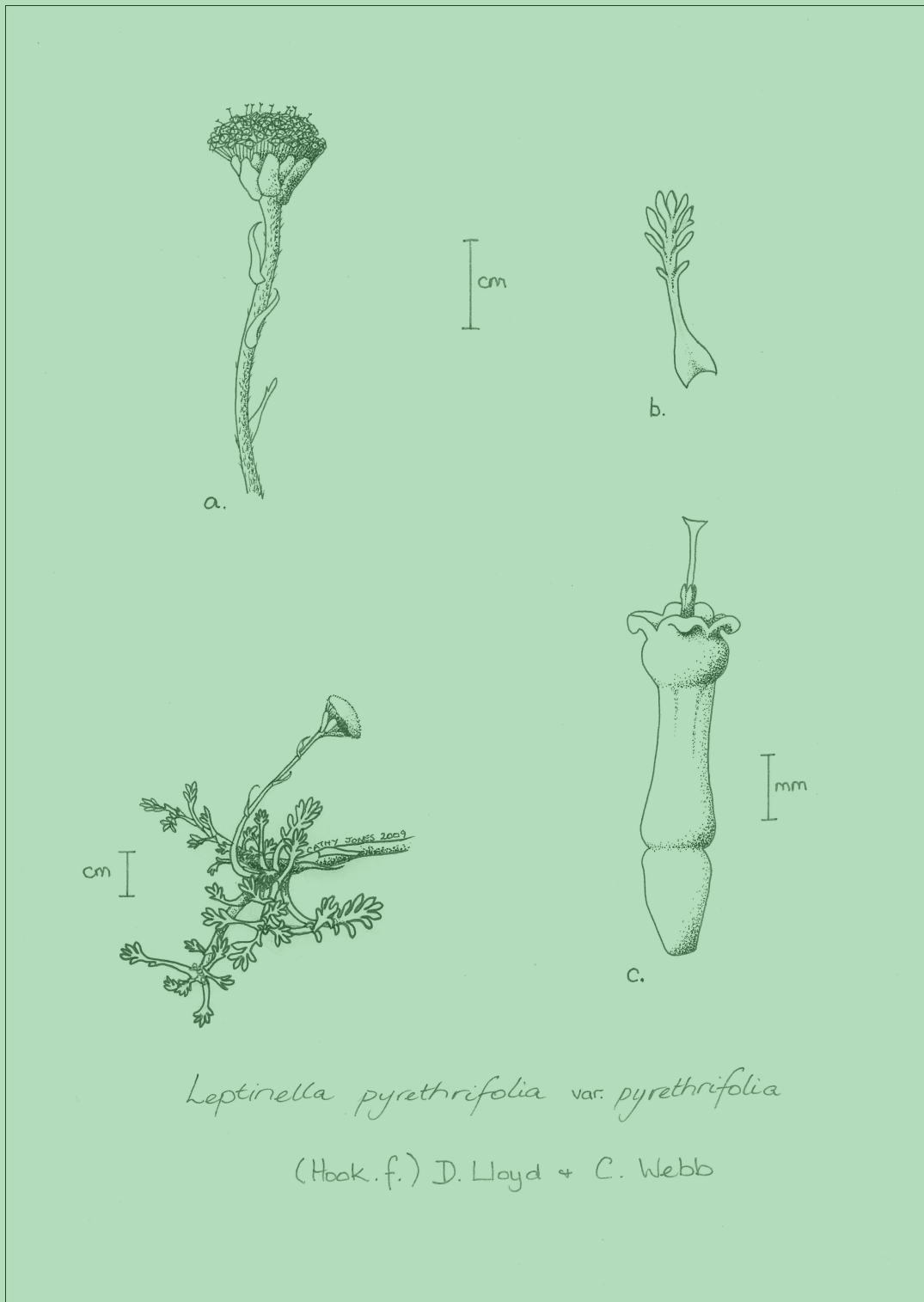


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 97

September 2009



New Zealand Botanical Society

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

Address: c/- Canterbury Museum
Rolleston Avenue
CHRISTCHURCH 8013

Subscriptions

The 2009 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2009 student subscription, available to full-time students, is \$12 (reduced to \$9 if paid by the due date on the subscription invoice).

Back issues of the *Newsletter* are available at \$7.00 each. Since 1986 the Newsletter has appeared quarterly in March, June, September and December.

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

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

Deadline for next issue

The deadline for the December 2009 issue is 25 November 2008.

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 (with the suffix ".doc" but not ".docx"), as an open text document (Open Office document with suffix ".odt") or saved as RTF or ASCII. Graphics can be sent as 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

Leptinella pyrethrifolia var. *pyrethrifolia* (Hook.f.) D.Lloyd & C.Webb drawn in August 2009 by Cathy Jones from an apparently dioecious male plant cultivated by Shannel Courtney. a. capitulum, b. leaf, c. staminate floret

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NEWS

New Zealand Botanical Society News

■ Allan Mere Award 2009

The NZBS Committee is pleased to announce that the 2009 award of the Allan Mere is to Audrey Eagle.

Her nomination was from the Botanical Society of Otago, seconded by other botanical societies (Nelson, Wellington and Wanganui), and individuals (Shannel Courtney and Alan Mark).

A selection of comments below from the nominator and supporters indicate the strong feeling of support for Audrey throughout the botanical community of New Zealand.

“Audrey Eagle has made a truly outstanding contribution to botany in New Zealand. For over 50 years she has unstintingly devoted her time to painting in meticulous detail, life-size where possible, the leaves, flowers and fruit of every native tree, shrub and climber known in New Zealand. To achieve this, and to assemble the most up-to-date botanically accurate information to accompany the drawings, she has enlisted the help of numerous botanists, both amateur and professional, and inspired hundreds more.”

“In her eight publications, which span 31 years, Audrey’s superb illustrations have increased the understanding of New Zealand’s botany and made it more accessible to all New Zealanders.”

“For more than 30 years Audrey has been both a pupil and teacher - a conduit for others knowledge as well as willingly passing on the results of her own observations of the New Zealand flora.”

“In her own way she has done much to increase the appreciation of the rich and diverse heritage we as New Zealanders can find around us.”

“...with nothing other than a few tubes of paint, fine brushes, a little porcelain palette, water, magnifying glass and natural light, Audrey created detailed and technically accurate paintings with a sensitivity that made them works of art.”

“Here is a woman who has devoted 50 years of her life illustrating New Zealand’s entire native woody flora. Such an outstanding feat will likely never be performed by anyone else in the future. We are all privileged beneficiaries of Audrey’s significant contribution to the understanding of New Zealand’s unique botanical heritage. Without reservation, Audrey deserves accolades from the botanical community for such an outstanding effort, and the Mere award is an entirely appropriate acknowledgement of that effort.”

“There could be no more worthy recipient of the New Zealand’s Botanical Society’s Allan Mere at this time.”

Audrey is the eleventh recipient of the Mere since the NZBS was asked to administer the award in 1999.

Congratulations Audrey! On the members’ behalf, I shall present the Allan Mere to Audrey at the monthly Botanical Society of Otago meeting on Wednesday 14 October, when their speaker will be David Orlovich speaking about Beech Forest Fungi.

Anthony Wright, President, New Zealand Botanical Society

■ **New Zealand Botanical Society now online**

In *Newsletter* 87 (p. 2) the committee mentioned an application to the TFBIS (Terrestrial and Freshwater Biodiversity Information System) fund for digitising the Society's *Newsletter* and creating a new website. The TFBIS Programme is funded by the Government to help achieve the goals of the New Zealand Biodiversity Strategy, and is administered by the Department of Conservation. In the past they have funded other digitisation projects such as the *New Zealand Journal of Botany*, the *New Zealand Journal of Ecology*, the New Zealand Flora and Fauna series, and many other projects.

The application was successful for the digitisation work only but I have also created a website in my own time for the Society. Landcare Research has kindly hosted this new website for free at www.nzbotanicalsociety.org.nz.

The digitisation work itself was a large project that took many hours to complete. The project involved scanning about 2000 pages from issues 1 (August 1985) to 86 (December 2006), assembling these pages into PDF documents (by issue), using OCR (Optical Character Recognition) to produce a text layer, and then carefully proof reading all of this text. There is a lot of valuable information in the *Newsletter* and now this information is available to all through the internet. Previous articles and information can be found using the Google search box built into the new website.

In addition to the newsletters, there are pages on the Allan Mere award with a list of previous recipients, details on how to join the society, contact information for the regional botanical societies in New Zealand and more.

Please check it out!

Murray Dawson

■ **Call for Nominations**

Nominations are called for the following positions of Officers and Committee of the New Zealand Botanical Society for 2010:

- President
- Secretary/Treasurer
- 3 Committee Members

Nominations for all positions opened 1 September 2009 and close on 19 November 2009. Nominations shall be made in writing to the Secretary, c/o Canterbury Museum, Rolleston Avenue, Christchurch 8013, and shall be signed by the Proposer, the Seconder, and by the Nominee to indicate their acceptance of nomination. If necessary, ballot papers for a postal election will be circulated with your December *Newsletter*.

