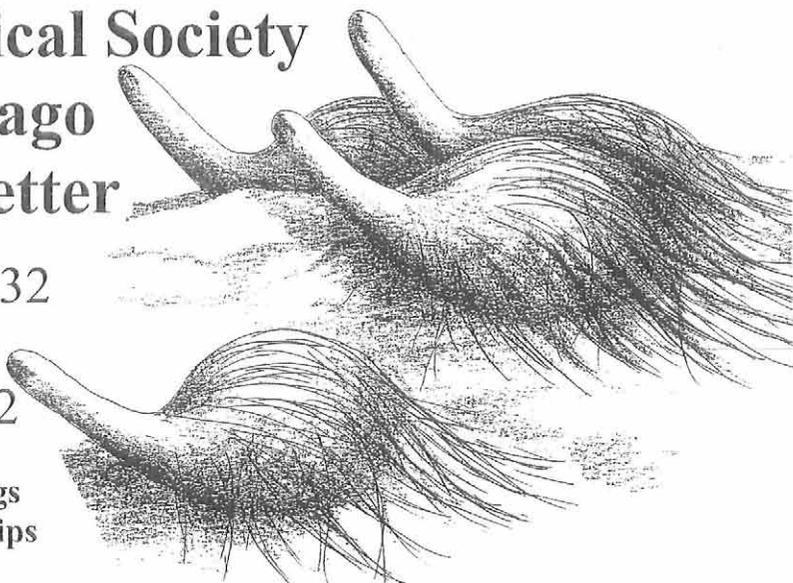


Botanical Society of Otago Newsletter

Number 32
June –
July 2002

BSO Meetings and Field Trips



- 14-16 June**, David Orlovich will lead a **Fabulous Fungal Foray** in the *Nothofagus* forests of the **Makarora-Haast Pass** area. Details inside, on BSO noticeboard & webpage: <http://www.botany.otago.ac.nz/bs/>. **Register by 10 June.**
- 19 June**, Wed 5.30 pm **Peter Raal**, Technical Support Officer: Plant Pests and Biosecurity, DoC, Otago, will talk on "**Prioritising weeds for control and surveillance in Otago**". Zoology Annexe Seminar Room, Great King St, behind the car park between Dental School and Zoology. Be prompt or knock loudly, the side door can't be left open at night. Drinks & nibbles.
- 9 July**, Tues 5.30 pm. **Graeme Jane**, Tauranga will talk on "**Botany of the Bay of Plenty**". Graeme is a generous compiler and avid collector of plant species lists around the country. He will give us a glimpse of the country and plants to be explored and enjoyed on the Wellington Botanical Society summer trip next January (details inside). Zoology Annexe Seminar Room, Great King St, behind the car park between Dental School and Zoology. Be prompt or knock loudly. Drinks, chat & nibbles before & after.
- 20 July**, Sat 1 - 4.30 pm. Laboratory-based workshop on **Identification of Fungi**. To follow through from the Fungal Forays, **David Orlovich** will demonstrate the techniques required to correctly identify fungi and turn them into proper Herbarium specimens. **Meet at 1 pm promptly** (that's when the door will be unlocked) at the Botany Department, 464 Great King Street. Microscopes, chemicals and tea-making facilities will be available.
- 21 August**, Wed 5.30 pm **Peter Johnson**, Landcare, will talk on "**Wetlands up North**" Zoology annexe seminar room, details as above.

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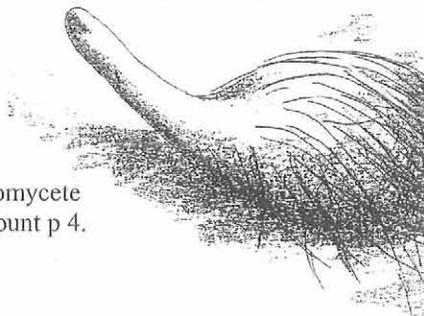
Welcome to another great issue of the Botanical Society of Otago Newsletter! Through taking up my new role as chairman of the BSO, I've come to realise the huge amount of work that the hardworking committee puts into getting this newsletter published every two months – something that I shamefully took for granted when I was Treasurer! I feel particularly moved to thank Allison Knight for the tremendous amount of work she puts into editing the newsletters and I look forward to being able to contribute as much as I can in the future. I also thank our past chairman, Bastow Wilson for resurrecting the Society and leading us through the last few years. As a result, the Society is really dynamic, with upcoming activities covering all things botanical: from talks about weed priorities in Otago (19th June) to a workshop on the finer points of mushroom identification (coming up on 20th July) – in short, something for everyone! We hope you will find something of interest amongst the list of events on the front cover.

Thanks to all those who contribute articles to the newsletter – remember Allison will always welcome your contributions. The recent lichen workshop is followed in this newsletter by a fascinating article by David Galloway on that most beautiful of lichens, *Cladia retipora*. Toni Atkinson includes a report on collections of new ascomycete fungi that bear a strong resemblance to Hairy McLeary! It's really so easy to find new species of fungi here in New Zealand that BSO members can make really significant contributions to discovering our biodiversity. You can participate in collecting trips (like the BSO Fungal Foray, 14th – 16th June) or laboratory workshops where the examination of collections using microscopes and keys can lead to the discovery of new species, or old species in new places. We look forward to seeing you at upcoming events, and hope you enjoy this newsletter.

David Orlovich, Chairman

Cover picture

A magnified view of an unidentified fruiting ascomycete fungus, drawn by *Toni Atkinson*. See Toni's account p 4.



Back cover and inside figures

Drosera spatulata. All drawings of this fascinating insectivorous plant are from Bruce Salmon's *Carnivorous Plants of New Zealand*, reviewed in this issue by John Steel. *Cladia* lichens were collected and photocopied by *Allison Knight*.

Subscriptions Very Over-Due Now!

Subscriptions are now overdue for 2002. Please pay promptly. It's a good deal – fascinating talks, fabulous forays, far-flung trips and fat newsletters all for just \$5 (unwaged) or \$10 a year. Use the membership form at the back of the newsletter or get one off our web page or notice board. - *Ralf Ohlemueller*, Treasurer

Have you seen this unidentified fungus?

Dubbed 'Hairy McLeary', for further identification was unsuccessful, this small (0.6 mm) ascomycete fungus, illustrated on the front cover, was found on decaying tawa wood in the Maungakotukutuku Valley, north of Wellington. The perithecial necks face in the same direction – presumably towards light, giving the appearance of a group of migrating moa.

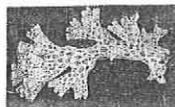
As the best key to critters of this size is '*British Ascomycetes*' by Dennis, identification difficulties are to be expected. But the combination of hyaline, septate, delicately striate ascospores with long-necked, black perithecia seems highly unusual, and, to date, even a family seems elusive.

But Hairy McLeary is not alone! A similar species, with larger perithecia, and larger, also striate ascospores, dubbed 'Hairy McLeary 2' was recently found by the Tongariro River Volcanic Plateau, Central North Island. AND during the recent (and excellent) N.Z. Fungal Foray at Haast, a further sister species, 'Hairy McLeary 3' was discovered lurking in the damp forest beside the Okuru Estuary.

So, if you fancy peering at very rotten wood with a hand lens, you may be rewarded by tiny, long-necked perithecia with anchoring hyphae. If so, I'd be interested!

