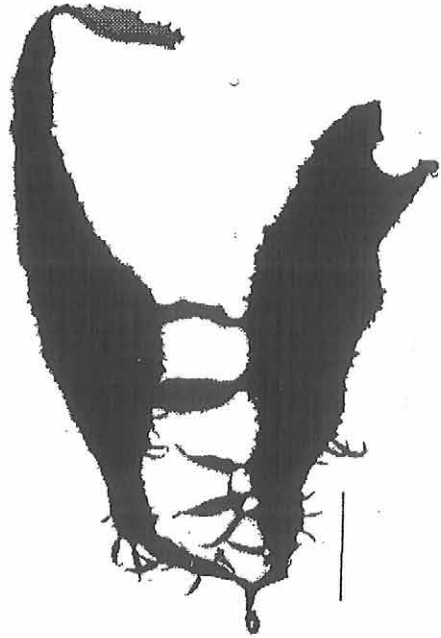
Botanical Society of Otago Newsletter



Number 43
Sept – Nov 2004

BSO Meetings and Field Trips

5 Oct, Tues. 5.20 pm. Dr **Dave Kelly** is visiting Dunedin courtesy of the Royal Society of New Zealand, who have arranged for him to give the 2004 Leonard Cockayne Memorial Lecture at midday (see diary). The talk he'll be giving to the BSO is:-

The current state of bird-plant mutualisms in New Zealand

Abstract: In an important paper, Clout & Hay (1989, NZ J Ecol Supplement) argued that the bird-plant interaction most at risk in modern New Zealand was that of seed dispersal, especially for large-seeded trees dependent on the kereru. In this talk I review progress on this subject in the 15 years since their paper was published, and show that both pollination and dispersal are at some risk, but for different reasons. Despite extensive work on these topics, there are still some very important questions that we have only the beginnings of answers to. Some of these tentative answers are outlined, and predictions are made about the true state of mutualisms. I also review to what extent the birds depend on the plants, as well as the plants depending on the birds.

18 Sept Sat **9.30 am Expedition to the Sea shore** led by **Dr Lisa Russell**, Teaching Fellow in Botany.

The intertidal zone (region between high and low tides) is particularly stressful for seaweed growth. Despite this however, there is a high diversity of species found within this zone on southern beaches around the Otago coast. Providing the weather is calm we will be heading to Shag Point to look at some diverse rocky platforms. Shag Point is a region of special conservation value not only in relation to marine species but also rare terrestrial species. It is also the site of one of New Zealand's few underwater coalmines. We will also look at the nearby reef at Moeraki, where the intertidal seaweed community has been replaced by the invasive kelp *Undaria,* and discuss some of the implications this species might have on our native species.

If the weather is not so good we will head out closer to home to the rocky shore at Brighton, where there is a diverse seaweed community comprising a number of species which are only found in South Australia and southern New Zealand. This includes a large number of seaweeds that are made up of a single cell but display a wide range of morphological forms. You will be surprised what a single cell can do! People should bring gum boots if they want their feet to remain dry. Also bring lunch, hat, warm wind-proof and/or water-proof clothing. Basically we'll be doing a bit of wading because the tide is not a very low one. Contacts Ian Radford (W) 479 9065/(H) 472 7470 or Lisa Russell (W) 479 9061 for more information on the trip. Meet Botany carpark 9.30 am to car pool.

13 October, Wed. 5.20 pm. Note venue - Castle 1 Lecture Theatre BSO **3rd Annual Geoff Baylis Lecture,** co-sponsored by the Department of Botany, University of Otago. Our distinguished speaker this year is Henry Connor, DSc, FRSNZ, co-author of Flora of New Zealand Volume V, Grasses.

A modern taxonomist in a postmodern era - Servant or Master?

The pinnacle of botanical research is taxonomy; every subdiscipline is its contributor. Most users of the outcomes of taxonomic endeavour look for a binomial of convenience. Is this an appropriate outcome? Or are taxonomists just targets of attack over the lack of monophyleticism or the presence of para-phyleticism?

A modern taxonomist will attempt some answers to modern problems, but will emphasise the amount of tedious work that lacks the modern appeal of DNA sequencing, cladograms and prominence in every botanical journal!

16-17 Oct. Sat 8.30 am start. Weekend **field trip to the Catlins** with **John Barkla.** The Catlins offer a huge range of botanical delights including silver beech forest, alluvial valleys with rare shrub communities, peat bogs, coastal dunes, cliffs and estuaries. Saturday will be spent in the south Catlins exploring the fine coastal podocarp forests of Tahakopa Bay, coastal ecosytems and possibly peat bogs. Sunday will be based around the northern Catlins with visits to see the extraordinary wildlife and flora of Nugget Point and an *Olearia hectorii* restoration site in the Owaka Valley. Accommodation on Saturday night will be at the Nugget Point Lighthouse Keepers house (numbers limited). Day trippers are welcome to join us on either day. To reserve accommodation or find out more contact John Barkla ph. 476 3686 (evenings).

11 Nov. Wed. 5.20 pm. **Beatrice Hale**, author of 'The New Zealand Pleasure Garden'

Plants with a Purpose.

"I want to explore the myriad purposes of plants - their purposes and our purposes. I want to take you on a personal journey beyond the plants in our gardens to discuss the excitement of their origins, their journeys to New Zealand, and their value to us. 'The New Zealand Pleasure Garden' is about how we can use our plants beyond the usual picking, cooking and potpourri activities. It is about making a garden for all the senses, vision, taste, touch, hearing and fragrance; it is also about what lies beyond. What else can we do with our plants? Touch them and feel their differences. Travel mentally by reading, time

travel by looking into histories of plants and explorers. Exploit the beauty and endless fascination of plants to create pictures, jewellery..... explore the endless possibilities of plants"

13 – 14 Nov. Weekend trip to **Hinewai** on the gorgeous Banks Peninsula. Against the backdrop of this impressive landscape, come and see old growth and regenerating vegetation ranging from sub-alpine, through red beech forest, to coastal/maritime vegetation, and including a number of Banks Peninsula endemics. **Hugh Wilson**, custodian of Hinewai, and also writer of several excellent botanical field guides, will take us on a personalised tour of the reserve, which he has become identified with. Hugh will not only introduce us to his wonderful botanical companions at Hinewai, but also to his unique approach to bush regeneration. The distance to travel will necessitate that this trip is an overnight one, and there are 12 beds on site for those interested in staying. Please contact Ian Radford (w 479 9065 or h 472 7470) or Hugh himself (03 304 8501) to book a bed.

3-4 Dec. Sat 8 am. Weekend trip to see the fabulous **fossil forest at Piko Piko**, with Geologist Dr **Daphne Lee**, who suggests visiting one or two other paleobotanical sites between Dunedin and Gore en route. We could visit the fossil forest in the mid afternoon, stay the night at Tuatapere, and return to Dunedin on Sunday afternoon after visiting the tall totaras and perhaps other remnants of Southland forests. Back up date if the river is too high for access 11-12 Dec. Bookings essential. Contact Ian Radford (w 479 9065 or h 472 7470) to book a place.

8 Dec. Wed. 5.20 pm. Speaker **Diane Campbell-Hunt**

Developing an urban sanctuary - the Karori Experience

Diane is author of a book about establishing the Karori Sanctuary, which has become a handbook for other community conservation projects. Her talk will cover: the history of the Karori Sanctuary project, the challenges they faced in getting the project underway and how they dealt with those challenges, and their long-term restoration goals, including progress to date.

Meeting details: Talks are usually on Wednesday evening, starting at 5.20 pm with drinks and nibbles (gold coin donation), unless otherwise advertised. 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. *Items of botanical interest for our buy, sell and share table are always appreciated. When enough people are feeling sociable we go out to dinner afterwards - everyone is welcome to join in.*

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 sufficient food, drink, outdoor gear and personal medication to cope with changeable weather conditions. See trip guidelines on the BSO web site.

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President's notes

David Orlovich

Hi BSO members. Recently, members of the BSO have been keeping an eye on developments concerning the realignment of the Northern Motorway at Leith Saddle, as well as the future of Leaning Lodge on the Rock and Pillar Range. Both these issues are of interest and relevance to at least some BSO members, and Abe Gray, Norm Mason, Katrina Spencer and Toni Atkinson have all volunteered to represent the BSO at various meetings and keep us informed of what's going on. These political activities are a departure from our usually fairly neutral events and activities, but provided we have members willing to be involved in such activities, I think this is a great thing. The BSO is frequently asked to add support to conservation and preservation causes, and we can make a difference if we continue to adopt well-coordinated responses. If you'd like to be involved in these or similar activities, please let me know and I'll put you in touch with the relevant people when the need arises.

The BSO committee is seeking someone to audit the BSO financial accounts. If you know an accountant who might like to do this in an honorary capacity, please let one of the committee members know. Also, we are looking for a newsletter sub editor/editor, so if you'd like to find out more about this job, talk to Allison Knight for more details.

Ian Radford and the rest of the BSO committee have continued to plan a great set of trips and talks for the rest of the year. We're lucky to have Dr Dave Kelly speaking on bird-plant mutualisms in September, as well as a trip to Shag Point with Lisa Russell to discover the high diversity of seaweeds growing there. In October, Dr Henry Connor will give what looks like a provocative and entertaining look at the pivotal role of taxonomy (and taxonomists) in botanical research as this year's Geoff Baylis Lecture. The following weekend, John Barkla will lead another trip to the Catlins to look at forest and coastal vegetation.