I'm pleased to announce that Melanie Newfield has agreed to continue as Editor for another year.

Ewen Cameron, Secretary/Treasurer NZBS

■ Financial Statement for year ended 31 December 2008

	2008	2007
INCOME		
Donations	\$381.00	\$501.52
Interest	\$6.64	\$6.67
Sale of Back issues	\$60.00	\$140.37
Grant from DOC for digitisation (part 1 of \$4,000)	\$2,000.00	
2006 Subscriptions		\$250.00
2007 Subscriptions	\$150.00	\$4,774.00
2008 Subscriptions	\$5,010.09	
2009 Subscriptions received in advance	\$1,119.00	
2010 Subscriptions received in advance	\$25.00	
Total Income	\$8,751.73	\$5,672.56
EXPENSES		
Printing costs	\$4,198.13	\$4,765.51
Postage costs	\$1,227.47	\$1,164.82
Bank fees	\$42.00	\$42.00
Calligraphy costs (Allan Mere)	\$25.00	\$30.00
Digitisation of Newsletter	\$2,000.00	
Total Expenses	\$7,492.60	\$6,002.33
Total income	\$8,751.73	\$5,672.56
Less total expenses	\$7,492.60	\$6,002.33
Net surplus	\$1,259.13	-\$329.77
ASSETS		
Cash in bank - current account	\$5,970.35	\$2,630.42
Cash in bank - Ready Money	\$1,994.71	\$2,036.71
Total Assets	\$7,965.06	\$4,667.13
LIABILITIES		
Printing costs	\$1,040.11	\$1,077.75
Postage costs	\$346.94	\$270.50
Grant received in advance for digitisation (Part 2 of \$4,000)	\$2,000.00	
Total Liabilities	\$3,387.05	\$1,348.25
Total Assets	\$7,965.06	\$4,667.13
Less Total Liabilities	\$3,387.05	\$1,348.25
Net assets	\$4,578.01	\$3,318.88
Represented by		
Retained earnings c/fwd from previous year	\$3,318.88	\$3,648.65
Profit for year	\$1,259.13	-\$329.77
TOTAL FUNDS AS AT 31 DECEMBER	\$4,578.01	\$3,318.88

Regional Botanical Society News

■ Auckland Botanical Society

June Meeting

Chrissen Gemmill, from the University of Waikato, spoke to us on *Pittosporum* in the South Pacific. Although *Pittosporum* species are distributed throughout the tropical and warm temperate regions of Australia, New Caledonia, New Zealand, Africa and Madagascar, they have undergone an explosive radiation in the Pacific. New Caledonia, for instance, has ca. 50 endemic species. Molecular systematic results on the evolution of Pacific *Pittosporum* show that most of the 21 New Zealand species originated in Australia. The exceptions are *P. cornifolium* and the two subspecies of *P. pimeleoides*, which show connections to the species in New Caledonia. In New Zealand we have species which show heteroblasty and others with a divaricating form.

June Field Trip

A cold wind and muddy tracks did not detract from a very enjoyable trip to the upper Huia Dam in the southern Waitakere Ranges. Being able to drive right up to the dam, through a gate that is normally locked, took us right into the interesting botany. There was much akeake (*Dodonaea viscosa*), kowhai (both *Sophora chathamica* and *S. fulvida*) and hinau (*Elaeocarpus dentata*), with kauri (*Agathis australis*) and rata (*Metrosideros robusta*) on the hilltops. *Ixerba brexioides*, *Quintinia serrata*, *Pittosporum ellipticum* and flowering *Diplodium brumalium* were special plants, and a last minute sighting of *Ophioglossum coriaceum* growing in the moss on the side of a stream led to the coining of a new word – Ophioglossophile.

July Meeting

During a dinner at Carrington Café, Geoff Davidson was elected as an Honorary Life Member of the Auckland Botanical Society. At the following meeting the Plant of the Month talk was given by Jonathan Boow, describing the invasive fern, *Osmunda regalis*. Nick Waipara from the ARC then outlined the latest news on the soil borne disease, *Phytophthora* 'taxon Agathis' (PTA) that is causing the ill health and death of kauri trees. Nick spoke on the tree health surveys that have been carried out in the Auckland area, and the measures that are being taken to help contain it.

July Field Trip

Williamson's bush, a QE II covenanted 10 ha block at the head of the Mangemangeroa Valley, Whitford, was a sheltered site for a mid-winter foray. Taraire was a feature of the broadleaved forest, with large specimens of pukatea, northern rata, and rimu, with, in places, the ground abundantly covered by the shiny *Asplenium lamprophyllum*. Kaikomako is not commonly seen in Auckland, so it was good to see seedlings, saplings and adult trees. Gaps in the bush cover are being revegetated in a very natural way, using seedlings taken from the bush, and good fencing and pest control, both animal and vegetable, attest to the diligence of the owners, Derek and Primrose Williamson.

August Meeting

Kristy Hall chose to speak on *Coprosma propinqua* as the Plant of the Month. Then Mike Wilcox, with his vast knowledge of the trees of the world, led us on an armchair tour of "Auckland's remarkable urban forest". He covered trees in private ownership as well as those in public places, reminding us that we should be grateful that among the built-up areas in our "super city" we have some wonderful bush fragments, and that people long-dead planted trees that we now enjoy in their maturity.

August Field Trip

The large trees in Kepa Bush in the Purewa Valley, Orakei, were a surprise to those of us who don't expect to see intact bush in Auckland's urban gullies. Although surrounded by an amazing assortment of adventives, in Kepa Bush itself the thick canopy is composed mainly of large old kohekohe trees. Also present were the biggest pigeonwood trees that any of us had seen, and a few large kowhai, though the oldest of these had succumbed to age. An interesting feature was the number of pohutukawa trees that had started life as epiphytes on ponga (*Cyathea dealbata*).

FORTHCOMING ACTIVITIES

2 September Liverworts – Matt Renner
4-13 September Visit to NSW, Australia

19 September	Karekare, Waitakere Ranges
7 October	Lucy Cranwell Lecture – John Ogden
17 October	Hauraki Gulf Island trip
24-26 October	Labour Weekend camp, Rawhiti Marae, Bay of Islands
4 November	Wild flowers of Namaqualand – Alison Wesley <i>Wahlenbergia</i> – Jessie Prebble
21 November	Mahurangi West orchids

Auckland Botanical Society, PO Box 26391, Epsom, Auckland 1344
 President: Mike Wilcox
 Secretary: Bec Stanley rebecca.stanley@arc.govt.nz

■ Rotorua Botanical Society

May Field Trip: Waiohau forest -Military track

After a swap to the northern end of the track from a planned southern end and a shuffle of vehicles to the track start, we headed through plantation and up the Koturenu Stream to the Conservation area boundary on old plantation access roads. At the bush edge we soon picked up the track as it sidled up the stream. The benched track, built during the Maori Wars in 1860s, was still very distinct. Until the track crossed from south of the stream, the forest was very disturbed and mainly dominated by kamahi and rewarewa with an understorey of tree ferns especially the silver fern.

Crossing the creek provided an opportunity to see a wider range of canopy species including tawa, nikau, rimu and pukatea. From there the creek became much more engorged, and the vegetation rather unvaried. The persistent drizzle meant few stops were made. Some large tanekaha were seen, along with rimu, matai kahikatea, miro, titoki, hinau. The sparse understorey included hangehange and kawakawa at first and heketara later. Highlights were *Libertia grandiflora*, *Carex fascicularis* and a good range of filmy ferns including *Hymenophyllum frankliniae* and *H. scaburm*. Near the forks quintinia was spotted.

Our destination was a lowland cedar found on a previous visit. On arrival at the sole metre high sapling in the middle of the track, on one party member casually mentioned that he had seen a seedling 200 m back! On our retreat, now through heavy drizzle, we closely followed the old track to CA boundary. Near edge of the Conservation Area a 2m high cedar was found alongside part of the track not traversed earlier.

June Field Trip: Northern Matakana Is

At Omokoroa the largest party in years – over 30 – assembled and with a tight shuffle, all required vehicles were loaded on the ferry. The first stop was to see duneland vegetation. Spinifex dominated the shore and marram was confined to dune tops near the ragged margins of the radiata plantation. Patches of *Muehlenbeckia complexa*, the odd mingimingi, *Coprosma acerosa* and *Lachnagrostis billardieri* occurred amongst the spinifex and lupin. *Oxalis rubens* hid amongst the *M. complexa* and *Lagarus ovata* was just beginning to show amongst the spinifex. Along from our entry point a large *Pimelea arenaria* surrounded by numerous seedlings and small plants, some in seed or flower, attracted special attention.

Our second brief stop was for a large dense patch of *Leptospermum laevigata* on the fore dune. Planted for dune protection, it had spread extensively but now was mostly dead thanks to successful helicopter spraying. It is an uncommon but aggressive adventive also present near Napier, Wellington and Nelson.