Toni Atkinson

Email: toni.atkinson@botany.otago.ac.nz



LICHEN PROFILE: *Cladia retipora* (Labill.) Nyl. - David Galloway

As a schoolboy in Invercargill in 1957, I was first made aware of the existence of lichens by finding *Cladia retipora*, the subject of this note, in a *Sphagnum* bog close to a popular family picnic spot at the Seaward Bush Scenic Reserve. On taking a handful of this curious, spongy, white, coral-like substance back to Southland Boy's High School the following day, I was given two different opinions on it by my teachers. Firstly, the Biology Master declared it to be a moss, which I thought could not be right, since in my mind all mosses were green, while the Chemistry Master, Mr G.C. Martin, told me that it was in fact a lichen, and further, that its name was *Cladonia retipora*, the epithet *retipora* referring to the network of holes that is its characteristic feature. Gordon Martin was the son of William Martin, a retired school Headmaster who was one of New Zealand's few publishing cryptogamists, and at that time writing a monograph on *Cladonia* in New Zealand (Martin 1958b). Gordon Martin, who suffered from multiple sclerosis, and was unable to leap across drainage ditches then criss-crossing parts of the Awarua Bog, enlisted my help as an agile pair of legs for him, and I thus began collecting specimens of *Cladonia* from peat bogs in the Invercargill area, which he then sometimes forwarded on to his father in Dunedin. He suggested that I might like to start a collection of lichens, and from that suggestion my subsequent rather circuitous path to a career in lichenology began. So for me the lichen *Cladia retipora* has always had an attraction and a major significance.

Gordon Martin, gave me a reprint of his father's study of New Zealand *Cladonia* (Martin 1958b) in 1959 during my Upper VIth year, but much of it I found confusing and difficult to understand. However, I was fascinated by William Martin's notes on *C. retipora* "...The finest and most handsome of all *Cladonia* species, coralloid and reticulate, white, grey, or rarely faintly brown, rarely dark brown as in Australia and Chatham Island. Sea-level to subalpine on bogs, manuka heaths, sand-dunes, grassland and shingly wastes... Specimens collected by me on Longwood Range (4480) show a primary thallus of minute squamules. This is probably the first certain discovery of a primary thallus on any member of the *Clathrinae*. The discovery is corroborated by Dr A.W. Evans" (Martin 1958b: 630).

In 1960, as a first-year Botany student at Otago University I was to read another of William Martin's recent papers in which he reported "...Most authors have stated that the primary thallus does not exist or at least is unknown in any member of the *Clathrina*. In Labillardier's [sic.] original description of *Baeomyces retiporus* [sic.], the primary thallus ... is described as: crustaceus, granulis albissimis nitidis, conspersus, mox evanidus." For this reference I am indebted to Dr. Evans [Yale University, a distinguished *Cladonia* scholar upon whose taxonomic judgement William Martin relied during his early studies on this genus in New Zealand], who also corroborated my own discovery of plants from the Longwood Range in Southland with the primary thallus still present (no. 4880)..." (Martin 1958a: 80). I was thus fired with enthusiasm to see whether I too could find primary thalli of *C. retipora* and perhaps also of the more widespread *C. aggregata*. In 1960 on peat bogs at Tussock Creek on the Southland Plain near Winton, I found good material of both species with the secondary, coralloid thalli developing from inflated-squamulose primary thalli, and the following year Dr James Murray of the Chemistry Department confirmed that these structures were indeed primary thalli of *Cladia*. Subsequent searches from the Awarua Plains, Stewart Island, Silver Peaks and the Forgotten River Gorge, turned up primary thalli of *C. aggregata*, *C. retipora* and *C. sullivanii*, and a discussion of these collections formed the basis of my first publication in lichenology (Galloway 1966). *Cladia* has always held a fascination for me and subsequently I was able to add *C. inflata*, *C. schizopora* (Galloway 1977) and *C. fuliginosa* (Galloway 1985) to the species known from New Zealand, extending William Martin's treatment of the genus (Martin 1965). In 1981, Rex Filson in Melbourne published a monograph of *Cladia*, which was his MSc thesis for Monash University, and in this comprehensive work he lectotypified the basionym of *Cladia retipora* on a specimen of *Baeomyces retiporus* from Tasmania collected by La Billardière and preserved in the cryptogamic herbarium in Paris (Filson 1981: 23). Gintaras Kantvilas and Jack Elix subsequently described *C. moniliformis* from Tasmania (Kantvilas & Elix 1987) and in a study of the *C. aggregata* complex, described four additional species, all apparently endemic to Tasmania viz., *C. deformis*, *C. dumicola*, *C. mutabilis* and *C. oreophila*. New Zealand populations of *C. aggregata*, should be re-investigated in the light of these studies and it is likely that some or all of these new species will be found here.

Early in 1973 I began work in the Lichen Section of the British Museum (Natural History) at South Kensington, and by 1974, my wife Patricia was starting on her career as an opera singer, working from Covent Garden as a base. In May 1981 we spent a

month in Florence, and while Patricia rehearsed a new production of Wagner's *Götterdämmerung* conducted by Zubin Mehta, I worked in the Museo Botanico, in a rather down at heel, rambling old palazzo in Via La Pira. Here the Director, Prof Guido Moggi, introduced me to the extensive herbarium, and although he was not sure of the exact details of the lichen collections, he showed me the three major lichen collections for which Firenze is famous, the Pier Antonio Micheli collection, the Philip Barker Webb Herbarium and the General Cryptogamic Herbarium. And very kindly, he let me get on with exploring these treasures at my leisure over the subsequent weeks. In recent years the extent of the lichen collections in Florence has been documented more fully (Foggi et al. 1990).

The Micheli Lichens are worth a digression – as they are the basis of part of Micheli's book, *Nova Plantarum Genera* (Micheli 1728), a celebrated pre-Linnean treatment of cryptogams and far superior to Linnaeus's rather perfunctory treatment of lichens in his 1753 book *Species Plantarum* (Linnaeus 1753) which, rather unfortunately perhaps, is the accepted starting point for the naming of lichens (Galloway 1981). The Micheli lichens I found were bound in 5 large volumes (numbered 271-275). The lichens being glued onto small pieces of paper and pinned onto sheets 34 x 23.5 cm, which were then enclosed in paper folders. Each volume was in a rather fragile cardboard case covered with green fabric and secured with nearly rotted tapes! It was all rather badly curated and kept. The lichen specimens had phrase-name annotations in Micheli's hand, e.g. "...Lichen Pulmonarius cinereus ...", and a more modern hand had added later names e.g. "Ramalina pollinaria Ach. Sun.". The lichens themselves although well over 200 years old were in surprisingly good condition.

However, it was in the extensive herbarium of the English collector, Philip Barker Webb (1793-1854), that I really struck gold, finding there, *inter alia*, the lichen collections made by Jacques-Julien Houtou de la Billardière from the south coast of Tasmania in 1792 and including original material of the lichen that he named *Baeomyces reteporus* (Labillardière 1807), the first lichen described from Australia (Kantvilas 1983), and the lichen I first collected from Seaward Bush.

