



BOTANICAL SOCIETY

OF OTAGO

Newsletter Number 72 May 2014

BSO Meetings and Field Trips

Saturday 7th June 9 am Field Trip to Tavora Reserve

We'll look at the sand dune of the Tavora Reserve. This was marram-dominated, but the Yellow-eyed Penguin Trust has been planting pikao and other native dune species which has worked quite well. We'll look at the podocarp / broadleaved forest of Goodwood Scenic Reserve, one of the very best remaining remnants of coastal forest in East Otago. The Trust has also been doing restoration planting along the stream that leads to the dunes and along a corridor from Goodwood reserve to the sea. Leave 9 am from the Botany Department car park, return mid-late afternoon. Rain date Sunday at 12 noon. Contact Bastow Wilson, phone: 472 8999 or 021 144 8228, email: bastow@bastow.ac.nz

Wednesday 11th June 5.20 pm Fabulous Fungi from Golden Bay (NOTE DATE CHANGE)

Dr David Orlovich, Botany Department, University of Otago, will be talking about the 2014 Fungal Foray that was held in May at Pohara, Golden Bay. The annual Fungal Foray always produces some interesting finds and the photos alone make attending this talk worthwhile.

Wednesday 9th July 5.20 pm Larapinta Trail, Central Australia

Last winter John and Marilyn Barkla walked the 230 km Larapinta Trail in the desert of Central Australia. It was a place of stunning landscapes, botanical surprises, scarce water and strange encounters with dingoes and scorpions. Come and hear how the journey unfolded and help John put names to the many unfamiliar plants they found.

Saturday 12th July 10 am - 3 pm Call for volunteers for the BioBlitz at the Dunedin Botanic Garden

Come and join us build a wild plant species inventory in New Zealand's first botanic garden. We are looking for experts, amateurs and beginners to help find, identify and map as many wild plant species as possible. With your help we have the opportunity to extend scientific and public knowledge of diversity in the Botanic Garden. The BioBlitz is a wonderful opportunity to share your knowledge or learn more. **Please contact Tom.Myers@dcc.govt.nz if you are able to be there.**



Wednesday 20th August 5.20 pm Council Focus on Biodiversity

A talk by Councillor Gretchen Robertson from the Otago Regional Council. Councillor Robertson will discuss the Council's focus and strategies for biodiversity in Otago.

Sunday 31st August 10.00 am Trip to Saddle Hill

We will visit a 20 hectare block of dry coastal Otago forest on the Orr's property on Saddle Hill, an area protected by a QE11 covenant. This regenerating forest is located in a steepish gully and has been extensively replanted and maintained by the Orrs. Aside from the flora, fauna of interest is a colony of peripatus which was first located in this area by Anthony Harris. The walk is about 1.5 hours. Good footwear is essential and there is a picnic area where we could have lunch. Meet at the Botany Department car park at 10am. Contact Robyn Bridges, phone: 472 7330, email: robyn.bridges@otago.ac.nz

Wednesday 10th September 6.00 pm Castle 1, University of Otago (drinks and nibbles starting from 5.15 pm in the concourse) 13th Annual Geoff Baylis Lecture, Speaker Peter Johnson, Landcare Research, Dunedin. Long Leaves and Fat Roots

The Baylis Lecture is held annually by the Botanical Society of Otago, in conjunction with the Botany Department. It is named in honour of Dr Geoff Baylis, the first Professor of Botany at the University of Otago.

My "long leaves" plant stories will be about *Rhopalostylis*, *Cordyline*, *Cyathea*, *Freycinetia*, *Phormium*, *Astelia*, *Collospermum*, *Xeronema*, *Pseudopanax*, *Arthropodium*, *Austroderia*, *Chionochloa* and *Aciphylla*. A sample of 110 spp that help to comprise what I see as an overlooked iconic group of the New Zealand flora, from palms to tussocks, each with its own lifestyle and morphology as it relates to wind, youth, old age, the funnelling or shedding of rain and nutrients, and competition. My "fat roots" stories will concern the likes of *Griselinia* and *Coprosma* which Geoff Baylis clearly demonstrated to be dependent on mycorrhizal fungi, a finding applicable to most plants throughout the world. As one of Geoff's PhD students in the 1970s, I reckon it is time for me to revisit this topic, so at the time of writing this abstract I have some reagents on hand to help take a further look at root morphology and stained fungi. So who knows what other stories might come out of the soil; (or from aerial roots, or as beneficial fungi in leaf bases of nest epiphytes?) Watch this space.

Saturday 13th September 10.30 am - 3.30 pm Moss, Liverwort and Lichen Walks and Workshops.

Your chance to learn more about these fascinating miniature plants that live all around us. Together they contribute more New Zealand species than the flowering plants, so are an important, yet often overlooked part of our biodiversity. Meet at the Dunedin Botanic Garden information centre. Bring a hand lens or magnifying glass. *Lichens of New Zealand, An Introductory Illustrated Guide* and a beginner's guide covering mosses, liverworts and lichens will be available. No food or drink is allowed inside so bring a picnic lunch and thermos or eat in the Croque Café next door. Workshop space and microscopes are limited. Please register by Wednesday 10 Sept. Contact: Allison Knight, phone: 4878265, email: alli_knight@hotmail.com

Saturday 4th October 8.30 am Field trip to Waianakarua Arboretum

Malcolm and Jo Douglas have invited us to visit their family property near Waianakarua. This has been in the family for a hundred years and their love of trees is obvious, resulting in an impressive and eclectic arboretum of exotic and native species in a beautiful setting - and this planting continues today. The valley of the Middle Branch of the Waianakarua River with regenerating native bush runs along the boundary and is an extension of the Waianakarua Scenic Reserve. This is a rare opportunity and privilege for us to visit something quite special. In return, Malcolm and Jo would like us to compile a species list for the property. Meet at the Botany car park to depart at

8.30am or at 9.30am at the intersection of State Highway One with McKerrow Road, just south of the Mill House, Waianakarua. Contact John Steel, phone: 021 2133170, email: john.steel@botany.otago.ac.nz

Wednesday 15th October 5.20 pm Talks by Department of Botany Colloquium speakers

Talks from the Department of Botany student colloquium winners showcasing some of the latest research by our most capable young botanists. A stimulating and varied evening is in store so please come and support the speakers.

Saturday 1st November 8.30 am Field trip to Macraes Flat

A trip to Macraes Flat to explore the newly created QEII covenants established as mitigation for mining activities by Oceana Gold Ltd. Weather and time permitting we will visit all three areas, the first a tussock grassland with little gems, such as *Dracophyllum uniflorum* var. *frondosum*, *Pimelea pseudolyallii*, *Celmisia hookeri* and *Anogramma leptophylla*, hidden away in rocky outcrops. The second site doubles as an historical reserve, with the ruins of schist stone buildings, thought to be an inn for travellers seeking the goldfields. The ruins are surrounded by grey scrub featuring *Discaria toumatou*, *Coprosma propinqua* and *Melicytus alpinus*. The third site is unusual in the Macraes landscape in that it consists of a bushy gully, native trees being few and far between in the surrounding area. Tree species include *Pseudopanax crassifolius*, *Pseudopanax colensoi* var. *ternatus*, *Griselinia littoralis*, *Carpodetus serratus* and *Sophora microphylla*. Other tidbits include *Carmichaelia kirkii* and *Gingidia grisea*. Rain day Sunday 2nd Nov. Meet at the Botany car park to depart at 8.30am. Contact Marcia Dale, phone: 4546706, email: imaginarycrayfish@gmail.com

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 Zoology Benham Building, 346 Great King Street, behind the Zoology car park by the old Captain Cook Hotel. Please use the main entrance of the Benham Building to enter and go to the Benham Seminar Room, Room 215, located on the second 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 to dinner afterwards: everyone is welcome to join in. The talks usually finish around 6.30 pm: keen discussion might continue till 7 pm.

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). **Please contact the trip leader before Friday for trips with special transport and by Wednesday for full weekend trips.** 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 and outdoor gear to cope with changeable weather conditions. Bring appropriate personal medication, including anti-histamine for allergies. Note trip guidelines on the BSO web site: <http://www.otago.ac.nz/botany/bs/>.