Our third stop for lunch was under plantation on patches of *Zoysia pauciflora* or *Poa pusilla*. Lunch was followed by a bush bash around the tip of the island through plantation windfalls and *Apodasmia similis* to see wetlands. Coastal erosion has taken over 200m of plantation in places and changed some wetlands greatly. In one, *Paspalum vaginatum* had taken over in the last decade as the nearby shore had eroded. Finally a large internal wetland of several km length was reached. A sole stand of kahikatea was seen in the distance amongst willows. We were pleased to see *Cyclosorus interruptus* and *Thelypteris confluens* on the fringes amongst the *Baumea articulata*. Fortunately none of the common *Osmunda regalis* (also being controlled) was seen. On the long return to the vehicles one

party member continued to seek out local specialist sand dune fungi with limited success. His main find for the day being an abundance of sand dune basket fungi.

July Field Trip: Pongakawa EA

We wandered generally northwards, as the area lacks formal tracks, crossing low spurs and walking broad gullies through virgin forest. The area had a high population of kokako in the 1970's and was set aside to protect their habitat while surrounding areas were cleared and planted in radiata pine. Large rimu were seen only close to the public roads, the usual scenic corridor left during logging. At first we were in dense kohekohe forest with carpets of fallen flowers and *Hymenophyllum demissum* and scattered *Alseuosmia macrophylla*. Here we sought *Mida salicifolia* (an especially broad-leaved form) without success, but several patches of *Acianthus sinclairii* were seen, in flower. Recent windfalls were eagerly scanned for epiphytic plants usually only seen with difficulty, especially in dense forest such as this. We were rewarded with a good specimen of *Pittosporum cornifolium* typically attached to a *Collospermum microspermum* and the tiny *Ichthyostoma pygmaeum* clinging to branches of rewarewa. There were frequent patches of supplejack to traverse. The valleys contained numerous tree ferns especially wheki ponga. One long walk down a gully followed the line of a 1950's logging track. As the valley widened epiphytes on tree ferns became more common and varied and included *Rumorha adiantiformis*, *Hymenophyllum scabrum*, and *H. dilatatum*. *Dicksonia fibrosa* and *Polystichum silvaticum* were also specially noted. On one tawa forest spur a large puriri was encountered along with numerous seedlings and also seedlings of titoki. Here *Uncinia gracilentia* was common. Finally we headed westward through tawa to one of the bounding roads.

August Field Trip

A large party of three ventured into the lower end of Danseys Scenic Reserve near Mamaku. Initially we traversed the upper plateau through dense tawa forest before descending with great rapidity into the main ephemeral watercourse. On the descent the more cautious observed *Lindsaea trichomanoides* and the secretive *Trichomanes elongatum* along the bluff edge. At the watercourse a fern, later correctly identified as *Polystichum silvaticum* x *P. vestitum* was spotted. The journey upstream in search of the forks, under mahoe, tree ferns and the odd podocarp added quite a few ferns including *Hymenophyllum frankliniae*, *T. enderlicherianum* and much disputed *Blechnum membranaceum*. After debating the veracity of the GPS we became trapped between cliffs on a broad flat for some distance before regaining the sought upper plateau. Initially the forest was young kamahi with a few new species such as *H. rarum*, both toatoa and numerous large tanekaha, *Toronia toru*, *Drymoanthus adversus* and *Gahnia pauciflora* (with white fruit). Here there were characteristic frequent large patches of *H. demissum*. After scrambling for some time through and around supplejack we decided to take a hunters track back to the road. On the return down the road we salved our consciences about the early retreat by noting the weeds. Most distinctive of these was a string of plants of burnet (*Sanguisorba minor*), possibly spreading from a rubbish discard.

FUTURE EVENTS

Sunday 4 October: Wairoa Stream, Woodlands Rd.

Sunday 7 November: East Cape (Sunday optional extra)

Saturday 5 December : Waiorongomai - Pahiko (combined with Waikato Bot Soc)

President: Paul Cashmore pcashmore@doc.govt.nz

Secretary: Sara Crump

■ Nelson Botanical Society

May Field Trip: Delaware Spit

The open sand flats were the preserve of shore bindweed (*Calystegia soldanella*) and several exotics – iceplant (*Carpobrotus edulis*), haretail (*Lagurus ovatus*), stonecrop (*Sedum acre*) and horned poppy (*Glaucium flavum*). In more sheltered areas were low ake ake (*Dodonaea viscosa*), *Muehlenbeckia complexa*, *M. complexa* x *australis*, saltmarsh ribbonwood (*Plagianthus divaricatus*), *Melicytus* "Waipapa" (aff. *M. alpinus*), and clumps of wiwi (*Ficinia nodosa*) and *Juncus kraussii*. The dunes supported marram (*Ammophila arenaria*) and spinifex (*Spinifex sericeus*), and the odd ngaio (*Myoporum laetum*) was tucked in less exposed spots. The scrub on the small headlands held *Olearia paniculata*, kanuka (*Kunzea ericoides*), *Hebe stricta* var. *atkinsonii* and *H. stenophylla* var. *stenophylla*, as well as puka (*Griselinia lucida*) and a native broom (*Carmichaelia australis* var.

“*flagelliformis*”). Some of the headlands sported coastal bush of kohuhu (*Pittosporum tenuifolium*), mapou (*Myrsine australis*), *Coprosma lucida*, pohutukawa (*Metrosideros excelsa*) and tutu (*Coriaria arborea* var. *arborea*). A seedling of pigeonwood (*Hedycarya arborea*) was found growing on the bush floor, with other shade-lovers including *Microsorium pustulatum*, *Pyrrosia eleagnifolia*, *Asplenium oblongifolium*, *A. flaccidum* and *A. flabellifolium*. *Metrosideros perforata* seemed to be establishing itself. Herbs included *Solanum nigrum*, *Haloragis erecta*, *Acaena novae-zelandiae*, *Senecio minimus*, the occasional *Euchiton sphaericus* and, sadly, some *Clematis vitalba*.

May Evening Talk: Ewen Cameron – Vascular flora and some fauna of small northern NZ islands

From his surveying of at least six islands – Unnamed Island, near Cape Brett; Motukokako or Piercy Island; Watchman Island; Hinemoa Rock (part of the Three Kings); West Island; and Atiu, in the Mercury Islands – Ewen suggested that the success of such islands as refuges for indigenous biota could be attributed to intact habitat; absence of, or fewer, animals, exotic invertebrates, exotic diseases, and weeds; and the presence of nutrients (e.g. in seabird guano and fur seal wastes). The text of an earlier version of the full talk can be found in *Auckland Botanical Society Journal*, Volume 61(2) Dec 2006.

June Field Trip: Orinoco QEII covenants

Philip Lissaman, QEII representative for this area, led our trip, the first stop being Uwe Steidinger's farm with 12 acres of beech/podocarp forest along the Lloyd Valley Stream. Some of the botanical highlights were several small *Beilschmiedia tawa*, large *Podocarpus totara*, *Nothofagus solandri* var. *solandri*, *N. fusca*, *Prumnopitys ferruginea*, several seedlings of *P. taxifolia*, a hinau (*Elaeocarpus dentatus*), *Coprosma rotundifolia* and *C. rigida*. Ferns of note were *Botrychium bifforme*, *Asplenium hookerianum*, *A. polyodon*, *Hymenophyllum demissum* and *Hypolepis ambigua*. *Astelia fragrans* and a non-stinging member of the nettle family, *Australina pusilla*, were also found. There was some weedy infiltration by *Clematis vitalba* and *Leycesteria formosa*. The second site, Owen Mather's farm, held a large *Raukaua edgerleyi* and the mistletoe *Tupeia antarctica* on *Carpodetus serratus*. *Weinmannia racemosa*, *Olearia rani* and *Coprosma rhamnoides*, not found in the first covenant, were also there. Again we found large podocarps and beech trees, this time also *Dacrydium cupressinum*. Other treasures seen were *Tmesipteris elongata*, *Lastreopsis glabella*, *Trichomanes venosum*, *Stellaria parviflora*, *Metrosideros perforata* and *M. diffusa*.

June Evening Talk: Leonard Cockayne Memorial Lecture by Peter Lockhart – A DNA story of New Zealand plants

The talk had two parts, the first about plant origins and the second about hybridisation. Peter told of how some plant lineages, e.g. *Agathis*, appear to have persisted in New Zealand for a very long time (although this particular example is still the source of much discussion). Ancestors of many other indigenous plant groups seem to have arrived by transoceanic dispersal long after Gondwana broke apart. Molecular clock studies show that hybridisation may be important in diversification (the great variation in *Pachycladon* was cited), enabling organisms to respond rapidly and adapt to environmental or climatic changes. This could be important for the survival of our flora.

