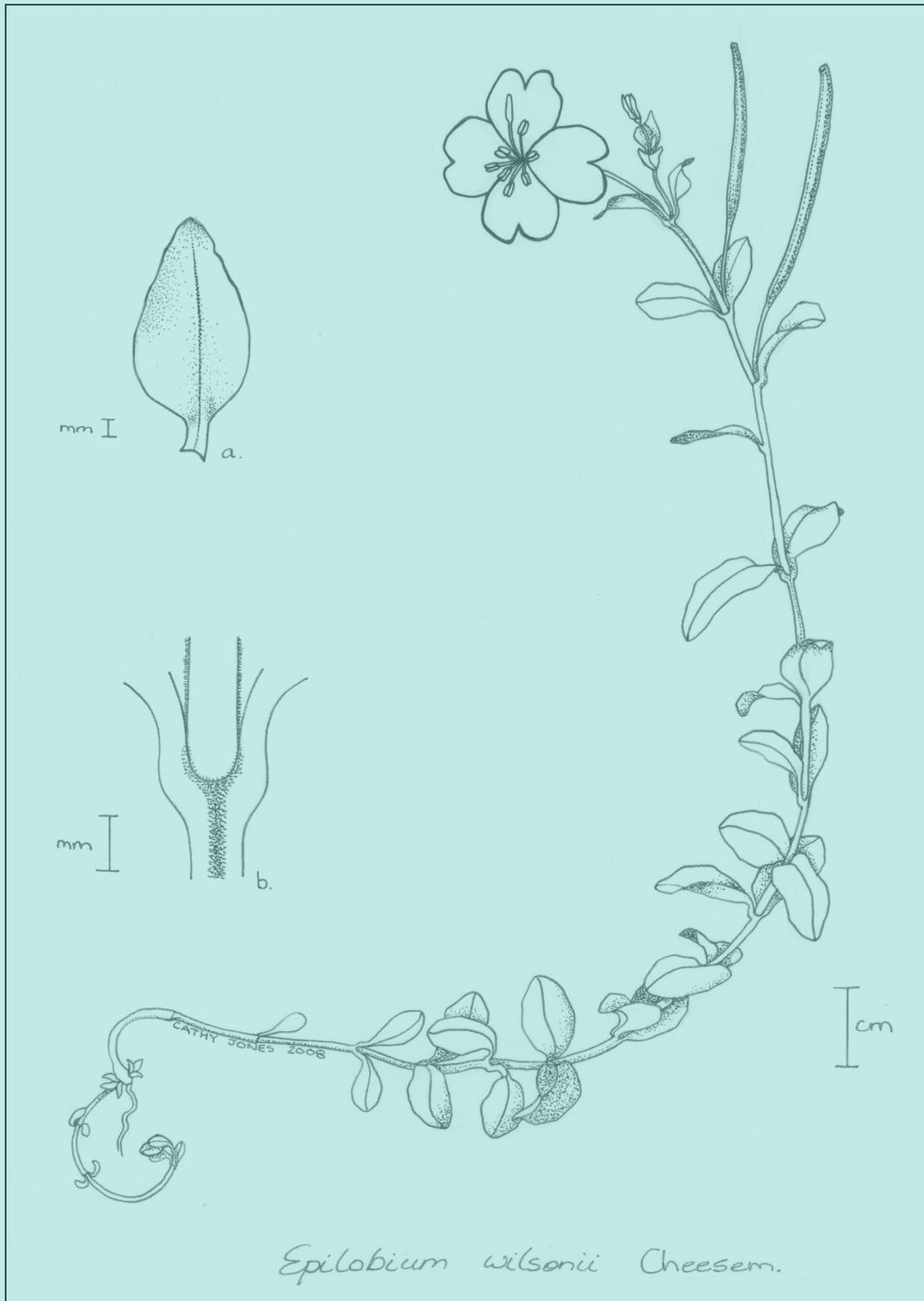


NEW ZEALAND BOTANICAL SOCIETY

NEWSLETTER

NUMBER 92

June 2008



Epilobium wilsonii Cheesem.

New Zealand Botanical Society

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

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Subscriptions

The 2008 ordinary and institutional subscriptions are \$25 (reduced to \$18 if paid by the due date on the subscription invoice). The 2008 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), \$5 each from Number 51 (March 1998) to Number 72 (June 2003), and \$7 each for Number 73 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 September 2008 issue is 25 August 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 (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

Epilobium wilsonii Cheesem., collected in Isolated Hill Scenic Reserve February 2008 and drawn by Cathy Jones. a.Mid-stem leaf b.Mid-stem axil

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CONTENTS

News

New Zealand Botanical Society News

Call for Nominations for Allan Mere Award 2008 2

Regional Botanical Society News

Auckland Botanical Society 2

Wellington Botanical Society 3

Nelson Botanical Society 6

Canterbury Botanical Society 12

Other Botanical Societies..... 13

Announcements

New Zealand Journal of Botany collection to give away..... 14

Notes and Reports

A name for *Juncus* aff. *caespiticus* in New Zealand..... 14

Biography/Bibliography

Biographical Notes (70) : John Stuart Yeates. The later years (1938–1986) 16

Publications by and reports of work by John Stuart Yeates 1900–1986) 19

NEWS

New Zealand Botanical Society News

■ Call for Nominations for Allan Mere Award 2008

Nominations meeting the following conditions are invited for the award of the Allan Mere for the year 2008.

Conditions of the Allan Mere Award

- The Award shall be made annually to a person or persons who have made outstanding contributions to botany in New Zealand, either in a professional or amateur capacity.
- The Award shall be administered by the New Zealand Botanical Society.
- Nominations for the Award may be made by regional Botanical Societies, or by individuals, to the Secretary of the New Zealand Botanical Society. Nominations shall close on 30th June each year. Nominations shall be signed by nominator and seconder, and accompanied by two copies of supporting information that must not exceed one A4 page.
- Selection of the successful nominee/nominees shall be made by the Committee of the New Zealand Botanical Society, normally within three months of the closing date for nominations.
- If, in the opinion of the Committee, no suitable nomination is received in any particular year, the Committee may refrain from making an award.
- The Mere shall be formally presented to the recipient on an appropriate occasion by the President of the New Zealand Botanical Society or his/her nominee, but otherwise shall remain in the custody of, and be displayed by, the Herbarium Keeper of the Allan Herbarium (CHR) at Landcare Research, Lincoln, together with the book recording awards.
- The recipient shall receive an appropriately inscribed certificate.

Nominations should be forwarded by 31 July 2008 (note date extension only for this year) to:

Ewen Cameron, Secretary, New Zealand Botanical Society, c/- Canterbury Museum, Rolleston Avenue, Christchurch 8013.

Regional Botanical Society News

■ Auckland Botanical Society

March Meeting & AGM

There was little change to the committee for the following year, with Mike Wilcox once again President. After the AGM Jonathan Boow spoke of his two trips to California as part of a weed eradication team. He demonstrated some of the diversity to be found in the geography and botany of that large state, and also a few of the animals. One can only be pleased that we don't have plants such as poison oak to avoid.

March Field Trip

This trip to Waiomu Kauri Grove, Coromandel Peninsula proved to be most worthwhile. The lower part of the track passes through secondary forest predominantly of towai, hinau and tawa, with much boulder-hopping required along the Waiomu Stream. The kauri grove itself is impressive enough for the number of fine, large kauri trees, but there were also many other plants of interest, including numerous huge northern rata, large examples of *Toronia toru*, abundant *Pseudopanax discolor* and *Phyllocladus toatoa*, and sightings of *Nestegis montana*, *Metrosideros albiflora* and *Pittosporum huttonianum*.

April Meeting

To round off the botanical year, reports were given from our two summer camps. Alison Wesley showed highlights from the Anniversary Weekend camp at Lake Okataina, and Ewen Cameron did the same for the camp at Kaikoura, held earlier in January. After the meeting a very happy occasion was celebrated, the 90th birthday of long-time member, Jack Rattenbury. Jack joined the ABS in the

early 1950s soon after his arrival here from Canada, held the positions of president, vice-president and committee member, and has always been an enthusiastic supporter. A photo was taken of Jack and the several members who had passed through his hands as students at Auckland University.

April Field Trip

An autumn day saw members descend steeply from the carpark to the beach at Anawhata, checking the vegetation as they went. That lovely shiny-leaved element of the northern coastal forest, tawapou, was common, and a few ripening fruit were seen. An interesting plant was the almost prostrate *Hebe* confined mostly to this area, *H. obtusata*. A few short racemes of mauve flowers were still present. Later it was seen appressed closely to rocky cliffs, able to withstand the winds and spray of the wild west. *Celmisia major* var. *major* grew plentifully in the same habitat, though well past flowering. As the tide was low the lovely zonation patterns of seaweeds could be observed, with common algae being bull kelp *Durvillaea antarctica*, *Pachymenia lusoria* and *Gigartina alveata*.

May Meeting

A minute's silence was observed in memory of Jack Rattenbury, who passed away so soon after our celebration of his 90th birthday. Bec Stanley gave an interesting talk on Auckland's mistletoes. This was followed by a viewing of an award winning documentary detailing the mystery of the disappearance of the now extinct *Trilepidea adamsii*. The evening left us pondering the role played by rats, possums, mosquitoes and bellbirds in the story of our mistletoes.