Labillardière was one of three naturalists appointed to the ships *La Recherche* and *L'Espérance* under the command of Joseph Antoine Bruny D'Entrecasteaux, charged by the Assemblée Constituante on 9 February 1791 to search for the lost expedition of Jean François de Galaup, comte de la Pérouse (1741-1788). The two ships left France at the end of September 1791 and, after calling at Tenerife and the Cape of Good Hope, made landfalls in Australia including Tasmania (see Galloway 1988: 98). During this time Labillardière made copious botanical collections many of which he later described (Labillardière 1807) with *Baeomyces reteporus* Labill., being described from Tasmania (see below). The subsequent dramatic fate of both Labillardière and his collections is worth recounting here.

On leaving Tasmania in 1793, the expedition commanded by D'Entrecasteaux sailed north via the Santa Cruz and Admiralty Islands to Java. During that passage both D'Entrecasteaux and his succeeding officer, Huon de Kermadec, died at sea. Command then devolved upon Alexander Hemisvy D'Ariveau who took the ships to Java where they learned of the execution of Louis XVI during the Revolution, and of the Dutch

being at war with France. Republican members of the ships' company, including Labillardière, were taken prisoner, whilst a number of the Royalist officers under the command of Rossel, who succeeded D'Ariveau on the latter's death, were allowed safe passage back to France, taking the expedition's (i.e. Labillardière's) collections with them. Although losing his collections, Labillardière retained his journal and on his release from prison in Batavia eventually returned to France in 1796. Meanwhile in June 1795, the Dutch vessel *Hooghly* with Rossel and Labillardière's collections aboard, was captured by the British Navy in the Atlantic, 15 days after leaving the Cape. As the British and Dutch were also then at war, Labillardière's collections were claimed by the British as a naval prize and taken to London to be presented to George III. Although France and Britain were at war, their men of science were not, and Sir Joseph Banks (President of the Royal Society and scientific advisor to King George III) and James Edward Smith (the founder of the Linnean Society of London and the then owner of the Linnaeus collection) petitioned the King to allow Labillardière's collections to be returned to Paris to their rightful owner, a course of action the monarch graciously acceded to.

Labillardière's preparation of his collections for publication, and the publication of *Novae Hollandiae plantarum specimen* is dealt with in some detail by Frans Stafleu (1967) who noted that Labillardière "...never really worked up all his collections" being more of a "...botanist-voyageur, with the emphasis on 'voyager'". Be that as it may, Labillardière did leave us the first formal description of an Australian lichen, and this singularly beautiful lichen is perfectly caught by Pierre Jean François Turpin's engraving of it in the Specimen. Wilfrid Blunt (1950) described Turpin as "...possibly the greatest natural genius of all the French botanical painters of his day". It is therefore fitting that a singular lichen should have a singular artist to first present its interest and beauty to the world.

In 1834, Labillardière's plant collections were purchased by the wealthy English botanist and collector, Philip Barker Webb (1793-1854). Webb lived for many years in Paris where he was a close friend and colleague of Camille Montagne who determined much of his cryptogamic material including the Labillardière lichens, and during the last 14 years of his life often worked in Florence. Webb willed his enormous herbarium, his library and his house in Paris to the Grand Duke Leopoldo I of Tuscany in 1850, with the intention that the collections be added to the Erbario Centrale Italico, now the Herbarium Universitatis Florentinae (FI) of the University of Florence. The Webb Herbarium (FI-WEBB) contains almost all of the holotypes of species described by Labillardière. The holotypes are nearly always accompanied by the holograph description, in the exact text as published (Steinberg 1977).

To my great delight, I eventually came across two herbarium sheets containing *Cladia retipora*. What I designated the holotype of *Baeomyces reteporus* Labill. (Galloway 1988: 104), has two specimens (11 x 8 cm and 6 x 6 cm) pinned to the top right-hand corner, and a paper packet with several additional pressed specimens on the lower right-hand corner of the sheet. A small paper packet marked "*Baeomyces reteporus*" in Labillardière's hand is pinned below this packet. Accompanying the lichens specimens I discovered a single, loose octavo sheet of paper written in ink on both sides in Labillardière's hand. The recto had a description of *Baeomyces* and part of

the description of the new species *B. reteporus*, while the verso had the remainder of the species description as well as legends for the figure illustrating the species in *Novae Hollandiae plantarum specimen* (Galloway 1988: 102, pls 4, 5; 103, pl. 6). The existence of Labillardière's holograph description together with the specimens of *Baeomyces reteporus*, confirmed their status as holotype, thus making Filson's designated lectotype material in Paris correctly an isotype. Altogether, I found 21 lichen species in 13 genera preserved on 19 herbarium sheets (Galloway 1998), from Labillardière's Tasmanian collections, but the jewel of this collection for me was the original gathering of *Cladia retipora*. This particular discovery closed a circle.

In 1842, William Jackson Hooker, the Director of Kew Gardens was sent material of *C. retipora* [he called it *Cenomyce retipora*, following Acharius (1814)], and wrote of the material "... Labillardière, and following him, Acharius, ascribe a thallus to this species... but my copious specimens exhibit no appearance of a thallus. If it exists, it is probably very evanescent... The texture of the entire plant is, as it were, between crustaceous and cartilaginous, not much unlike that of our well-known *Cenomyce rangiferina*; but, instead of forming an uniform tubular membrane, the whole surface is a tissue of elegant network, the areolae oval or rounded, varying somewhat in size, but gradually becoming smaller in the ultimate small ramuli; then the inside, instead of being tubular, is filled with the same tissue or network, anastomosing in every direction from the base to the summit of all the branches..." (Hooker 1842). Branching patterns and the development of podetia in *Cladia* were later discussed in a preliminary way by Galloway (1966) and by Jahns (1972). However, it was Sam Hammer who showed conclusively, in a series of elegant SEM figures (Hammer 2000:43, figs 37-42), that branching in *C. retipora* is primarily the result of meristem divisions, and he described the process of meristem ontogeny leading to growth of branches and development of perforations.

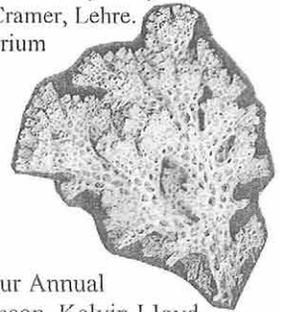
I still find *Cladia* an exciting genus, and I am repeatedly amazed at the beauty of the structure of *Cladia retipora* every time I see it, and reminded also of its poignant and dramatic history of discovery and description. William Jackson Hooker's encomium to it is still apposite "...Nothing in nature can exceed the elegant lace-like appearance of this plant, a structure one would little expect to meet with in the humblest and least perfect part, of the vegetable creation, the Lichens." (Hooker 1842).

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Fig. Beautiful 'coral lichen'
Cladia retipora



REPORTS

BSO AGM, 10 April 2002 – Ralf Ohlemueller

Barbara Anderson, standing in for Bastow Wilson, chaired our Annual General Meeting. Apologies were received from Kath Dickinson, Kelvin Lloyd, Nola Walker and John Steel. The minutes of the 2001 AGM, approved by committee, were circulated and taken as read. The chairman's and treasurer's reports were also circulated and approved. Officers elected were: **Chairman**: David Orlovich; **Secretary**: Robyn Bridges; **Treasurer**: Ralf Ohlemueller; **Newsletter editor**: Allison Knight. **Committee members**: John Barkla, Barbara Anderson, Kelvin Lloyd (in absentia). (Bastow Wilson has since been co-opted on to the committee)

Matters arising: Barbara Anderson raised the issue of whether there is need to elect a vice chairman for the BSO. This was discussed and it was agreed that there is no

immediate need. Should the chairman be unable to act, through illness or absence, the committee will vote for a new chairman, as stated in the constitution.