November sees a talk by Beatrice Hale, talking about plants that excite the senses, and another weekend trip, this time to Hinewai, home of legendary botanist Hugh Wilson, on Banks Peninsula. Finally in December we follow up our August 2003 trip to Orokonui with a talk by Diane Campbell-Hunt about her experience with the Karori Sanctuary. I hope you can make it to at least some of these events!

Editor's notes

Allison Knight

Here's another bumper issue, bursting with botanical news and views. A big thank you to everyone who contributed so enthusiastically. It's especially pleasing to be able to add another dimension by featuring members' original artwork and botanical images, here and on our website. However, newsletter space is becoming so limiting that it's time to repeat a few gentle guidelines. Please try and aim for a 0.5 – 1 page of 14 pt Times New Roman for trip and meeting reports and book reviews, and 1 – 2 pages, including illustrations, for botanical notes. Original articles, if they are exceptionally relevant, could stretch to 4 or 5 pages of 14 pt, including illustrations.

Please submit copy for next newsletter by 10 November 2004

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.*

Cover Pictures:

Front cover. *Pachymenia lusoria*.from Stewart Is. The marginal proliferations are typical of wave-sheltered forms. Scale bar = 5 cm. - *Lisa Russell.*

Back cover. *Pinus radiata* pollen with air sacs. SEM - *Mary Anne Miller.*

Request

History of NZ native plants in northern Spain?

Congratulations once again on a great newsletter. I have just returned back from a month in Nth Spain wandering around in car and on bike and include a photo taken in the coastal town of St Vincent de la Barquera which may be of interest. We were sheltering from a rainstorm in the main street when I suddenly felt quite at home. Then realised that there were many NZ Cabbage trees, *Cordyline australis*, in the street and subsequently saw many more in other towns as well as Ngaio, some flax, *Hebe*, and *Olearia arborescens*. Couldn't resist giving one a hug. Maybe Tom Myers can help with origins of these. *Dancing Leaves* mentions a little but I would love to know the origin of these plants along the Nth coast of Spain if anyone knows.

Helen Clarke, Dunedin.
Email *hclarke@clear.net.nz*

Kiwi greets *Cordyline*, St Vincent de la Barquera, Spain 2004 – *Helen Clarke*

Representations

Leith Saddle Motorway Realignment *Abe Gray*

Most of our members will be familiar with the area where State Highway 1 crosses the Leith Saddle. If you're not, it's the bit when you're driving on the northern motorway and you find yourself for a brief moment surrounded by lush native rainforest with emergent podocarps thrusting themselves majestically into the sunlight. This magnificent vista is generally accompanied by the sound of calling bellbirds and tuis. Many of us marvel at such a site, especially when it occurs along a major metropolitan motorway, but we also take it for granted and assume such wonders will be available for our viewing indefinitely. Sadly, this may not be the case, and as with so many of New Zealand's natural treasures, it is threatened by the spectre of "progress". Transit New Zealand is currently evaluating several options for the realignment of a sharp bend in the motorway at exactly this point where it passes through the native bush. The Botanical Society of Otago, along with several other interested community groups, is seeking to work with Transit New Zealand to minimize the extent of any impact that this realignment could have on the vegetation. Members of the society have contacted those involved and are planning to participate in a meeting between all parties, scheduled for the 2nd of September. Members of the society are also currently undertaking a statistical analysis of road safety data surrounding previous realignments to independently confirm the stated benefits of the proposed realignment and have offered their services to Transit NZ to assist with any sampling that will be needed to monitor the impact. This area is of particular conservation value as it is one of only a few examples of kaikawaka (NZ Cedar, *Libocedrus bidwillii*) cloud forest. The bush is comprised of cedars, as well as podocarps (Rimu, Miro, Totara, Matai) thrusting themselves high above a canopy of Peppertree (*Pseudowintera colorata*) and Stinkwood (*Coprosma foetidissima)* among others. Many of the emergent trees are covered in epiphytes, which include two species of native orchid (*Earina autumnalis* and *Earina mucronata*) and the ground is covered in multiple fern species. The society is interested in minimizing the negative impact of any sort of development projects that could potentially damage the vegetation in areas of botanical interest, with the hope that such areas may continue to be appreciated and investigated by botanists, both amateur and professional for generations to come.

For further information or involvement email Abe: *graab419@student.otago.ac.nz*

Proposed Realignment of Northern Motorway around Leith Saddle – Report on Consultation Meeting - 12 noon – 2 pm, 2 September, 2004, Dunningham Suite, Dunedin Public Library. *Toni Atkinson*

The meeting was attended by at least 18 people, the majority from environmental and community groups. There were two representatives from Transit NZ, two from Opus Consulting, and one from Dunedin City Council.

Transit's concern is that the two corners immediately south of the Leith Saddle are an accident area – although they could not tell us exactly how much higher the crash

numbers are than for other sections of the road. Most crashes result from "loss of control" while cornering. Their preferred solution to this problem is major road realignment, cutting off both corners, and digging the road down around 6-7 metres below the current Leith Saddle. They presented the group with three possible plans along these lines. They had not drawn in the "off-ramps almost to full motorway standard" which they said "will have more impact than the realignment itself", because the off-ramps are dependent on the yet-to-be-decided route. However, some form of spaghetti-junction would be likely at the Saddle itself.

The groups present are concerned that present environmental and scenic values will be compromised or lost. The Resource Management Act requires the planner to "avoid, remedy or mitigate" adverse environmental impacts. Transit's preferred option is to "mitigate" the effects of major realignment. Many of the others present preferred to "avoid" the realignment altogether. Expressed another way, roading engineers begin with their "best case scenario" which is the most "efficient" curve from a roading point of view. In contrast, the members of interested groups started from *their* best case scenario – the present curve of the road. We tried, and I think succeeded, to persuade Transit to draw up another much more low impact scenario as an option for debate, however they doubt that this will provide an adequate solution to the accident problem.

One of the most interesting aspects of the meeting was entomologist Tony Harris stating that the forest to the west of the road is the type locality for a considerable number of New Zealand invertebrates. He provided Transit with a detailed written description of the invertebrate species present.

Transit and Opus are "available for one-on-one meetings". They will present their options to the public in early October. If the BSO would like to have an input, I think it is likely to be most effective between now and then.

Fate is on a lean for Leaning Lodge

Katrina Spencer

Over the last 40 years a considerable amount of botanical & ecological research has been conducted on the Rock and Pillar Range including work on alpine plant communities (Talbot *et al.*1992) (University of Otago Alpine Ecosystems Research Group, ongoing research), tussock grassland (Mark & Holdsworth, 1990) to name but a few. The Rock and Pillar Range is an excellent location for research given its close proximity to Dunedin and easy access. Tussock grassland, sub-alpine shrubland and alpine plant communities are well represented on the Rock and Pillar Range providing researchers with a wide range of communities to study. From a botanical perspective the Rock and Pillar Range is home to a number of endemic species including *Abrotanella* cf. *inconspicua, Celmisia haastii* var.*tomentosa, Kelleria villosa* var.*barbata* and *Brachyscome humilis*. The presence of Leaning Lodge hut on the Rock and Pillar Range has provided scientists with the means to conduct their research on these special species and their respective communities for many years.

However, days of the Kiwi backcountry hut are numbered. As the number of people venturing into wilderness areas increases, the pressure on hut facilities in these areas

grows. The Department of Conservation (DOC) is attempting to improve huts in a number of our national parks and conservation areas, but in some situations their existing state is considered too poor to warrant replacement or repair leading to removal instead. Leaning Lodge on the Rock and Pillar Range is one such back country hut. Those members who attended our Botanical society trip to the Rock and Pillar Range in April may recall having our lunch beside the wee hut.

Leaning Lodge is a small corrugated iron hut full of history and character that continues to provide shelter in the sometimes inhospitable conditions that the Rock and Pillar Range can produce. The hut was originally established by the Otago Ski club as a place for members to stay during ski season. When the first commercial ski fields opened in Central Otago the ski club shifted its focus away from the Rock and Pillar Range and as a result sold the hut to the Otago Tramping and Mountaineering Club (OTMC). DOC also has a vested interest in the state of Leaning Lodge given that the hut is situated on conservation land. Despite the hut being under the ownership of OTMC, DOC is potentially liable for any accidents that may arise from its current condition.

Recently concern has been raised about the general safety of the hut and DOC has proposed to remove the hut by end of 2005 unless other appropriate measures can be taken to improve Leaning Lodge's current state. The OTMC held a meeting in late June to discuss the fate of Leaning Lodge. Rob Daly and I attended the meeting on behalf of the Botany Department, Alpine research group and the Otago Botanical Society. We decided to make an appearance at the meeting to ensure that the members of the OTMC were aware of how often we use the lodge for research purposes as well as recreation and provide support to assist them in the negotiation's with DOC. The majority of the members of OTMC present expressed an interest and concern with the Leaning Lodge situation and were delighted to receive any additional support.

One member of the OTMC pointed out there is also Big Hut on the top of the Rock and Pillar range that could be used by trampers and other outdoor enthusiasts as an alternative. Big Hut Trust has recently received some funding to begin a restoration project up there this summer. However, Leaning Lodge remains the most readily accessible site for research and recreational users being lower down than Big Hut. Another member of OTMC highlighted the historical value of preserving Leaning Lodge.

My greatest concerns over the possible removal of Leaning Lodge are:

1. The threat that this action could pose to future scientific research in our alpine environment. Numerous studies have been conducted up there, particularly around Leaning Lodge, providing us with valuable data that could potentially assist in conserving this special environment.
2. Furthermore, I feel that there could be a greater risk to people's lives were they to remove the hut. Even though Big Hut will remain it may not be feasible for people in the Leaning Lodge area to retreat to Big Hut if the conditions on the top of the Rock and Pillar Range are dangerous.

