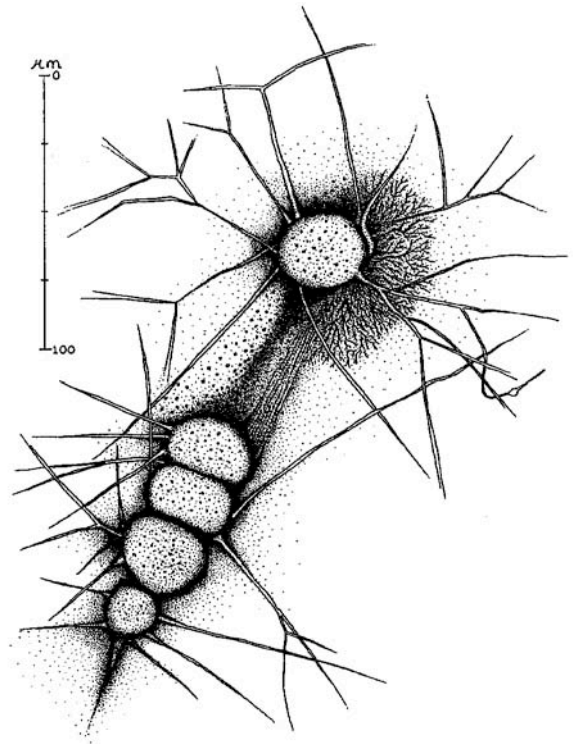


Botanical Society of Otago Newsletter

Number 50

February 2007

BSO Meetings and Field Trips



21 Feb, Wednesday 5.20 pm **Radical environmental change on Whangapoua Estuary, Great Barrier Island in 3500 years.** A talk by Dr Yanbin Deng, Otago Archeological Research Cluster, Dept of Anthropology, University of Otago. “A vegetation history and account of environmental change based on pollen reconstructions will be presented. A linear sequence of vegetation communities beginning with mangroves and followed by estuarine marsh communities composed of *Juncus kraussii*, *Leptocarpus similis*, and *Baumea juncea* was recognised in almost all pollen diagrams. Further transitions, from *Baumea* to a terrestrial system of *Leptospermum* shrubland or *Cordyline/Dacrycarpus* swamp forest, followed two main pathways associated with autogenic accumulation of peat and terrigenous sediment input respectively. Natural and human disturbances drive sedimentation rates, and interact with autogenic factors, to dictate vegetation transitions in these later stages. The intensive impact (mainly burning) during Polynesian times had a much greater effect on estuarine ecology than the pre-Polynesian natural processes, greatly accelerating plant succession.” At the 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. Contact Kevin Gould, phone: (03) 479 9061

2 March, Friday, 12 – 2 pm. **FREE BSO BBQ** to welcome new botany/ecology students and new BSO members. At the front lawn, Botany House Annex, Great King Street (across the road from the main Botany building). Sausage sandwiches and drinks provided free by the Botanical Society of Otago. All BSO members welcome! Contact David Orlovich, phone: (03) 479 9060.

10 March, Saturday 8.30 am. Field trip. **Maungatua Scenic Reserve.** Mt Maungatua rises strikingly above the Taieri Plain. Once it was mostly covered in forest, but this was largely lost around 1300 - 1400 AD and has not re-established. In its place on the upper slopes are snow tussock grasslands in the west and mixed snow

tussock-scrub in the east. A few stands of silver beech, *Nothofagus menziesii*, persist on the most sheltered sites of the western slopes, and it is in most gullies on the moister eastern slopes with mixed podocarps and beech in the larger gullies (Lee Ck and Mill Ck_Waipori Gorge) at either end of the range. On the summit plateau are subalpine scrub dominated by *Dracophyllum longifolium*, depressions with herb/moor communities, tarns and lichen-rich bogs and tors. Leader: Emeritus Prof. **Alan Mark** has established permanent plots to monitor change and will have handouts and plant lists available. Rain-date Sunday 11 March. 4wD helpful. Bring warm, windproof clothes. Contact Robyn Bridges w. 4798372, h. 472 7330

14 March, Wednesday 5.20 pm. *Life on the rocks: Research and restoration in Limestone Glades and Abandoned quarries*. Talk by **Dana Duddle**, DePauw University. “The ‘limestone belt’ in the southern part of Indiana is home to hundreds of abandoned quarries as well as rare ecosystems such as limestone glades. Using a quarry near DePauw’s campus as a model I will explore opportunities for research and possible establishment of glade-like communities on abandoned quarries.” (see Meeting details, p 3, for venue)

14 April, Sunday **8.30 am**. Field trip to the **DOC reserve at Nenthorn/Macraes** (inland from Palmerston), which is best known as a site for rare skink conservation but there is also great botanical diversity, including over 25 threatened plants. It's a landscape of rolling tussockland dotted with lichen encrusted schist rock outcrops, shallow ephemeral wetlands, and the odd deep gully with shrubby remnants. We'll seek out some of the less familiar species and should encounter coral broom, wetland herbs such as *Gratiola nana* and *Tetrachondra hamiltonii*, and the rare grass *Simplicia laxa*. Leave Botany carpark at 8.30 am Sunday and return around 6pm. Bring lunch and be prepared for cool changeable weather conditions. The mileage for this trip is expected to be about 100 km. Students are encouraged to apply for the student subsidy for this trip (download form at the Botanical Society of Otago website www.botany.otago.ac.nz/bsu/bsu_student_travel.pdf). Leader **Mike Thorsen**, phone: (03) 453 6800. Note: trip is weather dependent.

18 April, 5.20 pm. Short **AGM** (new committee members welcome) followed by an evening of **Botanical Photography**. Renowned photographers **Rod Morris**, **Peter Johnson** and **Kelvin Lloyd** will judge the inaugural BSO photographic competition. Entries will be on display, photographic tips given and prizes presented. It's not too late to enter. Entries close 30 March. See BSO website: <http://www.botany.otago.ac.nz/bsu/> or notice board for entry forms.(see Meeting details, p 3, for venue)

16 May, Wed, 5.20 pm. Talk by **John Barkla**, DOC. **Botany and wildlife of Macauley Island, Southern Kermadecs**. John will tell us about his recent trip to the seldom visited Macauley Island, 1000 km north-east of the Northland coast. Just getting there was an adventure in itself! The island's vegetation has undergone a huge transformation since goats were removed in 1970. On this trip an operation to rid the island of rats was also carried out. (see Meeting details, p 3, for venue)

19 May, 8.30 am. Fungal Foray to Knights Bush, Tuapeka West. John and Alli Knight's forest on the banks of the Clutha River has a variety of fungal habitats, ranging from *Pinus radiata* at the top, kanuka (*Kunzea ericoides*) and native beech (*Nothofagus menziesii* and *N. solandri*) on the slopes and mixed podocarp/broadleaf/*Nothofagus* on the river flat. There may be some cross-country walking and some of the forest tracks are steepish. Wear boots with good support and grip. Cameras are a good idea; fungi are very photogenic. Leader, David Orlovich, along with international mycologist and slime mold expert Steve Stephenson. Full day trip, (with opportunity to stay overnight in tent or smoky hut. Contact Allison Knight, 487 8265 for this). Leave Botany Dept car park 8.30 am, Return 6.30 pm (or after lunch the next day). If weather is unsuitable on Saturday a day trip on Sunday may be possible.