Other business: Suggestions were called for future events. Barbara Anderson suggested increasing the attraction of the field trips by giving them a theme. One such theme could for example be a weed survey and she has already spoken to relevant people at DoC. This was enthusiastically welcomed as a good idea and various members of the BSO present agreed to be involved.

The AGM was followed by an enjoyable talk by **Emeritus Professor Alan Mark** on **“Accelerating the conservation of biodiversity in tussockland through tenure review.”** Prof Mark showed us the dramatic imbalance between forested reserves and tussock grassland reserves, and led us through the tangled process of redressing the balance and creating tussock grassland reserves. We were impressed by how much had already been achieved, and a little daunted by how much still remained to be done to preserve biodiversity in a full range, especially in lowland areas. Congratulations, Alan, for all you have achieved, and are continuing to achieve, and thank you for increasing our awareness. Thank you, too, for the restoration of the tall snow tussock on the top of Maungatua. OTMC trampers had reason to be grateful for its shelter and its overgrowth of the *Aciphylla* on a recent chilly traverse. – *Allison Knight*

May meeting Report: Wildflowers of Eastern North America

Four brilliant northern hemisphere seasons unfolded before our eyes as Dr Steve Stephenson, a William Evans visiting fellow from West Virginia, talked at our last meeting. Woods ablaze with autumn colour were the starting point, followed by native witch hazel (*Hamamelis virginiana*), which, with two flowering seasons, in late winter and in late fall, can be both the earliest and the latest spring flower.

The aromatic skunk cabbage (*Symplocarpus foetidus*), which can generate enough heat to melt snow, also emerges early. Interestingly, its flower head mimics a morel mushroom and is pollinated by the same kind of flies. More pleasantly fragrant are the 20 or so species of *Viola*, which range in colour from bright yellow to the purple Johnny-jump-up. Spring buds on the red maple (*Acer rubrum*) can turn whole hillsides red. While the intriguing trout lily (*Erythronium americanum*) flowers at the same time as the trout run up the streams.

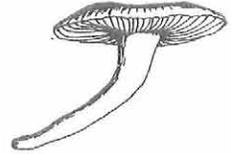
Wild trillium abound. We saw whole mats of the large-flowered white trillium, the stinking red trillium, which smells like a wet dog, and the delicately painted trillium. Interesting to see in their natural habitat were old garden friends such as lily of the valley, Solomon’s seal and Dutchman’s britches. There were edible violets, toxic blue larkspur and aquilegia with long nectar spurs that encourage pollination by butterflies and humming birds. (One wonders how these have become so well naturalised in New Zealand).

The well-endowed May apple flower shyly hides beneath large leaves while the red bud (*Cercis canadensis*) and dogwood (*Cornus florida*) proclaim the real start of spring.

Then a riot of colour and form unfolds – flame azaleas, native magnolia, rhododendron (*R. maximum*) [the state flower of West Virginia], magnificent tulip trees (*Liriodendron tulipifera*) and the white ‘tea tree’ (*Sassafras albidum*).

Colourful wildflowers too numerous to name jostle for space and light in the vernal race against time to get pollinated and set seed before the white-tailed deer eat them or leaves of the forest trees shade out all the light. Then all too soon the autumn colour came round again.

Thank you, Steve, for a wonderful walk through your woods.
– Allison Knight



National Fungal Foray, Okuru, 5 – 12 May, 2002.

The biggest congratulations and thanks for organising this year's very successful National Fungal Foray must go to David Orlovich and his team from the Botany Department, University of Otago, who put it all together. David's report follows – ed.

This year the 16th New Zealand Fungal Foray was based at Okuru on the beautiful lower West Coast of the South Island. We left Dunedin at about 9 AM on Sunday 5th May and arrived at Okuru (about 10 minutes drive south of Haast) at about 4 PM. Having not seen the sun in Dunedin for some time, the warmth of Central Otago and the spectacular drive through the Otago Lakes and along the Haast Valley was a welcome indication of the great week we were about to have. In typical West Coast style, we had rain, sun, fog, storms and surprisingly mild temperatures for most of the week.

The wet weather preceding our visit ensured that there were mushrooms aplenty in the coastal forests south of Haast, albeit mostly wood-rotting ones, with a relative paucity of large ectomycorrhizal species even in the beech forests. Lawre Taylor treated the brave to a meal of *Armillaria novaezelandia* on one evening - that species was fruiting in abundance - although I must admit the slimy texture didn't particularly appeal to me! In all, there were about 54 participants in the foray, with most from New Zealand but others from Australia, the United States of America and England.

There was a notable presence of photographers, both professional and amateur, as well as journalists from TV NZ, National Radio and NZ House & Garden. We were treated to beautiful slide and video presentations by Taylor Lockwood, Don Horne and Shirley Kerr. Dunedin photographer Andrew MacKay has put some photographs from the foray on the web at <http://www.keaphotos.co.nz/> (follow the link to "Fungi" and then "Foray Photos").

Student attendance was particularly high, with Rebekah Fuller from the University of Auckland who gave a talk on Maatauranga Maori o nga Harore or traditional ecological knowledge of fungi, and a large group from the University of Otago that included eight 4th year Mycology students and several honours and postgrad research students. A real thrill for me was seeing these students really enjoying the week-long "immersion" in field mycology. I am sure that the interactions between the students and other foray participants, both professionals and amateurs, will motivate and enthuse this next generation of New Zealand mycologists and I'm really proud to be

a part of that! Toni Atkinson made good collections of wood-decaying ascomycetes in the family Lasiosphaeraceae for her PhD and Chad Tustin made collections of an unidentified *Cortinarius* (subgen. *Myxacium*) species for his thesis on population genetics and DNA fingerprinting. Most of the remaining collections went to the New Zealand Fungal Herbarium (PDD, Landcare Research), with a smaller number going to the herbarium at Forest Research in Rotorua and the University of Otago Herbarium (OTA).

On Wednesday 8th May, we were treated to a wide range of talks as part of the "Mycology Colloquium". Talks included the development of "mycoherbicides" for biological control (by Jane Frohlich from Landcare Research), through to fire ecology of Western Australian fungi (by Richard Robinson from CALM, WA), coprophilous fungi by Ann Bell and Dan Mahoney, the NZ fungi database/website by Jerry Cooper (Landcare Research, Lincoln) and "Car cooking" (!) by Geoff Ridley from Forest Research (actually it was serious - about the best way to destroy unwanted organisms arriving in/on imported cars into New Zealand including an experiment where a car was cooked in a big oven!). I thoroughly enjoyed the Mycology Colloquium and from the comments of others, so did everyone else.

