Botanical Society of Otago Newsletter

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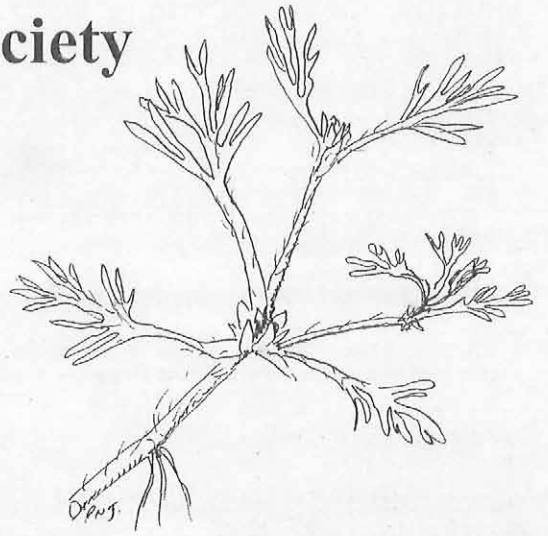


BSO Meetings and Field Trips

10 April, Wednesday, **7.30 pm: NOTE DATE CHANGE.** Short **Annual General Meeting** of the **Botanical Society of Otago,** followed by **Emeritus Professor Alan Mark** on ***"Accelerating the conservation of biodiversity in tussockland through tenure review."*** Zoology Annexe Seminar Room, Great King St, right at the back of the car park between Dental School and Zoology. Be prompt or knock loudly, the side door can't be left open long at night.

14 April, Sunday: Informal, laboratory-based **Native Grass and bidi-bid Workshop** run by **Dr. Kelvin Lloyd:** ***Identification of New Zealand Chionochloa, Festuca and Acaena species.*** Meet at **10 am promptly** (that's when the door will be unlocked) at the Botany Department, 464 Great King Street. Bring lunch, hand-lens, and any specimens you want to identify. Kelvin will describe characters that are useful for identification and provide live plants that people can attempt to key out. Microscopes and tea-making facilities will be available.

15 May, Wednesday, **5.30 pm:** BSO meeting. **Dr. Steven L. Stephenson**, Fairmont State College, USA, on ***"Wildflowers of Eastern North America"*** Zoology Annexe Seminar Room, Great King St, right at the back of the car park between Dental School and Zoology. Be prompt or knock loudly, the side door can't be left open at night.

18 May, Saturday, **9.00 am. Introduction to Lichens.** Full day **Lichen Workshop.** A short field trip to look at lichen habitats, communities and growth forms, followed by microscopic and chemical identification techniques in the laboratory. Meet at the car park of the Botany Department, 464 Great King Street. Bring lunch, boots, hand lens and wet weather gear.

Contents

Notes from Head Office

2002 is not only the International Year of Mountains, it is also the official Year of the Fungus, and NZ Post have recently issued a striking set of stamps to celebrate this.

On the mountain front, congratulations to the organising committee, their helpers, the sponsors, the speakers and the participants for bringing together a very successful 'Celebration Conference' in Dunedin last month. Much constructive discussion and debate arose from having politicians, scientists (botanists, geologists, biologists, ecologists and climatologists), tangata whenua, conservationists, high country run holders, private, professional and commercial recreational users all gathered together to put forward and listen to various points of view. This valuable exchange of views continued the next day on the well-attended field trip to the Lammerlaw Range and Black Rock Scientific Reserve.

Prof. Mark will bring a lot of the threads from this Mountain Conference together when he speaks at our Annual General Meeting on April 10. The following weekend Kelvin Lloyd, will lead a workshop on the identification of selected alpine grasses and herbs.

On the fungal front, in May there is the national Fungal Foray, a talk by an international speaker, and a BSO introductory workshop on lichens, which are, after all, just clever fungi that have associated with a photosynthetic algae and/or cyanobacteria. Lichens are particularly conspicuous in alpine areas, but they are all around us, and form an important but often-neglected part of our ecology and biodiversity surveys.

I am sorry to say that our Chairman, Bastow Wilson, has been very ill in hospital, but pleased to be able to report that he is now making considerable recovery. Proof reading letters and articles for the BSO newsletter is good therapy, so keep them coming in!

Allison and Bastow.

Cover drawing

Soliva sessilis (Onehunga weed) drawn by Peter Johnson. See Peter's plant profile and action-provoking article about this nasty, prickly weed invading the south.

Back cover

Scanning electron micrograph of *Hieracium* sp. pollen – by Botany Dept and Scanning Electron Microscope Unit, OU, for 3rd year course in Plant Diversity and Evolution.

Subscriptions over-due now!

Subscriptions are now overdue for 2002. Please pay promptly. It's a good deal, thanks to facilities made available by the Otago University Botany Dept. Use the form at the back of the newsletter or get one at the AGM. - *David Orlovich, treasurer.*

Letters

Request for recent records of native mint

Native mint, *Mentha cunninghamii*, is a small herb that has suffered a severe decline in both numbers and distribution over the last fifty or so years. It has completely disappeared from some former sites. But it is still present locally, though rarely in good numbers, and this has meant that it has not been identified by botanists as a plant in need of conservation action.

My prime interest in it is as a possible host of a now rare day-flying moth, *Xanthorhoe bulbulata*. The moth once had a distribution that encompassed most of the South Island from sea level to above tree line and the lower half of the North Island. This colourful species was locally common, but only two specimens have been seen in the last fifty years. One was seen alive in Queenstown in 1979, the other dead in the Kawarau Gorge in 1990 (Patrick 2000).

As other members of the genus *Xanthorhoe* in New Zealand feed exclusively on Brassicaceae, I spent a decade in vain looking for and examining such rare species as *Ischnocarpus novae-zelandiae* as a possible host. Like *Mentha* that species too had slipped through the cracks of rare plant conservation planning.

But recent examination of the world literature on the genus *Xanthorhoe* shows that as larvae they feed on other plant families as well. Included in this list of additional families is the genus *Mentha*. That, coupled with the fact that one of the sites where the moth was reported as common around 1900 stated that *Mentha* was common also, leads me to think that it is a strong candidate as the host plant of *X. bulbulata*.

What the moth probably needs, if it is still extant, is a good supply of this plant if it is indeed the larval host. I would be grateful for grid references of any such places especially in the Otago Lakes area.

Brian Patrick
Otago Museum
Box 6202, Dunedin
bpatrick@xtra.co.nz

Reference: Patrick B H 2000 Conservation status of two rare New Zealand geometrid moths. Science for Conservation 145. Department of Conservation, Wellington. 21 pp.