17 June, Sunday, 9 am, Chrystalls Beach near Milton. Field trip. The sand dune system at Chrystalls Beach is made up of front dune, dune hollow and rear dune areas. Most of the dune hollow is occupied by grassland communities except for an area of distinctive cushionfield, comprising mostly native species. Many of the plants are seldom found along the coast and some are considered nationally threatened. We will explore this rare community and assist in its maintenance by pulling out invasive lupin seedlings. Leaves 9 AM from Botany Carpark, returning mid-afternoon. Bring lunch and clothing suitable for an exposed coastal situation. Leader **John Barkla** ph (03) 476 3686.

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. 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). 50% student discount now available on all trips! . **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.botany.otago.ac.nz/bs/>

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President's notes

John Barkla

I recently had cause to pick up a newsletter from about ten years ago, at a time when the Society was rebuilding after a period of remission. It was a slim volume but still a good read a decade on. Two things struck me – firstly I was reminded what a tremendous resource the newsletters are and, secondly, how much they've evolved to reflect the interests and activities of a diverse and growing membership base. I hear lots of positive comments about our newsletter, from one end of the country to the other. Much of the credit for that must go to our newsletter editor Allison Knight, who for the last 28 issues has steadfastly sought reports, photos, diagrams and botanical snippets to weave into the informative periodical we have come to expect and enjoy. With this, the 50th issue, Alli takes a well-earned rest from editorial duties. We thank you Alli for your dedication and high standards.

Our inaugural photographic competition is getting closer so start getting those entries rolling in. The prize winners will be announced after the AGM at which time we hope the judges will impart some of their wisdom on what makes a good photo. You may think this is just a clever ploy to get you along to the AGM. And you'd be right. See you there.

Treasurer's Notes

Lyn Bentley

2007 Subscriptions are now due.

I will be mailing accounts soon, but it's greatly appreciated to receive Subs before this, conserving our funds which will enable the Society to continue including out of town speakers at our Talks.

The Newsletter address label indicates the year your membership is current for - any errors, please contact me. There is provision on the account if you wish to 'Discontinue Membership'. Hopefully by 2008 it will be possible to pay electronically.

Students please note - half the cost of your transport on field trips is covered by a 50% refund to the driver. Forms are available on our website:

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

Editor's last notes

Allison Knight

Newsletter 50 – time for a change. Barbara Anderson did a sterling job of putting out the first 8 issues after the Botanical Society of Otago was revived in 1999. I have edited the following 28. Just a few loose ends to tidy up in this issue. Audrey puts the bean saga in context with her history of the heritage runner beans. It is indeed curious that after producing reliably and prolifically around the country for the last 40 years, that the beans, like me, are 'has beens' this cloudy southern summer, and even faltering further north. Sandie Legge's poem puts it so well. Now it's time for me to pass on the editorship in to the capable hands of David Orlovich, who will bring it dashing into the full glory of the

electronic age. I hope you will support him as well as you have supported me, with so many interesting letters, articles, poems, photos, drawings, book and website reviews, meeting and trip reports and other items of interest. Anything coloured will look splendid in the pdf version on the web. Thank you all, and please keep them coming for David – I'll enjoy them even more from the other side of the desk. There are many hidden supporters to thank, too. Proof-readers Bastow Wilson, Peter Bannister, David Orlovich, John Barkla and John Knight have spent many hours trying to help me maintain a high standard – botanical and grammatical. The continued support of Trish Fleming, Paul Guy and the Department of Botany means a lot, and to all those who found time to help photocopy, staple, fold, tape, label, sort and post each issue, a big Thank You.

Editor's guidelines Contributions are always welcome, but newsletter space is a little limited. Please note these 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 15 May 2007

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.*

Correspondence

New Zealand threatened vascular plant listing 2007

The Department of Conservation in conjunction with the New Zealand Plant Conservation Network has begun the process towards re-listing New Zealand's threatened vascular plants. Later this year (June 2007) an expert panel will meet to review the status of New Zealand's indigenous flora. The panel comprises Peter de Lange, Peter Heenan, David Norton, John Barkla, Ewen Cameron and Shannel Courtney.

We invite you to make your own submissions online using the website of the New Zealand Plant Conservation Network (www.nzpcn.org.nz).

The submission form is at this link:

http://www.nzpcn.org.nz/threat_listing/threat_list_form.asp

Already there have been over 100 submissions. The submission field will be closed off at the end of March 2007. You are welcome to send in written submissions to: Andrew Townsend, Threat Listing Facilitator,
Research, Development and Improvement Department of Conservation,
P.O Box 10-420, Wellington

Please note:

- * You may make as many submissions as you like - either on a taxon by taxon basis or as block submissions of many taxa.
- * Please provide your reasoning succinctly for the change in status (you are welcome to submit reports and documents as attachments)
- * You can propose unnamed entities as threatened but you must cite a herbarium specimen of that entity to verify its existence. Failure to do so will mean that your submission will be invalid.

This list is only as good as the information used to prepare it. Please decide whether you agree with the current listings (for current list see de Lange et al 2004:

<http://www.rsnz.org/publish/nzjb/2004/004.php>

If not, let us know your opinion with appropriate information to support your case. If you feel the listing is correct and wish to add further information to support that assessment, then please do so.

For more information about the listing see attached link:

http://www.nzpcn.org.nz/threat_listing/introduction.asp

Please forward this email to colleagues and friends that may be interested in making a submission.

John Sawyer, Biodiversity Conservation Officer,
Wellington Conservancy, Department of Conservation
P.O. Box 5086, Wellington, NZ

NZBRN is live!

The New Zealand Biodiversity Recording Network (www.nzbrn.org.nz) is functional, thanks to the work by Mark Fuglestad over the past year, adapting the Swedish *Artportalen* system to NZ conditions - and with thanks also to TFBIS for funding.

The attached file is an idiot's guide to using the system - written by a fairly standard computer idiot. Inevitably, with such a complex multi-branched system, it is difficult to keep it short without leaving out important little hints and details. I'm sure I've still missed some things, but this will do for now. Any constructive feedback on the system or the instructions will be incorporated as soon as feasible.

Having spent some time entering records since Christmas, I now feel reasonably competent and speedy with it, but it does take a while to reach that level of familiarity. At first it may seem a little clunky, but my experience is that this feeling gradually goes away! It took me today 10 minutes to login, create a new site and successfully enter a few species names. If you are encouraged to try it out, I'd just ask you to be patient - initially, sometimes you have to repeat functions or wind back or start again. but I've become increasingly impressed by its power and versatility. This will improve with time as we eliminate some bugs and incorporate some new features (like improved drop down lists -

stripping out superfluous names in species' lists) and adding a host field for plants and fungi.

From a science perspective, let me mention a couple of important features - the ability to use an excel spreadsheet format to import data and ability to export to a spreadsheet, filtered by a number of criteria, so lists can be generated for your region, district, eco district or (named) site. It can also record absent records for rigorous analysis.

