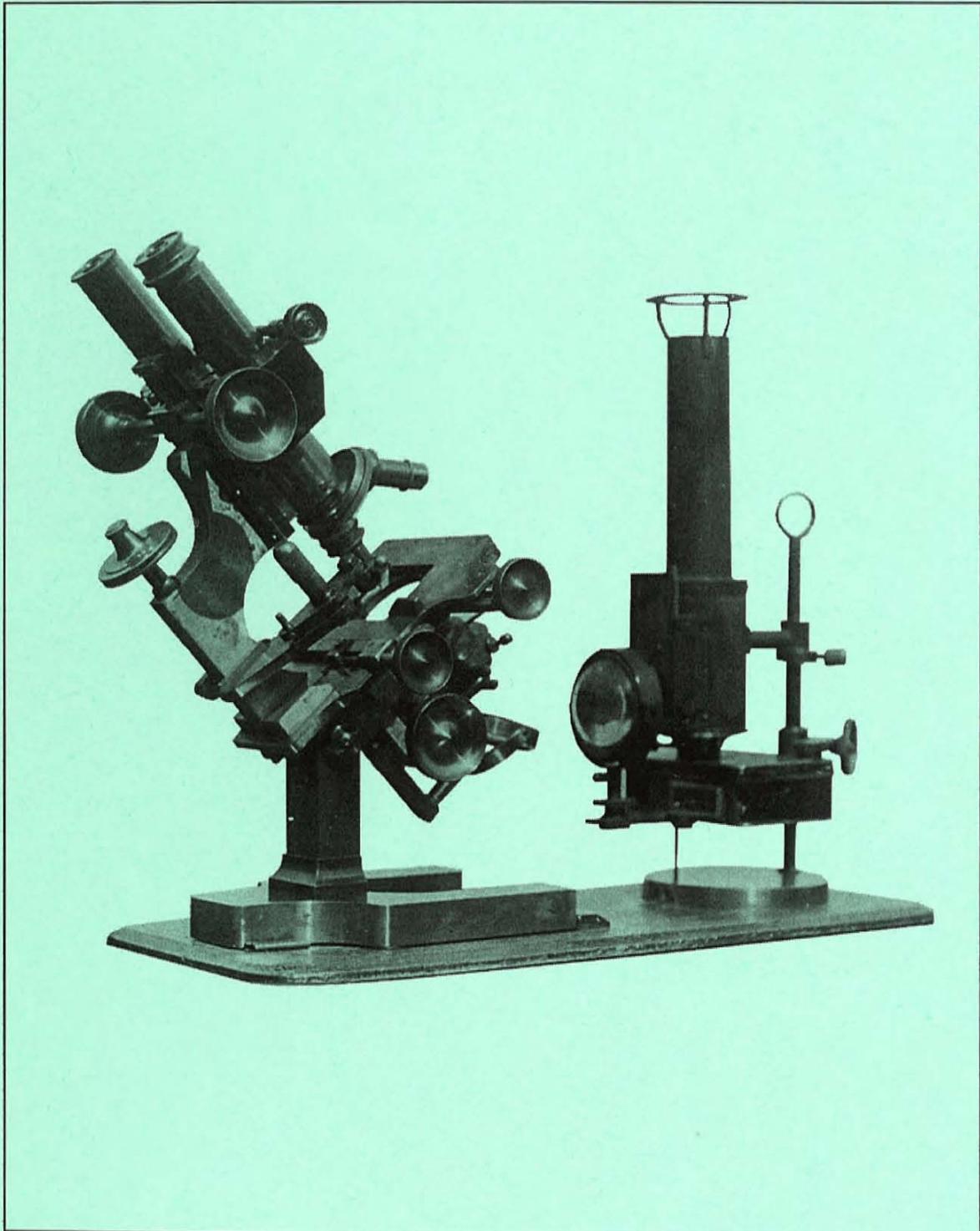


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 86

DECEMBER 2006



New Zealand Botanical Society

President: Anthony Wright
Secretary/Treasurer: Ewen Cameron
Committee: Bruce Clarkson, Colin Webb, Carol West

Address: c/- Canterbury Museum
Rolleston Avenue
CHRISTCHURCH 8001

Subscriptions

The 2006 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2006 student subscription, available to full-time students, is \$9 (reduced to \$7 if paid by the due date on the subscription invoice).

Back issues of the *Newsletter* are available at \$2.50 each from Number 1 (August 1985) to Number 46 (December 1996), \$3.00 each from Number 47 (March 1997) to Number 50 (December 1997), and \$3.75 each from Number 51 (March 1998) onwards. Since 1986 the *Newsletter* has appeared quarterly in March, June, September and December.

New subscriptions are always welcome and these, together with back issue orders, should be sent to the Secretary/Treasurer (address above).

Subscriptions are due by 28th February each year for that calendar year. Existing subscribers are sent an invoice with the December *Newsletter* for the next years subscription which offers a reduction if this is paid by the due date. If you are in arrears with your subscription a reminder notice comes attached to each issue of the *Newsletter*.

Deadline for next issue

The deadline for the March 2007 issue is 25 February 2007

Please post contributions to:

Melanie Newfield
17 Homebush Rd
Khandallah
Wellington

Send email contributions to atropa@actrix.co.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

Microscope with lamp and chimney! owned by Sidney Herbert Lawson (see biography p22). Photo supplied by Emeritus Professor Douglas S. Coombs.

NEW ZEALAND BOTANICAL SOCIETY

N E W S L E T T E R

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NEWS

New Zealand Botanical Society News

Cheeseman Symposium

This outstanding symposium, held in Auckland 20-22 November 2006, celebrated the 100th anniversary of the publication of Thomas Frederic Cheeseman's *Manual of the New Zealand Flora*. The idea of commemorating this important centenary was first suggested by Henry Connor back in 2001. Organised by the Auckland Botanical Society, Auckland Museum, Auckland University, Landcare Research and the New Zealand Plant Conservation Network, the programme covered a wide range of themes from historical botany, through floras and informatics, systematics, reproductive biology, conservation, morphology and cytology to phylogeny and biogeography.

For me personally, it was a brilliant opportunity to gain a broad synopsis of current research and thinking across botanical science in New Zealand – with a few glimpses of related work elsewhere in the Pacific. The other really pleasing plus was the greatly increased sense of community – people working together collaboratively and networking research projects across institutions and disciplines. While this has always gone on, it is far more in evidence than it was, say, 10 years ago.

During the very pleasant reception in the Cheeseman Special Exhibition at Auckland Museum on the Tuesday evening, the opportunity was taken to present the Allan Mere for 2006 to Peter de Lange. The citation recorded in the bound volume listing recipients reads "Peter de Lange has made important contributions to New Zealand botany through peer-reviewed scientific papers, popular articles, lecturing, plant collections, and mentoring of younger botanists. He has given strong leadership to plant conservation in his role as Threatened Plant Scientist with the Department of Conservation, providing vision, strategy, and pragmatic solutions to conservation problems."

The big team of people responsible for the organisation and delivery of the Symposium and all its associated activities are to be congratulated: grateful thanks from all NZBS members who enjoyed the meeting and learnt so much.

2007 Subs

The subscriptions for 2007 have been held at the same level as 2006. An invoice is attached to this issue. Please pay promptly – payments received before 23 February 2007 attract a \$7 early payment discount.

NZ Journal of Botany Editorial Advisory Board

Dr Pat Brownsey has served on this Board as the NZBS nominee for five years, and has decided to step down. Thank you, Pat, from all of us for this gift of time and talents on behalf of the Society.

Dr Leon Perrie has accepted the invitation to be the next NZBS nominee on the NZ Journal of Botany Editorial Advisory Board, and will take up duties in early 2007.

2007 Committee

At the close of nominations for Society officers and committee for 2007, the nominations received equalled the number of vacancies. The following are declared elected:

President	Anthony Wright
Secretary/Treasurer	Ewen Cameron
Committee	Bruce Clarkson
	Colin Webb
	Carol West

Newsletter Editor – a farewell & a welcome

Joy Talbot has been Editor of the New Zealand Botanical Society *Newsletter* since the beginning of 2000 when she took over from Carol West. Joy has overseen the production of 28 issues since that time. She has juggled the editorship with a busy work and home life, and tried to resign a couple of

times – always agreeing to stay on when a successor couldn't easily be found. A couple of months ago the very real message came through: this time my resignation is for real!

Thank you, Joy, for the terrific job you've done over seven years – a quick scan of the 86 *Newsletters* to date shows that you hold the editorial long service record.

I'd also like to thank my PA's and the admin team here at Canterbury Museum – Golda, Alex, Charlotte, Rosemary and Jayne, who cheerfully handle the subs mailing and banking, and the mail out of the *Newsletters* each quarter.

The Committee is delighted to announce the appointment of **Melanie Newfield as Newsletter Editor from January 2007**. Melanie lives in Wellington where she works as a risk analyst for Biosecurity New Zealand (the part of MAF that does Biosecurity work, for those not yet familiar with the new name).

Before working for Biosecurity New Zealand, Melanie spent 1½ years working for the Department of Conservation in Wellington and, before that, nearly 5 years with DOC in Nelson. During this time she worked on weeds, learned about the plants of Nelson and Marlborough in the field with botanists at DOC and the Nelson Botanical Society, and became attached to many of the thornier species in our flora (sometimes literally). Before this, she worked in the Allan Herbarium at Lincoln pressing and mounting specimens from all over New Zealand (and the world) and in the Auckland Museum herbarium, where she started at the beginning – working with the type specimens. This was invaluable experience and a wonderful opportunity to learn from botanists in both Auckland and Lincoln.

In her current job she considers pests and diseases that affect plants, but doesn't do a lot of botany. So she's looking forward to editing the newsletter as a way to keep involved with the botanical community in New Zealand.

Melanie's contact details are:

Melanie Newfield
17 Homebush Road
Khandallah
Wellington 6035

Email: atropa@actrix.co.nz

Anthony Wright, President, New Zealand Botanical Society

Regional Botanical Society News

■ Auckland Botanical Society

September Meeting

There was a double billing this evening, with Anne Fraser outlining her research project for a Master of Science degree on an orchid of very restricted distribution, *Thelymitra matthewsii*. Anne outlined the various life stages of the orchid, the population dynamics, and illustrated the harsh conditions under which it flourishes. This was followed by Tristan Armstrong of Landcare Research, Auckland, speaking on the phylogeography of the NZ cabbage tree. Genetic studies have shown that we have two geographically separate lineage groups – those north of Lake Taupo and those from south of this region.

September Field Trip

Bot Soc was privileged to have a preview of the new Atiu Creek Regional Park, a generous gift from Pierre and Jackie Chatelanat to the people of the Auckland Region. A bush-clad headland jutting into the Oruawharo River was looking its best with plentiful kowhai in full flower. The velvet fern,

Lastreopsis velutina, was much admired. In the afternoon we explored a patch of bush with some kauri on the ridges.

October Meeting

First was an enthusiastic talk by student Naomi Lorimer on her studies on the genus *Epilobium*. Although her work concentrates on South Island species she helped us out by running through the species we find here in the north. Mike Wilcox completed the programme with a talk entitled "A pot-pourri of herbs". While illustrating species that grow locally he emphasised the life forms, family characteristics and habitat preferences.

Labour Weekend Camp

Three days spent camped in the shearers' quarters at Oneri Station on the Puketotara Peninsula, North Kaipara, gave members a chance to botanise some interesting bush remnants on this little explored peninsula. A large area of unfenced bush on the station revealed many treasures, and as there is a plan to fence it in the near future it can only improve. A nearby QE II covenanted patch of coastal forest showed the benefits of fencing, with 14 years of vigorous regeneration delighting the visitors.