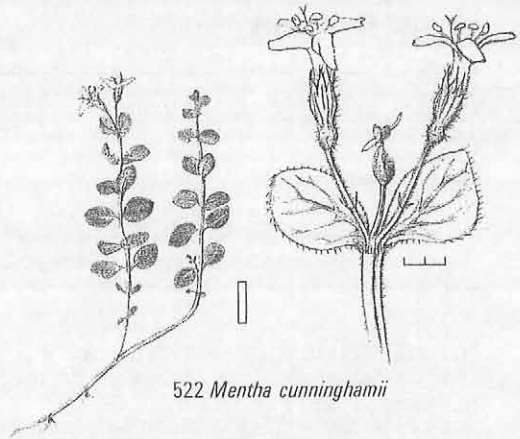


Fig. Native mint, *Mentha cunninghamii*
From: **Wetland Plants in New Zealand**, Peter Johnson and Pat Brooke, DSIR, 1989

Coprosma and its fruity colours: be a part of a survey this autumn!

Have you ever been walking through a beautiful stretch of snow tussock grassland and noticed that there are an awful lot of colourful, rich, ripe, juicy drupes on the Coprosmas? And have you ever noticed that what appears to be an otherwise ordinary population of *Coprosma cheesemanii* or *Coprosma ciliata* is producing a veritable rainbow of different coloured fruit? Have you noticed that different individual plants of what you swear is the same one species are producing pink, yellow, white, orange or red berries?

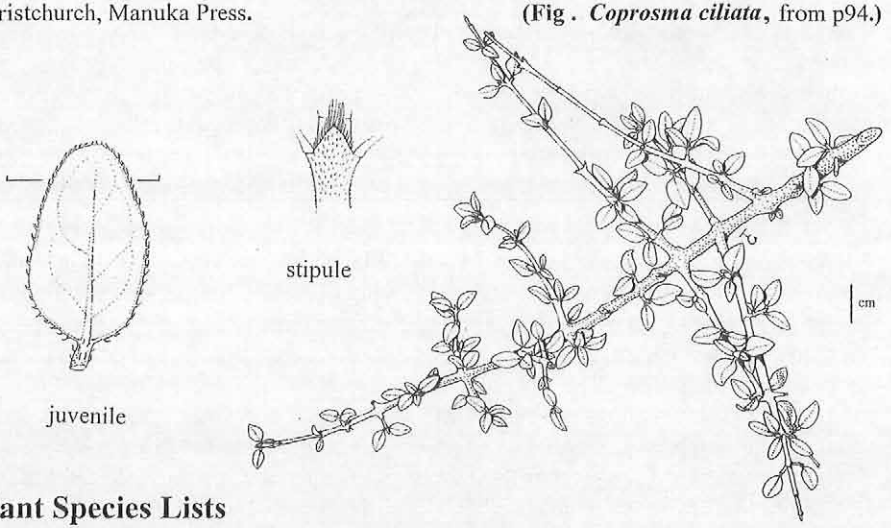
I have, and this has become part of my PhD on the evolution of fruit colour in Coprosma! This phenomenon of different morphologies within a species population, known as a **colour polymorphism**, may give me some insight into what is happening in the genus as a whole. So, here is a request to all dedicated Bot. Soc. members who may be heading out to the field over the next few months. As part of my PhD, I am interested in observations on the fruit colour of Coprosmas, particularly of two montane-alpine species, *Coprosma ciliata* and *C. cheesemanii*. Most species of New Zealand *Coprosma* (Rubiaceae) produce fruit of only one colour. This suggests that there are either environmental or genetic constraints on the production of alternative colour phenotypes. Seven species are the exception to this, and exhibit varying levels of fruit colour polymorphism. Two closely related species, *Coprosma cheesemanii* and *C. ciliata* display the most extreme levels of this variability, with up to five general colour categories, ranging from red, pink, and orange to yellow and white, all intermingled within the same population. Both species produce a copious annual fruit crop, so the colourful fruit display is truly spectacular! From my studies I can say that an individual will only produce ripe fruit of only a single colour over a season, from one season to the next. Therefore, fruit colour is a constant character with a genetic basis whose expression does not appear to be overly influenced by environment.

Because I cannot travel the far reaches of New Zealand, I need to contact outdoor enthusiasts with a botanical bent and full colour vision who can identify these two species of coprosma and note the colours of fruit occurring within a population. I thoroughly recommend Wilson and Galloways' (1993) book, ***Small Leaved Shrubs of New Zealand*** for species identification. *Coprosma cheesemanii* is a low, semi-prostrate, divaricate subshrub and grows in alpine-subalpine tussock grasslands. *Coprosma ciliata* is a taller, divaricate shrub, which occurs in montane shrublands and mountain beech forest understory at treeline. If you are planning to head to alpine-montane areas and would like to be a part of this survey, please contact me so that I can rush to you a "fruit colour information survey package". Your time in the field would be limited to an hour or so, and makes for a pleasant afternoon's wander through alpine meadows.

If you have fruit colour polymorphism observations for any other *Coprosma* species, these are also welcome!

Adrienne Markey
Botany Department, Otago University, PO Box 56, Dunedin, NZ
Ph: 03 479 9061, Email: adrienne@planta.otago.ac.nz

Reference: Wilson, H.D and T. Galloway (1993). ***Small-leaved shrubs of New Zealand.*** Christchurch, Manuka Press. **(Fig . *Coprosma ciliata*,** from p94.)



Plant Species Lists
- comments from an itinerant field tripper

Wonderful news that Graeme Jane is making his species lists available through the Otago Bot. Soc. (Newsletter #30, Feb-Mar. 2002). I first encountered Graeme's lists a few years ago in the Lewis Pass region. Since then I've continued to use his lists to the point where they have higher priority than even the makings for a brew of tea! What's behind this priority for a mere dabbler in plants? Use of the lists has evolved in a way that has surprised even me and added much more value to the short time I spend in the field. I hope my comments appeal to other Bot. Soc. members and encourage greater use of and support for Graeme's work.

Graeme can produce lists that are grouped under headings (trees & shrubs, lianes, ferns, orchids, etc) or in alphabetical order (genus, then species). Most of my experience has been with the grouped lists. However, the alphabetical format is a boon when I hear an unfamiliar name (eg "*Huperzia australe*") and sense that I've used up my quota of newbie questions to the experts present. Not having any idea of even the plant group, a quick scan down the alphabetical list shows me the name plus any previous names, including common names and whether the plant is introduced or native. These new names for old are a big plus for me in both forms of the lists.

At first I used the plant lists as checklists. As I wandered, plants were ticked off and I generally felt fulfilled at gaining a better understanding of a particular locality. How limited this was in hindsight. Subsequent talks or reading about a locality or region, would make me realise my ignorance and the lost opportunities to learn - plants I'd missed or even wrongly identified. It took me a while to realise that neither Graeme nor his lists can be telepathic and highlight what is of most interest to me. While this may be blindingly obvious to everyone else, it took me some time to understand that I would have to initiate interaction with the lists BEFORE a field trip.