Soon we expect to have a quadruped vertebrate portal, then invertebrates will be up and running - as it were. Perhaps a separate one for aquatic organisms (including fish) would be a good idea and finally algae and microbes ... then the universe.

happy hunting

Colin D Meurk (Dr), Landcare Research

PO Box 69, Lincoln 8152, NEW ZEALAND

Phone: +64 3 321 9740 Fax: +64 3 321 9998

website: www.landcareresearch.co.nz

Silent Forest

Has anyone else noticed how silent the forests and mountain tops in our wilderness areas have become? I've just come back from a 4 day tramp in the Lake Ohau region which was both exhilarating and deeply distressing. Never before have I spent 2 whole days and nights above bushline without hearing or seeing a single native bird. No inquisitive keas sqawking and clowning, even though we were close to a skifield where keas normally thrive. No falcons soaring, no rock wrens hopping. Down in the valley, walking and sleeping for 2 more days and nights, the forest was also eerily silent. Not a peep or a twitter of the thrilling evening and dawn choruses of old. No sight or sound of calling kaka, swooshing kereru, cheeky weka, chattering kakariki, distinctive morepork calls; not even a friendly fantail flitting round. All reduced to memories of not so very long ago. Even though we covered a lot of ground in those 2 days walking through the forest all we heard or saw was a single tomtit, the call of one bellbird and a handful of brown creepers.

Where have all the birds which used to enliven vast tracts of forest gone? We saw no sign of possums, either. Is widespread use of 1080 to blame? This poison was first developed as an insecticide, and has an unseen but profound effect on our invertebrate fauna, which is an essential part of many birds' diet. Have the recent mast years, leading to population increases of rats and stoats contributed? But there have always been mast years, and rats and stoats have been around for a very long time.

What has all this to do with botany? With such a drastic decline in avian and insect pollinators and seed dispersers who knows how many rare and threatened plants might also silently decline and disappear.

Maybe Colin Meurk is right, and the towns and cities, (with their immunity from aerial 1080, their plentiful fruit, seed and nectar-bearing exotic plants, their Sanctuaries and Botanic Gardens) will become important refugia for many of our native birds and plants, despite all the dogs and cats and plentiful rats. There are more wood pigeons and fantails round my house in suburban Dunedin than I saw in the whole of the Maitland Valley, and the birdsong round Oban was noticeably greater than anywhere on the walk across from Mason Bay.

There is no joy in a lifeless forest. Isn't it time to carefully and thoroughly search out the cause of this drastic decline and do something about it before it's too late?

Allison Knight



The Far Side, by Gary Larsen. ODT 12 Feb 2007, p 31

BSO Newsletter index: Any volunteer?

There have now been 50 BSO Newsletters, from 1986 to this one. They contain many useful articles, such as keys, identification hints, nomenclature, site descriptions and species lists. Yet if one wants, for instance, Kelvin Lloyd's important key to local *Acaena* species, it's very hard to find that needle in a haystack. We need an index to articles in the 50 issues. One that could be accessible to everyone via the web, or available as a booklet for the cost of copying. To do this, the data need to be entered. The first few volumes are quite slim, and from No. 30 on each one has an index, which will make things easier.

Is there anyone with some time to do this important archiving?

Access to a computer is desirable (though we could provide that in the Botany Dept.). You'd need to type, for each significant article: the issue number, page, author, title and any other key words you thought people might look for. No special computer expertise is needed: you could enter the data into MS-Word, TextPad, Excel or Access – whichever you feel most comfortable with – and we would do all the conversions.

There's no time limit for this, though it would be good to get it done by the end of the year.

To enquire further, or volunteer contact: bastow@otago.ac.nz 479 7572, Bastow Wilson, Botany Dept, University of Otago, PO Box 56, Dunedin.

Poem

It's bean a long cool Summer

Climatic Climateric's
Bean affecting the beans-
Bean snowed on and blowed on
flooded, frosted and frizzled.
Bean watching and tending
Bean cursing and praying
Bean thinking they'd done a runner;
Beans not up the pole
Stringing me on
Has-beans popping their pods.
It's bean a long time
And the days grow short
Bean thinking its all been for nowt.
Bean saving some seed
Bean careful and canny-
so here's to next Summer...

Sandie Legge
Oturehua, Maniototo

Articles

THE BEAN HISTORY HAS BEEN LONG:

The story behind Audrey Eagle's heritage beans.

Audrey Eagle

My husband and I came to New Zealand in 1949 from England. We had ordered a caravan before coming here and upon arrival were very fortunate to be offered a site on which to park it. This was in an apple orchard on a farm near Hamilton. It was here that we had our first contact with the heritage beans. The late middle-aged couple that owned the farm had previously been growing them since the early 1900s when they were farming in the Taumarunui area. No doubt their farming parents had been growing them before that.

When we bought land in Ngaruawahia in 1953 we erected our own bean frame. Beans grew well in the alluvial soil for the next thirty years, with only an occasional replacement of a plant.

The seeds were then taken to New Plymouth in 1983 and the story repeated with the bean plants flourishing in the rich volcanic soil for the next twelve years.

Eleven years ago I moved to Macandrew Bay, Dunedin. The beans did not thrive where I originally planted the 'seeds' in the shade of a large pohutukawa tree. After two years the tubers were dug up and replanted in a sunny well drained area and have since continued to produce bumper crops until this season.

This year the vigour of the plants and denseness of the leaves on both my neighbour's and my plants would excite any gardener but alas apart from about six beans early in the season there have been no beans on either of our plants and so far no sign of any flowers to come. This is the same story from Allison Knight and some other bean growers contacted in the Dunedin area, but not all of them. Upon enquiring of the guru of horticultural knowledge, Les Cleveland, I was told that the trouble has been low sun hours. This does not affect the plants growth but its ability to produce flowers and fruit. This year he has found this to be the case with a number of the plants he specializes in e.g. Begonias. It has not affected his beans flowering as these are planted where they have the maximum of any sunshine available all day long but it has retarded the production of the beans themselves. His beans may also turn out to be has 'beans'.

Stop Press: In talking to a friend in Hamilton I was told that from seeds I gave her forty years ago two of those original plants are still vigorously producing beans and doing so this season as well. That I think is an amazing record.

Graeme Jane of Tauranga reports that prior to Christmas they had a few beans but since returning from the Botanical Society Camp the plants have been slow but are now flowering and have set small pods.

Rodney Lewington of Wellington wrote that his recalcitrant bean plants had made very slow growth and after returning from the Stewart I. Camp he found that the plants were

only 0.5 m tall. Nearly a month later they were still a long way behind normal flowering times.

As Allison has said what is the world coming to, we used to be able to rely on our prolific beans to supply us daily for two or more months!

Audrey Eagle (7.2.07)

New plant localities in Otago

Mike Thorsen and John Barkla

During field work in the 2005/2006 field season we found several interesting new localities for species and give a few notes here for the interest of members.

Ranunculus brevis. This small aquatic buttercup's southern range was extended from the Falls Dam area (G. Rogers pers. comm.) to the northern Dunstan Range when it was found growing submerged on mud around the margins of a subalpine tarn in the Lauder Creek headbasin.

Myosotis oreophila. This alpine forget-me-not had previously thought to be confined to the northern Dunstan Range and extinct on Mt Ida. A small group of plants was found near Mt Apiti, south of Thomson Saddle, in a patch of lagfield.

Myosurus minimus subsp. *novae-zelandiae*. This buttercup relative was discovered at two sites in the Nevis Valley, a western extension of the range from populations near Alexandra.

Carex albula. This rare sedge was a surprising discovery in the Cromwell Chafer Beetle Nature Reserve, given the number of scientific visitors to the site. There being only four plants present may go some way to explaining this! This attractive species' stronghold is meant to be the Waitaki Valley and Central Otago, but the paucity of records indicates that it may be at risk here, possibly from land conversion.