July Field Trip: Ronga Saddle Reserve

The trip had barely started, when an unusual hybrid of toro (*Myrsine salicina*) and weeping mapou (*M. divaricata*) called *M. x montana* was encountered in a patch of alluvial bush. This forest also contained tanekaha (*Phyllocladus trichomanoides*) and many shrubs, including *Coprosma rigida*, very variable *C. tayloriae*, *Libertia mooreae* and *Tmesipteris elongata*. On either side of the track to the ridge was much pōkākā (*Elaeocarpus hookerianus*), *Cordyline banksii*, lancewood (*Pseudopanax crassifolius*) and hard beech (*Nothofagus truncata*), the last of which had hybridised with red beech (*N. fusca*) at higher altitudes. Also in the bush were tawa (*Beilschmiedia tawa*), *Lindsaea trichomanoides*, young *Clematis paniculata*, and swathes of filmy ferns (*Hymenophyllum demissum*, *H. sanguinolentum*, *H. scabrum*, *H. bivalve* and kidney fern, *Cardiomanes reniforme*) blanketing large rocks. Monocots included grasses: large tussocks of *Chionochloa cheesemani* hanging down from the trackside banks, *Deyeuxia avenoides* and toetoe (*Cortaderia richardii*); and the sedges *Uncinia banksii*, *Schoenus apogon*, *Gahnia pauciflora* and *G. xanthocarpa*.

July Evening Talk: Uta Purcell – Trekking in Manaslu Conservation Area, Nepal

Project Himalaya is a company leading treks in Manaslu, a conservation area which has only had trekkers since the early to mid 90's. Uta told of delivering medical supplies to the village of Samdo, a

monks' festival in Loh, pit-sawing, sturdy and less sturdy bridges, hand-woven aprons and shared the practicalities of trekking with tents in this amazing area. Botanical encounters included large rhododendrons, primulas of many varieties (*Primula sikkimensis* was common), a low growing pea (*Chesneya cuneata*), *Datura suaveolens*, and *Sorbaria tomentosa* (Rosaceae). An oddity was *Arisaema* (Araceae): the flower appears first, poking out of the ground, and as it gets taller, leaves are produced.

FUTURE EVENTS

Sept 20: Pettersen QE II covenant, Takaka Valley. Leader Trevor Lewis (03) 547 2812
Sept 21: "Alpine plant adaptations", a slide talk by Rebecca Bowater
Oct 18: Garden Trail. Leader Richard Brown (03) 546 9922
23–26 Oct: Labour Weekend Camp, Kaihoka Lakes. Leader Shannel Courtney (03) 546 9922
Nov 15: Scott Nicol's property, Wangapeka. Leader Sally Warren 546 6637
Dec 6: Wairoa Rare plant protection working bee. Leader Shannel Courtney (03) 546 9922
Dec 18–20: Weekend Camp, Canaan Downs. Leader Shannel Courtney (03) 546 9922

President: Cathy Jones (03) 546 9499. Flat 1 47A Washington Rd, Nelson 7010.

Email: cjones@doc.govt.nz

Treasurer: Trevor Lewis (03) 547 2812. 22 Coster St, Nelson 7011.

Email: tandjlewis@actrix.co.nz

■ Botanical Society of Otago

December Field Trip: St Marys Range

The trip proved to be popular with members as far afield as Christchurch, Twizel and Alexandra attending. We were fortunate in having Hugh Wood of Oamaru join us. Hugh's knowledge of the area proved to be invaluable and he guided us to many plants that we would otherwise not have found. By the Friday afternoon the rain had cleared and we headed off to find *Ranunculus acraeus*. We found a thriving population in the upper basin still covered with fresh snow. Most plants were in flower and presented a magnificent sight with gold flowers dotted over the surface of the scree. The plants were growing in bouldery scree in characteristic clumps that distinguish the species from *Ranunculus haastii*. Some plant had up to sixteen stems all in flower.

The weather on Saturday improved as the day progressed. Various parties dispersed in different directions with most people going to the main *Ranunculus acraeus* site. An interesting find was a plant of *Melicytus alpinus* found at about 1650 m. The plant was sprawled across an outcropping rock apparently thriving and growing out of the cracks for shelter. Hugh led us further down the slope to the west to a feature he called the gravel mound. At this site he had found a colony of *Raoulia petriensis*, the only place where this species has been found on the St Marys Range. Another vegetation type was found higher up on the flank of Koharau at an altitude of 1700 m. Here snowmelt feeding a little stream had created a turfy wetland area. The course of the stream was marked by thousands of flowering plants of *Ranunculus gracilipes*. Hidden in the turf was a smaller buttercup, *Ranunculus maculatus*.

We christened the final site we visited "the Black Tor" on account of the mass of black lichens (mainly *Neuropogon ciliatus* and *Umbilicaria* sp.) covering it. It is a huge mass of rock surrounded by scree slopes that lies below the crest of the ridge. As it is the only patch of stable ground in the vicinity it has been colonised by a number of plants that find the adjacent screes inhospitable. Among the plants noted was an unusual form of *Hebe buechananii* with red leaf margins, *Leucogenes grandiceps*, a small *Aciphylla*, tentatively identified as *Aciphylla montana* var. *gracilis*, *Hebe pinguifolia*, *Celmisia* aff. *du-rietzii*, *Geum leiospermum* and *Chionochloa rigida*. The screes around the base of the tor were colonised by the St Marys Range form of *Stellaria* aff. *roughii*. It forms extensive mats several metres across on the quite unlike the erect clumps found further north in Canterbury.

David Lyttle

March Field Trip: Cape Saunders, Otago Peninsula

We began by wandering the escarpment near the road, its eroding cliff edge studded with white encrusting lichens and many cushion-forming plants. This occupied us for quite some time as we worked our way along its precarious edge, continually finding additional species among the cracks

and crevices. Of particular interest were the many local rarities such as the tiny buttercup *Ranunculus recens*, the equally small forget-me-not *Myosotis pygmaea* var. *pygmaea* and the unnamed carrot relative *Chaerophyllum* "minute flower." Further along, fringing the dense mixed silver tussock/pasture, were the bidibid *Acaena microphylla* var. *pauciglochidiata* and shore cress *Lepidium tenuicaule*. Below, clinging to the cliffs, were dark green compact mounds of the Cape Saunders rock daisy, *Helichrysum selago* var. *tumidum*, an Otago Peninsula endemic. Where the cliffs relented we worked our way down through steep slopes, coming across a woolly head (*Craspedia* sp.), which does not appear to have been recorded before on the Peninsula. Unfortunately gorse is slowly spreading from several nodes across the face. Around at Matakita Point we inspected the derelict house and concrete foundations associated with the lighthouse. *Lepidium tenuicaule* still grows at the base of some buildings but other populations recorded more than ten years ago seemed to have been swamped by rank grass. The headland itself is very exposed to salt-laden wind and is dominated by mats of the halophyte *Atriplex buchananii*. The hike back to the vehicles passed some dry shrubby cliffs with *Coprosma crassifolia*, *Helichrysum lanceolatum* and the local form of prostrate porcupine shrub (*Melicactus* aff. *obovatus* "Cape Saunders").

John Barkla

April Meeting:AGM and Photographic Competition

This year the AGM took 9 minutes. After members voted for their choice of the 32 prints entered in the BSO Photo Competition, Rod Morris presented the electronic versions on the big screen. He had something helpful to say about each image, and commented that the high standard of the entries, plus the personal preferences of the three judges made it extremely difficult to decide the winners. He also noted the different impact and colour range of the print and electronic images, and suggested that next year the judges use the electronic images to make their decisions. The committee has voted for the images to go in the BSO Calendar for 2010 and a stunning new calendar is well in progress.

Allison Knight

April Field Trip:Lower Taieri Gorge

We spent a relaxing day botanising the sides of the Millennium Walkway that sidles the Taieri River as it flows through the gorge between Henley and Taieri Mouth, the river's entrance to the Pacific. Our time was spent looking at an interesting and varied flora. Podocarps included kahikatea, miro, matai, and totara. There were good examples of *Cyathea dealbata*, the silver fern, at its southern limit. Two excellent specimens of *Hoheria angustifolia*, sentinel-like by the track leading to a sunny grassy patch on the side of the river, where we had lunch. Other plants of interest included *Dicksonia fibrosa*, the threatened *Teucrium parviflorum*, the NZ verbena, *Carmichaelia petriei* with a particularly slim morphology, a very blue *Wahlenbergia* and a large variety of coprosmas, including *C. tayloriae*. Though neither endangered nor threatened, the display of *Coprosma lucida* berries against a blue sky, almost incandescent in the sun, was stunning. As well we found *Calystegia tuguriorum*, *Scandia geniculata*, *Pseudopanax ferox* and *P. crassifolium* in a picture perfect side-by-side position, *Plagianthus divaricatus*, the salt marsh ribbonwood, and the rare *Olearia fragrantissima*, the fragrant tree daisy. There was a great display of the golden lichen *Xanthoria parietina*, *Aseroe rubra*, the stink horn fungus, in a cool dark hollow and near a large wet patch of black mould or algae (possibly *Nostoc?*) on the side of the bank.