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Gingidia grisea from *Macraes Flat* (Photo: Marcia Dale)

Chairman's Notes

David Lyttle

Recently, on May 4th, I had the privilege of attending the graduation ceremony where Sir Alan Mark was awarded the honorary degree of Doctor of Science in recognition of his services to the community and to the University. During his graduation address Sir Alan spoke of the role of Universities to be the conscience and critics of society and how successive University administrations had supported his right to advocate for environmental causes. This, coupled with Sir Alan's insistence that any environmental debate needs to be informed by good science, has lent credibility to the idea that protecting ecosystems and natural features is a useful and valuable thing for the citizens of New Zealand to do in the face of continuing onslaughts on our environment by governments and organisations who are ignorant of consequences and are driven by short-term economic objectives. So on behalf of all of his friends in the Botanical Society of Otago I would like to congratulate Alan on this honour and wish him and Pat all the best for the future and will look forward to seeing them both at our meetings and on our field trips for a long time to come.

So far this year we have run three very successful field trips: the first in February to Omaui/Three Sisters, the second in March to St Bathans where we looked at three Miocene fossil sites and the third in April to Gards Road Reserve in the Waitaki Valley. In each instance we have had people leading the trips who were able to explain and interpret, amongst other things, the geology, ecology, flora and cultural history of the sites we visited. We are fortunate to have such a cadre of such excellent scientists to call on and I would urge those members who have not participated in field trips to do so. There are always surprises and interesting things to see; at Omaui it was the *Gentianella* lawn, at the Ida Valley coal pit there were 20 million year old logs with the wood structure still intact lying on the ground and at Gards Road we

saw a suite of threatened plants clinging precariously to the edge of a limestone escarpment and continued existence.

Allison Knight's "*Lichens of New Zealand: An Introductory Illustrated Guide*" published by the Botanical Society using the Audrey Eagle Botanical Publishing Fund has been very successful. It has received a lot of favourable comment and is in high demand, so much so we have done a second print run. Allison should be justifiably proud of her efforts both in terms of collecting and photographing the specimens and for producing the book which is set out in a coherent, logical manner. It fills a gap as finally there is a New Zealand publication that introduces lay people to this fascinating, complex group of organisms.

The final matter I would like to bring your attention to is the Nature Watch website <http://naturewatch.org.nz/home>. This site has been set up so anyone can record natural history observations by submitting photos of the subject with details of date, location *etc.* Various experts identify the specimens from photos submitted and interaction amongst the participants is encouraged. If there is sufficient interest amongst members we could schedule a workshop on using the website in our programme. In the meantime John Barkla and I have set up a project on the site called Otago Peninsula Biodiversity <http://naturewatch.org.nz/projects/otago-peninsula-biodiversity>. The aim of the project is to record all the plants, animals, insects etc that are found on the Otago Peninsula. We hope this will serve as a reliable record to assist future scientific studies and as general resource for those groups working to restore the original biodiversity that once existed there. The ongoing work by the OPBG to rid the Otago Peninsula of possums has reduced the numbers of these pests significantly. Anecdotally, the number of birds, especially bellbirds and tui, has increased since there are fewer possums to eat the flowers and fruit which they depend on for their food but more hard data are needed to secure continued funding for these efforts. Once you find your

way round the software, participating in the project and sharing your observations with other naturalists is a lot of fun and will contribute valuable knowledge of the flora and fauna of the Otago Peninsula to the project.

Secretary's Notes

Allison Knight

Besides the usual number of newsletters received from other Botanical Societies and collated by Bastow, incoming mail since the February newsletter has had two main themes.

Entries for the Photo Competition reached a record level in both number and quality. This made for a very rewarding April meeting, will make an excellent calendar and contribute to a dazzling display at the Botany Department 90th Anniversary celebrations in September. I hope entries for the biennial Audrey Eagle Botanical Drawing Competition will also reach a record high, especially as the Botany Department is donating a special prize for Secondary School pupils in honour of their 90th Anniversary Celebrations.

Orders for the Introductory Guide to Lichens have been flowing in so fast that the January print run sold out in less than 3 months and the next print run is also disappearing fast. Copies are available from the Botany Department office—see advertisement for details. All proceeds come back to replenish the BSO Audrey Eagle Botanical Publishing Fund so that we can support more publications of botanical interest.

Message from the Treasurer

Mary Anne Miller

Treasurers Report April 2013 - March 2014

I'm pleased to report that in the past financial year our position has greatly improved. We've gone from a negative balance to a positive one. This is largely due to Allison Knight's generous offer of the Society retaining profits from the sale of her wonderful illustrated

lichen guide. The first print run sold quickly and we are now selling the second run. Thank you Allison. We've also changed the way subscriptions are paid, the benefit of which will become apparent over the coming years. If you'd like a copy of the detailed Statements of Financial Performance and Financial Position please contact me. Mary Anne Miller maryanne.miller53@gmail.com

We thank the following for their kind donations:

Shirley Kerr, Eila Lawton, H.A. Cook, Helen McCaughan, Peter Johnson, Fergus Sutherland, David Lyttle and Rex Malthus.

Editor's Notes

Marcia Dale

Please submit copy for next newsletter by 15th September 2014

Editor's guidelines: Try to aim for a 0.5–1 page of 14pt Times for news, trip/meeting reports and book reviews and 1–5 pages, including illustrations, for other articles. Electronic submission by email to the editor: imaginarycrayfish@gmail.com is preferred. Send photos as separate files and remember to include photo captions and credits.

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.

Erratum: The photos in the Long Point field trip article in the printed version of the February issue were mistakenly attributed to Robyn Bridges, credit should have been given to Janet Ledingham: apologies to her for the error.

New Members

A warm welcome is extended to the following new members: Jane Gosden, Cara-Lisa Schloots, Ulla and Steve Higgins, Dr Anita Pillai, Max Buxton, Nikki Clarke, Dr Barbara Anderson, Dr Ralf Ohlemuller, Aahmes Quince, Sue Blaikie and Anna Harris

Correspondence and News

Obituary, Bill Wilson

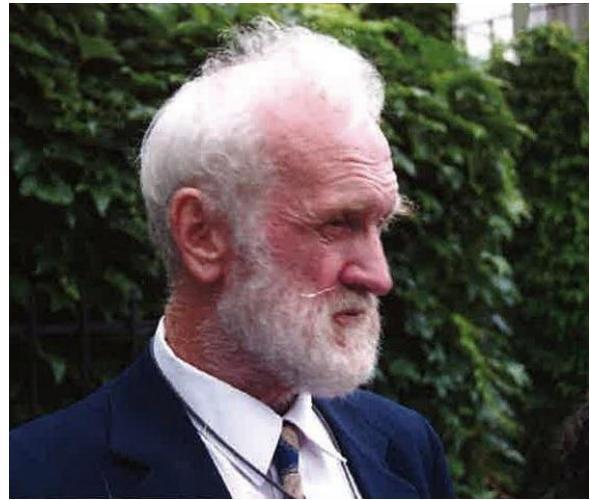
Bastow Wilson

Bill Wilson, a Botanical Society of Otago stalwart, died on 30 March 2014, two weeks after a severe stroke.

Bill and Diana taught at Kaitaia College for 36 years, Bill in History and Diana in English, but they retired in 2000 to Dunedin. As you would. Bill became an active and valued member of many groups: Forest & Bird (committee, vice-chair and acting chair; also Lenz Reserve Committee of the Southland Branch), Alpine Garden Club, Field Naturalists Club, Orokonui Sanctuary (in its very early development), Yellow-eyed Penguin Trust (many hours of volunteer work, including making 10,000 plant cages), University Club (President), University of the Third Age (board), 24-hour Regent Theatre Book Sale (helper), and four tramping clubs (leading trips, cutting tracks, President of the WEA Over-Fifties Tramping Club).

Bill and Diana lived their retirement to the full. Any play, they were sure to be at, or to have been at, or about to be at. Most concerts. Any opera. And not just in Dunedin, you could meet them at a play or opera in Christchurch, Wellington or Auckland, even in the West Island. (Diana claimed she only “came along for the ride”, but she did much more than that.)

Most of all, we value Bill’s work, ably assisted by Diana, for the BSO. They joined seven years ago, and Bill served on the Committee from 2010 until his death. He was such a feature of the BSO that it seems much longer. His contributions were always brief, to the point, helpful and full of common-sense. Several speakers at his memorial mentioned ‘gruff humour’, but if so it was a particularly nice sort of gruff.