When embarking on a field trip I now pull out Graeme's lists for localities or regions nearest to where I'm heading. A week or so prior to a trip is essential for me to look at these lists - before the rush of tucker buying and packing gear. The grouped list allows me to highlight particular species that I believe need re-acquaintance, need to know better, or are a total surprise. I'm now able to do some mild consulting of texts and illustrations that give me a mental view of what to expect. Such simple preparation has given me a greater feeling of discovery and enjoyment of plants.

Perusal of lists forces my attention to name changes (eg *Lepidothamnus* for *Dacrydium*) that I'm struggling to relearn. Plants new to me may have common names that are easier for me to learn than a Latin binomial - all listed by Graeme. Better still are those tricky (for me) unnamed species with their tag names, the varieties, the aggregates and those restricted to one locality. A bonus for me has been to scroll through these lists on a computer screen. Usually I find it difficult to read from a screen and prefer the printed format, but not with Graeme's lists. The restricted view through a screen forces my attention to one group of species at a time and allows me to linger and ponder as to what I would really like to get out of the coming field trip.

Anyone with lists to add to Graeme's database will benefit from all his cross-referencing of names, updating, and user-friendly choice of list format.
Thanks Graeme.

Tony Aldridge, Christchurch

LIST

Species lists held for West Coast, South Island – *Graeme Jane*, 20.1.02

HARI HARI	**KARAMEA**
Alexs Knob track - bush	Elfin Forest
Alexs Knob track - scrub and grass	Gunner Downs +alpine
Bold Head Ecological Area	Karamea Bluff
Cammel -Kokatahi - Basic waterfall	Karamea Bluff Scenic Reserve
Canavans Knob ferns - Franz	Karamea School
Chalet Walk - Fox	Karamea coastal
Douglas Walk - Franz	Karamea estuary
Ianthe Forest - Mystery Hills	Karamea forests
Jones Creek Walkway – Ross	Karamea swamps
Lake Kaniere WW - eastern end to hut	Kongahu swamp
Mananui forest	Lake Hanlon
Mt Bonar – Harihari	Oparara
Mt Hercules – Harihari	Total Karamea
Okarito - hill track along coast	**LEWIS - REEFTON**
Okarito - 3 mile lagoon	Albone Walk
Okarito coast	Big River Road
Okarito dune forest - Blanchards Bluff	Garvie Creek Coal M
Saltwater Ecological Area	Giles Creek

HARI HARI ctd.	**LEWIS – REEFTON ctd.**
Totara River (Ross) - bog pine forest	Kirwan's Hill - tops from hut
Upper Wanganui River	Kirwan's Hill - track from Cronadin
Wanganui - Poerua Walkway	Klondike Spur track
Wanganui Valley - track to 1st bridge	Klondike Tarns, Rahu
Westland National Park - NZJB13:497	Mt Haast
Wilberg Range -Wanganui river	Mt Raoulia - Paparoas
PAPAROAS	Mueller Tarn track- Lewis Pass
Charleston Beach (Cemetery)	Rahu River Right Branch
Fox River - Paparoas	Rough Creek -Lewis Pass
Nile River Mouth	**MID WESTLAND**
Pancake Rocks - Punakaeki	Mt French - Hohonu Ra
Seal Point - Punakaeki	Mt Greenland - from Ross to summit
Truman Track – Punakaeki	**WESTPORT**
SOUTH WESTLAND	Cape Foulwind =F290
Cascade valley flats	Estuary Westport - Karamea side
Lake Gault from bush edge	Mt Flemming
Lake Matheson Track	Nile River
	Westport Terrace forest near estuary

Graeme is happy to make these lists of vascular plant species available to Botanical Society members (see Newsletter 30). Also, he is very keen to add to his database, so if you have species lists from any Otago, Southland or West Coast areas not listed here nor in the last newsletter please forward them to him at GTJane@clear.net.nz– *ed.*

Pronunciation of Botanical Latin – *John Steel*

"Latin is a dead language"; "Latin words are too difficult to say"; "What does it matter, how it's said?". I'm sure we've all heard phrases to this effect over the years and recently I was asked to 'rule' on pronunciation for some Botanical Latin words. Firstly, I'll deal with the three comments above. Latin is definitely not a dead language. Anyone reading this uses Latin everyday of their lives. Just as English has changed almost beyond recognition (to the uninitiated at least) over the years, so too has Latin, but neither has gone away. Latin words are remarkably simple to say; a simple rule of thumb is to pronounce every vowel, and you'll be well on your way. Does pronunciation matter? Of course it does! Otherwise one would not be understood. But this is where it becomes tricky! Latin is no different from any other language in that pronunciation differs from place to place and between one social group and another. The question really is, "Is there a universal pronunciation?". The answer is, "Yes". Whether we choose to use this instead of, or as well as, local pronunciation, becomes a matter of situation and/or preference.

Four forms of pronunciation concern us:

i) Traditional English Latin, using English pronunciation for Latin words.
ii) Classical (or Reformed) Latin, as used by classical scholars as the closest they have come to agreeing on what the ancient Romans used. This is the convention generally used in Continental Europe, if not internationally.
iii) Church Latin, based on modern Italian pronunciation.
iv) Non-English Latin, using the pronunciation of other languages transferred to Latin words.

The following guide to pronouncing Classical Latin is adapted from Stearn, 4th. Ed. (1992):

Long **ā**	as in fāte, never as in fāther	short **ă**	as in ăpart, never as in făt
Long **ē**	as in thēy, never as in me	short **ĕ**	as in pĕt
Long **ī**	as in machīne, never as in mīce	short **ĭ**	as in pĭt
Long **ō**	as in nōte	short **ŏ**	as in nŏt
Long **ū**	as in brūte	short **ŭ**	as in fŭll, never as in tūb
Long **y**	as French *pur*, never as in cypher	short **y**	as French *du*, never as cynic

The consonants, b, d, f, h, j, l, m, n, p, qu and z are pronounced as in English.

c always hard as in cat
g always hard as in go
r always rolled
s always soft as in sit
t always hard as in native
ti within a word as in nation
v always w as in we, never as in van

ae as in aisle, never as ea in meat
au as in house, never as aw in bawl
ch as **k** (or better k-h), never as in church
ei as in rein, never as in height
ng as in finger, never as in singer
oi as in boil, never as ee in bee
ph as **p** (or better p-h), never as f
ui as French *oui*, never as in ruin

Got all that? Then all you have to worry about now is stress. In words of two syllables the stress is always on the former. In longer examples the stressed syllable is in bold, followed by the ´ symbol. In words of more than two syllables, the stress falls on the last but one if the vowel is long (*e.g. for-**mō**´-sus*), or when two consonants separate the last two vowels (*e.g. cru-**ĕn**´-tus*), but falls on the last syllable but two when the last but one is short (*e.g. **flō**´-ri-dus, la-ti-**fŏ**´-li-us*). *N.B.* therefore, *Pit-**tōs**´-po-rum* and *Pa-**rāt**´-ro-phis* with their emphases on the antepenultimate syllables, but *Met-ro-si-**dē**´-ros* where the emphasis is on the penultimate syllable!