[**Note:** Ross Beaver is preparing an obituary for Jack, for the Auckland Botanical Society Journal, and would be grateful if members could send him reminiscences of times spent with him on field trips, camps, at the University, etc. BeeverR@landcareresearch.co.nz]

May Field Trip

Malcolm Fisher and Steve Cook led us downhill through pine/gumland scrub vegetation to Soldiers Bay, where the saltmarsh graded into an interesting wetland. The uphill track passed through Kauri Point Domain, a more forested area containing a few hard beech trees and a little kauri. A mossy mound circling the base of one kauri tree supported a skirt of robust *Grammitis rawlingsii* plants. Other kauri associates seen were *Leionema nudum*, *Corokia buddleioides*, *Gahnia pauciflora*, *Astelia trinervia*, and *Mida salicifolia*.

FORTHCOMING ACTIVITIES

4 June	The original recyclers: wood-decay fungi in forest ecosystems. Barbara Paulus
21 June	Ernest Morgan Reserve. Leaders, Geoff Davidson & Kristy Hall
2 July	Lichens in Auckland. Dan Blanchon
19 July	Maungaroa Lookout Track & Nikau Grove. Leader, Sandra Jones
6 August	Waikato wetland ecology. Karen Denyer
17 August	Puketutu Island, Kelliher Trust. Leader, Mike Wilcox
3 September	Mangrove ecology & management. Catherine Beard
20 September	Ayrlies Garden, Whitford. Leader, Mike Wilcox

Auckland Botanical Society, PO Box 26391, Epsom, Auckland 1344

President: Mike Wilcox

Secretary: Leslie Haines lhaines@unitec.ac.nz

■ **Wellington Botanical Society**

February 2008: Aotea/Great Barrier Island

A large group of 43 settled into Orama Christian Camp on day 1 ready to experience the intriguing plant communities and scenery on Aotea/Great Barrier Island. The site suggestions of Robyn Smith, good transport within the island and the plant lists produced by Graeme Jane and Rodney Lewington ensured that the eight days botanising was to be a most memorable experience for all. On the 2nd day we climbed the Phoneline Track and spotted *Lepidosperma laterale*, a plant new to some with its its laterally-flattened, sharp-tipped leaves. On an outcrop of igneous rock we saw the succulent herb *Peperomia urvilleana*, and the strongly-aromatic *Scandia rosifolia*, thriving in the absence of possums. Also of interest were the swarms of hybrid lawyer, *Rubus australis* × *R. cissoides*. Further on, the

identity of a trackside fern, *Blechnum fraseri*, was hotly debated by those to whom it was new, staunchly defending their doubts about it, on the basis that the sterile fronds did not differ enough from the fertile fronds. Later, on Karaka Bay Rd, many roadside plants of *Rhabdothamnus solandri* were seen in flower. The Phoneline Track's exposed spur with its scrubby vegetation and poor soil contrasted with the Old Lady Track [sic], a moist gully under coastal forest, descending to Port Fitzroy, where there was luxuriant nikau, kohekohe, puriri and our first sighting of the NZ endemic, mairehau, *Leionema* (= *Phebalium*) *nudum*.

On Day 3 we scaled the highest peak on Aotea. The maunga tapu of the Ngati Rehua iwi, Hirakimata, rises to 621 m in the centre of the island. At the start, in Windy Canyon, we were dwarfed by towering, vertical bluffs of andesite clothed with clinging rata. From there, Palmers Track crossed 2 km of mostly-indigenous scrubland, regenerating after early burning. Up ahead we could see where the virgin forest began, and before long we were in it, enjoying the community of typically northern species, reminding us of how far we were from Wellington; kauri, taraire, toru, manao, kawaka, tawari, *Coprosma macrocarpa*, *C. dodonaeifolia*, *Alseuosmia quercifolia* and a suite of *Dracophyllum* species. The climbing fern, mangemange, and *Cordyline pumilio*, dwarf cabbage tree, were new to many. In places, we climbed timber stairways and boardwalks constructed to protect the nesting sites of taiko, black petrel, which breed on only Aotea and Hauturu/Little Barrier Island. Near the summit we found the rare *Metrosideros parkinsonii*, the bronze-leaved *Pseudopanax discolor*, *Hebe macrocarpa* var. *latisejala*, and, to our surprise, *Metrosideros umbellata*, southern rata.

Trips on day 4 included Tramline track and Kaitoke hot springs. Ten of us took the Tramline track that traversed gumland, scrub, swamp edge and bush. Of note were horrible hakeas, flagelliformis-like *Baumea tenax* at 3 m, a large *Cordyline pumilio*, an 8-m *Halocarpus kirkii* with no appressed leaves, an epiphytic kanuka and *Brachyglottis repanda* with a leaf exceeding A4 size. Owana Falls were a straight drop onto sculpted rocks; very pretty. Later at the inviting Kaitoke hot springs, we met other BotSoc groups.

Day 5 included trips to Whangapoua estuary and the Burrill Route. The Burrill Route is an eight-hour trip in the Te Paparahi Block, at the north end of the island, from Mabey Rd, Whangapoua Estuary, to Tataweka Trig, 628 m. The "route", a track bulldozed in the early 1970s by copper prospectors, begins in kanuka forest, and then climbs to unburnt, mature, cutover forest where we saw a very large totara, big puriri and taraire. After about 1 km from the start the parent rock is greywacke, one of two occurrences on Aotea. Halfway to the summit, we re-entered burnt kanuka forest which although not farmed is still being damaged by wild cattle. Pig rooting is common along the entire route. Lunch was at Tataweka trig. We also found several *Raukaua edgerleyi*, and understorey species indicative of a wetter climate e.g. water fern, filmy ferns.

Day 6 included Coopers Castle, a three-hour walk along a ridge from the saddle where Aotea and Karaka Bay roads meet. After walking through regenerating scrub of manuka and kanuka, we entered mature forest of taraire and puriri. Nikau was common here and there were the ferns *Asplenium lamprophyllum*, rock fern/*Cheilanthes sieberi* ssp. *sieberi*, and soft tree fern/*Cyathea smithii*. Wharanui/*Peperomia urvilleana* occurred well inland from the coast, as a low epiphyte on tree trunks and rock faces, and *Brachyglottis kirkii* (var. *angustior*?) was a common shrub in the understorey. At higher elevations, needle-leaved neinei/*Dracophyllum latifolium*, gave the forest a prehistoric touch. Coopers Castle gave us a great view of Whangapoua Beach and swamp. Again the obvious damage to the islands flora and fauna from the large amount of fresh pig-rooting was of concern.

On day 7 one group climbed Witheys Track, the route of an old stream hauler before descending into Wairahi Stream and following the stream up to the Pack Track and over the ridge to the Tramline Track. The highlights of the trip included the dense stands of regenerating kauri near the top of the Pack Track. Other groups botanised Whangaparapara Trig and Mangati Bay.

Day 8 took in the Harataonga Walkway, a long, coastal trip, from Harataonga to near Okiwi, featuring great views and pa sites. It is also Aotea's other greywacke area with manuka/kanuka shrublands and regenerating, coastal forest.

The final day included botanising the Kaiaraara track. This begins near Port Fitzroy following Forest Road under a mature kanuka canopy, with regenerating kauri. Here we saw a large patch of *Deparia*

petersenii, *Lastreopsis microsora*, *Macherina sinclarii*, a large-leaved *Melicytus* and *Macropiper* species. A huge northern rata towered above the kanuka canopy but exotic wattle and pine species somewhat degraded the area. The Kaiaraara track then follows an attractive stream, with large boulders and famous for the 14m high kauri dam built in 1926. Notable species seen included *Sticherus cunninghamii* and *S. flabellatus*, a small patch of *Loxsoma cunninghamii*, a *Rumohra adiantiformis* on ponga, and some large *Lastreopsis hispida*. Tutu is abundant along the stream banks, but mature tree fuchsia rare. Single individuals of long-tailed cuckoo, silvereye, tui, kereru, greywarbler, fantail, kaka, kingfisher were seen or heard. A trip to the Awana Estuary was also an option taken by some.

During the trip Jill Goodwin collected samples of leaf litter from various spots and delivered them to Phil Parkinson at Te Papa. He identified about thirty species of snail, and noted several other minute species that are not yet identified. One snail of special interest to BotSoccers who remember Pauline Mayhill, was in the sample collected at Kaitoke hot springs. It is an undescribed *Flammocharopa* which has been informally named "*F mayhillorum*".

Monday 18 February: Evening meeting

Guest speaker, Bruce Moorman, Arboriculture, WCC, discussed the challenges faced in maintenance, preservation and protection of heritage trees in the urban environment.

23 February: The Druce Garden

Twelve took the annual opportunity to help with the maintenance of the nationally important garden established by Tony and Helen Druce, now protected by a QEII National Trust Open Space Covenant. Helen had a list of tasks for us that included weeding gorse, broom, tradescantia, selaginella, veld grass, Spanish heath, old man's beard, pine seedlings, montbretia, oxalis and dodder/*Cassytha paniculata* (a weedy, native, parasitic liane from the Far North) as well as clearing the track network, and pruning some fruit trees.