Bill Wilson

Bill took on the rôle of Social Co-ordinator (he invented it, actually), providing the drinks and nibbles at meetings very efficiently. He revived the practice of going out to eat in a restaurant afterwards, always somewhere new. For this, he and Diana did sterling work testing restaurants in advance (“It’s tough work, but someone’s got to do it”, as the Emersons’ T-shirts say of beer testing). He probably did equally tough work testing the wines for BSO meetings.

Bill may be the first BSO office bearer to die in office, but that’s partly because he didn’t think 73 years was old enough to stop. We shall miss the work he did. We shall miss him personally. A lot. His good humour rubbed off and made the BSO a jollier place. Our sympathies go to Diana, along with our hopes that she will be able to continue making a contribution to some of Bill’s groups. Including the BSO.



Bill Wilson (Photo: Diana Wilson)

Social Convenor required

With the sad passing of Bill Wilson the BSO committee is now lacking a social convenor. The position requires someone who is able to organise drinks and nibbles for each monthly meeting followed by dinner afterwards at a restaurant of their choice. Please contact Marcia Dale (imaginarycrayfish@gmail.com) if you would like to take up this role.

Peter Bannister Student Field Grant - Call For Applications

Applications are invited for a grant from the Peter Bannister Student Field Grant Fund to assist a student enrolled for the degree of PhD, MSc, BSc (Hons) or PGDip at the University of Otago, New Zealand, whose thesis deals with some aspect of botany.

The research project to be supported will be chosen on the basis of appropriateness to the objects of the Society, namely to encourage the study and knowledge of botany. The grant will be administered through a supervisor's University of Otago account.

The grant is for fieldwork related expenses, but does **not** include equipment or attending conferences.

Closing date for applications: **20th August 2014**

A copy of the application form and rules may be downloaded from the Botanical Society of Otago website:

<http://www.botany.otago.ac.nz/bs/>

Contact for enquiries:

The Secretary
Botanical Society of Otago
P O Box 6214
North Dunedin, 9059
New Zealand
or email: bsotago@botany.otago.ac.nz

BSO Audrey Eagle Botanical Drawing Competition 2014

This year the Botanical Society of Otago's Audrey Eagle Botanical Drawing Competition will be held in conjunction with the University of Otago Botany Department's 90th Anniversary and entries will be displayed as part of the celebrations. Botanical artistry is not a widespread skill so there's a good chance of winning the first prize of \$100, second prize of \$50, or third prize of \$25! Also up for grabs is a special prize of \$50 for the best drawing by a secondary school student, donated by the Botany Department, in honour of their 90th Anniversary.

The judging criteria and entry forms will be available from the BSO website, <http://www.otago.ac.nz/botany/bs/>, at meetings and on the rack opposite the BSO noticeboard in the corridor inside the main Botany Department entrance.

Department of Botany 90th Anniversary Celebrations

Please come and join us in the celebrations. Save the dates for these events, more information will be available on the website: <http://www.otago.ac.nz/botany/news/90th.html>

12th July 2014, Bioblitz at the Botanic Garden

Part of the International Science Festival

10th September 2014, 13th Annual Geoff Baylis Lecture:

Peter Johnson: Department of Botany and Botanical Society of Otago Baylis Lecture

11th September 2014, John Smaillie Tennant Lecture: Professor Paula Jameson

12th September 2014, Botany 90th Celebration One Day Symposium



Lichens of New Zealand: An Introductory Illustrated Guide *Allison Knight*

A5, 56 pp, full colour, laminated cover.

Published by the Botanical Society of Otago using the Audrey Eagle Botanical Publishing Fund.

This introductory guide celebrates the extraordinary diversity of New Zealand lichens with full colour images of over 250 common lichen species plus a glossary illustrating over 60 useful identifying features. Species are divided into four colour-coded ecosystems and displayed in order of the three main growth forms. New Zealand is exceptionally rich in lichens and harbours around 10% of the world's lichen species. They are an important, yet often overlooked, component of every ecosystem from the seashore to the mountaintops and contribute over 1800 taxa to New Zealand's biodiversity - nearly as many species as seed plants.

Ordering details

\$20/copy. 10% discount for members of Botanical Societies and JCBLW participants (\$18/copy)

25% discount for orders of 10 or more (\$15/copy)

Pick-up at the Department of Botany Office,

479 Great King St., Dunedin North, New Zealand

Only **CORRECT CHANGE** or **Cheques**, please.

Cheques payable to *Botanical Society of Otago*

Or order in advance by **Internet banking:**

Westpac Account No: 03 0905 0029158 00.

Code: *Lichen Guide*

Reference: *Your name*

Postal orders: add Postage and packing:

1–2 copies @ \$2; 3–6 copies @ \$5; 7–12 copies @ \$6

Email: Pay by **Internet Banking** as above.

Post: Send **cheque**, as above, to: Treasurer, BSO

PO Box 6214, Dunedin North 9059

Be sure to enclose or email your delivery address to: bso@botany.otago.ac.nz



web: <http://www.otago.ac.nz/botany/bso/>

All proceeds will go to the Botanical Society of Otago to replenish the Audrey Eagle Botanical Publishing Fund.

Articles

Old plant material provides new insights into conservation

Luke Easton

The Hauraki farm station in Ruakokopatuna Valley of the lower Wairarapa is a really remarkable place, although definitely not based on first impressions. Today, apart from the dense clumps of native shrubs that cling to the river banks below, there is nothing in these parts but pasture. Yet this place is a treasure trove for Holocene sub-fossils. Deep within the limestone bedrock of this seemingly bare land lie the remains of many extinct and locally extinct species, such as: moa, bats, native frogs, giant land snails, tuatara and even kakapo. These sinkholes are scattered all about, ranging from a 7m vertical drop to 12m, or more. One main question can be asked when such specimens are uncovered: what was the environment like back then? Yaldwyn (1958) was the first person to summarise the biota and palaeo-environment for the Ruakokopatuna area. According to Yaldwyn, seeds such as *Cordyline australis* (cabbage tree) and podocarp spp. have been found in these sinkholes. Furthermore, Yaldwyn was able to describe past forest types based on felled log remains and remnant forest patches that are non-existent today within the immediate area of this site. *Fuscospora fusca* (red beech) and *Lophozonia menziesii* (silver beech) apparently dominated the steeper slopes where *Kunzea ericoides* (kanuka) grow today. Dense patches of mixed podocarp and broadleaf forest (including species such as *Pseudopanax arboreus* (five-finger), *Melicytus ramiflorus* (mahoe), *Griselinia littoralis* (broadleaf) and *Hedycarya arborea* (pigeonwood)) were established in the shallower valleys whilst *C. australis* dominated the ridgeline. River edges consisted of *Coprosma* spp. and the likes of *Fuchsia excorticata* (tree fuchsia), whereas up on some exposed screes grasses grew amongst greywacke and limestone rocks. Why does it matter though? Why should we find out past plant species' composition,



Ruakokopatuna Valley (Photo: Luke Easton)

richness, and distributions? Well, this is a particularly important question especially when investigating habitat suitability for rare species, whether it is species management *in situ* (i.e. on-site) or *ex situ* (i.e. not on-site, like a translocation). Of course, just because a species historically inhabited an area does not mean that it would find the same location suitable today; habitat is heterogeneous spatially and temporally (Osborne & Seddon 2012). Understanding how a species may have adapted to change in relation to present day localities is extremely important nonetheless as populations may have benefitted from, were unaffected by, or responded negatively, to such changes. However, habitat suitability for many rare species remains unknown. Fortunately, identification of plant material in sub-fossil sites (along with palaeo-climatic modelling, descriptions of local diversity *etc.*) has indicated that some regions

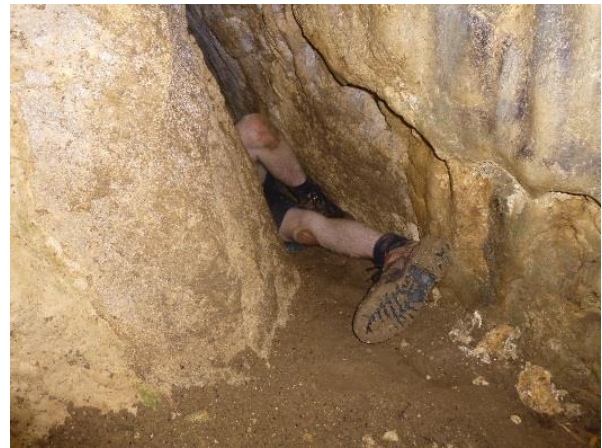


A 7m deep sinkhole (Photo: Luke Easton)

have remained relatively unchanged since the start of the Holocene (10,000 BP) (McGlone 1988; Worthy & Holdaway 1993). These ancient forests allow rare insights into which microhabitats may have been available thousands of years ago and gives researchers an opportunity to compare microhabitats in historic, present and potentially future locations for certain species. Furthermore, understanding what the richness and perhaps composition of plant species were like in a palaeo-environment allows analogous sites to be assessed and comparisons to other sites made to determine potentially suitable habitat. Overall, first impressions of present-day habitat suitability based on species' presence are not enough and often inaccurate (Osborne & Seddon 2012). Researchers need to encompass both palaeo- and present day information in order to encapsulate appropriate representations of a species' ecology. Clearly, palaeo-plant specimens collectively retain historical and conservation values, so it is hoped that researchers increasingly learn to recognise this.