Carex dallii. This sedge has a West Coast distribution given in Flora II, but was found at Macraes. However, there are herbarium records from other sites in Otago and northern Southland. Such a disjunct population indicates there is something "weird" going on and the Otago plants may represent another plant entirely. This sedge is similar to a small red form of *Carex dissita* and we'd be interested in hearing of other occurrences.

Carex inopinata. For a long time known in Otago only from a 1970s record at Mt Koinga near Bendigo, there has been a stream of new records of this rare sedge from the Lindis Valley, upper Clutha Valley, around Alexandra. Most recently it has been found under scrub on dry slopes on the western Rock and Pillar Range and lower slopes of the Old Woman Range.

Of concern was the discovery of the invasive grass *Nardus stricta* in wetlands near Schoolhouse Flat, a botanically marvellous area in the Nevis Valley. This grass has shown ability to take-over wetlands of this type in Canterbury and, given its limited distribution, may be a candidate for eradication.

Inaugural Botanical Society of Otago Photography Competition, 2007

Calling all those with cameras! The Botanical Society of Otago is launching an annual photographic competition. There's still time to take the perfect shot - entries will close on Friday 30 March 2007.

Entries will be judged and displayed in April 2007 at the AGM, where the winners will be announced. The overall winner will receive \$100, and there will be several smaller category prizes. The aim is to get at least a dozen stunning pictures to make a calendar for 2008, which will be available at the Baylis Lecture in October 2007 for posting overseas for Christmas 2007.

Download the entry form and competition rules pdf from:

http://www.botany.otago.ac.nz/bsophoto_comp.php

Enquiries to Abe Gray, graab419@student.otago.ac.nz, 479 9024

Meeting & Trip Reports

Two Knights tonight!

(Co-evolution on the Galapagos Islands? 27 Sept 2006)

Reviewed by *Peter Bannister*

Foreword....*the fair Lady Allison and good Sir John sallied forth across unknown seas to the Enchanted Isles – Las Islas Encantadas. Beware ye travellers! Here be dragons on land and sea, armoured totoises standing on two legs like men, and vegetable caltrops that pierce one's feet...*

Back in the seminar room, we were rewarded with a veritable *tour de force*, with over 100 slides, interspersed with video clips of moving beasts. The show started in the USA with Robin Knight's graduation from Princeton and his award-winning thesis. Allison and John met and talked with researchers who had worked on the Galapagos Islands. Once they were on the islands, the Knights presented us with marine and terrestrial iguanas, constipated tortoises which retained the seeds of the Galapagos tomato (*Lycopersicon cheesmanii*), ensuring dispersion over a wider area and, of course, Darwin's finches and their bespoke beaks. Here, on the equator, birds and beasts (marine iguanas, fur seals, penguins and flightless shags) were subject to cold seas but hot and arid land. The cold-blooded marine iguanas fed on sea-lettuce (*Ulva*) suffered hypothermia and struggled out of the water, flopped onto the hot rocks and warmed up again. John apparently tried to do the same.

It is **SO** difficult to get away from the animals and on to the plants! They do, however, interact. The rare wet years support a burgeoning vegetation and fauna and a burst in the population of less specialised finches and a catastrophic loss when the drought years return. This brings us to caltrops (*Tribulus cistoides*) and co-evolution: in the drought years both the caltrops and the beaks of the birds are bigger. When 4-WD vehicles insist on turning into my driveway, I have evil thoughts of caltrops, tetragonal spikes that ensure one spike sticks upwards into a foot, hoof or tyre). Perhaps seeds of *Solvia sessilis*, the Onehunga weed, will ultimately evolve into caltrops?

Both the Hawaiian and the Galapagos Islands are chains of volcanic islands. The oldest islands have the greatest biodiversity and the newest the least. Dispersal of propagules leads to colonisation and adaptive radiation and Darwin noted the local endemism of both plants and animals in the Galapagos Islands. Easily dispersed seeds (e.g. Asteraceae with plumed seeds) are likely to be the prime colonisers such as *Scalesia* in the Galapagos and *Dubatia* and the silverswords in Hawaii. Adaptive radiation has resulted in local endemism and this is well illustrated by the cacti (*Opuntia* spp.) and *Scalesia* spp which range from prostrate (no browsers) to dendroid forms (browsing iguanas and tortoises). Allison noted the similarity between New Zealand trees with a divaricating juvenile phase browsed by moa and dendroid cacti browsed by long-necked tortoises stretching to reach the foliage and mutualisms such as those between cactus finches that pollinate the cactus flowers and cacti that have less spiny cladodes.

I would love to visit the Galapagos Islands, but would be saddened too. What would the fauna and flora of the islands be like now had they not been discovered? What new directions of hemerobic change will result from mass tourism?

Good night Knights and many thanks for the marvellous presentation!

Banks Peninsula Botany, 5th Geoff Baylis lecture, Hugh Wilson, 11 Oct. 2006

Reviewed by *Allison Knight*

With Geoff Baylis looking over his shoulder Hugh Wilson, botanist extraordinaire, gave a remarkable account of the botany of Banks Peninsula, past, present and future. Starting at the very beginning, he described the 3 volcanoes that formed the Peninsula; Lyttleton, Mt Herbert and Akaroa. The lava they spilled was predominately Hawaiiite basalt, forming first an island. Ancient plant colonisers included coconuts, casuarina and eucalypts. Huge changes in sea level in the order of 130 m saw the island become a peninsula and then an island again. It was covered in forest when Maori arrived. As late as 1830, when they sailed their canoes around, there was only 700 m to portage. Increasing amounts of shingle brought down-river from the Southern Alps have built up the peninsula we know today.

Banks Peninsula is at the southern limit for kumara. If the crop failed the alternative was bracken root. This led to extensive forest burning to encourage bracken growth. From 1860 – 70 new settlers accelerated forest clearance by burning for pasture and milling for timber. By 1920 only 0.7% of forest cover was left. But the native flora was more

tenacious than the fauna. Very few plant species were lost, while native eagles, moa, pelicans and many other birds and reptiles disappeared. By 1996 native forest had crept back out from gullies, cliffs and other refugia to regain 15% cover.

Hugh knows the plant cover (and the electric fences) of the Peninsula intimately, having spent 6 years doing a rigorous survey of every intersection point on a 1000 yard (about 1 km) grid. He even got the face rescue team to lower him over coastal cliffs, where he found rare plants, such as the endemic Akaroa daisy, *Celmisia mackaui*. His studies show that many of the plants have very specific distributions, often related to the rainfall, which varies from east to west and from sea level to skyline, and to temperature, which varies with altitude and with aspect. Kahikatea thrives in highly fertile soils, tolerates wet feet but can't tolerate grazing. The prostrate kowhai, *Sophora prostrata*, is common at the western end but peters out on the eastern headland, while the silver fern, *Cyathea dealbata*, and the nikau palm, *Rhopalostylis sapida*, grow mainly in the east, often over a narrow altitude range.

So who better than Hugh to manage Hinewai, a private reserve dedicated to the protection and restoration of native vegetation on over 1000 hectares of Banks Peninsula. Hugh's policy there is one of minimum intervention, for the plants, that is. Thousands of goats have been killed and a continuous war is waged on possums. Mustelids are left to control rats. Maintaining fences is important, as one stray sheep can destroy all the seedlings in 100 hectares. Gorse is left as nursery cover for regenerating fuchsia, wineberry, mahoe, five-finger and seven-finger, while regeneration under kanuka, with associated mycorrhizal fungi, encourages transition to red beech. Hugh is still discovering plants thought lost to Banks Peninsula, and birds are flocking back. Hugh's dream is to extend the reserve right down to the coast. That would take a very wealthy benefactor (or a large number of enthusiastic contributors) to further this rewarding and visionary project.