Saturday 1 March: Gracefield Scrub

Chris Hopkins led 10 of us into this regenerating bush next to the Wainuiomata Hill Road with a small swamp on the valley floor; perhaps indicative of Wainuiomata Valley before it was drained for farming. Within a thick sward of *Carex* groundcover is swamp buttercup *Ranunculus macropus*, status; gradual decline. Another plant uncommon here is *Olearia virgata*. Around the swamp narrow-leaved mahoe is abundant among the regenerating scrub with young cohorts of kahikatea, hinau, tawa and seedlings of rimu, miro and northern rata. Waterfall fern/*Blechnum colensoi* thrived on a site we thought too dry for it. On a ridge east of the swamp was a mature forest of black beech and hard beech that has escaped the past fire history of the area.

Monday 17 March: Evening meeting

Members shared slides, photographs, plant specimens, paintings, drawings and botanical readings.

Easter Trip: Western Ruahine Range

Another four fine days amid the drought allowed ten of us based at Sixtus lodge and led by Chris Horne and Barbara Mitcalfe, to take advantage of the excellent lists supplied by Graeme Jane. Day one was spent botanising the foothills near Makiekie creek and under tall red beech there were numerous *Alseuosmia pusilla* with their crimson 'jelly bean' fruit. Day 2 took in the steady climb of Shorts track to the Ngamoko range. Highlights included plentiful forest cabbage trees giving way to mountain cabbage trees higher up. There was a very large *Halocarpus biformis* (60cm d.b.h) and in the leatherwood belt, *Pittosporum rigidum* and *Euphrasia cuneata* in flower. Above the bushline, beside the large numbers of emergent stagheads of *Libocedrus bidwillii* we were shocked to see the extent of deer browse even on *Carex*, *Uncinia*, broad-leaved bush tussock, and bush rice grass. On the return trip, above the True Left of Coal Creek, we also saw an extensive area of kamahi and red beech dieback. On day 3 we botanised the Oroua River valley towards heritage Hut and on down a True Left tributary of the Oroua river. We made 45 additions to the plant list including narrow-leaved mahoe, black beech, *Clematis foetida*, and lace fern, *Leptolepia n-z*. The final day's highlight was creating a new list for the Makiekie Scenic Reserve, an impressive podocarp forest of large rimu and totara with obviously good pest control. We then finished the trip in the Pohangina scenic reserve, the understory of large totara and kahikatea suffering from severe desiccation in the latter stages of the drought.

Saturday 5 April 2008: Eastern Hutt River

The promised rain held off for thirteen of us to visit this forest gem within the city water catchment. Brilliant organisation by Owen Spearpoint meant that, with 4WD vehicles and privileged access we reached the botanically rich river terraces quickly.

The True Left bank supports podocarp/hardwood forest with mature matai the most common podocarp, and *Nestegis* spp. common in the canopy. A small pond and wetland contained *Potamogeton suboblongus* and *Eleocharis acuta*. Other plants of note were a 2-metre long *Huperzia varia*, *Raukaua edgerleyi* and a mature white maire. Numerous titoki saplings were testimony to the mild local climate and there was almost a complete absence of beech spp. The area showed signs of recovery from deer browse (even though we were briefly confronted by a startled stag), with palatable species such as karamu present in the understory. After lunch, we crossed the swingbridge to the True Right. Here red, silver and black beech were present. We saw mountain toatoa/*Phyllocladus alpinus* (uncommon) and other highlights were *Ourisia lactea* var. *drucei* and *Parahebe lanceolata* (uncommon). Several of the smaller shrub species were fruiting well, e.g. *Melicope simplex*, *Raukaua anomalus*, *Coprosma grandifolia*. *Alseuosmia pusilla* had up to ten fruit on some plants. By day's end we were still dry and had added twenty-three species to the plant list.

Monday 21 April: Evening meeting

Speakers Leon Perry and Lara Shepherd presented a fascinating account of their botanical observations while walking parts of the 1000km Bibbulmun Track between Perth and Albany, Western Australia last September.

FUTURE PLANNED EVENTS

Saturday 7 June: Field trip East Harbour Regional Park.

Saturday 14 June: Te Marua Bush workbee.

Monday 16 June: Evening meeting. Speaker Owen Spearpoint

Saturday 5 July: Field trip Ngaio reserves. Leader Chris Horne.

Monday 21 July: Evening meeting. Rodney Lewington

Saturday 2 August: Field trip Pauatahanui Inlet.

Monday 18 August: Evening meeting. Annual General Meeting and AP Druce Memorial Lecture: Speaker, Dr Peter de Lange F.L.S., Threatened Plants Scientist, DOC.

President: Bev Abbott (04) 475 8468 bevabbott@xtra.co.nz

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

■ Nelson Botanical Society

November Fieldtrip: Shedwood Bush, Tapawera, Sunday, November 18

Our group of 11 met at Tapawera on a perfect, cloudless morning and proceeded to the Shedwood Bush reserve. At the bush edge we found *Melicytus* aff. *alpinus* "Waipapa" growing in the company of several excellent specimens of rohutu (*Lophomyrtus obcordata*) and a large *Coprosma tayloriae*. A small clearing was fringed with bushes of *Fuchsia excorticata* x *F. perscandens* hybrids, with parents nearby. Along the lower fringe of the forest was quite a grove of narrow-leaved lacebark (*Hoheria angustifolia*). Underneath were, amongst others, *Melicytus micranthus* (shaped like Mrs (Homer) Simpson's head) and *Melicope simplex* (with its flattened leaf stalk and distinctive hinge between leaf and stalk). Flowering *Parsonia heterophylla* vines hung around in profusion. Amongst the ground cover of ferns like *Asplenium bulbiferum*, *A. gracillimum*, *Blechnum chambersii* and *B. fluviatile*, we found the lovely little *Australina pusilla* with its tiny white flowers. There were clumps of star lily (*Arthropodium candidum*) not yet in flower, and on the banks along the track: the native chick-weed (*Stellaria gracilenta*), Hooker's spleenwort (*Asplenium hookerianum*) and one specimen of fine-leaved parsley fern (*Botrychium biforme*). Several rocky gullies had clumps of *Dicksonia fibrosa* tree fern and there were patches of *Pterostylis graminea* orchids on the track edge. Further up the hill, we found *P. banksii*. At our lunchspot was a large hinau (*Elaeocarpus dentatus*) with very wide round leaves.

As we gained altitude there was an obvious change in the vegetation. Rangiora (*Brachyglottis repanda*) became more common, most plants flowering profusely. Silver ponga (*Cyathea dealbata*) was prominent on the dry ridges. Huge specimens of *Coprosma linariifolia* and *C. areolata* grew amongst red beech (*Nothofagus fusca*), black beech (*N. solandri*) and podocarps. At one point, we

discovered several clumps of green mistletoe (*Ileostylus micranthus*) growing on *Melicactus ramiflorus*. We finally arrived at the lookout for afternoon tea, with not a cloud in the sky, and enjoyed the fabulous views of western mountains before heading back to the cars.

December Camp: Cobb Valley

From mid-afternoon on Friday, 14 December, a contingent of 16 enthusiastic Bot Soccers converged on the two Cobb Dam houses that were to be our accommodation for the weekend. On arrival, we discovered growing against one of the houses, a huge, multi-trunked *Pittosporum dallii* at least 5m tall, just coming into flower. Unfortunately, we were about a week too early to enjoy what was going to be a real spectacle of creamy umbels. Before dinner, several of us wandered across the dam to explore the alpine garden area, while others went to look at plants around the old magnesite quarry north of the dam. The highlights were *Clematis forsteri* in full flower festooning the manuka on the roadside and the small population of *Pittosporum patulum* juveniles. A bit further on we were surprised to find an adult pitpat on the side of the road (unfortunately, with much of its crown eaten out by possums): it must be one of the few surviving adults in Kahurangi National Park. On the mineral belt rock, *Myosotis spathulata* was rediscovered in a recess of an outcrop of magnesite, where it had been for at least a decade, and the untidy ultramafic endemic to the Cobb, *Dracophyllum ophioliticum*, started appearing as we got close to the quarry.

Lake Peel. Saturday 15 December

Saturday morning dawned misty with low cloud. On the strength of a good forecast, we headed for Lake Peel. *Bulbinella hookeri* was well into flower throughout the Cobb Valley grassland. We reached the alpine zone by mid-morning, but not before being treated to flowering sprays of the NW Nelson *Libertia* aff *peregrinans* in forest light gaps and striking groves of *Dracophyllum traversii* higher up. Then, we were greeted with several alpine species in full flower including: a patch of pink *Stegostyla lyallii*; *Kelleria multiflora*; *Hebe canterburiensis*; and a magnificent show of *Aciphylla ferox* and *A. glaucescens* heads. On the ridge crest amongst mid-ribbed snow tussock (*Chionochloa pallens*), we encountered yet another speargrass – *Aciphylla anomala* – hiding in the tussocks, along with flowering *Hebe masoniae*. Along the track sidling on the south side of the ridge were all sorts of gems including flowering *Notothlaspi australe*, *Montia calycina*, *Leptinella* aff. *pyrethrifolia*, and a range of shrub daisies: *Olearia colensoi*, *O. nummulariifolia*, *Brachyglottis adamsii*, *B. bidwillii* and *Traversia baccharoides*. The small carrots were also well represented, including *Aciphylla polita*, *Anisotome aromatica*, *A. deltoidea* with its broadly triangular leaves, *A. pilifera*, *Gingidia decipiens* (smelling of aniseed) and *Oreomyrrhis colensoi*. During our lunch at Lake Peel, the clag came in, but afterward we managed to find a small population of the whipcord *Hebe ochracea*, *Astelia linearis* (in the flushes) with its delicate flowers and jellybean fruit, *Celmisia traversii* and a hybrid between this species and *C. monroi* before leaving the dense mist and returning to the Cobb Valley. The last notable species of the day must go to the early-flowering Cobb gentian, *Gentianella patula*. The Cobb population of this species has especially colourful purple-flushed flowers and strong purple petal veins. On the way back to the houses, the sky cleared and some of us diverted onto the dry lake bed at the head of the Cobb Reservoir where, because the lake levels were very low, large expanses of flats revealed literally millions of seedlings of the small succulent *Crassula sinclairii*.