Stewart Bell from the University of Otago brought all the food, microscopes, BBQ, dehydrator and heaps of other things for the foray from Dunedin in a big truck. We were lucky to have Lee Houppapa cooking for the foray, with the bonus of cooked breakfasts every morning! Fans of Lee's cooking can catch her at Dunedin's Tangenté Café on Monday's and Wednesday's. Peter Buchanan from Landcare Auckland ferried others from Queenstown in a bus, which unfortunately missed one English passenger, Mary Hunt. Mary "accidentally" flew to Christchurch instead of Queenstown and boldly convinced a taxi driver to drive her from Christchurch airport to Haast! Apparently the taxi driver had never been over Arthur's Pass before. They got as far as Fox Glacier by nightfall and Mary caught a bus to Haast the following morning.

The largest foray so far, in the most remote place yet, couldn't have taken place without the help of many people, especially Mary Anne Miller, Vickey Clarke and Stewart Bell from the Botany Department, University of Otago, Paula Wilkie and Peter Buchanan from Landcare Research Mt Albert, and Kingsley Timpson and Paula Penno from the Department of Conservation at Fox Glacier. Brian and Phillipa from the Haast Beach Holiday Park made sure we all had somewhere cosy to sleep and work. Thanks very much to those people and to everyone else who attended for making the foray the great success that it was.

David Orlovich, Botany Department, University of Otago

Fig. *Cladia sullivani*

Lichen Workshop, Dunedin, 18 May 2002

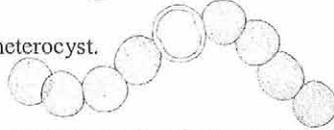
There's something catching about enthusiasm which is why on a cool Saturday morning, in howling mists on Mt Cargill, there were nine people peering intently groundwards! These hardy souls were taking part in the recent Lichen Workshop. Superbly organised by Jennifer Bannister and Alli Knight, with 'in workshop' expert advice from David Galloway, the author of the New Zealand Lichen Flora, the workshop was a great success.



It was a treat to have guidance, both in the field and later in the laboratory, where with help we delved deeper into the detail of the specimens we had collected. Books, microscopes, advice and laboratory equipment were freely available and I for one came away from the workshop satisfied with my first effort in keying out a lichen.

Lichens are curious 'creatures'. Made up of a fungus and an alga they are brilliantly adapted to occupy and live in places where little else can. Securing nitrogen is essential to all plants, and some lichens, through a complex but brilliant relationship with cyanobacteria (blue green algae), are able to fix their own. Without needing the complex structures of vascular plants, lichens are superbly adapted as colonisers, playing a key role in the establishment of new vegetative cover. A principal player in fixing nitrogen in lichens is the cyanobacterium, *Nostoc* and so it was particularly interesting when David Galloway pointed out some 'free living' *Nostoc* in the field. In the laboratory we could clearly see its bead like structure and the large nitrogen fixing cells, heterocysts, where inert atmospheric nitrogen is converted into soluble ammonium.

Fig. Cyanobacterium *Nostoc* with heterocyst.



For convenience, lichens are grouped morphologically: fruticose lichens are branch-like e.g. *Usnea*, *Thamnolia*, *Cladonia* and the ubiquitous *Cladia aggregata*; crustose lichens include rock and bark-hugging varieties e.g. *Placopsis* and *Lecanora*, while foliose lichens are the leafy lichens e.g. *Pseudocyphellaria crocata*, *Umbilicaria* and *Sticta*.

Excellent reference books on Lichens are available (at 20% discount to Botanical Society members), from Manaaki Whenua Press, (contact details p 16 this issue)

Thanks to Jennifer, Alli and David for an excellent workshop, and to the Botany Department for the use of their facilities. - *Robyn Bridges*

Fig. *Cladia aggregata*, a common fruticose lichen



REVIEWS

Books

Botanica's Trees & Shrubs: Illustrated A - Z of over 8500 plants.

Valda Paddison and Geoff Bryant, Chief consultants.

Random House, Auckland. 2001. 928 pp plus 515 MB CD Rom.

Advised of this book by a local fellow botanist, I was told it was not to be missed, on special at The Warehouse and substantially reduced, to a mere \$35 (from \$99.95). I immediately 'phoned to be told it was sold out but, days later, another fellow local botanist told me her husband's persistence had won through and she had bought four copies at this price. I managed to talk her out of one, at the going rate and with an undertaking to review it for the Bot. Soc's newsletter. So:

This is a very impressive book by any standard. The "credits" page lists seven consultants (the chief consultant is best known as author of "The Gardener's Encyclopaedia of New Zealand's Native Plants"), 14 writers and 31 photographers (among whom Craig Potton is best known to me).

The book has a large format, and comes in a very stout box equipped with a handle (probably necessary to manage its 4.2 kg weight!). Arranged alphabetically by genus, most of the 8500+ woody plants (excluding climbers) in the main body of the book are illustrated with generally high quality colour prints that range from brilliant double-page spreads (introducing each new letter) to the size of large postage stamps. There is a paragraph to characterise each genus in relation to its size, general features, distribution, and aspects of cultivation, followed by a selection of species, with brief descriptions of natural range, habit, floral features and hardiness. The selections have been based on significance for horticulture, forestry, fruit or other products, plus evolutionary curiosity, with emphasis on temperate regions. So, not surprising, *Rhododendron*, including hybrids, takes the prize (165 entries), followed by *Eucalyptus* (122), *Grevillea* (90), *Acacia* (75), *Quercus* (72), *Pinus* (71), *Acer* (62), *Prunus* (60), *Rosa* and *Salix* (56) and *Viburnum* (49), with our largest woody *Hebe*, next with 38 entries. *Leptospermum* (24) and most of our other indigenous woody genera, including the native podocarps, also fare quite well.

Indeed, this book seems tailored mainly for a kiwi readership, with eight photos of manuka and cultivars, plus a full-page map of New Zealand. This shows generalised outlines of the four "hardiness zones" recognised here (of the 12 total for the world), and based on assumed low-temperature tolerance ("hardiness class") of the particular species. There is a huge wealth of information here and the book certainly passes the test of being up-to-date, with an entry for wollemi pine (*Wollemi nobilis*), the "green dinosaur" member of the Araucariaceae which was discovered only recently (1994) in Wollemi National Park, New South Wales.

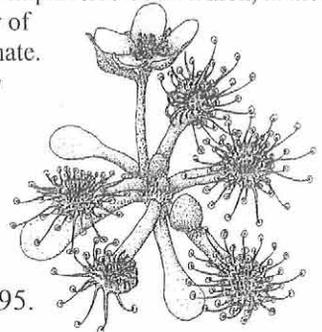
There is a diverse introductory chapter, "Versatile trees and shrubs," with sections on definitions, plant classification, geography and habitats, human uses, and growing trees and shrubs. Here a New Zealand flavour becomes more apparent. It's great to think we can justify a book of this magnitude. The last sections of the book contains a glossary and index but, in addition, a 112 page "Reference Table" with up to nine items of information documented for each of the species and cultivars from the main section of the book. It's clearly encyclopaedic in its presentation.

And the CD Rom is a story in itself. User friendly, with a very helpful "Search" function, it complements the hard copy in valuable and interesting ways. There are "Hardness Zone" maps for Australia, Canada/US and UK/Ireland here, as well as a "Plant Chooser" option which allows plant selection for one's garden on the basis of five combined factors: height, hardiness, evergreen/deciduous, cultivation (soil) preferences, and "uses" in the garden. There's also a "Garden Journal" for recording the details and fate of each woody plant you introduce to your garden, as well as a "Link to Web sites" which seems to provide for almost endless browsing.