Robyn Bridges

FUTURE EVENTS

16 September	8th Annual Baylis Lecture by Prof. Daphne Lee
19 September	Spring fungal and lichen foray to the Catlins
14 October	Talk by Dr David Orlovich on fungi of <i>Nothofagus</i>
17 October	Field Trip to Blueskin Farm, Waitati
18 November	Talk by Dr Allison Knight on lichens
28 November	Weekend field trip to Silver Peaks Range

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

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

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ANNOUNCEMENTS

■ Lucy Cranwell Student Grant for Botanical Research – call for applications

Applications are invited for the Lucy Cranwell Grant of \$2,500 from the Auckland Botanical Society to assist a student studying for the degree of PhD, MSc or BSc (Hons.) in any tertiary institution in New Zealand whose thesis project deals with some aspect of New Zealand's flora and vegetation. Priority will be given to projects relevant to the northern half of the North Island.

The research project to be supported will be chosen on the basis of their appropriateness to the objects of the Society, viz to encourage the study of botany, and to stimulate public interest in the plant life of New Zealand and its preservation, conservation and cultivation.

The grant will be administered by the student's supervisor as a contribution to expenses associated with the project.

Closing date for applications: **Wednesday 30th September 2009**

A copy of the Application Form and the Rules of the award may be obtained from:

Sandra Jones kemsdale@ihug.co.nz Ph 09-817 2788

■ Te Papa MSc Scholarship in Molecular Systematics at Victoria University

Museum of New Zealand Te Papa Tongarewa and Victoria University of Wellington are offering a Master of Science (MSc) scholarship in the field of molecular systematics at Victoria University. The student stipend is \$10,000 over two years.

Potential projects for 2010-2011 include tangle (*Gleichenia*) or spleenwort (*Asplenium*) ferns, or forget-me-nots (*Myosotis*).

Applications close 1st November 2009.

For more details, contact Leon Perrie (leonp@tepapa.govt.nz) or see: <http://www.tepapa.govt.nz/ResearchAtTePapa/Research/NaturalEnvironment/Plants/Pages/TePapaMScScholarship.aspx>

NOTES AND REPORTS

■ Lichen Notes 1: An unusual lichen habitat - charred wood

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

On a trip to Jack's Blowhole in the Catlins a few years ago, with the Dunedin Naturalists Field Club, I looked at several old, burned tree stumps that stand sentinel-like in the closely cropped paddock close to the blowhole. Burned tree stumps and logs, that were often such a notable feature of many farming landscapes in New Zealand where standing forest was converted to grassland, are a very specialised lichen habitat, colonized (if they are colonized at all), by a group of lichens adapted to growth on charcoal or weathered lignum. They are well worth looking out for and making a close study of, as sometimes quite notable lichen rarities can be found on their dry and/or charred surfaces. On the large stumps near Jack's Blowhole I was looking specifically for a beautiful little lichen named *Cladia schizopora* that makes its home on old, charred logs. This lichen, originally described from Australia, has a scattered distribution in New Zealand from Northland to Campbell Island and it is found also in Chile (Galloway & Quilhot 1999). It also occurs locally, though rarely on Mt Cargill. It is discussed and/or illustrated in several fairly recent treatments of *Cladia* (Galloway 1977, 1985, 2007; Filson 1981, 1992) and is a lichen well worth looking out for, as its detailed range in New Zealand is still to be accurately determined.

In addition to *Cladia schizopora*, I found good colonies of the lichen *Hypocenomyce australis*, described some years ago from Australian material by Einar Timdal (Timdal 1984), and presently known in New Zealand from only two collections, Pokaka, north of Horopito (near Tongariro National Park), and Lake Rotoroa in Nelson Lakes National Park. I don't think it is because the lichen is genuinely rare, though of course it may well be; rather it is because it grows in a somewhat specialized habitat that in the past was commonly overlooked by lichenologists in New Zealand. So in this note I want to draw attention to charred wood and old burned logs as a habitat for lichens where fascinating discoveries might be made, and suggest that Botanical Society members might remember this habitat when out botanising.

On the Jack's Blowhole stumps (and this was only a very cursory look-see of about 10 minutes) the following lichens were noted:

Buellia griseovirens (on lignum)

Calicium sp.

Candelaria concolor (on charcoal at the top of a burned stump on a bird perch, the golden yellow sorediate masses of the lichen responding to the nutrient-enriched habitat).

Chrysothrix candelaris

Cladia schizopora (on rotting, charred wood)

Cladonia spp.

Hypocenomyce australis (on charcoal)

Hypogymnia subphysodes

Lecanora flavopallida

Lecanora symmicta

Parmelia sulcata

Teloschistes velifer

Usnea sp.

Xanthoria candelaria

The lichen, *Thysanothecium scutellatum* (see Galloway & Bartlett 1983; Galloway 1985, 2007) is also well worth searching for, as it is characteristic of charred wood, and has not been often collected in

South Island, being apparently most commonly found north of Auckland. Hopefully, by drawing attention to charred stumps and logs as a lichen habitat, more can be found out about the so-called “rarities” that are found there. Have a look for lichens next time you see charred logs and stumps – there are still exciting discoveries to be made!

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■ Kermadec Koromiko (*Hebe breviflora*) – back from the brink of extinction

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The most recent published chronicle on the plight of the threatened Kermadec koromiko (*Hebe breviflora*) (Fig. 1.) - a Raoul Island endemic - by de Lange & Stanley (1999) recorded a wild population of 51 adults and seedlings. That article also discussed the remarkable circumstances surrounding that species' conservation management. After all Kermadec koromiko had at one time been listed as Extinct (Given 1981; Williams & Given 1981) and then was known for some 14 years from only a single wild plant and several planted out, mostly cutting-grown individuals.

In 2007 just prior to the New Zealand Threatened Vascular Plant Panel meeting to undertake a new listing of the conservation status of the New Zealand indigenous vascular flora (see de Lange et al. 2009); further data about the numbers of wild plants of Kermadec koromiko were obtained from Raoul. These figures suggested that there had been considerable improvement in this species status, with an estimated wild population of 200 adult plants. Most of these plants were confined to ravines along the north-western side of Hutchison Bluff and above the Low Terraces of Raoul Island. Numerous plantings had been attempted, and some, such as those near Mahoe Hut, had been incredibly successful, however most had failed to spread further through natural recruitment. There also appeared to be an issue with many of the seedlings planted out, in that the successful eradication of goats had promoted rapid regeneration of the vegetation such that places which had initially been clear of understorey were soon colonized by faster growing shrubs resulting in the shading out of young Kermadec koromiko plants.



Fig. 1. Kermadec koromiko (*Hebe breviflora*) showing the short racemes for which the species is named.

In New Zealand, despite the initial hoopla that was only to be expected when an “extinct” plant (or animal for that matter) is rediscovered, and the subsequent wide distribution of cuttings derived from the 1983 plant to botanic gardens, specialist nurseries and keen gardeners, by 2007 Kermadec koromiko had apparently fallen out of favour, and few people were growing it anymore.

In terms of its conservation status Kermadec koromiko was correctly listed as “Threatened/Nationally Critical” (de Lange et al. 2009) because, based on the best information available at the time, there were still less than 250 adult plants. Thus the species immediately qualified for the highest possible threat listing. Further, from a genetic diversity perspective there remained major concerns about the genetic integrity of the New Zealand “back up” populations. Firstly these were in decline, secondly they derived from one individual, and thirdly, as first noted by de Lange & Stanley (1999) hybridism was occurring between the Kermadec koromiko clone and other hebes in cultivation.

There was one major positive; in the wild it was

clear that Kermadec koromiko was now undergoing a sustained and wholly natural recovery. While we cannot be definitive about the exact reasons for this, it would be fair to say that the successful eradication of goats in 1984 was the biggest single factor preventing this plants extinction (by which

we mean that if left unchecked it is likely that eventually goats would have got the very last plant, though whether directly by browse or indirectly through the associated ecological and physical changes to the islands relief wrought by 148 years of sustained goat browsing or by population depletion to levels where stochastic events become the main driver for extinction is unclear). It was also suggested that rats may have been a problem; West (1996) thought that rats could eat seedlings, and while this was never actually demonstrated, seedlings remained scarce until after the time rats had been eradicated. Rats were successfully eradicated from Raoul between 2002 and 2004 though no figures were kept on Kermadec koromiko numbers before and after their eradication so subsequent observations of population increases cannot be used to support or refute the rat theory. Aside from goats and the possibility of rat predation another likely factor in the improvement of Kermadec koromiko has been weed control. Weed control is the main reason for a long-term human presence on Raoul Island. Weed management has now been underway on the island for 37 years, with the result that in many formally weed infested sites, indigenous vegetation now prevails. While populations of key weed species such as mysore thorn (*Caesalpinia decapetala* (Fabaceae)), Brazilian buttercup (*Senna septemtrionalis* (Fabaceae)) still remain, these are confined to small residual pockets, often within the cliff habitats that seem to be the preferred habitat of Kermadec koromiko. These remnant populations have provided somewhat of a mixed blessing for conservation workers, for while they are often dangerous to access and will require sustained effort to achieve their full eradication, finding



Fig. 2. Kermadec koromiko (*Hebe breviflora*) growing amongst *Blechnum* aff. *novaezelandiae* on a boulder fall at the base of a cliff system spanning the upper catchment of Ravine 8.