Easy, eh? Not surprisingly, there are a few exceptions. The most common one is in the use of personal names. A considerable percentage of botanical names comes from languages other than Latin and Greek and a simple, consistent method of Latin pronunciation for them has yet to be devised so the trend is to leave them in their original language. Even this does not always work as many names are transliterated

into other languages making them mutually difficult to understand, *e.g. Fuchsia* – in English, *fyoosha*, but in German, *fukseea*.

So now what? I suppose there are several choices:

i) since the scientific names are part of an international language, one can make the effort to know and understand the Reformed Academic Latin and use it when appropriate;

ii) one can become precious and pedantic and insist on the 'correct' usage at all times;

iii) one can carry on with local pronunciation since most of those around will understand so why bother with anything else.

This article stems from an enquiry from Mark Clark, DoC Otago Conservancy, sent to Bastow who, aware of my interest in Latin, passed it on to me. As for the particular examples I was asked to clear up, here are my guesses. I am not, by any stretch of the imagination, a Latin scholar so will happily be corrected by anyone with more knowledge of the subject. For some of the following the pronunciation of the first syllable may depend on the language of origin of the name.

Arecaceae	Ă-ray-kă-**kē**′-eye	*Arecoideae*	Ă-ray-kō-ĭ-**dē**′-eye
Cocoeae	Kō-kō-**ē**′-eye	*-inae*	′-ĭn-eye
Jubaea	Jū-**bye**′-ă	*markii*	**mār**′-kī-ī
-idae	′-ĭ-dye	*Butiinae*	Bū-tī-**ī**′-nye

Bastow also passed on Mark's query to Peter Johnson who mooted some pronunciations for other words and I add my ideas on them.

Campanulaceae	Kăm-pă-nū-lă-**kē**′-eye	*Ericaceae*	Ĕ-rĭ-kă-**kē**′-eye
Cordyline	Kōr-doo-**lī**′-nē (oo because I don't know how to macronate a y!!)		
Nerine	Nĕ-**rī**′-nē	*Nothofagus*	Nŏ-t(h)ŏ-**fā**′-gŭs
Schizaea	Skĭ-**zae**′-ă	cita	**kī**′-tă (keeta)
Schinus	**Skī**′-nŭs (skeenus)	Schoenus	**Skoe**′-nŭs (skoinus)

There is a plentiful list of references for the pronunciation of classical Latin but the two I would suggest as a starting point are:

Stearn, W.T. (1992) *Botanical Latin : history, grammar, syntax, terminology and vocabulary*, 4th. edn. David & Charles, Newton Abbot.

Wall, A.; Allan, H.H. (1950) *The botanical names of the flora of New Zealand, their origin, history and meaning, with hints on pronunciation*. Whitcombe and Tombs, Christchurch.

Latin is our language and has served us faithfully for more than two thousand years, highlighting our rich and ancient heritage, so maybe it's time it was accorded at least some of the respect it deserves, especially by those of botanical bent who use (abuse?) it on a regular basis. The phrase I would prefer to go with would be, "A little Latin goes a long way"

A PRICKLY NUISANCE WEED INVADING THE SOUTH

Onehunga weed (*Soliva sessilis*) - *Peter Johnson, Landcare Research, Dunedin*

Introduction

Onehunga weed (*Soliva sessilis*; Asteraceae) is a South American plant, notorious for its painful foot-piercing spiny fruits, and very common as a weed in lawns in northern N.Z. e.g., around Auckland (hence the name 'Onehunga weed'). It is appearing at an increasing number of sites in Otago, Southland, and south Westland. Being still in the early stages of invasion in the south I believe we have an opportunity now to initiate control measures and attempt to limit its potential impacts.

Description

Prostrate annual forming pale green patches 10 - 20 (-40) cm across, with feathery divided somewhat hairy leaves; flowers and fruits sessile and inconspicuous, but with small dry fruits having a straight, upward-pointing spine. The identity of *S. sessilis*, and of another weedy species *S. anthemifolia* is readily confirmed by prodding for the feel of spines with a finger or walking across a lawn with bare feet.

"Look-alike" plants

When hunting for Onehunga weed you come to realise that several other weeds of the same well-trodden habitats have similar prostrate habit, softly pinnatifid pale green foliage, and generally sessile infructescences. Some of them compare with *Soliva* as follows: Parsley piert, *Aphanes arvensis*: shorter petioles, broader leaflets;
Soldier's button, *Cotula australis*: more wispy, very elongated peduncle;
Twin cress, *Coronopus didymus*: darker green, often larger, smelly foliage.
Also similar are seedlings of various daisies such as yarrow (*Achillea*), chamomiles and mayweeds (*Anthemis, Matricaria).*

Significance of *Soliva*

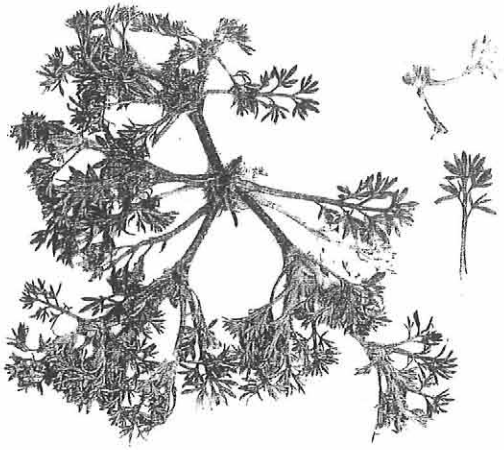
Johnson & Lovell (1980, *N.Z. Journal of Botany 18:* 487-493) note that "The major significance of these species in New Zealand lies in their very successful invasion of areas of managed grass, such as parks, lawns, and sports pitches. They are a nuisance because they die back during summer leaving open brown areas, and also because the very sharp achenes can penetrate skin and so cause discomfort to those people using these short-turf areas."