It was agreed in the meeting that the OTMC, with the support of other interest groups, could approach DOC and attempt to reach a compromise over the situation.

References

Alpine Research Group : www.botany.otago.ac.nz/alpine/ (accessed through Botany Department home page on 3/9/04)

Holdsworth, D.H. & Mark, A.F. (1990). Water and nutrient input:output budgets: Effects of plant cover at seven sites in upland snow tussock grasslands of Eastern Central Otago. *Journal of the Royal Society of New Zealand*, **20**:1-24

Talbot, Joy M.; Mark, A.F; Wilson, J.B. (1992). Vegetation-environment relations in snowbanks on the Rock and Pillar Range, Central Otago, New Zealand. *New Zealand Journal of Botany*, **30**: 271-301

Notes and Articles

***Gingidia grisea* – a new species from north-east Otago** *John Barkla*

In the *Bot. Soc. Otago Newsletter* (No. 38) Peter Heenan from Landcare Research commented on the importance of the proposed Mt Watkin reserve for an unnamed species of *Gingidia*. It had initially been drawn to his attention by BSO member Brian Patrick who noted it had a different invertebrate fauna from *G. montana*.

In the *New Zealand Journal of Botany* (Vol. 42: 175-180) Heenan formally describes and names this new north-east Otago endemic as *Gingidia grisea*. The specific epithet *grisea* refers to the grey appearance of the leaves. The dense glaucous bloom on both leaf surfaces, along with secondary bracts which are broad-elliptic and long-acuminate, distinguish this species from the more widespread *G. montana*.

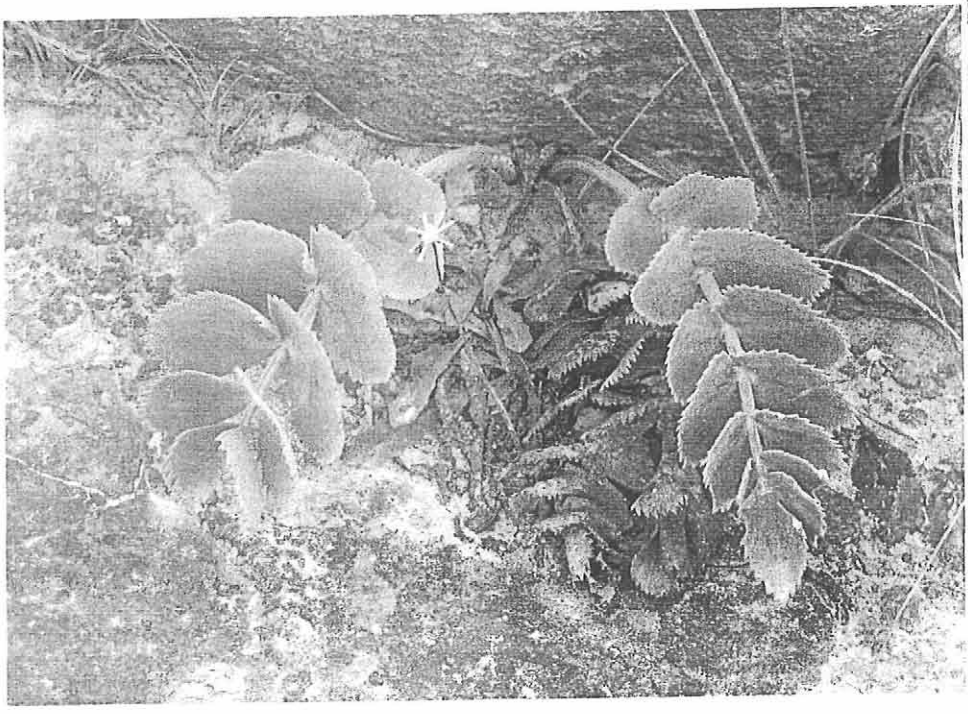
Gingidia grisea appears restricted to a small geographic area of north-east Otago from Mt Watkin in the south to near Herbert in the north. Its western limits are the upper parts of the North Branch Waikouaiti River. Altitudinal range is from near sea level (Shag Point) to about 600 m (Mt Watkin).

Gingidia grisea is restricted to base-rich substrates of igneous, schist and sedimentary rock. Rock outcrops and bluffs are favoured habitats and a stronghold of the species is the bluffs of Trotters Gorge Scenic Reserve.

Heenan cites several examples of habitat loss due to the ingress of shrubby weeds and shading by forestry plantations. He refers to the observations of BSO members that goats pose a threat to the vegetation of Mt Watkin, where *G. grisea* is now confined to inaccessible rock outcrops. In light of the decline in the total number of populations during the past 20 years Heenan recommends *G. grisea* have a conservation status of Nationally Vulnerable $_{DP}$. The qualifier Data Poor recognises that more field survey is required to fully elucidate its distribution, population size and extent of recruitment.

New sites for *G. grisea* in the Kauru River and Shag Valley have been discovered since Heenan's paper went to press. I would be very pleased to hear of further records from members.

(You can see a colour version of John's *Gingidia grisea* image on our website – *ed*)



Gingidea grisea, Shag Point Conservation Area, June 2004 – *John Barkla*

OUR GOLDEN LANDSCAPES:
History of the development and use of our tussock grasslands

Summary, 2004 Hocken Lecture

Emeritus Prof Alan Mark, Botany Dept., University of Otago.

Information is reviewed from the time grasses first appeared in the New Zealand fossil record, in the Eocene, ~40 m.y.a., to the present. Grassland became widespread in the late Tertiary, as a result of mountain-building associated with the Kaikoura Orogeny and was most extensive during the late Otiran glaciation and early post-glacial period. Contracting through post-glacial times, it was restricted by 2500 yr BP largely to the alpine zone and the interior basins of the South Island, but had a presence in most regions. Grassland expanded 2500-1500 yr ago through **natural fires** at 500-2000 yr intervals in the drier interior of the South Island and locally in the North Island, until fires lit by the first human settlers (**Polynesians**) about 700 yr ago; its incidence increasing about ten-fold. Indigenous grassland thus consolidated rapidly in the interior of both islands and reached its greatest extent at the time of European settlement in the 1840s.

Pastoralism on **all the Crown land in the South Island high country rain-shadow region** began in the 1850s, with an "eruptive phase" of **"exploitative**

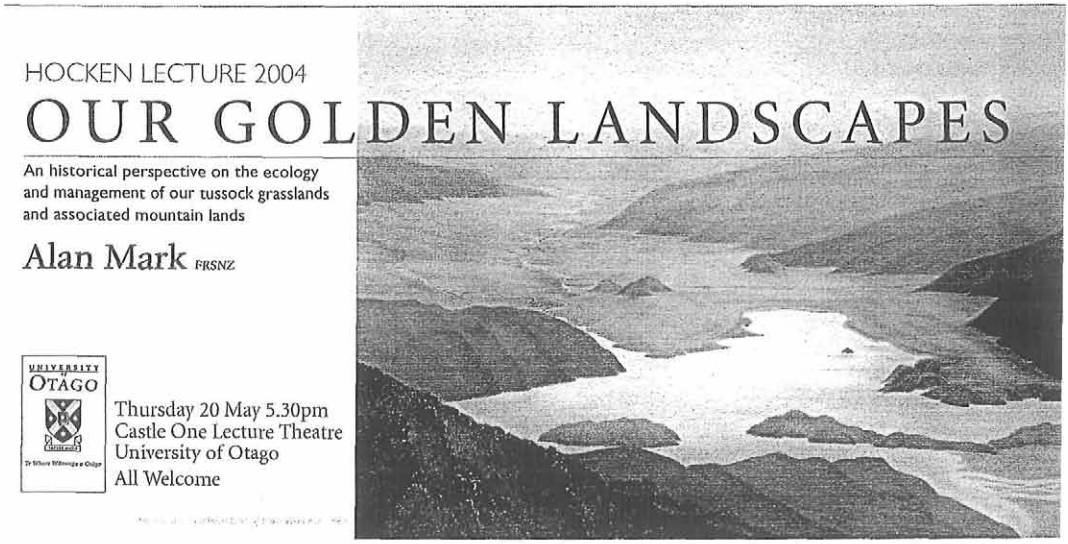
pastoralism" involving heavy grazing by mammalian stock, a new phenomenon, plus frequent uncontrolled burning. Together, these practices adversely impacted on the grassland ecosystems. Early concern for these pastoral practices (John Buchanan, 1868) was followed by frequent reiterations by scientists and others, in relation to the depleted condition, particularly of the less responsive grasslands. These concerns will be briefly outlined: 1920 (Alf. Cockayne; Commission on Canterbury Pastoral Runs); 1912 (Donald Petrie); 1919 (Leonard Cockayne); 1920 (Commission on the Southern Pastoral Runs); 1922 (Geo. Thomson); 1938 (Vic. Zotov); 1940 (Sheep-Farming Industry Commission); 1945 (Harry Gibbs & Jim Raeside; Ken Cumberland; Royal Commission on the Sheep-farming Industry); 1954 (Tussock Grasslands Research Committee); 1956 (Lucy Moore). The last two led to initiation of overdue **autecological studies** of snow tussock species which distinguished between tolerances to burning (several positive effects), grazing (detrimental), and combined (usually highly detrimental): Kevin O'Connor & Allison Powell (1963); Alan Mark (1965a,b,c,d, 1968); Ian Payton & A. Mark (1979); I. Payton et al. (1986).