Cobb Ridge. Sunday, 16 December

We woke Sunday morning to find that, despite yesterday afternoon's clear blue sky, the cloud was lower than yesterday morning, so we decided against heading up to Lake Sylvester. Instead, a small group explored the area around the dam and the rest headed up to the Cobb Ridge. Much of the day was spent in the epacrid heathland that clothes the ridge, and we found plenty of species of the Ericaceae, including: *Kunzea ericoides* and *Leptospermum scoparium*; swathes of photogenic *Epacris alpinus* in various stages of flowering; three species of *Dracophyllum* (*D. filifolium*, *D. rosmarinifolium* and the wiry *D. ophioliticum*) and confusing hybrids between *D. filifolium* and *D. ophioliticum*; *Androstoma empetrifolia*; *Leptecophylla juniperina*; *Leucopogon fraseri*; and *Pentachondra pumila*. In amongst the heaths, were three species of *Lycopodium* – *L. fastigiatum*, *L. scariosum* and *L. volubile* – and *Huperzia varia* and we saw good examples of *Pseudopanax "ternatus"*, *P. colensoi* and *Raukaua simplex*, the last often sporting a protective aluminium collar. The orchid *Stegostyla lyallii* was tucked at the bases of some of the shrubs. *Gaultheria antipoda*, *G. depressa* var. *novae-zelandiae* and *G. rupestris* were present and often in flower and there were hybrids between *Gaultheria antipoda* and *G. rupestris*. Yet another hybrid we encountered was between *Celmisia similis* and *C. spectabilis*. Further along the ridge, we passed through patches of

mountain and silver beech, and saw some species DOC is protecting: healthy, caged examples of *Peraxilla tetrapetala* and the odd specimen of *Pittosporum patulum*. Another pittosporum, *P. rigidum*, was tucked in beside an astelia and bore both flowers and seeds. One patch of heathland yielded the smallest gymnosperm in the world – *Lepidothamnus laxifolius* – and another had the heath-like *Ozothamnus vauvilliersi*. In between botanising we had lunch, being treated to brief glimpses of the reservoir when the cloud broke.

January Fieldtrip: Mt Robert. Sunday, 20 January

Eight of us set out to climb Mt Robert in Nelson Lakes National Park on an amazingly beautiful calm day. Apart from being distracted by a tall *Gastrodia cunninghamii* in full flower, and three species of papataniwha (*Lagenifera strangulata*, *L. pumila* and *L. pinnatifida*), we headed to the alpine zone. There, we found *Hebe hectorii* ssp. *coarctata* flowering stunningly. A few *Celmisia* flowerheads enabled us to distinguish the *C. incana* group (*C. discolor* in this instance), which had green stems from the *C. sinclairii* group (*C. durietzii* here) with dark stems. *Raoulia grandiflora*, *Montia calycina* and *Lobelia macrodon* were flowering prettily and some of the gentians, *Gentianella bellidifolia*, were just starting to bloom. We pushed on to a rocky outcrop beside the scree for lunch and were greeted with: *Leonohebe tumida*, *Leucogenes grandiceps* and the scree specialists, *Notothlaspi rosulatum*, *Epilobium pycnostachyum* and *Lignocarpa diversifolia*. After lunch, we made it to the ridge overlooking the former skifield and headed south along the top into new territory, which comprised more stable gravels and rocky areas. The first species to catch our eye was *Haastia sinclairii*, but this was rapidly followed by other excitements which kept the photographers busy: *Epilobium margaretiae*, *Notothlaspi australe*, *Chionohebe pulvinaris*, *Raoulia bryoides*, *Parahebe cheesemanii* and the two small woodrushes, *Luzula pumila* and *L. colensoi*. It was tempting to push on but, as it was getting late, we called it a day.

Anniversary Weekend Camp: Arthur's Pass

Otira Valley. Saturday, 2 February

With the tramping enthusiasts disappearing into the low cloud hanging over the ridges, the rest of us turned our attention to the plant life within 10 metres of the car park. These included a host of *Coprosma* species (*C. cheesemanii*, *C. fowerakeri*, *C. ciliata*, *C. crenulata*, *C. rugosa*, *C. serrulata*, *C. colensoi*, *C. perpusilla* and *C. depressa*) four species of *Olearia* (*O. colensoi*, *O. nummulariifolia*, *O. arborescens* and *O. avicenniifolia*), *Hebe canterburiensis*, *H. subalpina*, *Raukawa simplex* var. *simplex*, *Pseudopanax "ternatus"*, *Brachyglottis rotundifolia* var. *rotundifolia* and *B. bidwillii*, covered in small creamy white flowers. What we thought was *Brachyglottis bellidioides* was actually *B. "crassa"*, the latter having more oval upright leaves, which are always green underneath, and preferring wet tussock to dry sites as a habitat. The epacrids *Cyathodes dealbata*, *Pentachondra pumila* and *Androstoma empetrifolia* were growing side by side, which helped with identification. Podocarps included carpets of *Lepidothamnus laxifolius* (both bright green and glaucous forms), *Halocarpus biformis*, *H. bidwillii*, *Phyllocladus alpinus* and *Podocarpus nivalis*. *Coriaria angustissima* and *C. plumosa* were growing in close proximity. There were some fine specimens of *Aciphylla horrida*, *A. scott-thomsonii* and abundant *A. similis*. The orchid enthusiasts were pleased with nice flowering specimens of *Waireia stenopetala* and the mountain foxglove enthusiasts with *Ourisia simpsonii*, *O. macrophylla* ssp. *lactea* and *O. macrocarpa* ssp. *macrocarpa*. *Celmisia*s seen included *C. semicordata* var. *semicordata*, *C. verbascifolia*, *C. armstrongii*, *C. armstrongii* x *C. semicordata*, *C. spectabilis*, *C. sessiliflora*, *C. discolor* and, in boggy patches, *C. glandulosa* and *C. "gracilentia rhizomatous"*. The more open rocky habitats above the bridge supported quite a different flora. Here were found *Leonohebe ciliolata*, *Hebe macrantha* ssp. *macrantha*, one plant of the rare *H. macrocalyx* ssp. *macrocalyx*, *Parahebe decora*, *P. lyallii*, strikingly glaucous *Anisotome pilifera*, *Celmisia angustifolia*, *C. durietzii*, *C. walkerii*, *C. laricifolia*, and clumps of the beautiful *C. bellidioides* on rocks at the stream edge. *Dolichoglottis lyallii* and *D. scorzoneroideis* were still flowering, as well as abundant *Leucogenes grandiceps* trailing over the rocks. A new *Aciphylla* appeared well up the valley, identified as *A. crenulata*. Some interesting grasses were seen including *Poa colensoi*, *P. novae-zelandiae*, *P. buchananii*, *Hierochloe novae-zelandiae*, *H. cuprea*, *Lachnagrostis lyallii*, *Festuca matthewsii* and *Rytidosperma setifolium*. Mid-afternoon we were detained for some time by a most delightful close-up view of a pair of rock wrens, bobbing away in true rock wren fashion. Other members of the group found them at the same site a good half-hour later. The other highlight of the day was the alpine "garden" lining a stable watercourse that issued from the huge greywacke ramparts at the head of the Otira Valley. While all around it was rock-strewn and barren, this little oasis harboured a stunning display of *Ranunculus lyallii*, *Dolichoglottis scorzoneroideis*, *Anisotome*

pilifera, and *Leptinella pyrethrifolia* all in full flower amongst moss and stream rivulets. The most accomplished gardener could not have achieved such exquisite landscaping and spectacular floral show.

Mt Cheeseman. Sunday, 3 February

In fine sunny weather with only a few puffy white clouds, we wound our way up through beech forest and then open country with subalpine shrubs, tussocks and scree to the skifield carpark. We spent some time there, owing to the many interesting species: familiar *Hebe pinguifolia*, *Epilobium pycnostachyum*, *E. melanocaulon*, *E. alsinoides*, *E. microphyllum*, *Aciphylla aurea*, *A. monroi* alongside *E. rubromarginatum* and *A. scott-thompsonii* which were new to us northerners. We wandered slowly up the track finding *Leptinella pyrethrifolia* and *L. pectinata*, *Raoulia mammillaris*, *Leonohebe tetrasticha*, *Celmisia angustifolia* and a beautiful yellow *Craspedia*, *Psychrophila obtusa*, *Colobanthus apetalus* and *C. affinis* (with its purple-margined sepals), *Kellaria croizatii* and *Carex wakatipu*. In a snow bank, Shannel found *Coprosma niphophila* and the two small tussocks *Chionochloa oreophila* and *C. crassiuscula*. We managed to reach the ridge for lunch and then hunted for scree plants. We found few species compared to the diversity on Marlborough screes but those few were well worth finding: *Leptinella atrata*, *Haastia recurva*, *Poa buchananii* and, on rocks, *Colobanthus acicularis*. On a saddle were *Celmisia haastii*, *Lignocarpa carnosula*, *Hebe haastii* and *Gentianella divisa*, the latter being near its northern limit. Partway back to the cars, we found several new treasures: *Epilobium tasmanicum* (orange and lime-green), *Raoulia subulata* and *Gaultheria nubicola*. Then a group crossing a rather blocky scree found *Polystichum cystostegia*, *Ranunculus haastii*, *Stellaria roughii* and *Myrsine nummularia*. Driving down the mountainside, we spotted *Alepis flavida* in flower and closer inspection revealed *Peraxilla tetrapetala* closeby. We ended the day with a quick stop at Caves Stream to look at *Hebe cupressoides* planted in its natural habitat, and another stop by the Arthur's Pass police station to inspect more *Alepis flavida* in flower. The seed from which these plants grew was apparently put on to their mountain beech hosts by the wife of a police officer stationed there in the past.

