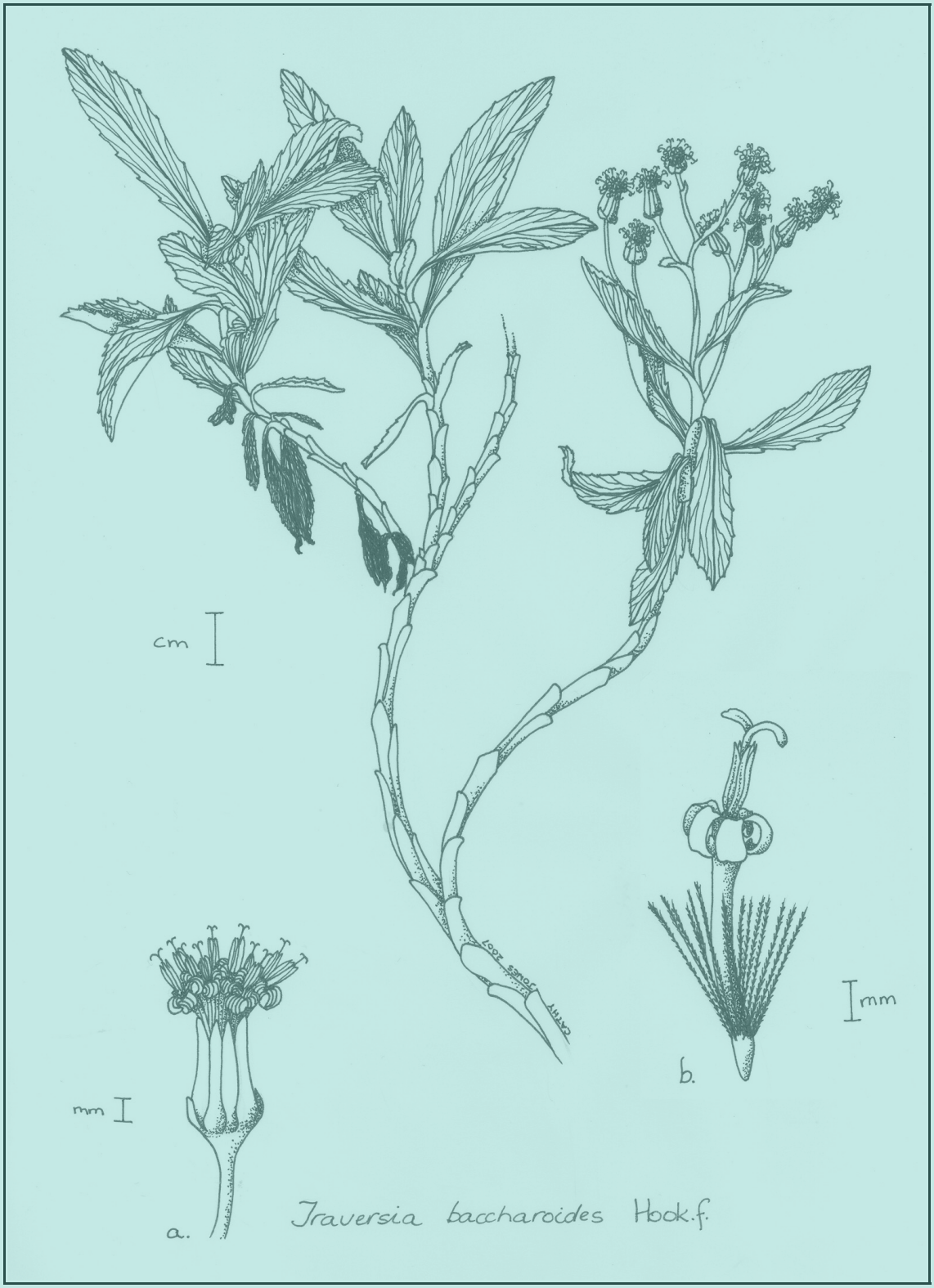
NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 89 September 2007



New Zealand Botanical Society

Subscriptions

The 2007 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 December 2007 issue is 25 November 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), 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

Traversia baccharoides Hook.f. in flower, collected by Cathy Jones and Ian Buunk from Bert's Creek, Molesworth Station, South Marlborough on 16 February 2007. Drawn by Cathy Jones a. capitulum b. single floret

NEW ZEALAND BOTANICAL SOCIETY

N E W S L E T T E R

NUMBER 89 September 2007

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New Zealand Botanical Society News

- **From the Committee**

Allan Mere Award 2007

The NZBS Committee is pleased to announce that this year's award of the Allan Mere is to Peter Johnson of Dunedin who has a long and distinguished career with DSIR Botany Division and Landcare Research, and continues to work on various ecological projects.

The main sponsors of the nomination were the Otago and Wellington Botanical Societies, strongly supported by southern botanists and organisations.

The selections of comments below are from the enthusiastic letters received:

"Peter has had a distinguished career as a scientist, public lecturer, author, and conservationist. His early research focussed on neglected groups (mycorrhizal fungi) and habitats (wetlands and turf communities). These publications resulted in him being awarded the RSNZ Hamilton Memorial Prize (1977). Along with numerous research publications on weeds, wetlands, and dunelands, Peter has also produced popular books on wetland plants (Wetland Plants in New Zealand), naturalized species (Wildflowers of Central Otago), and specialist reference books (Flowering Plants of New Zealand with Colin Webb). Peter has routinely collected plant specimens from all over New Zealand, and these make a significant input to the Lincoln herbarium."

"In addition to his major contribution to botany in New Zealand as a professional botanist of distinction, Peter has given most generously of his time, expertise and enthusiasm to the wider public over the last 37 years."

"In his role as botanical watchdog Peter makes another valuable contribution to the community. With his extensive knowledge of the identification, ecology and distribution of weeds in New Zealand he is ever watchful for new or spreading invasions, and then widely sounds the alarm."

"Books and articles both scientific and popular have informed, delighted and continue to reach out to a wide audience. The series of *New Zealand Gardener* articles are widely circulated, while the Wildflower and Wetland books are brought on many a society and university field trip, and are a valuable reference in home, university and public libraries."

"Peter's description of the vegetation of the Manapouri lakeshore in relation to the 32 year record of daily lake levels not only fulfilled the contract conditions with his BSc Honours report but also provided the basis for sustainable lake management within the natural range of lake levels, which was later needed after a satisfactory conclusion to the most significant eco-political debate in the country's history. Peter published two definitive papers on the ecology of the Manapouri lakeshore…"

"On a personal level … I have come to appreciate how valuable Peter's sharing of his knowledge has been. There will be few if any areas of Reserve, Coastal and Covenanted land on the [Otago] Peninsula that have not benefited from his botanical and practical advice."

"Peter's expertise extends beyond his scientific ability. Not only is he a renowned botanist and botanical photographer, he writes with clarity and is a superb communicator to the lay audiences especially on field trips. He has a depth of knowledge of an expert and an enthusiasm of a naturalist. He is an inspiration and a crucial guiding influence for conservation on the Otago Peninsula."

"Peter's early career was as a lecturer in bryology at Otago University. In the past decade he has made over 70 presentations to conferences, schools and interest groups, and led botanical tours to the Chatham Islands. He has provided training in natural history groups to guides on the Hollyford Track."

"He has been an active member of the botanical fraternity since the late 1960s. During that time he has been a researcher, writer, adviser on ecology and plant management, and an educator. As important, in our view, he has inspired others to enjoy the New Zealand flora and to appreciate its ecological significance."

"Peter's many other contributions …are too numerous list but outstanding among them has been his assistance and collaboration with David Bellamy on the "Moas Ark" TV programme and accompanying book some time ago and, most recently his contribution to the conservation and wider appreciation of the ecology of the Chatham Islands, since becoming a member, now chair of the Chatham Island Conservation Board."

"I'd like to record Peter's expertise as a lichen observer. He has expert identification skills which he has used to produce reports on emissions around some of NZ's largest industrial plants, e.g., the aluminium smelter at Bluff and Motunui synthetic petrol plant. He's also NZ's leading expert on aquatic lichens and has collaborated with international experts to describe new species and distribution records."

"Peter is an exemplary botanist in the tradition of the world's best naturalists. He has a brilliant eye for detail, a quirky sense of humour, a love of words, and a passion for New Zealand's plants and landscapes. He's a creative gardener and multimedia communicator. I'll finish with one of his haiku, composed to describe the roadside scene throughout the southern South Island downwards:

Lolium and *Trifolium*
Laid out
Like green linoleum."

Fantastic Peter, well done! The Mere presentation will be arranged by the Otago Botanical Society for later this year.

Ewen Cameron, Secretary/Treasurer NZBS (President currently on holiday)

- **From the Secretary**

Call For nominations

Nominations are called for the following positions of Officers and Committee of the New Zealand Botanical Society for 2008:

- President
- Secretary/Treasurer
- 3 committee Members

Nominations for all positions opened 1 September 2007 and close on 19 November 2007. Nominations shall be in writing to the Secretary, c/- Canterbury Museum, Rolleston Avenue, Christchurch 8013, and shall be signed by the Proposer, the Seconder, and by the Nominee to indicate their acceptance of the nomination. If necessary, ballot papers for a postal election will be circulated with your December *Newsletter*.

