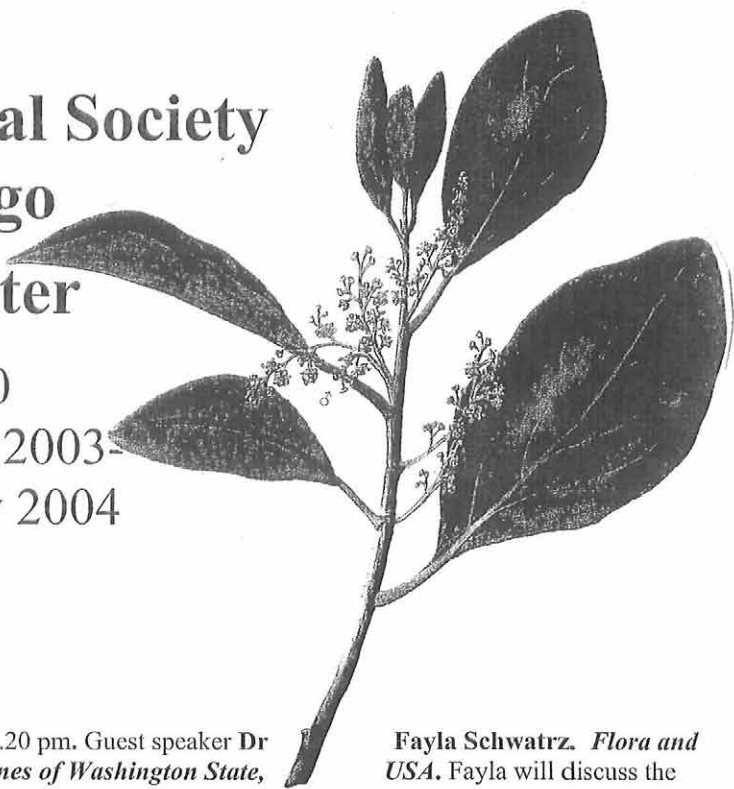


# Botanical Society of Otago Newsletter

Number 40  
December 2003-  
– February 2004

BSO Meetings  
and Field Trips



**3 December, Wed. 5.20 pm. Guest speaker Dr  
*Vegetation Zones of Washington State,***

**Fayla Schwatz. *Flora and  
USA.*** Fayla will discuss the

geological and geographical bases for vegetation distribution in the area and then show slides and talk about a number of plant species in western Washington/Puget Sound area, the montane and subalpine areas on Mt. Rainier, and in eastern Washington. Fayla is a biology and botany instructor at Everett Community College in Washington, and has a PhD in Botany from the University of Washington.

**6 December, Saturday, 9 am. Mt Watkin podocarp forest.** Trip leader: **Ralf Ohlemüller.** After recent trips to the area of Mt. Watkin north of Dunedin and the discovery of its significance for a number of rare species (see BSO newsletter 38), we will now have a closer look at the forests near the “bottom” of this remarkable volcano. These sheltered forests in the gullies running off Mt Watkin harbour a wide range of mature specimens of podocarp, such as matai, rimu, totara and kahikatea – rare remnants of the magnificent lowland forest that once clothed much of eastern Otago. Ralf has studied species richness patterns in forest fragments in coastal Otago and also tried to reconstruct the potential natural forest vegetation of the area. He will talk about his work on the day. We will be walking off track, so bring solid shoes, outdoor equipment, rain gear and lunch. A hand lens is recommended. Return to Dunedin, approx. 5-6 pm.

**24 January, Sat. 9 am. Full-day field trip to Tokomairiro Mouth with Dr Janice Lord.** Sand dune communities. Bring lunch and appropriate sun, beach and rain gear. A hand lens is recommended. Return to Dunedin, approx. 5-6 pm.

**11 February**, Wed 5:20 pm, *Mycorrhizal fungi - ubiquitous underground partners of plants* A talk by **Prof. John Cairney**, from the University of Western Sydney. Prof. Cairney is an expert on the population ecology and ecophysiology of mycorrhizas and mycorrhizal fungi. He is visiting Dunedin during February 2004 as a William Evans Visiting Fellow. The majority of terrestrial plants exist naturally in symbiosis with mycorrhizal fungi, a form of mutualistic interaction that is thought not only to be important in enhancing the ecological fitness of individual plants, but also in shaping plant populations and communities. This talk will provide an introduction to these fascinating associations, with emphasis on the ecology of the fungi that form mycorrhizas with trees and epacrids.

**18 February**, Wed 5.20 pm. **Dr Jan Bokdam**, Nature Conservation and Plant Ecology Group, Wageningen, The Netherlands. *Nature conservation and grazing management in Europe and New Zealand*. Dr Bokdam's research interests include: Plant-herbivore interactions, especially between vascular plants and herbivorous mammals. Defensive and exploitative adaptations of plants to herbivores. Consequences of co-evolution for coexistence, survival and extinction. Effects of herbivores on plant processes, successional pathways and mosaics. Implementation of plant-herbivore interactions in conservation management strategies. Consequences of incompleteness and over-completeness of the herbivore assemblage and abiotic catena on habitat use, vegetation succession and biodiversity. Maintenance, restoration, substitution and mitigation as elements of conservation management schemes.

**5 March**, Friday, 12 noon. A **BBQ** to welcome new botany/ecology students and new BSO members. On the **front lawn, Botany House Annexe**, Great King Street (across the road from the Caltex). Sausage sandwiches and juice \$1 each. All BSO members and intending members welcome!

**8 March**, Monday, 5.20 pm. *The All Taxa Biodiversity Inventory being carried out in the Great Smoky Mountains National Park* A talk by **Steve Stephenson**, Research Professor in the Department of Biological Sciences at the University of Arkansas. Steve has recently completed a volume in the *Fungi of New Zealand* series on plasmodial slime moulds (myxomycetes). He has been surveying mycetozoans (protostelids and dictyostelids as well as myxomycetes) as one component of an all taxa biodiversity inventory (ATBI) of the Great Smoky Mountains National Park. The ATBI of the Great Smoky Mountain National Park in the US has resulted in the discovery of 136 species new to science, in the Park, and an additional 1,436 that are known species, but which have not been previously identified as occurring in the Great Smoky Mountain National Park. In addition there is much new information on the geographic distribution of thousands of species, important for maps of species distribution. The inventory, coordinated by a support group called Discover Life in America, is conducted by scientists, student volunteers and others from all over the United States.

**13 March, Sat. 8.15 am start** Full-day field trip to the top of the **Blue Mountains** with **Prof. Alan Mark**. The Blue Mountains, although strongly modified on its lower slopes by exotic forestry, has good road access on to the summit ridge and even to its highest point at 998 m, giving easy access to a range of vegetation types, notably cushion bogs and mixed narrow-leaved snow tussock-shrubland, plus remains of a *Halocarpus* (bog pine) woodland exposed in eroding peat beds, all quite reminiscent of Maungatua. Its flora is also very similar but there are a few extras on the 'Bluiers', notably *Astelia linearis*. Subalpine silver beech forest and its natural treeline at 950 m are also readily accessible. I suggested this trip as an alternative to Maungatua, given its easier (and more reliable) access. It has been much less studied than Maungatua but was included by Stephan Halloy in his comparative study of alpine plant morphology (*J. Veg. Sci.* 1: 291-304, 1990; *J. Roy. Soc. NZ* 26: 41-78; 1996). Warm clothing and footwear for wet conditions are advisable whatever the weather forecast.

**21 April, Wed. 5.20 pm** Annual General Meeting. Guest speaker **Associate Professor Helen Leach**, an Anthropologist with a special interest in Palaeoethnobotany. "**Gardens without Weeds?**" When Dr Monkhouse described Maori gardens seen in 1769 as "completely cleared of all weeds", did he mean that the gardeners were fastidious weeders, or were there just fewer weeds to eradicate? Did the Maori and other Polynesian peoples have a concept of weeds equivalent to that in European languages? This talk will look at indigenous plants that might have invaded Maori gardens, the inadvertent introduction of a small number of fellow-travellers with Maori cultigens, and how different groups of Polynesians might have classified the plants that we call 'weeds'.

**Meeting details:** Talks are on Wednesday evening, starting at 5.20 pm with drinks and nibbles (gold coin donation), unless otherwise advertised. **NB the March 8 talk is on Monday.** Venue is the NEW Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the Captain Cook Hotel. Use the main entrance of the Benham Building to get in and go to the Benham Seminar Room, Rm. 215, 2nd floor. Please be prompt as we have to hold the door open. *Everyone is encouraged to bring items of botanical interest for our buy, sell and share table.*

**Field trip details:** Field trips leave from Botany car park 464 Great King Street, unless otherwise advertised. Meet there to car pool (10c/km/passenger, to be paid to the driver, please). A hand lens and field guides always add to the interest. It is the responsibility of each person to stay in contact with the group and to bring any personal medication that might be needed (eg anti-histamine) and sufficient food, drink, and outdoor gear to cope with changeable weather conditions (eg non-slip walking shoes or boots, sunhat, sunscreen, waterproof /windproof coat and trousers).

