS missionaries and workers. In: Glen R. ed. *Mission and Moko. Aspects of the work of the Church Missionary Society in New Zealand. 1814-1882*. Pp. 193–219; (3) G.H. Scholefield (1960): A dictionary of New Zealand biography. Wn Dept of Internal Affairs. 2v.; (4) A.G. Bagnall & G.C. Petersen (1948): William Colenso. Wn, A.H. & A.W. Reed; (5) D.M. Stafford (1986): The founding years in Rotorua. Ray Richards & Rotorua District Council; (6) Claudia Orange & Ormond Wilson (1990): Taiwhanga Rawiri fl. 1818-1874. *Dict. NZ Biogr. 1*: 417-418; (7) Alister Matheson (1990): Te Ahu, Ihaia ?-1895. *Dict. NZ Biogr 1*: 438–439; (8) John Carne Bidwill (1841): *Rambles in New Zealand, 1839* (republished 1952 by Pegasus Press Ltd); (9) Ernest Dieffenbach (1843): *Travels in New Zealand with contributions to the geography, geology, botany and natural history of that country*. In 2 vols. Reprinted by Capper Press, Christchurch; (10) Joan C. Stanley (1990): Kissling, Margaret 1808-1891. *Dict. NZ Biogr 1*: 228–229.

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## PUBLICATIONS

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### Book Review

#### ■ Review of Field Guide to the New Zealand Orchids. Third Edition 2005

- Ian St George, Bruce Irwin and Dan Hatch, *The New Zealand Native Orchid Group*, Wellington.

Price: \$25.00 (including post and packaging)

Available only from Brian Tyler, NZNOG, 4 Byrd St, Levin

Reviewed by Hugh Wilson, Hinewai Reserve, R D 3 Akaroa 8161

Orchids hold a huge fascination for many people, and it's not hard to understand why – they are an extraordinary, often beautiful, always curious, immensely diverse, strikingly distinct family of flowering plants. The variety of ingenious mechanisms the orchid flower has evolved for insect pollination must be one of Nature's great wonders. (When Charles Darwin carefully described to Thomas Huxley a pollination contrivance in *Catasetum*, Huxley is said to have replied "Do you really think I can believe all that?")

New Zealand's one hundred or so orchids represent a tiny quota of the world's 18,000 known species. Most of them are small and easily overlooked. But in their modest way they share the charisma of the extended family.

Somewhat surprisingly the first comprehensive popular field guide to native orchids is, so far as I know, Dorothy Cooper's excellent little book published in 1981. The New Zealand Native Orchid Group was formed the following year to foster knowledge and conservation of these plants. The group has been energetic and productive; late 2005 saw the 97<sup>th</sup> edition of their journal, and the third edition of their field guide.

Ian St George has been Convenor of the NZ Native Orchid Group since 1987 and the editor of its stimulating journal. Orchid enthusiasts owe much to his energy, his knowledge, and his skills as a writer and illustrator.

In 1981 Dorothy Cooper recognised just over 70 species in 22 genera (close to that of Lucy Moore's treatment in 1971). The first edition of the NZ Native Orchid Group field guide (1996) covered 87 named species, but also included around 30 "tag-named" taxa – orchids that the authors recognised as distinct but which were not formally described or named. This third edition recognises 96 formally named species, and around 25 "tag-named" forms. The 120 or so entities are grouped within 30 genera.

The differences between Cooper's 1981 account and this 2005 field guide is due in part to the discovery and naming of previously unrecognised, un-named orchids, and in part to detection in New Zealand of orchids hitherto known only from Australia. The totals have also swelled, however, because variations regarded previously as forms of named taxa have come to be seen as distinct new genera and species.

After the publication of Ian St George's "The Nature Guide to New Zealand Native Orchids" (1999) and the NZ Native Orchid Group's second edition of their field guide (2001), orchidologists Szlachetko, Jones, Clements and Molloy split several genera (notably *Bulbophyllum*, *Caladenia*, *Corybas* and *Pterostylis*), introducing at least 12 new generic names for New Zealand orchids.

