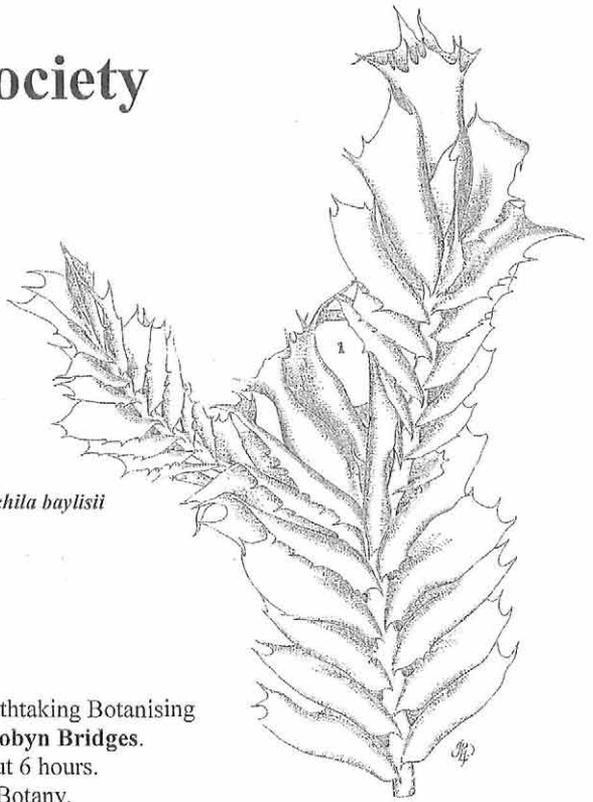


# Botanical Society of Otago Newsletter

Number 34  
October –  
Nov. 2002

*Plagiochila baylisii*



## BSO Meetings and Field Trips

**19 Oct, THIS Sat. 10 am.** Breathtaking Botanising  
at **Heyward Point** with **Robyn Bridges**.

A good round trip of about 6 hours.

**Meet 10.00am**, Dept. of Botany,  
car park, 464 Great King Street.

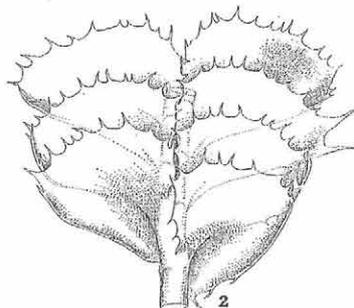
**30 Oct, Wed, Inaugural Geoff Baylis Lecture**, to honour Emeritus Professor GTS Baylis. In conjunction with the Dept. of Botany and the Otago Museum. Displays in Dept. of Botany, Science Library, Otago Museum. Guided tours of Botanic Garden, Botany Dept and Museum basement beforehand. Meet 5 pm for drinks and nibbles, 1st floor, Otago museum. 5.30 – 7 pm, short talks by Geoff Baylis, his colleagues and students he has inspired. 7.30 pm, dinner. Related article, programme details and registration form inside. **Please Register by 23 Oct.**

**24 Nov, Sun, 1 pm.** Trip to **Donaldsons Garden**. Speciality natives in an exotic setting. **Meet 1pm**, Dept. of Botany car park, 464 Great King Street if you want a ride, or 1.15pm at 21 Glenmore St, Glenleith.

**4 Dec, Wed 5.15 pm.** *Botanical and other delights of China*. **David Orlovich**. **Meet 5.15 pm.** for drinks, chat & nibbles before talk at 5.30. Bring a gold coin donation to cover costs **Zoology Annexe Seminar Room**, Great King St, back behind the car park between Dental School and Zoology Dept. Followed by an end of year Chinese banquet. **RSVP to Robyn B. by 27 Nov to book dinner.**

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## Notes from Head Office

This month the Botanical Society of Otago has initiated a significant event that will raise the profile of Otago botany, and focus attention on significant botanical research each year. The inaugural Geoff Baylis Lecture recognises one of the modern pioneers of New Zealand botany, and we are proud to have Prof. Baylis and many of his former students speaking at the event this year on 30th October. The Department of Botany and the Otago Museum have also generously supported this event. See Allison Knight's article about Prof. Baylis on page 4 and the registration form in this newsletter.

Allison Knight has put together a tremendous programme for the evening and the committee is indebted to her untiring enthusiasm and commitment. Having an Annual Lecture will serve as a focal point for the Society each year: another excuse to get together to celebrate Otago botany. Also this month, the Botanical Society of Otago is honoured to appoint a Patron, whose identity will be made known at the Geoff Baylis Lecture - so there's a lot to look forward to!

One of the final events for the year will be a slide show about my recent trip to the south west of China. Following that talk, we thought it might be fun to have a dinner at the Asian Restaurant in Upper Moray place. All members of the Society are most welcome to come to celebrate the end of another interesting year. Bring along your ideas for next year's events!

*David Orlovich, Chairman.*

## Cover pictures

**Front Cover:** *Plagiochila baylisii* Inoue & Schust. Endemic liverwort, apical part of gynoeceal shoot. "Named, as a token of esteem and gratitude, for Prof. GTS Baylis, of the University of Otago, who, in Dunedin, New Zealand, has created a Department of Botany which for the junior author has been a pleasant and stimulating second home."