Aramoana Salt Marsh, 14 Oct. 2006

Trip report by *Karl Perry*

Ten people met Mike, our leader, at the Botany Dept car park and three more joined us at Aramoana. We had bright sunshine for the whole morning and, although there was a stiff and rather chill breeze early on, this died down later.

The Aramoana saltmarsh, now designated an Ecological Area, extends from the subtidal zone near the harbour channel across the intertidal marsh to a series of sand ridges and swales. It is considered nationally important because of its size (240 hectares), its variety of plant and animal life, and the absence of aggressive weeds like cordgrass (*Spartina anglica*).

At the landward edge we came across *Apium prostratum* (native celery), *Tetragonia trigyna* (native spinach), and *Cotula coronopifolia*, a yellow-flowered button daisy. From there we followed DOC's boardwalk towards the shore. Mike explained that plant distribution in the saltmarsh is affected by quite small variations in factors such as elevation, exposure, dryness, and salt concentration, so the vegetation varies quite a lot over small distances. The lower-lying and wetter zone is dominated by *Sarcocornia quinqueflora* (glasswort), *Selliera radicans*, *Samolus repens*, and *Suaeda nova-zelandiae* (sea blite). The narrow zone at the upper limit of the spring tides supports a mixed

community including *Plagianthus divaricatus* (marsh ribbonwood), which we saw in flower, and sedges and rushes, especially *Apodasmia similis* (jointed rush or oioi) and *Ficinia nodosus* (knobby clubrush). The dune ridge is not very high, but above the high tide level *Phormium tenax* (New Zealand flax) is common, and forest trees like coprosmas (*Coprosma propinqua*, *C. crassifolia*), *Pittosporum tenuifolium*, *Myrsine australis* (red matipo), *Griselinia lucida* (broadleaf), and *Melicactus ramiflorus* (mahoe or whiteywood) are growing. We also saw the green mistletoe *Ileostylus* on a coprosma, the fern *Polystichum vestitum*, the vine *Muehlenbeckia australis*, the button daisy *Leptinella dioica* (used to be *Cotula*), and the native jasmine *Parsonsia*.

Before leaving Aramoana we visited the nearby Gordon Johnston Arboretum for Mike to identify a mystery plant which turned out to be *Gaultheria macrostigma*, a snowberry. We had time for a detour to look at Cook's scurvy grass, *Lepidium oleraceum*, growing on the mole at the harbour entrance. This rare plant is a brassica and not at all grass-like in appearance. Although some of us tried the taste, they did not seem very impressed.

Thanks to our knowledgeable and enthusiastic leader Mike Thorsen for a very enjoyable morning.



BSO group on the boardwalk, Aramoana salt marsh, 14 Oct 2006 – Yanbin Deng

Aramoana lichen list 14 Oct 2006,

Allison Knight and Jennifer Bannister

Bactrospora sp. (black)

Physcia 'stellaris'

Bactrospora sp. (fawn)

Physcia adscendens

Caloplaca homologa

Physcia poncinsii

Caloplaca lutea

Punctelia borreri

Cladonia fimbriata

Ramalina celastri

Lecanora carpinea

Ramalina glaucescens

Lecanora rubromarginata

Ramalina inflexa

Lecanora symmicta

Teloschistes velifer

Menegazzia neozelandica

Usnea "Otago"

Opegrapha agelaeoides

Usnea inermis

Parmelina pseudorelicina?

Usnea oncodes

Parmotrema chinense

Xanthoria parietina

Mainly on twigs and bark of *Coprosma* spp. and saltbush ribbonwood, *Plagianthus divaricatus*.

A few on bark of elder, *Sambucus nigra* and other low trees.



Cooks scurvy grass, *Lepidium oleraceum*, Aramoana Mole – Peter Robb

It was a sunny, but cold and very windy day to visit the Lammerlaw Range, and explore local management issues under the guidance of Prof. Alan Mark. Over the past 30 years, the area has been the centre of research to study the effect of fire on native grasslands. It is now the centre of controversy with the development of a hydroelectric project (TrustPower's Deep Stream Hydroelectric Augmentation project) and the proposed Mahinerangi Windfarm.

We first stopped at the 144-ha Black Rock Scientific Reserve, which was named from the black-coloured lichens (*Umbilicaria* spp. and *Neofuscelia* spp.) that cover rocks in this area. Since the reserve was created in 1974, *Chionochloa rigida* (snow tussock) has recovered well and now dominates the landscape. In contrast, shrubs (mainly *Hebe odora* and *Dracophyllum longifolium*) are still confined to wet areas along water catchments. Mosses (*Hypnum compressiforme*, *Polytrichum juniperinum*, and *Sphagnum* spp.) expand extensively on the ground, keeping moisture under the snow tussock cover. Until recently, the reserve was surrounded by farmland, where remnant red beech stands still remind us that forest was once part of this local landscape. It is increasingly enclosed by development for electricity production, with on one side, the dams under construction for the Deep Stream diversion, and, on the other, the proposed 150 wind-turbine Mahinerangi Windfarm.

On the high hills of Te Papanui Conservation Park/Deep Stream Scenic Reserve, Prof. Alan Mark explained the importance of snow tussock grasslands in fog-prone sites, such as the southern Lammerlaw Range, for increased water yield and nutrient input. Afterwards, we wandered around the reserve, before stopping to have lunch on the bank of Deep Stream. On the rocks above the riverbed, Allison and John Knight stumbled upon a rare lichen, *Ramalina fimbriata*, and a more common large damp ground lichen *Cladia sullivanii*. We also discussed the environmental implications of the Mahinerangi Windfarm proposal and solutions that are being considered by Meridian Energy (e.g. a 5km transition zone between the wind farm and conservation areas, and the "direct transfer" of individual tussock grasses to temporary locations). We then made slowly our way back down the Lammerlaw Range, hopping out of the vehicles for a couple of stops. We first investigated a small natural depression on the ground, where a *Sphagnum* bog has established with *Dracophyllum* spp., *Halocarpus bidwillii* (mountain bog pine), *Polytrichum* moss being common, *Astelia* occasional and *Drosera arcturi* (sundew) rare. We also looked at a former turnip field, which was replanted in 2002 with snow tussock as part of a Landcare Research project. The area was covered with a thick carpet of *Hieracium pilosella*, and the tussock regeneration appeared very slow. Young *Dracophyllum longifolium*, *Hebe odora* and *Gaultheria macrostigma* shyly emerged here and there. As well as botanizing, we all marvelled at the discovery of a rusty machine, smartly designed for the planting of tussock grasses.

Thanks to Prof. Alan Mark for sharing in dedication to native grassland landscapes and for his on-going energy. Also thanks to John Barka for his sharp botanical eye and expertise.

Present: Alan & Pat Mark, Allison & John Knight, Lyn & Steve Bentley, Pascale Michel, Phillip Dunn, Bradley Curnow, David Karena-Holmes, Ross Gillanders, Bronwen Strang, John Barkla,

Yanbin Deng, Robyn Bridges, Alf Webb, Ursula Brandes, Mary Gallagher. Upland Landscape Protection Society; Freya & Brian Shaw, Annette Joel, Jill Reid.