November Meeting

Another double-billing had Ross Beever update us on the threat that species of the fungus *Phytophthora* pose to the health of kauri, and Bec Stanley presented a botanical travelogue about her visit to SE Asia.

November Field Trip

The annual trip to a gulf island took us to Rotoroa Island, owned by the Salvation Army and formerly a haven for recovering alcoholics. After a warm welcome by an Army spokeswoman people were free to explore the island. Some interesting finds were *Pomaderris rugosa*, *Hebe pubescens* and *Scleranthus biflorus*.

Lucy Cranwell Lecture

This year's lecture was included as part of the Cheeseman Symposium. Ewen Cameron opened the symposium with an illustrated address on the life of Thomas Frederick Cheeseman, one of New Zealand's finest botanists. The symposium celebrated the centennial of the publication of his *Manual of the New Zealand Flora*, the first to be written by a New Zealander.

FORTHCOMING ACTIVITIES

9 December	End-of-year function and potluck dinner
26 – 29 January	Anniversary Weekend camp at Te Kauri Lodge, near Kawhia
17 February	Field trip to Tamahunga, near Leigh.
7 March	AGM
17 March	Matuku Forest & Bird Reserve, Bethells

President: Mike Wilcox

Secretary: Elaine Marshall 3jems@ww.co.nz PO Box 26391, Epsom, Auckland 1344

■ **Waikato Botanical Society**

There has been a strong focus on the establishment of a threatened plant garden in the Waikato University grounds. Already *Teucrium parvifolium*, *Sicyos australis* and *Picris burbidgei* are in flower, while *Rorippa divaricata*, *Pimelea tomentosa*, *Calystegia marginata*, *Lepidium oleraceum* and *Hebe speciosa* are growing strongly. Sowings of *Streblus banksii* and *Myosotis spathulata* are awaiting to germinate in trays.

Next February there will be a *Dactylanthus taylorii* workshop and hopefully seed gathering locally to add another threatened plant to the Society collection. Compatible hosts *Pittosporum tenuifolium* and *Myrsine australis* are already established in the designated garden area.

In July, the Bruce Clarkson talk presented a varied glimpse of the botany of some European mountains, beginning in Spain with the Pyrennes, before moving to Gran Sasso and Vesuvius in Italy followed by Mont Blanc (France).

August covered Protected Significant Trees of Hamilton City and a further threatened plants working bee. Helen Lea from the HCC explained the criteria/system that the Council used for assessing trees to be placed on their Significant Trees Register. The walk progressed along the river path.

September's trip was to the Tairua in the Coromandel, through secondary vegetation in the foothills of the Coromandel Range. *Alseuosmia macrophylla* was in abundant flowering and flowering specimens of *Brachyglottis kirkii* var. *angustior*, *Hebe macrocarpa*, *Leptecophylla* (= *Cyathodes*) *juniperina*, *Brachyglottis repanda* and *Coprosma rhamnoides* were observed. The afternoon trip proceeded to Sailors Grave, Whenuakite following a track through regenerating scrub including *Pseudopanax lessonii*, *Pittosporum umbellatum*, *P. crassifolium* and a stand of large, old flowering of *Vitex lucens* (puriri) trees. The beach north of the headland deserves a return trip for botanising as we did not have time to do it justice and there are several threatened plants known to occur locally.

First trip of the 2007 calendar is an overnigher to Mt Messenger/Whitecliffs area in North Taranaki botanising through three botanical zones with Day Two at Tauwhare on the Mokau River.

Our newsletters are available on <http://cber.bio.waikato.ac.nz/Waibotsoc/WaikatoBotSoc.html>

President: Liz Grove eg3@waikato.ac.nz

General contact: bot_soc@waikato.ac.nz

Secretary: Andrea Brandon abrandon@doc.govt.nz

■ Rotorua Botanical Society

Botanical Expedition To Mt Tauhara

A small keen group of botanists led by Sarah Beadel visited Mt Tauhara in September this year. Mt Tauhara is a very prominent feature behind Taupo, visible from a long distance on the main roads into Taupo, attaining an altitude of 1,088 m.

The vegetation cover on the mountain is relatively modified, with secondary forest on the margins and lower slopes. Broadleaf (*Griselinia lucida*), kamahi (*Weinmannia racemosa*), and Hall's totara (*Podocarpus hallii*) are common on the mid to upper slopes. However, it is the vegetation on the top of the mountain and on the open bluffs below the summit that makes the short sharp climb worthwhile. Here we found an interesting assemblage of shrubs, including *Brachyglottis elaeagnifolia*, *Hebe stricta* var. *egmontiana*, *Pseudopanax colensoi*, *Raukaua simplex*, broadleaf, and *Epacris alpina*. *Lycopodium fastigiatum* was a prominent groundcover, along with local *Celmisia gracilentia*, *Euphrasia cuneata*, and *Helichrysum filicaule*. Pygmy pine (*Lepidothamnus laxifolius*), down on the bluffs, was one of the highlights of the day. On the far side of the mountain, below the bluffs, is a remnant stand of black beech (*Nothofagus solandri* var. *solandri*), and we could not leave the mountain without exploring this interesting habitat. A Rotorua Botanical Society newsletter article by Clarkson & Nicholls in 1992 provides a good outline and discussion of the distribution of black beech in the East Taupo Zone.

The Botanical Society has visited Tauhara twice before, once in 1984 and again in 1993, and Tony Druce visited the mountain in 1959, 1961, and 1980. On this basis, we thought that it was likely that most of what was to be found would already have been recorded. On the way up the mountain, however, we found a hybrid of *Gaultheria antipoda* x *G. paniculata*. We also found *Blechnum vulcanicum* in a few places on the way up the track, which must have been overlooked during previous visits to the mountain. Down in the beech forest we found two additions to the list: two species of *Earina* (*E. autumnalis* and *E. mucrorata*). In total, we found 12 additions to the previous list of indigenous species on the mountain, including mahoe-wao (*Meliclytus lanceolatus*), puawananga (*Clematis paniculata*), mokimoki (*Microsorium scandens*), *Polystichum silvaticum*, *Trichomanes venosum*, *Carex geminata*, *Anaphalioides bellidioides* and *Euchiton collinus*. Seven new adventive species were recorded: tall fescue (*Schedonorus phoenix*), *Juncus effusus*, Australian fireweed (*Senecio bipinnatisectus*), sheep's sorrel (*Acetosa acetosella*), centaury (*Centaureum erythraea*),

mouse-ear chickweed (*Cerastium fontanum*), and creeping buttercup (*Ranunculus repens*). We also saw many of the previously recorded species.

Several indigenous species have been planted in the pasture just below the start of the track, including kowhai (*Sophora* sp.), ribbonwood (*Plagianthus regius*), and manuka (*Leptospermum scoparium*). Several indigenous bird species were seen during the day, including tui, korimako (bellbird), riroriro (grey warbler), and one karearea (falcon). Mt Tauhara remains an interesting botanical destination, and the Society will no doubt be back there again within the next ten years or so.

Field Trip to Maungakakamea (Rainbow Mountain)

On Saturday 10 October 2006 a group of seven Rotorua Botanical Society members led by Chris Bycroft visited Maungakakamea. Maungakakamea is a small volcanic dome south of Rotorua. On this field trip we decided to go off track and have a look inside the crater instead of repeating what previous field trips had done and go to the summit (at 743 m).

We started our walk from the car park on State Highway 5. Highlights alongside the track at lower altitudes included a flowering population of the orchid (*Caladenia alata*). There were also good populations of the ferns *Schizaea dichotoma* and *Schizaea* sp. (cf. *S. australis* & *S. fistulosa*). Several plants of *Drosera auriculata* were just coming into flower. About half way up the track we passed the well known populations of two ferns typical of geothermal habitat, *Dicranopteris linearis* and *Nephrolepis flexuosa*. These two species are not known from elsewhere on Maungakakamea

Further on we left the track and made our way into the crater of Maungakakamea. This area contains extensive areas of prostate kanuka scrub and shrubland with abundant fumaroles. We had lunch in the crater (the geothermal activity keeping us warm). Several hours were spent scrambling around the crater area.

Despite the fact that Maungakakamea has been well visited by botanists, the people on the field trip recorded twelve new species (included six indigenous species). A new list has been updated by John Hobbs and will be added to the next Rotorua Botanical Society Newsletter.

Future Trips:

December 3: Combined trip with Waikato Botanical Society to Te Waihou

February 11: Clements Mill RD, Poronui and/or Rangataiki SF70 wetlands

24 February: Okareka Mistletoe Restoration Project Weed Control Work Day

c/- National Forestry Herbarium, Ensis, Te Papa Tipu Innovation Park, Private Bag 3020, Rotorua 3046

President: John Hobbs jffhobbs@paradise.net.nz (07) 348 6620

Secretary: Jenny Lux jenny@wildlands.co.nz (07) 343 9017

■ **Wellington Botanical Society**

June Field trip – Wi Parata Reserve, Waikanae

Although subject to weed infestations and suburban edge effects, ancient kohekohe support diverse epiphyte communities and among some introduced terrestrial natives are also original *Srebalis banksii* and *Pittosporum cornifolium*. The afternoon was spent at Nga Manu Sanctuary on the outskirts of the town where a new boardwalk traverses this unique swamp forest dominated by pukatea and *Syzygium maire*.

June Evening meeting

Rilka Tashkova, Post-doctoral Fellow, School of Biological Sciences, VUW provided a challenging outline of the origin of iridoids; their biological activities and chemosystematic value in her investigations on *Plantago* and northern and southern representatives of the genus *Veronica*.

July Field trip. Jubilee Park / Percy Scenic Reserve

Evidence of the rich history of Jubilee Park, an important Hutt Valley bush remnant, includes the remnants of a ferny and native tree collection but sadly also, a severe weed infestation and neglect.

Additions to the species list included *Arthropteris tenella*, *Blechnum discolor*, *Carex flagellifera*, *Entelea arborescens*, *Griselinia lucida*, *Hymenophyllum flexuosum*, *Leptopteris hymenophylloides*, and *Metrosideros umbellata*. On to Percy Scenic Reserve where Jill Broome, collections Supervisor, led a walk through the declining beech forest (probably planted by the Percy brothers) and back through the Rata track, noting a number of listed ferns along the way, before indulging us in a brief look at the Percy collections from NW Nelson, Mt Burnett and Northland.

July Evening meeting

Speaker, David Glenny, Landcare Research, gave an overview of the painstaking work involved in investigating the genus *Aciphylla*, including new evidence on the moa-browsing hypothesis and a discussion of the taxonomic problems within the *A. monroi* group.

August Field trip. QE II Park

A group of 16 began by inspecting the range of locally sourced material in the Greater Wellington nursery used to restore the wetland margins and surrounding dunes since 1997. Some kanuka and manuka are now over 3m in height. Restoration plantings have added species such as *Entelea arborescens* (whau), *Streblus banksii*, *Melicope ternata*, *Fuchsia excorticata*, the fern *Pellaea rotundifolia* and toe toe. In mahoe forest on the dunelands a single plant of Hookers spleenwort/ *Asplenium hookerianum* allowed an addition to the dune list prepared by Mitcalf and Horne in 2001. Also present was *Coprosma acerosa* amid thick velt grass/ *Ehrharta erecta*. On the foredunes were spinefex, pingao and *Carex testacea*, and on the stream terrace were *Carex pumila* and *Bolboschoenus caldwellii*.