The degrading effects of pastoralism continued to be highlighted by scientists: (Henry Connor 1964, 1965; K O'Connor 1981; K O'Connor & P Harris 1991; Phil. McKendry & K O'Connor 1990; Les Basher et al. 1990; Marta Treskonova 1991; Chris Kerr 1992, who referred to a 'major systems failure'; A Mark 1994). These culminated in the "South Island High Country Review" generally referred to as the "Martin Report" (Martin et al. 1994), commissioned by the Ministers of Conservation, Environment and Agriculture (and contributed to by Mike Floate et al. 1994), which confirmed the generally deteriorated condition of the rangelands, particularly the 80% which 'receive no inputs

Land degradation continued despite periodic legislative responses: **Soil Conservation & Rivers Control Act 1941**, established catchment boards and subsidised assistance to implement run conservation plans while the **Land Act** Amendment **1948** gave lessee run-holders much greater security of tenure. The serious absence of baseline reserves has been corrected only recently: the first were small scientific reserves at Maungatua (1969; facilitated by two adjoining run-holders) and Black Rock (1970) in Otago. Pastoral farming was permitted in Lindis Pass Scenic Reserve (1976) and the Nardoo proposal on Waipori Station was truncated by the Land Settlement Board, contrary to the Ombudsman's recommendation. The **Resource Management Act 1991** promoted sustainable management of natural and physical resources (with the Otago Regional Council issuing a "Code of Practice for Vegetation Burning in Otago" in 2000).

Most recently, the **Crown Pastoral Land Act 1998** appears to be more effectively addressing the complex issues, facilitating high country lessees to initiate a review of their tenure, and free-hold the 'productive' land on their runs while relinquishing to the Crown, land with 'significant inherent [conservation/recreation] values. Government also retains discretion on certain farming practices on its leasehold land. Described by initiating Minister Denis Marshall as a **'win-win'** situation, tenure review is predicted to add >1 million ha of non-forested ecosystems to the South Island conservation lands and contribute significantly to the protection of our indigenous

temperate grasslands; referred to as 'the world's most beleaguered biome.' As of March 2004, 173 of the 306 pastoral leases (of 1998) are in the tenure review process, 24 have been completed and 3 have been purchased outright (Camberleigh in Otago; Birchwood in South Canterbury). Molesworth Station, the country's largest (180,000ha), will be transferred from LINZ to DoC, and become a high country park in July 2005, with cattle farming continued under licence by Landcorp, as at present. By 2002, some 12% of our indigenous grasslands present in 1840 (the baseline) have been formally protected, compared with 4.6% for the world. Recently described by Alan Mark and Katharine Dickinson (2004) as the "*South Island high country in transition*" the current tenure review represents the largest single land transfer exercise and is predictably, history in the making. It should finally and most effectively address the serious issue of land degradation in the vulnerable but valuable South Island high country while redressing the serious deficiency in representation of indigenous grasslands in our rain-shadow protected areas system. Assuming fulfilment of the present government's policy of a series of high country parks and reserves, the central-eastern South Island tussock grasslands and associated mountain lands will become readily available for use and enjoyment by the public while also benefiting them with the important ecosystem services provided, especially soil and water conservation and particularly the production of usable fresh water from the upland snow tussock grasslands, for a wide variety of human needs.



Czechs sentenced for attempted smuggling of NZ orchids

Bec Stanley, DOC Auckland Conservancy

The Wildlife Enforcement Group (WEG) has successfully co-ordinated the prosecution of two Czech nationals in New Zealand's first documented case of native flora smuggling. WEG is an agency of representatives from Customs, the Ministry of Agriculture and Forestry and the Department of Conservation whose role is to investigate wildlife smuggling. Smuggling of orchids worldwide is thought to be on the rise.

Jindrich Smitak, an inspector in the Czech Government Environmental Protection Agency, and Cestmir Cihalik, a professor of cardiology from a leading Czech university, each pleaded guilty in February to one charge of trading in specimens of threatened species. They were both convicted and each fined $7,500 plus costs. Smitak also admitted three charges of removing plants without authority from National Parks and was also convicted on those charges, but discharged without further penalty.

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between Governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. All New Zealand orchids are covered by Appendix II of this legislation. Appendix II species are not necessarily threatened with extinction but are those that may become so unless trade is closely controlled. International trade in specimens of Appendix II species may be authorized by the granting an export permit. Permits or certificates would only be granted if the relevant authorities are satisfied that certain conditions are met, e.g. that such export will not be detrimental to the survival of that species i.e. is NOT collected from the wild; (as was the case in this particular instance) or that the specimen was not obtained in contravention of the laws of that country, amongst other considerations. See http://www.cites.org/ for more information.

Smitak and Chihalik were attempting to smuggle out of New Zealand more than 350 dried herbarium specimens of native orchids and other plant species taken from inside National Parks. They had 93 orchid specimens from 22 species (including *Microtis*, common *Pterostylis*, *Winika*, *Earina* species, *Icthystomum (Bulbophyllum)*, *Simpliglottis* (*Chiloglottis*), *Gastrodia* and *Orthoceras*) from numerous sites around the country to export back to the Czech Republic. They both also had a number (12) of live epiphytic orchids in their possession that could be propagated and/or sold.

"If these or any live New Zealand orchids were successfully smuggled out of the country they would be highly sought-after," Colin Hitchcock of WEG says.

Despite media reports here and in the Czech Republic none of the orchids collected were on any NZ threatened plant list. The confusion seems to have arisen because all orchids are deemed to be threatened by trade under Appendix II of the CITES legislation.

The effects of this collection and attempted export are the perceived risks of New Zealand's native orchids entering the commercial realm overseas. This would increase

interest and may encourage trade - possibly increasing chances of collection from the wild to supply this trade.

The Wildlife Enforcement Group can be contacted by E-mail at weg@iconz.co.nz, or by writing to WEG C/- NZ Customs, Box 29, Auckland or by calling 09 3596607.

Meeting reports

Oregon, Europe & Dunedin: Plants, Gardens and Seeds. Meeting 16 June 2004
Tom Myers, Botanical Services Officer, Dunedin Botanic Garden

Reviewed by Peter Bannister

Tom took up his appointment at the Dunedin Botanic Garden in 1993, whilst still completing his MSc in marine botany at the University of Otago. Ten years later, he took a well-earned, unpaid, year off, happily leaving his ledgers and labels behind and looking forward to a bit of science and paid work in Oregon, USA. He took what he could (the dog, but not the horses) and accompanied his partner who was working on eel-grass (*Zostera*) in north-western USA. He visited lots of sandy and muddy beaches up and down the Oregon coast, and one was immediately struck by the similarity of beaches in Oregon and Otago. The exotic plants were around, broom on cliffs and marram grass on the dunes and the sea rocket (*Cakile edentula*), which occurs on New Zealand beaches (Volume IV of the Flora of New Zealand says it is from eastern North America!). There were also sea-lions and fossiliferous rocks on the shoreline cliffs, and a stuffed black and white loon of dubious provenance. There were pictures of blue-eyed grass (*Sisyrinchium*) and insectivorous *Darlingtonia* preserved on boggy remnants, like ranks of helmeted soldiers. There was also skunk cabbage (*Lysichyton americanum*), which apparently does stink), a close relative of the arum lily. Its spathe heats up and attracts flies but also it helps the plant to melt an upward path through the spring snows, and other spring flowers like *Trillium* (I have some in my garden in Dunedin). Tom did some gardening and met *Equisetum arvense*, the horsetail, a terrible weed with wiry black rhizomes that are impossible to eradicate (I remember from my parents' garden in England). There were ventures in to the interior with painted hills and subalpine vegetation on Mt Hood (a volcanic sibling of Mt St Helens). Then across the Atlantic to Portugal. I can sympathise with Tom, it took me three days to pluck up courage to drive on the autostrada. He visited the botanic gardens at Coimbra and liked their informality, those at Bonn where access to the carnivorous plant and alpine glasshouses was apparently VERBOTEN (at least without prior arrangement), and was intrigued by botanic gardens that grew cultivated crops. Then up north to the Friesian island of Texel and its hardy (ready salted?) sheep that roam the dunes and salt marshes. (Some Texel sheep have been imported and bred in New Zealand - parts of them sometimes grace the shelves at New World). Then back to Oregon again to organic vineyards and the dangers of recycled water.
It's good to see you back in Dunedin Tom: thanks for the talk!

21 July. Taxonomy of the red algal genus *Pachymenia* in New Zealand

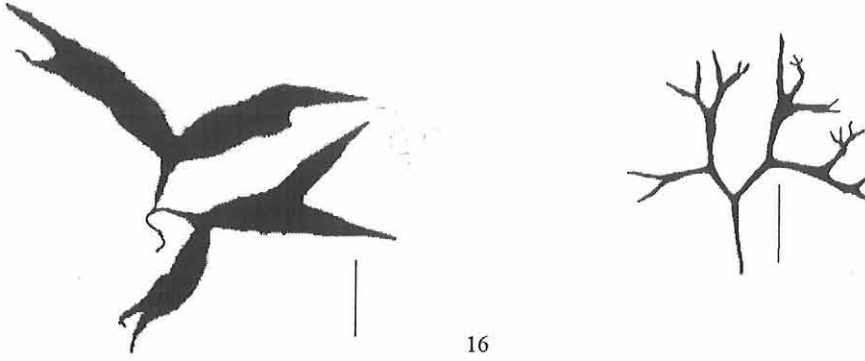
A presentation by Dr Lisa Russell Report by *D'Angelo L'Strange* aka *Norm*

On the 21st of July Lisa Russell presented the culmination of her epic attempts to disentangle the taxonomy of an infamously problematic genus. At present three endemic *Pachymenia* species are recognized, though as many as five species have been described in the past. Collectively, the three *Pachymenia* species occur throughout New Zealand, with *P. crassa* found north of Auckland, *P. lusoria* occurring north of Auckland, on the northwest coast of the South Island and throughout the southern South Island. *P. laciniata* has only been recorded in the Northwest of the South Island. Previously, *P. lusoria* had been separated into two species, corresponding to latitudinal distribution, while *P. crassa* has in the past been labeled *species inquiridae* with its position in *Pachymenia* questioned. Nancy Adams, obviously a lumper, has suggested that *P. lusoria* and *P. laciniata* were morphological variants of a single species, with variation in morphology being dependent on wave exposure and latitude. If Lisa was seeking a challenge it certainly seems she found one.