Some mistakes or at least disagreements are virtually inevitable in a work of such magnitude but they appear to be surprisingly few. Among the native beeches though, most readers would, I hope, dispute that either red beech (*Nothofagus fusca*) or hard beech (*N. truncata*) are deciduous, as claimed (both usually retain their leaves for 13-14 months), or that they have the same low-temperature tolerance ("hardiness class"), based either on their natural or "managed" distributions. Neither could "*Nothofagus truncata* in the wild" be photographed in the "Paringa district" of the South Island, as claimed, nor *Muehlenbeckia axillaris* ever reach 1.2 m tall even in the most favourable of garden sites. These are but slight blemishes in a really impressive book which, at the price I and some others paid for it, must rank as "the buy of the century." I hope many other plant fans were as fortunate.

Alan Mark, Botany Department, Otago University

Fig. *Drosera spatulata*



Salmon, B. 2001.

Carnivorous plants of New Zealand. 303 pp.

P/back. Ecosphere Publications, Auckland. \$67.95.

Mention carnivorous plants and I think most people will let their minds wander into the jungles of the Amazon, Triffids or the realms of science fiction. So I was somewhat surprised to find a book of this size devoted to the carnivorous plants of quiet, little New Zealand. There are only twelve species here, seven in *Drosera* and five in *Utricularia*, of which only two, one from each genus, are endemic.

According to the cover, Salmon has been fascinated by these plants since childhood and this fascination is evident in his book. All aspects of the plants' ecology are covered; habitat, dispersal, distribution, *etc.*, together with descriptions of their intriguing trapping mechanisms. These are followed by detailed descriptions and drawings of each species together with distribution maps. After each genus is a photographic essay, one hundred and twenty-one excellent photographs in total, depicting the plants in detail and in habitat. The final chapters consider their cultivation and where to find them in the wild.

Utricularia dichotoma is the only bladderwort down this way and can be found in the peat bogs on the Central Otago ranges. Its small size possibly means that it is often overlooked. Three sundews are found around Dunedin. *Drosera arcturi* is also found in the mountains of Central Otago and around Waipori, as is *D. binata*, which I have found on Swampy. The small *D. spatulata* reaches its eastern limits also in the hill bogs around Dunedin.

Carnivorous plants have long fascinated the curious and this book will go a long way towards satisfying that curiosity for our New Zealand carnivorous flora. One small question goes unanswered. *D. spatulata* is here referred to as *D. spatulata*. This is Labillardière's original name but *spathulata* has since taken over. However, *spatulata* should have precedence. I have not found it so named anywhere else so an explanation would have been helpful. At \$67.95 this book is expensive but of good quality and I

imagine will have a small print run and be difficult to obtain in the future. It is written with both the lay person and the scientist in mind and filled with all sorts of titbits to satisfy the curious. – by John Steel, Botany Department, University of Otago



Fig. *Drosera spatulata* flower

The Trade Plant Finder 2001: Where to buy 35,000 plants (an industry only publication). Compiled by **Meg Gaddum, 2001**. NZ Plant Finder, Box 2237, Gisborne, New Zealand. \$85 including GST and postage.

This useful reference book can be ordered from the address above, or online through the plant finder website: www.plantfinder.co.nz. It has recently been acquired by the Botany Department at Otago University and can be found on the shelves in the Herbarium. If you are keen on growing obscure plants it would be a useful companion to the two books reviewed above.

If, for instance, the carnivorous plants, as reviewed by John Steel, took your fancy, you could look them up and find that there is a carnivorous plant nursery in Christchurch, with phone number, email address and website given. It lists fourteen varieties of sundews, among other curiosities, including the *Drosera spatulata* that John Steel commented on, plus three species of hungry bladderwort (*Utricularia*).

Or you may have fallen in love, like me, with the fragrant Himalayan daphne (*Daphne bhohua*) flowering in the Botanic Garden now. First I checked in Botanica's Trees and Shrubs (also available in the Herbarium) to see what growing conditions it required, then I looked in the Trade Plant Finder and found contact details for nurseries in Invercargill, Tapanui and Timaru that have stocked it.

There are separate new sections for topiary, standards and bonsai. Of course there is no guarantee that plants listed will always be available, and a subscription to the website (currently listing 40,000 plants) will give more up-to-date information on unavailable and on newly available species. If, after searching, you still cannot find a plant, Meg also offers a plant request service. Send the name(s) and \$5 for each plant requested to the address above and she will inform you as soon as a nursery notifies its availability.

Allison Knight

BSO Members Discount: Many botanical books, including those published by CSIRO, Australia, are available from Manaaki Whenua Press, at 20% off, to BSO Members. This includes post and packing. If you are a member of BSO, say so when you order.

Email: MWPress@landcare.cri.nz.

Online ordering website: <http://www.mwpress.co.nz>.

Post: Manaaki Whenua Press, PO Box 40, Lincoln 8152, NZ.

Telephone: +64 3 325 6700, Fax +64 3 325 212

Books for Sale: from Auckland Botanical Society

- ❖ **Botany of Auckland** :Lucy Cranwell (1981). \$9.00 incl p&p
Written by the Society's founder, this popular account of Auckland's native plants is written in a relaxed manner with ample colour photographs, illustrations and sketches. A fabulous edition enjoyed by amateurs and professionals alike.
- ❖ **A Dictionary of Maori Plant Names**: J Beever (1991). \$7.50 incl p&p
Botanical name to equivalent Maori plant name and Maori name to botanical equivalent.
- ❖ **Food Is Where You Find It**: Cranwell, Green & Powell (1943). \$3.00 incl p&p
A great guide of edible food should anyone become stranded on a Pacific Island, or an interesting read with fantastic line illustrations.

Please make all cheques payable to: **Auckland Botanical Society** and post to: **Auckland Botanical Society** c/o Kerry Bodmin, 24 Laingholm Drive, Laingholm. Auckland Ph. (09) 816-8291.



Web Site Reviews

CORRECTION: the computer Gremlins (editor's fault, not Tom's) got into the **International Plant Name Index (IPNI)** web site last issue, p20. I hope you all realised that it should have read: <http://www.ipni.org/>

Where to buy 40,000 plants: www.plantfinder.co.nz

This web site continually updates two of Meg Gaddum's earlier books, 'Gaddums Plant Finder 2000: where to buy 30,000 plants and seeds', for the home gardener, (which can be ordered online for the discounted price of \$29.95) and 'The Trade Plant Finder 2001: where to buy 35,000 plants', an industry only publication (see book review).

Some useful search features, such as a common name/Latin name search index, are free to use, and could be handy for students and writers of articles. But the free access only gives the name of those suppliers who support the web site. A regularly updated, complete range of all the nurseries which currently stock the desired plants or seeds that you seek, can be obtained by subscribing to the full web site, at a cost of \$10 for one week of access, or \$99 for a year. The \$99 includes a free copy of *The Trade Plant Finder* book. The Botany department has taken out an annual subscription and Mary Anne Miller is trialling it.

Botanical Society of Otago: <http://www.botany.otago.ac.nz/bsot> Don't forget our very own web site, which David Orlovich is in the process of upgrading. We hope to keep it up to date with details of talks and activities, links to good botanical web sites and contact details for the new committee.