August – AGM

Melanie Dixon, Policy Adviser, Greater Wellington RC, besides providing a comprehensive look at wetlands and wetland types in the Wellington region, covered topical global wetland issues: their loss, the implications for biodiversity, flood abatement, water quality and carbon sequestration.

September Field trip to Makara Foreshore Reserve

Thanks to the dedication of the 260 weeding expeditions of Chris Horne and Barbara Mitcalf over the past 5 years, this small yet prominent reserve is well into the restoration phase. Thirteen members braved a typical Makara NW gale to complete a series of transects as part of ongoing monitoring. A minute patch of the regionally critically threatened native *Crassula mataikona* was shown as an example of a cryptic species prone to be overlooked, hence categorised as “Data-Deficient”. Recent plantings of locally sourced sand tussock / *Austrofestuca littoralis*, coastal mahoe / *Melicytus crassifolius*, pingao / *Desmoschoenus spiralis*, silvery sand grass / *Spinifex sericeus*, and the endemic, coastal grass *Trisetum antarcticum* are all thriving.

September: AP Druce Memorial Lecture

Peter Williams, Landcare Research gave a comprehensive update of exotic plant invasion. He drew on his lifetime of work studying the ecology of naturalised flora; where it came from, how it spread, the new communities it has formed, how these differ from the native communities, what the native birds think of it and what the future holds.

October evening meeting – Vegetation of Rakiura/Stewart Island and the Catlins

Carol West drew on her experiences as Conservation Advisory Scientist for the Department of Conservation in Southland for the past eleven years. Those going on the trip combined with Otago Bot Soc in December/ January will have made many notes on her remarkable introduction to the flora of these areas.

The Ruahine Range and Hawkes Bay Summer excursion

The 1992 A P Druce list of the Ruahine Ranges was invaluable from day 1 on which the party traversed the Armstrong Saddle to Sunrise Hut. Here beech forest supported red-flowered mistletoe/ *Peraxilla tetrapetala* while above the bushline mats of *Celmisia glandulosa* featured in seepage areas. Day 2 was based in the Longview Hut area, below which the previously burnt forest made for an interesting mix of species including lantern berry/ *Luzuriaga parviflora*, but has also made way for light loving species such as *Wahlenbergia albomarginata*, *Celmisia spectabilis*, *C. incana* and *Euphrasia cuneata*. Higher up we found *Carex druceana*. Day 3 was spent in a bush covenant that included an

old pa site, Te Whiti o Tu, high above the Waipawa river. Of special interest along the cliff edge were the fern *Blechnum triangularifolium* and one plant of *Sophora microphylla*.

A'Deanes Bush featuring a massive totara and the Monkton scenic reserve were botanised on day 5; both reserves bearing the scars of exploitation and weed infestations. The substantial Preston covenants astride the Mangataura stream occupied day 6. The shady siltstone faces were veiled in *Blechnum trianglarium* and sometimes *Ourisia macrophylla*. Away from the stream the drier forest featured small-leaved shrubs *Coprosma rigida*, *Raukaua anomalus*, and *Melicytus micranthus*. Wet weather on day 7 did not prevent the group listing 105 vascular plant species in 3 hours along the rich plant community of Swamp Track. The tall canopy of red and black beech as well as rimu and kahikatea often had a dense floor of *Blechnum discolor*. Sighted were five small-leaved coprosmas, three raukaua species as well as *Peraxilla tetrapetala*. Finally a 4WD up No Mans Road to Ruahine Hut on day 8 gave a taste of exposed conditions but many gems in the wet dracophyllum landscape. Amid the *Chionochoa rubra* and *C. pallens* a flowering taramea was seen. Sheltering under *Gautheria antipoda* and *Hebe odorata* were found the orchids *Aporostylis bifolia*, *Prasophyllum colensoi* and *Simpliglottis cornuta*. Yet unconfirmed was a first sighting for the group of *Hebe corriganii*, originally listed by A P Druce.

Te Marua Bush update

Since 1989, along with Upper Hutt F&B, WBS has undertaken restoration of this important bush remnant next to SH2. Seven of the usual suspects persisted during the foulest of weather with blanking, trimming and weeding in April. Another twelve assisted initial plantings in a valuable area of newly acquired land from Transit NZ in August. And a small hardy group braved further wet weather in November to replant toe toe amid areas where plants have sprouted legs and disappeared along SH2. The team could at least take heart that their gallant efforts have been noticed.

PLANNED TRIPS AND MEETINGS INTO 2007

28 December 2006 – 11 January 2007: Christmas/New Year Field trip Rakiura National Park/Stewart Island Catlins, eastern Otago

22 January 2007 Waimapihi Reserve, Wellington city

3–4 February Dunvegan Station, Wairarapa

19 February Reclaiming our natural heritage - repairing the landscape to reflect an Aotearoan culture - Dr Colin Meurk, Landcare Research Ltd.

25 February Wainuiomata Water Catchment, spectacular northern rata / podocarp forest

10 March Crafar wetland covenant, Te Hapua Wetland, Kapiti

19 March Role of plant communities in global climate change. Speaker: Dr Sean Weaver, Lecturer, Environmental Studies Programme, Victoria University.

6 April – 9 April: Easter trip Tautane Station, Cape Turnagain

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 - Takaka Hill walkway, QE11 covenant

This area of karst landscape is the only public covenant in the Nelson/Marlborough region. Within the first patch of bush we discussed the different divaricating shrubs growing under the old *Olearia avicenniifolia* trees. *Blechnum vulcanicum* was growing round a sinkhole. In this marble area we found two hebes, the distinctive erect variety of *H. albicans*, and *H. leiophylla* (= *H. gracillima*), and three different forms of *Olearia nummulariifolia*. A second area of bush had been fenced, and produced some very different plants. There were juvenile and adult forms of *Elaeocarpus hookerianus*, a few specimens of *Alseuosmia pusilla* along with *Raukaua simplex*. *Blechnum colensoi* was growing on a damp shady bank. There were several *Hoheria ovata* trees along the bush edge as well as a good tall specimen of *Melicytus obovatus*, new to most of us. We also found several juvenile *Libocedrus bidwillii*.

August evening meeting

Pam McConnell, a Nelson primary school teacher, was granted a fellowship by the Royal Society to study native flora on a karst landscape. She gave an illustrated talk on her research which was centred mainly on Takaka Hill.

September field trip - Blackwater Valley, Murchison

After walking across farm paddocks we entered mixed red and silver beech forest, following the Blackwater river. There was a shrubby understorey of divaricates including *Myrsine divaricata*, *Coprosma propinqua*, *C. rigida*, *C. rotundifolia*, *C. wallii* and *Raukaua anomalus*. As we climbed up from the forest floor we entered mixed beech/broadleaf forest. Here the dominant understorey species was *Pseudowintera colorata* with abundant *Neomyrtus pedunculata* and occasional *Griselinia littoralis*, *Elaeocarpus hookerianus* and *Pseudopanax crassifolius*. On the edge of a creek we saw the first of many specimens of the beautiful fern *Leptopteris superba*. Low-growing tree ferns on the track proved to be *Cyathea colensoi*. A surreal sight in the midst of this dense forest was a 3m gravel scoop in the middle of which a circle of blue methane flames escaped the gravel. Using the frypans conveniently hanging from a nearby tree, a hot lunch was soon underway accompanied by periodic whiffs of methane mixed with cooking sausages (we had come prepared!).

September evening meeting

Our winter evening programme ended on a high note when we were very privileged to welcome Audrey Eagle as our speaker. Audrey gave us an insight as to how she became a much respected botanical illustrator, before giving an illustrated talk on the flora of the Arctic as she saw it during a visit to northern Canada in 1990. She had a splendid collection of slides of the area which beguiled us all.

October field trip - Esson Valley, Picton

The Esson Valley is the site of Picton's early water supply with 2 dams and lakes. On the way to Humphries Dam we found several species flowering profusely, among them *Brachyglottis repanda*, *Rubus cissoides* and *Clematis paniculata*. Other treasures in bloom were the orchids *Pterostylis banksii* and *P. graminea*. Three climbing ratas were very profuse, *Metrosideros diffusa*, *M. fulgens* and *M. perforata*. It was tempting to stop at every group of filmy ferns. We identified *Hymenophyllum demissum*, *H. dilatatum*, *H. flabellatum*, *H. rarum* and *H. sanguinolentum*. After lunch we made our way to Barnes Dam. Beeches dominated the track and we noticed hundreds of seedlings of *Lophomyrtus bullata*. Two other interesting plants were *Tmesipteris elongata* growing on a silver fern trunk and the fern *Botrychium bifforme*.

Labour weekend camp, Taipare Bay (Rob and Anika Schuckard's property).

Saturday started off dry, and Cathy Jones drove over from Nelson for the day, so we had an expert botanist to help us. Rob suggested we explore the Bob's Peak area. Pushing through *Pinus radiata* proved a challenge, but we encountered small leaved shrubs such as *Coprosma propinqua*, *C. robusta*, *C.x cunninghamii*, *C. areolata* and a little later on *Coprosma tayloriae*. A small group of seedlings of *Leptostigma setulosum* was found, and Cathy pointed out a *Hebe stricta* var. *atkinsonii*. *Myrsine australis* (mapou, red matipo) and *M. salicina* (toro) were found growing side by side so members were able to see the vast difference between two species of the same genus. In all 23 species were added to the original list. Later, Rob took us on a track of boardwalk and steps leading to his house water supply. Here we found several interesting plants including *Cheilanthes distans*, *Doodia australis*, *Pteris macilenta*, *Lobelia anceps*, *Crassula colligata* (was *C. tetramera*), *Pterostylis foliata*, *P. alobula*. Wetland plants on the dam lake edge included *Isolepis prolifer*, *Juncus pauciflorus*, *J. pallidus* and *Schoenoplectus tabernaemontani*.

On Sunday we woke to heavy rain. After a period of identifying small leaved shrubs using Hugh Wilson's book a poor weather forecast prompted the decision to head for home. On the way up to the French Pass Road a very old *Elaeocarpus hookerianus* was observed festooned with a mature *Parsonsia heterophylla* just about to come into flower. Other hangers on included *Earina mucronata* in full bloom and *Microsorium pustulatum*.

Future trips:

January 21st 2007, Mt Campbell. Leader Lawrie Metcalf 540 2295

Anniversary Weekend Camp 26 – 29 January, Otira. Leader Julie McLintock 545 0989

February 18th, Lodestone, Kahurangi National Park. Leader Cathy Jones 546 9499
March 18th, Mt Robert, Nelson Lakes National Park. Leader Tim McArthur (contact Cathy Jones 546 9499).

President: Cathy Jones (03) 546 9499 1/47A Washington Road, Nelson cjones@doc.govt.nz
Treasurer: Trevor Lewis (03) 547 2812 22 Coster Street, Nelson. tandjlewis@actrix.co.nz

■ Canterbury Botanical Society

September Meeting

Peter Heenan spoke about some of his research work. He described the discovery of a number of new plants: *Arthropodium bifurcatum*, *Myrsine umbricola*, *Pseudowintera insperata*, *Ranunculus haastii* subsp *piliferus* and *Olearea adenocarpa*, and the circumstances surrounding each discovery. In Canterbury, Brian Molloy observed four years ago differences in *Olearea* on the Canterbury plains from described species *O. vergata* and *O. odorata*. An estimated dozen plants were counted of this previously undescribed *Olearea adenocarpa*. Seedlings from numerous cross and self pollinations are being grown on. Rabbit proof fencing since 2004 of the two areas where *O. adenocarpa* has been found has resulted in dramatic change in appearance of the bushes from barely stumps of skeletons to full bushes.