Ewen Cameron, Secretary/Treasurer NZBS

Regional Botanical Society News

- **Auckland Botanical Society**

June Meeting
Maureen Young gave a brief overview of a recent trip to the Far North with a NIWA diving team and Lisa Forester of the Northland Regional Council, as part of an ongoing monitoring of Northland lakes. Special mention was made of *Hydatella inconspicua* (inconspicuous indeed), which has recently been found to have been misplaced in the monocots.

Josh Salter studied the reproductive life cycles of matai and miro for her PhD, noting that while there are embryological similarities, there are morphological and anatomical differences that may be sufficient to warrant their separation into two genera. But until the other 6 species currently included in *Prumnopitys* are better understood, she recommends that the current names be retained.

June Field Trip
Ross Beever led the trip to Atuanui (Mt Auckland), a forest he has been familiar with since his youth, when he and his father refound the "Waipoua" orchid (*Danhatchia australis*) there. This is now the type locality for this orchid. A slow amble to the summit added several species to the list, and the downward walk included a diversion to a stream to observe the many king ferns growing there. The health of the forest will soon start to recover from damage by animal pests, due to the activities of the Kaipara Branch of Forest & Bird. For information see:
http:/www.kaiparaforestandbird.org.nz/Atuanui.html

July Meeting
Catherine Beard, now Coastal Wetland ecologist with Environment Waikato, visited Antarctica seven times while working at Waikato University. There she carried out vegetation research on the flora, which includes lichens, mosses, liverworts and algae. She outlined some of the delights and challenges of fieldwork in a harsh environment, ranging from the maritime at Cape Hallett, in the company of huge numbers of noisy penguins, to the absolute silence of the dry valleys.

July Field Trip
A dampish day did not deter a good-sized party from enjoying the botany of part of the Cascades Kauri Park. Some large kauri were seen, and it was interesting to see both the epiphytic *Brachyglottis kirkii* var. *kirkii* (with some early flowers) and the terrestrial *B. kirkii* var. *angustior.* A fallen branch gave the opportunity to see *Adelopetalum tuberculatum* (= *Bulbophyllum tuberculatum*) at close quarters, and in the light gap so created grew the fern *Hypolepis lactea.*

August Lucy Cranwell Lecture
Our own Ewen Cameron delivered the 2007 Lucy Cranwell Lecture in the new lecture theatre in the refurbished Auckland War Memorial Museum. His topic was Thomas Frederick Cheeseman FLS, FZS, FNZI (1845 – 1923). As pointed out by Mike Wilcox in his introduction, it was fitting that the links that connect Cheeseman, Lucy Cranwell and Ewen were brought together in the museum where they all worked (and work) so hard to promulgate knowledge of the New Zealand flora. A brief version of this talk was given at the Cheeseman Symposium in November 2006, held to celebrate the centenary of the publication of Cheeseman's *Manual of the New Zealand Flora*.

August Field Trip
Although conditions underfoot were wet and muddy, the occasional drizzles of rain were ignored on this trip to some reserves bordering the northern Manukau coast. First at Manukau Domain only metres from the cars, we were shown a good population of the tiny mistletoe *Korthalsella salicornioides.* Down at the beach, the incoming tide allowed for only a few seaweeds to be studied. Tantalisingly, the *Blechnum* fern on the cliffs could not be reached to determine whether or not it was *B. triangularifolium*. At Avondale South Domain the highlight was a small population of *Pimelea longifolia.* It was a good day for learning sedges.

Rangitoto Book Launch
Fort Takapuna, overlooking Rangitoto Island, was the setting for the launch of the Auckland Botanical Society's latest publication, "Natural History of Rangitoto Island". Mike Lee, Auckland Regional Councillor, commended this beautiful book, commenting that Aucklanders were indebted to the Society for thoroughly documenting the ecology of this iconic young volcano.

FORTHCOMING ACTIVITIES

15 September	Tiritiri Matangi Island
29 September	Seaweed excursion: Leigh Marine Lab & Goat Island Marine Reserve
3 October	Nick Waipara: Biological control of NZ weeds: South American connections
20-22 October	Labour Weekend camp, Whangarei Heads
7 November	Peter Bellingham: Island ecosystems: seabirds, nutrients & plant growth
17 November	Northern end of Awhitu Peninsula, by boat from Mangere Bridge
15 December	End of year pot-luck dinner/ walk on Mt Wellington

Auckland Botanical Society, PO Box 26391, Epsom, Auckland 1344
President: Mike Wilcox
Secretary: Leslie Haines lhaines@unitec.ac.nz

- **Waikato Botanical Society**

Waikato and Rotorua Botanical Society Field Trip to Pureora, Sat, 17th – Sun. 18th February 2007
With perfect February weather on the way, bot-socers from Taranaki, Rotorua and Thames along with the Hamilton contingent began assembling at the cabins in Pureora village from Friday afternoon onwards. The combination of icecream and redwine got the early bird Taranaki/Thames troupe off to a fine start that the rest of us weren't able to catch up on, that night at least.

Saturday morning saw fifteen of us head off to the Waipa Mire to botanise this more unusual and less visited component of Pureora Forest Park. The Waipa Mire is at the headwaters of the Waipa River, surrounded on three sides by relatively intact podocarp forest (including the Waipapa Ecological Area) while the fourth side is flanked by plantation pine forest. DOC have been carrying out weed control (mostly willows) in the mire to protect a range of species and habitats in a relatively (compared to the lower Waikato wetlands) pristine environment. We entered the mire cautiously through a weedy hedge of blackberry and, while attempting to stick to the higher, less swampy ground, traversed the mire. Along the way we saw *Gahnia rigida* and *Clematis quadribracteolata* and the odd grey willow which were pulled when possible. In a slow flowing streamlet we came across the first threatened plant for the day – stout water milfoil (*Myriophyllum robustum*) classified in Gradual Decline in the latest threatened plant lists. A relatively large patch of healthy looking plants could be seen both up and down stream from where we crossed the streamlet. A little further on and some discussion went on about what grass we were looking at (later confirmed as *Deyeuxia quadriseta* thanks to John Hobbs). We reached the far side of the mire where a monoao (*Dracophyllum subulatum*) dominated ecotone exists on higher ground before grading into tall forest in behind. A single plant of *Pimelea tomentosa* (Serious Decline) was spotted growing under a tall *Coprosma propinqua*. After skirting around the mire, we then stumbled across a lot more *Pimelea tomentosa* plants scattered through the shrubby ecotone bordering the mire. All age classes were present indicative of recruitment. Back into the mire and heading for home we saw drifts of flowering swamp leek orchids, *Prasophyllum hectorii* (Nationally Vulnerable). Back at the cabins a shared dinner and a few bottles of wine finished the day off quite nicely.

Sunday morning was spent poking around the village where we saw *Dactylanthus taylorii* (Serious Decline) and *Ileostylis micranthus* (not threatened). We then headed to a privately owned property nearby where we surveyed the stream margin for *Melicytus flexuosus* (Gradual Decline). We found 164 plants in a range of age classes from seedlings and young plants right through to fruiting adults. In the process a couple of parsley fern, *Botrichium australe* (Sparse), plants were spotted. After a late lunch we made it to the privately owned Bog Pine Reserve for a quick look. Both *Pittosporum turneri* (Nationally Endangered) and *Dactylanthus* have been recorded in this reserve but with time running out we focussed on finding the *Pittosporum*. Four trees of *Pittosporum turneri* could be identified from a distance and we trekked in to one tree not too far from the fenceline to get a closer look. *Dactylanthus* was not spotted on the day so that will be saved for another trip. It was a pretty tired bunch of bot socers that then headed home late that Sunday afternoon.

Dactylanthus evening talk and sowing with Avi Holzapfel, 21st February 2007

On Wednesday 21st February Dr Avi Holzapfel from the Department of Conservation gave a very interesting talk about the biology and conservation of the rare and unusual root parasite *Dactylanthus taylorii,* better known for the formation of the 'woodrose'. *Dactylanthus taylorii* is ranked in the Serious Decline national threat category due to the absence of young plants recruiting into populations which has been linked to browsing by introduced animals. Possums, rats and pigs can cause damage to the very small flowers and fruit which emerge from the forest floor thus reducing the amount of seed available to maintain populations. Avi discussed the recent success of seed sowing trials of *Dactylanthus* in the wild as a conservation management tool. The study took 4 years for the first signs of plant establishment but many plants emerged in the following 3 years. It was found that a disproportionate number of the new plants were females, whereas in known wild populations males are dominant, which raises plenty of questions for further research on this species.