References

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Inside the sinkhole's crevice (Photo: Clint Easton)

**“But pleasures are like poppies spread,
You seize the flower, its bloom is shed.....”**

Tegan Lamont and John Steel

Burns' uses the common corn poppy, *Papaver rhoeas*, in his metaphor to highlight the passing of petty time long before this was so potently brought home to us after the debacle of the First World War. The disturbance there created a suitable environment for the poppy to flourish, its crimson petals becoming symbolic of the blood, hence lives, of those who died. The symbolism carries on to the present in its memorial use for ANZAC Day, yet our respect for the flower itself has sadly not followed suit, it now being listed as a weed (unwanted plant) in New Zealand and its very existence in Europe is becoming a bit precarious through the use of herbicides. I have never noted it to be particularly abundant here, but it does appear regularly on the roadsides of the Taieri, especially where the grasses do not swamp it. Calder Stewart north of Milton have tried a wild-flower garden on the roadside at the entrance to their factory and the common poppy was an initial component of this, but it appears to have gone from there recently although it does pop up now and again on the opposite side of the road. It is an easy plant to grow, but as an annual it does need a little help in having a

habitat provided for it if it is to persist. Maybe it's time to conserve some of our introduced weeds as they also have a part to play in our lives.



Papaver rhoeas

Papaver rhoeas (Tegan Lamont)

Threatened and uncommon plants of the Otago Peninsula

John Barkla

In 2004 the Save The Otago Peninsula (STOP) Inc. published a book by Dr Peter Johnson titled 'Otago Peninsula Plants – An annotated list of vascular plants growing in wild places'. Table 8 in that publication is a list of nationally threatened and uncommon plants which have been recorded on the Otago Peninsula. Following reassessment of the threat status of vascular plants of New Zealand (de Lange *et al.* 2009) I updated that list to reflect that threat reassessment, additional taxa that have been discovered since 2004 and nomenclatural changes (Barkla 2010).

A further reassessment of the threat status of vascular plants of New Zealand was carried out in 2012 (de Lange *et al.* 2013) and it is again timely to update the list of nationally threatened and uncommon plants for the Otago Peninsula to reflect that assessment.

Thirteen taxa on the Otago Peninsula are now ranked as 'Threatened' in the categories Nationally Endangered and Nationally Vulnerable, an increase of six from that recorded in Barkla (2010). Four of these additions have moved up from 'At Risk' and two have moved from 'Data Deficient'. A further 34 taxa are ranked as 'At Risk' in the categories Declining and Naturally Uncommon, the same number recorded 'At Risk' in Barkla (2010). The loss of four taxa that moved into 'Threatened' and one taxon no longer considered 'Threatened' or 'At Risk' has been offset by the addition of five taxa previously considered 'Not Threatened'. These new entrants to 'At Risk' are listed in Table 1.

Table 1 Additions to the list of Threatened and At Risk plants of the Otago Peninsula since Barkla (2010)

	Threat ranking (de Lange <i>et al.</i> 2013)
<i>Coprosma virescens</i>	At Risk – Declining
<i>Parahebe canescens</i>	At Risk – Declining
<i>Ruppia megacarpa</i>	At Risk – Naturally Uncommon
<i>Zannichellia palustris</i>	At Risk – Naturally Uncommon
<i>Zostera muelleri</i> subsp. <i>novozelandiae</i>	At Risk - Declining

Taxa recorded as Data Deficient and At Risk-Relict on the Otago Peninsula in Barkla (2010) have all subsequently been assigned to a threat category or have been assessed as Not Threatened. No Data Deficient or At Risk-Relict taxa are currently recorded for the Otago Peninsula.

Table 2 updates the list in Johnson (2004) and Barkla (2010) to reflect the most recent threat assessment and nomenclatural changes.

Table 2 Plant taxa listed as Threatened & At Risk by de Lange et al. (2013) and which have been recorded on Otago Peninsula, according to their categories of threat or rarity

	Previous threat ranking (de Lange et al. 2009)	Concordance with Johnson (2004)
Threatened - Nationally endangered		
<i>Euchiton ensifer</i>	Data Deficient	Not recorded
<i>Myosurus minimus</i> subsp. <i>novae-zelandiae</i> *	Nationally Critical	<i>Myosurus minimus</i> subsp. <i>novae-zelandiae</i>
<i>Lepidium crassum</i>	Nationally Vulnerable	<i>Lepidium oleraceum</i>
Threatened - Nationally Vulnerable		
<i>Anemanthele lessoniana</i>	At Risk – Declining	<i>Anemanthele lessoniana</i>
<i>Atriplex buchananii</i>	At Risk – Naturally Uncommon	<i>Atriplex buchananii</i>
<i>Carex cirrhosa</i>	Nationally Vulnerable	<i>Carex cirrhosa</i>
<i>Geranium retrorsum</i>	Nationally Vulnerable	<i>Geranium retrorsum</i>
<i>Isolepis basilaris</i>	Nationally Endangered	<i>Isolepis basilaris</i>
<i>Lachnagrostis tenuis</i>	Data Deficient	<i>Lachnagrostis tenuis</i>
<i>Lepilaena bilocularis</i>	At Risk – Naturally Uncommon	<i>Lepilaena bilocularis</i>
<i>Olearia fimbriata</i> *	Nationally Vulnerable	<i>Olearia fimbriata</i>
<i>Pachycladon cheesmanii</i> *	Nationally Vulnerable	<i>Ischnocarpus novaezelandiae</i>
<i>Ranunculus recens</i>	At Risk - Declining	<i>Ranunculus recens</i> var. <i>recens</i>
At Risk – Declining		
<i>Brachyglottis sciadophila</i>	At Risk - Declining	<i>Brachyglottis sciadophila</i>
<i>Carex litorosa</i>	At Risk – Declining	<i>Carex litorosa</i>
<i>Coprosma acerosa</i>	At Risk – Declining	<i>Coprosma acerosa</i>
<i>Coprosma virescens</i>	Not Threatened	<i>Coprosma virescens</i>
<i>Ficinia spiralis</i>	At Risk – Relict	<i>Desmoschoenus spiralis</i>
<i>Geranium sessiliflorum</i> var. <i>arenarium</i>	At Risk – Declining	<i>Geranium sessiliflorum</i> var. <i>arenarium</i>
<i>Hymenochilus tristis</i>	At Risk – Naturally Uncommon	<i>Pterostylis tristis</i>
<i>Lepidium tenuicaule</i>	At Risk – Declining	<i>Lepidium tenuicaule</i>
<i>Myosotis pygmaea</i>	At Risk – Declining	<i>Myosotis pygmaea</i> var. <i>pygmaea</i>
<i>Olearia fragrantissima</i>	At Risk – Declining	<i>Olearia fragrantissima</i>
<i>Olearia lineata</i>	At Risk – Declining	<i>Olearia lineata</i>
<i>Parahebe canescens</i>	Not Threatened	<i>Parahebe canescens</i>
<i>Raoulia monroi</i>	At Risk – Declining	<i>Raoulia monroi</i>
<i>Sonchus kirkii</i>	At Risk – Relict	<i>Sonchus kirkii</i>
<i>Tupeia antarctica</i>	At Risk – Declining	<i>Tupeia antarctica</i>
<i>Zostera muelleri</i> subsp. <i>novozelandiae</i>	Not Threatened	<i>Zostera novaezelandica</i>
At Risk - Naturally Uncommon		
<i>Acaena microphylla</i> var. <i>pauciglochidiata</i>	At Risk – Naturally Uncommon	<i>Acaena microphylla</i> var. <i>pauciglochidiata</i>
<i>Anthosachne falcis</i>	At Risk – Naturally Uncommon	<i>Elymus falcis</i>
<i>Chaerophyllum</i> (a)(CHR 364086; "minute flower")	At Risk – Naturally Uncommon	<i>Oreomyrrhis</i> "minute flower"
<i>Crassula ruamahanga</i>	At Risk – Naturally Uncommon	<i>Crassula ruamahanga</i>
<i>Drymoanthus flavus</i>	At Risk – Naturally Uncommon	<i>Drymoanthus flavus</i>
<i>Chenopodium allanii</i>	At Risk – Naturally Uncommon	<i>Einadia allanii</i>
<i>Helichrysum selago</i> var. <i>tumidum</i>	At Risk – Naturally Uncommon	<i>Helichrysum intermedium</i> var. <i>selago</i>
<i>Korthalsella salicornioides</i>	At Risk – Naturally Uncommon	<i>Korthalsella salicornioides</i>
<i>Mimulus repens</i>	At Risk – Naturally Uncommon	<i>Mimulus repens</i>
<i>Montia angustifolia</i>	At Risk - Naturally Uncommon	<i>Neopaxia linearifolia</i>
<i>Myosotis rakiura</i>	At Risk – Naturally Uncommon	<i>Myosotis rakiura</i>
<i>Pseudopanax ferox</i>	At Risk – Naturally Uncommon	<i>Pseudopanax ferox</i>
<i>Puccinellia walkeri</i>	At Risk – Naturally Uncommon	Not recorded
<i>Ruppia megacarpa</i>	Not Threatened	<i>Ruppia megacarpa</i>
<i>Senecio carnosulus</i>	At Risk – Naturally Uncommon	<i>Senecio carnosulus</i>
<i>Senecio glaucophyllus</i> subsp. <i>basinudus</i>	At Risk – Naturally Uncommon	<i>Senecio glaucophyllus</i> subsp. <i>basinudus</i>
<i>Stenostachys laevis</i>	At Risk – Naturally Uncommon	Not recorded
<i>Zannichellia palustris</i>	Not Threatened	<i>Zannichellia palustris</i>