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*Ixerba brexioides*  
Tawari



## President's notes

David Orlovich

Welcome to the final newsletter for 2003. Do you realise we had 21 events this year? Six field trips, 12 talks, 2 workshops and one BBQ. I hope you were able to attend at least some of these events. Next year's calendar is already shaping up, with events planned up till about April so far. The BSO committee discusses what events we are going to hold at our committee meetings each month, but we are always keen to have fresh ideas for trips, talks and workshops. If you've got a suggestion then don't hesitate to let us know. This year we still have a couple of events to enjoy - a talk by Dr Fayla Schwartz on 3<sup>rd</sup> December about the flora and vegetation of Washington State and a field trip led by Ralf Ohlemüller to Mt Watkin on 6th December.

In the new year, Janice Lord is leading a trip to Tokomaririro Mouth in January, we have two talks already scheduled for February, a BBQ, talk and field trip for March and the AGM in April. Anthropologist Helen Leach will speak at the AGM about Maori gardens and what constituted a 'weed' in a talk entitled 'Gardens without Weeds'. Helen is a great speaker and this promises to be a fascinating evening. Inside this newsletter you will find details about the Audrey Eagle Prize for Botanical Drawing. If you're interested in botanical illustration, art or you'd just like to have a go then you need to have your drawings submitted by 8<sup>th</sup> March. The \$100 prize will be awarded at the AGM. This sounds like a perfect holiday activity! See inside for more details. Keep an eye on the web site for details of future events.

Thank you to everyone in the BSO who has attended events this year. It has certainly been a great year for the BSO, with record attendances at events. A big thank you to all the committee members too. They have all worked so hard to get the newsletter published, to advertise, organise (and lead) events and to make sure that everything went off without a hitch. Unfortunately Kelvin Lloyd has had to resign from the committee due to work commitments, so I thank Kelvin especially for his contributions to the BSO committee meetings over the last few years.

Have a great Christmas and New Year break!

## Editor's notes

Allison Knight

It's quite exciting editing the BSO newsletter, because there's always so much to celebrate and to learn. This issue is a birthday tribute to Geoff Baylis, our first New Zealand born Professor of Botany, who turns 90 on the day of publication. Geoff's influence is still here in so many ways. See how many you can spot - from the *Griselinia* which he discovered was chock full of arbuscular mycorrhizal fungi and that Chuck has confirmed helps his *Ixerba* thrive; to the plants Geoff discovered on the Three Kings that both Cliff and Chuck showed us with pride in their gardens; to the well-attended 2<sup>nd</sup> Geoff Baylis lecture given this year by Peter Wardle and reviewed by Alan Mark, both students of Geoff. Another botanist in Otago we honour in this issue is Audrey Eagle, who will judge the entries for the first Audrey Eagle prize for Botanical Drawing and announce the prize winner at the AGM next April. So there's a challenge for the summer - produce some botanical drawings! Even if they don't win we'd like to

publish them here or on our website, and we'd love a new logo! Another summer challenge is to examine the DoC Recreation Opportunities Review of all the tracks and huts that give access to the diverse plant communities we love to explore and study. See website below. Then put in a submission to voice your priorities. Deadline is 31<sup>st</sup> January 2004. If we don't acknowledge what is important to us we might lose it. Above all, enjoy your summer and all the recreational and botanical opportunities it brings.

### **Department of Conservation Recreation Opportunities Review – Otago**

*This one's important!*

The Department of Conservation is having a national review of all its facilities, including tracks and huts. Proposals and submission forms for Otago are posted at: <http://www.doc.govt.nz/Explore/DOC-Recreation-Opportunities-Review/My-Favourite-Place/014~Otago.asp> **Submissions close 31 Jan 2004**

Full details of the plans for each facility can be found in the [conservancy discussion document](#) pdf. Upgrades are suggested for some facilities, such as Brewster and Liverpool huts, but overall a small reduction in huts and tracks is proposed. **Of most concern to botanists must be the proposed removal of all 3 huts on the Rock and Pillar Range** – Big Hut and Leaning Lodge, which the Otago Tramping and Mountaineering Club have put a lot of work into, and 'unknown hut' (the tiny Botany research hut). For decades these huts have been the base for in-depth botanical research. This research in turn forms a substantial knowledge base which is being built on by several on-going botanical and ecological studies, including a major multi-disciplinary initiative documenting the effects of climate change and snow depth on alpine plants. This work could not easily be continued without overnight shelter. Even for a day trip, the alpine cushion-field, snow bank and schist tor communities in the Rock and Pillars are well worth a visit, but it could be a bit bleak on the exposed tops without the huts for refuge if the weather changes, as it so often does.

**Please, give some thought to putting in a submission soon, before it is too late, and the proposals become fixed plans.**

*Allison Knight*

**Editorial Policy** The Botanical Society of Otago Newsletter aims to publish a broad range of items that will be of interest to the wider botanical community and accessible to both amateur and professional botanists. Contributions of letters, comments, trip and meeting reports, articles, plant lists, book and website reviews, news items, photographs, artwork and other images and items of botanical interest are always welcome and will be published at the editor's discretion. Articles of a scientific nature may be referred, at the editor's discretion, to a scientific editor appointed by the committee. The scientific editor may refer the material to anonymous referees. Refereed papers will be identified as such in the newsletter. *BSO will not accept papers proposing nomenclatural novelties or new combinations.*

**Disclaimer** *The views published in this newsletter reflect the views of the individual authors, and are not necessarily the views of the Botanical Society of Otago. Nor do they necessarily reflect the views of the Department of Botany, University of Otago, which is supportive of, but separate from, our society.*

## *Polystichum* in Otago

Leon Perrie

A recent study (Perrie et al., 2003) of the morphologically-variable common shield fern, *Polystichum richardii*, found it to comprise an allopolyploid complex, in which three species were recognised: two tetraploids *P. wawranum* and *P. oculatum*, and the allo-octoploid *P. neozelandicum*. *Polystichum richardii* is a later synonym of *P. neozelandicum*, and hence is not a correct name for any of these newly circumscribed species.

Unlike botanists in the lower North Island who have to contend with all three “*P. richardii*” species (Perrie, 2003), only one is currently known from the Otago region: *P. neozelandicum* subsp. *zerophyllum* (subsp. *neozelandicum* occurs north of Rotorua). I have seen *P. neozelandicum* subsp. *zerophyllum* at several places within the greater Otago region including the Flagstaff Creek area of Dunedin, Waipori Falls, the Wanaka end of Glendhu Bluff, and Kidds Bush at Lake Hawea.

Of the other “*P. richardii*” species, *P. wawranum* is seemingly confined to the North Island, while the apparent southern limit for *P. oculatum* is one old and somewhat dubious record from Timaru. Further north, *P. oculatum* is the predominant “*P. richardii*” on Banks Peninsula (*P. neozelandicum* subsp. *zerophyllum* is also there but is uncommon).

More thorough searching may reveal *P. oculatum* to be present in the Otago region (hence, I have included it in the key below), particularly in northern, coastal areas. The following table indicates how *P. oculatum* can be distinguished from *P. neozelandicum*.

<i>Polystichum neozelandicum</i>	<i>Polystichum oculatum</i>
Scales from the lower rachis less than 0.7 mm wide at their mid length; acicular-lanceolate in shape (Perrie et al., 2003, fig. 5).	Scales from the lower rachis greater than 0.7 mm wide at their mid length; almost pentagonal in shape (Perrie et al., 2003, fig. 5).
Lamina a lighter forest-green colour compared to dark blue-green colour of the costae (the mid-ribs of the pinnae).	Lamina and costae (pinnae mid-ribs) of similar colour, usually dark blue-green.
Spores big (46-58 $\mu\text{m}$ $\times$ 36-45 $\mu\text{m}$ )	Spores small (36-48 $\mu\text{m}$ $\times$ 27-36 $\mu\text{m}$ )

The other *Polystichum* species found in the Otago region are:

*P. cystostegia*: found in alpine conditions. It has large, pale-orange scales on its stipe (lower stem) and rachis (upper stem). The indusia (the little shield-like structures on the underside of the frond that protect the spore-producing apparatuses) are markedly convex; i.e., the outside margins of the indusia are closer to the frond than the main bodies of the indusia. The other species all have flat indusia (or none at all). The frond tends to be a lighter and paler shade of green than usually found in the remaining species.

*P. vestitum*: the most common *Polystichum* in Otago. The scales, which usually thickly clothe the stipe and rachis, are several millimetres wide and have a glossy dark-brown



centre completely surrounded by a pale brown margin. The indusia have only a small black spot at their centre. In bigger plants, the fronds become quite long (c.2 m) and narrow, and are distinctly parallel-sided.