**Reference:** Inoue H & Schuster RM, *New Zealand and Tasmanian Plagiochilaceae*. Hokoku-Hattori Shokubutsu Kinkyushu (1971) 34:1 – 225.

**Back Cover:** *Nivatogastrium baylisianum* E Horak. An endemic fungus only recorded from the Rock and Pillar Range. "This species is named **in honour of Professor GTS Baylis**, (Dunedin) who collected this fungus several times in the mountains of Central Otago, and whose zeal and support has stimulated mycology in New Zealand." *From:* <http://nzfungi.LandcareResearch.co.nz>

## Help! New Treasurer needed!

**Our wonderfully cheerful and helpful treasurer, Ralf Ohlemüller** has resigned so that he can devote himself to writing up his PhD in Botany. We thank Ralf for all he has done, and wish him well for his studies. If there is anyone who can help us with this not too onerous task, we'd really appreciate hearing from you. Contact details on back page. – *BSO committee*

## Letter

### *Maytenus boaria* (Mayten) - a new weed?

The following letter and the corresponding article were forwarded by John Barkla, DOC, Otago Conservancy.

Our colleagues at Christchurch City Council are getting very concerned about this species which is starting to spread, is difficult to kill and thrives in low light conditions. See following article for more details.

Has anyone seen this elsewhere in the country?

Or know any more about it?

Any information would be appreciated.

Thanks

*Helen Braithwaite*

Technical Support Officer (Weeds)

Canterbury Conservancy

Department of Conservation

Email: [hbraithwaite@doc.govt.nz](mailto:hbraithwaite@doc.govt.nz)



## Notes, articles & biography.

### BSO Honours Geoff Baylis

Fig. Geoff Baylis, 1979. Photo by Alan Mark

At our committee meeting in early September, Bastow Wilson proposed that the Botanical Society of Otago honour Geoff Baylis for his contribution to botany in general, and to our society in particular, by instituting an annual Geoff Baylis lecture in his name. The committee unanimously and enthusiastically agreed. As a newsletter editor, who appreciates Geoff's lively articles and comments at meetings, I was assigned the pleasurable task of putting our idea to him, and of gleaning some background information.

So that is how I found myself sitting sipping coffee and admiring a framed photo of Goblin Forest (a term Geoff approves of) by John Johns and a Nancy Adams drawing of kauri forest (commissioned by Geoff in exchange for a gold watch from Selfridges). Geoff told me that he was born in Palmerston North (in 1913), but the family soon moved to Hastings and then to Auckland, where he was educated. His father, who was 'fiercely honest, with a short temper', lost his job as an instructor to the Department of Agriculture at the start of the depression and the family had to make a living off 6 acres

of land. Geoff saw this poverty as an advantage: ‘Nothing like a poor beginning to give you a drive to do better’.

And do better he did, with scholarships taking him from Takapuna Grammar School to the University of Auckland to Imperial College, London. There his PhD topic, ‘to find out why garden peas don’t come up in winter’, was completed in a quick 18 months, before the money ran out. On his return to New Zealand Geoff worked for Plant Diseases Division, DSIR, and started their substation at Lincoln. Distinguished war service in the Royal Navy followed before the University of Otago appointed Geoff as head of the Botany Department. He held this position for 33 years, as Senior Lecturer from 1945 and Professor from 1952, all based in the basement of the Otago Museum

Two of the many interesting and enduring things that arose from Geoff’s dedication to teaching Botany are his research into mycorrhizas and his large garden. His discovery of this fungal association with the roots of native plants began when he was sectioning a variety of roots in preparation for a student lab, and found that the roots of *Griselinia littoralis* (broadleaf) were chock full of an arbuscular mycorrhizal fungus. Growth experiments followed, putting sterile seedlings into sterile or infected soil, to see whether this fungus had a negative, positive or neutral effect on their growth. Geoff became aware of the beneficial nature of the association well before his colleagues in a distinguished institute in Australia, who presented a paper on the ‘toxic’ effects of growing grapes in sterilised soil some years after Geoff’s discovery.

His mycorrhizal work is still going on. Geoff showed me the puny little *Ixerba brexioides* that failed to thrive in its nursery pot, its mate that was thriving in the company of *Griselinia littoralis*, and the additional trials he has set up. He also mentioned how interesting it would be to look at the roots of *Leptospermum*, which has ecto-mycorrhizal associations when it is near *Nothofagus*. But does it have any on Stewart Island, where there is no native beech?

Geoff’s large and fascinating garden, which he is still maintaining and extending, arose in part from his desire to have the most diverse and fresh plant material available for his students to study. It also contains the results of many of his discoveries and experiments over the years – a real living treasure of botanical history. At the top of the step leading down to the garden twines the famous *Tecomanthe speciosa*, discovered and rescued by Geoff from near-extinction on the Three Kings Islands, along with *Pennantia baylisiana*, which grows further down, so close to its nearest relative, *Pennantia endlicheri*, from Lord Howe Island, that they are producing vigorous self-seeded hybrids.