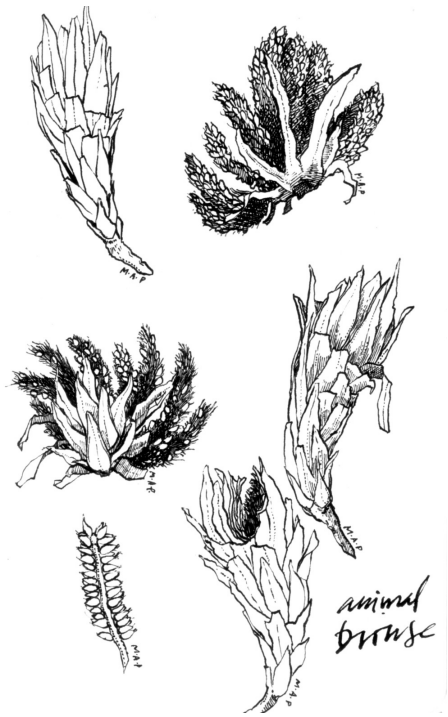

Fig.1 *Dactylanthus taylorii* (line drawing by Monica Peters)

Following Avi's talk we then moved down to the society's threatened plant collection site to sow some *Dactylanthus* seeds which had been collected on the Pureora field trip, with Department of Conservation permission. The hundreds of tiny seeds from several inflorescences were mixed with sand to separate them out and make sowing easier. We then prepared four clearly marked plots by clearing the leaf litterand a little soil to expose the fine roots of the host trees, *Pittosporum tenuifolium* and *Myrsine australis* in this case. The seed was sprinkled on the ground surface and covered again with leaf litter. The sowing of seed in cultivation was an historic occasion and we will now have to eagerly wait for at least four years before we know whether the parasite has successfully established on the roots of the host trees at the site! The occasion was celebrated with a barbeque and some seeds were also experimentally sown into two large pots with *Melicytus ramiflorus* and *Pittosporum colensoi* host trees, which may be a useful mobile resource if successful.

Kakepuku Mountain Historic Reserve 26 May 2007

Kakepuku mountain (449m asl.) is an old volcanic cone to the south-east of Te Awamutu and is the site of several historic pa sites. The voluntary community restoration group Kakepuku Mountain Conservation Society have been working with DOC on animal pest control since 1995 and goats have now been eradicated from the reserve. Low possum and rat numbers have allowed the reintroduction of toutouwai (North Island robin) in 1999 and more recently karearea (NZ falcon) have been released onto the mountain. On this botanical society trip we hoped to see the regeneration of understorey species previously suppressed by goat browse and investigate whether possum control had improved the health of kohekohe and other highly possum-preferred canopy trees.

We entered the bush under a rather sparse and ragged looking mangeao canopy also with some tawa, pukatea, pigeonwood and mahoe. Weed invasion was quite evident on the bush edge with tree privet, Himalayan honeysuckle, blackberry and many herbaceous pasture weeds such as *Senecio bipannatisectus* and *Phytolacca octandra.* However, native regeneration was evident in the understorey with common hanehange, kanono, nikau, kawakawa, hen and chicken fern and the scrambling fern *Arthropteris tenella*. As we proceeded up the summit track exotic brush wattle seedlings were common on the track edge, we also spotted the odd tarata or lemonwood seedling and would later meet the likely parent trees near the summit, the legacy of historical plantings. Plenty of kahikatea seedlings were evident by the trackside, but nothing very large was seen. *Alseuosmia quercifolia* is known to occur here (C. Purvis, DOC) but somehow our keen eyes missed it.

Half the group branched off-track onto a drier ridge briefly where we found heketara, rewarewa and rangiora coming through an aging gorse canopy. We spotted the epiphytic orchid *Drymoanthus adversus* on young mangeao trees here. After a brief refreshments break (no we weren't even at the top yet) we started to get into lush looking kohekohe trees and finally found our first *Hymenophyllum* (filmy-fern) species. As we reached the old crater edge and pa site a few new tree species were seen: ramarama, horoeka and tree fuchsia. We headed off-track following our local guides down a gully (unawares we had to come back up again!) through a majestic stand of large, flowering and fruiting kohekohe trees, with scattered large volcanic basltic rocks evidence of the previous crater blow out to the west here. Some large king fern specimens were seen and some of the ferocious tree nettle, ongaonga, was close by, apparently, but not seen as we opted to head back up to the summit.

The summit viewing platform afforded us clear views across the Waikato basin and several more weeds were added to the list in the clearing here including herb Robert, Yorkshire fog and other pasture species. We saw *Hebe stricta* and the elegant native grass *Poa anceps* for the first time here. On the return we skirted around the crater rim, where we saw parsley fern and the likely human-introduced tarata trees. We then made a relatively hasty decent down a pest control access line on the eastern slopes having been on the southern slopes coming up the marked track. The tail-end of the group made some brief searches for *Dactylanthus taylorii* around hopeful host trees but to no avail. Lower down we joined an old farm track, apparently now used by mountain bikers, brave ones at that!, and came across a few more bush-edge species such as kiokio, scented fern, crown fern, turutu, tutu, shining karamu, wineberry and a gully tree fern, *Cyathea cunninghamii*.

In comparison to 1985 Botanical Society visits, species additions are minimal. There were several more ferns added on this trip, notably king fern which may have been affected in the past by stock and goat browse. Wright in 1985 described the forest as 'generally rather open' following the Auckland Botanical Society trip and inferred this as evidence of previous grazing. The understorey is now quite diverse with a mixture of broadleaf species, having been described in 1985 by Boase on the Rotorua Botanical Society visit as dominated by kawakawa and nikau, two species not known for palatability to goats.

Waikawau Wetland Survey 12 -13 May 2007

Over the weekend of May 12 and 13 a diverse group of plant enthusiasts converged at Waikawau, a wide bush-backed bay on the far north eastern edge of the Coromandel peninsula. The aim of the trip was to compile a plant list for the 65 ha wetland which runs from the mouth of the estuary to a flat basin and into several narrow valleys. To cover the ground, we divided into groups each headed by a member of the Moehau Environment Group (MEG).

On the estuary side of the main road which cuts through the wetland, the highly invasive *Paspalum vaginatum* has gained a strong foothold and is spreading along the shoreline and into the mangroves. More desirable turf formers namely glasswort *(Sarcocornia quinqueflora)* are still present, as are the ubiquitous sea primrose (*Samolus repens*) and *Selliera radicans*. A small island of *Spartina anglica* still persists on the south side of the estuary despite spraying.

On the other side of the road, it's quite a different story altogether as salt water species rapidly give way to freshwater species. MEG's rat/stoat trapping lines have created narrow channels through the thickly vegetated swamp and fen system. Edging the road are scattered salt marsh ribbonwoods *(Plagianthus divaricatus)* and *Olearia solandri* shedding the last of the season's seeds. Further in, Mexican devil *(Ageratina adenophora)* forms thickets underneath a tall stand of Cabbage trees *(Cordyline australis).* Widespread throughout the Coromandel, the Mexican devil here showed the distinctive galls of the insect introduced in an (unsuccessful) attempt to control it. Further along the track, the vegetation grows in an almost impenetrable tangle, one of the most dominant species being the appropriately named tangle fern *(Gleichenia dicarpa),* which reached chest height. Swamp millet *(Isachne globosa)* in flower was threaded throughout the fern; raupo made an occasional appearance as did flax. In the sheltered north-facing corner of the fen and nestled against the toe of the clay slopes, we found a cluster of stout-stemmed, bright green *Lycopodiella cernua.* Climbing out of the wetland and up the slopes, the vegetation changes accordingly with manuka, kanuka, dominating with scattered *Pomaderris amoena* and needle-leaved hakea (*Hakea sericea*). The evening was spent sorting through the mystery objects of the day with the very occasional plant still remaining a mystery.

The following day was spent listing the flora of grassland and forest sites which up until 3 years ago had been heavily grazed and damaged by possums. Fencing and trapping has resulted in a dramatic flush of vegetation, the kohekohe *(Dysoxylum spectabile)* in particular sending out lush and almost luminous new growth. Inflorescences were much in evidence though the buds were still tightly closed. This northern side of the estuary holds much history underneath the rank grass and regenerating forest. Over the years, erosion has unearthed many hearth stones only to be reburied later with soil dislodged by animal hooves. The road edge through the regenerating coastal remnant revealed a shell midden, and a confusing array of *Pteris* hybrids *(P. macilenta, P. saxatilis, P. comans* and *P. tremula)*. Descending to the beach once more through a patch of regenerating nikau, we found the aptly named velvet fern *(Lastreopsis velutina)* and spied a carpet of diminutive *Bulbophyllum pygmaeum* on an old kohekohe trunk along with small plants of *Peperomia urvilleana* and a nearby group of *Melicope ternata*. The last activity of the weekend was an attempt to locate a large-leaved milk tree *(Streblus banksii)* which John Smith-Dodsworth had encountered some years previously in the dense forest edging the estuary. While we couldn't find it, it gives a great excuse for going back!

Threatened Plant Garden Update

We installed a drip irrigation system in December with funding from the DOC Community Conservation Fund. This has kept the plants watered over the dry spells this summer, unfortunately including the weeds, but some bark mulching helped to reduce weeds early in summer. *Teucridium parvifolium, Rorrippa divaricata, Picris burbidgei* and *Calystegia marginata* are all thriving in the garden and have produced seed this summer. The two *Lepidium oleraceum* are surviving but are more sensitive to drought and frost events, and the *Hebe speciosa* are growing on well. We had successfully germinated some *Pimelea tomentosa* from Pureora but unfortunately lost the two young seedlings to a possible fungal infection. We were pleased with the successful germination of *P. tomentosa* (2 from 8 seeds) after no success last year, this year we removed the flesh and scarified the seeds, which we did not do with last years seed. *Sicyos australis* was removed from the garden earlier in the year as a new publication indicates that it may indeed be a coloniser and not a threatened native plant. We may plant *Sicyos aff. australis* from Cuvier Island (Coromandel) in the future but will first ascertain whether seed remains in the garden from the removed plant. This situation illustrates the difficulties in management of rare plants and the need for ongoing research into the status of many threatened species. Presently *Pimelea arenaria, Melicytus flexuosus* and *Calystegia marginata* are awaiting germination in the greenhouse and in February four small plots were seeded with *Dactylanthus taylorii* in the garden.