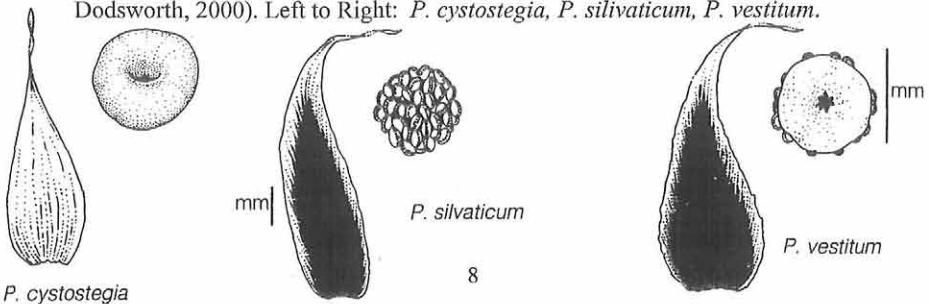
*P. silvaticum*: closely resembles *P. vestitum*. They can be hard to distinguish, but the best way is to look for indusia with a hand-lens or microscope; *P. silvaticum* never has any indusia, even when the spore producing structures are young. (Be wary as the other species can lose their indusia with age. Therefore, in trying to make a definite identification of *P. silvaticum*, old fronds should be avoided. Look for fronds with either young or mature spore producing structures; these will look greenish-white and black, respectively. Old spore producing structures look brown.) Also, compared with *P. vestitum*, the frond of *P. silvaticum* has a slightly more dissected look to it, and the scales are often thinner (they still have a dark brown centre surrounded by a pale margin) and do not have such a 'tidy' appearance on the stipe and rachis. *P. silvaticum* is usually found in dark, wet habitats (i.e., alongside forest streams).

I have never seen *P. silvaticum* in the South Island, but there are scattered collections of it. On behalf of WELT, I would greatly appreciate receiving South Island specimens of *P. silvaticum*.

Two exotic species of *Polystichum* might also be encountered: the Australian *P. proliferum* and a finely-dissected cultivar of the European *P. setiferum*. Both are prolific, producing little plantlets on their fronds (*P. proliferum* has only a few bulbils, borne near the rachis apex; *P. setiferum* has numerous bulbils, borne along the rachis at junctions with the primary pinnae), and this characteristic distinguishes them from the native species (Brownsey & Smith-Dodsworth, 2000).

A factor complicating identification amongst the native species is hybridisation. In particular, *P. neozelandicum* subsp. *zerophyllum* and *P. vestitum* often form hybrids where they grow together (these hybrids are sterile, with aborted spores). Recognition of such plants in the field can be difficult, and requires familiarity with both parents. Like most hybrids, they combine characteristics of both parental species. The frond architecture is intermediate. The indusia have the obvious blackened centres found in *P. neozelandicum* subsp. *zerophyllum* but usually lacking in *P. vestitum*. The rachis scales of *P. neozelandicum* × *P. vestitum* hybrids have pale brown margins like those of *P. vestitum*, but are thinner, and have cilia-like projections on their margins as is common in *P. neozelandicum* but unknown in mainland *P. vestitum*.

Rachis scales and indusia from native *Polystichum* species. (Brownsey & Smith-Dodsworth, 2000). Left to Right: *P. cystostegia*, *P. silvaticum*, *P. vestitum*.





## Key to native *Polystichum* in the lower South Island.

1. Indusia absent ..... *P. silvaticum*  
Indusia present ..... 2
2. Indusia markedly convex; stipe and rachis scales uniformly pale orange-brown;  
plants of alpine conditions ..... *P. cystostegia*  
Indusia flat; stipe and rachis scales NOT uniformly pale orange-brown; lowland,  
montane, or alpine plants ..... 3
3. Rachis scales bicolourous with pale brown margin completely encompassing dark  
brown centre ..... 4  
Rachis scales concolourous (uniformly dark brown, almost black, or pale brown), or  
if bicolourous not with a pale brown margin completely encompassing a dark  
brown centre ..... 5
4. Indusia lacking an obvious dark centre; rachis scales without marginal projections;  
spores normally formed ..... *P. vestitum*  
Indusia with an obvious dark centre; rachis scales usually with marginal projections;  
spores abnormally formed .....  
..... *P. vestitum* × *P. neozelandicum* subsp. *zerophyllum*<sup>1</sup>
5. Scales from the stipe-rachis junction > 750 µm (and usually > 1000 µm) wide at  
their mid-length, often almost pentagonal ..... *P. oculatum*<sup>2</sup>  
Scales from the stipe-rachis junction < 650 µm wide at their mid-length, generally  
acicular-lanceolate (like an isosceles triangle) .....  
..... *P. neozelandicum* subsp. *zerophyllum*

Notes<sup>1</sup>: *P. vestitum* × *P. oculatum* would also key out here.

<sup>2</sup>: *P. oculatum* is not presently known from the Otago region.

I would be more than happy to assist/confirm identifications of *Polystichum*, and can be contacted by mail (Leon Perrie, Te Papa, P.O. Box 467, Wellington), phone (04 381 7261), or email: leonp@tepapa.govt.nz

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## Dame Ella Campbell – Otago Graduate

Mary Anne Miller

Dame Ella's long and distinguished career began here in Otago. With her mother as role model Ella was inspired to pursue a scientific profession, one that resulted in many accolades. She became the first woman lecturer at Massey University, a renowned botanist specialising in liverworts, an internationally accredited orchid judge, was awarded a D.Sc. and Fellowship of the Royal New Zealand Institute of Horticulture and was created Dame Companion of the New Zealand Order of Merit in 1997.

Ella Orr Campbell was born in Dunedin on October 28, 1910 the eldest daughter of Orr Campbell, a building contractor, and Agnes Campbell (nee Kinder), a pharmacy student. After attending a local kindergarten she went to George St School. Then for a brief spell in 1920 while staying with relatives she attended school in South Otago before being enrolled at the Normal School, which at that time was in Union St, Dunedin. By then the family was living in the old Chapman homestead on Leith St, enjoying and improving grounds planted by Sir Frederick Chapman before the turn of the century, where incidentally, a magnolia he planted in 1879 still flowers profusely. This garden, her mother's interest in science, and a botany teacher who was a family friend, were major influences on the young Ella, as were family holidays centred on botanical excursions, ranging as far afield as Cascade Creek near Lake Wakatipu, Stewart Island and the Routeburn Valley.

With a teaching career in mind she began the two-year course at Dunedin Training College in 1929. She was involved with the Hockey Club, being a member of the B1 team, and played for the representative team in Training College Tournaments each year. In 1931 she enrolled for a B.A. at the University of Otago. Ella could have taken languages, as she was multilingual. However, having to study the history of the subject had no appeal. Instead she chose to major in botany where the Department was run by the Rev. John E. Holloway, a world-class researcher and teacher who specialised in primitive New Zealand flora. In the environment he provided Ella excelled, as did many of her contemporaries - Greta Stevenson, John Thorpe Holloway, Betty Molesworth and Betty Batham. He encouraged students to publish so Ella's first publication, based on her M.A. thesis 'The Life History of *Histiopteris incisa*', appeared in 1936.

Holloway had been running the Department single-handedly since its inception in 1924, so when his plight was acknowledged in 1938, Ella became the much-awaited Assistant Lecturer. From then, until she left to be Lecturer in Plant Morphology and Anatomy at Massey in 1945, she was busy with Department and University activities. Her membership of the Federation of University Women culminated in her becoming Otago Branch President at a time when the focus was on refugee status of European colleagues and food supplies to war-torn countries. The Federation was also looking ahead to what improvements could be achieved for a post-war Otago University by suggesting more emphasis on Pacific and European courses. Ella continued her links with the Otago Branch of the Federation long after her shift north. The University of Otago awarded Ella its highest degree in May 1976 when she received a Doctor of Science for her contribution to botany.

Some members of the Botanical Society of Otago will remember Ella at the 14<sup>th</sup> John Child Bryophyte Workshop based on the Taieri in November 1998. Her enthusiasm (at 88) and the knowledge she passed on to young, and not so young, bryophyte inductees was inspirational. Ella died at Palmerston North on July 24, 2003 and is interred with her family in Andersons Bay Cemetery.

I thank Jill Rapson, Massey University, for suggestions on content.