Former distribution

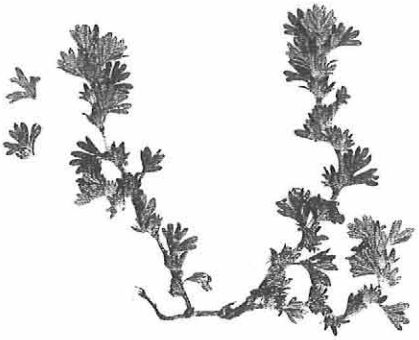
In 1988 the distribution of *S. sessilis* in NZ was "North I.: throughout but most common from N. of Lake Taupo. South I.: scattered localities in Nelson, Marlborough, Westland, and Canterbury, and collected once from near the Old Man Range (Otago). Lawns, playing fields and golf courses, pastures, and stony waste places." (Webb et al. 1988, Flora of NZ Vol. IV,). They also comment: "Both naturalised spp. have increased since 1953 and further spread, chiefly by human dispersal, can be expected."
The southernmost collections of *S. sessilis* currently held in the herbarium of Landcare Research at Lincoln (CHR) are the relatively early (1955) collection from Omeo Creek, foot of Old Man Range, in bare ground among scabweed; and otherwise about

10 specimens from the Christchurch area, and from Westland, the furthest south being from Franz Josef motorcamp collected in 1972.

Fig. Onehunga weed, *Soliva sessilis*, and 3 similar weeds – *Peter Johnson*



Onehunga weed
Soliva sessilis



parsley piert
Aphanes arvensis

soldier's button
Cotula australis

twin cress
Coronopus didymus

P.N. Johnson, Landcare Research, Dunedin, Jan 2002

Recent Appearance in southern South Island

Invercargill, Otatara: became apparent about 1999 in a lawn fronting a suburban street (Carol West, DOC, Invercargill, pers. com.).

South Westland: found in rough lawn at Haast motorcamp, March 2001.

N. Fiordland, Martins Bay: on a mown, gravelly airstrip margin where people alight from planes: about 200 plants confined within 5m-distance; these were scraped off, bagged, and buried, Dec. 2001.

Dunedin area: January 2002, found at Sawyers Bay, Hall Road, lawn verge in suburban street; Broad Bay, lawn verge by bus stop; Macandrew Bay, lawn edge behind sandy beach; University of Otago, lawn verges beside asphalt paths that carry much foot traffic; North Ground, verge of grassed public park especially where ground bared by herbicides; Dunedin Botanic Garden, various path edges; Woodhaugh; Prospect Park; Lake Waihola domain.

Where to see Onehunga weed easily in Dunedin

An easy Dunedin site to see it is where the one-way north system angles through Malcolm St., south of Albany St.: on the small grassy park between Joe Tui's greasies shop and The Captain Cook. Here circular patches of Onehunga weed are readily visible where they have colonised a circular patch of disturbed ground where a 'mature' (and now rather sickly) Metasequoia tree has recently been transplanted.

How significant is the weed potential of Onehunga weed in the south?

It is obvious that Onehunga weed can no longer be considered as a pest only in the warmer parts of New Zealand. But maybe in the cooler south it will be less vigorous, and therefore more amenable to control. It is a weed mainly of nuisance value in playing lawns, turfs, and private lawns, one which severely reduces the ability of people to use recreational turfs while not wearing shoes. Spread must be mainly on footwear and tyres so the habitats where it is first appearing in the south are not surprising: well-trodden paths abutting lawns, bus-stops, airstrips, and motorcamps. Its preference is for disturbed, trampled or partly bared ground, especially at the edge of lawns abutting gravel or asphalt paths. But it will also gradually invade the main expanses of lawns, parks, and cultivated garden beds. I am not sure whether Onehunga weed has potential as an environmental nuisance, but suspect it might invade moist turf communities, dunelands, and riverbed gravels.

Control methods

Initial control should target the preferred path-edge habitats so as to limit seed production and consequent spread. Hand removal by severing individual plants at ground level would appear to be the most immediately effective way of killing existing plants. These should be bagged (to prevent dissemination of ripe and ripening seed) and disposed of by permanent burial e.g. at a landfill site. Mowing of infected lawns should be done with an awareness of where seed-containing grass clippings are being redeposited, composted, used as mulch, or dumped. No doubt there are effective sprays, but these will not necessarily kill seeds, and indeed the use of herbicides around the margins of lawns and parks (a practice which in itself is often a lazy, unsightly, self-

defeating management method) is likely to simply increase the amount of bared habitat available for colonisation by Onehunga weed.

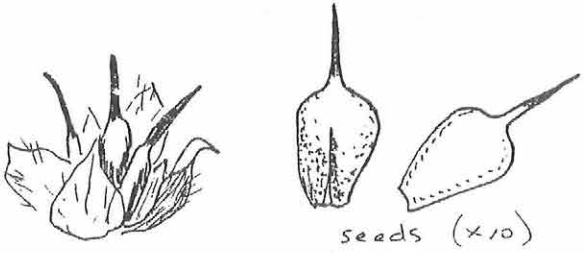
Control strategy
From the public places where it is presently concentrated it can be expected to spread to private gardens. I believe that there is some social onus upon Regional and District councils to initiate control of Onehunga weed on public lands under their control in order to lessen the subsequent and inevitable spread onto private lands. The issue has been brought to the attention of Dunedin City Council, DOC, Otago Regional Council, Environment Southland, and Otago University. The DCC have indicated that they will endeavour to eradicate it from Council land.

We must bear in mind that, as with all weeds, we can probably never eradicate Onehunga weed, that although we might concentrate on keeping certain sites free of it, that re-invasion can always be expected, that chemical or biological control methods are not magic solutions, that every weed needs to be managed with a knowledge of its ecology, and finally that weeding is forever!

What can Botanical Society of Otago members do?
1. Become familiar with Onehunga weed at one of the localities mentioned above.
2. Note sites of occurrence, and of equal interest, vulnerable sites which do not yet have the weed.
3. Do some weeding yourself if the infestation is small, otherwise report occurrence to some local authority.

I am happy to confirm identification of collections, to hear of additional sites of occurrence, and to receive any feedback **(JohnsonP@LandcareResearch.co.nz)**. I shall pass records of Dunedin sites on to Dunedin City Council. Once we have a little more information, and perhaps some consensus of views, I can publicise the topic via a newspaper story.