FUTURE TRIPS PLANNED:
Saturday 13th October Tawarau Forest, Northern King Country
Contact: Kerry Jones 07 855 9700 (home) 086 500 595 (pager)

Saturday 10th November Opuatia wetland
Contact: Andrea Brandon abrandon@doc.govt.nz ph 07 858 1018 (wk)

Sunday 25th November Botanical Society Threatened Plant Collection Working Bee #7
Contact: Liz Grove eg3@waikato.ac.nz ph 07 846 0965 (hm).

Sunday 2nd December Kakahu Stream Kauris, Kaimai-Mamaku Forest Park (combined trip with Rotorua Botanical Society)
Contact: Paul Cashmore 07 348 4421 (hm), 349 7432 (wk)

President: Liz Grove eg3@waikato.ac.nz **General contact:** bot_soc@waikato.ac.nz
Secretary: Andrea Brandon abrandon@doc.govt.nz
Our newsletters are available on http://cber.bio.waikato.ac.nz/Waibotsoc/WaikatoBotSoc.html

- **Nelson Botanical Society**

MAY FIELD TRIP:
Unfortunately the weather let us down on the day, and as rain had already started falling in Golden Bay by dawn the decision was made to cancel this trip to the Petterson covenants.

JUNE FIELD TRIP: Happy Valley Gully, Cable Bay

On a very cold morning nine people met at the café at Happy Valley Adventures and headed up the streamside track into the bush. There were a lot of fungi near the track but many had passed their best. We found the twiggy *Coprosma crassifolia* and two very different species of *Lophomyrtus: L. obcordata* and *L. bullata*. Podocarps were a feature of the walk – beside the stream there were totara and kahikatea, and matai (with its red hammer-marked bark) in various growth stages, from a forest of juveniles to adult trees, including a 1800–2000-year-old one at the top of the track near the road. At 40 metres tall and 6 metres round, it was a beauty. En route to the big matai, *Carmichaelia australis* and *Fuchsia excorticata* (that had lost nearly all its leaves) were spotted, as well as some stream-hugging *Blechnum novae-zelandiae, B. chambersii* and *B. fluviatile*. After passing through a gully of *Beilschmiedia tawa* and, further up, some *Rhopalostylis sapida*, we came across several tree fern species, *Hymenophyllum revolutum* and *H. sanguinolentum*, the lovely velvet fern *Lastreopsis velutina,* as well as *Arthropteris tenella* growing on limestone rock. On the return trip, *Hebe stricta* was still flowering along the road, and *Dianella nigra* and *Helichrysum lanceolatum* were seen on the bank.

JULY FIELD TRIP: TAPU BAY TO STEPHENS BAY

On a fine and windless day, 13 members who turned up at the Tapu Bay Reserve had a most enjoyable day. Exploration of the western end of the bay revealed several fine plants of *Dracophyllum urvilleanum*, a species that had not been previously observed at Tapu Bay. Ferns were well represented, with members noting two small species of *Hymenophyllum* (perhaps *H. cupressiforme* and *H. sanguinolentum)*, and *Asplenium oblongifolium*, *A. flaccidum*, *Paesia scaberula*, *Cyathea dealbata*, *C. medullaris,* and one *Lycopodium volubile*. The usual lowland trees and shrubs were present – kanuka (*Kunzea ericoides*), black beech (*Nothofagus solandri*), mapou (*Myrsine australis*), heketara (*Olearia rani*), karamu (*Coprosma lucida*) and kanono (*C. grandifolia*), as well as a few plants of *Helichrysum lanceolatum*, *Leucopogon fasciculatus* and *Leptecophylla juniperina.* A few plants provoked discussion and deliberation: was a large-leaved beech hard beech (*N. truncata*) or a hybrid between it and *N. fusca;* why wasn't an adolescent *Pseudopanax crassifolius* actually *Myrsine salicina*; and to which *Solanum* species did a group of plants belong (they were *S. laciniatum* rather than *S. aviculare*). The cliff face along the eastern end of the bay supported most of the above species (except *Dracophyllum urvilleanum*) and *Brachyglottis repanda* began to make an appearance as did *Astelia banksii.* As well as *Macropiper excelsum*, there was also a rambling *Metrosideros perforata* and ngaio (*Myoporum laetum*). Flowering plants of *Pseudopanax arboreus* prompted some discussion on the sexual proclivities of this species. According to *Flora of New Zealand*, the flowers of the terminal umbellule are usually completely pistillate while those of the lateral umbellules are wholly or partly staminate. However, fact did not appear to support that. Obviously, some further study will be needed.

The most exciting find was at least four plants of the mistletoe, *Tupeia antarctica*, some minus a bit of foliage – possibly because of the very cold conditions or possum browse – but otherwise quite healthy. Best of all, some were bearing a good crop of their pinkish fruits which inspired the photographers in the group. Two clumps of *Cheilanthes* grew up on the cliff, tantalisingly out of reach, and so their identity remains a secret. Occasional plants of *Microlaena stipoides* and *Uncinia banksii* were observed amongst the cliff vegetation. There were also some plants of the woodrush, *Luzula banksiana* var. *banksiana*, plume grass (*Dichelachne crinita*) and an interesting and anomalous form of *Poa cita*/*anceps* which draped parts of the cliff. Towards the point, before the entry to Stephens Bay, were some very fine plants of *Asplenium polyodon* growing up on the exposed cliff face and *Microsorum pustulatum.*

Among the adventive plants there was the occasional tree lucerne (*Chamaecytisus palmensis*), dog rose (*Rosa canina*) and some *Oxalis* sp., possibly *O. debilis.* A native reef heron was spotted feeding out in the shallow tidal waters with some of the commoner, more recently self-introduced white-faced herons. Around the headland of Stephens Bay were *Spergularia media* and *Ficinia nodosa* on the rocks. At the far end of the bay, at the stream, was a small area of *Sarcocornia quinqueflora, Samolus repens, Selliera radicans, Carex geminata,* and three square sedge (*Schoenoplectus pungens*).

MAY MEETING: Alpines from Arthurs Pass to Porters Pass

Nelson BotSoc member Rebecca Bowater presented some of her slides of alpine plants that she had photographed in the last two years (between November and January) in this area. Otira Valley, Temple Basin, Mt Cheeseman, Castle Hill reserve and Island Pass were settings for beautiful views

and interesting plants. The latter included a *Gentianella* with a flower 4 cm across photographed in the Otira riverbed, scented clumps of *Myosotis explanata* with its large flower heads, the yellow form of *Myosotis traversii* and the small peachy coloured flowers of *Wahlenbergia cartilaginea*.

JUNE MEETING: Biodiversity in Nelson

Shannel Courtney spoke about Nelson's special flora and fauna, how they got to their current state and what can be done to protect and foster them. Whilst this talk was mostly on Nelson's nine "original" ecosystems (which are documented in the publication "Living Heritage, Growing Native Plants in Nelson", NCC), Shannel mentioned that he is working on a similar publication for the Tasman District Council. A key message to attendees was the importance of eco-sourcing when planting – revegetating with plants and seeds sourced locally from the wild – to maintain the region's biodiversity and bio-integrity.

JULY EVENING MEETING: Something from France

Trevor Lewis, Nelson BotSoc Treasurer and Newsletter editor, gave the audience of 26 an interesting tour through three areas he visited in France during the Northern Hemisphere late spring. Among the excellent flower studies of the Loire Valley were images of the wonderful chateaux, of replicas of Leonardo da Vinci's inventions, and of the Loire countryside. Of Provence, the audience was treated to images of attractive villages, the ubiquitous vineyards, cherry, peach and apricot orchards. Occasionally there was the thrill of a colourful orchid, most commonly the scented orchid, *Gymnadenia conopsea.* The Pyrenees was the pièce de resistance for anyone interested in flowers. The meadows were covered with many familiar to cottage gardeners and some not so familiar species, like the brilliant blue trumpet gentian, *Gentiana acaulis*. Other interesting flowers were the alpine daphne, *Daphne mezerum*, the so-called alpen-rose, a small rhododendron, *Rhodothamnus chamaecistus,* and lots of "worts" including the marsh wort, *Hydrocotyle vulgaris.*

FUTURE TRIPS

Sept 16:	Pukatea track, Hira Forest. Leader Tim McArthur 021 023 26486
October 19–22:	Labour weekend camp, South Marlborough limestones. Leader Cathy Jones (03) 546 9499
Nov 18:	Shedwood Bush, Tapawera. Leader Tim McArthur 021 023 26486
Dec 14–16:	Camp, Cobb Valley, Lake Peel and ultramafics. Leader Shannel Courtney (03) 546 9922

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■ Canterbury Botanical Society

June Meeting & AGM

At the AGM we had a successful meeting, a wonderful talk from Steve Wratten and a delightful social session over a potluck luncheon. Professor Steve Wratten introduced us to the work of the group he leads at the National Centre for Advanced Bio-Protection Technologies at Lincoln University. Their focus is on the use of plants to provide shelter and food for the insects which can control insect pests and pollinate crops without the need for chemical sprays – e.g. ladybirds, earwigs, and hoverflies. In a project centred on the Waipara wine-growing district, which had become a monoculture of vines, rows are interplanted with colourful buckwheat (Polygonaceae), phacelia (Hydrophyllaceae), and alyssum (Brassicaceae). Native plants which can provide food for valuable insects include *Pratia angulata* and *Geranium* sp., while mixed native shrubs in vineyard borders and shelter belts shelter beneficial insects. So far 30 wine growers have entered the programme "Greening Waipara". Other research includes testing the nectar of natives for the ratio of sucrose to fructose\glucose, and assessing the role of the ground cover *Leptinella* in restricting the release of methane from the soil.