Fig. 3. Kermadec koromiko (*Hebe breviflora*) plants growing on cliff face amongst *Blechnum* aff. *novaezelandiae*, common associates in this habitat include *Peperomia blanda* (the small succulent in the background).

safe routes to these populations has resulted in the discovery of many more Kermadec koromiko plants.

During May 2009 we visited Raoul Island and during our stay we were taken to a natural population near the head of Ravine 8, a spectacular, narrow chasm that drains the main ridge line leading to Hutchison's Bluff north to the boulder beaches that line the precipitous north-west shoreline. Here in 2007, one of us (DH) had observed 50 adult plants growing on sodden, tuffaceous cliffs on the southern side of a huge rotational slump. During our May 2009 visit we found these same plants in about the same numbers and observed many seedlings and saplings (Fig. 2). A traverse across the slump debris to the north took us to another population that had been discovered by chance by one of the Department of Conservation 2009 "permanent" staff Mr Chauncey Ardell. Ardell had been looking for a safe route up the cliffs to a weed site spotted during recent helicopter surveys. During his walk he had found "many" Kermadec koromiko. Our survey of this find soon located over 300 adult Kermadec koromiko. These observations alone take the known world population of this species to 450 adults, enough to remove it from "Nationally Critical". While that alone is very good news, what is even more pleasing to report is that Kermadec koromiko plants are now frequently found by weeding teams traversing these precipitous ravines. The ravines on Raoul are an important habitat for a wide range of species such as *Peperomia blanda*, a species first reported by Sykes (1977- as *P. leptostachya*) from a "few plants seen...in a moist shady rock crevice..at the south-east of Denham Bay", and now wide ranging and abundant on the sodden ravine walls. They are also a key habitat for the endemic liverwort *Radula cordiloba* subsp. *erigens* (see: <http://www.nzpcn.org.nz/liverwort/detail.asp?CryptogamID=174>) which prior to our visit was known only from the type and one other gathering made in 1956 from an undisclosed site on Raoul Island.

Ecologically we are now able to define this species habitat preferences with more accuracy. Kermadec koromiko as surmised by Sykes (1977) and de Lange & Stanley (1999) favours partially shaded situations where it grows on cliff faces, slip scars and associated talus slopes and debris fields (Fig. 3). Plants will tolerate high light levels but only where their roots are kept moist throughout or for large parts of the year. These habitat preferences are readily met in the extensive ravine systems of Raoul, where frequent erosion provides fresh surfaces to colonise, and the layered andesitic tuff, breccia and hard lava sequences allow for frequent water seepages stemming from ground water which drains the porous rock from higher up the main ridgelines. Within its preferred habitat plants are most commonly found on open to partially vegetated slopes where the main associates are liverworts and mosses (notably *Fissidens asplenioides*, *F. leptocladus*, *Didymodon weymouthii*, *Gymnostomum calcareum*, *Reboulia hemisphaerica* subsp. *australis* and the endemic *Plagiochila pacifica*), the succulent *Peperomia blanda* and *Blechnum* aff. *novaezealandiae*. It is also found at the toe of slip scars amongst drifts of *Blechnum* aff. *novaezealandiae* where it may grow with another sheltered habitat but light-demanding endemic, the Kermadec nettle-tree (*Boehmeria australis* subsp. *dealbata*). It also commonly forms the main shrub tier, again amongst *Blechnum* aff. *novaezealandiae* under the moderately open canopy of Kermadec pohutukawa (*Metrosideros kermadecensis*) and *Myrsine kermadecensis* 'dry' forest, along the margin of a cliff – ridge system above Ravine 8.



Fig. 4. Kermadec koromiko (*Hebe breviracemosa*) shrubs protruding out of dense *Blechnum* aff. *novaezealandiae* under *Metrosideros kermadecensis* / *Myrsine kermadecensis* 'dry' forest, along the margin of a cliff – ridge system above Ravine 8.

Collectively these finds suggest that, pending a thorough survey of the island for Kermadec koromiko, it is probably appropriate to rethink the species current high threat listing. Based on available information one could recommend a future listing of "Nationally Vulnerable (Type A – see Townsend et al. 2008) because the known total wild population size for the species is 450 adults, and these

plants all exist within 3 subpopulations which are confined to an area of less than 10 ha, but – importantly - with an overall population trend that is increasing rapidly (55% in the last 2 years). Should that pattern be sustained for another ten years (or two threat listings which ever happens first) and it is likely to qualify for “At Risk/Recovering”. Based on the New Zealand Threat Classification System Manual the current threat listing of “Threatened/Nationally Critical” for Kermadec koromiko remains fixed until the next relisting – due in 2011. By then we hope that a more accurate survey of Kermadec koromiko will have been undertaken. In the interim though it is indeed pleasing to report that 26 years after Kermadec koromiko was rediscovered on Raoul Island it is now flourishing, unaided within its natural environment.

This report means that only two Kermadec island endemics remain seriously threatened, *Senecio kermadecensis* and *S. lautus* var. *esperensis*. The first of these declined rapidly from being an abundant plant along the low terrace roads of Raoul in the 1940s to virtual extinction on that island in the 1960s. Over the last two decades it has only reliably been reported from the Herald Islets (The Meyers) where it was observed to be under potential risk from the spread of blue billy goat weed (*Ageratum houstonianum*), and aggressive colonist of the same types of habitats favoured by *S. kermadecensis*. The other species is endemic to a few square metres of L’Esperance Rock where it was last reliably reported in 1989 by a party of ornithologists. Although *Senecio lautus* var. *esperensis* is in all probability a naturally uncommon, narrow-range endemic, its situation is not helped by the placement of an emergency fuel dump within its habitat. However, it is not actually known if the fuel dump poses a threat, the few landings made since 1989 have been made at the wrong time of the year and by parties lacking botanical knowledge; the plant is currently listed so highly simply because of its naturally limited area of occupancy (see Townsend et al. 2008).

Acknowledgements

We thank the crew of RNZN Resolution for transport to and from the Kermadec Islands. We are grateful to Chauncy Ardell (Raoul Island, Department of Conservation) for company in the field and for showing us his new find of Kermadec koromiko, and to Karen Baird (Department of Conservation, Warkworth Area Office) who provided useful comments on a draft of this note.

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■ **Is it *Pimelea urvilleana* or *urvilliana*?**

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In his recent paper on the *Pimelea prostrata* and *P. urvilliana* [sic] complex Burrows (2009) consistently uses the spelling "*urvilliana*" for the plant we have long known as *Pimelea urvilleana*. As far as I can tell there is no obvious explanation offered in the paper for this divergence in the spelling of that species' epithet. Of course as an orthographic error one is not required to explain the basis behind any correction (see McNeill et al. 2006), though as Phil Garnock-Jones had done in the last Nomina Nova (Connor & Edgar 1987) I do see considerable merit in drawing people's attention to why spellings have changed, and in a set place like the Nomina Nova series was the logical place to do this. I feel it helps remove the potential for confusion by having an easily accessible reference resource to refer to.

Although *Pimelea urvilleana* was first clearly named as *Pimelea urvilliana* by Richard (Richard 1832) that species epithet has consistently been spelt "*urvilleana*" by New Zealand botanists at least since Hooker (1853) so I was surprised to see the reversion to "*urvilliana*" in the *Pimelea* paper (Burrows 2009).

On checking the International Botanical Code of Nomenclature (Vienna Code) (McNeill et al. 2006) and discussing the matter with Rhys Gardner and Shaun Pennycook it is clear that Recommendation 60C.1(c) applies, viz., "If the personal name ends with a vowel, adjectival epithets are formed by adding *-an-* plus the nominative singular inflection appropriate to the gender of the generic name (e.g., *Cyperus heyne-anus* for Heyne, *Vanda lindley-ana* for Lindley, *Aspidium bertero-anum* for Bertero, except when the personal name ends with *-a* in which case *-n* plus the appropriate inflection is added (e.g. *balansa-nus* (m[ale]), *balansa-na* (f[emale]) for Balansa". Thus in this case, *Pimelea urville-ana* for Jules Sébastien César Dumont d'Urville (1790-1842) - as the feminine adjective for his surname in the genus *Pimelea* - clearly applies.

The reversion to *urvilliana* offered by Burrows (2009) is wrong.

Acknowledgements

My thanks to Drs Rhys Gardner and Shaun Pennycook for helping investigate this particular issue, and my colleague Mike Thorsen for checking this short note.

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BIOGRAPHY / BIBLIOGRAPHY

■ Biographical Sketches: Isaac Earl Featherston (1813-1876)

Val Smith, 80 Mill Road, New Plymouth 4310.

Isaac Earl Featherston was born at Newcastle-on-Tyne, England, on 21 March 1813, the fourth son of Thomas Featherston, a wealthy retail grocer, and his wife Jane Earl. Delicate in health from infancy, he was educated at a private school at Tamworth and at Edinburgh University, where he graduated MD in 1836. After travelling extensively in Europe, on 10 December 1839 he married Bethia Campbell Scott, daughter of Edinburgh baillie, Andrew Scott.