Fig. Seeds of *Soliva sessilis*
Drawn by Peter Johnson



Trip Report

Allison Conservation Covenant and Bull Creek Reserve - Sat. 23 Feb

Ralf Ohlemüller, Botany Department, University of Otago, Dunedin

February's trip led us to two of the few forest remnants on Otago's east coast. Both the Allison Conservation Covenant and the Bull Creek Reserve harbour in parts extensive stands of Southern rata (*Metrosideros umbellata*) / kamahi (*Weinmannia racemosa*). They are the northern outposts of the dominant forest type of podocarp/rata and kamahi

forest found further south in the Catlins. Southern rata reaches its northern limit on the East Coast here, whereas isolated stands of kamahi are found further north at Taieri Mouth and as far north as Graham's Bush in Dunedin.
A small group of us set out to the Allison Covenant where there is an option of two well maintained walks, the kamahi and the rata ridge walk, both about 45 minutes return. We were a bit late in the year to see the rata in flower, but it appears it wasn't an excessive rata flowering year, quite a different from last year, when the forest floor was covered by a red carpet of rata flower stamens. Both walks give an excellent impression of the variety of forest types in the reserve. There is some almost pure podocarp forest with magnificent rimu (*Dacrydium cupressinum*) specimens and a very species-rich and healthy understorey with regenerating rimu, miro (*Prumnopitys ferruginea*) and Hall's totara (*Podocarpus hallii*). Rata and kamahi become slowly intermixed as the track goes on but there are almost monospecific rata stands on the ridges, with a more open and shrubby understorey. At the end of the loop track the slender white trunks of kamahi dominate the sides of the gullies. The reserve is surrounded by *Pinus radiata* forestry plantations and it is bordered by thick gorse. However, weed input into the reserve seems to be low and mainly confined to the track. A recent survey of more than 150 forest remnants showed the sampled plots at Allison Conservation Covenant to be almost weed free and to harbour among the highest number of native vascular plant species in the region.

After an extended lunch we made our way to Bull Creek. The area (Akatore) is used for large scale exotic forest plantation and seeing bare hills all the way to the horizon after a recent harvest leaves a somewhat dreary picture. As our way led towards the coast, however, it was remarkable to see the many pockets of native bush left in the gullies between the rolling hills of farmland. Those small remnants are mainly composed of pepper tree (*Pseudowintera colorata*) and tree fuchsia (*Fuchsia excorticata*). Nevertheless, they could have immense importance as "stepping stones" for both fauna and flora between larger remnants of native forest vegetation.

The entry to Bull Creek is actually where the creek runs into the sea, behind a small, tidal estuary. There is a boardwalk recently repaired and extended by an impressive local community effort. Here again, we walked through extensive rata and kamahi stands, passing the famous "signature trees", some of which had engravings from as far back as 1911. The sides of the creek became steeper and steeper the further we walked into the gully. At the end of the maintained track we found a pleasant picnic spot and we used the little break for a small fern survey. In an area of no more than 20 m^2 we found more than 10 species of ferns. This is probably the reason why, in the above mentioned survey, Bull Creek came out as having a remarkable species-rich ground layer. Weed input into the reserve is slightly higher than at Allison Conservation Covenant but still very low compared to other forest remnants in eastern Otago.

It was very encouraging to see these two remnants of rare (for Otago) forest type in such good condition. They are rather hidden amidst extensive areas of modified land and somewhat off the beaten track, which probably assists in keeping them in such good condition and also contributes to their special character.

Summer Trip Reports – Mt Cook to Omarama and more.

Hooker Valley, Mt Cook National Park, 30 Dec – *Chris Horne*

What a wonderful setting for botanising! We were thrilled to be among the ice-clad peaks, with avalanches thundering off Mt Sefton, and Aoraki/Mt Cook standing sentinel near the head of the valley, with its three peaks often free of cloud. A glider slowly circling Sefton's summit added to the magic of our day among a wonderful range of alpine plants.

We followed the valley track through forest remnants and over moraine deposits, where the dead-looking *Helichrysum depressum* featured, and past a rock face with the strap fern, *Grammitis poeppigiana*, to the second footbridge. Here, thanks to advice from Jenny Christensen at Park Headquarters, we took the track towards Ball Pass. We were delighted at the extensive areas of the large spaniards, *Aciphylla aurea* and *A. scott-thomsonii*, some with inflorescences up to two metres tall. They themselves were striking subjects for photographs, and also made marvellous foregrounds for shots of the great peaks. *Celmisia coriacea*, with its large, stiff, grey-green leaves and showy white flowers, and *C. verbascifolia*, with purple-stalked leaves, were conspicuous, but the Mt Cook buttercup, *Ranunculus lyallii*, had almost finished flowering on the valley floor, so it was not until the following day above the Sealy Tarns that we saw numerous examples of this handsome plant in flower. *Acaena saccaticupula*'s crimson seedheads, *Parahebe linariifolia* in flower, the glaucous-leaved *Dracophyllum kirkii, Hebe subalpina* in flower, and the fern *Asplenium trichomanes*, were among the many other plants that attracted our attention.

Further up the valley, areas of *Hebe macrantha* in flower were particularly striking, as was evidence of the retreat of the Hooker Glacier because Hooker Lake is a relatively recent development, and Hooker Hut, perched high on the lateral moraine, is now hard to reach. No doubt alpine plants will colonise the moraine deposits as they lose their cover of snow and ice.

Lake Tekapo Turf Plants, 1 Jan – *Barbara Mitcalfe*

This New Year's morning site was the sandy/silty flood plain of Lake Tekapo. The lake is subject to a 10m rise/fall, so the lacustrian flora has to adjust to periods of inundation and desiccation. It was a classic "... bums on high and lens to eye..." occasion as we struggled to identify some rather cryptic species, ourselves observed closely by a pair of banded dotterel nearby. *Leptinella maniototo* was plentiful, as were *Neopaxia* sp. and *Pratia perpusilla,* both in flower. Occasional, dimple-leaved *Epilobium komarovianum* were flowering, also *Raoulia* sp., *Carex berggrenii* and *Juncus antarcticus.* A plant that puzzled us at length until Neill pounced on its identity in the wetlands book was *Crassula sinclairii* in flower. Nearby in weedy pasture we came upon *Glossostigma elatinoides*, *Parahebe lyallii,* and the tiny, delicate, mauve-flowered *P. cannescens* in flower and fruit.

A welcome distraction from this hands-and-knees prostration were five kakii, black stilts, wading in the shallows. Whether the (late), famous Mrs Bones was was one of them is not

known at the time of writing. Nearby on a bouldery slope were *Convolvulus verecundus* subsp *verecundus* and some impenetrably dense cushions of *Carmichaelia uniflora* with fat, yellow, sigma-shaped pods bursting through their *Phyllachne*-like crowns: a strange sight. After lunch eaten in our vehicles because of heavy rain, some of us went looking for more wetlands on the east side of Lake Ohau. A chance conversation with an itinerant musician on a bicycle led to our creeping past about 50 assorted caravans and tents (whose occupants were sleeping off their New Year's eve spent in Twizel), to explore another indigenous, lakeside turf. This area of about 30 x 20 metres was weed-free and so densely vegetated that no soil was visible, however there were no species additional to those which we had seen in the Tekapo turf.