Bealey River headwaters. Monday, 4 February

The third day dawned bleak, cold and showery, so some of the group decided to head back to Nelson around lunchtime while the rest of us donned our gear and headed for the Bealey River headwaters track which starts just before the pass proper. The walk to the bridge that spans the Bealey Gorge revealed mountain lancewood (*Pseudopanax linearis*), some plants instructively showing both juvenile and adult foliage. The *Astelia* cf. *nervosa* growing under the mountain beech forest had strong red striping on light green – quite different from what we are used to in Nelson. The track broke out onto a bog community comprising *Oreobolus pectinatus*, *Donatia novae-zelandiae* and *Pentachondra pumila* in bright red fruit. The wetland was studded with small statured *Gentianella bellidifolia* and fringed with bog pine (*Halocarpus bidwillii*) and flowering *Olearia nummulariifolia*. A pair of kea arrived and conveniently perched in a nearby mountain beech. After a brief walk through forest, we emerged onto the Bealey riverbed with its diverse flora. The most recent gravels were covered in *Raoulia tenuicaulis* and *Epilobium brunnescens*; *Coriaria sarmentosa* and *Gingidia montana* provided leafy cover on the more stable surfaces. On the toeslopes, and obviously subjected to avalanches, was a tight phalanx of *Coprosma ciliata*, *Aristotelia fruticosa*, *Hebe subalpina*, *Ozothamnus vauvilliersii*, the ubiquitous *Dracophyllum rosmarinifolium*, and various tree daisies. Further upstream, some of us climbed a rockfall to a good vantage point, while others checked out the river where it issued from the snow. *Epilobium glabellum* was making a showy display of bright red foliage and pink flowers and the bluff walls were lined in places with dainty *Ourisia caespitosa* with its large snow-white flowers. Samples of 12 species of small-leaved coprosmas provided some lively after dinner debate, especially on *C. colensoi*, *C. tayloriae* and *C. cheesemani*.

Porter Pass and Lake Lyndon. Tuesday, 5 February

With another cloudy day dawning we opted for a small peak on the west side of Porter Pass. Our first surprise was a small population of the nationally threatened *Senecio dunedinensis*. It was obviously able to survive the depredations of the local rabbits/hares thanks to the dense cover provided by broad-leaved snow tussock (*Chionochloa flavescens*) and *Dracophyllum acaesum*. It was great finding coral broom (*Carmichaelia crassicaulis*) as, being such a rare plant in Marlborough, it is one that we hardly get to see. Other interesting finds were *Vittadinia australis*, the scree bidibid (*Acaena glabra*), *Craspedia incana*, *Brachyglottis bellidioides*, *Senecio "basinudis"*, and *Scleranthus uniflorus*. Upon reaching the crest of the slope, we were treated to a dramatic display of aerial combat between

two falcons, one of which briefly landed on a fence post right next to us, presumably to check out yet another bunch of interlopers into its territory. At Lake Lyndon, our lunch spot, the day transformed to be calm and sunny. The lake level was way down, exposing a rather boring looking greenish hue on the lakebed. We spent hours on hands and knees examining some of our smallest flowering plants, all of which were in full flower, and some of which do not get into the northern South Island. On the driest part of the lakebed was an unnamed semi-fleshy mat galium (*Galium* "lacustrine") covered in bronze globose fruit. On the moister mud, the electric blue flowers of *Parahebe canescens* contrasted with its hairy grey leaves. Growing with it was *Leptinella maniototo* (silky grey pinnae), and the rare lake margin annual, *Pseudognaphalium "compactum"* (woolly leaves and prostrate flowering stems). *Crassula sinclairii*, covered much of the wettest area and studded with the scallop-leaved *Epilobium angustum* and a new plant to us – *Montia angustifolia* with its linear fleshy leaves and relatively large white flower. The real surprise of the day was the discovery of a dense turf of flowering *Ranunculus limosella*. Its narrow, two-toned pink petals bear no resemblance to any of our other buttercups. This lakebed turf community is a real treasure but appears to be totally undervalued, as was evidenced by the many vehicle ruts. That vehicles can even get access to this protected area is also a case in point.

February Field Trip: Ben Nevis. 15 February

Ten Nelson BotSoc members left the Ben Nevis 'carpark' in the pines, to blue sky and a cool strong wind, our companions for the rest of the day. The subalpine and alpine zones were our objectives, so we stopped only for a *Chiloglottis cornuta* in flower, *Hebe vernicosa* and various small-leaved coprosmas: *Coprosma pseudocuneata*, *C. propinqua*, *C. tayloriae* (showing confusing variations in form), *C. rigida* and *C. pseudociliata*. After morning tea at the first major break in the beech, beside *Hebe canterburiensis*, we headed back into the bush, for the last big push to the subalpines, being only briefly distracted by *Uncinia rupestris* and the orchids *Adenochilus gracilis*, *Nematoceras triloba* and *Prasophyllum colensoi*. We reached the bushline and were soon upon the pinkish *Hebe gibbsii*, with its distinctive hairy-margined leaves and one plant still bearing flowers. *Gentianella corymbifera* was looking regal, most plants being in bud or in flower. Not long after, members tucked themselves behind rocks, in the nearby bush edge to eat lunch, all relatively near a *Pittosporum anomalum*. Then we fanned out from the open ridge, braving the now cold wind, seeing *Coprosma fowerakeri*, *Gaultheria crassa*, *Celmisia hieracifolia*, *C. spectabilis* (bigger here than in Marlborough), *Hebe decumbens*, *H. carnosula*, *Helichrysum parvifolium* and *Aciphylla ferox*, which were in seed having flowered prolifically. Further up the ridge, we started seeing clusters of an edelweiss that also grows in the North Island, *Leucogenes leontopodium*, and the odd *Raoulia bryoides* tucked in amongst rocks. Among the tussock, there were also plants of *Pimelea pseudolyalii*, *Brachyglottis bellidioides*, and the extremely variable *Ranunculus verticillatus*. In rock and scree habitats, we found *Notothlaspi australe*, *Epilobium pycnostachyum*, *Parahebe cheesemanii* and *Haastia sinclairii*.

March Field Trip: Moa Park. Sunday, 16 March

A fine morning saw eight of us meet at the Harwood's Hole car park ready to walk to Moa Park. The first part of the walk along a grassy farm-side track provided plenty of botanical interest in the way of ferns (*Blechnum discolor*, *B. novae-zelandiae*, *B. procerum* and *Histiopteris incisa*), three species of *Lycopodium* (*L. fastigiatum*, *L. volubile* and *L. scariosum*) and pokaka (*Elaeocarpus hookerianus*) in its contrasting adult and juvenile forms. Crossing the Wainui Saddle, we entered bush and encountered *Quintinia serrata*, *Olearia lacunosa* and *O. ilicifolia*, three species of *Gaultheria* (*G. antipoda*, *G. depressa* and *G. macrostigma*), *Raukaua edgerleyi* (occasioning much debate as this was less often seen by most of us), *Raukaua simplex* (adult and juvenile forms), and *Libocedrus bidwillii* with its accompanying lace-like *Hymenophyllum malingii* on old or dead trees. Lunch by the Moa Park shelter found us seeking shade under stunted vegetation, the tallest being bog pine (*Halocarpus bidwillii*) and manuka (*Leptospermum scoparium*). Following lunch, a 20-minute walk past flowering gentians to a rocky outcrop overlooking Moa Park. We retraced our steps to Moa Park and did some final botanising, finding *Hebe hectorii* ssp. *coarctata* and *H. odora*; *Androstoma empetrifolia* and *Epacris alpina*; *Drosera* spp.; *Celmisia incana* agg and *C. traversii*. Returning through the beech forest, we enjoyed once again the *Dracophyllum traversii* and cedars.

Easter Camp: Seddonville Holiday Park & Denniston area Denniston Plateau. Friday, 21 March

We were a select group of 8 with plans to visit various locations, governed by the weather. Friday dawned clear and sunny and we set off for the Denniston settlement. We investigated the incline and

the historic remains, read the information boards and marvelled that so many had lived there, almost cut off from the world. After finding an enormous *Tmesipteris*, we headed for the reservoir, and came upon *Epacris alpina*, *Pittosporum rigidum*, *Celmisia dubia* and *Pimelea gnidia*. *Euphrasia disperma*, with its attractive yellow splotches, was flowering profusely, and there were tight cushions of *Donatia novae-zelandiae*. We paused for lunch by the dam, among *Pseudopanax linearis* with its upward pointing leaves. By the old hospital was a patch of bush, a lush, green oasis looking quite out of place. We found what we thought was *Archeria traversii*, *Raukaua simplex*, *Phyllocladus alpinus*, *Elaeocarpus dentatus* and *Libocedrus bidwillii*. We had also passed a number of the scrambling podocarps, crosses between yellow-silver pine and pygmy pine. Then we headed to Coalbrookdale. There were two male tomtits and an even bigger thrill was the elusive fernbird. Along this track was the first *Coprosma microcarpa*, *Olearia arborescens*, and everywhere *Lobelia angulata*.