Ursula Brandes walking the Deep Stream pipeline – *John Barkla*

Howard Clase's focus has not always been on plants and he is, by his own admission, a 'self confessed converted birder'. Fortunately his observational skills have transferred well and those present at his talk last November were appreciative of the time that Howard and Leila Clase had taken from their holiday at 47 degrees south, to talk about some of the botany at 47 degrees north.

The annual long field trip of the Wildflower Society of Newfoundland and Labrador was the focus of the presentation. Of course for all the Annie Proulx fans present, the exact location of the 'Shipping News' had to be dealt with, something Howard has done on several occasions during his visit to these parts.

The opening slide of the presentation was startling in its familiarity; an expansive harbour, exposed headlands, salt marshes and muddy shores. Water temperature too sounded familiar. Apparently melting Arctic ice interrupts the Gulf Stream on the coast of Newfoundland and keeps the water to 4-5 degrees in summer. The landmass is similar in size to NZ, both are geologically diverse, and both had been botanised by the illustrious Joseph Banks. Banks visited Newfoundland with Cook in 1767 on his way to New Zealand.

There was a familiarity too with the genera and among Howard's photos were *Gaultheria* (with edible species like ours), *Gentiana*, *Drosera*, *Lycopodium*, *Calystegia*, and *Ranunculus*. The species of course were a different matter all together; tree sized *Lycopodia* were completely new!

For much of the flora of Newfoundland it is a case of, 'huddling against the wind and drizzle', a necessity in conditions where it is alpine at 150 feet above sea level! Consequently it is a highly modified flora; horizontal junipers, dwarf betulas, few petalled flowers, many plants with very leathery and hairy leaves, waist high spruces, and many with very compact forms and protected structures. Howard talked about a native butterfly that lived on Scot Lovage, rarely seen, not because of lack of habitat but because of the wind!

The flora has a high predominance of berry producing plants, among which are 5 or 6 species of blueberries. As a result Newfoundland is a major feeding site for a huge variety of migrating birds. Howard, I thought with some restraint, just mentioned two, the Caspian terns and Black Shags.

The national flower is a carnivorous herb, the pitcher plant *Sarracenia purpurea*, and the flora contains a large number of Goldenrods, *Solidago* sp. Conditions inland allow for taller trees. Newfoundland has two national parks, but there is ongoing pressure by the demand of paper manufacturers. As a consequence there is a significant impact on the resident pine martens.

With the collapse of the cod banks people are turning to eco tourism, which hopefully bodes well for the flora and what is remaining of the early distinctive Newfoundland

architecture, the salt boxed Newfoundland houses. The original population of Indians were completely dispersed by 1840.

The landscape had more variety than I expected, but it is the landscape and vegetation I have always associated with this area, that of severe glaciation and alpine conditions, that I found most captivating. Thank you Howard and Leila for sharing it with us.

Between a Rock and a Hard Place: Adrienne Markey's talk on Western Australia's Ironstone Flora, 11 Dec. 2006
Reviewed by *Kate Ladley*

From a New Zealander's perspective, Adrienne's new "office" is the familiar yet alien Australian landscape. The incredibly old rocks, arid climate and vast flat topography are a striking contrast to our oceanic country. However, as Adrienne Markey revealed its not only the physical landscape within Western Australia's interior that is awe inspiring; the biodiversity is simply spectacular. Adrienne is now a Research Scientist for Western Australia's Department of Environment and Conservation. She is involved in a floristic survey of the Eastern Goldfields, focusing on the Banded Ironstone Formation. This formation is 2-3 million years old, metamorphosed, contorted and folded; it is extremely rich in iron. These massive hard rocks are now visible as outcrops surrounded by younger (Tertiary) silts and clays. The ancient soils are skeletal and acidic, the climate semi arid to arid, exposed and eroded this landform seems to be an incredibly difficult place to live. Is it surprising then that this part of the world is floristically incredibly diverse? Adrienne tells us that after undertaking three, two week field trips, three months work in the herbarium is required to process the specimens. In sheer numbers it is an extremely daunting task, made even more difficult by incomplete taxonomic knowledge.

Adrienne's slides reflected the diversity of habitats; stunted woodlands, salmon gums, heaths, spinifex grasslands, "wet" valleys and the famous W.A. wild flowers. While a few families sounded remarkably familiar; Proteaceae, Asteraceae, and Myrtaceae, the slides of the flowers showing the large, bright blooms especially the vibrant purples and reds made ones head reel! By no means is this botanical haven without its problems. Pastoralism, feral rabbits and goats, together with increasingly frequent droughts, have left some areas completely denuded. However, it's the threat of industrial mining that has been the catalyst for this floristic survey of the Eastern Goldfields. The sites Adrienne has been targeting to survey are "Areas of Interest"; areas that have been identified as potential mine sites. As someone remarked at question time, there is an uncomfortable similarity of issues. Yet another environmental battle; poorly described flora taxa, no funding available for other groups such as non-vascular or the invertebrates. Currently the aim is for the recognition and conservation of floristic communities. I for one am reassured that Adrienne's on the job!

Combined Wellington and Otago Botanical Societies Summer trip to Stewart Island and the Catlins. 28 Dec 06 – 11 Jan 2007
Report by *Allison Knight*

Thirty-eight hardy souls, mostly from Wellington, made their way south to Stewart Island after Christmas. The weather was amazingly kind and the botanical rewards were great. A

lucky 17 made a traverse from the dune slacks at Mason Bay to the coastal forests around Oban, via the subalpine tops of Rocky Mount, or *vice versa*. Those based at Oban found plenty of botanical interest; some ranged wide, seeking *Thamnia* on the slopes of Mt Anglem in the north and rare liverworts at Port Pegasus to the south. Ulva Island, with its re-introduced rare plants and animals was a treat for everyone. The following 6 days in the Catlins might have been an anticlimax, but it wasn't. The Tautuku Outdoor Education Centre was the perfect venue, and the weather was again kind, allowing botanically diverse daily trips. More detailed reports of the daily expeditions will appear in the Wellington Botanical Society Newsletter. Thanks are due to Sheelagh and Gordon Leary, who so cleverly organised all the food for so many people, and to Rodney Lewington, who co-ordinated all the diverse trips and kept track of the complicated finances. Also to Graeme Jane, who provided plant lists for nearly everywhere we went, then updated them accordingly. Thanks also to DOC, Stewart Island and Coastal Otago, who made collecting permits available. This allowed us to collect small samples for identification and to show other people. There was always much to learn from specimens laid out in the evenings. These summer trips are a marvellous opportunity for beginners and experts alike to learn and to exchange botanical information. I can thoroughly recommend them

23rd. John Child Bryophyte Workshop, Lewis Pass, 18th-23rd Jan, 2007. *John Steel*

Allison Knight, Maia Mistral and I comprised the Dunedin contingent to this year's workshop based at the Boyle River Outdoor Education Centre near Lewis Pass for four days of relaxed intensity among the beech forests on either side of the divide. The later date of this year's workshop resulted in the absence of some regulars, but familiar faces from around New Zealand and a sizeable contingent from Australia filled the available spaces.

The first day took us to the Duffy Track and I found enough to keep me occupied within a few hundred yards of the drop-off point! Alan Fife led the less-experienced, moss enthusiasts exploring the road verges before venturing into the forest, while David Glenny and John Braggins blinded us liverwort fans with their knowledge of all kinds of little, green gems. Having resolved to constrain the temptations of seizing every piece of greenery within range and instead concentrate on a few groups that I struggle with, I soon had an in-depth look at the Plagiochilaceae while still enjoying little novelties such as my first sighting of *Colura saccophylla*, a minute, but beautiful, little epiphyllous liverwort on its comparatively gigantic host, the moss, *Dendroligotrichum dendroides*. On the return journey we paid a visit to a fascinating raised bog with an abundance of the liverwort, *Zoopsis macrophylla*.