Results from a range of analyses were presented, involving morphological, phytochemical and genetic characteristics of specimens collected from around New Zealand. The clearest picture was given by analyses of the ITS regions of nuclear ribosomal DNA (I apologise for the tumult of terminology). These showed that *Pachymenia* is not a distinct genus, but overlaps with the closely related *Aeodes*. *P. lusoria* appears to separate into distinct northern and a southern species, while the range of morphological variants found in Southern New Zealand are identical for the ITS region analysed. *P. laciniata* and *P. lusoria* appear to be distinct species, with *P. laciniata* also being distinct from morphologically similar South African specimens. However, *P. laciniata* was identical to an *Aeodes* species, suggesting that the morphological boundaries of the two species need reassessing.

It was suggested that *P. lusoria* be separated into two species, the southern *P. dichotoma* and the northern *P. lusoria* and it seemed likely that the genera *Aeodes* and *Pachymenia* will be amalgamated into a single genus in the near future. Overall it seemed that Lisa had been able to draw together various strands of evidence to elucidate a small portion of the vast darkness that is red seaweed taxonomy.

Two of the variable southern forms of *Pachymenia lusoria*. Silhouettes scanned from Herbarium sheets. Left, Stewart Is, Right, Snares Is. Scale bar = 5 cm. – *Lisa Russell*



18 August. ***Growing New Zealand Alpine Plants*** **- Dr David Lyttle,**
Otago Alpine Garden Group. Reviewed by *Allison Knight*

Alpine enthusiast David Lyttle informed and entertained an appreciative audience on the finer points of growing alpine plants. Here is my version of some of his tips, which were superbly illustrated by dazzling images of New Zealand alpine plants in the wild.
Seed should be dry and clean and is best sown fresh. Otherwise store in the fridge in a paper envelope or bag. Sow into commercial seed-raising mix, on the top of potting mix containing fertilizer. Cover with seed-raising mix and top off with a layer of fine chip of the size used as grit on icy roads. This is available from Blackhead Quarry. Be aware that some seeds take up to 2 years to germinate. *Clematis* can take at least a year.
Cuttings. Semi-hardwood cuttings are best taken late summer – early autumn. Cut below a node, remove flowers and pinch out the growing tip. Make scrapes along the base, moisten, dip into hormone rooting powder, then place firmly in horticultural sand or sharp sand. Keep moist and be patient – rooting may take over a year.
Celmisia. These striking mountain daisies do best on a windy, south-facing slope. They are prone to water stress and fungal attack. Don't let the ground get too dry, nor water overhead on a sunny day, and use Trichopel fungicide. *Celmisia* can be grown from rosettes or seed, but most of the seed is not viable – just pick out the healthiest ones.
Pots. Growing in pots allows the plants to be moved to suit conditions. Mulch with gravel to suppress weeds and top dress with bonedust and Hypertufa pots made of sand, cement and peat are good.
Labels. A 6B pencil, pressed hard on plastic gives a lasting label.
Cats. Cultivating *Acaena* is not very compatible with Persian cats. (Sorry, Kelvin)
Dogs. *Aciphylla* on the front verge is a good dog repellent that doesn't need mowing.
Slugs and Liverworts. Question time brought forth some interesting remedies from the audience as well as from Dave. A thick mulch of stone chip helps repel liverworts, as does painting them with vinegar. For slugs Belinda suggested a saucer of fresh beer – not flat, and Robyn offered circles of ash or crushed eggshell.

The advice was admirable, but the photography was breathtaking.The challenging monocarpic (flowers once then dies) penwiper, *Notothlaspi rosulatum,* growing amidst the scree on Mt St Patrick, was one a sight to remember. Thank you, David, for a many-splendoured evening.

Tavora Reserve (Bobby's Head), 25 July 2004 *Theresa Downs*

Another Otago Botanical Society trip graced with stunning weather; if not a tad crisp, with frost on the sand dunes and ice in the stream! A group of about twenty headed to Tavora Reserve, purchased in 1993 by the Yellow-Eyed Penguin Trust. While some of the area is still grazed, the Trust has made excellent progress over the past decade in restoration plantings. To date these are concentrated along the stream and on the sand dunes and hill slopes. Plants characteristic of the area have been carefully selected, locally sourced and propagated at the Trust's nursery.

We were fortunate in being guided by members of the Trust's staff and committee, giving us a personal insight into the project. The reserve is open to the public, and a walk around the track takes around an hour (at non-botanist pace!). We were provided with a draft information sheet for self-guided walkers, highlighting flora and fauna in the reserve. The Trust will have laminated copies for use available at the gate; a great idea enabling people to get the most from their visit.

The walk follows the stream to the sandy beach; one of few along this stretch of coastline. It is a stunning location, especially with the morning light on the low dunes, resplendent with their restored cover of golden pikao (pingao, *Desmoschoenus spiralis*) and flourishing shore spurge (*Euphorbia glauca*). Other dune plantings include *Coprosma acerosa*, *Austrofestuca littoralis*, and Cook's scurvy grass (*Lepidium oleraceum*). Successful use of threatened native plants makes Tavora important both as a restoration model and future seed source.

From the beach the walk zig-zags up a hill slope, affording excellent views of the beach and cliff-dominated coastline beyond. The influence of vegetation type on the dune morphology is apparent, with a lower, gently-sloping profile in the areas restored so far. In contrast, the adjacent dune scarp is densely covered with invasive marram grass (*Ammophila arenaria*), which will be progressively replaced.

While we did not spy any penguins on the day, fresh tracks were present in the moist sand. The reserve supports nesting yellow-eyed penguins (*Megadyptes antipodes*) and blue penguins (*Eudyptula minor*). We did spot New Zealand fur seals (*Arctocephalus forsteri)* on rocks at the base of the steep cliffs to the north.

Earlier native plantings are doing well in the hilltop paddock, accompanied by scattered remnant trees which survived grazing. These include kowhai (*Sophora microphylla*), ngaio (*Myoporum laetum*), cabbage tree (*Cordyline australis*), and lowland ribbonwood (*Plagianthus regius*). The deciduous ribbonwood trees were virtually leafless, revealing the hemi-parasitic *Tupea antartica*. These threatened native plants are protected from possum browse by metal bands encircling the ribbonwood trunks.

Sunshine brought out the group's usual friendly banter and clever wit and the two (much) younger members of the party were most compliant, being carried around by dad Ian and Norm. The walk emerges at the roadside opposite the forested Goodwood Reserve, to which the Trust's plantings will one day be linked. Many thanks to the Yellow Eyed Penguin Trust for this inspiring visit and all the best with your ongoing restoration work.

Photos from the Botanical Society of Otago field trip to Tavora Reserve.

P 19:

Top. BSO members in the July sunshine at Tavora.

Bottom. Coastal plantings of native *Euphorbia glauca* and *Austrofestuca littoralis*

P 30. View south from Tavora. *Theresa Downs*

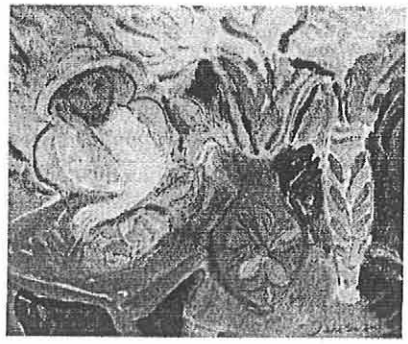
Books and Websites

Otago Peninsula Plants: An annotated list of vascular plants in wild places.
Peter Johnson.

Peter Johnson's latest book, "**Otago Peninsula Plants: An annotated list of vascular plants in wild places**", which was launched to a capacity crowd last month, is available for $15 from:

Save The Otago Peninsula (STOP) Inc Soc
P O Box 23
Portobello
DUNEDIN

You can also order copies from Moira Parker, who has offered to bring them to BSO meetings.
Call Moira at 478 0214
Email: moiraparker@clear.net.nz



The New Zealand Pleasure Garden

Gardening for the Senses

BEATRICE HALE

Published in 2004 by Shoal Bay, Dunedin
(Paperback, 160 pages)

This is the third gardening book that Beatrice Hale has written and focuses on therapeutic gardening to stimulate the senses. Hale's enthusiasm for gardening is evident in her encouraging style of writing. Throughout the book there is an emphasis on small and indoor garden so that the plants are accessible and can be appreciated easily. The text is packed with practical advice on optimum growing conditions and includes a few interesting anecdotes along the way too. The content is not new, but the information is arranged into chapters based on the sense that groups of plants may appeal to. The plants mentioned include; Lamb's ears for touch, *Carex* grasses for their sound as they rustle in the wind and *Pelargonium* x *fragrans* 'chocolate' for its wonderful aroma. Black and white illustrations by Christine Brown decorate the text, however the addition of photographs or drawings to identify each of the plants discussed would have been a useful addition. The final chapter of the book is entitled *Potpourri and Beyond.* Included here are suggestions of ways to enjoy your plants other than by growing them, such as botanical sketching, floral arrangement and photography.