Charming Creek Walkway: Saturday, 22 March

Armed with species lists, we started at the Ngakawau end of the walkway, beside the Stockton Mine, which was working. This walkway follows an old railway line up to a spectacular gorge ending in an abandoned coalmine, sawmill sites and numerous relics. The forest here is beech/podocarp/broadleaved species. The most notable plant was the north Westland endemic *Celmisia morgani* growing on banks beside the track. Not many celmisias grow naturally so close to sea level. *Metrosideros fulgens* were displaying their colourful stamens and we saw many coprosmas, heavy with fruit – blue berries on *Coprosma propinqua* and red, white and pink on *Coprosma tayloriae*. Most of these were growing in the vicinity of Watsons Mill. We also identified *Lycopodiella cernua*, *Tmesipteris elongata* and *Huperzia varia*.

Chasm Creek Walkway. Sunday morning, 23 March

Along the beginning of the Chasm Creek track, we found *Olearia cheesemani* and *Coprosma tenuicaulis* at regular intervals (perhaps planted?). These, like the *Coprosma grandiflora* and *Schefflera digitata*, were laden with berries, and there was much *Coprosma x cunninghamii*. *Aristotelia serrata* and *Meliclytus ramiflorus* formed the foreground to glimpses of kowhai, rimu, and *Metrosideros fulgens* in flower. Damper parts of the track on the approach to a short tunnel supported more ferns (*Blechnum chambersii* and *B. novae-zelandiae*, *Asplenium bulbiferum* and *A. flaccidum*, *Pneumatopteris pennigera*, *Adiantum cunninghamii* and *Hymenophyllum* spp.) and *Fuchsia excorticata*, with *Drosera spatulata* glistening on the wet banks. Advertised glow-worms were not on duty in the tunnel, but at each end of the tunnel *Nematoceras* spp. were growing on wet walls. An exploration of a small patch of dense bush showed us kahikatea, kamahi, *Streblus heterophyllus*, *Quintinia serrata* and supplejack which, in league with blackberry, eventually put a stop to our wanderings. Returning to the track we found *Lycopodium scariosum*, *Lycopodiella cernua* and *Huperzia varia* creeping, looping and hanging above us on the track side. Further along the way, *Rubus cissoides*, *R. schmidelioides*, *Muehlenbeckia australis* and *Earina mucronata* trailed and scrambled over a rogue apple tree.

Mount Glasgow Track. Sunday afternoon, 23 March

Four of us set off in continuing drizzle for the route towards the Glasgow Range. An *Olearia aviceniifolia* in full bloom was our first find, and then we climbed steeply through red beech forest, which had a dense understorey of many *Coprosma* species, pokaka and many ferns. Especially striking were the lush looking kidney ferns (*Cardiomanes reniforme*) and *Hymenophyllum* species. Our route to Mount Glasgow definitely deserves a further attempt in drier times.

Charming Creek Walkway (North). Sunday afternoon, 23 March

Once the rain stopped, three of us went onto the Charming Creek Walkway from the Seddonville end. The main features here were again the coprosma berries as well as *Neomyrtus pedunculata*, which were bearing sometimes red berries and sometimes orange. Most of the vegetation along this section of the walkway was *Kunzea ericoides* regenerating forest. We also came across a very curious fern bird and a really tame robin.

Mokihinui Gorge and German Terrace. Monday, 24 March

After a slightly later start, we headed up the road beside the Mokihinui river for about 3 kms. A short walk brought us to the turquoise-green river. Steep, 300-metre sides are covered with luxuriant forest and outstanding in this were huge *Metrosideros umbellata*, ancient rimu, *Metrosideros fulgens* in full flower. The last provided dramatic bright red splashes, as did red fruit of kahikatea. Dominant forest

species included *Weinmannia racemosa*, *Myrsine salicina*, *Quintinia serrata*, *Aristolelia serrata*, *Nothofagus menziesii* and *N. fusca*. Closer to hand there were the exquisite white flowers of *Metrosideros perforata*, mauve flowers of *Parahebe*, huge old *Cyathea medullaris*. Lush *Blechnum novae-zelandiae* lined the track, flowering *Earina autumnalis* hung from logs but the most photographed item on the walk was a large and beautiful nursery spider, *Dolomedes minor*, sitting outside its woven crèche. The mystery plant on this walk was a hebe with lateral inflorescence, a sample was collected: *H. leiophylla* (= *H. gracillima*) is the most likely possibility. After a picnic lunch, some of the group left for home while the rest went to look at the pakihū bog known as 'German Terrace', which occupies several hectares on a raised plain outside Westport. A short clamber up a stony streambed brought us abruptly out onto the extensive wetland. The bog supports many ground-hugging species such as *Drosera spatulata*, *Nertera depressa* and a small *Leptospermum*. Most widespread was a small fern, possibly *Gleichenia dicarpa*, and a small rush both growing vigorously over any disturbed area.

April Field trip: King Covenant, Glenduan, Sunday 20 April

As we left the cars, we discovered two things: (1) that there are hardly any tracks in this varied podocarp/broadleaved species forest and (2) giant puffballs as big as a human head. Later on, up the hill, we found 3 giant white *Amanitas*. Before we went through the gate to the forest, we noted *Lophomyrtus obcordata* with many ripe dark red berries. About halfway up the hill to the kohekohe trees, we found some leaves which turned out to be from *Beilschmiedia tawa*. Then, the object of our trip, *Dysoxylum spectabile*, kohekohe showed up, first as a large grove of seedlings and young trees. The large old trees bear flower panicles right on the trunks, but we were 2 or 3 weeks to see the blooms. Fruit capsules were still on the trunks and large branches. Amazingly, there seems to be no pest damage; only pig diggings hindered our progress at times. There is quite a bit of evidence to show that very invasive weeds could become a problem. The *Rhopalostylis sapida* (nikau) trees are looking very healthy, with many tiny seedlings growing up through the forest floor. A few of the plants added to a previous species list were: *Collospermum hastatum*, *Hypolepis rufobarbata*, *Solanum laciniatum*. Other species for the list were *Carex forsteri*, *Anarthropteris lanceolata*, *Haloragis erecta* and *Stellaria parviflora*.

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■ **Canterbury Botanical Society**

March field trip – Lake Lyndon

We began the day at Dry Creek which flows from the NW corner of the Torlesse Range. Evidence of recent flooding belied the dry nature of the lower reaches which were dominated by matagouri with *Hebe odora*, *Dracophyllum acerosum*, *Carmichaelia australis*, *Aristolelia fruticosa*, and cassinia. On the raw shingle *Epilobium melanocaulon* dominated, but as soil levels increased raoulias (4 species), *Muehlenbeckia axillaris*, *Acaena inermis*, the stick-like *Helichrysum depressum*, and a number of colourful adventives included basil thyme, *Acinos arvensis* became prominent. Higher up within the gorge ledges and vertical crevices held bushes of *Helichrysum intermedium*, *Olearia avicenniifolia* and snowgrasses. Four ferns were recorded, as well as *Lachnagrostis lyallii* and a number of small herb species. Dripping, mossy banks were overhung by huge tussocks of the bog rush *Schoenus pauciflorus*.

The northern end of Lake Lyndon is an ephemeral wetland. The lake level is extremely low with the upper mud flats, once flooded at least annually, now shimmering stands of scentless mayweed (*Tripleurospermum inodorum*). On the moist mudflat nearer the lake there was an intricate tapestry of tiny flowering plants mostly with brown-grey foliage - *Epilobium komarovianum*, *Crassula sinclairii*, threadlike with minute pink flowers, *Neopaxia lineariifolia*, *Leptinella maniototo*, *Limosella lineata* and *Lilaeopsis novae-zelandiae*. A band of the pale blue flowered *Parahebe canescens* occupied drier ground.
Bryony Macmillan

April Meeting

Nick Ledgard gave us a very practical, well illustrated talk about establishing native plants on ex pasture land. Using potted plants for re-vegetation results in high losses; by following the farmer's methods of spraying, cultivating and then seeding the ground a better strike has been obtained in trial

plots in Banks Peninsula and North Canterbury. These practices are still in the experimental stage. It will be interesting to have a follow-up talk in a few years to hear the final conclusions. Marg Geerkens

April Field Trip: Boggy Creek Reserve and Te Waihora (Lake Ellesmere)

Owned by Fish and Game, Boggy Creek Reserve is a narrow freshwater swamp on the western edge of Te Waihora where three artificial ponds have been established to attract waterfowl. Two new finds for Te Waihora were squared-stemmed sedge, *Lepidosperma australe*, and slender spike sedge (*Eleocharis gracilis*), with its red scaly bracts along the rhizome. A patch of the invasive exotic Oval sedge *Carex ovalis* was an unwelcome find, only the second known around the Lake. The threatened species *Urtica linearifolia* (swamp nettle) was discovered scrambling up through oioi, *Apodisma similis*, and marsh ribbonwood, *Plagiantus divaricata* by the Lake edge. Resorting to books we sorted out giant rush *Juncus pallidus*, *Juncus caespiticius* and *Juncus edgariae*. *Microtis unifolia* was pleasantly common. A sample of a 1.5 metre patch of bamboo-like grass (perhaps the invasive reed canary grass *Phalaris arundinacea*) was taken away for identification. Alice Shanks