September Field Trip: Brailsford and Cook QE II covenants, French Farm Valley, Banks Peninsula

In the older covenant (1993) the regrowth of understorey species since fencing has been prolific. Mahoe, ngaio, kanuka and huge kowhai now provide a near-continuous canopy, through which podocarps and other hardwoods are establishing. On the forest floor we saw the scrambling *Brachyglottis sciadophila* (nationally uncommon, though quite frequently encountered on Banks Peninsula), and *Centella uniflora* (with leaves confusingly similar to either *Viola* or *Pratia*). The second covenant, registered in 2005 showed prolific establishment of palatable species, including mahoe, five-finger and *Coprosma* species under the kanuka canopy and the abundance of lowland totara seedlings bodes well for the longer term. Miles & Gillian Giller

October Meeting

Colin Burrows spoke on his seed research in the Ahuriri Summit Bush, Port Hills which was conducted in 1985 to 1997 to “unravel seed germination” in the scenic reserve. 16 seed trays of steam sterilised soil were placed in 1985 and increased to 20 in 1986. Six plant species were researched *Fuchsia excorticata*, *Pseudopanax crassifolius*, *Pseudowintera colorata*, *Melicytus ramiflorus*, *Hoheria angustifolia* and *Schefflera digitata*. Seed fall period was between Mid December to Mid August. Seed germination was spread out through the year. Several years later fern spores germinated in the trays. With only 2 years of the 11 years research published, more information is yet to come. Ryan Young

October Field Trip: Ahuriri Reserve

Although small, the reserve off the Summit Road contains 3 species of podocarp, *Podocarpus hallii* (thin barked Totara), *Dacrycarpus dacrydioides* (kahikatea) and *Prumnopitys taxifolia* (matai), the later large specimens. And with the kahikatea is a reminder of the rain fall the reserve can get (twice as much as Christchurch city and falling during our visit). Large specimens of *Griselinia littoralis*, the early greenhooded orchid *Pterostylis areolata* and a new plant to the list *Hedycarya arborea* (pigeonwood) and some seedlings were noted. Ryan Young

November Meeting

Richard Pender, a BSc (honours) student and a Botanical Society Student Scholarship recipient, presented his research results. Richard carried out a taxonomic evaluation of *Helichrysum intermedium* var. *acutum*, supervised by Dr Josephine Ward who is revising the whipcord *Helichrysum* species. Thomas Cheeseman first described *Helichrysum intermedium* var. *acutum* in 1925 from specimens collected from the mountains North of Hanmer. Cheeseman considered var. *acutum* distinct on account of the acute leaf apices from which the varietal name is derived. Using morphological characters which were compared to taxa in the *H. intermedium* complex, variety *acutum* was found to be distinct on account of its unique geographical distribution and the acute leaf apices which are consistent across all populations and are maintained in cultivation. Variety *acutum* was also

found to have a greater number of florets per capitula when compared to any other specimens of *H. intermedium*.

Philip Grove gave a power point presentation about the reserve land managed by Environment Canterbury. Most of the reserves are in river catchments and serve the function of river and flood control. The vegetation significance of each of the reserves from the Kowhai reserve in the north to Rakaia Island in the south were described as were some aspects of management such as fencing of significant bush remnants and protection of endangered species such as *Olearia adenocarpa*, and problems faced with weed control and stock grazing.

FUTURE EVENTS:

February 2nd Ryan Young will talk about his recent trip to the Swiss Alps
February 9 – 11 Camp 3 at Hinewai
March 2nd Peter Wardle "Origins of the New Zealand Flora – Trying to Keep Up to Date".
March 3rd or 4th Field trip to Mt Mason led by Paul Maurice
April 6th Show and tell
April 7th Field trip to the Lyttleton area

President: Ryan Young ryan.young@xtra.co.nz

Secretary: Margaret Geerkens (03) 352 7922 PO Box 8212, Christchurch. bert.marg@xtra.co.nz

■ Botanical Society of Otago

May meeting - A magnificent obsession: the botanical life and legacy of Tony Druce

Dr Geoff Rogers described Tony Druce as "Our most prolific botanical explorer" with his research into the distribution of native plants and their relationship with the geology and climate of the various areas taking him from the North Cape to Bluff. Specimens collected by Tony (now at Landcare Research, Lincoln) total 37,794 entries and his 334 invaluable plant lists are made readily available to all. Tony created a master list of these when he retired which he revised yearly as areas were revisited. From these lists 90,000 entries have been entered into a database by Geoff for use in analysing national patterns of plant richness, radiation and endemism. Tony discovered many new species and a number have now been named. A major study of Taranaki National Park (38 trips) was recognised by naming a plant found only in this locality *Meliccytus drucei*.
Audrey Eagle

May fungal foray to Orokonui Reserve

The reserve has a wide variety of tree types: eucalyptus, pines and native bush and a good range of fungi was expected as recent rain had encouraged fungal growth. Led by David Orlovich, 21 members found a good number of species including small fungi in leaf litter – the Pagoda fungus, *Podoserpula pusio*, and a tiny matchstick-like *Mycena* sp. The most common fungi collected were curtain and pouch fungi, *Cortinarius (Dermocybe)*, represented by a number of different species growing on soil predominantly under eucalypts. After finding came identification back in the lab.

June Meeting – David Orlovich briefly looked at some fungi, problems with identification and distribution methods and the relationship of some fungi with New Zealand trees. The talk was illustrated with spectacular photographs including the iconic sky blue fungi *Entoloma hochstetteri*. The large golden-yellow *Gymnopilus junonius* often found in enormous groups on both native hardwoods and exotics was used to show how examination of spores could supplement other characters in differentiating genera. DNA analysis is a new tool resulting in much renaming of species as many have world-wide distribution. Interestingly, DNA analysis has shown that a number of genera previously thought to be separate species (like *Thaxterogaster* and *Dermocybe*) belong in fact to *Cortinarius*. Mycorrhizal fungi and *Amanita muscaria*, the fly agaric and its potential for invasion of native forest were also looked at.
Bill Wilson

July Field Trip – Ross Creek-Woodhaugh Garden track network

The Woodhaugh Gardens contain only remnants of the original forest cover – *Dacrycarpus dacrydioides*, *Plagianthus betulinus* and *Podocarpus totara* – but it is good to see healthy specimens of these throughout the area; plantings of different native beeches are thriving. Ferns were plentiful on the side of the track up School Creek, including *Leptopteris hymenophylloides*. At the lookout the uncommon mistletoe, *Tupeia Antarctica* was observed growing in a tree lucerne.
Cliff Donaldson

August Field Trip to Sutton Salt Lake

Eight keen lichenophiles led by David Galloway and Allison Knight recorded 77 different lichens in and on the grasslands and schist tors around this lake. To start a range of ornithocoprophilic lichens were noted on an old stone gatepost used as a bird perch, including *Teloschistes velifer*. Tors and lower schist outcrops have a range of habitats for saxicolous lichens with some on exposed faces (*Umbilicaria hyperborean* and *U. vellea*) while others preferred cracks (*Peltula euploca*). A number of different orange *Caloplaca* spp. made a very distinctive splash zone on the rocks around the lake. Terricolous lichens (on soil) were surprisingly common including *Bilimbia australis* and *Micarea* sp., at least 6 *Cladonia* sp., the ubiquitous *Cladia aggregata* and the orange crust of *Caloplaca cirrachroaoides*. Corticolous lichens (on plants) were much less common. Allison Knight

September Meeting – insights of South American flora and fauna

Pascale Michel spoke on highlights of a trip to Brazil and Argentina. The rare national tree of Brazil, *Caesalpinia echinata* (Brazilwood) is seen in the numerous parks in Brasilia; its wood is still used for making violins and bows. The Parque Nacional Serra do Cipó, a wonderful wild rock garden in Minas Gerais, was created in 1984 to protect rare and endemic plant species. High canyons and waterfalls break a predominantly savannah landscape (cerrado), with submediterranean vegetation. Around 11,000 plant species have been recorded including numerous species of *Paepalantus* (*Semprevivas*), locally collected to extinction. *Hyptis* species are receiving attention lately for their medicinal properties. In Argentina, the national tree *Erythrina crista-galli* (Ceibo) was common along rivers and in flooded areas of Costanera Sur Ecological Reserve in Buenos Aires. Parque Nacional Nahuel Huapi, the first national park established in Argentina, runs from the Andes (2000 m) to the Patagonian savannah (600 m). *Nothofagus dombeyi* (Coihue) dominates the lowland forest, reaching 40 m often with an undergrowth of bamboo (*Chusquea culeou*) up to 5 m in height. Other species include *Nothofagus pumilo*, *Luma apiculata* (very humid sites) and the most common, *Embothrium coccineum* (Notro). Flowering from October, it provides food for humming birds. Two species dominate the savannah – *Mulinum spinosum* and *Stipa speciosa*.

September Field Trip - Waipori River Valley

Beginning in the Waipori broadleaf forest - mixed broadleaf with many coprosma spp., juvenile totara and lancewood (*Pseudopanax crassifolius*), and flowering *Sophora microphylla* attracting many bellbirds and tuis – we moved into kanuka dominated forest with many huge matai and totara trees. We emerged into an open pasture firebreak (*Olearia fragrantissima* and *Pseudopanax ferox* were seen), fighting wind and rain to the shelter of the silver beech forest. *Nematocerus trilobum* was seen and the ferns were especially lush. Pete Robb

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

President: John Barkla, jbarkla@doc.govt.nz

Secretary: Kevin Gould, kevin.gould@botany.otago.ac.nz, (03) 479 8244, P O Box 6214, Dunedin North

■ **Other Botanic Society Contacts**

Wanganui Museum Botanical Group

President: Vonnice Cave, Seafield Road, RD 4, Wanganui. Ph. (06) 435 8326;

vonnicecave@xtra.co.nz

Secretary: Robyn Ogle, 22 Forres St Wanganui. Ph (06) 347 8547; robcol.ogle@xtra.co.nz

Manawatu Botanical Society

Jill Rapson Ecology Group, Institute of Natural Resources, Massey University, Palmerston North. Ph (06) 350 5799 Ext 7963; Email: G.Rapson@massey.ac.nz

Wakatipu Botanical Group

Chairman: Neill Simpson (03) 442 2035

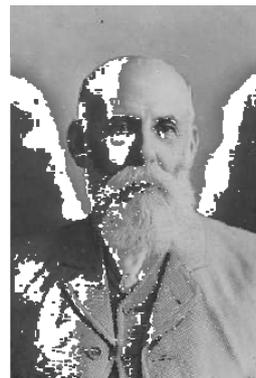
Secretary: Lyn Clendon (03) 442 3153

EVENTS

Exhibition: Cheeseman's 1906 Flora

This exhibition celebrates 100 years since Cheeseman published his definitive *Manual of the New Zealand Flora* in 1906. It includes: herbarium specimens, books, letters, botanical prints, images, medals and ephemera.

Thomas F. Cheeseman FLS, FZS, FNZI (1845-1923) was appointed Secretary of the Auckland Institute and Curator (i.e. Director) of the Auckland Museum, posts he held for nearly 50 years (1874-1923). He was primarily a botanist, one of New Zealand's greatest, and the first with a New Zealand education. During his career, Cheeseman described four plant genera, some 154 species and 87 varieties of plants; a genus and 10 species of marine molluscs and two marine flatworms. Thirty-two plants from New Zealand and the Cook Islands and four New Zealand molluscs were named after him. He published the *Manual of the New Zealand Flora* (1906, 2nd ed. 1925) and *Illustrations of the New Zealand Flora* (1914), as well as 99 scientific articles, primarily on botany, but also including zoology and ethnology. Among his accolades he was elected Fellow of the Linnean Society and received their prestigious gold medal.