The following day, a variety of options were also available and different groups explored these, including drier forest on granite and the limestone outcrops at Marble Hill. The track to Klondyke Spur was next. This passes through beautiful open beech forest, reminiscent of a Lord of the Rings set, and I was soon left behind as some disappeared off to the tree line. I had become stuck at the start of the track among some lovely old *Libocedrus* with associated stumps covered in the filmy fern, *Hymenophyllum malingii*, which I had never seen in such quantity. By lunchtime, the rain was doing its best to put a

damper on the proceedings, but this was to be the only wet day of the workshop. Sunday's tramp along the dry, mountain- beech forest along the Boyle River was less bryologically exciting as it is much disturbed and heavily grazed. Liverworts were less in evidence, but I still managed to find a small pocket of *Plagiochila banksiana* hiding under some exotic grasses by a small rill.

The last day was spent at the start of the St. James Walkway into Cannibal Gorge. The track starts among some large wet tracts and associated stunted and open beech before plunging into some spectacular, wet forest. I was soon lost in the undergrowth and stream beds trying hard to restrain myself from over-collecting, compensating for this with some general botanising. Returning to the drop-off point, I met up with John Braggins who was still in the sub-alpine area at the start of the track where he introduced me to several delightful and minute members of the Lejeuneaceae growing on the beech trunks: a great way to end an excellent weekend. The food was good and the organisation smooth and relaxed with plenty for everyone. A big thanks has to go to our own Botany Department for their continued support of these workshops, which facilitates their success and to David Glenny and his team for putting the weekend together.

This year's workshop has been cancelled to allow us to attend the Australian Bryological Workshop in Tasmania. As usual, places are limited and filling fast so, if anyone has ideas of attending what promises to be an exciting opportunity to explore some remote areas of western Tasmania, they better enrol now. The next John Child Workshop will be held at Tautuku in the Catlins in early December, 2008, and if you haven't attended before, I suggest you take the opportunity to come closer to this beautiful branch of our flora - there's not only trees in our forests.

(PS There's fascinating lichens, too, and usually someone happy to share their interest.- *Ed.*)

Vascular plants of Government Track, Waipori Valley, Otago

Centred on NZMS 260 Sheet H44 808715

John Barkla with assistance from other BSO members

16 September 2006

*adventive species

Trees and shrubs

Aristotelia serrata
Carmichaelia petriei
Carpodetus serratus
Coprosma areolata
C. crassifolia
C. linariifolia
C. propinqua
C. rhamnoides
C. rotundifolia
C. taylorae
C. virescens

Cordyline australis
Fuchsia excorticata
Griselinia littoralis
Hebe salicifolia
Helichrysum lanceolatum
Hoheria angustifolia
Ileostylus micranthus
Kunzea ericoides
Lophomyrtus obcordata
Melicope simplex
Melicytus ramiflorus
Myrsine australis

M. divaricata
Nothofagus menziesii
Olearia fragrantissima
Pennantia corymbosa
Pittosporum eugenioides
P. tenuifolium
Plagianthus regius
Podocarpus totara
Prumnopitys taxifolia
Pseudopanax crassifolius
P. ferox
Pseudowintera colorata
Raukaua anomalus
*Rubus fruticosus
*Sambucus nigra
Sophora microphylla
Streblus heterophyllus
*Teline monspessulana
*Ulex europeus
Urtica ferox

Herbs

Acaena anserinifolia
A. juvenca
Astelia fragrans
Cardamine sp.
*Cerastium fontanum
*Cirsium vulgare
Colobanthus strictus
Dichondra repens
*Digitalis purpurea
Epilobium nerteroides
Euchiton ruahinicum
Galium perpusillum
G. propinquum
*Geranium robertianum
Hydrocotyle americana
H. moschata
Lagenifera sp.
Libertia ixioides
*Marrubium vulgare
*Mycelis muralis
Nematoceras trilobum (=Corybas
trilobus)

Oxalis exilis
*Prunella vulgaris
Ranunculus reflexus
*R. repens
Schizeilema trifoliatum
*Senecio jacobaea
S. minimus
Urtica incisa

Lianes

Calystegia tuguriorum
Clematis foetida
C. paniculata
Muehlenbeckia australis
Parsonia sp.
Rubus schmidelioides

Grasses

Anemanthele lessoniana

Sedges and rushes

Carex forsteri
Uncinia sp.

Ferns

Asplenium bulbiferum
A. flabellifolium
A. flaccidum
A. hookerianum
A. lyallii
Blechnum chambersii
B. discolor
B. procerum
Cyathea smithii
Dicksonia squarrosa
Laestreopsis glabella
Leptopteris hymenophylloides
Microsorium pustulatus
Pellaea rotundifolia
Polystichum neozelandicum subsp.
zerophyllum
P. vestitum
Pteridium esculentum

Book review

John Steel

Malcolm, W.M.; Malcolm, N. (2006) *Mosses and other bryophytes, an illustrated glossary*. 2nd. Edition.

336 pp. Hardcover. Micro-Optics Press, Nelson. Available from Manaaki Whenua (MW) Press at \$108.00.

The first edition was released in 2000 and deservedly received great praise for its quality and thoroughness. So what is there to say about this edition which has half as many pages again all filled and beautifully illustrated with many more entries? Even the minor comment I made for the first edition has been addressed.

For those unfamiliar with the first edition, the book is a glossary of bryological terms, well presented and often accompanied by an explanatory diagram or photograph. Each entry is clearly explained and includes alternative meanings, synonyms and, occasionally, word origins. Comparative terms are included with the entry and also given a brief explanation to save the reader the trouble of having to follow it up elsewhere. The photographs, as one expects from the authors, are superb and relevant accompaniments to the text. A helpful touch is to list comparable terms together, *e.g.*, sixteen words for leaf hairiness are listed, each with a brief meaning.

I am unable to fault this work in any way; even the binding quality has been improved. Sure there are terms not covered (I note cladia, carpophore and sporogone from my own list), but such will be the case for any subject, especially where its exponents come from diverse backgrounds and sub-disciplines and have defined, often the same or similar, terms in their own way.

It remains, however, as do similar volumes, an infuriating book. It is nigh impossible to look up one entry without being dragged further on to others as one's curiosity is triggered. At \$108 this is still good value, not only for bryologists, but also the general botanist and anyone with a modicum of wonder for the small world that surrounds us.

There is a reference copy of this fine book in the Otago Herbarium (OTA) in the Department of Botany, Otago University.

More Publications

***Key to Australasian Liverwort and Hornwort Genera*, David Glenny and Bill Malcolm, 2005.**

This is an interactive key to all 180 genera in Australia and New Zealand. It contains diagnostic features of each genus and an up-to-date checklist of all species of both countries. There is a comprehensive glossary accessible by hyperlinks and over 1000 high quality photographs and drawings.
CD-ROM. Published by ABRS. Available from MW Press at \$75

***Flora of Australia Vol. 51: Mosses 1.* Ed. Patrick McCarthy, 2006.**

ABRS and CSIRO Publishing.