Temple Stream Nature Walk, 2 Jan – *Neill Simpson*

A blustery nor'wester with rain squalls brought in shift day, our move from Pukaki Downs to Glen Mary Ski Club Lodge at Lake Ohau. By the time we packed up, cleaned up, stocked up at Twizel and settled down at Ohau much of the day had gone. The nature walk at the Temple Stream road end, at the head of Lake Ohau proved an ideal finish to the day. The road ends at a patch of mature mountain beech where several large trees were laden with scarlet mistletoe (*Peraxilla tetrapetala*) with the flower remains carpeting the ground. Three tracks start from this picnic area, the North and South branches of Temple Stream, the latter with a "forest" of the rare and threatened, small tree, *Pittosporum patulum* at its head, and the nature walk.

The nature walk climbs through dry mountain beech forest briefly before zig zagging up in fire-induced, open grassland with patchy forest showing good regeneration. Numerous native herbs, orchids such as *Aporostylis bifolia,* and shrubs were found as we listened to the rirorirо, a flock of chattering brown creepers and bellbirds and swiped the numerous sandflies. A falcon flew overhead and large dragonflies whizzed about.

At the highpoint of the loop track there is the option of climbing directly uphill through steep, *Dracophyllum* shrubland and beech forest for excellent views to the south. The many who did this found many more plant species, some in flower such as *Celmisia sinclairii, C. verbascifolia, C. densiflora, Forstera sedifolia* and yellow flowered *Brachyglottis haastii.* The Hebes, *H. salicifolia, H. subalpina* and *H. buchananii*, were present as was snow totara (*Podocarpus nivalis*) and many other shrubs. It was a warm, balmy evening now and we were reluctant to leave this pleasant place. The numerous mistletoe, some still in flower, were the most notable feature of the loop back through the forest to the vehicles.

Ohau Ski Field, 4 Jan – *Barbara Clark*

Twenty two people departed at 9:10 am for Ohau Lodge to check whether the ski road was open to all vehicles and pick up the gate key. Lake Ohau was choppy and a southerly was blowing but the sun was shining after heavy rain the previous day. The rocky road up to the skifield was negotiable despite a few slips. Alli's car had a

puncture but the tyre was quickly changed with all the help available. Two passengers elected to walk the rest of the way to lighten the load. They reached the top of the road soon after the cars by following a stream bed up the steep slope.

At the top we donned extra clothing to counter the cool breeze, then people immediately scattered in all directions. There was so much to see! Many stayed on the lower slopes beyond the ski buildings, for most of the morning where there was a lot of marshy ground and a great variety of plant species. Others climbed to the upper ridges where there were scree slopes, rocky outcrops and a hidden tarn. Some of the upper slopes had been "groomed" for the ski operations.

Graeme Jane provided an extensive plant list. Some of the plant highlights were additions to it. Rick Jackson found *Haastia sinclairii* and *Hebe epacridea*. Also found were a beautiful clump of *Lobelia linnaeoides*, on a barren ski run slope protected by a larger rock and *Raoulia eximia*, about a metre across. Other favourites were *Leucogenes grandiceps*, *Aciphylla dobsonii*, penwipers on scree (*Notothlaspi australe* = *N. rosulatum)*, *Myosotis traversii* in bud and flower and *Myosotis* "drucei", with its panicled flower, by a group discussing its non-appearance when it was spotted near their feet adjacent to a hut. Also seen were Alpine butterflies, grasshoppers and a South Island pipit.

Otago & Wellington Botanical Societies 'prayer meeting', kettle hole, Ohau. 5 January, 2002. – *Joyce Wilson*

Book reviews – *by John Steel*

Bednarek-Ochyra, H.; Vá ň a, J.; Ochyra, R.; Smith, R.I.L. 2000. ***The liverwort flora of Antarctica.*** 236 pp. P/back. Polish Academy of Sciences, Institute of Botany, Cracow.

Antarctica has an interesting relationship with New Zealand, both being near the bottom of the world and for their past links with the palaeo-continent of Gondwana. Its proximity to New Zealand has also encouraged a strong scientific interest here. Botanically, Antarctica has a limited flora which, apart from one dicotyledon,

Colobanthus quitensis, and the monocotyledon, *Deschampsia antarctica*, comprises a relatively small number of cryptogams. This, I suspect, does not come as much of a surprise. However, I was intrigued to find a whole book devoted to its hepatic flora.

This book, by a group of eminent scholars, is an excellent and comprehensive treatise on the subject. There is only one liverwort, the bipolar, *Cephaloziella varians*, present on the Antarctic mainland, the rest occurring on islands off the Antarctic Peninsula and the South Orkney and South Sandwich Islands.

The first four chapters give comprehensive descriptions of climate, biogeography, ecology, diversity and phytogeography, as well as the history of liverwort research of the area.

The fifth and final chapter gives an excellent systematic treatment of the species recorded as being present. Of the twenty-eight species in the area, twelve are represented in New Zealand and each is fully described and illustrated.

An interesting addition to the library for anyone interested in world distributions of species, liverworts in particular.

Peat, N.; Patrick, B. 2001. ***Wild rivers, discovering the natural history of the central South Island.*** 142 pp. P/back. University of Otago Press, Dunedin.

This is the fourth book in the series by these authors (Peat, N.; Patrick, B. 1995, 1996, 1999) and continues the themes of the previous ones. There is always a fear with books issued in series that the formula will date and lose its ability to hold the reader's interest and I confess to harbouring these fears when I first saw this volume. My fears were soon dissipated and instead, I believe the authors have improved on the earlier ones.

The book covers the area from the Rangitata River in the north to Shag Point in the south and inland to the Southern Alps and includes the Mackenzie Country. The first six chapters describe the principal geographical features that characterise the area and highlight the rich and varied biota of each, all tied together with the braided river systems that are so important here and the best examples left in New Zealand. The final chapter covers the future of the area, the threats to it and the conservation issues to be faced.

Once again the authors successfully meld together the many complex influences of a large and varied area in a very few pages using a wealth of information from many disciplines, the whole illustrated with well-chosen and excellent photographs. Their writing style is inclusive without sacrificing quality or patronising the non-scientific reader. It's all here: Māori folklore, environmental law, history – European and Māori, climate change, botany, glaciology, geology, entomology, in fact –ologies by the bucketful. However, I could have done without yet another full page picture of the Moeraki boulders! As a university press publication, I expect much better proof-reading and I found the errors therefrom irritable.

This is my fifth purchase of this volume, the other four having ended up as presents. At $49.95 this is good value and a worthy, even essential, addition to any bookshelf.

References:

Peat, N.; Patrick, B. 1995. ***Wild Dunedin**, enjoying the natural history of New Zealand's wildlife capital.* University of Otago Press, Dunedin.

Peat, N.; Patrick, B. 1996. ***Wild Fiordland**, discovering the natural history of a World Heritage area.* University of Otago Press, Dunedin.

Peat, N.; Patrick, B. 1999. ***Wild Central**, discovering the natural history of Central Otago.* University of Otago Press, Dunedin.