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Ella Campbell  
in the 1930s  
(Martin 1993)

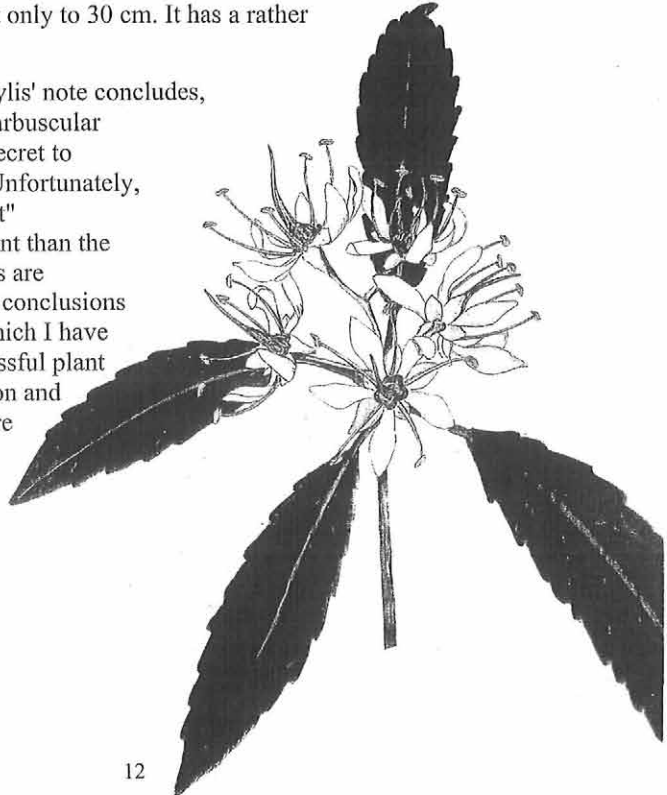


## *Ixerba brexiodes* and Arbuscular Mycorrhizal Fungi (AMF) Chuck Landis

This note is a follow-up on Geoff Baylis' comments in *BSO Newsletter* 33 (2002). I saw a tawari -- *Ixerba brexioides* -- in bloom at Waikaremoana many years ago. It was a handsome tree beneath a dark bush canopy and the flowers were breathtaking. I subsequently obtained 3 seedlings from Ribbonwood Nursery in 1997. They were rather sad little things (8 cm) and, like Geoff, I recall Phillip Dunn apologising for their condition, stating that they'd shown very little vigour or growth while in the nursery. I planted them at Warrington in a fenced-off paddock containing scattered remnant native trees in a sea of grass. All were planted in partial shade and all experience frosts. For the first two years, growth was extremely slow. I was careful to keep them weeded, removing mainly grasses and seedlings of *Coprosma*, *Kunzea* and *Griselinia*.

After two years, none had grown more than a few centimetres and the plants still looked pretty sad. In 1999, while weeding, I thought of Geoff Baylis' work on AMF and deliberately left a few papauma -- *Griselinia littoralis* - - seedlings which had appeared beside one of the *Ixerba*. The next year that plant looked decidedly better than the other two. So I allowed some *Griselinia* seedlings to remain around the second *Ixerba*. Weeding the third plant continued as before. Today, 2 November 2003, the two plants with *Griselinia* companions have both grown to 50 cm. One is really thriving, the other is being hassled by an insect and is somewhat ragged-looking. The third plant, with no companion, has also grown, but only to 30 cm. It has a rather pale and spindly appearance.

This suggests that, as Geoff Baylis' note concludes, a companion plant containing arbuscular mycorrhizal fungi may be the secret to success in cultivating *Ixerba*. Unfortunately, this is just a "garden experiment" (the garden being more important than the experiment) and the three plants are insufficient for any meaningful conclusions to be drawn. Other variables which I have not mentioned: The most successful plant is also in the most shady position and it is located 5m from two mature *Griselinia* trees. The shortest distance from both other tawari to mature papauma is at least 15 m.



*Ixerba brexioides*  
Audrey Eagle  
*Eagle's Trees and  
Shrubs of NZ  
in Colour*  
1975

## Meeting and Trip reports

**Talk on New Zealand Geckos** 24 Sept.

reviewed by *Moira Parker*

There was a good crowd at the new Benham building to hear Mandy Tocher, a Department of Conservation scientist, talk on New Zealand geckos. There are 41 species of gecko. Thirty three belong to the genus *Hoplodactylus* – grey/brown in colour and considered to be nocturnal. Nine belong to the genus *Naultinus* and are green. Mandy illustrated her talk with superb slides taken by Bruce Thomas, Tony Whitaker and Rod Morris, which gave us a glimpse of the wonderful variety of colours and patterns and the different habitats where these delightful animals are found.

These are just a few of the many geckos that we were able to see:

The striped gecko, that is often found in *Muehlenbeckia*; the rough scaled gecko from Marlborough; the black-eyed gecko with a grey body, black eyes and may live over 50 years in the alpine zone; Duvaucel's gecko (up to 120 gm) found only on offshore islands; the West Coast green gecko that may hybridise with the green jewelled gecko where their respective ranges meet; the Pacific gecko; the North Island green gecko; and a minute 3 cm long gecko from Otago and Marlborough.

Mandy mentioned several new species, such as a gecko found on Mt Creighton near Glenorchy that is possibly a new species of forest gecko; a new gecko found on Mt Roy in Otago that is closely related to one in the Catlins, and a gecko found 3–4 years ago on a Takitimu scree slope. The forest geckos particularly are so well camouflaged, that it was difficult to find the animal in some of the slides. The idea of a gecko dog to search for geckos seems a good one and we wish Mandy well with her training.

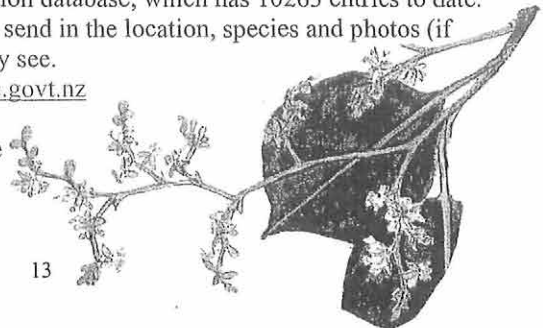
One of the most striking geckos is the Harlequin gecko from Stewart Island, which is a target for poachers collecting for markets in the USA and Japan. But other patterned and brightly coloured geckos are also poached. It was disappointing to learn that the proposal to CITES to include all New Zealand geckos on appendix II of the schedule was recently turned down. Non human predators are numerous and include mice, rats, all mustelids, magpies, hawks, starlings, hedgehogs and particularly cats.

In other parts of the world geckos are insectivorous, yet in New Zealand geckos also feed on pollen, fruit and nectar. The emphasis on plant food could be that more sugar is needed in our cool climate. On offshore islands the biomass of geckos is spectacular and geckos may have a role in plant pollination and seed dispersal.

DoC hopes to enlarge its gecko distribution database, which has 10263 entries to date. Botanical Society members are asked to send in the location, species and photos (if possible) of any unusual geckos that they see.

Mandy's email address is [mtocher@doc.govt.nz](mailto:mtocher@doc.govt.nz)

*Muehlenbeckia australis*. **Audrey Eagle**  
*Eagle's Trees and Shrubs of  
New Zealand in Colour*, 1975.



Twelve or so Bot Soccers met at Chuck and Carol Landis's garden on the Warrington-Seacliff coast road on this spring Saturday. Our hosts had very thoughtfully prepared a list of native species wild and cultivated on their property including an introduction to their collections of native and exotic plants: they wrote "When we bought the home (formerly the James Powell Convalescent Home) in 1975, there were just ill-defined lawns and calves gazing right up to the house. Somehow our enthusiasm got the better of us and during the 1990's we started extending the garden into the paddocks." They guided us around their Rhododendron Dell which was beautifully sheltered by 6 m tall *Cupressus macrocarpa* hedges. Ornamental shrubs such as *Edgeworthia gardneri* from China with its sweetly fragrant yellow flowers and the evergreen, *Illicium anisatum* from Japan and Taiwan, with many-petalled white flowers, and climbers such as China's *Clematis armandii* with its large white flowers and handsome, leathery evergreen foliage, featured in this woodland area and around the gazebo.

Among the *Rhododendron* species and hybrids was one *R. maddenii* type, which had ventured one early and very fragrant bloom. Adjacent were geographical collections from Nepal (*Rhododendron campanulatum* and *R. barbatum*, *Daphne bholua*, *Lyonia*), China/Japan (*Michelia yunnanense*, *Betula albosinensis*, *Sophora japonica*, etc), and North America (*Halesia carolina*, *Sassafras albidum*, *Malus ioensis*, *Machura pomifera* and *Rhododendron catawbiense*), as well as a selection of *Rhododendron* and *Magnolia* hybrids raised by the late Felix Jury, the renowned plant breeder of New Plymouth. Also seen were some Aussies: the Tasmanian rainforest shrub, *Anopterus glandulosus*, which although commonly called "native laurel" in Tasmania, is in fact a member of the *Escallonia* family with cousins in South America. Also flowering was the waratah (*Telopea speciosissima*), the showy, red proteaceous floral emblem of New South Wales.