Bryony Macmillan

July Meeting

Dieter Steinegg, Tree Officer with Christchurch City Council's Transport & Greenspace Unit, gave an introduction to the role trees play in the urban environment. Dieter highlighted the importance of trees to influence the climate positively and presented figures on how many trees are required to offset the carbon emission of the more than 303,125 motor vehicles registered in Christchurch alone –

3,637,500 compared with the approximately 150,000 trees on Council land at present. Research has shown that settings with trees produce significant recovery from stress and that hospital patients heal faster if room windows face treed areas. Trees properly placed around buildings can reduce air-conditioning needs by 30% and can save 20-50% in energy used for heating. Trees play a major role in storm water management as well, resulting in less runoff and erosion and help to recharge ground water supply. Research has also shown that every 1000 urban trees we plant today will save more than a million dollars in storm water management, pollution abatement, and energy costs.

August Meeting

Gemma Bradfield, a Bio-security officer for The Canterbury Regional Council, spoke on efforts to eradicate and control weed species in the Canterbury area. The five categories in the Plant and Pest Strategy are: 1. total control (e.g. *Nassella trichotoma*, nassella tussock); 2. progressive control (e.g. *Pinus sp*., wilding pines); 3. containment control (e.g. *Ulex europaeus*, gorse); 4. surveillance plant (e.g. *Lycium ferocissimum*, boxthorn); and 5. unwanted organism (e.g. *Salix cinerea*, grey willow). Display specimens were available for members to identify. Gemma also educates the general public on weed control; a campaign around Moncks Spur (Port Hills) to publicise eradication of *Chrysanthemoides monilifera ssp monilifera* (boneseed) encouraged locals to remove it from their gardens and leave it on footpaths to have Weedbusters collect. Ryan Young

August Field Trip: Tour of the Allan Herbarium at Landcare Research

Ines Schonberger, Collection Administrator, gave us an introduction to the Herbarium and talked about the process of preparing plant specimens for mounting, the mounting process and the filing of the specimens in the collection. Founded in 1928 when H H Allan was appointed as systematic botanist to the Plant Research Station in Palmerston North, with the bulk of the collection from H H Allan's private collection, the Herbarium was eventually relocated to its current site at Lincoln in 1960. Frsh specimens are sandwiched between newspaper and corrugated card in plant presses and dried at 32-35 degrees C. If temperatures are too high specimens can become brittle and brown. New plant material arriving at the Herbarium is frozen at -20° C to kill any unwanted insects. Specimens are mounted using adhesive tape. PVA glue, used widely in the past, is now only used in some difficult to mount specimens such as tussock grasses as the use of tape allows easier inspection of specimens by researchers. Herbarium sheets are stored in metal cabinets and filed alphabetically under their respective family and generic names in separate Dicot, Monocot and Cryptogam vaults, so finding specimens is a simple task. There are currently over 600,000 specimens in the collection including 5000 pickled specimens. The highlight of the trip was seeing some of the oldest specimens in the herbarium, duplicate specimens collected by Banks and Solander from Captain Cook's first voyage to New Zealand in 1769-1760. Dean Pendrigh

FUTURE EVENTS:

October 5th:	Amber Sciligo on *Drosera* selfing followed by Nick Head, DOC, Limestone areas in Canterbury
October:	Nick Head, field trip yet to be decided
November 2nd:	Yet to be finalized
November 16th (Fri)-18th:	field trip to Kaikoura area, including Blue Duck Reserve
Nov 27th -4th December:	Chatham Island botanical camp
December 7th:	Philip Grove, ECAN, Ecology talk
December 8th:	Rocky outcrops on Mt Grey, Onepunga
January 11th -18th, 2008:	Mokihinui region staying at Rata Lodge (Gentle Annie)

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Wakatipu Botanical Group

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NOTES AND REPORTS

- **The botanical aftermath of James Cook's first and second voyages to New Zealand in relation to the genus *Pimelea* (Thymelaeaceae)[1]**

Colin Burrows, Research Associate, Biology School, University of Canterbury

Part 1: The first Pimeleas: Banks and Solander contributions

Having recently examined the botanical results of James Cook's voyages to New Zealand in the "Endeavour" (1769-70) and the "Resolution" (1773-74) as I work on a revision of *Pimelea* in this country it seemed to be useful to summarise what happened to some of the botanical discoveries made during these expeditions. Some readers will know the stories well but others may not. Recent documentary finds have altered our appreciation of some points. I emphasize that the taxonomic fates of only New Zealand plants are considered here. The origin and history of the generic name *Pimelea* are considered in the third part of this article.

On the "Endeavour" Joseph Banks (Britain, 1743-1820) was the leading botanist and Daniel Solander (Sweden, 1733-1782) his assistant. They were ashore at eight main locations (figure 2). All of the landings were along the coast of the eastern North Island except those in Totaranui (Queen Charlotte Sound, at Ship Cove) and Sinum Admiralitatis (actually in a cove on the NE side of the island that was later named D'Urville)[2], (Fig. 1). During the voyage plants descriptions were drawn up and beautiful watercolour paintings of many of them, including the *Pimelea* spp., were done by the fine artist Sidney Parkinson, who, sadly, died of dysentery at Batavia, Java, on the voyage home.

Solander (with Banks' help) compiled a handwritten text in Latin: *Primitiae Florae Novae Zelandiae sive catalogus Plantarum in Eahei No Mauwe & T'avai Poenammoo*. The four *Pimelea* species described were *P. longifolia, P. laevigata, P. villosa* and *P. axillaris*. The text is a model of clarity. Unfortunately it was never published, apparently because Banks insisted that each species must be illustrated and this took a long time, and also because he was too busy to see it through. The text remained in London and is now at the British Museum.

The failure to publish cause various subsequent problem. At least for the *Pimelea* species the text is still a valuable, informative document. Parkinson's paintings (unpublished, except on the internet) are important documents and the engravings copied from them (published in "*Banks' Florilegium*")[3] are also useful, though they are less precise images than the paintings.

Important parts of the *Pimelea* plant collections from the first voyage are now to be found at the British Museum, **BM**; Linnean Society, London, **LINN**; Royal Botanic Gardens, Kew, **K** and, in Sweden at the Naturhistorika Riksmusseet, Stockholm, **S** and the Botanical Museum (Fytoteket) Uppsala University, **UPS.** Other botanists began to mine the Solander manuscript and publish descriptions of the varous species. An example (the least complicated) is *Pimelea longifolia* Sol. ex Wickstr. *Konig. Svenska Vetensk. Akad. Handl.* 82: 280 (1818).

Other Solander species have had more chequered careers. Both *laevigata* and *axillaris* were supplanted as specific epithets through respective first valid publications of *P. prostrata* (J.R. et G. Forst) Willd. *Spec. Plant. 1*, 51 (1797) and *P. tomentosa* (J.R. et G. Forst) Druce 2nd *Suppl. Rep. Bot. Soc. Exch. Club Manch.* for 1916, 639 (1917).

Keen readers can sort out the nomenclatural mazes for themselves by referring to Allan, H.H. 1961 *Flora of New Zealand Vol. 1*. The authors of these species were C. L. von Willdenow (Germany, 1765-1812) and G. C. Druce (Britain, 1850-1932). We will meet the Forsters later.

Pimelea villosa (of Solander's script) was published by A. Cunningham (Britain 1791-1839) as *P. arenaria* in Curtis' Bot. Mag. 60, t 3270 (1833). It appears that Cunningham was unaware of the Solander manuscript, the Banks and Solander specimens, or the Parkinson painting. He was living in Australia at the time of publication.