This generic splitting has been criticised – for good reasons in my opinion. Australian botanist Stephen Hopper, for example (quoted in the New Zealand Native Orchid Journal 88, 2003) questioned the wisdom of splitting a monophyletic genus such as the broadly defined *Caladenia*, or *Pterostylis*. He argued that stability of names should be of fundamental importance to avoid great discredit on the discipline of plant systematics. He noted that most botanists follow a conservative path of minimal taxonomic change consistent with the principle of monophyly, and urged that Australasian orchidologists do the same.

In reality, the difference between genus and subgenus within a closely related group of organisms is often a matter of opinion and taste rather than objective fact. Recognising variation by publishing at subgeneric rather than generic rank can serve both systematic goals – a predictive evolutionary classification, as well as a stable nomenclature.

So it is pleasing to see that this 2005 field guide takes a moderately conservative approach to names, particularly within *Caladenia* and *Pterostylis*. However, the New Zealand species of *Corybas* sensu lato are distributed among five genera (under a heading "Corybas alliance", while the two New Zealand epiphytic orchids long placed within *Bulbophyllum* are segregated in to *Adelopetalum* and *Ichthyostomum*.

All this taxonomic turmoil has undoubtedly confused a lot of keen amateur orchid lovers and probably turned some away, which is unfortunate. It has also stimulated a lot of debate, which must be mostly good. It should be stressed, too, that at least some of the name changes are widely accepted and obviously make sense.

In any event, the 2005 edition of the field guide will prove a very useful book. Like the earlier editions it uses line drawings by Ian St George and Bruce Irwin. There is no colour (except on the cover) and no photography, but the drawings are excellent. If you want colour photography, go to Ian St George's

1999 Nature Guide, or to John John's and Brian Molloy's Native Orchids of New Zealand (1983). All three volumes complement each other nicely.

The text of the 2005 field guide is brief, but it summarises the necessary information neatly and well. That helps to make the book compact and light and functional as a field guide.

There are a few unfortunate inconsistencies in the distribution maps (e.g. for *Chiloglottis cornuta* Stewart Island is given (correctly) in the text but not mapped thus, and for *Drymoanthus adversus* Stewart Island is shown on the map but not in the text. The mapping, I think, needs reconsidering. A record from anywhere in an Ecological Region results in the whole of that region being shaded. I wonder if now is the time for the Native Orchid Group to start mapping on a finer resolution grid. That would be a big challenge, but would produce more meaningful results.

In view of all the taxonomic tumult, it would be helpful in future editions to show a lot more synonymy and to make it accessible by way of an index. While the 1999 Nature Guide has both an index and a 'Further Reading' list, the field guide, honed to its bare essentials, has neither.

It's a nice book though. Everyone with any sort of interest in native orchids should have one in their pack, and probably another cosseted copy on their shelf alongside at least some of the earlier publications.

#### **References**

- Cooper, Dorothy 1981: A Field Guide to New Zealand Native Orchids. Price Milburn for the Wellington Orchid Society.
- Johns, John; Molly, Brian 1983: Native Orchids of New Zealand. Reed, Wellington.
- Moore, L.B.; Edgar, E. 1970: Flora of New Zealand. Volume II. Government Printer, Wellington.
- St George, Ian; McCrae, D. 1990: The New Zealand Orchids. Natural History and Cultivation. New Zealand Native Orchid Group, Dunedin.
- St George, Ian 1992: Wild Orchids in the Far South of New Zealand. New Zealand Native Orchid Group, Dunedin.
- St George, Ian; Irwin, Bruce; Hatch, Dan 1996: Field guide to the New Zealand orchids. New Zealand Native Orchid Group, Wellington.
- St George, Ian 1999: The Nature Guide to New Zealand Native Orchids. Random House, Auckland.
- St George, Ian; Irwin, Bruce; Hatch, Dan 2001: Field guide to the New Zealand orchids. New Zealand Native Orchid Group, Wellington. 2<sup>nd</sup> edition.
- St George, Ian; Irwin, Bruce; Hatch, Dan 2005: Field guide to the New Zealand orchids. New Zealand Native Orchid Group, Wellington. 3<sup>rd</sup> edition.

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No Original papers but excellent reading and great pictures.