Concerned about his health (he had tuberculosis), Featherston emigrated to New Zealand as surgeon superintendent on the New Zealand Company ship *Olympus*, and arrived at Wellington in May 1841. He practised medicine, and soon took a leading part in the cultural and political life of the new settlement. In 1842 he was a committee member of the Mechanics Institute and secretary of the Wellington Horticultural and Botanical Society; in 1845 he became the first editor of the *Wellington Independent*, and the following year he helped set up the Wellington Savings Bank. He was also prominent in the agitation for self-government, and worked assiduously for the interests of the settlers, who presented him with a silver salver and tea service "for advocating their claims and bringing them to a successful issue".

Featherston was elected first Superintendent of the newly constituted Wellington province in 1852, and was also a member of the House of Representatives from 1853 until his retirement at the end of 1870, a controversial career focussed on provincial rather than national politics. Inevitably, much of the work of raising his family of eight daughters and four sons was left to his wife Bethia, who died in 1864. His energy and diplomacy during the 1860s Maori-Pakeha land conflict failed to avert war, and for bravery while leading Maori auxiliaries in Major General Chute's west coast campaign, he was awarded the New Zealand Cross. Although he undertook three overseas missions in the national interest, his inflexible provincialism irked the government, and in 1871 he was offered the position of New Zealand's first agent general in London. His work there, mainly the recruitment of migrants, was affected by a deterioration in health, and he died at Hove in Sussex, England, on 19 June 1876.

The slight figure of 'The Little Doctor' smoking his eternal black cigar epitomised 30 years of early Wellington history, and is commemorated in the name of a Wellington street and a Wairarapa town, a Chatham Island shag (*Phalacrocorax featherstonii*) and an endangered plant (*Leptinella featherstonii*). The latter, collected by Henry H Travers, was described and named by Ferdinand Mueller in *The Vegetation of the Chatham Islands* (1864) with the citation: "The writer selected this plant, one of the most interesting of those of the Chatham Islands, for bearing the name of the Honorable Dr. Featherstone, Government-Superintendent at Wellington, New Zealand, as a mark of recognition of the favor shown by that able officer in introducing some years since a number of living plants from the Chatham Islands into the Melbourne Botanic Garden." The nature of the plants and their collection remain a mystery.



Leptinella featherstonii

Asteraceae

Leptinella (Gk: "thin and slender", referring to the habit of some species) is a widespread, mainly New Zealand genus of creeping herbs with small button-like flower heads.

The Chatham Islands button daisy or muttonbird plant, *Leptinella featherstonii*, is one of the most distinctive plants on the Chathams archipelago. A robust erect woody shrub with firm, fleshy, glaucous green leaves and small, button-like yellow flowers in spring and summer, it is the only button daisy to have elevated woody stems. It is found growing on peaty, coastal sites, usually in association with burrowing or nesting seabirds. Habitat loss through erosion, weed invasion, browsing animals and other factors has led to its near-extinction on the two main islands, but it is still common on some of the outer islands.

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PUBLICATIONS

■ Book Review

"Flora of North America, Vol. 25: Poaceae, part 2". M. E. Barkworth, K. M. Capels, S. Long, M. B. Piep, eds. [55 contributing authors]. 2003. New York, Oxford U.P. xxv, [ii], 783 pp. US\$120.00.

Reviewed by Rhys Gardner

Twelve years ago *Taxon's* reviewer Rudolf Schmid explained in his witty and convincing way just what he thought good Floras should be like in their physical execution and format (Schmid 1997¹). On rereading that article, and having spent some of the intervening time on the fringes of the grass family in New Zealand and Polynesia (Gardner 2000, 2007, 2008), I find I am now seized with a more specific longing: to see a perfect grass Flora. So the title work ("FNA25") is examined here primarily

¹This article is described by its author as a "distillation resulting from my eleven years of editing ... No one has ever asked me for my advice about floras, and so I will give it here ... Another justification for this list of desiderata is that the advent of desktop publishing has allowed people to bypass skilled designers and typesetters and inflict mediocrity and chaos on the marketplace" (Schmid 1997: 181).

with Schmid's desiderata in mind but also in comparison with other works, our own grass Flora (Edgar & Connor 2000, 2002; hereafter "FNZ5") in particular.

FNA25 is the second of two volumes on the grasses of northern America. The six subfamilies treated (130 genera: first gripe, I had to count them myself) make up about half the family there. The other volume, FNA24, which appeared in 2007, contains the remaining four subfamilies and keys to the tribes and genera. It may have remedied — I have not seen it yet — some of the omissions in FNA25, in particular the lack of a glossary and (but perhaps not) the lack of mention of the alternative family name Gramineae².

A number of big indigenous genera are treated: *Aristida*, *Dichanthelium*, *Eragrostis*, *Muehlenbergia*, *Panicum*. There are dominants of the tallgrass prairie (*Andropogon*), shortgrass prairie (*Bouteloua*), and upland meadows (*Muhlenbergia*). There are endangered grasses (*Orcuttia* et al.) of California's vernal pools, the newcomers that are displacing them (*Crypsis*), and much much else. There are several genera of special biological interest, such as *Amphicarpum* (underground cleistogamous spikelets), and *Lasiacis* (shiny black oily florets, bird-dispersed).

According to Schmid, "Taller and thinner is better than shorter and fatter". FNA25 is tall (A4) and not too fat (5 cm); it weighs 2 kg. Missouri Botanic Garden's new *Flora of China* grass volume (FC22) is about the same size. These are about as large as can be handled without strain — compare to a couple of recent wrist-benders: "Eagle's Complete Trees and Shrubs" at 3kg, and Bishop Museum's "A Tropical Garden Flora", at 4 kg so unwieldy as to require compulsory garaging at waist-level.

FNA25 opens to lie flat, thanks to its page size and well-crafted binding. FNZ4, the fatty of our Flora series, and FNZ5 to a lesser degree, do so unreliably (though they improve with a few years firm handling). The quality of FNA25's paper seems acceptable (no information is given) but is less glossy than that of FNZ5 and thus soils more readily.

Again according to Schmid, "Multivolume floras should put volume titles on their spines"³. FNA25 has no such labelling. The FNZs began to do this only with the lichen flora of 1985. FNZ5 has "Gramineae" on its dustjacket, but not on the spine of the book itself. Again I take the opportunity to chastise a big American: FC22 has the family name on the spine in type so small it might as well be Ming decoration.

The front endpapers of FNA24 have been left blank. One of the two could have borne a map of the FNA area, which currently has to be searched for within the Introduction. (Even there this area is not clearly defined: Greenland is part of it but is not listed as such on p. [xxvi], presumably because none of the plants of this volume grow there). The other endpaper could have had a synopsis of grass classification showing which groups this volume contains, or a putative phylogeny.

In the preliminary matter thanks are expressed to the many who have contributed generic treatments (including Henry Connor for *Rytidosperma*), data for the maps, specimen data, nomenclatural advice, and financial help. We see that the project will continue beyond the publication of the two volumes — the geographic database and nomenclatural file are to be continually updated and made available on the Web.

The Introduction is mainly on how to use the work rather than on relationships or geographical patterns. Justification is given for the taxa being arranged according to affinity rather than alphabetically. I usually favour the latter mode⁴ but here, because all species are illustrated, it is the former "natural" arrangement that better promotes identification.

²Schmid (1997: 179):

Alas, he loved
Pteridophytes, Gymnosperms, Dicotyledons, and Monocotyledons,
including
Compositae, Cruciferae, Gramineae, Guttiferae,
Labiatae, Leguminosae, Palmae and Umbelliferae

³Schmid (1997: 182): Since FNA will run a projected 14 (*sic*) volumes it would be an aid when the series is done in 2005 (*sic*) to see from its spines that volume 10 contains Compositae, perhaps to avoid that family.

The numerical summaries given, one for the natives (489 spp.) and one for the adventives (237 spp.), are rather brief, with readers having to assess for themselves the tribe/genus/species distributions. Perhaps these statistics are displayed for the entire grass flora in FNA24. Not just by comparison, FNZ5 shines in its thought-provoking “Structure of the Grass Flora” material and table. But in FC22, only a minimum of statistics (number of tribes, genera and spp., no. of endemics) is given, and since this is placed in the preface rather than the introduction it is easily overlooked.

The main body of the FNA24 text starts with an overview of the six subfamilies, which together are called “PACCAD grasses”, an acronym deriving from the subfamily names. Pronounceable though this is it does not reflect the book’s taxonomic ordering (as continually mentally reinforced by the page headers), which is along the more or less traditional tribal lines: Arundineae, Cynodonteae, Pappophoreae, Orcuttieae, Danthonieae, Aristideae, Centothecae, Thysanolaeneae, Gynerieae, Paniceae, and Andropogoneae.

There are no obvious morphological characters that bind the PACCAD grasses but all C4 grasses belong here so there is a tendency for PACCADs to occur in warmer regions and/or flower in late summer. One subgroup though, the clade AruChlAriDan (attention from a professional nomenclaturist will be needed), has a moderate degree of apparency: its members usually have a ligular line of hairs, compound starch grains in the endosperm, and embryonic leaf margins that meet rather than overlap.