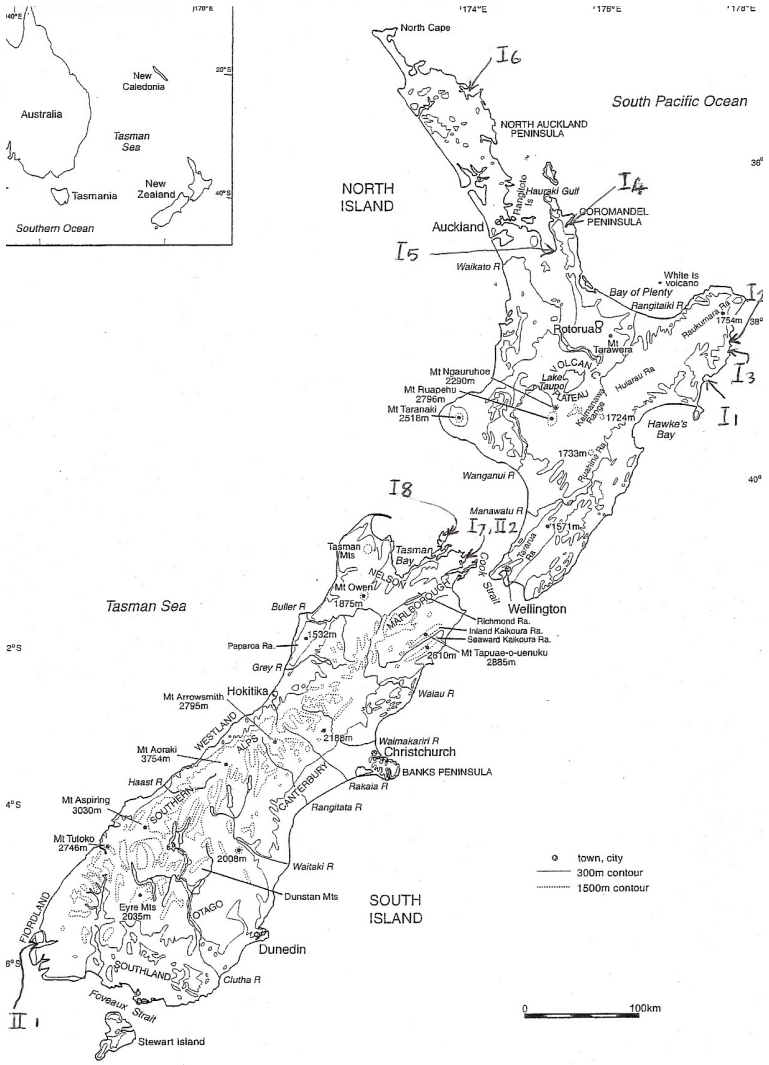

Fig. 1 Landing places where plants were collected. Names are the modern ones and numbers are in chronological order. I - Endeavour voyages, II - Resolution voyage.

Cunningham's article specifically mentions plants from Hokianga Heads. It is illustrated by a drawing from a horticultural specimen grown from seeds sent by him to Kew. The image is like those of plants that occur now on the west side of the North Auckland Peninsula. Cunningham's collections (now at K), however, indicate that he was also aware of the distinctive eastern North Auckland form and his description covers it, also. The latter is like those gathered by Banks and Solander at Tolaga Bay and Mercury Bay that were the basis of the *P. villosa* description in the Solander manuscript.

References

1. This is a bare-bones account of the facts especially as they apply to *Pimelea*. Other genera would have different stories. Many more, often fascinating, human interest details occur in the literature applying to the Banks and Solander “Endeavour” collections and the Forsters and Sparrman “Resolution” collections. Good general coverage is found in Stearn, W. T. 1968. The botanical results of the Endeavour voyage. Endeavour 27: 3-10.

2. Begg, A. C.; Begg, N. C. 1969. *James Cook and New Zealand*, Wellington, Govt. Printer, covers the New Zealand parts of the voyages well, with contemporary as well as modern maps and illustrations of places.
3. *Banks' Florilegium* Part 26, New Zealand (Copperplate engravings of plants collected on Captain James Cook's First Voyage Around the World in H.M.S Endeavour 1768-1771. British Museum (Natural History) published in 1986.

Parts two and three will be printed in subsequent issues of the New Zealand Botanical Society Newsletter.

- **Hebe and Hera**

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A new classification for *Hebe* and its allies (Garnock-Jones, Albach & Briggs 2007) brings to our quiet corner of the world what has been described as the major problem facing taxonomy today: should formally-named taxa be required to be monophyletic?

Being cladistic taxonomists, the above authors would say yes, and so they have merged the *Hebe* complex (including *Derwentia* of Australia and *Detzneria* of New Guinea) with traditional *Veronica* and two small American genera, to make one big monophyletic *Veronica* s.l. The *Hebe* complex ('the Southern Hemisphere clade'), which springs from a crown of true veronicas, becomes *Veronica* subg. *Pseudoveronica. A* few NZ species, fortunately none of them especially widespread, get a change of epithet, e.g. *Hebe brevifolia* becomes *V. punicea*. The authors explain that many more changes would have been needed if *Hebe* et al. were to have kept generic rank (individually or together): cladistic principles would then have required the making of five new Northern Hemisphere genera and two hundred new names for the species in them.

Using subgeneric or sectional names sometimes, instead of just generics, is perhaps not especially burdensome. But along with many other taxonomists I have come to agree with Brummitt's (2002, 2006) conclusion that monophyly of all groups within the Linnaean hierachy is not logically possible. So, with personal convenience reinforced by a sound argument, I intend to follow pagan Hebe rather than Saint Veronica.

To recall the principal argument of cladistic taxonomy: monophyletic groups are objective ones, that is, for any particular common ancestor, there is just one group that includes all of its descendants. In contrast, a paraphyletic (non-monophyletic) group excludes some of these descendants – its circumscription is subjective, and exclusion of particular clades from it will vary from taxonomist to taxonomist because of (it is implied) partiality, or perversity, or obsession with nomenclatural stability.

So much the worse for logic if it can't be squared with biology. A cogent article by Crisp and Chandler (1996), with examples from the Australian flora, indicates that paraphyly is likely to be quite common at species-level. As regards the higher ranks, I would just say I think Brummitt's challenge (2006) is unanswerable: “how can it be, that when evolution is creating wider and wider variation, they [cladists] favour a classification which must give lower and lower ranks [*Veronica* sect. *Hebe*] as evolution progresses?”.

Garnock-Jones et al. do say that their rationale is not just the balancing of the monophyly requirement against the need to minimize nomenclatural change. They observe that “not a single morphological character ... is diagnostic for the Southern Hemisphere clade”, so the “distinction between the *Hebe* clade and the *Veronica* grade is illusory, such that this is not simply an argument about acceptance or rejection of a recognizable paraphyletic group”. I would have thought that if clades can be identified on the basis of molecular work, then one is bound to try to recognize them, using chromosome data, or chemical taxonomy, or traditional features. The *Hebe* clade seems to me to be diagnosed to a high degree by its base n= 10/20 chromosome number, together with woodiness, and white or red flowers. Essentially what the above authors seem to be asserting is that small genera are, in some (subjective?) way, unsatisfactory.

Although we are not compelled to use the new names there certainly are advantages in having

widely-accepted ones in large groups. For those wanting to adhere to *Hebe* (and her sisters and cousins, including dear little novelty *Hebejeebie*), an improved notation might help dialogue between the two schools. Clades could be referred to by aggregating the generic names, e.g. clade *Hebe-Heliohebe*. Groups that are paraphyletic are now often referred to informally, that is, in double quotes, eg. “gymnosperms”, ”Veronica”, or they could be tagged as such, e.g. grade *Veronica,* or *Veronica* s.p. (though this might be confused with *Veronica* soup, that is, *Veronica* s.l.). In *Hebe*, informal names like “Flagriformes”, some of which are likely to represent paraphyletic taxa, may well continue to be used, because polyploidy and past reticulation-events may make resolution of the clades here an impossibility (Garnock-Jones et al. 2007; and cf. Hoerandl 2006).

Somewhere in their classic textbook Davis & Heywood (1963) wryly note the misconception that taxonomists spend all their time trying on new phylogenetic clothing rather than identifying and curating their collections, studying variation, and advising conservationists. To a remarkable extent, in forty years that scenario has come to pass. There's not much that can be done about it – the DNA-obsession needs to be fully worked out (cf. Stace 2005). But doing hard time among the cupboards, rearranging folders according to someone else's major retooling (as for 3500 new names “needed” to accommodate members of Cactaceae, since this family appears to be nested in *Talinum* of Portulacaceae), might be suitable punishment for those who would effectively destroy the connection between the names and the literature.

With respect to the last sentence, I should say that "slender-ankled" Hebe was not herself a vengeful goddess. But her mother Hera, Zeus's wife and the Goddess of Marriage, certainly was, and those who indulged in, or promoted, unnatural unions would soon be visited by worse than herbarium duty.

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A response from Phil Garnock-Jones will appear in the next issue.

Herbarium Report

- **Auckland Museum Herbarium (AK) report: 1 July 2006 to 30 June 2007**

The Museum’s new ‘Grand Atrium’ space opened on time in December 2006. It includes a large basement storage vault, lecture theatre, education rooms, display workshops, exhibition space, atrium, public access from south end, an underground car park and an events centre on the roof. Staff were relieved when the dust and noise ended. Apart from a new door from the Atrium space the herbarium area is unchanged.

Public Relations

During the year the herbarium staff answered over 700 enquiries, led 3 field trips, and gave 7 lectures. The highlights of the year were producing the TF Cheeseman Exhibition in the Tamaki Gallery (Nov-Mar), and being part of the joint organising committee of the successful Cheeseman Symposium (20-22 Nov 2006) attended by 175 people. Requests for large amounts of data were received from: Department of Conservation (DOC) (threatened plants of the Auckland Region), Wildland Consultants Ltd for DOC (Te Paki plants), Te Papa (NZ *Pseudopanax* & Pteridaceae), and Auckland Botanical Society (Rangitoto Island plants).