* Taxa recorded in earlier times but not seen recently

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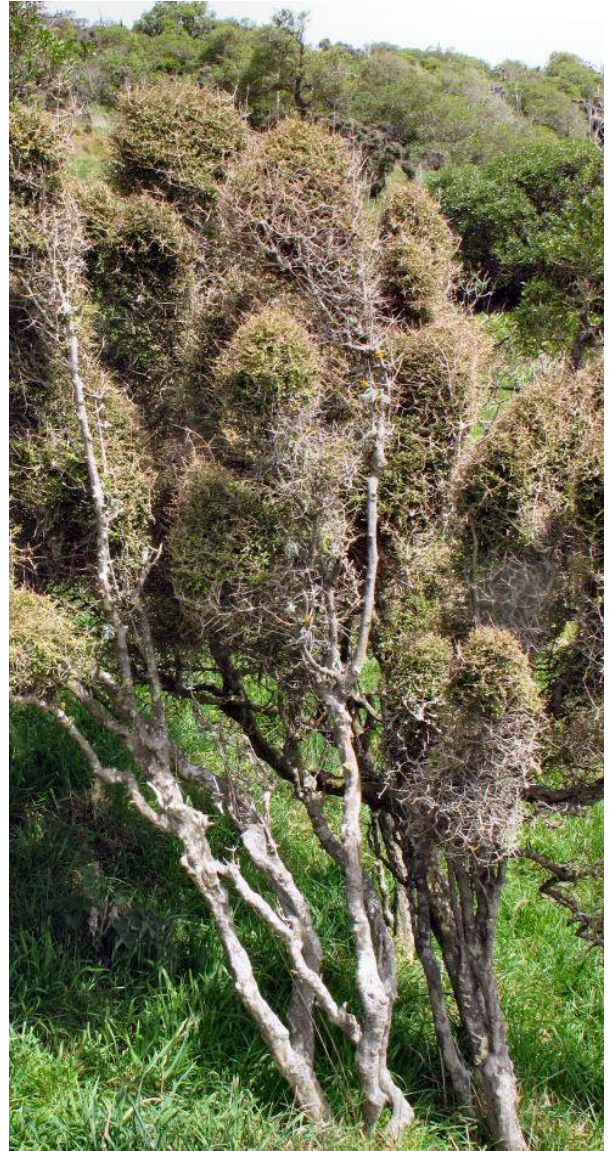
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Johnson, PN 2004. *Otago Peninsula Plants. An annotated list of vascular plants growing in wild places*. Save The Otago Peninsula (STOP) Inc. Portobello, Dunedin.



Coprosma virescens (Photo: John Barkla)



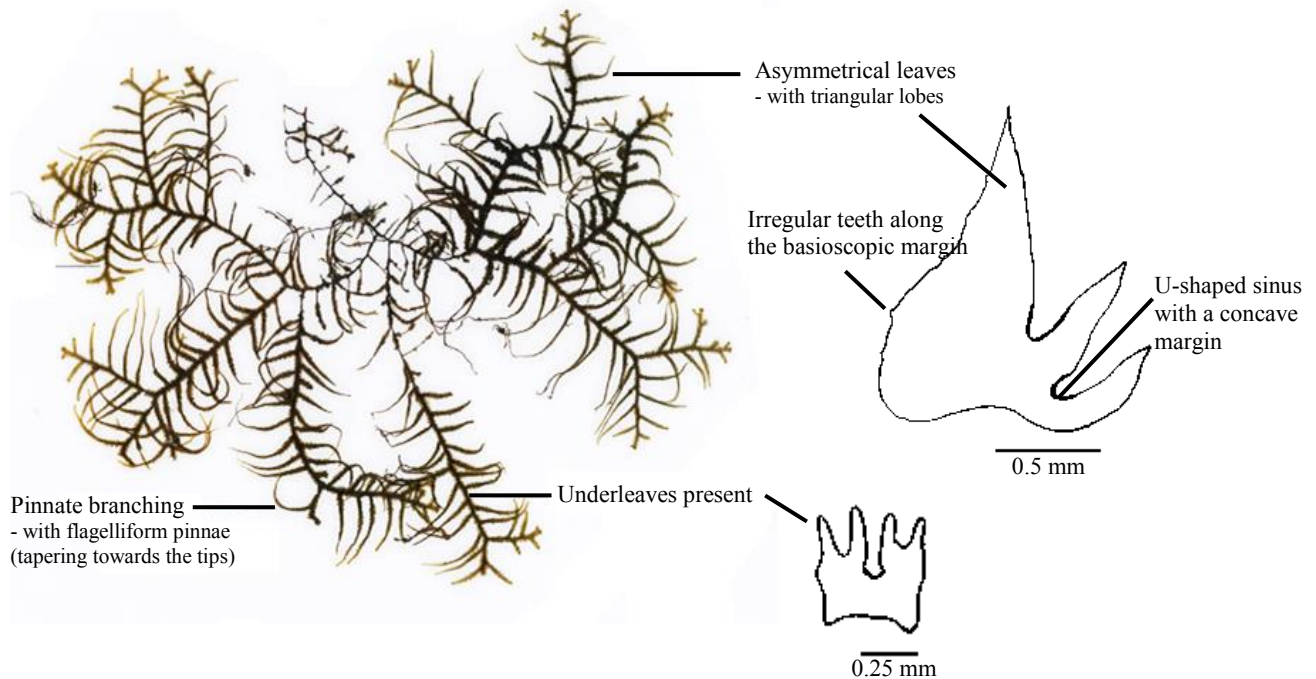
Parahebe canescens (Photo: John Barkla)

Cryptic Corner

Kelly Frogley and Anna Harris

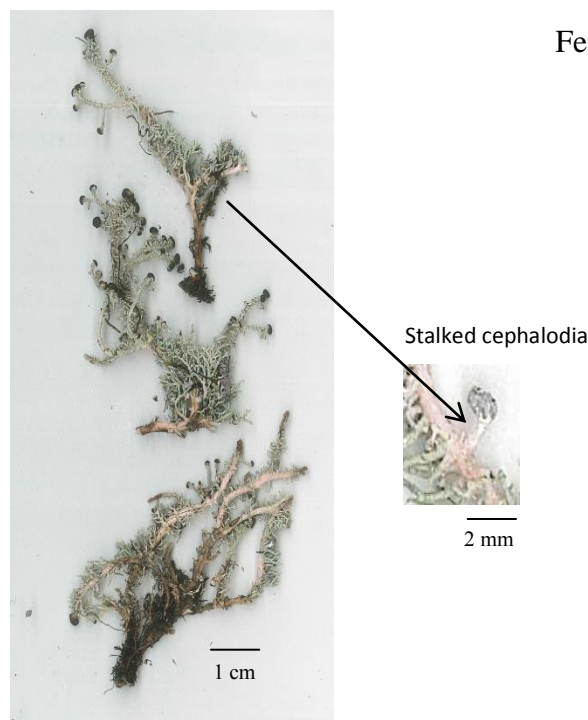
LIVERWORT: *Dendromastigophora flagellifera*.