May Meeting

Jerry Cooper talk was titled "A web of Fungi". After completing his PhD in Physics in his native England he became a self confessed Lab Rat in charge of a rather large laser blowing things up. To get out of the lab he took up "Fungi", exploring forests in the UK. Now based at Landcare Research, constructing databases for the Landcare website, he has begun exploring the NZ countryside. He showed a great set of slides from microscopic fungi found in foam from ponds right through to jelly fungus and your typical basidiomycetes and ascomycetes type fungi. Ryan Young

FUTURE EVENTS:

July 4 th	When good plants turn bad' – Prof. Phil Hulme
July 5 th	Insectivorous plants – Christchurch Botanic Gardens
August 1	Dave Norton - topic to be advised
August 2	Field trip to Landcare Gardens – Lincoln
September 5	Anthony Wright – Three Kings Islands
September 6	Field trip to Lyttelton Reserve areas
October 3	Rolland Dale - Exploring Fiordland
October 4	Field trip to Banks Peninsula Conservation Trust area – Kate Whyte

Summer Camp: Totaranui. Gibbs Homestead, 9-16 January, 2009. Bunk accommodation, electricity, etc on the rise about 0.5km from the main camping area of Totaranui Cost about \$20-\$25 per night, no cell phone coverage. Bookings will be accepted from June 7 (*booking for the DoC campground starts July 1st and usually it is fully booked before July 31 – no electricity*). No camping at the Homestead.

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ANNOUNCEMENTS

■ **NZ Journal Botany Collection to Give Away**

My New Zealand Journal of Botany is available for another user. The set is near-complete between the years 1972 and 2002. Some copies are annotated. These are available for the courier cost.

Please contact Fred Overmars, 189 Kennedy's Bush Rd, Christchurch 8025, New Zealand. Phone +64 3 322 8267, Email Fred.overmars@ihug.co.nz.

NOTES AND REPORTS

■ **A name for *Juncus aff. caespiticius* in New Zealand**

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

The first New Zealand record for *Juncus aff. caespiticius* was when Wright (1988) recorded and Mackinder (1988) illustrated *Juncus dregeanus* from near Whatipu by the northern heads of the Manukau Harbour based on the following collections: *J. Mackinder*, 2 Dec 1984 (AK 177800); and *A.E. Wright 7952*, 3 Feb 1988 (AK 178633-34). Cameron (1990) pointed out that these collections were not *J. dregeanus*, but an unknown species in New Zealand, closely aligned to *J. caespiticius* and *J. dregeanus*, and that it was possibly a relatively recent introduction which at that time was only known from two other Auckland west coast localities (Te Henga and Woodhill Forest). Several more collections of this unknown taxon, *J. aff. caespiticius*, were made and duplicates sent to Karen Wilson and Lawrence Johnson in Sydney (NSW herbarium) who concluded that nothing matched it in Australia and that it was most likely an African species (Cameron 1990).

Based on the Whatipu collection (*E.K. Cameron 6336*, 17 Dec 1990, AKU 22567, now AK 278656, duplicates to CHR, NSW, NZFRI, WELT), Kirschner et al. (2002) included New Zealand in their distribution of the South African endemic *Juncus sonderianus* Buchenau. In November 2007, Karen Wilson visited AK herbarium and confirmed the identifications of several other collections *J. sonderianus*, labelled at that time as *J. aff. caespiticius*. See Table 1 for a list of records for *J. sonderianus* in New Zealand. Note – the earliest New Zealand collection identified so far is November 1970 collected by Alan Esler from Pouto (AK 217090), and the species occurs along the northern North Island's west coast from Te Paki Stream (34° 32' S) south to Kawhia at Lake Parangī (38° 2' S). The only east coast collection identified so far is from Whangaparaoa (AK 292934). This

distribution is based on the specimens in AK herbarium - when specimens in other herbaria are examined additional records will most likely be found.

The habitat is predominantly wet coastal sand flats where it can be very common; or stream, lake or wetland margins not far from the coast. One collection is on peat. In many of these habitats it appears to have replaced the indigenous *J. caespiticus*.

The longer styles and sepals help to distinguish *Juncus sonderianus* from the two similar species (*J. caespiticus* and *J. dregeanus*) (see Table 2) which are in the same section of *Juncus* (sect. *Graminifolii*). For an illustration see Mackinder (1988: cover, labelled *J. dregeanus*). The leafy, tufted plants are usually pinkish near the base. Interestingly, Kirschner et al. (2002) note that the relatively high variability, occasional sterility and the intermediate characters support an earlier theory that *J. sonderianus* may be of hybrid origin, of *J. dregeanus* and *J. lomatophyllus* parentage, and that further field study is required. A few New Zealand specimens are still problematic to assign as *Juncus sonderianus* or *J. caespiticus*, especially the collections from Awhitu (SW Auckland).

I suspect humans have been involved in at least some part of its dispersal from South Africa to New Zealand and I am therefore treating it as a naturalised species. To date New Zealand is the only locality known outside its indigenous distribution in South Africa (Kirschner et al. 2002).

Acknowledgements

Karen Wilson (NSW) for identifying the mystery rush, and Frances Duff for comments on a draft of this article.

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Table 1. A list of *Juncus sonderianus* for New Zealand (based on specimens in AK herbarium)

Te Pahi Ecological District

Te Pahi Stream, *E.K. Cameron* 11588, 16 Mar 2003, AK 283165

Kaipara Ecological District

Maitahi, Dargaville, *P.J. de Lange* 4208 & *L.J. Forester*, 21 Jan 2000, AK 251998

Pouto, *A.E. Esler*, 20 Nov 1970, AK 217090

By Maitahi Scientific Reserve, *L.J. Forester*, 1 Mar 2007, AK 298851

Lake Whakaneke, Pouto, *L.J. Forester*, 16 Nov 2000, AK 252373

By Round Hill, Pouto, *E.K. Cameron* 10517, 27 Jan 2001, AK 252738

Waionui Inlet, *E.K. Cameron* 7434, 4 Jan 1994, AK 218577

Lake Ototoa, Woodhill Forest, *E.K. Cameron* 2792, 31 Jan 1984, AK 272477

Okahukura Peninsula, *M.E. Young*, 11 Dec 1993, AK 218771

Okahukura Peninsula, *E.K. Cameron* 8196, 19 Aug 1995, AK 223771

Rodney Ecological District

Whangaparaoa, near Navy Camp, *M.D. Wilcox*, 7 Sep 2005, AK 292934

Waitakere ecological District

Te Henga, *E.K. Cameron* 5394, 6 Apr 1989, AK 277745

Karekare, *E.K. Cameron* 6340, 27 Dec 1990, AK 278658

Near Whatipu, *E.K. Cameron*, 9 Aug 1980, AK 270575

Whatipu Stream, *R.O. Gardner* 3049, 2 Apr 1981, AK 153600

Whatipu Stream, *J. Mackinder*, 2 Dec 1984, AK 177800

Whatipu Stream, *A.E. Wright* 7952, 3 Feb 1988, AK 178633-34

Pararaha Point, *E.K. Cameron* 5340, 8 Feb 1989, AK 279096

North of Windy Point, *E.K. Cameron* 6336, 17 Dec 1990, AK 278656

Meremere Ecological District

Port Waikato, P.J. de Lange 2957, 27 Jan 1995, AK 228095

Kawhia Ecological District

Lake Parangi, P.J. de Lange 2265, 27 Dec 1993, AK 224340

Table 2. Characters separating *Juncus sonderianus*, *J. dregeanus* and *J. caespiticus* (based on Kirschner et al. 2002).

	<i>Juncus sonderianus</i>	<i>J. dregeanus</i>	<i>J. caespiticus</i>
Tepal length (mm)	c. 3.7-4.2	c. 3.0-3.5	1.5-3.0
Style length (mm)	0.4-0.8	c. 0.2(-0.3)	0.2-0.4
Stamen number	6	3-6	6
Capsule length (mm)	c. 2.5-3.0	2.2-2.6	c. 2.5

BIOGRAPHY/BIBLIOGRAPHY

■ **Biographical Notes (70) : John Stuart Yeates. The later years (1938–1986)**

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

(continued from NZ Bot. Soc. Newsletter Mar. 2008)

On 11 February 1938 Jack Yeates married Ruth Lillian Young BA in Palmerston North. Here they reared their family of 2 boys and spent 48 years together, first living at “Viewfar”, overlooking the town at the end of Clifton Terrace. At the College Yeates’s work included teaching agricultural botany and horticulture, supervising theses, and doing research and extension work on farm shelter, weedicides, and the propagation of azaleas and rhododendrons. He also played an important part in the landscaping of the campus. At home he cultivated and bred azaleas, rhododendrons & lilies (1,2). The following calendar outlines his work and progress during this busy and fruitful time.