Caring for the collection

With no contract staff this year no special projects were carried out.

Fieldwork/Research

Fieldwork for Ewen Cameron included trips to Motu Kaikoura (4 days, Dec); Tiritiri Matangi Island (4 + 2 days, Dec, Mar), Oakura (3 days, Jan), Woodhill Forest (1 day, Jun), and the Chatham Islands (8 days, Jan) with the Auckland Botanical Society. Rhys Gardner re-visited Norfolk Island for a week in July. Herbarium staff and research associates published 18 articles – topics included native and naturalised vascular species, liverworts, phenology, *Piper* in the Philippine Islands, Cheeseman publication dates, small island floras, and a book review.

Acquisitions and donated specimens

Staff and research associate collecting numbers totalled: by Ewen Cameron (743), by Rhys Gardner (c.150) and by John Braggins (45). Specimens were also received from: Tricia Aspin, Jessica and Ross Beever, Steve Benham, Jonathan Boow, Phil Brown, Paul Champion, Pat Enright (66), Alan Esler, Graeme Jane, Peter de Lange (279), Lisa Forester (54), Jenny Lux (67), Tim Martin, Colin Ogle, Barbara Parris, Jeremy Rolfe, Matt Renner (190), Nick Singers, Bec Stanley, Mike Wilcox (215), George Wilson, Anthony Wright (184), Maureen Young (151) and Biosecurity Officers of Auckland, Northland and Bay of Plenty Regional Councils. Some 300 specimens were accessioned from Rangitoto Island as part of the Auckland Botanical Society's recent study of that island towards a new book – many of them were new records for the island.

Staff

Curator:	Ewen Cameron
Honorary Research Associates:	John Braggins, Rhys Gardner
Technician:	Mei Nee Lee

Volunteers

Chris Ashton, Pat Jenner, Wyne Johns, Meryl Wright all worked 0.5-1.0 day/week for another year; Joan Dow (Jun-Apr); and Jocelyn Day (Jun), Jan Butcher (Jun) and Brenda Osborne (May-) joined the team giving a total of 783 volunteer-hours for the year. It was with sadness that after 25 years of mounting specimens one morning/week Joan Dow felt in April that she could no longer continue. A conservative estimate would be that she mounted 20,000 specimens during that time. A morning tea was held to thank her, as well as the customary gift of a special herbarium sheet. Rhys Gardner, Peter de Lange, John Braggins, Jessica Beever and Wendy Nelson have again assisted with difficult identifications.

Visitors

There were 59 visiting researchers; 60 Auckland University Pacific Biogeography students mapped mistletoe distributions; and 103 members of the public, including seven special interest groups. Apart from staff, loans were also organised for Barbara Parris and Peter de Lange. Various members of the Auckland Botanical Society worked on collections from Rangitoto Island (1,916 specimens) as part of their project to document the island's flora: Mike Wilcox (vascular plants and algae), John Braggins (liverworts), Jessica Beever (mosses), and Dan Blanchon, Rick Kooperberg and Carol Lockett (lichens). Peter de Lange worked solidly for much of the year on a taxonomic revision of kanuka (*Kunzea*) towards his PhD. Of the 972 *Kunzea* specimens in the herbarium, Peter has collected 71% of them!

Statistics

New accessions:		(2005-06)
30 June 2006	299,776	
30 June 2007	297,131	
	2,645	(6,388)
Records on Vernon database:		
30 June 2006	208,939	
30 June 2007	206,230	
	2,709	(4,726)
Loans of specimens		
Inwards:	13[340 spec.] from 11 institutions	(16[1274] from 10)
Outwards:	50[713 spec.] to 17	(43[814] to 13)

Exchange specimens

Inwards	339 specimens from 6 institutions	(405 from 7)
Outwards	478 specimens to 6 institutions	(797 to 10)
Total number of specimens out on loan: 5,399 to 34 institutions		(5,876 to 38)

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

BIOGRAPHY/BIBLIOGRAPHY

- **Biographical Notes (67) : Edward Weston Andrews (1861–1915)**

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

E.W. Andrews was one of the 11 "recent workers" listed in T.F. Cheeseman's essay *A History of Botanical Discovery in New Zealand* which was published in 1906 as an introduction to his *Manual of the New Zealand Flora*. Cheeseman makes no other mention of Andrews, except for a few locality citations. Fortunately, however, Andrews wrote a paper in the *Transactions of the New Zealand Institute* and this has provided useful clues as to where further information about him might be found.

Andrews "was born in February, 1861, at the Manor House, Buckland, Hertfordshire, England, and was educated at the Hastings University School, where he remained 10 years; he subsequently took his B.A. degree, and returned to the institution as a resident master. In 1888 he resigned his position in order to come to New Zealand. For fourteen years he was English master at the Wanganui College [Collegiate School]" (1).

On 11 September 1893 Andrews' paper on pebbles and drifting sand was read before the Hawke's Bay Philosophical Institute. It contained examples from Wanganui and Wellington and was published in 1894 (2). At this same time he was collecting plants and sending specimens to the 84-year-old William Colenso in Napier, who cited the following:

Colenso, 1896 (3)

> *Ranunculus rufus* Ruahine mountain range, east side, Mr H. Hill 1894, Mr E.W. Andrews 1895
> *Gaultheria glandulosa* Ruahine mountain range, east side, Mr H. Hill 1894, Mr E.W. Andrews 1895
> *Pentachondra rubra* Ruahine mountain range, east side, Mr E.W. Andrews 1895
> *Myosotis venosa* Ruahine mountain range, east side, Mr E.W. Andrews 1895
> *Astelia minima* n.sp. Ruahine mountain range, east side, Mr H. Hill 1895 [sic], Mr E.W. Andrews 1895

Colenso, 1896 (4)

> *Lycopodium decurrens* sp. nov. Ruahine mountain range, east side, Mr E.W. Andrews, 1895

Colenso, 1897 (5)

> *Gleichenia ciliata* sp. nov. east side of Mount Ruapehu, Taupo District, 1895, Mr E.W. Andrews

Kirk (1899) in his unfinished *Students' Flora of New Zealand* did not note any of Colenso's citations, but gave the following:

p.65: *Claytonia australasica* Ruahine Range and Ruapehu, *H. Hill!, W.E. Andrew!* [sic]
p.141: *Tillaea trichotoma* Wanganui, *Andrew!* [sic]
p.179: *Epilobium macropus* Ruahine Range *W.E. Andrew!* [sic]
p.257: *Lagenophora petiolata* Ruahine Range, *Colenso*, *W.E. Andrew!* [sic]
p.297: *Gnaphalium lyallii* Ruahine Range *Andrew!* [sic]

With the exception of *Lagenophora petiolata* Kirk's citations are noted in Cheeseman's *Manual of the New Zealand Flora* (1906). Cheeseman also corrects the name "W.E. Andrew" to "E.W. Andrews", and adds the following from a family that Kirk did not live to describe.

p.810: *Carex pyrenaica* Ruahine Mountains *Colenso! E.W. Andrews!*

At the Museum of New Zealand, Wellington, Dr Barry Sneddon searched for the Andrews' specimens cited by Kirk, but could only find a sheet of *Tillaea trichotoma* (WELT SP 62989). He wrote that "this specimen is in a packet attached to its sheet. The writing on the packet (which as far as I can be sure is in T. Kirk's hand) states:" '*Tillaea trichotoma* Walp Rep. ii 251/Whanganui/natd [naturalised] T. Kirk [struck through and replaced by] E.W. Andrews Oct. 8 1895.'

From the Auckland Museum Mr Ewen Cameron wrote that "we hold no Andrews' specimens at all". Nor does the Museum hold any letters from Andrews to Cheeseman.

Most of Andrews' records come from the Ruahine Range with the earliest qualified as "east side". It is probable that he made these collections while on a journey to Napier, travelling from Wanganui to Palmerston North, then through the Manawatu Gorge, and then north past the eastern flanks of the Ruahines. To reach the centre of North Island (e.g. Mount Ruapehu) in 1895 Andrews would have gone by boat up the Wanganui River to Pipiriki and then by coach to Raetihi and Ohakune and then across to the Desert Road and north to the east of Ruapehu. The Main Trunk railway did not reach Ohakune from Wellington until 3 March, 1908 (10).

Fig. 3 Captain E.W. Andrews (from The Cyclopedia of New Zealand 6: 332 (1908).

In 1897 Andrews was captain of the Ruahine Association Football Team when it carried off the New Zealand Challenge Shield (1).

In 1902 Andrews was appointed First Assistant and Acting Head of Napier Boys High School (1, 6). In 1902 he became a member of the Hawke's Bay Philosophical Institute and was elected Curator for 1903 (7). But this position disappeared from 1904 and although he remained a member until his death, he held no further office in the Institute and gave no lectures. Nor does he seem to have pursued his botanical interests after going to Napier. On the other hand he was very busy as an officer in the School Cadet Corps, and as captain of the Old Boys' Cricket Club, a member of the Hawke's Bay Rugby Union, the Provincial Cricket Association, and Secretary of the Hawke's Bay Referees' Association. He was also a member of the Diocesan Synod and a Freemason (1).