In the forest remnant the Landis's have named Captain Hankey's Bush (after an early Warrington settler), mature kanuka (*Kunzea ericoides*), perhaps 100 years old overtopped the understorey of mahoe, lemonwood, broadleaf, fuchsia, marbleleaf and mapou. Chuck and Carol noted that immediately after removing stock several species of hitherto unseen natives appeared, including poataniwha (*Melicope simplex*) and katote or soft tree fern (*Cyathea smithii*). They also noted how well many native seedlings fared after grass competition was removed by spraying Roundup™, and Chuck observed that "spraying the grass appears to be the only way to obtain bush regeneration in old pasture land." They have replanted mostly with plants sourced locally ie "in coastal Otago between Akatore and Herbert." But elsewhere in the garden they have established wonderful collections of non-local pittosporums (at least six species), the rare *Pennantia baylisiana* from the Three Kings Is., *Ixerba brexioides* with and without broadleaf (*Griselinia littoralis*) companions (more on this in Chuck's article elsewhere in this newsletter) and many others found well to the north, such as tawa, titoki, kohokohe, toro, makamaka, rewarewa, kawakawa, kaiwhiri, whau and karaka. It was a treat to find a puriri (*Vitex lucens*), New Zealand's only member of the teak family, Verbenaceae, with much vigorous young growth and toropapa (*Alseuosmia macrophylla*), which occurs from North Cape to Marlborough and North Westland,

thriving and sporting numerous buds that would soon open into fragrant, tubular red flowers.

Lovers of moist feet, kahikatea (*Dacrycarpus dacrydioides*), maire (*Syzygium maire*, formerly *Eugenia maire*), bog pine (*Halocarpus bidwillii*) and a knee-less pukatea (*Laurelia novae-zelandiae*) were very much at home in a damp streamside site. Nearby, a metal Kermit the Frog positioned in a small pond, entertained the youngest visitor. A dragon with a most soulful expression stood guard nearby.

Thank you Chuck and Carol for sharing your enthusiasm and vision for your eclectic plant collections with us.

## Truby King Reserve

Allison Knight

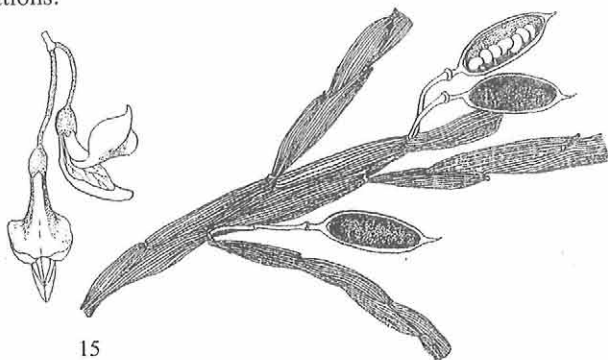
From Chuck and Carol's fragrant gardens we drove up the hill to another Enchanted Forest, at the nearby Seacliff Reserve, site of the former Seacliff Mental Hospital. Here Chuck showed us a collection of magnificent mature trees, exotic and native, that were planted during Sir Truby King's reign as superintendent from 1889 – 1920. The palatial, Lawson-designed hospital buildings were unfortunately built on geologically unstable ground. They were built first in brick, then in wood, and when that too succumbed to the slumping the hospital was abandoned in 1973 and the spacious grounds overlooking the sea fell into disrepair. Now the plantings are slowly being rescued from the wilderness by the combined forces of the Truby King Recreation Reserve Committee and the DCC, with the help of Task force Green and Horticulture students from the Polytech.

The highlight for me was coming round a corner and seeing in full bloom the magnolia that Janet Frame had written about in *Faces in the Water*. Only recently it was rescued from being almost totally overgrown. In her book Janet vividly describes the excitement of going for a walk in the grounds and seeing "the magnolia tree (the pride of the hospital) in bloom".

Chuck generously provided notes on the history of the hospital, a map showing the tracks and the most significant large trees, as well as species lists of exotic shrubs and small trees and native trees, shrubs and climbers. These lists are filed in the Otago Herbarium. Chuck is still adding to this list as more species come into flower and fruit, and would welcome further observations.

So do contact him if you're going there – it's well worth a visit!

*Carmichaelia williamsii*  
(Giant flowered broom), in full flower this late September trip. *Conservation Requirements of New Zealand's Nationally Threatened Vascular Plants*. DoC 1999





Thirteen Botsoc members joined Cliff on a spring afternoon wander through his sheltered Glenleith hillside garden. Cliff and Linda started the garden in the 1960s and it has a fine established look to it now.

First to attract our attention was the array of flowering trees, especially *Camellia*, *Magnolia*, *Rhododendron* and a large *Prunus* with petals falling like snowflakes. As stunning as these were Cliff was eager to lead us to his native treasure trove and what an extraordinary collection of plants it turned out to be! Pride of place was a weeping tree broom (*Carmichaelia stevensonii*), the large dimensions of which came as quite a surprise. Cliff recounted how cuttings of the species had been gathered from the small natural population in Marlborough for the Dunedin Botanic Garden. While his tree flourished, those at the Gardens eventually died out.

North Island trees feature strongly and many of these were unfamiliar to members. Although used to warmer climates, the trees were flourishing in the well chosen micro-climate of the various sectors of the garden. Even plants of the far north such as *Tecomanthe speciosa*, *Elingamita johnsonii*, *Meryta sinclairii*, *Cordyline kaspar* and *Ackama* (= *Caldcluvia*) *rosifolia* were present. At least six species of rata were on display including the uncommon Bartlett's rata (*Metrosideros bartlettii*) and *Metrosideros carminea*. Other northern South Island and North Island highlights included several species of maire (*Nestegis* spp.), false maire (*Mida salicifolia*), tawa (*Beilschmiedia tawa*), taraire (*B. tarairi*), kauri (*Agathis australis*), tainui (*Pomaderris apetala*) and kawaka (*Libocedrus plumosa*).

Beeches were well represented with hard beech (*Nothofagus truncata*), black beech (*N. solandri*), mountain beech (*N. solandri* var. *cliffortioides*) and silver beech (*N. menziesii*). Damp and shady corners were clothed in ferns, many naturally occurring locals but others, like the stunning king fern (*Marattia salicina*) and *Doodia media*, from warmer climes.

The diversity within some genera was particularly well displayed. At least seven species of *Pittosporum* were seen ranging from the lofty *Pittosporum umbellatum* (still flowering) through to the rare divaricating *P. obcordatum* and the often epiphytic *P. kirkii*.

The garden is clearly a great source of enjoyment to Cliff and one that still throws up the odd surprise. On our visit he discovered for the first time bright crimson cones on his prized tanekaha (*Phyllocladus trichomanoides*). Thanks Cliff for a wonderful tour of your sunny oasis. (Cliff's species list of over 100 natives is filed for reference in the Otago Herbarium - ed.)

*Carmichaelia stevensonii*  
(Giant weeping tree broom).  
Details of flowers and pods.  
Audrey Eagle  
*Eagle's Trees and  
Shrubs of NZ*, 1975



## Moore's Bush

Allison Knight

It was a hard decision; whether to linger for the afternoon tea so kindly offered by Cliff and Linda Donaldson, or to push on to explore the botany of Moore's Bush, further up Leith Valley. The botany won by a whisker and we were not disappointed. Ken Mason, who manages the reserve, gave us an outline of its history and layout, with an accompanying pamphlet.

In 1945 Percy and Ellie Moore bought 4 ha of grazed dairy farm with the aim of re-surrounding the remnant podocarps with native forest. By 1974, when the land was bequeathed to Forest and Bird, much of the bush cover was restored, and in 1992 the Department of Conservation vested control of the adjoining 2 ha of scenic reserve in Forest & Bird. A total animal control programme was begun in 1996, with the aim of creating a mammal-free 'mini-mainland island' to aid the regeneration of podocarps - miro, matai, totara, kahikatea and mountain cedar (*Libocedrus bidwillii*).

Armed with copies of Ken's species lists we explored the forested depths leading down to the stream. The track wound past giant podocarps. Cliff was impressed by a large *Tmesipteris* (chain fern) dangling by the track. Ellen added another fern, *Polystichum vestitum*, to the species list. Lichens were most abundant on the bush edges. A quick collection followed by a check up under the microscope yielded another 12 for Ken's list. (*Chrysothrix candelaris*, *Collema* sp., *Hypogymnia subphysodes*, *Physcia jackii*, *Pseudocyphellaria episticta*, *P. glabra*, *Ramalina celastri*, *R. glaucescens*, *R. inflexa*, *Sagenidium molle*, *Teloschistes chrysophthalmus*, *Xanthoria parietina*).