Available from University Book Shop, Dunedin NZD$29.95 (less 10% with University of Otago staff or student card). Reviewed by *Arlene McDowell*

More Special Book deals and details

Manaaki Whenua Press offers a wide range of quality New Zealand natural history and science titles. Some, like the *Flora of New Zealand* series, are published by Manaaki Whenua Press, while many others are sourced from other publishers in order to expand and enhance our range. Manaaki Whenua Press also acts as exclusive distributor for CSIRO publishing, the New Zealand Plant Protection Society, and the Entomological Society of New Zealand. For more information, visit the website at **www.mwpress.co.nz** Botanical Society of Otago members enjoy a 20% discount off the RRP of all titles (excluding already reduced special offers) - please advise us of your membership status when placing your order.

www.mwpress.co.nz

Websites

Kia ora koutou e rau rangatira ma

Information on **conservation grants/biodiversity funding** that are available for projects on private land is outlined below. More information can be found at http://www.biodiversity.govt.nz/land/nzbs/pvtland/condition.html Both groups and individuals are eligible to apply for this funding.

If it would be useful for you to have a letter from DOC to support your application, please get in touch to familiarise me with your project. This represents a great opportunity to assist some of the exciting conservation initiatives being planned or already underway here in coastal Otago.

David Mules

Community Relations Programme Manager - Coastal Otago Area - Department of Conservation

2 March 2004

Website that compares book prices *Janice Lord*

HI all

just stumbled on an excellent website that will search 600 different bookstores (mostly in US it seems) to find the lowest price for a book you want. http://www.fetchbook.info

It includes used as well as new book sellers.

I came across it via another good site http://www.biologybooks.net

Botanical Society of Otago Website: http://www.botany.otago.ac.nz/bso/

Our web site contains trip details, membership forms, contact details and links to other websites of Botanical interest. Check it out to see updates on trips and activities, including registration forms for the next Wellington Botanical Society summer trip. New additions include colour images of entries in the inaugural Audrey Eagle Botanical Drawing competition, plus judging criteria and entry forms for next year's competition.

News and Announcments

HH Allan mere award 2004

Stop Press!! Congratulations to Dr Ian Atkinson, who has just been awarded the HH Allan Mere Award for 2004. The Botanical Society of Otago supported the Wellington Botanical Society in his nomination. Ian will be presented with the award at the WBS September meeting.

Botanical Society of Otago
2nd Audrey Eagle Botanical Drawing Competition, 2004/05

Conditions of entry

1. A prize of $100 will be given to the best botanical drawing submitted to the Botanical Society of Otago, PO Box 6214, Dunedin North, by 31 August 2005.
2. The drawing must be your original work, with the understanding that BSO can use copies of it, with due acknowledgement, to illustrate the Newsletter, website or other BSO material.
3 It will also be displayed at the 4th annual Geoff Baylis Lecture, October 2005, where the winner will be announced and the prize awarded.
4. The size should be similar to A4 and no bigger than A3.
5. Your entry should include a title, notes of interest and contact details as requested on the entry form, and described in the judging criteria.
6. There is no entry fee, so please include an addressed, pre-paid envelope or tube if you would like your entry returned.
7. Entries are open to all current Botanical Society of Otago members.
8. The judges will be kept unaware of your identity until their final decision is made.
9. No prize will be given if there are no entries of sufficient quality.

Judging criteria

1. Botanical accuracy.
2. Detailed drawings, especially of identification features.
3. Clarity of lines.
4. Good proportional representation and scale.
5. Layout
6. Suitability for publication.
7. Preference will be given to plants that are rarely, or have not been, illustrated in a readily available form. For example an illustration of an uncommon wetland plant would be of more scientific value than a picture of a lancewood.
8. Caption to go with illustration e.g. name of plant, where it came from and the date it was collected and/or drawn.
9. Botanical notes, or comments of interest about the plant or both. These could include a key to botanical details, notes on history, distribution, uses etc.
10. Artistic merit.

Entry Form
BSO 2nd Audrey Eagle Botanical Drawing Competition, 2005

Name
Address

Email **Phone**

Title of entry
Enclosed
No. of drawings .....
No. of Botanical Notes.....
Return
I would like my drawings back and have included prepaid and addressed packaging. *Yes/no.*

Membership: I am a current financial member of the Botanical Society of Otago, and this is all my own work.
Signed..... *Date*.....

Post to: Botanical Society of Otago, PO Box 6214, North Dunedin, to arrive by 31 August 2005

Botanical Art Feature: *Datura* sp.

Toni Atkinson,
second place-getter in the 2004 competition.

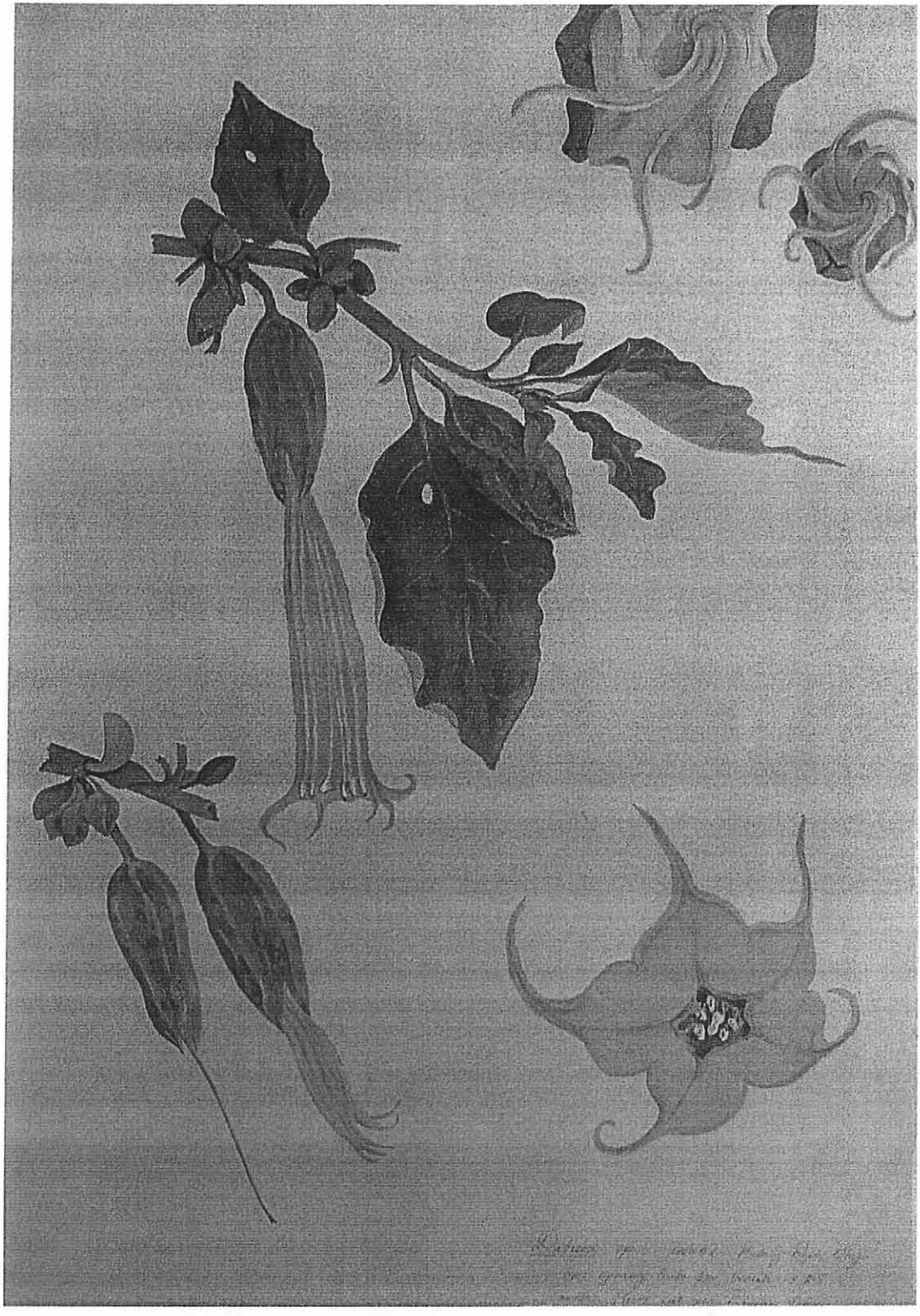
I chose the flower of the yellow *Datura* (= *Brugmansia*) because I have been fascinated with it since I did Stage 1 Botany at Victoria University in the late '80s, and was required to draw it cut lengthwise. Here at Otago University, several plants grow near the Botany glasshouses - warmed by the proximity of the glasshouses and museum building, and protected overhead by trees.

What I like about the flower is the way the tapered, rolled ends of the petals swirl tightly together in the developing bud, then lengthen and expand, to fling themselves out and upward when the flower is ripe. Each bud has its own swirl, some seeming so sure of themselves they make me laugh.

I attempted to identify the plant to species level, but none of the three *Brugmansia* species or the two *Datura* species recorded in New Zealand (by the online Landcare database, http://nzflora.landcareresearch.co.nz) appear to fit. In the process I discovered that there are immense Internet databases of nursery cultivars with photo after photo of incredible twirled, whorled, and coloured, trumpet-flowers, and international societies devoted to their cultivation.

In the past I have usually painted in watercolour but chose to experiment in oils this time, because I felt they suited the opaque colours of the leaves and flowers.

Next page: Details of *Datura* sp, cropped from Toni Atkinson's 2004 entry.