BSO members discount on books: Many botanical books, including those published by CSIRO, Australia, are available from Manaaki Whenua Press, at 20% off, to BSO Members, with free post and packing. If you are a member of BSO, say so when you order. **Email**: MWPress@landcare.cri.nz
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Website Reviews – *by Tom Myers, Dunedin Botanic Garden*

International plant name index: http://nzflora.landcare.cri.nz/plantnames/
IPNI, the International Plant Name Index gives taxa, authors and publications (very useful). "IPNI is the product of a collaboration between The Royal Botanic Gardens, Kew, The Harvard University Herbaria, and the Australian National Herbarium". Check out the section on how to become a *"contributer". http://www.ipni.org/*

Also see:
Australian Plant Name Index (APNI): **http://www.anbg.gov.au/cgi-bin/apni**

W3Tropicos (by Missouri Botanic Garden) - very useful, large South American and Asian content, including an ability to view on-line distribution maps for herbarium collection localities. Well worth a look, and relevant to anyone working on South American material. Has links to the Flora of China Project, & Flora of Chile, Peru and Panama. **http://mobot.mobot.org/W3T/Search/vast.html**

Edinburgh Botanic Garden and similar Botanic Gardens' on-line inventories, including CITES & WCMC conservation sites:
http://www.rbge.org.uk/forms/multisite2.html

Flora Europaea (PANDORA): **http://www.rbge.org.uk/forms/fe.html**

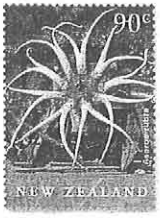
USDA plants database: http://plants.usda.gov/

NZ nature photos: Mike Dodd, UK, advises that the web link at:
http://www.open.ac.uk/Nature_Trail/Other_ar/OA_NZ.htm contains a few new photos from his last trip to NZ - in the links from the main page.

Newsletters from other Botanical Societies

Current newsletters from botanical societies in Auckland, Waikato, Wellington, Christchurch and Wakatipu are posted on the BSO notice board outside the Botany Department tea room. Back copies of newsletters, including the Botanical Society of New Zealand and BSO, are stored in the computer room.

Fig. One of six of the striking Year of the Fungus stamp issue.



90c *Aseroe rubra*. Looking more like a sea anemone, with its waving Medusa-like petals, this is actually a scarlet flower fungus. Its spores are produced in the slimy mucus located in the centre. Found from February to May in beech and mixed forests' leaf litter.

National events

16th NZ Fungal Foray, 5-12 May. Based at Okuru, 20 min south of **Haast** on the road to Jackson Bay, West Coast, South Island. Deadline for registration is 28 March, but late registrations will be accepted if you are quick. Registration forms and more information on the Botany Dept website: **www.botany.otago.ac.nz/foray/**
Or contact David Orlovich, 03 479 9060, email: david.orlovich@botany.otago.ac.nz

18th John Child Bryophyte Workshop, 28 Nov–3 Dec. Based at Albert Town, near **Wanaka**, Central Otago. For registration forms and more information contact:
Geoff Spearpoint, PO Box 188, Lincoln University, Canterbury, NZ

Local botanical events April - May 2002 BSO events in boxes

10 April, Wed 12 noon. Botany Dept Seminar. **Denys Trussell**, Director, Friends of the Earth: ***Science, Philosophy and the GE debate.***

10 April, Wed **7.30 pm**. NOTE DATE CHANGE. **AGM, wine & cheese. Guest speaker Emeritus Prof. Alan Mark, Botany Dept.** ***"Accelerating the conservation of biodiversity in tussockland through tenure review."*** Details front page.

14 April, Sunday **10 am.** Laboratory based **Native Grass and bidi-bid Workshop run by Dr. Kelvin Lloyd:** ***Identification of New Zealand Chionochloa, Festuca and Acaena species.*** Meet at 10 am sharp at the Botany Dept, 464 Great King Street. Bring lunch, lens & specimens and be prompt.

17 April, Wed 12 noon. Botany Dept. Seminar. **Dr Katharine Dickinson**, Botany Dept., OU. ***High country tenure review and the implications for biodiversity.***

24 April, Wed 12 noon. Botany Dept Seminar. **Kath Dixon**, PhD proposal, Botany Dept, University of Otago. ***Biodiversity in Productive Landscapes – the relationship between vegetation composition and native fauna in the managed tussock grasslands of Central Otago.***

15 May, Wednesday, **5.30 pm:** BSO meeting. **Dr. Steven L. Stephenson**, Fairmont State College, USA, on ***"Wildflowers of Eastern North America"*** Zoology Annexe Seminar Room, Great King St, details front page.

18 May, Saturday, **9.00 am. Introduction to Lichens.** Full day **Lichen Workshop.** A short field trip, followed by identification in the laboratory. Details front page.

29 May, Wed 12 noon. Botany Dept Seminar. **Dr. Steven L. Stephenson**, Fairmont State College, USA, on ***"Fungi of North America"***

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**

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, 9am, 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

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

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

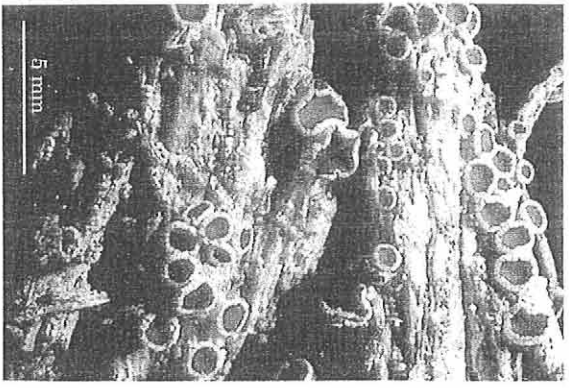


***Fig.Lecanora epibryon* ssp *broccha*, a crustose lichen, which commonly grows on the base of dead tussock. Photo by Bill Malcolm, in: New Zealand Lichens, Checklist, Key and Glossary. W Malcolm & DGalloway, 1997.**

Botanical Society of Otago: whom to contact

Submissions for the diary and new members, subscriptions or donations to:

Trish Fleming
c/o Botany Dept., University of Otago, P. O. Box. 56, Dunedin
Phone (03) 479 7577
email trish@planta.otago.ac.nz

Submissions for the newsletter to **Allison Knight**, post to BSO
c/o Botany Dept., University of Otago, P. O. Box. 56, Dunedin
or email botsocotago@botany.otago.ac.nz

Ideas for activities to:

Bastow Wilson,
c/o Botany Dept., University of Otago, P. O. Box. 56, Dunedin
e-mail bastow@otago.ac.nz
Phone (03) 479 7572 work, 473 9300 home.

For information on activities:
the trip leader
or Trish (contact above),
or Bastow,
or see our webpage: http://www.botany.otago.ac.nz/bso

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