Ken would welcome any more additions to his species lists - (there's a copy in the Otago Herbarium). He can be contacted at 476 7100, Email: kdmason@xtra.co.nz

## Second Geoff Baylis Lecture, 29 October 2003 reviewed by Alan Mark

Peter Wardle on "*New Zealand's forest limits and the vegetation above them, compared with South America and other regions.*"

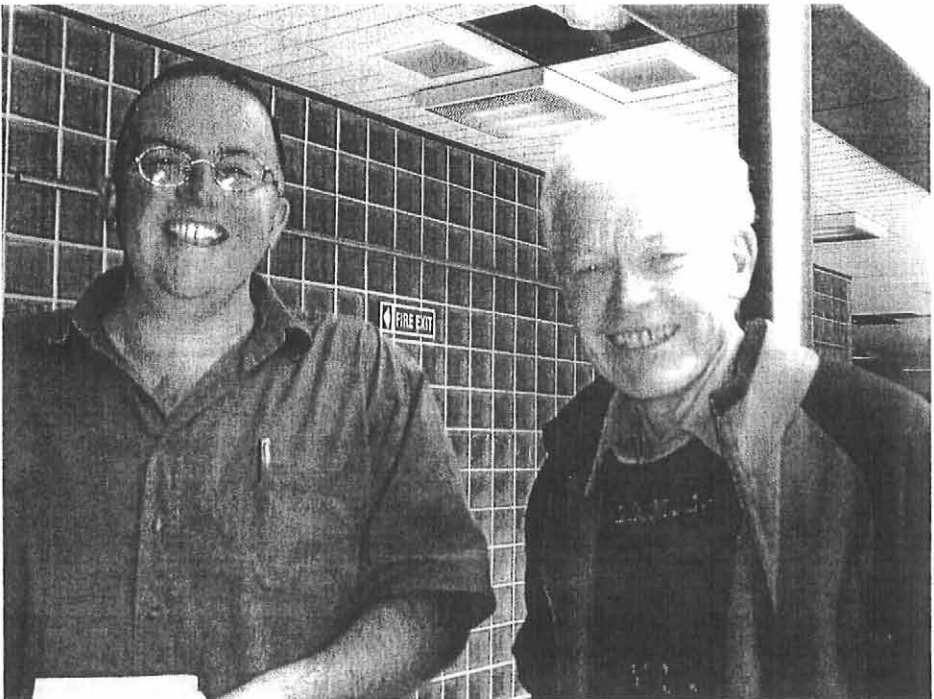
With a very well known plant ecologist delivering the BSO's 2nd Annual Geoff Baylis Lecture, and joint sponsorship by the Botany Department, the turnout in the University's Commerce Building, not surprisingly, exceeded 50.

Peter first set the scene with many views of the New Zealand situation where usually sharp beech-dominated treelines are generally consistent with those in many other countries in their conformity with a mean midsummer month isotherm of 10 deg. C, though this was clearly only a "surrogate" for something more critical. Where ours differ from many (but not all) other areas is with the tall tussock grassland, usually with a range of associated megaherbs, which occupies the adjacent higher zone, which he referred to in his early writings as the "low-alpine" zone. Dominant or co-dominant shrubs may share this zone with the tussocks, occupying the steeper slopes where snow doesn't lie. Further up the mountains these taller plants are replaced by a usually sparse cover of dwarfed plants, which he had earlier referred to as the "high-alpine" zone.

This pattern was repeated on New Zealand's subantarctic islands, as Peter showed for Campbell Island, and to a more limited extent on several of the tropical high mountains: Peter showed examples from his own travels in New Guinea, on the high Andes of Ecuador, and on Mt Kenya. The tall tussock grasslands on these mountains, Peter claimed, were largely the result of fires, of human origin, over long periods. By contrast, the vegetation pattern on the high continental mountains of the northern hemisphere (North America, Europe Asia all featured), and on the central and southern Andes, showed a different pattern with the vegetation and climatic equivalent of our high-alpine zone occurring immediately above the treeline. Tall tussock grasses were essentially absent.

Invasion of the so-called low-alpine tall grasslands, characteristic of oceanic regions, particularly New Zealand, by some high-mountain tree and shrub species from continental North America and Europe, has convinced Peter that we should cast aside his "low-alpine" term in substitution for a new one, "penalpine". Reference to Christian Körner's recent book on "Alpine Plant Life" showed that the situation was far from simple and Peter acknowledged that there were still a few local sceptics but named only one, the reviewer.

Peter Wardle and David Orlovich at the 2<sup>nd</sup> Annual Geoff Baylis Lecture  
Photo by Adrienne Markey



Though Cannibal Bay may have an unfortunate name, derived from bones found to be moa not human, a fortunate group of thirteen 'BotSoccers' spent an enjoyable day in good weather and in good company, botanising a small piece of the south Otago coast on John Barkla's recent field trip.

Parking our cars near a group of severely topiaried mature totaras at the misnamed bay, we headed to a beach dominated by parallel rock formations, tilted sandstones of the Southland syncline, running out to sea. Above these clumps of *Anisotome lyallii* interspersed the endemic *Celmisia lindsayi* cascading down the cliffs. Nearby Nugget Point, where we would visit later in the day, is the northern limit for this southern coastal species of *Celmisia*.

Passing gatherings of juvenile Hooker sea lions, doing what loitering juveniles do - play fighting and annoying each other (which was better than annoying us), we headed to the dune flats/hollows, where a half yearly covering of water keeps the introduced lupin confined to the raised dunes, for some serious botanising!

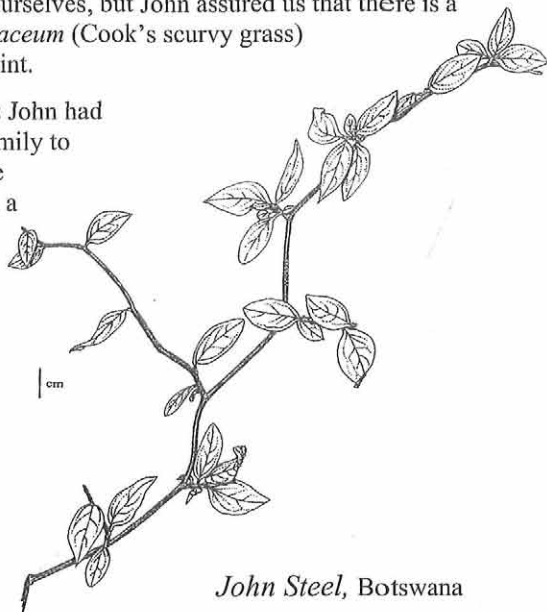
Here we found bouquets of cream scattered about us. The woody New Zealand daphne, *Pimelia lyallii*, an excellent food source for one of our native moths, was flowering in abundance. Other plants of interest were *Raoulia hookeri*, *Colobanthus apetalus*, *Hydrocotyle hydrophila*, *Myosotis pygmaea* var *pygmaea* in flower (we found only two plants of this rare gem), *Ranunculus acaulis*, *Aceana novae zelandiae*, *Apium prostratum*, *Coprosma acerosa*, *Libertia peregrinans* (with magnificent orange leaves), *Apodasmia similis* (jointed wire rush), *Anaphalioides bellidiodies*, *Potentilla anserinoides*, *Leptinella* sp., *Mazus arenarius*, silver tussock (*Poa cita*), *Coprosma propinqua*, two native orchids, *Microtis* sp. and large quantities of *Corybas* sp. and unfortunately rather an abundant amount of *Hieracium pilosella* (mouse eared hawkweed), marram grass and a variety of introduced weeds.

Having restored our blood sugar levels with a picnic in the sun, we headed back to the cars to follow the coast road to the Nuggets. Nugget Point, the sign says, "is the only place on the mainland where fur seals, Hooker sealions and elephant seals co exist with yellow-eyed and blue penguins and spotted shags". The reserve is also home to over 800 *Olearia* plants and the bouquet of one particular species greeted us as we headed down the track to the lighthouse. *Olearia fragrantissima* with a definite aroma of ripe peaches - well, so the consensus of the gathered group decided. Terrain and climate means any growth above knee height at the Nuggets receives quite severe 'behaviour' modification and there were some spectacular wind-shorn kowhai and mahoe to prove it. Demonstrating the effect of good shelter, *Clematis paniculata* was happily flowering on one of the most exposed parts of the headland near the lighthouse, nestled down in the bracken, *Pteridium esculentum*. Other plants of interest were the native *Linum*, *L. monogynum*, *Clematis foetida*, flowering magnificently, *Helichrysum lanceolatum*, *Rubus schmidelioides*, *Calystegia* sp., *Urtica ferox*, *Coprosma virescens* and *C. crassifolia*.

We didn't climb down to check it out ourselves, but John assured us that there is a considerable quantity of *Lepidium oleraceum* (Cook's scurvy grass) growing on the rocks below Nugget Point.

For several it was extended field trip as John had kindly invited us to join him and his family to stay overnight in the former light house keeper's house. Accommodation with a view par excellence and I understand the aroma of ripe peaches was even more luscious the next morning! Thanks John for an excellent botanical trip.