Apology to Wilding tree-fellers

editor

A big apology to David McFarlane, for inadvertently getting his name wrong in the last BSO newsletter, and an even bigger one to the whole Wilding tree team for accidentally diminishing their efforts ten-fold. They can easily demolish more than 8,000 trees in a weekend (see below), and must be well over the total of 80,000 that I meant to report last issue. Anyone interested in joining this heroic team can contact David McFarlane, phone 473 7259, email miniwaka@xtra.co.nz

News snippets –

John Barkla

10,000 trees felled

Oamaru: Almost 10,000 trees at Lake Ohau were felled last weekend by Forest and Bird's wilding tree team. Nine members of the Dunedin-based team, using chainsaws and axes, cut out almost 6000 wilding trees in the grounds of Ohau Lodge and then, with a Doc staff member, another 3900 from adjacent Doc land. An even larger problem was looming near Ohau village, where *Pinus contorta* and other wildings were spreading out of control, wilding tree team co-ordinator David McFarlane said.

Otago Daily Times, Thursday, July 1, 2004

Lakeweed added

Oamaru: The highly invasive lakeweed *Lagarosiphon*, found in Lake Benmore last year, has been added to Environment Canterbury's pest weed list. The regional council has adopted a new regional pest management strategy, which combines the functions of the previous strategy and one for biodiversity pests. It was drawn up after submissions from the public. The council has set aside $20,000 a year to investigate how widespread *Lagarosiphon* is in Canterbury waterways, and to control it.

Otago Daily Times, Thursday, July 1, 2004

Could plants detect landmines?

A Danish company is developing a mine detection process based on colour change – from green to red – in a transgenic variant of a common annual weed. Aresa Biodetection have discovered a transgenic plant bio-indicator that detects nitrogen dioxide gas evaporating from buried mines and other unexploded ordnance. Growing plants take up the chemical through their roots and in response change from green to red or brown in colour within 3-6 weeks. Plants in proximity to a landmine should turn a distinctive red, warning mine clearing parties where to excavate.

The species used is the cosmopolitan annual weed Thale Cress (*Arabidopsis thaliana*). This slender plant of cultivated land has long been popular with geneticists who have elucidated its variation and even mapped its genome. Thale Cress grows rapidly from seed to flower in one or two months, and an almost obligate inbreeding reduces the probability of the spread of potentially hazardous transgenes.

Abridged from Plant Talk 36, May 2004

National Events

DEPARTMENT OF BOTANY
1924 – 2004

80TH ANNIVERSARY DINNER

Otago Museum
9 October 2004

Master of Ceremonies: Dr David Orlovich

7.00pm
Conversazione with displays, student poster competition
and a photo call – on the first floor

7.50pm
Assemble in the dining area on the ground floor

8.00pm
Welcome from Head of Department, Associate Professor Paul Guy
BOTANY COLLAGE

Entrée

Assistant Vice-Chancellor Science, Dr Vernon Squire DSc FRSNZ FIMA CMath FNZMS
BOTANY DEPARTMENT SUCCESSES AND THE FUTURE

Main Course

Dr David Galloway DSc FRSNZ FLS FRGS CBiol MIBiol
OTAGO BOTANY: AN HISTORICAL PERSPECTIVE, WITH SPECIAL REFERENCE TO LICHENOLOGY

Dessert

Emeritus Professor Alan Mark FRSNZ CBE DCNZM
THE FIRST AND ONLY SURVIVING KIWI UNIVERSITY BOTANY DEPARTMENT

Student Poster Winner Announced
Anniversary cake with Holloway, Baylis, Bannister and Guy

Dress: Ladies Flapper, Gentlemen Dapper (1920s Style)
Optional

UNIVERSITY OF OTAGO
Te Whare Wānanga o Otāgo

Tickets available for $40 each, current students $30, from the Botany Department

National Events ctd

Wellington Botanical Soc. Summer Trip, 28 Dec. – 6 Jan '05. Western Canterbury
The Wellington Botanical Society have kindly invited us to join them on their next legendary summer trip. This will be based not far south of Methven, at Staveley Campsite, which has dormitories and camping areas. Possible field trips located with the help of Bryony McMillan and the Canterbury Botanical Society include: Mt Somers Conservation area, Staveley Hill, Caves Stream, Mt Hutt Conservation Area, Coalgate Walkway, Rakaia Gorge Walkway, Lake Emma & Mt Harper, Mt Thomas, Glentui and Ashley Gorge....Registration form is posted on the BSO noticeboard and website.

Local Events - see front pages and website for details of BSO events, and following pages for details of local groups meeting places and times..

8 Sept. Wed 12 noon. Botany. ***A comparison of the ultrastructural characteristics of phloem and xylem feeding insects***
Professor **Thomas Freeman**, North Dakota State University, USA

5 Oct, Tues. 5.20 pm. **BSO special meeting. Dr David Kelly**
The current state of bird-plant mutualisms in New Zealand

also

6 Oct 12 noon Hutton Theatre, Otago Museum, Otago Institute Lecture Series 2004 Leonard Cockayne Memorial Lecture.
Plant reproductive biology in New Zealand: masting, mutualisms and mistletoes
Dr David Kelly, Associate Professor, School of Biological Sciences, University of Canterbury

10 Sept, Fri. 12 noon. Botanic Garden ***MAF's current regulations on seed and plant import.*** MAF Quarantine Service. Plus – ***Dunedin Botanic Garden's international seed exchange programme*** - **Tom Meyers**, Botanist, Botanic Garden. HortTalk, Botanic Garden Centre, Upper Lovelock Ave.

15 Sept Wed 12 noon. ***Ecophysiology of*** **Ulva** ***along gradients of light, salinity and water motion in Doubtful Sound.*** Dr Chris Cornelisen, Postdoctoral Fellow, Marine Science Dept, University of Otago

18 Sept Sat **9.30 am BSO** ***Expedition to the Sea shore*** led by **Dr Lisa Russell**, Teaching Fellow in Botany.

22 Sept Wed 12 noon. Botany Dept.
Cities are cultural and ecological keys to biodiversity futures
Dr **Colin Meurk**, Landcare Research, Lincoln, Christchurch

29 Sept Wed 12 noon. Botany Dept. ***Assessing eco-sourcing: an analysis of the geographic variation of*** **Metrosideros umbellata** ***Cav. and the implications for restoration using nearest-provenance- based sourced plant material***

Alex Fergus, Botany Department, University of Otago

and

The plant component of invertebrate conservation: a case study from the Rock and Pillar Range

Steve Rate, Botany Department, University of Otago

6 Oct, Wed 12 noon. Botany Dept. ***Investigating photosystem II protein–protein interactions in vivo using the cyanobacterium*** **Synechocystis** ***sp. PCC 6803***

Dr Julian Eaton-Rye, Biochemistry Department, University of Otago

8 Oct Fri. 12 noon. Botanic Garden. ***Turn over an old leaf – a guide to composting.*** **Kim Thomas & Angela McErlane.** HortTalk, Botanic Garden Centre, Upper Lovelock Ave.

13 October, Wed. 5.20 pm. **Castle 1 lecture theatre. BSO 3rd Annual Geoff Baylis Lecture,** co-sponsored by the Department of Botany, Otago University. Our distinguished speaker this year is Henry Connor, DSc, FRSNZ,

A modern taxonomist in a postmodern era - Servant or Master?

16-17 Oct. Sat 8.30 am start. BSO Weekend **field trip to the Catlins** with **John Barkla.**

10 Nov. Wed. 5.20 pm. BSO speaker **Beatrice Hale**, author of 'The New Zealand Pleasure Garden' ***Plants with a Purpose.***

12 Nov. Fri. 12 noon. Botanic Garden. ***Dunedin's First Mainland Island – the latest progress on Orokonui Nature Sanctuary.*** Ralph Allen, Ecologist. HortTalk, Botanic Garden Centre, Upper Lovelock Ave.

13 – 14 Nov. BSO Weekend trip to **Hinewai** on the gorgeous Banks Peninsula. Host – legendary botanist **Hugh Wilson.**

8 Dec. Wed. 5.20 pm. BSO Speaker **Diane Campbell-Hunt**

Developing an urban sanctuary - the Karori Experience

10 Dec. Fri. 12 noon. Botanic Garden. ***Flowers of the Season.*** **Peter Johnstone**, Orchid Florist. **HortTalk**, Botanic Garden Centre, Upper Lovelock Ave.

Weekend lichen workshop.
Postponed til next year,
when the revised Lichen Flora
of New Zealand should be out.

Conservation Volunteers Community Noticeboard

These groups would appreciate a hand – please contact them if you are able to help:

George Sutherland 467 5999. **Track Group**. Silver Peaks area. Every Wednesday

Rex Malthus 473 7919. **Track Group**. Mainly in Silver Stream/Silver Peaks area. First Thursday of every month

Dave McFarlane 473 7259. **Yellow-eyed Penguin Trust**. Clearing, planting and maintaining areas of coastal penguin habitat. Frequent workdays

Nigel McPherson 476 1109. **Colinswood Bush Committee**. Clearing, planting and maintaining covenant of native bush on Otago Peninsula. Interested to know of anyone able to help occasionally on week days

Don McKechnie 482 2021. **Mopanui Ecological Environmental Society**. Clearing, planting and maintaining areas of coastal shrubs. Meet 10.30am at Long Beach, last Sunday of every month.

Ken Mason 476 7100. **Forest and Bird Protection Society**. Clearing of weed species in Otanomomo Scientific Reserve near Balclutha. Frequent workdays.
Also restoration and maintenance of Moores Bush, Leith Valley.