A junior colleague was H.H. Allan who was appointed Senior House Master at Napier BHS in January, 1906 and "has taken considerable interest in athletics and was a member of the Auckland University first fifteen for 1905" (1). Allan moved on to Waitaki BHS at the end of the second term in 1907 (8).

E.W. Andrews died in Napier on 27 June, 1915 at age 54 and was buried at Taradale (9).

Acknowledgments
I am very grateful to Dr Barry Sneddon (Museum of New Zealand) and Mr Ewen Cameron (Auckland Museum) for their help in searching for specimens, and to Ms Tanja Webster (Landcare Research, Lincoln) for help with references. Thanks also to Mrs Wendy Weller for her typing.

References
(1) Cycl. N.Z. Taranaki, Hawke's Bay and Wellington Provincial Districts 6 (1908): 332, 341; (2) *Trans. N.Z. Inst. 26: 397* (1894); (3) W. Colenso 1896: *Trans. N.Z. Inst. 28*: 591–613; (4) W. Colenso 1896: *Trans. N.Z. Inst. 28*: 615–618; (5) W. Colenso 1897: *Trans. N.Z. Inst. 29*: 414–421; (6) J.M. Wallace 1992: Wanganui Collegiate School Register; (7) *Trans. NZ Inst. 35* (1902); (8) E.J. Godley, 1993: Harry Howard Barton Allan (1882–1957) The early years. *NZ Bot. Soc. Newsletter 32*: 9–11; (9) Death Certificate; (10) B.N. Davies & E.S. Dollimore 1966: Ohakune. *Encycl. NZ 2:* 708.

- **A tribute to David J. Galloway**

Volume 95 of *Bibliotheca Lichenologica* (May '07) was dedicated to David Galloway as a tribute to his major contributions to lichenology coinciding with his 65th birthday. The editors (Ingvar Kärnefelt & Arne Thell) record in the *Preface* that they wanted the volume to reflect David's interests and the 36 papers include seven on the history of lichenology and 29 on southern hemisphere and tropical lichenology. The first paper 'A bibliography of David Galloway' by Lars Arvidsson lists an impressive 319 of David's published works (1964-present) along with a summary of David's involvement with lichenology and includes five excellent photographs of him (1978-present). Most of the taxonomic papers cover various lichen genera and species. The ones that caught my eye included new taxa commemorating David (two new genera and 12 new species):

Anzia gallowayi Elix (Parmeliaceae), from New Zealand (Auckland, Hunua Ranges);
Bacidia gallowayi Coppins & Fryday from New Zealand (Campbell Island);
Calopaca gallowayi S.Kondr., Kärnefelt & Filson from coastal Australia;
Carbonea gallowayi Hertel from Chile;
Coccocarpia gallaicoi Lücking, Chaves & Umaña from Costa Rica (*etymology*: "the meaning of the name Galloway …'foreign Gael'…The Gaels are an ethno-linguistic group in Ireland, Scotland and the Isle of Man…");
Coenogonium davidii Kalb from Australia (Queensland);
Dactylospora davidii Hafellner & H.Mayrhofer from New Zealand (Banks Peninsula);
Davidgallowaya cornutispora Aptroot (Parmeliaceae) from Papua New Guinea;
Gallaicolichen pacificus Sérus. & Lücking from Australia (Queensland), Vanuatu, New Caledonia & Hawaii;
Haematomma gallowayi Brodo from Malaysia (Sabah);
Leptogium davidii M.Lindstr. from Ecuador;
Ramalina gallowayi Kashiw., T.H.Nash & K.H.Moon from Brazil;
Sphaerellothecium gallowayi Diederich from Australia and Papua New Guinea; and
Thelotrema gallowayanum Mangold, Elix & Lumbsch from Australia (Queensland & NSW).

These taxa are additional to the three lichen species previously named after him: ***Melaspilea gallowayi*** S.Kondr., 1995 from Australia and New Zealand (now *Plectocarpon gallowayi* (S.Kondr.) Ertz & Diederich); ***Rinodina gallowayi*** H.Mayrhofer 1983 from New Zealand; and ***Xanthoria gallowayi*** S.Kondr. & Kärnefelt, 1997 from Argentina, Peru and Uruguay (now *Xanthomendoza gallowayi* (S.Kondr. & Kaernefelt) Sochting, Kaernefelt & S.Kondr.).

The editors record that "This volume is testimony to his many colleagues' appreciation of his unusually extensive and magnificent contributions to lichenology." I suspect that this is only partly true and that it is at least equally because he is such a thoroughly nice and helpful person. A tribute like this from your peers doesn't come any higher. Well done David and with two genera and 15 species commemorating you from at least 14 countries your colleagues have assured that you will be remembered in perpetuity by lichenologists worldwide, not to mention your 319 publications. This is a very important year for David, because the greatly revised 2nd edition of his *Flora of New Zealand Lichens* (1985) is due to be published later this year.

Ewen K. Cameron, Auckland Museum, Private Bag 92018, Auckland.

PUBLICATIONS

- **New books**

Two new books are available at special prices for New Zealand Botanical Society members.

- *Natural history of Rangitoto Island*, published by the Auckland Botanical Society
- *Wild orchids of the lower North Island*, published by the Department of Conservation.

For further information on both of these books, please see the final pages of this issue.

- **Awards for Eagle's "*Complete Trees and Shrubs of New Zealand*"**

Audrey Eagle's work illustrating the trees and shrubs of New Zealand received further acknowldgement when the "Complete Trees and Shrubs of New Zealand" won the Montana New Zealand Book Awards Illustrative category and also the overall non-fiction prize, the Montana Medal for Non Fiction 2007.

The following exerpts are from the judges report (the complete report can be found on the Booksellers New Zealand website http://www.booksellers.co.nz/mba_main.htm).
"This monumental work is a magnificent tribute to her vision, her perseverance and to her consummate skill as a botanical artist."
"The product of Audrey Eagle's life's work is a book that will be treasured and utilized for generations. It is, in short, a triumph for all involved in its production."
"...the illustration of 'a complete flora in such meticulous detail is a formidable task that no one is ever likely to repeat'."

In addition, the designers of this book (Neil Pardington of Base Two – covers and Robyn Sivewright of Afineline – interiors) won three awards in the Spectrum Print Book Design Awards 2007; Best Book, Best cover and Best Illustrated Book. Covenor of judges, Derek Welch, said *'Decades will pass and Eagle's will stand on the shelf as a monumental achievement of scholarship, art and design.'*

Journals Received

New Zealand Native Orchid Group Journal No. 104 – August 2007; 32 pp.
Edited by Ian St George [ISSN 1177-4401]

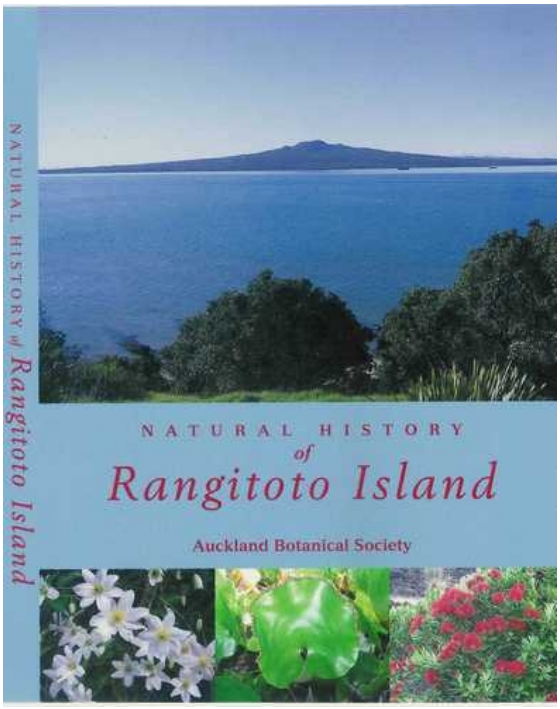
Rotorua Botanical Society Newsletter No. 48 – May 2007; 45 pp.

Botanical Society of Otago Newsletter No. 51 – June 2007; 32 pp.

*****NEW BOOK***NEW BOOK***NEW BOOK***NEW BOOK***NEW BOOK*****

Natural History of Rangitoto Island

ISBN 978-0-9583447-3-9



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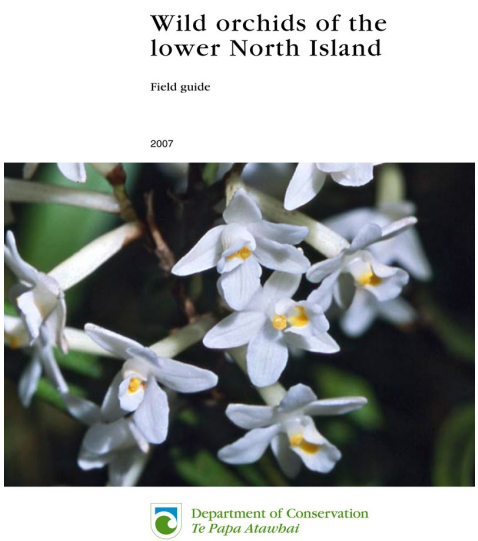

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