Obituary

Malcolm Foord – a celebration of a life well lived

It's hard to believe that Malcolm is gone. He was one of those people who was just always going to be around. For one thing he was fit enough to show those half his age that your age is much more than just a number – it's an attitude. Malcolm had a passion for the natural world. He was no armchair enthusiast either and he seemed to be a member of every Dunedin society that had anything to do with natural history, regularly attending the monthly talks, and he was often in the audience at Botany and Zoology Department seminars.

I first met Malcolm in 1986. At the time, I was embarked on the Protected Natural Areas survey of the Umbrella Ecological District. I forget exactly the chain of events but I recollect that Brian Rance (who even then really knew his plants), introduced me to Brian Patrick, and Brian introduced me to Barbara Barratt. Those generous people would give up their weekends to come and help me put an entomological component into the survey. Through them I became a committee member of the Dunedin branch of the Entomological Society, and that is where I first met Malcolm. It wasn't long before I became aware of his particular passion for the mohua or yellowhead and he joined up with my fieldtrips particularly to the Waikaia Valley and the *Nothofagus* forest of Waikaia Bush, where he had recorded mohua. We didn't see any mohua despite having some long days looking but Malcolm kept going back in the years following and did confirm just a few birds. He remembered that I hadn't seen mohua and invited me to join with him on one of his trips to the Blue Mountains, which supported a healthy mohua population. This became a longstanding invitation, which Malcolm remembered for a very long time, because he offered again when I returned to Dunedin in 1997. He never forgot. In fact Malcolm kept meticulous records and delighted in recounting some of these at meetings, so clearly delighting in sharing his knowledge.

We did finally make it to the Blue Mountains in September last year, along with Alan Mark who had also never seen mohua in the wild before. All round, a pretty special trip. Malcolm was absolutely focused on finding mohua. This he did with the highly successful call-up combination of polystyrene rubbed against a piece of glass. After several kilometres, we struck success and we were privy to an amazing display from six birds only a few metres away in the subcanopy. This will be an abiding memory for me. Malcolm was clearly thrilled, in his element, obviously completely committed, still passionately interested and motivated, and so clearly getting real satisfaction at finally getting us to see mohua in the Blue Mts. What a surprise it was when in the trusty Subaru on the way home that he confided that he was eighty. I couldn't believe it (and said so) having just seen him forge his way around the Blue Mts mohua survey circuit (several kilometres) with a few side trips through some thick tussock and tall shrubland.

A great day and one that I won't forget. Malcolm's life is truly one to be celebrated.

Kath Dickinson, Botany Department, University of Otago.

NEWS and EVENTS

Newsletters from other Botanical Societies

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

*** WELLINGTON BOTANICAL SOCIETY SUMMER CAMP ***

This will be based in the Bay of Plenty from 2 – 12 January, 2003.

NB: The later than usual start is to help with accommodation difficulties associated with this popular location.

It is a very stimulating area for botanists to explore!

The Kaimai Ranges and Northern Ureweras mark the transition from Kauri forests to beech forests. Red and silver beeches reach their northern limits in the Kaimai Ranges and kauri and many of its associated species their southern limits. The fog forests of the Kaimai Ranges also carry their own unique plant communities and are rich in ferns and bryophytes. The thermal floras of Rotorua also contain lower plants otherwise only found in Northland.

Field trips will visit Mt Te Aroha and several other places along the Kaimai Ranges; coastal pohutukawa, puriri and kohokohe forests; coastal wetlands, dunelands and mangroves; the thermal areas of Rotorua, pohutukawa/hard beech forests and the dense podocarp forests of the Urewera fringes.

Venue 1: Thursday 2 – Sunday 5 January, 2003

Rocky Camp (Christian Camp), Rea Rd, Katikati, (30 mins north of Tauranga), is situated just south of Katikati on the western side of the highway, along a stream, among orchards and close to hot springs. This site has plenty of indoor and outdoor accommodation. Camping: \$7. Bunk rooms holding up to 9: \$90.
(Web site: <http://homepages.maxnet.co.nz/map/>)

Venue 2: Monday 6 – Sunday 12 January, 2003 (depart Sunday 12)

Murphy's Motor Camp, Matata (23 km NW of Whakatane). "Absolute beachfront along 1.5km of coastline"! There are caravan sites (a number permanent) a few cabins and tent sites. **Only tent sites are available here.** Though a cabin has been booked for Botsoc use, no other cabins are available. (See Registration Form for a suggestion for those needing indoor accommodation – approx 9 km south of Matata)

Mayor Island: an optional extra visit. Accessible from either venue. Cost up to \$100.

References: Kaimai Forest Park map and handbook. (More suggestions will be included with the next Newsletter)

Please register by 15 Sept. Forms are on our BSO noticeboard and website.

Botanical Society of Otago Fungal Foray 14th – 16th June 2002. Haast Pass to Makarora.

We're holding a fungal foray to the *Nothofagus* forests along the Makarora River on the weekend of 15th – 16th June 2002, with participants arriving on the evening of Friday 14th June. Makarora is a small settlement on State Highway 6 between Wanaka and Haast. Between Makarora and Haast Pass, there are a number of walking tracks into the *Nothofagus menziesii* (silver beech) forests of Mt Aspiring National Park. These forests house a rich diversity of fungi, many of which form ectomycorrhizal associations with silver beech. There are remnants of matai, miro, rimu and kahikatea forest in the area too. We plan to collect fungi on Saturday (and possibly Sunday) mornings, returning to Makarora by early to mid afternoon to examine and identify the collections. We hope to have a short workshop on Saturday afternoon to assist participants in describing and drying collections for the herbarium. We will provide keys, glossaries and reference books. All collections will be dried and lodged in the University of Otago Herbarium and a species list will be forwarded to the Department of Conservation.

Accommodation is at the Makarora Tourist Centre (SH 6, Makarora, phone 03 443 8372) and they have backpacker style rooms (we've booked the 'Top Lodge' which can hold up to 100 people!) with shared cooking and bathroom facilities for \$18 per person per night. Beds have duvets on them but the owner has advised that bringing a sleeping bag would be a good idea. We will have a pot luck dinner on Saturday night and participants should bring their own food for breakfasts and lunches. Note that there is nowhere at Makarora to eat out in the evening, so participants should plan to eat along the way before arriving on Friday night – or alternatively bring food to prepare when you arrive. Bring a sleeping bag, wet/cold weather gear and sturdy shoes.

For collecting fungi, a small hand trowel or pocket knife is convenient, along with a basket or soft backpack, greaseproof paper and a fishing tackle box or small, compartmented collecting box in which to place fungi in the field. A camera with a macro lens is great for photographing specimens in the field.

Please register by 10 June. Forms are on our notice board,
web page and back cover!



Diary

National

18th John Child Bryophyte Workshop, 28 Nov – 3 Dec.

Based at Albert Town, near Wanaka, Central Otago.

For registration forms and more information see our noticeboard or contact:

**David Glenny/Geoff Spearpoint, c/o 49 Hillview Rd, Birdlings Flat,
Little River, 8162, New Zealand (Ph 03 329 0008)**

Wellington Botanical Society summer trip, 2-12 Jan, 2003

Based on two camp sites near Katikati and Matata in the Bay of Plenty

LOCAL BOTANICAL DIARY June - July (plus BSO events on front cover!)

Look at all these wonderful ARBOR DAY 2002 special events!!

Arbor Day 5 June: Pikao!