Where: Auckland Museum, Tamaki Gallery, ground floor

When: 17 Nov 2006 – 4 Mar 2007

Cost: entry included in museum admission donation

■ **International Association for Vegetation Science Conference in February 2007**

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

The 49th Annual meeting of the IAVS will be held at Massey University, Palmerston North, New Zealand, from 12-16 February 2007. The conference theme is "New Zealand: New home; new habitat! new ideas?", and has the goal of providing opportunities to assess the impacts of the waves of settlers who occupied this last major habitable landmass on Earth, and to examine the contribution of New Zealand's novel habitats to new understanding of vegetation processes globally. These ideas will be explored against a background of current research from around the world. Some ideas on conference content are below, and the full programme can be examined on the web page (see end for details).

Some of the scheduled symposia are:

Bioinformatics - Temporal and spatial syntheses of vegetation data
(Organisers: Susan Wiser and Bob Peet);

Drivers of global change (Organiser: Martin Sykes).

Agricultural land-use changes: effects on vegetation at multiple scales
(Organiser: Rainer Waldhardt).

Patterns of plant diversity: (Organiser: Meelis Pärtel).

The most invadable place on Earth? (Organisers: Peter Bellingham and Peter Williams).



Offered talks include:

Lonnie Aarssen: "On the importance of species size in patterns of assembly and diversity in vegetation."

Alessandro Chiarucci: "A probabilistic approach to biodiversity monitoring in the European Natura2000 network."

Carla D'Antonio: "Plant species traits that lead to functional changes in terrestrial ecosystems."

Martin Diekmann: "Relationship between productivity, small scale and large scale species richness in herbaceous vegetation."

Bryan Foster: "The interaction of soil fertility, disturbance and propagule pools in regulating plant diversity: a synthesis of sowing experiments from North American grasslands."

Sue McIntyre: "Linking land use to vegetation function in temperate Australia - states and transitions."
 Angela Moles: "What would a kiwi know about the future of vegetation science?"
 Meelis Pärtel: "Contrasting plant diversity relationships in tropical and temperate regions: the role of evolutionary history."
 Ken Thompson: "The composition and richness of the vascular plant flora of British urban gardens, and implications for native biodiversity."
 Rainer Waldhardt: "Multiscale effects of successive land-use conversion on the vegetation of a marginal European landscape."

In addition to the four days of meetings, there is a mid-conference day of excursions to sites of local botanical interest. These provide a wonderful opportunity for conference participants to interact, and exchange ideas in the context of stimulating vegetation. Note: the web-advertised Egmont excursion is fully subscribed.

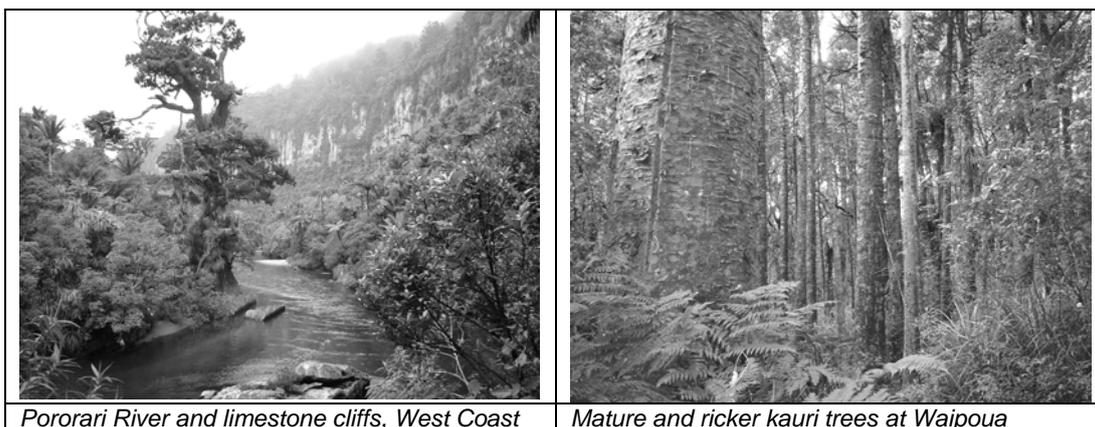
Mid conference excursions (included in the registration price)	
Kapiti Island	Predator-free island nature reserve. Short and longer walks. An extra ferry charge of \$30 applies.
Manawatu dunes	Local coastal duneland reserves and dune forest, and the RAMSAR Foxton Estuary. Several short walks are planned.
Manawatu lowland forest	Restoration ecology of several local native lowland podocarp / broadleaved forest remnants. Short walks only.
Mt Ruapehu	Altitudinal gradient on the Taupo-eruption blast-free side of Mt Ruapehu, along the Turoa skifield road, with short walks.
Rangitikei podocarps	Turakina Valley reserves showing a range of stages in podocarp forest dynamics. Several short walks.
Tongariro Crossing	Premier volcanic landscape via a 17 km walk (800m ascent, 1200m descent). The trip departs on Tuesday evening (6pm), and so an accommodation charge of \$50 applies.

Pre- and post-conference trips:

Longer trips are also a traditional feature of IAVS gatherings. While not essential tripping for New Zealanders, the excursions offer an excellent overview of local vegetation for recent immigrants. Additionally New Zealand botanists who would like to help host the excursions when in their local area, and interact with excursion participants, are cordially invited to do so. Meeting local experts and enthusiasts is as engrossing for participants as it is instructive for the locals themselves.

If you would like to join in for a day or so, check out the timetables below, and then please contact Jill, who will keep you informed about plans.

Pre-conference trip	
<i>Trip leaders: Jill Rapson, Peter van Essen, John Ogden</i>	
4 Feb	Evening meeting in designated Auckland hotel.
5 - 7 Feb	We'll visit Rangitoto Island, an 800-year-old cinder cone, and then drive north to warmer vegetation, including kauri forests, gumlands and coastal forest, before heading south. Base at Tangihua Lodge.
8 - 9 Feb	After exploring coastal and wetland vegetation, we will visit the geothermal area of Rotorua to do touristy things (mudpools and kiwi birds). Bases at Kokako Lodge, Hunua and Rotorua.
10 - 11 Feb	Our final stop is to inspect alpine and shrubland vegetation of Tongariro National Park, based at Whakapapa. There will be an opportunity to do the Tongariro Crossing (weather permitting). We will spend our last day inspecting the altitudinal sequence on the wetter southern side of Mt Ruapehu.



Pororari River and limestone cliffs, West Coast

Mature and ricker kauri trees at Waipoua

Post-conference trip	
<i>Leaders: Jill Rapson, Peter van Essen, Glenn Stewart, Alan Mark, Neill Simpson</i>	
17 - 18 Feb	After an early morning flight to Nelson, we will visit Kahurangi National Park, then travel to Nelson Lakes National Park for a range of beech to alpine vegetation types. Base: St Arnaud.
19 - 21 Feb	We'll see forests and mountains of the West Coast, including Paparoa National Park, before travelling to Fox Glacier and Lake Matheson in Westland National Park. Bases: Mokihinui and Harihari.
22 - 23 Feb	After inspecting pakahi fen and rainforest, we will cross Haast Pass, Mt Aspiring National Park, before passing through Queenstown on the way to Lake Manapouri. Base: Bannockburn.
24 - 25 Feb	We will visit Doubtful Sound, Fiordland National Park, before travelling back routes to see the famous Remarkables, and the Otago flat-topped mountain ranges. Base: Bannockburn.
26 - 28 Feb	From Alexandra we will head through the drylands of the MacKenzie Country to Mt Cook National Park to inspect glacial successions. Base: Mt Cook.
1- 3 Mar	We will drive through inland Canterbury to Arthur's Pass National Park, a very varied mountain and river area. The excursion finishes in Christchurch late on 3 March. Base: Cass.

Conference costs and funding assistance available

Registration (discount for IAVS members and others)	NZ\$ 600-700
Students (for IAVS members and others)	NZ\$ 350
End-of-conference BBQ	NZ\$ 70

Registration includes the welcome gathering on Sunday evening, and during the conference all lunches, morning and afternoon teas, and the Drinks, Nibbles and Posters session, as well your choice of mid-conference excursion (though a surcharge is applied for some). The end-of-conference BBQ carries an additional charge. Accommodation can economically be obtained in new university hostels (select the "breakfast included") option, as well as at many other venues in Palmerston North.

Sadly late charges now apply (post 1 Nov. 2006), but needy, full-time students can apply to Jill (in writing, email is fine) for a Landcare scholarship of \$250, to help cover their accommodation or other costs. Scientists or other interested persons for whom the fee represents a barrier are invited to present their case for consideration for a special discount directly to Jill. Note though, that the conference is being run on a non-profit, no-frills basis, so ensure you have a good case!

Details and the full draft programme are on the conference web site, along with information about activities for accompanying persons; there bookings and payments can also be made. Just Google "IAVS 2007", or type <http://iavs2007.massey.ac.nz> to find the web page.

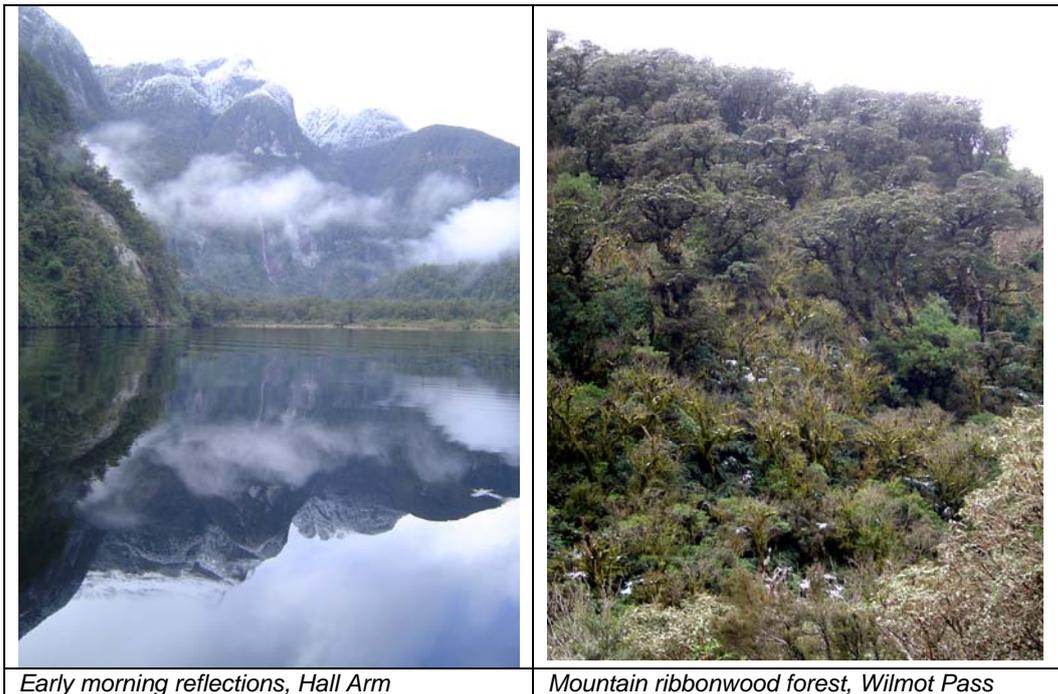
Contact Jill Rapson, Ecology Group, Institute of Natural Resources, Massey University, Palmerston North, NZ. Email: G.Rapson@massey.ac.nz or Ph: 0064 6 356 9099 Ext 7963; Fx: 0064 6 350 5623

■ **Vacancies on a Botanical excursion to Doubtful Sound**

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

People interested in joining a botanical excursion to Doubtful Sound on Sat 24 Feb - Sun 25 Feb are invited to contact Jill Rapson at the address below.