A New Zealand endemic monotypic genus. Common forest epiphyte.



LICHEN: *Stereocaulon colensoi*

A predominately saxicolous species found in open subalpine environments



Features

- Fruticose, to 8 cm tall, bearing dark apothecia and containing a green photobiont.

- Erect pseudopodetia that are branched and densely covered in terete phyllocladia.

Cephalodia present (which appear like dried peas!).

- Is distinguished from other *Stereocaulon* species by the cephalodia, which are stalked and have a surface that is maculate or scabrid, soredia are absent.

Galloway, D.J. 1985. Flora of New Zealand Lichens. Wellington, Government Printer.

Meeting and trip reports

Climatic Change: Talk by Professor Ulf Molau, 19th February 2014

Bastow Wilson

Ulf Molau, a Professor in the University of Gothenburg, Sweden, visited the Uni. Botany Dept in 2008 and gave a BSO talk on 'Cliff Ecology'. Recently he visited again, this time giving us a talk on the deeper subject of human-induced climatic change¹. He's in one of the working groups of the IPCC: Intergovernmental Panel on Climate Change. We had graphs of CO₂, temperature and stuff, but most impressive was a satellite photo of the extent of Arctic sea ice in 2012 compared to a yellow line of where it used to be.



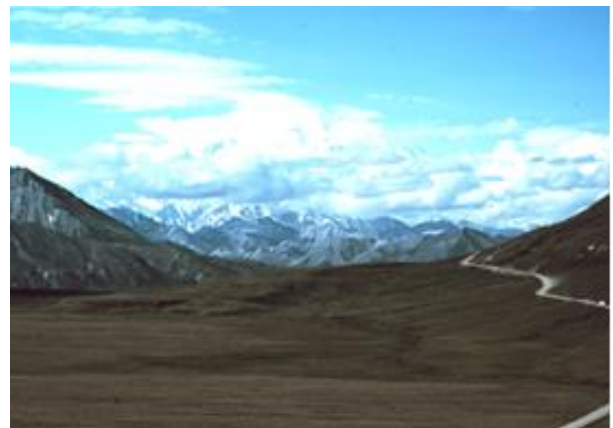
Arctic sea ice 2012 (Photo: Ulf Molau)

We then had some nice pictures: a beautiful mountain that you couldn't actually see because of the cloud (see photo), but which has lots of dead bodies (climbers), the road where TV's Ice Truckers is filmed, ground with polygons up to 40 metres across caused by freeze-thaw, and the oil pipeline elevated c. 8 metres above the ground. Lots of pretty landscapes of snow, ice and rock, apparently all the prettier for having few plants one has to identify, down to 6 species at the magnetic north pole (except those lichen things, that sensible people don't bother with). We had stories of the North-West passage across the top of Canada that many explorers died trying to find, notably all the men of the Franklin

¹ Deeper if it exists, that is.

expedition, and Ulf's easier trip in an icebreaker, with most of the ice melted anyway.

Then we got on to research, international collaborations across the Arctic made especially easy to understand by the acronyms: AMAP (comprising ACA and SWIPA) CAFF (comprising ABA and PAF) and ITEX. And no, AMAP doesn't make maps and CAFF doesn't involve coffee breaks. Well, not only coffee breaks.



Cloud-covered mountain (Photo: Ulf Molau)

Ulf showed us some of his own research, such as a recent increase in the fruiting of the cotton grass². His team have a 20-year experiment using cloches to warm the vegetation 2-3 °C (the Americans would install a power generator in the middle of nowhere and use under-ground heating cables). There was some discussion of whether the cloches have side effects. Ulf admitted they cut down the wind. The angle of the plastic is designed to allow as much light in as possible; it does change the light spectrum but that's intentional to cause the warming. Someone thought the cloches might deter grazers, but apparently the reindeer graze in them preferentially, 'cos they like having their noses kept warm whilst they are eating³. The rise in temperature can lead to thermokarst: thaw of the underground ice,

² I put this in specially to annoy Alan Mark, because he claims that being in the sedge family it can't be called 'cotton grass'.

³ Personally I use a woollen nose-muff, but the peanut butter does get stuck in it.



Dryas octopetala (Photo: Ulf Molau)

causing collapse of the peat, thus increasing the thaw, and releasing methane which is a potent greenhouse gas. Some lakes disappear and others appear, both apparently bad.

In the process, he showed us some beautiful pictures, especially that of *Dryas octopetala*⁴, photos almost as good as David Lyttle or John Barkla could do.

A fascinating talk.



Cloche (Photo: Ulf Molau)

⁴ I'm avoiding here making a joke about its younger brother.



Eriophorum sp., *cotton grass* (Photo: Ulf Molau)

Field Trip to Omaui/Three Sisters, 22nd February 2014

David Lyttle

The Omaui/Three Sisters area is located south of Invercargill on the shores of Foveaux Strait. The plant community there is an interesting mix of coastal and alpine plants reflecting the climate of the locality; strong winds and cool temperatures are not uncommon. These were the conditions we encountered on the day of our visit. The underlying volcanic geology of the area (Greenhills ultramafic complex) also influences the vegetation which is a complex mixture of forest, shrubland, wetland and dune plant communities. The path down to the coast passes through a mixture of pasture, bog and scrub. In the wetter areas we found the small, creeping eyebright *Euphrasia repens*. This species is mainly confined to the southern coast and extends further north up the coast of Fiordland. Other plants growing in these damp areas were the small

Hypericum pusillum, *Gentianella grisebachii* and *Centella uniflora*.

Further down towards the beach there is an extensive sweep of mobile sand dune overlying outcrops of ultramafic rock. Large angular boulders have eroded out of the outcrops and these have been polished by wind-blown sand presenting a dynamic, chaotic landscape that would seem at first sight to be inhospitable to plant growth. Crossing into this dune complex we found *Nertera balfouriana* covered with orange berries growing in damp turf in a sheltered hollow. This species is generally found in subalpine bogs. On more exposed sites we found *Raoulia hookeri*, a plant more often at home on inland river beds. On these coastal dunes this species forms dense mats up to a metre across. The heart of the dune complex is the home of one of New Zealand's rarest plants, *Gunnera hamiltonii*. Only six plants of this species are known from four locations. Five plants exist on Stewart Island and the sixth, the sole plant known from the mainland, grows on the Omaui dune complex. The Omaui plant is a single clone numbering many thousands of individual rosettes and covers a large area of mobile sand dune. Growing interspersed with it are *Gentianella saxosa*, *Colobanthus muelleri*, *Calystegia soldanella*, *Hydrocotyle novae-zelandiae* var. *montana* and *Selliera radicans*.

Towards the crest of the dunes the specialised native sand binding sedge, *Ficinia spiralis*, is still present and holding its own in face of competition with introduced marram grass (*Ammophila arenaria*). Another specialised

dune species that was present was *Geranium sessiliflorum* var. *arenarium*. This differs from the similar, more widespread *Geranium brevicaule* by its silvery-pilose, glaucescent leaves which are slightly larger in size. Once seen it is unmistakable. Two species of *Pimelea* were present; *Pimelea lyallii* which is restricted to the southern part of the South Island and *Pimelea prostrata* subsp. *ventosa* which also has a southern distribution. The former species has hairy leaves while those of the latter are glabrous. The taxonomy of these species is complicated by the occurrence of hybridisation which makes identification of any coastal *Pimelea* in the southern and eastern South Island challenging. The shrubby sand *Coprosma*, *Coprosma acerosa*, was present forming wiry tangled mounds of interlaced branches. The specimen I photographed was laden with blue berries.