*Olearia fragrantissima*  
*Conservation Requirements of New Zealand's Nationally Threatened Vascular Plants*. DoC 1999



John Steel, Botswana

## Book review

### The moss genus *Fissidens* in New Zealand, an illustrated key.

Beever, J.E.; Malcolm, W.M.; Malcolm, N. 2002. 91 pp. Spiral bound with CD ROM. Micro-Optics Press, Box 320, Nelson. \$NZ50 including p & p (\$60 air-mailed outside NZ)

Identifying mosses is often a bit daunting for the beginner (even the not-so beginner) but species from the genus, *Fissidens*, are a bit of gift – at least to genus level. Not only that, but they are also fairly significant in the moss flora of New Zealand with thirty-two species and varieties, sixteen of them in Otago and one of which, *Fissidens taylorii* var. *epiphytus*, is found only here (and Australia). The leaves (or phyllids) of *Fissidens* are in one plane and they are unusual in that each leaf has a prominent extra blade to it and this is easily spotted with a good hand lens.

Jessica Beever is the New Zealand expert on *Fissidens* (among other things) and she has combined with the Malcolms to produce what has to be one of the best, if not the best, monograph of a moss genus. It begins with an explanation of the leaf structure which is followed by an excellent vegetative key thereby avoiding the problems that arise when finding plants without sporophytes. Each couplet has the previous couplet indicated and also the page number where the identified species, can be found, making the whole more user friendly.

Next follows each species over two facing pages. The first has those wonderful colour photographs, several to a page, so typical of the Malcolms' work, and highlighting those features significant for identification. A line drawing of the entire leaf, shewing from where each photograph was taken, and the scale, finishes off the page. The facing page gives a description of the species with the important features highlighted, the distribution of the species and any important notes. Completing this

page is a map of New Zealand and islands with the distribution noted. Below the map are two tables indicating the substrate and the altitudes where the species has been found.

After this section, species that could possibly be confused, are shown side by side with the areas of difference highlighted by more photographs. A brief glossary follows with a useful note on microscope techniques and money saving ideas! If this isn't enough, the book comes complete with an interactive CD ROM.

If you've ever tried identifying mosses and given up in despair, you'll have no excuse this time. This is an excellent little book which will be a welcome addition to any botanist's library. As far as I'm aware, it is only available directly from Micro-Optics Press. Maybe, just maybe, if this work is well supported, they'll tackle *Bryum* in a similar vein!

### Other Beautifully Illustrated Books and Diaries

Available from Bill and Nancy Malcolm just in time for Christmas. All feature Bill's meticulous colour photography and eye for interesting detail and would delight anyone with a fascination for the intricacies of the botanical world.

*Cladonia cervicornis* ssp. *verticillata*→

*New Zealand Lichens* (2000)

\$50 includes p & p (\$60 air-mailed outside NZ)

*New Zealand's Leaf-Dwelling Lichens* (2000)

\$50 includes CD, p & p (\$60 air-mailed outside NZ)

*Mosses and other Bryophytes, an Illustrated Glossary*

(2000) \$60 including p & p (\$80 air-mailed outside NZ)

*The Genera of New Zealand's Mosses, an Atlas* (2003)

\$80 including p & p (\$90 air-mailed outside NZ)

*New Zealand Liverworts Illustrated in Colour* (2002)

\$50 includes p & p (\$60 air-mailed outside NZ)



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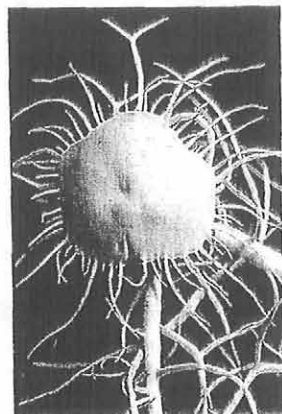
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*Usnea pusilla*, a fruticose lichen. Its distinctive yellow colour comes from usnic acid. From the *Lichen Weekly Diary*→



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## Websites

### **New Weed Education website**

*Auckland Bot. Soc. Newsletter*

Landcare Research New Zealand has developed a new Weed Education Website:

<http://www.landcareresearch.co.nz/education/weeds>

The website includes information, resources and learning activities on weed ecology and control, aimed at teachers, students, community groups and weed control practitioners. Any feedback or questions about the website can be emailed to Margaret Stanley: [stanleym@landcareresearch.co.nz](mailto:stanleym@landcareresearch.co.nz)

### **Botanical Society of Otago:** <http://www.botany.otago.ac.nz/bs/>

Our web site now contains trip details, membership forms, contact details and links to other websites of Botanical interest. Check it out to see the new picture and other changes David Orlovich has made, with updates on trips and activities.

## **Request from Germany for invasive plant display material**

Kia ora!

...Last year I was asked to give two lectures again about New Zealand flora at University for the Botanical Society of Berlin and Brandenburg in January. There were already three lectures before that, about coastal and bush vegetation and in January one about alpine plants and vegetation (Do you remember our excursion to the Old man Range?) and one about ferns of NZ only. So I was kept very busy with preparations of these lectures during December and early January. It was hard work (with little Konrad around) but most of all it was fun



and I have learned a lot of new things by reading and looking at my stuff I brought from NZ. With this new knowledge I would very much like to go out in NZ nature again and have a deeper look at NZ-plants. It's a shame that NZ is so far away. Late last year I was asked to help with an exhibition about invasive plants and animals not only in Germany. This exhibition will be in 2004 in the Botanical Garden of the city of Potsdam. Because NZ is one of the most threatened areas on earth by invaders, they asked me to search for material about this topic. I have some good photos (*Ulex*) and a very few articles from Newspapers. But I am really missing something good to exhibit that people look at and say "Oh....". I still remember this very impressive advertisement about Gorse poison which ended "...more money - more dead gorse." Do you know what I mean?

My idea was to show something like this on a video to let people know what dimensions this problem can get. So my question to you is: Could you do me the favour to copy this advertisement or something comparable or even better on a videotape if you can catch it? Of course I will pay you for the cost of tape and sending costs. And could you please keep your eyes and ears open for any material about NZ-Invaders, which is it is possible to be sent and exhibited in Germany?

Tschüß!!! By by!!  
Friederike

Friederike & Dr. Wolfgang Blenau  
Poststraße 3A  
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GERMANY

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Note: This is a shortened and part- edited letter to the editor from Friederike, who was an enthusiastic member while she was in Dunedin. I haven't been able to tape the advertisement she's asking for, so I hope others can help her with relevant material, especially as BSO is now an official supporter of the Botanical Garden of Potsdam's 2004 international exhibition of invasive plants.

## News

### Plaudits for BSO Patron

Peter Bannister gave a plenary lecture (*My 40 years as a physiological ecologist*) at the Combio '03 conference in Melbourne and was presented with the NZ Society of Plant Physiologists **Outstanding Physiologist** Medal for 2003. Peter flew to Auckland on 13 November to again be presented with his impressive medal at a Royal Society dinner where recipients from other affiliated societies also received their awards.

### Promotions for BSO President and members.

Congratulations to David Orlovich and Janice Lord who have recently been promoted to Senior Lecturer and to Paul Guy and Catriona Hurd who will be Associate Professors from 1 Feb.

## Review of the Mt Aspiring National Park Management Plan

Department of Conservation, Wakatipu, has sent BSO an invitation to attend a workshop with other statutory bodies and interest groups, to discuss: the main issues relating to the management of the park within the next 10 years, and options for managing areas of high conflict or high use, including outcome statements for high use. Denise Young, 03 442 9823, [dyoung@doc.govt.nz](mailto:dyoung@doc.govt.nz), welcomes your input.

## Graduate Program in Plant Biology

The Department of Biology at The University of North Carolina at Chapel Hill has sent us details of its graduate program in plant biology. More details on the Department of Botany noticeboard, or email [bsobotany@botany.otago.ac.nz](mailto:bsobotany@botany.otago.ac.nz) and we'll forward the attachment.

## Lichen corrections

David Galloway has pointed out that the *Hypogymnia* mentioned in 'Lichens on twigs in the Dunedin area' in *BSO Newsletter* 39 should be *H. subphysodes*. Likewise the *Flavoparmelia* in the 'Key to 15 genera of common foliose lichens in the Dunedin Urban area' should be *F. haysomii*.

## Botanical Diary - see front pages for finalised BSO events

### Audrey Eagle Prize for Botanical Drawing – call for entries!

Audrey Eagle will present the first Audrey Eagle prize for Botanical Drawing, at the Annual General Meeting of the Botanical Society of Otago, on 21 April next year. The **prize of \$100** will be awarded for the best botanical drawing submitted by Monday 8 March, 2004.

Entries may be given to Audrey to take home for judging at our evening meeting on 8 March. Any medium is permitted, colour or black and white. The main criterion is that it has a botanical theme. Audrey suggests that something that has not been fully illustrated yet, like a small herbaceous plant, a lichen or a liverwort would be of added botanical interest. The president would love to have colour pictures to feature on our website, the committee is keen to have something we can use as a logo or letterhead, while the editor will be delighted to have original art to feature in the BSO newsletter, especially if there is an interesting note to go with it. (Bear in mind that the newsletter is set out in 14 pt font on A4 pages, which are photocopy-reduced to A5 for publishing in black and white.)