What: Planting pikao on John Wilson Drive - come along!

When: 1.30pm, John Wilson Drive (lookout end), St Kilda. Tools provided.

Contact: David Blair, Yellow-eyed Penguin Trust, Ph (03) 479 0011

Thursday 6 June: Silver Peaks Track Day, Conservation Volunteers

What: Pleasant walk from Mountain Rd, Free transport, limited places

Depart: 8.30 am sharp, DoC office, Lower Stuart St. Return 4 pm.

Bring: Warm clothes, raincoats, good footwear, food, drink, lunch.

Contact: Dave McFarlane, Volunteer co-ordinator, DoC (03) 474 6926

Saturday 8 June: Caversham Planting Day!

What: Planting trees and weeding previous plantings, F&B Society, DoC, DCC staff, and volunteers. Bring gloves.

When: Meet at 9.30am, Caversham Reserve, 144 Caversham Valley Rd.

Contact: Alan Mark, Forest and Bird Society: Ph (03) 479 7573.

Saturday 8 June: Conservation in Otago Expo

What: An Expo to raise awareness of conservation in Otago

Where: Octagon, 11-3pm

Contact: Jessie McVeagh, DoC Conservation Corps, ph 03 474 6912

Sunday 9 June: "Restore!"

What: A mini-symposium for all involved and/or interested in ecological restoration. Discussion, resources, propagation session after lunch. Key note speaker: **Ralf Ohlemueller** (University of Otago):

"What's left? - Remnants of indigenous forest in eastern Otago".

When: 9.00am- 3.30pm. Botanic Garden Education Centre, Lovelock Dr.

Light refreshments. **Bring:** tricky restoration questions

RSVP: by Wed 5 June please: Caren Shrubshall, D of C: Ph (03) 474 6932

Tues 11 June 2002: Restoration for Arbor Day

What: Planting and weeding in two restoration sites in the Botanic Garden. Followed by free guided tour of the native section by the Curator.

Meet: 9.00am Admin building, upper garden beneath carpark, Botanic Garden.

Bring: gloves and lunch.

Contact: Clare Fraser, Dunedin Botanic Garden: Ph (03) 474 9649.

Sunday 7 July: Sinclair Wetlands Planting day

Depart: 9.30 am sharp, DoC office, Lower Stuart St; return 5 pm.

Free transport but limited places.

Bring: Warm clothes, raincoats, good footwear, gloves, lunch and drink.

Contact: Caren Shrubshall (Volunteer co-ordinator, DoC) Ph 03 474 6932

Local contacts and meeting places of groups with overlapping interests.

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

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

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

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

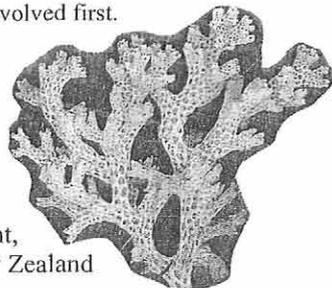
Otago Institute (OI) contact: Michelle McConnell, secretary, phone 479 5729, email: michelle.mcconnell@stonelaw.otago.ac.nz
Web: <http://otagoinstitute.otago.ac.nz/>

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

Botanical Society of Otago: whom to contact

Our mailing address is:

Botanical Society of Otago, c/o Botany Department,
University of Otago, P.O. Box 56, Dunedin, New Zealand



For membership enquiries, email the **treasurer**:

Ralf Ohlemueller, ralf.ohlemueller@botany.otago.ac.nz, ph.479 5981

For media, publicity or event enquiries, email the **secretary**:

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

To suggest or offer to write newsletter items, email the newsletter editor:

Allison Knight, botsocotago@botany.otago.ac.nz

To suggest or offer trip ideas or speakers for our monthly activities, email the

chairman: David Orlovich, david.orlovich@botany.otago.ac.nz, ph 4799060,
or one of the other **committee members: Barbara Anderson, Kelvin Lloyd, John Barkla or Bastow Wilson.**

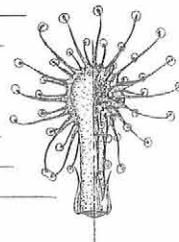
For information on activities contact the trip leader or see our notice board or web page: <http://www.botany.otago.ac.nz/bsol/>

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☸☶☷ Membership form: Botanical Society of Otago, 2002 ☸☹☺

Title: _____
Name: _____
Address: _____

E-mail: _____
O.U. internal mail address _____
Phone: work () _____ home () _____



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

\$15 Family (2 adults + children) / **\$10 waged** (salary)
/ **\$5 Student** (unwaged). Donations are welcome

Cheques to "Botanical Society of Otago"
Post to: BSO, c/- Botany Dept, Otago University, Box 56, Dunedin, New Zealand

Registration Form: BSO Fungal Foray, Makarora – Haast. 14 – 16 June, 2002

*Send this registration form to David Orlovich, Department of Botany, University of Otago, PO Box 56, Dunedin. **Deadline: 10 June.***

Name _____

Address _____



Tel: _____ Fax: _____

Email: _____

Number attending: _____

We will try to share transport. One van is leaving from the Department of Botany car park at 2 PM on Friday afternoon (14th June) to return on Sunday afternoon (16th June). Others may prefer a later departure time on the Friday so please indicate your preferences below. Alternatively participants are welcome to make their own way to and from Makarora. For booking purposes, please indicate below your arrival, departure and transport intentions.

Arrival date: _____

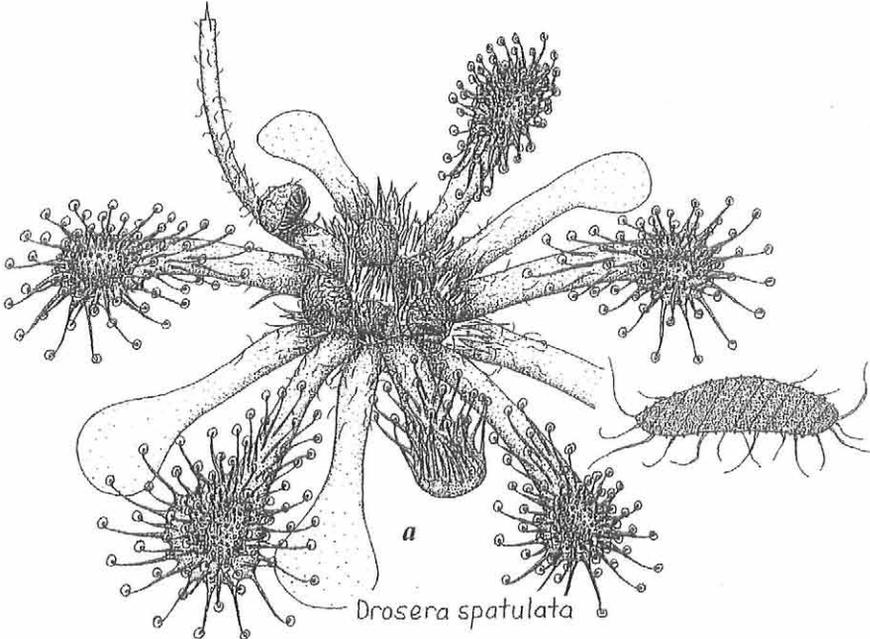
Departure date: _____

Transport required or offered: _____

Other comments: _____

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