FNA25’s generic descriptions are quite long (c.150-200 words) and run the full width of the page in type larger than that of the 2-column species’ descriptions, a format carried over from the ancestral “Manual of the Grasses of the United States” (Hitchcock 1950). Names of the main organs in all this material are in bold. The page headers too are of superior design. They state tribe and genus and are displaced marginwards for best visibility — contrast with the FNZ headers, which state only one taxon-name or (FNZ5) have the genus-name almost in the gutter.

FNA25’s species’ descriptions seem to be slightly shorter than those of FNZ5 and do not quite have the latter’s verbal felicity, in particular lacking a neat summarizing of habit. The only reference as to whether a FNA25 grass’s branching might be intravaginal or extravaginal occurs in, yes, the *Rytidosperma* treatment. NZ botanists who have struggled to get basally defective specimens through some of the FNZ5 keys will probably be able to endure this, significant lacuna though it is.⁵

A very useful part of the text is M.E. Barkworth’s explanation of the complicated nature of the inflorescence and spikelet in the Andropogoneae. But I would quibble that to use a hyphen in writing “sessile-pedicellate spikelet pairs” is confusing to beginners; why not a plus sign?

There are small but clear distribution maps for each species alongside the text — simple but underlain by a very large amount of literature searching and computer work.

An etymology is given for all generic names (and perhaps FNA24 will have one for the epithets, at least those relating to personal names). Most seem correct, but not that for *Hackelochloa* and probably not the one for *Eragrostis* (a trap, this name having been first published as an epithet). Those who have found the unfamiliar *Schedonorus* a pain to remember and spell correctly will be dismayed at finding here the unrelated *Schedonnardus* (Gr. *schedon* near).

⁴The arguments for each arrangement, by the “alpha-bots” and “phylo-bots” respectively, parallel those about accepting paraphyletic groups: how far should convenience overrule logic? I suspect that the division between the two groups of bots in each arena would be along similar lines.

FNZ5 and others compromise, with species ordered alphabetically within the genus, but with traditional higher-level arrangements. This is unhelpful, since one has to remember just what (inevitably outdated) such arrangement is being used in the particular work being handled. Try leaving FNZ5 aside for a few months, then come back and attempt to quickly flick through to locate one of the smaller tribes ...

⁵FNZ5’s descriptions, in their precision and clarity of phrasing, are in my opinion matched perhaps only by those of the great Otto Stapf (1857-1933). It goes without saying that this supremacy is largely intrinsic to our two authors. But it must also be due to their having had excellent access to living plants (try describing lodicules from herbarium specimens), in a flora of only moderate size.

The keys to the species are of the indented sort and almost always have several characters within each pair of leads. Alas, there are no shortcut “spot character” lists for the bigger genera. The only key I am sure is inadequate is that for *Cortaderia*, where the characters work for live plants only⁶.

Synonyms are given separately at rear of the work, as in Hitchcock’s “Manual”. This listing contains “only names found in current floras, herbarium databases, and miscellaneous other publications”. Species-rank synonyms are not gathered together under the accepted name, so one has to know a particular synonym already, or see serendipitously (occasionally, in the notes following the species-description) that, for example, *Dichantherium acuminatum* subsp. *fasciculatum* has until recently been known as *Panicum huachucae*, and *Chrysopogon zizanioides*, as *Vetiveria* z., etc.

No specimens are cited, not even the earliest record for an adventive, which I think is a defect; reducing the value of the work, for example, to weed-biologists. (One of the worst series in this regard is *Flora of Australia*, where specimens seem to be given at random, usually without a date or indication of which one might be the earliest).

Naturally it is the illustrations, one for each species, stylistically uniform and clearly labelled, that make FNA25 so very attractive and user-friendly. The principal artist, Linda A. Vorobik, is acknowledged on the title page and later her initials appear with those of her 6 co-artists in a pretty little tableau. (In Hitchcock’s “Manual” one has to look shamefully hard to find mention of his artists — their drawings are also excellent, with a delicacy that makes some preferable to the FNA25 ones in the few cases where the latter have blackened through over-reduction).

A number of New Zealand’s lesser-known adventive grasses are illustrated in this work⁷.

FNA25’s considerable amount of end-matter consists of two bibliographies, two indices and two one-page summaries. Unless such material is colour-coded I much prefer to find just the most important list, the main Index, at the end of a Flora. Here in FNA25 the Geographical Bibliography (minor references relevant to the species’ maps) would have been better at the end of the Introduction. And there would seem little need for the General Bibliography, which just repeats the Selected References given with each genus.

Of the two indices, the first contains the scientific names of this volume and those (down to generic level) of FNA24, and the better-known synonyms of FNA25’s taxa. This substantial amount of material is compactly but clearly displayed. The second index contains accepted names, names mentioned incidentally, and English common names (no Amerindian ones). The common names are set out one

⁶Modified from Gardner (2003), for NZ plants:

Sheath of culm-leaves villous, glabrescent, stiffly chartaceous; ligule (2.5-)3-4 mm long; leaf blade at 3/4 way to tip c. 5-8 mm wide; glumes asperous (at midway to tip with c. 150 teeth per sq. mm.); florets (2-)3(-5) per spikelet; lemma attenuate, 2.2-2.8 times as long as palea, the central terminal bristle above the minute or non-existent lateral lobes less than 0.25 mm long; at flowering the ovary of the lowermost floret c. 1.75 mm long; staminodes (particularly the lateral two) exceeding the lodicules *C. jubata*

Sheath of culm-leaves sparsely villous, glabrescent, chartaceous; ligule 2-3 mm long; leaf blade at 3/4 way to tip us. 3-5 mm wide; glumes sparsely asperous (at midway to tip with c. 80 teeth per sq. mm.); florets (2-)5-6(-7) per spikelet; lemma long-attenuate, 3-4 times as long as palea, the central terminal bristle above the minute lateral lobes us. distinct, 0.25-1 mm long and sometimes bent or reflexed at base; in female plants at flowering the ovary of the lowermost floret c. 1 mm long, and staminodes shorter than the lodicules *C. selleana*

⁷Illustrated in FNA25 are: *Aristida longespica*, *Bouteloua gracilis*, *Buchloe dactyloides*, *Chrysopogon zizanioides* (formerly *Vetiveria* z.), *Cynodon transvaalensis*, *Dichantherium sphaerocarpon* (*Panicum* s.), *Dichantherium acuminatum* subsp. *fasciculatum* (*Panicum huachucae*), *Diplachne fusca*, *Distichlis spicata*, *Echinochloa microstachya* (*E. muricata* var. *microstachya*), *E. oryzoides*, *Eragrostis amabilis* (*E. tenella* auct.), *E. mexicana*, *E. minor*, *E. pilosa*, *Hemarthria altissima* (the real thing, not that of FNZ5 which is *H. uncinata*, note the former’s lack of a hook on the glume), *Melinis repens*, *Panicum lindheimeri* (*Dichantherium acuminatum* subsp. *l.*), *Pennisetum glaucum*, *Saccharum officinarum*, *Setaria sphacelata*, *Sporobolus cryptandrus*, *S. diandrus*, *Urochloa panicoides*.

below the other and so cause a fair amount of space to be wasted — a separate list in a different format might have been better.

The final two pages list the subfamilies, tribes and genera, once as arranged in this work and then in alphabetical order. This material could have occupied the rear end-papers (especially since there is no dust-jacket), and so been a boon for butter-fingered index-seekers.

Elizabeth Edgar and Henry Connor finished off their introduction to FNZ5 by taking the classic advice of “simply appending a piece of Fine Writing (no matter upon what subject)”⁸. Too infirm of purpose to traverse again the pages of “Old Jules” or “Lonesome Dove” to find some suitable evocation of the prairie, all I can do here is point to the bottom line (Schmid’s first desideratum): that the price should be reasonable. I believe it certainly is (and FNA24 is slightly less expensive). Anyone who needs such powerful, reliable work-tools (no electricity needed, corruption-proof and easily updated with a soft pencil) should try to get their own copies — it may not be long before the siren-song of the e-Floras makes such things “Reserve Room Only” collectables.

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⁸Here Cambridge morphologist and mystic Agnes Arber (1879-1960) apparently foretells the coming of cladistics. Her colleagues in Historical Linguistics might have remarked they were already quite aware of its existence.

■ **New Book**

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Threatened Plants of New Zealand

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Peter de Lange is a threatened plant scientist with the Department of Conservation, focusing on taxonomy, genetics, ecology and threat classification systems.

Peter Heenan is a plant taxonomist with Landcare Research, and has served on the New Zealand Threatened Plant Panel since 1999.

David Norton is a botanist and ecologist who heads the Rural Ecology Research Group in the NZ School of Forestry at the University of Canterbury.

Jeremy Rolfe is a botanical photographer who has worked at the Department of Conservation since its inception in 1987, working mainly on interpreting the natural sciences to the public.

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