The plan is to meet at Manapouri (Pearl Harbour) early on the morning of Saturday 25th, for an early cruise to West Arm, and a chance to botanise in the local area, before taking a bus to Wilmot Pass, where it is hoped we can be dropped for another hour's botanising. Continuing on to Deep Cove, for a brief look around, we will board the *Fiordland Navigator* about midday for our cruise. This is planned to include an opportunity to land on Secretary Island for a hour or two's botanising that afternoon. After a relaxing overnight on the boat, we will return to Deep Cove, to arrive back at Pearl Harbour by lunchtime on Sunday.



Trip details are at the discretion of Real Journeys, the company which runs the boat, and landing, which is not a normal part of such cruises, is with permission of the Department of Conservation, the ship's captain, and the weather.

The opportunity arises as part of the South Island excursion of the International Association for Vegetation Science conference, to be held at Massey University in February. A full boat-load is essential to free the cruise from its normal tourist route for this occasion. Consequently several places are available to other interested persons, in addition to those occupied by participants of the IAVS excursion.

Costs are \$550 per person, and include Saturday dinner, and Sunday breakfast, as well as snacks. Bring your own lunch for Saturday. Additionally, you will need wet weather gear. Bunks/beds and towels are provided, as well as relevant botanical information. Allocation of sleeping spaces is at the discretion of the cruise director, and age and physical needs will be criteria considered.

For further information, or bookings, contact Jill Rapson, Ecology Group, Institute of Natural Resources, Massey University, Palmerston North. Email: G.Rapson@massey.ac.nz or Ph 06 356 9099 ext 7963.

THESES

■ University of Otago, Department of Botany

Pope, Paul 2005. The comparative seed ecology of *Desmochoenus spiralis* (A.Rich.) Hook.f. and *Ammophila arenaria* (L.) Link. MSc Thesis, University of Otago, Dunedin. 156 pp.

Spencer, Katrina Louise 2006. Climate change and alpine *Celmisia* species: impacts of reduced snow cover on flowering, growth and desiccation tolerance. MSc Thesis, University of Otago, Dunedin. 83 pp.

Dixon, Katherine Marguerite 2004. Biodiversity along a gradient of modification: plant invertebrate and reptile diversity in mid-altitude tall tussock (*Chionochloa rigida*). PhD Thesis, University of Otago, Dunedin. 266 pp.

Heesch, Svenja 2005. Endophytic phaeophyceae. PhD Thesis, University of Otago, Dunedin. 365 pp.

Mason, Norman 2005. Functional diversity and ecosystem-level processes in short-tussock grassland. PhD Thesis, University of Otago, Dunedin. 196 pp.

NOTES AND REPORTS

Herbarium Report

■ Auckland Museum Herbarium (AK) report: 1 July 2005 to 30 June 2006

The Museum's 'Grand Atrium' project is on track to be completed in December 2006. Apart from adjacent noise, dust and minor leaks there has been little direct impact on the herbarium.

Attending the Council Heads of Australasian Herbaria (CHAH) meeting in Alice Springs was a highlight for me – seeing for the first time some of the fascinating central Australian landscape and flora. Two other highlights were receiving from the Minister of Conservation the Loder cup, and from the New Zealand Botanical Society the Allan mere.

Public Programmes

Herbarium staff fielded over 750 enquires – some 15% of these required database searches, 5 field trips were led, 6 lectures given, and a radio interview given on the herbarium for Dean William's *Changing World*. Botany staff assisted by Auckland Botanical Society members coordinated the vascular plants which totalled 383 species (34% native) in Auckland's third 24-hour BioBlitz, this time in Henderson, along the Opanuku Stream and in the Corban Estate. The grand total of biota for the 24-hour period was over 1,200 species. Planning for both the Cheeseman Symposium to be held in Auckland Nov 2006 and also for the Museum's coinciding Cheeseman Exhibition is all on track. Ewen Cameron chaired the annual Herbarium Network meeting at Palmerston North, and attended a DoC Recovery meeting to finalise the Management Plans for 3 highly threatened plants of northern New Zealand.

Caring for the collection

The 200,000 botany accession onto database was reached. Twenty-three original botanical watercolours by Cheeseman's sister, Ellen Maud Cheeseman (1848-1928), were flimsied, photographed and added to the database. A few of them will be included in the Cheeseman Exhibition. Many of the 'new' accessions were non-vascular plant specimens from AKU being accessioned into AK because they were required for research, e.g. green algae, Pottiaceae mosses, and bryophytes from Rangitoto Island.

Contract workers

Frances Duff, funded by the Auckland Regional Council spent 5 months databasing some 3,000 accessioned naturalised specimens and updating their scientific names. The end result means that all New Zealand specimens (native, naturalised, cultivated) in the herbarium are now databased, totalling over 184,400 specimens, some 25,000 being naturalised. Also on a 6-week contract funded by the Museum, Frances databased over 1,000 backlog specimens.

Fieldwork/Research

Fieldwork for Ewen Cameron included trips to NW Nelson (8 days with the Auckland Botanical Society); day visits to Goat, Pakihi, Karamramu, Motueka, Motukaramarama, Motuoruhi and Motutapere Islands with Landcare Research ecologists; and leading an Auckland Botanical Society trip to Ponui Island. Herbarium staff published 21 articles and 3 book chapters, including new records of native and naturalised vascular species, liverworts, geographical limits, small island floras and threatened species. Naomi Lorimer, MSc student of Auckland and Massey Universities, spent many days studying *Epilobium* specimens; Peter de Lange has spent c.1day/week studying *Kunzea* specimens for his PhD.

Acquisition and donated specimens

Staff collections numbers included: 780 by Ewen Cameron, 702 mainly liverworts by John Braggins and 67 by Rhys Gardner. Specimens were also received from: Tricia Aspin, Jessica and Ross Beaver, Steve Benham, Jonathan Boow, Phil Brown, Paul Champion, Pat Enright, Alan Esler, Graeme Jane, Peter de Lange (873 specimens), Lisa Forester, Naomi Lorimer, Colin Ogle, Barbara Parris, Matt Renner, Nick Singers, Bec Stanley, Mike Wilcox, Anthony Wright, Maureen Young and Biosecurity Officers of Auckland, Northland and Bay of Plenty Regional Councils. Of great assistance this year was that Peter de Lange now databases his own collections.

Staff

Curator	Ewen K Cameron
Honorary Research Associates	Rhys Gardner, John Braggins
Technician	Mei Nee Lee
Contract staff	Frances Duff (Jun-Nov; Apr-May)

Volunteers

Chris Ashton, Joan Dow, Pat Jenner, Wyne Jones, Naomi Lorimer and Meryl Wright worked 0.5-1 day/week for another year; and Kay Haslett (Jun-Dec); all contributing to a total of over 1030 hours. After 14 years of mounting herbarium specimens one morning per week Kay Haslett finally retired - future botanists will be grateful for her beautifully mounted specimens, mainly packeted bryophytes and lichens. In August 2005 there was a departmental celebration to mark Meryl Wright's 25 years as a botany volunteer one morning per week. She was encouraged to be a volunteer after her son, Anthony Wright, was appointed as the Museum botanist in 1980. Her main contribution has been mounting new plant specimens - professionally and quickly, and we estimate that she has mounted over 1,000 per year for the last 25 years! Rhys Gardner, Peter de Lange, John Braggins, Jessica Beaver and Wendy Nelson greatly assisted with difficult identifications.

Visitors

There were 56 visiting researchers, including interesting visits from Susyn Andrews, a horticultural taxonomist from Kew studying lavenders, Fernanda Salinas from Chile studying a section of the Gesneriaceae, and Svenja Heesch, from NIWA studying *Ulva* and its near relatives; 10 interest groups visited (147 people), including 38 Auckland University Pacific Biogeography students mapping mistletoe distributions as a lab exercise. Apart from staff, loans were organised for Barbara Parris and Peter de Lange.

Statistics

New accessions:		(2004-05)
30 June 2005	297,131	
30 June 2004	<u>290,743</u>	
	6,388	(3,414)
Records on Vernon database:		
30 June 2005	206,230	
30 June 2004	<u>199,522</u>	
	6,708	(4,726)
Records linked to images:	2533	(1,870)
Loans of specimens		
Inwards	12[999 spec.] from 8 institutions	(16[1274] from 10)
Outwards	51[1115 spec.] to 17	(43[814] to 13)

Exchange specimens		
Inwards	405 specimens from 7 institutions	(368 from 7)
Outwards	797 specimens to 10 institutions	(385 to 6)
Total number of specimens out on loan:	5,876 to 38 institutions	(7,489 to 34)

E.K. Cameron, Botany Department, Auckland Museum, Private Bag 92018, Auckland

BIOGRAPHY/BIBLIOGRAPHY

■ **Biographical Notes (64) : Jane, Lady Franklin (1792–1875)**

E.J. Godley, Research Associate, Landcare Research, P.O. Box 40, Lincoln.

Jane Griffin was born on 4 December 1792, the second daughter of Jane Guillermand, of Huguenot stock, and John Griffin, a prosperous London silk weaver and liveryman of the Worshipful Company of Goldsmiths. She grew up an attractive and cultured woman with wide interests and abundant energy, widely travelled in Britain, Europe, and as far as Russia. In 1828 at age 36 she married the widowed Arctic explorer and naval captain, Sir John Franklin, and for 3 years from 1830 lived in various parts of the Mediterranean to be near her husband who was on duty there (1,2).

In 1836 Sir John was appointed Lieutenant-governor of Tasmania, and the Franklins arrived in Hobart on 6 January 1837. During the next 7 years Lady Franklin used her influence to improve educational scientific and other cultural facilities in the province and to improve the lot of the female convicts. In 1839 she travelled to Melbourne and in 1841 to New Zealand and Adelaide. At the latter place she persuaded the governor to set up a monument to Matthew Flinders. In 1842 she accompanied Sir John and others on an exploratory journey across the island to Macquarie Harbour on the west coast; and she is said to be the first woman to climb Mt Wellington near Hobart (erroneously located by some writers in New Zealand) (1,2).

On 12 December 1839 the French exploring vessels, the *Astrolabe* and the *Zélée*, under the command of J.S.C. Dumont d'Urville, arrived at Hobart. They had come south after visiting South America and exploring in the Pacific and East Indies. D'Urville wrote: "Le capitaine Jacquinet n'accompagna dans ma visite chez le gouverneur. Nous y passâmes une soirée fort agréable. Sir John Franklin parut fort empressé à nous faire accueil et très disposé à nous être agréable. Nous trouvâmes dans Lady Franklin une femme très-spirituelle et engageante, aux manières simple et agréables d'une conversation instructive autant que intéressante" (3). And Lady Franklin entertained the French officers at a ball before they left for the Antarctic on 1 January 1840 (3).

The French were back at Hobart from 17 to 27 February, 1840, after discovering Adélie Land. And just before they left for the Auckland Islands and New Zealand D'Urville wrote: "J'allai pour la dernière fois, visiter le cabinet d'histoire naturelle coloniale fondé par madame Franklin, et à la tête duquel se trouvaient placés M. Gunn, botaniste renommé; par une distinction toute spéciale et à laquelle je fus très-sensible, j'avais été nommé membre de la Société Tasmanienne d'histoire naturelle" (3).