Lala Fraser 479 8391. **Save The Otago Peninsula**. Clearing, planting and maintaining natural environments on Otago Peninsula. Frequent workdays

Marilyn Egerton 481 7171. **Taieri Mouth Amenities Society**. Clearing, planting and maintaining public areas around Taieri Mouth. Frequent workdays.

Please come prepared for all **weathers**, with sturdy **footwear, lunch** and a **drink.**

From the *DOC Conservation Volunteers Newsletter*

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, at Room 215, new Zoology Benham Building, 346 Great King St. Their field trips leave from Citibus Depot, Princes St. Visitors are welcome. **Contact: Beth Bain, 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. Web** http://www.dunedinforestandbird.org.nz/

Friends of the Botanic Garden meet on the second Tuesday of the month at 4.30 pm in the Lower Garden Information Centre. **Web Page- http://www.friendsdbg.co.nz/. "HortTalk"=** monthly talks at the Botanic Garden, at 12 noon on the second Friday of the month, in the Botanic Garden Centre, Upper Lovelock Ave. Also available, **"HortHelp"** =problem or mystery plants can be left at the Botanic Garden's information centre for staff advice.

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, phone 474 6926**

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

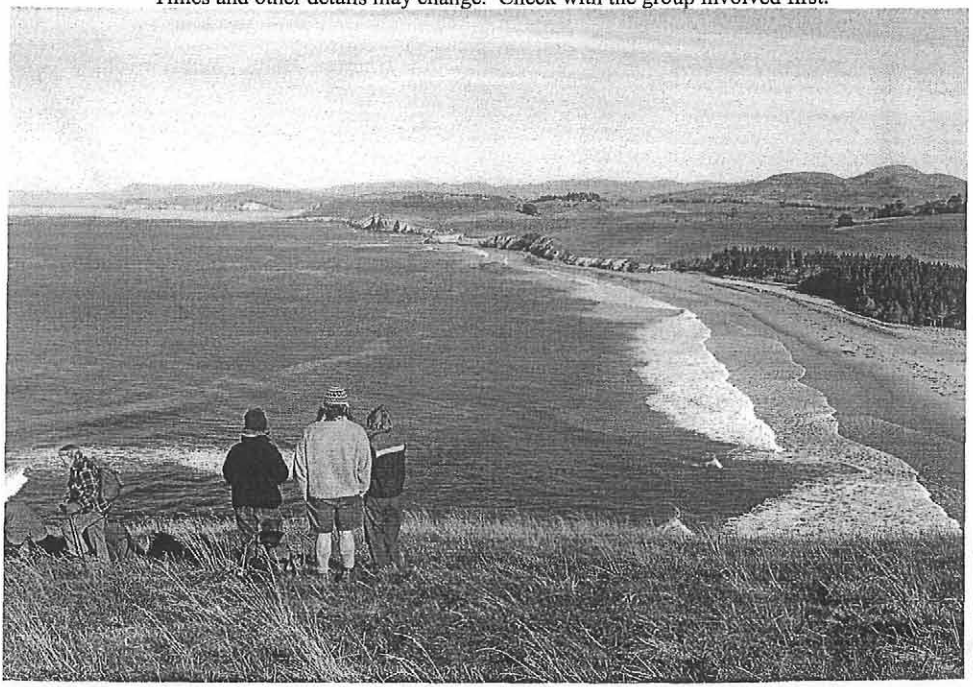
Southland Natural History Field Club. Meetings 7.30 pm on the second Thursday of the month, currently at the Otatara Hall, just out of Invercargill. Field trips the following Saturday or Sunday to places of botanical, ornithological, ecological or geological interest. **Contact Lloyd Esler 032130404,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

Otago Alpine Garden Group Meets every 3rd 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**

Entomology Society of NZ, Otago Branch bimonthly meetings are held 7:00 pm, 3rd Thursday of the month in the Hutton Theatre, Otago Museum. Guest speaker programme and natural history sessions on insects. To get newsletter and invitations for meetings and field trips contact **Eric Edwards, 03 213 0533**, email: **eedwards@doc.govt.nz.** *Guests welcome*

Southland Forest and Bird Society Winter talks - second Tuesday of each month, 7.30pm, Southland Museum, Invercargill. See Southland F&B web site for speaker details **http://www.converge.org.nz/fbsth/.** Working Days (contact Barbara Boyde 03 2160353) Tautuku Lodge 25-26 May 2004. Te Rere yellow-eyed penguin Colony planting days (contact Brian Rance 03 2131161) 10 July 2004, 14 August 2004.

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



Botanical Society of Otago: Patron: Professor Peter Bannister

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Secretary, **Robyn Bridges**, *robyn.bridges@stonebow.otago.ac.nz*, ph 479 8244

Treasurer, **Lyn Bentley**, *stevelf@ihug.co.nz*

Events Managers, **Arlene McDowell**, *arlene.mcdowell@stonebow.otago.ac.nz*

Moira Parker, *moiraparker@clear.net.nz*

Program Manager, **Ian Radford**, *ian.radford@botany.otago.ac.nz*

Committee; **Bastow Wilson**, *bastow@otago.ac.nz*, **Abe Gray**, *graab419@student.otago.ac.nz*, **John Barkla**, *jbarkla@doc.govt.nz*, **Kate Ladley**, *ladka296@student.otago.ac.nz*, **Norm Mason**, *norman.mason@botany.otago.ac.nz*

Newsletter editor, **Allison Knight**, *bso@botany.otago.ac.nz*, ph 487 8265

Please submit copy for next newsletter by 10 November 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/bso/**

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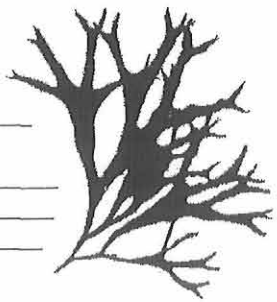
Membership form:

Botanical Society of Otago, 2004

(This form is also available on our website)



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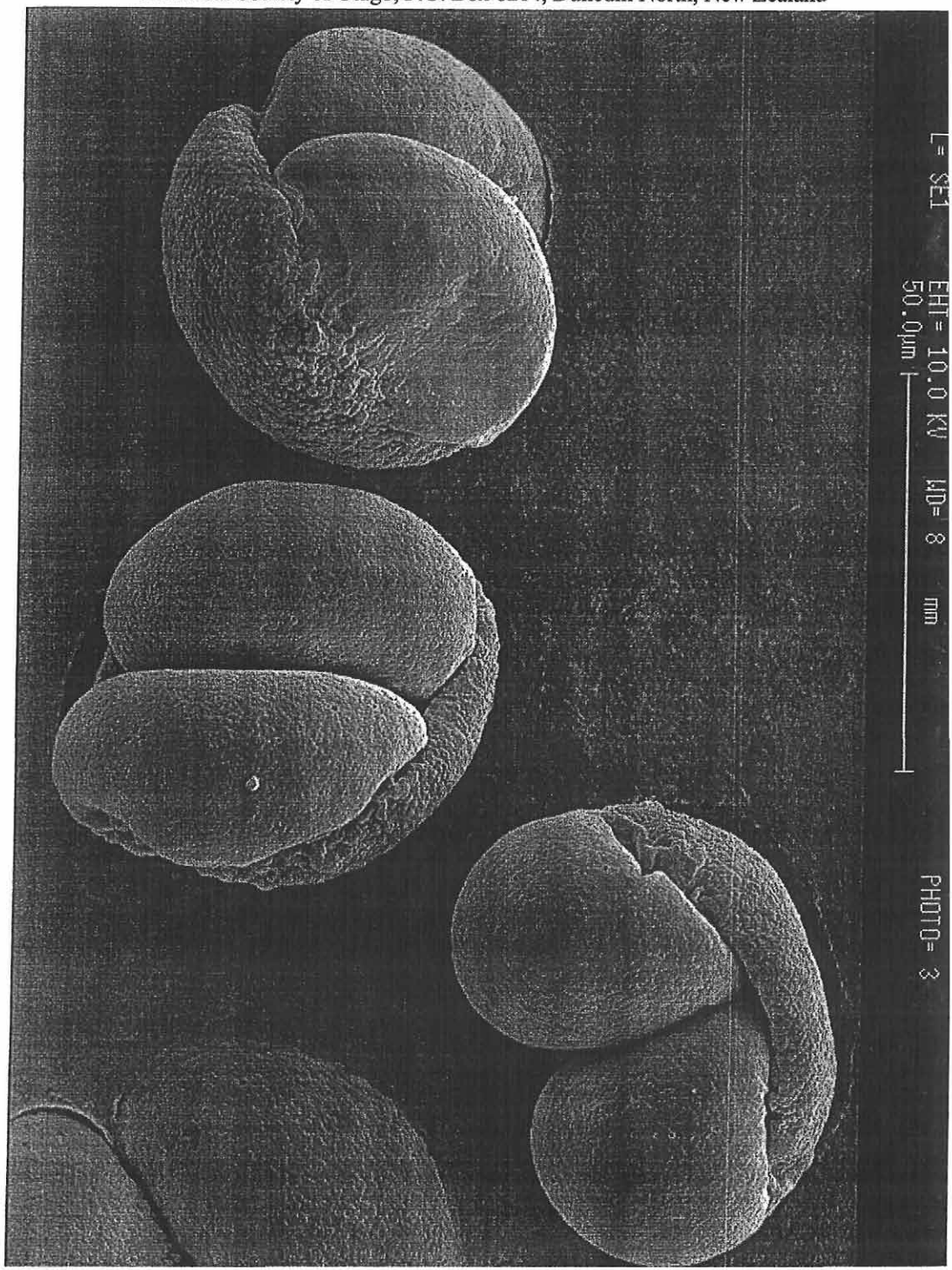
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