Directly above the beach was an area of coastal turf exposed to salt spray. Included amongst the plants growing there were *Selliera radicans*, *Crassula moschata*, *Plantago raoulii*, *Leptinella dioica*, *Samolus repens* and *Apium prostratum* all which grow on similar turfs around Dunedin. In addition to these species, the turf contained hundreds of plants of *Gentianella saxosa* in flower turning the whole hillside into a remarkable carpet of white. The uncommon coastal species *Leptinella traillii*, *Myosotis pygmaea* and *Mazus arenarius* were also present. *Leptinella traillii* is another southern coastal endemic found on both sides of Foveaux Strait.



Raoulia hookeri (Photo: David Lyttle)



Gunnera hamiltonii (Photo: David Lyttle)



Gentianella saxosa (Photo: David Lyttle)

The Omaui/Three Sisters dune complex, though modified by exotics, still contains a significant proportion of native indigenous dune species. Most coastal ecosystems in Otago and Southland are now highly modified and are dominated by introduced species such as European marram (*Ammophila arenaria*) and North American lupin (*Lupinus arboreus*). The Omaui/Three Sisters area is unique in several respects; it retains much of the original coastal diversity, there is a significant alpine element growing at sea level and there are several local endemic species present.

I would like to thank Brian Rance and Dave Toole from Invercargill (both easily identifiable by the fact they were the only members of the party wearing shorts) for accompanying us and pointing out the special plants and features of the area. Brian provided an excellent plant list and was very patient dealing with numerous requests to identify plants.

(To obtain a species list please email John Steel at john.steel@botany.otago.ac.nz.)



Omaui/Three Sisters (Photo: David Lyttle)

Botanising in the Miocene, 19th March 2014

Jennifer Bannister

How can we identify the vegetation growing at a particular site in the Early Miocene? First of all we need some idea of the geological setting. At Foulden Maar, near Middlemarch, Otago, a small lake formed 23 million years ago when a volcanic explosion punched through the schist bedrock and formed a deep crater that filled up with water. Soils around the crater developed from both schist and basaltic rock and these rich basaltic soils help to explain the diversity of the rainforest that grew around the lake. Over time the lake filled with finely varved diatomite which preserved both microfossils (diatom frustules, freshwater sponge spicules, chrysophycean cysts and other algal resting spores, spores and pollen) and macrofossils (leaves, flowers, fruits and seeds as well as insects and fish).

Initial plant identifications can be made from a pollen and spore list. There is, however, a problem with pollen lists, as some fragile pollen such as Lauraceae is not preserved. In addition, pollen from wind-pollinated plants may have been transported from some distance thus giving a regional signal rather than that from the actual site (*e.g.*, conifer and *Nothofagus* pollen). Further, many pollen types are not yet described and identified and many of those that are described have no definite affinity. In contrast, leaves, flowers and fruits and seeds that can be identified can all be used to provide definite evidence of the type of forest growing at or very close to the fossil site in the Early Miocene.

FOULDEN MAAR

	Pollen	Leaves
<i>Nothofagus</i>	8 types	No leaves
Conifers	12 types	Two leaf types
Lauraceae	No pollen	Ten leaf types

Looking at the pollen list alone, the forest type appears to be a mixed *Nothofagus*/conifer forest but the leaves indicate that the forest surrounding the

Foulden Maar lake was dominated by Lauraceae, as almost half of the 700 or so leaves studied to date can be assigned to this family.

Leaves can often be identified using leaf characters and cuticular features although sometimes they belong to extinct genera or even families. Fossil leaves are often dark with few features visible; some of these leaves can be cleared and preserved so that they can be photographed and the features recorded. The Manual of Leaf Architecture was developed in USA so that people can characterise any fossil or living leaf in the same way. Some leaves are too thin to clear and yield few characters; others are present as fragments so that only cuticular features can be recorded.

Cuticles can be prepared using a variety of methods depending on the sediment and way the leaf has been preserved. Small pieces of fossil leaf after being cleared are separated into upper and lower cuticles, cleaned using fine paintbrushes, stained and mounted on a slide using thymol glycerine jelly. In some cases the pieces of cuticle can be mounted on stubs and examined using a Scanning Electron Microscope. Cuticles can then be examined for features and photographs enable measurements to be made. Identification of the cuticles is attempted by comparison with reference slides of modern leaves and I have made my own set of reference slides using leaves mainly from New Zealand, Australia and New Caledonia. It is also useful if botanists have described cuticles from the groups of interest. Unfortunately, as yet there are not many useful papers available.

Flowers, fruits and seeds may show useful features that can make an identification possible. If flowers have *in situ* pollen, these grains may be identifiable and an affinity found with modern plants. We named the first flower found at Foulden Maar *Fouldenia staminosa*, but although it had sepals, petals and large anthers, it did not have enough features to permit a family identification, and as the pollen, although well-preserved and close to a known pollen grain, was not

distinctive, no definite affinity could be made, although it is possible that the flower and pollen could belong to the Rutaceae.

Using these methods we have built up a picture of a diverse evergreen rainforest surrounding the Foulden Maar lake and growing in warm temperate to subtropical conditions 23 million years ago.

Hands-on Botanising in the Miocene, Field trip to St Bathans, 22nd March 2014

Kelly Frogley

Excitement levels were high leading up to the fossil hunting field trip in St Bathans in March. I had managed to drop into every conversation during the week the fact that I was going to explore three historical mining sites and discover botanical fossils preserved in mudstone sediments from the Miocene epoch! I recruited my flat mate, a fellow paleobotany enthusiast, who ended up finding the largest clump (about 300 grams) of Kauri amber in the hillside at Coal Pit Mine, the first site of the day. The largest block found in the Southern hemisphere came from this site and weighed 2kgs! Daphne Lee, associate professor of the Geology Department at the University of Otago and our trip coordinator, explained how fossilised amber is of great interest because it may contain tiny invertebrate fossils.

Our second site was located at Grey Lake, an old gold mining site approximately 1 km northwest of St Bathans. It was here that we made our way down onto the eroding layers of sediment deposits of an old maar lake. The best spots were a little bit damp, so that the fossils weren't brittle and were less likely to blow away when pulled out of the ground. It was amazing to be able to lift an entire leaf off a slab of mudstone where it had been lying for approximately 20 million years! The diversity of leaves was very large, although I needed some help with identifying what species they likely came from. Tammo Reichgelt, one of Daphne's PhD students, was very obliging and helped everyone with their



Lunch spot above Grey Lake (Photo: Kelly Frogley)

identifications. He would point out characteristics like serrated margins, venation patterns and cuticle thickness of different leaves. Thanks to his help I was fairly certain that one of my fossils came from a species within the genus *Metrosideros*.

With the afternoon sun racing across the sky, we had to be dragged away from Grey Lake because we still had one last site to visit before heading back home. Blue Lake at the foot of Mt St Bathans was our final destination. Blue Lake is a conservation area and so we were not allowed to take any fossils home with us. However we were still able to observe the different leaf types here that could be found in clumps of sediment that had broken off surrounding rocky outcrops. There were several different types of leaf here compared to Grey Lake, which suggests the forest composition during the Miocene may have been different at these two sites.

A quick swim in the lake and an ice cream at the Vulcan Hotel concluded the field trip. We bid each other farewell and gushed many a thank you to both Daphne and Tammo. It was definitely a highlight of my year so far!

Botanical Society of Otago AGM, 9th April 2014

John Barkla

Apologies: Allison Knight, Pat and Alan Mark, Sue Blaikie

The minutes of last year's AGM, the Chairman's report and the Treasurers report were presented and accepted. The Chairman sadly recorded the recent passing of Bill Wilson, a long standing and well-liked member of the BSO. The Chairman outlined the significant programme of speakers and field trips that the Society had organised over the past year and thanked the committee and other members for their contributions. The treasurer advised that that the Society was doing well financially and that this was in part due to sales of the lichen guide, the profits from which were kindly donated to the Society by the author, Allison Knight. Mike Thorsen spoke of Allison's generosity in this regard and requested that the minutes record our thanks to Allison. The guide has proved popular and a second publication run is currently underway.