Jane Griffin, aged 24. Frontispiece from Portrait of Jane A. Life of Lady Franklin by Frances J. Woodward, 1951. Hodder & Stoughton, London.

On 16 August, 1840, *HMS Erebus* and *HMS Terror* arrived at Hobart. They were under the command of Captain James Clark Ross and the purpose of their voyage was to study terrestrial magnetism at higher southern latitudes. To this end they had already spent some two months on isolated Kerguelen Island on their way from Capetown. They were to spend 3 months at Hobart with their observatory erected near their anchorage, and during this time Sir John and Lady Franklin gave them abundant help and hospitality as Ross's narrative amply acknowledges (4).

The assistant surgeon and botanist on board *HMS Erebus* was the 23-year-old Joseph Dalton Hooker, whom Lady Franklin described as "a youth of about 20, very boyish looking of rather an interesting appearance" (2). She took him and Ross to see the site which she had bought for her proposed "Ancanthe" botanic garden near Hobart, and noted that "young Hooker let out a scream which made everyone think he had seen a snake when he discovered a new orchis to add to his 300 Tasmanian specimens (2).

Hooker had also found fossil wood and he read a description of it "in Lady Franklin's drawing room after dinner, quite privately in 1840, the occasion being the embryo meeting of her endeavour to found a scientific society in Tasmania, which subsequently blossomed into the Tasmanian Journal of Natural Science, now I think the Royal Society of Tasmania. Sir John Franklin was Governor of Tasmania at the time, and my only audience was the Governor and his Lady, the private secretary [R.C. Gunn?], Captain Ross, and the surgeon of the *Erebus* [R. McCormick]" (5). The paper was later published as "On the examination of some fossil wood from Macquarie Plains, Tasmania" (*Tasm. J. Nat. Sci.* 1842)

On 9 November 1840, just before he left Hobart, Hooker wrote: "Lady Franklin ... would like to show me every kindness, but does not understand how, and I hate dancing attendance at Government House. I have dined there five or six times ... She very kindly invited me to go to Port Arthur in their yacht, to botanise; we were three days away,—two of them at sea, and the third, a Sunday, it rained furiously. I got about 500 specimens on Monday, and a few after service on Sunday, though Lady F. did not like it, and very properly, but I thought it excusable as being my only chance of gathering *Anopterus glandulosus*. Do not think this is my habit. Captain Ross is too strict, were there no other reasons." (5)

The *Erebus* and *Terror* left Hobart on 12 November 1840, bound for the Antarctic. They first called at the Auckland Islands, where the several kinds of animals brought from Hobart were landed; and "a great many gooseberry and currant bushes, and raspberry and strawberry plants, which Sir John Franklin had directed us to be supplied from the Government garden, were distributed over various parts of the island by Dr Hooker—" (4). Then, after visiting Campbell Island and making remarkable discoveries in the Antarctic, they arrived back at Hobart on 6 April 1841.

Lady Franklin was not in Hobart to welcome the explorers back. She had set out to visit New Zealand on *HMS Favorite* (Captain Dunlop) accompanied by Miss Williamson, her lady-in-waiting, and Lieutenant Bagot, Sir John's aide-de camp. They arrived at Wellington on 3 March 1841 after a passage of 10 days from Hobart (6). Lady Franklin stayed with Colonel Wakefield, visited the Hutt, and received a congratulatory address. On 9 March the *Favorite* moved on to the French settlement at Akaroa (6) where Lady Franklin fell and lacerated her leg, an injury that persisted throughout the rest of her journey (2).

At Auckland, their next port of call, Captain Hobson, the Lieutenant-governor, persuaded her to accompany him to a meeting of Maori and missionaries at the Waikato Heads. On 29 March she was carried by Maori bearers in a litter across the isthmus to the Manukau Harbour; and next day she went down the harbour to Orua Bay on the south shore of the Heads and stayed at the home of the CMS missionary, Mr Hamlin. He then escorted her south by boat and overland through Waiuku to the mission station at Maraetai, Waikato Heads, which they reached on 1 April. Here Lady Franklin met Ernst Dieffenbach who was passing through on his way to Lake Taupo and the vicinity of Tongariro. She wrote: "Dr D is a most agreeable and pleasant person. We should soon I think have been great friends." (7).

Lady Franklin returned by the same route as she had come and was back in Auckland in time to spend Easter at Government House with the Hobsons (7). Then, on 11 April, the *Favorite* took the

visitors for a brief visit to the Bay of Islands with a letter of introduction from Hobson to the catechist-missionary there. This was Richard Davis, whose gardens and farm at Te Waimate had been admired by Charles Darwin in 1835. Accompanied by James Busby, the British Resident, Lady Franklin went to Waimate, at first carried by bearers and then in a cart that Davis had brought 10 miles along the road to meet her. He also arranged for bearers to take her to the Wesleyan mission at Hokianga (2).

Lady Franklin also met William Colenso, the printer-catechist at Paihia. He must have impressed her, because on her return she sent him a botanical microscope. She also fostered his entry into scientific publication by requesting contributions for the *Tasmanian Journal of Natural Science* and having him elected a corresponding member of the Society that she had helped found (8).

The visitors were back on Auckland by 19 April, when Lady Franklin attended the first sale of Crown land and together with Miss Williamson and Lieutenant Bagot “she bought an allotment at the lower end of Queen Street, and vested the income in the Mission” (7). The *Favorite* returned via Sydney where Lady Franklin sought advice on her injured leg; and she was back in Hobart by the end of June (2).

The Franklins left Tasmania on 3 November 1843. Rawnsley (1) writes: “Not wishing to land in England during the winter, Sir John and Lady Franklin delayed their sailing until the end of the year. But they left Tasmania for New Zealand. From Hobart Town he had a magnificent and most affectionate send off. The passage to the harbour and from the harbour to the *Flying Fish*, which lay in the stream, was one long triumphant procession—;” and he adds that “from New Zealand they went to Melbourne, to join the *Rajah*, in which they proposed to take their passages to England—.” *The Australian Dictionary of Biography* is of a different opinion, stating that “when Franklin was recalled at the end of 1843 they went first to Melbourne and then to England by way of New Zealand.” Neither of these statements is correct. The Turnbull Library has no records of a visit by the Franklins in 1843 and it is not mentioned in Woodhead’s authoritative biography of Lady Franklin (2). On the other hand Sir John has told us (9) that they sailed on the *Flying Fish* from Hobart to Launceston and George Town in Tasmania, and then across Bass Strait to Port Phillip (Melbourne). They left Melbourne on 10 January 1844 on the *Rajah* and reached Portsmouth on 6 June, 1844 by the westward route around Africa.

In May, 1845, Sir John set out as leader of yet another expedition in search of a North-West passage, but by 1847 he had not returned. Lady Franklin persuaded the Admiralty to send a relief expedition, but it returned without news of Sir John or his men. For the next 10 years Lady Franklin devoted her time and money to determining the fate of the expedition, asking for help at the highest levels, including the President of the United States, Zachary Taylor. In 1857 she sponsored her last expedition and on 5 May, 1859, a cairn was found by Lieutenant William Hobson (son of Governor Hobson) recording that Sir William had died on 11 June, 1847.

The many expeditions that Lady Franklin had promoted had led to greatly increased knowledge of the Arctic and in 1860 she was awarded the Royal Geographic Society’s Gold Medal. She died in London on 18 July, 1875.

Eponymy (Lady Franklin)

1842	<i>Hymenophyllum frankliniae</i> “Climbing trees in woods on the banks of Waikare Lake, interior of the North Island; four days journey from <i>Turanga</i> (Poverty Bay); December, 1841. It has been named after Lady Franklin by the discoverer, in commemoration of her recent visit, and of her patronage afforded by her Ladyship to the different departments of Natural Science.” W. Colenso <i>The Tasmanian Journal of Natural Science</i> 1: 378–379.
1846	<i>Hymenophyllum franklinianum</i> “On living trees in shaded forests, on the banks of Waikare Lake; December, 1841. It has been named by the discoverer, in order to commemorate the condescending and intrepid tour made by Lady Franklin in New Zealand, as well as the kind patronage ever afforded by her Ladyship in the different departments of natural science.” W. Colenso <i>ibid</i> 2: 183–184.
1860	Franklin Electorate, south of Auckland, later Franklin County in 1910 (7, 10).

Eponymy (Sir John Franklin)

1841	Franklin Island, Ross Sea. "I named it in compliment to His Excellency, Captain Sir John Franklin of the Royal Navy, to whom, and his amiable lady I have already had occasion to express the gratitude we all felt for the great kindness we received at their hands, and the deep interest they manifested in all the objects of the expedition" James Clark Ross (4).
	Mount Franklin, Nelson Lakes National Park Mount Franklin, Arthur's Pass National Park Mount Franklin (Marlborough) No relation Franklin Mountains, Fiordland National Park (10)

Acknowledgments

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■ Sidney Herbert Rawson (1883 – 1951) Dentist and amateur botanist (specializing in ferns, diatoms, and slime moulds) and his place in the Dunedin diatom group

Antony C. Harris & Sue Michelsen-Heath, Otago Museum, P O Box 6202, Dunedin North

Sidney Herbert Rawson was born in Wanganui on 30 May 1883. His father, Thomas Harold Rawson, had held the position of engineer, secretary and treasurer to the Otago Harbour Board for six years at the time of his premature death on 4 May 1904. A sub-leader in the "Otago Daily Times" of 5 May 1904 lauds his work on improving the port to such an extent that the Dunedin town wharves had "in recent months" been accommodating many ocean-going steamers of large size and draught, which had not been the case prior to his appointment. A biographical note and photograph of T. H. Rawson occurs on P. 121 of the (1905) "Cyclopedia of New Zealand Vol. 4, Otago & Southland Provincial districts." T. H. Rawson was the third surviving son of Dr. T. E. Rawson, M. D. of New Plymouth, Sidney Rawson's paternal grandfather.

Sidney Herbert Rawson attended Otago Boys High School from 1899 to 1901. He was registered as a dentist on 16 January 1908 (Dentists' Register in New Zealand Gazette). His qualification was registered under section 11 of the Dentists' Act, 1904, on certificate of Board of examiners, which was issued after three years apprenticeship. For many years, he lived at 212 High Street, Dunedin, at that time a fashionable area for professional families. The building is no longer standing. At around 1912, he practiced dentistry at number 8 Moray Place, Dunedin. In 1939, he had built a small, square, brick, two bed-roomed house at 28 Forbury Road, Dunedin. This house is now owned by the Roman Catholic Church, and is not visible from the street, as another building has been erected in front of it. The house, which is currently occupied by an elderly priest, was formerly on a narrow section beside St. Bernadette's school, the schoolhouse consisting of a story above the current chapel (Most Reverend Dr. C. D. Campbell, pers. comm., 24 August 2006).

Sidney H. Rawson made comprehensive collections of ferns, diatoms, and Myxomycetes (slime moulds), which he mounted expertly and identified in most cases to species. A box of 18 lantern slides of fungi and diatoms made by Sidney Rawson, now kept at the Otago Museum, indicates that he gave lectures on fungi and diatoms. The Hocken Library's photographic archives hold a series of 6

contact prints by Sydney Rawson showing a tug boat assisting the *Terra Nova* out into the Harbour as the *Terra Nova* Expedition departed from Port Chalmers on 29th November 1910. Included with the contact prints is a negative box and Rawson's photographic logbook, with date, time of day, film type and speed, camera aperture and weather conditions.