This is the first of 3 volumes describing and illustrating more than 1000 species of Australian mosses. The main features are: an introduction documenting 200 years of research on Australian mosses; moss classification and an overview of morphology and sexuality; an account of ecology and biodiversity; the origin and evolution of mosses; fossil bryophytes; and a key to the more than 300 genera of mosses known from Australia and its island territories. Available from MW Press. Paperback \$111.40, Hardback \$135.00. P&P \$5 within New Zealand. .

10% Discount! MW Press offer a 10% Discount to Botanical Society members. Please indicate Society Membership when ordering! Order online at : www.mwpress.co.nz, email mwpress@landcareresearch.co.nz, PO Box 40, Lincoln 8152, NEW ZEALAND.

Supplement sold out!

Mike Thorsen

The BSO committee is very pleased that the first print run of 300 copies of our ***Supplement to Eagle's Trees and Shrubs of NZ*** have all been sold. A second printing is underway and will be available at the end of February. Feedback from people who have bought the Supplement is very positive, with most people considering that the information it contains is worth more than the \$20 price

Supplement to Eagle's Complete Trees and Shrubs of New Zealand - additional notes. *Audrey Eagle*. Published by The Botanical Society of Otago, Oct 2006.

This Supplement presents additional information on many of the species in Audrey's new, 2-volume book, which contains her paintings and information on nearly all the trees and shrubs found in New Zealand books. Additional information is given on distribution, habitat, ecology, morphometrics, taxonomic history and relationships, plant uses, discoverer(s), and bibliographic notes amongst other subjects. This information has been collated from Audrey's notes as well as those provided by many of New Zealand's leading botanists such as Colin Ogle, Brian Molloy, Peter de Lange, Shannel Courtney and many others. The quality and amount of information is stunning, and as such is a valuable addition to accompany Audrey's books.

The Supplement (\$20) is a valuable companion to Audrey's 2 volume masterpiece, *Eagle's complete Trees and and Shrubs of New Zealand* (\$200) Both are available from the University Book Shop, 378 Gt King St, Dunedin Nth, and can be ordered online at www.unibooks.co.nz. The University Book Shop is generously offering a 10% discount on both publications to members of Botanical Societies and to Forest and Bird members.

Field Guide to Rushes, Sedges and Allied plants, GT Jane, 2006.

All species are included except those not seen for a long while or only present on offshore islands. Each species is illustrated with grey tone (digital photo) silhouettes and a brief text description emphasizing any distinguishing field features on the opposing page. Quick keys to species are also included. Intended for field use with laminated cover, A5 format and wire ring binding. Cost \$15.

A revised *field guide to ferns and fern allies* is also available in a similar format for \$10.

Contact Graeme Jane, GTJane@clear.net.nz

NEWS

Allison Knight

Botanical Filmstars

A documentary made by University of Otago Natural History New Zealand film making course students has won the newcomers award at the world's most prestigious and largest wildlife film festival. Brant Backlund and Thassilo Franke's botanical detective film, *Exhuming Adams*, about a recently extinct mistletoe, *Trilepidea adamsii*, took the award at the BBC-sponsored Wildscreen Festival, 2006. It also won two top awards at the 29th International Wildlife Film Festival in Montana last year. Audrey Eagle has a starring role as one of the last people to record this mistletoe when she painted it for her book. Peter Bannister acted as a consultant on mistletoes. If you didn't see this movie when we showed it at one of our meetings last year, don't miss it if it comes back again.

New Bot Soc Logo

For over 7 years the BSO committee has been struggling to agree on a suitable logo. Some favoured a precise rendition of an endemic Otago plant, lichen or fungus. Others held out for a trendy, wavy, abstract form. Many fine drawings were submitted and rejected, many committee members came and went, but agreement still seemed impossible. Now, at long last, we have something that everyone is happy with; an iconic, wavy, quintessentially Otago tussock. Look on the back page and I'm sure you'll agree. It took an enthusiastic committee member, Christina Lister, to commission it, and her professional sister, Marie Fitzpatrick, to create it. Congratulations and many thanks to Christina and her Marie for making such a generous and lasting contribution to BSO.

Carol Landis.

It is with great sadness I have to report that Carol Landis died at the end of last year, after a valiant fight against cancer. She was given a fine farewell, in the grounds of the

Warrington house that she loved and gardened so well. Carol was such an enthusiastic member of our society that she will be sorely missed. This photo shows her fighting spirit, at Nugget Point, 2004, armed with fragrant flowers of Lemonwood, *Pittosporum eugenioides*, in her trademark long plaits. She had a twinkle in her eye to the end. Our condolences to Chuck for his great loss.



Catlins, October, 2004

Carol Landis, BSO trip to Nugget Point – *Janet Ledingham*

Cover Pictures

Front cover.

Chytrid fungus, from soil by Botany Garden dumpster. Detail of drawing by Aaron Hubbard, winner of first prize in the 2006 BSO Audrey Eagle Botanical drawing contest.

Back cover

New BSO Logo! Created by Marie Fitzpatrick, MJF communications, Wellington.
Email: marie@MJFcomms.co.nz, Phone 04 476 3310.

Photo apologies: 3 photos in the last issue, #49, should be re-credited. Ken Allen took the pagoda fungus on p.16. Stephan Halloy sent 2 photos from Bolivia; the frog on p 10 and the landscape p12.

Botanical Diary

National

6 – 12 May, 2007 21st New Zealand Fungal foray, Masterton. The Wairarapa region offers a wide variety of forest types including podocarp, broadleaf, and beech stands. The walking tracks in Tararua Forest Park range from easy at lower altitudes to challenging when exploring the peaks. A Kahikatea swamp near Carterton (25km south of Masterton), the national captive breeding facility for rare birds at Pukaha Mount Bruce (28km north of Masterton) and vineyards at Martinborough (about 50km south-east of Masterton) are among additional points of interest. The programme will involve daily collecting, identification, and provision of display tables of the day's finds, followed in the evening by informal talks. Accommodation subsidies are available for students who apply early.
Contact: Paula Wilkie, 09 574 4156,
wilkiep@LandcareResearch.co.nz. **Registration due 28 March.**

Local

Until 22 April 2007. Exhibition of Audrey Eagle's Botanical Paintings
Nature Galleries, Otago Museum. Free

27 February Tuesday 5.30 p.m. Archway 4 Public Lecture
Global warming and YOU: What every citizen should know
Professor Mark Hixon (William Evans Fellow)
Department of Zoology, Oregon State University, USA

28 February Wednesday 12 noon Union Street Lecture Theatre (upstairs) Cnr Union St West and Great King Street

Dynamics and regulation of marine fish populations at multiple scales

Professor **Mark Hixon** (William Evans Fellow),
Department of Zoology, Oregon State University, USA

7 March Wednesday 12 noon Union Street Lecture Theatre (upstairs) Cnr Union St West and Great King St

Coral reefs and their loss: Why it matters

Professor **Mark Hixon** (William Evans Fellow)
Department of Zoology, Oregon State University, USA



The 'Taieri Pet' hanging over the Maniototo – seen from the Lammerlaw Range - *John Barkla* This persistent and highly unusual cloud formation, found in only a few places in the world, is more or less stationary. It is formed by high north-westerly winds being forced upward over the Rock and Pillar Range.

Botanical Society of Otago:

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

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Please submit copy for next newsletter to David Orlovich by 15 May 2007

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Membership form: Botanical Society of Otago, 2007

This form is also available on our website;

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