The following were elected unopposed.

Chairman *David Lyttle*

Secretary *Allison Knight*

Treasurer *Mary Anne Miller*

Committee:

Robyn Bridges (Programme manager; communications officer),

David Orlovich (Web manager)

John Barkla (Calendar; Newsletter proof-reading)

Marcia Dale (Newsletter editor)

John Steel

Tina Summerfield

Bastow Wilson

Nicola Baines

Kelly Frogley

Aimee Pritchard

Ella Hayman

The meeting finished in 9 minutes.

Botanical Society of Otago Photographic Competition, 9th April 2014

Bastow Wilson

Peter Johnson presented the judges' conclusions warily after the 'wallpaper' kerfuffle last year. I had sympathised with Peter's sad life, sitting and staring at the wallpaper all day (BSO NL June 2013, p. 20) and Peter had been forced to respond extolling the wonders of wallpaper (*ibid.*, p. 22). This might be the only article on wallpaper ever published in a botanical newsletter. There were 72 photo entries this year (the highest ever) from 21 photographers (up from 12 last year). Runner-up in Plant Portrait was, as Peter said, a "pretty picture of a pretty plant" (*Gentianella cerina*), taken by John Barkla. Dramatically pretty. It was technically excellent too, the flowers in good focus and background a bit out of focus, good contrast in colours (cf. below on the People's Choice), interesting texture of the surrounding vegetation, the eye drawn across a diagonal line. The rules say John has to win a prize every year, though the BSO Committee noted that he chooses the pictures for the Calendar so he can feature his there anyway. This year a second judge, Rod Morris, was present, making interesting interjections. Especially, his praise of 'bravery' in a photo, *i.e.* something quite different, such as Sasha Rozhkova's black-and-white daisies or John's close-up of a *Pleurophyllum speciosum* leaf.



Gentianella cerina (Photo: John Barkla)



Black-and-white daisies (Photo: Sasha Rozhkova)



Pleurophyllum speciosum (Photo: John Barkla)

However, the judges often don't agree on bravery, he said, so it tends to be the conventional photos that get through. The one bit of faint praise you can give John's *Gentianella cerina* photo is that it's

stunningly conventional. The judges gave the first **Plant Portrait** prize, and it's hard to disagree (much as I like disagreeing), to a 1000-year old rata from Botany Ph.D. student Jaz Morris. (1000 years? Had he dated it by tree rings or by radio-carbon?) The topic was fascinating: a gnarled tree loaded with epiphytes. Composition was superb, with what Peter called "excellent natural framing", *i.e.* the vegetation at the bottom and the foliage in the two top corners, another tree in the background on the right. The eye's focus was in the centre, but all rules are made to be broken. Green and brown predominated, but it **is** a botanical competition. This photo had it all. A worthy winner.



1000-year old rata (Photo: Jaz Morris)

David Lyttle usually wins a prize, but in his best photo, *Ranunculus crithmifolius* on a scree, you could hardly see the plant. The rocks were just like the leaves, except they weren't toothed. Fascinating. But does a plant you can't see make a good photo? In spite of this it won the **People's Prize** vote. Just shows you the flaws of democracy. Runner-up in **Plants in the Landscape** section was a sand dune slope at Mason Bay, Stewart Island. Pikao (*Ficinia spiralis*), *Coprosma*



Ranunculus crithmifolius (Photo: David Lyttle)

acerosa, New Zealand flax (*Phormium tenax*) and marram (*Ammophila arenaria*), I've spent days pulling out this wicked invader. Sky and far dune make up the landscape. Moira Parker, the photographer, said one camera had been sacrificed to blowing sand to get this photo.

The **Plants in the Landscape** winner was 'Pink Pyramids' by Alyth Grant, taken on Campbell Island. This is certainly conventional, but stunningly so. Fascinating subject, beautiful composition, amazing foreground with ideal background. What more can I say? Kelvin Lloyd (the third judge) apparently thought the sky should have been cropped out. A stupid comment. The picture would lose all sense of location. I'd have thrown a rotten durian at him if he'd turned up. Perhaps that's why he didn't.



Sand dune slope at Mason Bay (Photo: Moira Parker)



Pink Pyramids (Photo: Alyth Grant)

I voted for ‘Pathway to the sea’, by Jean Bretherton, green algae composing themselves beautifully between rocks. Peter judged it as ‘Subtle, but nice’. It doesn’t look so good this small. Another couple of insights into the judging process: Rod Morris had several criticisms of ‘harsh light’, whereas Peter never seemed to bother about this. The judges worked from the prints provided, but several times Peter commented that a photo looked better on the PowerPoint screen. Once or twice he almost hinted a photo might have won a prize if they’d seen it on the screen. So, what is a photo these days: its print or its screen manifestation?

Thanks again to the judges, though they clearly enjoy it. I’m glad we have three, it’s interesting when they disagree a bit. Those submitting in 2015 and aiming for glory in the BSO Calendar might note that it’s almost impossible for John to include portrait-orientation photos. Actually, even a prize-winning landscape photo mightn’t make it into the Calendar. John has his own mysterious system of deciding what would work there. But thanks for doing this, John.

Gards Road Reserve, Waitaki Valley, 12th April 2014

John Barkla

Despite rather ominous wet weather in Dunedin, conditions were much brighter by the time we arrived at the newly reserved limestone escarpment at Gards Road in the Waitaki Valley. First up was a health and safety briefing by Graeme followed by some history of the reserve and future restoration plans. We were then led up close and personal to the base of the limestone face, a feat that would have been difficult not long ago due to the dense boxthorn infestation that he and volunteers have subsequently cut and poisoned. Then it was on to view fossils with the impressively large *Dentalium* shells capturing attention.

We then headed for the skyline ridge through grassland that included the long-awned exotic *Austrostipa scabra*. The scrambling herb *Convolvulus waitaha* was common as was the free-living lichen *Xanthoparmelia semiviridis*, looking especially plump after recent rain. The top of the hill proved to be a commanding view point with excellent views to the Saint Marys Range to the west and the South Canterbury hills to the northeast. Graeme gave a fine summary of the landscape history and some found a wilding pine to remove.



Graeme with an attentive audience (Photo: John Barkla)



David photographing *Carmichaelia hollowayi* (Photo: John Barkla)

Then it was down to the steep escarpment edge to see the Nationally Critical broom, *Carmichaelia hollowayi*, at least one of which still had seed pods. The “original” plants here have been supplemented with nursery raised ones that were planted out several years ago. Surprisingly, given the semi-arid conditions, survivorship has been high and many were bursting out of their protective wire cages. Next up were a couple of shrubs of *Sophora prostrata* before we reached a spur with *Lepidium sisymbrioides*, *Plantago spathulata* and *Chaerophyllum novae-zelandiae*. Further on we looked across at a very steep slope where two plants of a very rare *Gentianella* could be seen flowering. Its taxonomic status is unclear and it may differ from *Gentianella calcis* that occur on other limestone outcrops in the valley. We dropped back down to the vehicles for lunch, some electing to drag cut boxthorn down with them. Then it was back up to the north end of the reserve where the base of a lone kowhai (*Sophora microphylla*), protected by rabbit fencing, got some weeding to prevent smothering of the numerous seedlings beneath its canopy. Others wandered the nearby terrace riser



Plantago spathulata (Photo: John Barkla)

finding further *Lepidium*, *Leptinella serrulata*, *Raoulia monroi* and some *Muehlenbeckia ephedroides*. Graeme utilised willing helpers to remeasure a *Lepidium* plot that looked to be getting smothered by *Festuca rubra*. This involved a complex interplay between measuring tapes and lines to locate previously recorded plants. Cooler afternoon conditions prompted a return to the vehicles. We bade farewell to our two Oamaru members and headed home, many calling in at the “Flying Pig” café in Duntroon for sustenance and warmth. Many thanks to Graeme Loh for providing an informative commentary to the 16 members who turned out to see this rare ecosystem.

(To obtain a species list please email John Steel at john.steel@botany.otago.ac.nz.)



Marilyn admires the intricate patterning on the limestone at Gards Road (Photo: John Barkla)

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