Each drawing should be accompanied by a caption and any comments of interest. Don't forget to include your name and contact details. If you can't make the March meeting, entries may be sent to: BSO Drawing Prize, Box 6214, Dunedin North, or put in the BSO pigeonhole in the Botany Dept. mail room, by midday on Monday, 8 March.

Email queries to: [bsobotany.otago.ac.nz](mailto:bsobotany.otago.ac.nz)

*Happy drawing!*

The Otago Museum is the current venue for Nancy Adams' Botanical Drawings "road show" and is on display in the Nature Galleries on the third floor. It's there until the New Year (**Jan. 18**) but hasn't yet received much publicity so I thought most keen botanists would want to avail themselves of the opportunity of scanning a sample of the originals of Nancy's several botanical books. Most spectacular and notable is her "*Seaweeds of New Zealand*" with 441 of more than 600 species brilliantly illustrated. This book won for her a Montana Book Award soon after it was published in 1994. She also produced "*New Zealand Wildflowers*" and "*Mountain Flowers of New Zealand*" on her own, as well as drawings of landscapes and native plants for most of the early National Park booklet series. Nancy also provided the valuable drawings for the well known and much used "*Trees and Shrubs of New Zealand*" with Lindsay Poole and for "*New Zealand Alpine Plants*" with me.

### Nancy Adams' Botanical Drawings ctd.

forwarded by *Arlene McDowell*

Approximately 100 botanical watercolours and drawings, which are widely known through reproduction in the many books that Adams has written and illustrated, are now on display in the Nature Galleries in the Otago Museum until 18<sup>th</sup> January.

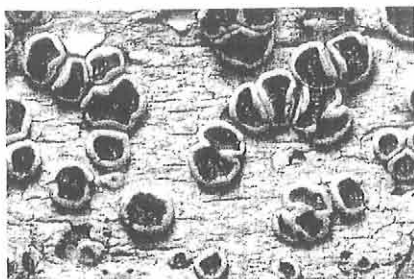
Nancy Adams grew up in Wellington and was educated at Wellington Girls College and then at Victoria University where she studied botany and zoology. Adams' contribution to botany in New Zealand has been frequently acknowledged during her career. In 1964 she was awarded the Loder Cup for her work illustrating booklets for the National Parks Board, she was awarded the Queen's Service Order in 1989 and in 1990 she was awarded a Commemorative Medal for services to New Zealand Botany. She has been an honorary research associate of the Te Papa Museum since her retirement in 1987.

These vividly colourful artworks have been created over a 50-year period and have never been exhibited before, so don't miss out! **Admission is free.**

### Weekend lichen workshop. Late May 2004

Plans are progressing towards holding a weekend Lichen Workshop towards the end of May next year. Consensus favours a weekend workshop focusing on lichens in Central Otago. Date will be decided by 14 Feb. so final details can put in the next newsletter. To express interest, email: [bs0@botany.otago.ac.nz](mailto:bs0@botany.otago.ac.nz), or phone Allison Knight, 487 8265, or Jennifer Bannister 467 2142. Then we'll arrange the most suitable date.

*Tephromela atra*, a lichen that's truly cosmopolitan. (It's found throughout the world in all major zones of vegetation). Malcolm & Malcolm, *Weekly Lichen Diary*



## Local contacts and meeting places of groups with overlapping interests.

**University of Otago Botany Dept** Seminars are on Wednesdays during teaching semesters at 12 noon, upstairs in the Union St Lecture Theatre (formerly Botany School Annexe), in the red-brown bldg, Cnr Union St West & Great King St. **Contact: Trish Fleming, Secretary, phone 479 7577, email: trish@planta.otago.ac.nz**

**Dunedin Naturalists' Field Club** (DNFC) Meetings are at 7.30 pm, first Monday of the month, in the Zoology Dept Seminar Room, (NOTE CHANGED VENUE) Great King St. Their field trips leave from the Citibus Depot, Princes St. Visitors are welcome. **Contact: Beth Bain, President, 455 0189, email: bethbain@ihug.co.nz**

**Dunedin Forest and Bird** (F&B) meetings are on Tuesday, at 7.45 pm in the Hutton Theatre, Otago Museum. Field trips leave from Otago Museum Gt King St entrance, 9 am, Saturday. **Secretary: Paul Star 478 0315**

**Friends of the Botanic Garden** meet on the third Wednesday of the month at 7.30 pm in the Education Centre, Lovelock Ave. **Secretary: Mrs Betty Wolf, 488 1550**

**DOC Conservation Volunteers:** ongoing opportunities for hands on conservation work in coastal Otago. Learn new skills in some neat places, help conservation efforts and have fun all the while! To sign up, and receive newsletters and event programmes, **contact David Mules: dmules@doc.govt.nz**

**Otago Institute** (OI) **contact: Michelle McConnell, secretary, phone 479 5729, email: michelle.mcconnell@stonebow.otago.ac.nz . Web site: <http://otagoinstitute.otago.ac.nz/>**

**Southland Natural History Field Club.** Meetings 7.30 pm on the second Thursday of the month, currently at the Otatara Hall, just out of Invercargill. Field trips the following Saturday or Sunday to places of botanical, ornithological, ecological or geological interest. **Contact Lloyd Esler 032130404, email esler@southnet.co.nz**

**Otago Alpine Garden Group** Meets every 3<sup>rd</sup> Thursday of the month at the Dunedin Botanic Gardens Centre, Lovelock Avenue at 7.30 pm. The Group operates a seed exchange and holds periodic field trips and garden visits. **Contact: Secretary, P.O. Box 1538, Dunedin or Les Gillespie Ph 489-6013**

Times and other details may change. Check with the group involved first.

## Cover pictures

**Front cover,** contents page and membership form. Details of *Griselinia littoralis* (broadleaf) first discovered to be full of Arbuscular Mycorrhizal Fungi by Geoff Baylis, and a useful companion plant for *Ixerba brexioides* in the south. (see note by Chuck Landis). From colour paintings by **Audrey Eagle** in *Eagle's Trees and Shrubs of New Zealand in Colour*, 1975.

**Back cover.** Effect of vesicular–arbuscular mycorrhizas on growth of *Griselinia littoralis*. Plants, 3 in each group, pre-treated in (from left): *Griselinia* soil (mycorrhizal); sterilized soil (non-mycorrhizal); *Griselinia* soil (non-mycorrhizal). **GTS Baylis** *The New Phytologist*, **58**, 274-280 December 1959

# Botanical Society of Otago

Patron: Professor Peter Bannister

Botanical Society of Otago, PO Box 6214, Dunedin North, New Zealand

## Committee 2003 – 21 April 2004

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

Secretary, **Robyn Bridges**, [robyn.bridges@stonebow.otago.ac.nz](mailto:robyn.bridges@stonebow.otago.ac.nz), ph 479 8244

Treasurer, **Frances Anderson**, [francesa@es.co.nz](mailto:francesa@es.co.nz),

Events Manager, **Arlene McDowell**, [arlene.mcdowell@stonebow.otago.ac.nz](mailto:arlene.mcdowell@stonebow.otago.ac.nz)

Program Manager, **Ian Radford**, [ian.radford@botany.otago.ac.nz](mailto:ian.radford@botany.otago.ac.nz)

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Newsletter editor, **Allison Knight**, [bsa@botany.otago.ac.nz](mailto:bsa@botany.otago.ac.nz), ph 487 8265

**Please submit copy for next newsletter by 14 February 2004**

For information on activities contact the trip leader, or see our notice board in the Botany Dept corridor, or website: <http://www.botany.otago.ac.nz/bsa/>

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## Membership form: Botanical Society of Otago, 2003-4

*(This form is also available on our website)*

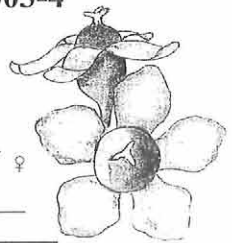
Preferred title: \_\_\_\_\_

Name: \_\_\_\_\_

Mailing Address  
(work or home) \_\_\_\_\_  
\_\_\_\_\_

E-mail address: \_\_\_\_\_  
\_\_\_\_\_

Phone: work ( ) \_\_\_\_\_ home ( ) \_\_\_\_\_



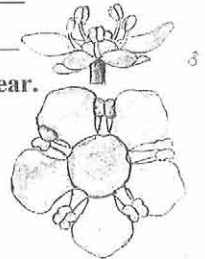
Annual Subscriptions are due by the beginning of each calendar year.

**Only \$5 Concessional (student /unwaged)**, [\$20 for 5 years]

**\$15 Full (waged/salary/philanthropist)** [\$60 for 5 years],

**\$20 Family (2 adults + children)** [\$80 for 5 years]

Donations are welcomed



**Cheques to:** "Botanical Society of Otago".

**Post to:** Treasurer, BSO, P.O. Box 6214, Dunedin North, New Zealand

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