In August 2006 Emeritus Professor Douglas S. Coombs said he remembered S. H. Rawson vividly. "You could say he got me started on my geological career. Sid Rawson was a very shy, retiring person. He practiced as a dentist in the days before painless dentistry, when a dentist pumped a foot treadle on the floor with his foot." During 1936-37, Professor Coombs contracted polio when a boy, and while recuperating, his father, L. D. Coombs (by profession, a well-known Dunedin architect who had designed many fine buildings [Reed, 2003]), got him interested in natural history. His father's friend, S. H. Rawson, was a great help both in introducing Doug Coombs to plants and how to press them, and then mount them on herbarium sheets. He helped him as well with microscopy. Coombs senior re-built his own microscope, which was extensively modified and adapted for use in photomicroscopy of diatoms. Doug Coombs's father, L. D. Coombs, Dr. Maurice Netterville Watt and Sidney Rawson, formed a diatom group, which was later joined by Frederick F. C. Reed. (Arthur Doig appeared much later and was less closely associated with the group.) As he became older, Doug Coombs (who eventually became Professor of Geology and head of the Geology Department at Otago University) and his brother, J. S. (Jack) Coombs, were also members of this group. Dr. Watt was the leader, even if he spent less time on diatoms than Rawson. They went out together on many field trips, especially to north Otago sites near Oamaru, including Papakaio, Cormack's Siding, Cormack's farm, "Allan's," and Totara, to collect samples from the lower Tertiary, marine diatomite occurrences there.

Since the nineteenth century, diatoms have been studied in the Northern Hemisphere and in New Zealand from sites in and around Oamaru, unearthed from the farms of the Allan, Bain, Breen, Dick, and Mavor families, Cormack's Siding, Forrester's Hill, Jackson's paddock, Papakaio, Taylor's Quarry, William's Bluff, Torara, Flume and Troublesome Gully - names that have entered the international literature on microalgae. British workers Grove and Sturt (1886-1887) identified and described 283 taxa (mostly disc-shaped diatoms) from these sites, and the Frenchmen Tempère and Pérage published further papers between 1889 and 1915. Coombs, Coombs, Coombs, Rawson, Watt, Reed, and Doig (the Dunedin diatom group), added to this work in the 20th century, and a northern hemisphere worker, Hans Shraderr, identified 125 species of pinnate diatoms from the lower Tertiary, marine diatomite occurrences there (Cassie Cooper, 1996). Localities for many of the Oamaru diatom sites visited by Rawson and his diatom group are shown on maps in Edwards, 1991. Reed (2003) published brief biographical notes on a few of the early diatomists.



Dunedin diatom group in the field, collecting Oamaru diatomite. From left, Sidney H. Rawson, Dr. M. N. Watt, J. S. (Jack) Coombs, D. S. Coombs, 1937-1938. Photograph by L. D. Coombs.

Sidney Rawson taught Doug Coombs when a boy how to treat diatoms with *aqua regia* which comprised equal parts of concentrated hydrochloric acid, concentrated nitric acid, and water. No fume cabinet was used. Aqua regia dissolves all carbonates, dolomite and most iron oxides, such as limonite, and other extraneous material in the rock and exposes the diatoms. "Sidney Rawson identified his Tertiary diatoms to genus and species. He was a beautiful operator," said Professor Coombs. "He arranged the diatoms on the microscope slides with a cat's whisker, taken from his own cat". (D. S. Coombs, personal communication, August 2006). L. D. Coombs took many photomicrographs of diatoms and had intended to publish an atlas of photographs of Oamaru

diatoms, but died before this was completed (Coombs, D. S., pers. comm., 2006; Edwards, 1991, pp.127-128). L. D. Coombs nevertheless published 7 papers on the Oamaru Diatomite between 1946 and 1952, which are listed in Edwards (1991). Sidney Rawson did not publish any of his work. L. D. Coombs made homemade Christmas cards, on which he would paste several photomicrographs of diatoms. He posted to Sidney Rawson a number of these cards, which are still extant, and will be placed in the collections of the Hocken Library. These reveal the high quality of L. D. Coombs's photomicroscopy.

Sidney Rawson had few social interests, perhaps because of his natural shyness. On the other hand, as a busy dentist, Sidney Rawson's scientific interests probably consumed all of his spare time. Rawson, nevertheless, was an active and enthusiastic member of the Otago Naturalists' Field Club, giving many formal talks and going out with the members on numerous field trips. "Sidney Rawson used to have a motorbike with a side car. He took me out in the side car on field trips to north Otago on a number of occasions." (D. S. Coombs, personal communication, September, 2006).



Dunedin diatom group in the field, at Troublesome Gully (an Oamaru diatomite locality), October 9, 1937, showing (from left) Dr. M. N. Watt, L. D. Coombs's 1924 Bean car, Sidney H. Rawson, and Professor D. S. Coombs, as a 12 year old boy. Photograph by L.D. Coombs.

On some of his expeditions, Sidney Rawson was accompanied by his brother, Gilbert Allen Rawson who, although not a member of the (informal) Dunedin diatom group, had deep interests in natural history and for many years corresponded with leading European scientists. Correspondence from Prof. Dr. Ernst Heinrich Haeckel of the University of Jena to Gilbert Rawson is held in the Otago Museum and G. Rawson's bookmarked copy of Haeckel's (1904) *Kunstformen der Natur* and other works were given to the Otago Museum.

Sidney Rawson did not marry. He died in Dunedin on 10th December 1951 aged 68 years and was buried in the Andersons Bay Cemetery. He is buried with his brother, Gilbert, who died at Auckland on 12th August 1960, aged 80 years. Sidney Rawson's simple death notice in the "Otago Daily Times" does not mention any family, nor does it mention any of his activities. There was no obituary.

After Rawson's death, his collections were given to the University of Otago's Botany Department. The fern collection, on standard herbarium sheets, was incorporated with the University of Otago Botany Department's Herbarium and remains there today, in the building in Great King Street, Dunedin. The collections of Myxomycetes and diatoms, however, were formally given to the Otago Museum in the late 1950s by the late Professor Geof. F. T. Baylis, head of the Botany Department, and have been curated by the Otago Museum ever since. The reasons Professor Baylis gave the Rawson collections to the Otago Museum were that they were of high historical value, that the glass microscope slides were delicate, and that the mountants could become opaque, and therefore destroy the slides, unless the material was housed in climatically controlled storage.

As regards the diatoms, the S. H. Rawson Collection consists of 272 slides of recent diatoms from the Dunedin area, and 475 slides of fossil diatoms from Otago Province. These slides were expertly prepared and the species named, by Mr. Rawson, but because he did not publish his work, he was little known outside Dunedin during his lifetime and has been forgotten since. Professor G. T. S. Baylis sent the collection of recent, Dunedin, diatoms to Mr. E. J. Ferguson Wood of the Commonwealth Scientific and Research Organization, Division of Fisheries and Oceanography, Cronulla, Sydney, Australia, who was at the time publishing a series of papers in the *Transactions of the Royal Society of New Zealand* on (recent) Australian and New Zealand diatoms. Accordingly, Mr. Ferguson Wood prepared Sidney Rawson's work for publication (Ferguson Wood, 1961).

The Rawson Myxomycete collection was long thought to have gone to the North Island. Now that its presence in the Otago Museum has been verified, this collection will be very useful for future studies, as the beautifully mounted specimens, collected locally in Otago, have not deteriorated, and will enable invaluable comparisons to be made with the current distributions of Dunedin and Otago Myxomycetes. Professor D. S. Coombs said that he remembered Rawson's "Mycetozoa" collection vividly – "he was very proud of this collection and introduced me to (myxomycetes) in the field" (D. S. Coombs, September 2006, personal communication).

Dr. Morris Netterville Watt, microbiologist, former assistant dean of the Otago Medical School and well-known amateur entomologist, then the leading authority on New Zealand leaf mining insects, signed Sidney Rawson's affidavit of death. Like Rawson, Dr. M. N. Watt was born and grew up in Wanganui. He had very diverse interests (Ordish, 1973[1974]), his interest in diatoms having been kindled by S. H. Rawson and L. D. Coombs. Dr. Watt's own collection of fossil diatoms is housed in the Otago Museum. Dr. Watt did not publish formal papers on diatoms, but he developed very high levels of competence in the collection and study of both fossil and recent species (Ordish, 1975). As a measure of this expertise, Dr. Watt was sometimes requested to use his knowledge of diatoms to undertake forensic analyses during criminal investigations (Ordish, 1975). Because diatoms, which are abundant in marine and fresh water plankton, have siliceous walls, they persist in clay deposits and therefore can be used to identify the sources of clay samples.

Sidney Rawson consequently had an important role in New Zealand science, was directly responsible for more than one distinguished career in science, and played a pivotal role in the Dunedin diatom group.

The foregoing account constitutes the only known chronicle of the life and activities of Mr. Sidney Herbert Rawson, no biographical details having been published to date.

He is commemorated by the tertiary fossil diatom, *Aulacodiscus rawsonii*, Barker and Meakin, 1945 (Heliopeltaceae ["Actinodiscaceae"]). An extensive correspondence from a leading diatomist of his day, S. H. Meakin in Sheffield, United Kingdom, is still extant and was donated to the Otago Museum by Professor L. D. Coombs.

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PUBLICATIONS

■ Supplement to Eagles Complete Trees and Shrubs of New Zealand - Additional Notes

The Botanical Society of Otago has published a Supplement to Audrey Eagles superb revision of her two previous books containing her paintings and information on nearly all the trees and shrubs found in New Zealand.

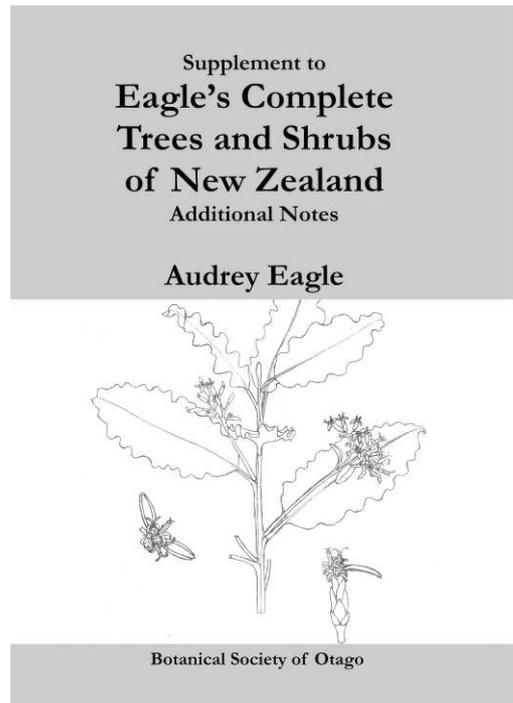
This Supplement contains additional information on c. 630 of the plants illustrated in Audrey's books. Additional information is given on distribution, habitat, ecology, morphometrics, taxonomic history and relationships, plant uses, discoverer(s), and bibliographic notes, amongst other subjects. This information has been collated from Audrey's notes as well as those provided by many of New Zealand's leading botanists such as Colin Ogle, Brian Molloy, Peter de Lange, Shannel Courtney, and others. The quality and amount of information is stunning, and as such, is a valuable addition to accompany Audrey's books.

Price is \$20 (discounted to \$18 for Botanical Society and Forest and Bird members), plus post and packaging and is available at the University Book Shop, Dunedin, or order online at www.unibooks.co.nz. Page extracts from the Supplement are on the Botanical Society of Otago's website: www.botany.otago.ac.nz/bsol/.

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