1942: *Farm trees and hedges*, Massey College Bulletin No.12, was published. This bulletin is based on a course of lectures given by Yeates, and its preparation was suggested by the Principal, Prof. G.S. Peren. With its 219 pages (2nd edn) and c.130 photographs (2nd edn) taken by Yeates himself, it is an excellent example of his thoroughness in dealing with any subject. It is worth noting that Dr H.H. Allan, who was also an applicant for the position of Lecturer in Agricultural Botany at Massey in 1928, is listed among those who gave “particular help”. He is second only to Prof. F.W. Hilgendorf of Lincoln College. The bulletin was reviewed by C.M.S. [mith] of the NZ Forest Service and later third Director of the Botany Division, DSIR. After correcting one or two minor errors he wrote (and I quote this as much to recall the style of this scholar-forester as to applaud Yeates’s bulletin):

“The information throughout is quite correctly more applicable to farms and steadings than to forests; and if read with this always in mind, the book has much interesting information not usually found in local utilitarian print, and faintly redolent of the herbals and compendia of an older age. One learns for example, that *Tecoma capensis* makes an admirable pleached hedge in Taranaki.

There is, to the eclectic reader, a delightful whimsicality in the thought of the application of the old world hedger’s craft of pleaching to an African shrub grown along the fences of a New Zealand dairy farm : and the idea is sound and useful, despite the whimsy : but one avoids facing the realism of calculating costs of pleaching hedges whilst paying current award rates of wages. Read thus eclectically, the book will give much pleasure to those who are already familiar with all the plants described in it. Read practically by a farmer, it is a useful compendium which will serve as an excellent guide of the plants to order from his nurseryman (especially if the reader is a North Island farmer), and will be found especially informative on the technique of constructing all-purpose hedges on the farm. A welcome feature, usually neglected in all books on shelter trees, is the reproduction of the statutes relevant to fencing and noxious weeds.” (3).

- 1942: courses in horticulture were first advertised. Professor Peren had asked Dr Yeates to develop these, with returning servicemen particularly in mind. They were fully established by 1945 (4).
- 1944: on 10 August the NZ Rhododendron Association was formed in Palmerston North with Yeates elected secretary-treasurer, a position which he held until 1965 (as well as propagator) (2,5). The first president was Mr Edgar Stead of "Ilam", Christchurch, who made available much of his own material for distribution to members and use in further breeding (2).
- 1945: in March Miss Ella Campbell joined the Agricultural Botany Dept. to assist with the courses for B.Ag.Sci., Dip.Hort., & Dip.Farming. She had earlier lectured in botany at the University of Otago (6).
- 1948: 2nd edn of *Farm trees and hedges*.
- 1948: J.A. Carnahan, from Auckland University College, joined as Junior Lecturer. In 1954 he took a year off to do field work for his PhD which was under Dr Yeates's direction. He left for Canberra at the end of 1957 (1).
- late 1940s: Yeates wrote: "Lilies came into the picture with growing *L. regale* from some seed in the late forties, and then auratum – spurred on by seeing a splendid stand of auratum seedlings grown by the late A. Craig of Stratford." (7).
- 1951 (6 Nov): with more and better land needed for his horticultural projects Yeates bought 1.5 acres on recent alluvial soil (Manawatu sandy loam). It lay in Long Melford Road at Awapuni, on the southwest outskirts of Palmerston North near the Manawatu River. The road is commemorated in his 'Melford' series of Azaleas developed from Edgar Stead's 'Ilam' series (2).
- 1952: Dr Yeates first listed as a Senior Lecturer in the Massey College Calendar (1).
- 1954: the Department of Education, through its Technical Correspondence School published *Agricultural Botany* by J.S. Yeates, Head of the Agricultural Botany Dept, & Ella O. Campbell, Lecturer in Agricultural Botany (with photographs by J.A. Carnahan). In a rather too brief review (8) S.H. Saxby of the Dept of Agriculture "confidently recommended" *Agriculture Botany* for use in high schools and agricultural colleges. But, in my view, he could have recommended it for universities as well. It is New Zealand oriented (and not towards the UK or America as we used) and it has an extra practical dimension. I wish that it had been available to me in 6th Form and Stage 1 (after Neve in 5th Form). Thus in the section "Some families important in agriculture" there are not only treatments of the usual grasses, legumes, brassicas, daisies, etc. but of the cucurbit convolvulus, fathen, solanum, and true flax families; and after each family description there is applied information, e.g. in the Solanaceae the student reads about small- and large-celled potato tubers and their different uses. The detailed studies of New Zealand plant communities were particularly noted by Saxby (sand-dune, forest, swamp, bog, pasture, weeds). I would think that these were written by Miss Campbell, because of her interest in swamps and bogs and because the forest described is near Dunedin. She no doubt also wrote the sections on lower plants.
- 1955: the Yeates family moved from Clifton Tce to Long Melford Road. At weekends Massey students were given work here.
- 1956: Dr Yeates selected Associate of Honour, Royal NZ Institute of Horticulture (1).
- 1958: A.E. Esler and M. Calder appointed as Junior Lecturers to replace J.A. Carnahan (9).
- 1958: Yeates moved much of his bulb growing from Palmerston North to Kimbolton, north of Feilding (2).
- 1958 reprint of 2nd edn of *Agricultural Botany* published.
- 1960: J.P. Skipworth replaced Malcolm Calder who went to Australia (1).

1963: awarded the Plant Raisers' Award of the Royal NZ Institute of Horticulture for *Lilium parkmannii* hybrids, especially *L. excelsior* (11).

1965: Dr Yeates retired on 11 July as Head of the Botany Dept. and Senior Lecturer.

1966: elected Honorary Life Member of the NZ Rhododendron Association (2).

1968: awarded Veitch Memorial Medal of the Royal Horticultural Society (London) (1).

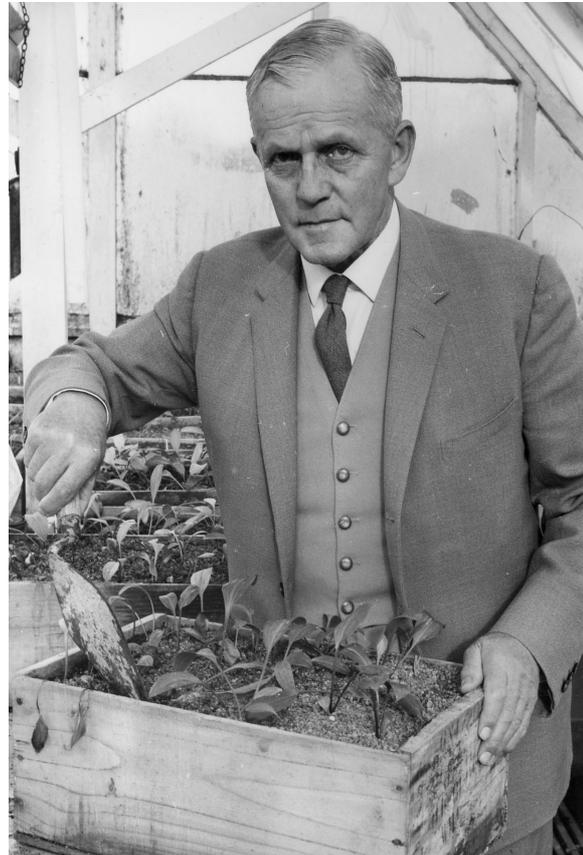
1969: awarded Lyttel Lily Cup (RHS) at the International Lily Conference (1).

1970–73: President, NZ Rhododendron Association (2).

1970: in July the Rhododendron Association bought 7 acres at Kimbolton, after leasing an acre there since 1967, and here Dr Yeates spent much time in his last years helping create the 'Kimbolton Rhododendron Park' later *Heritage Park, Kimbolton, the National Garden of the New Zealand Rhododendron Association* (2).

1977: appointed Member of the Most Excellent Order of the British Empire (MBE) for contributions to horticulture (1).

1986: Dr John Stuart Yeates died at Palmerston North on 24 August at the age of 86.



Dr J S Yeates - at retirement, July 1965. Photo taken with lily seedlings in his glasshouse at Long Melford Rd, Palmerston North. Note depth of seedboxes used. (Courtesy of Dr Gregor Yeates)

This later period of Dr Yeates's career saw him make contributions in horticulture which were honoured locally, nationally, and internationally. This contrasts with his earlier pioneer work on mycorrhizas, chromosomes and flax of which the latter two have been largely overlooked. I hope that my first two articles will have helped rectify this, but here I should go further and apologise to the shade of Dr John Stuart Yeates for overlooking his report on the pollination and fertilization of our native flax.

Further knowledge of Dr Yeates's work can be obtained from the Bibliography given below, which has been compiled by his younger son, Dr Gregor Yeates.

Acknowledgments

I am again indebted to Dr Gregor Yeates (Palmerston North) for help with references and family information, and for the list of his father's publications. I also thank Mr Alan Esler (Auckland), Dr Brian Molloy (Christchurch) & Ms Tanja Webster (Landcare Research, Lincoln) for help in various ways, and Mrs Wendy Weller for her typing.

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Addition

In my first note on Dr Yeates (Dec. 2007) I mentioned that, in his student days, he was a member of the Victoria University Tramping Club. I should add that as part of the Club's exploration of the Tararuas, Yeates Peake and Yeates Track were named after him (1); and that, in 1930, soon after joining Massey College, he and Dr McDowall formed the Massey Tramping Club (2). His tramping and deer-stalking continued until 1938, to be resumed during WW2 when US marines on leave were taken into the hills (1).

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