There is an attractive, yellow-flowered *Cytisus canariensis*, from the Canary Islands, that Geoff says his uncle stole from Kew Gardens. Further along is a 50 year old nikau palm, *Rhopalostylis sapida*, still with no trunk, and a ‘teenage’ rimu, *Dacrydium cupressinum*; white pine, *Dacrycarpus dacrydioides*; and kauri, *Agathis australis*, of a similar age. Some of the podocarps are by-products of his studies on arbuscular mycorrhizal fungi in podocarp root nodules. Geoff shows off the kauri as a ‘forester’s dream’, with its fine timber and straight, self-pruning trunk. He believes there is indeed a place for sustainable milling.

Another botanical treasure that Geoff Baylis established and watched grow from the basement of the museum is the OTA Herbarium, now based in the current Dept. of Botany. It continues to be a valuable reference source for students, staff and Bot Soc members. Geoff's name features as collector, discoverer and describer to remind us of his many valuable contributions. Today the Herbarium has specimens of nearly all the plants in the following table, except the *Tecomanthe* and the fungus, which is held at PDD, the fungus herbarium at Landcare Research, Mt Albert.

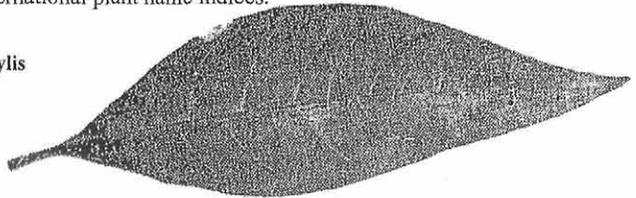
**Table: Vascular plants, liverwort and fungus discovered by, or named for or by Geoff Baylis:**

- Brachyglottis arborescens* WRB Oliver, Three Kings Is.  
*Pennantia baylisiana* (WRB Oliv) GTS Baylis, Three Kings Is.  
*Elingamita johnsonii* GTS Baylis, Three Kings Is.  
*Tecomanthe speciosa* WRB Oliver, Three Kings Is.  
<sup>1</sup>*Solanum baylisii* Gerasimenko sp nov 1970, Three Kings Is  
<sup>2</sup>*Solanum americanus* var *baylisii*, Morrison's greenhouse in Greymouth  
*Plagiochila baylisii* Inoue & Schuster., Secretary Is (Liverwort.)  
*Nivatogastrium baylisianum* E Horak. Rock and Pillar Range. (Fungus)

<sup>1</sup>This was named *S. aviculare* var *latifolium* by Baylis in 1963. and renamed *S. baylisii* in Geoff's honour by the Russian, Gerasimenko in 1970. This name was not recognised in the Flora of New Zealand, Vol 4, 1988, but Graeme Jane's CD (2002) has a key distinguishing *S. aviculare* var *aviculare*, with pinnatifid leaves, from Baylis's *S. aviculare* var *latifolium*, with simple leaves, and the variety is also recognised by Shannel Courtney.

<sup>2</sup>This variety is not recognised, nor mentioned, in Vol 4 of the Flora of New Zealand, but is still present on the international plant name indices.

Fig. Simple leaf of  
*S. aviculare* var *latifolium* Baylis  
(=*Solanum baylisii*  
Herasim=Gerasimenko).  
Reduced size.



The Botanical Society of Otago has indeed a great deal for which to thank and honour Emeritus Professor GTS Baylis, with his enduring and endearing ability for nurturing rare plants and people.

*Allison Knight*, editor

**Acknowledgements**

Extra botanical sleuthing was done by John Steel, who also translated the Russian, and Mary Anne Miller, with help from Graeme Jane's extraordinarily useful AFLORA programme.

**References**

- <sup>1</sup>Gerasimenko, 1970. *Novosti Sistematiik Nizshikh Rastenii*. 7:270 – 273.  
Baylis, GTS., 2002. *Ixerba brexioides*. Botanical Society of Otago Newsletter no. 33.  
Baylis GTS, 2002. *Never seen that before!* NZ Bot. Soc. Newsletter no. 68  
Mark AF, 1979. *Proceedings of the Professor GTS Baylis Retirement Seminar*. Royal New Zealand Institute of Horticulture, Annual Journal no.7  
Jane, GT, 2002. *Annotations and updates of Flora of New Zealand*, CD.

## *Maytenus boaria* – a new weed?

### Introduction

*Maytenus boaria* is a plant that we have previously grown for horticultural purposes. It was thought to be present, in Canterbury at least, only as male plants. Female plants are now present and plants are now establishing from seed. *M. boaria* is proving exceedingly difficult to control. Given the ecology of the species, we raise the concern that this could be a significant new weed species becoming established in New Zealand. Early intervention is recommended.

### Description

*M. boaria* Molina. (Celastraceae), or Chilean mayten, is a native of Chile. Possible synonyms include *Maytenus chilensis* (DC) and *Celastrus maytenus* Willd..It is an evergreen tree, up to 10 m in height (Salmon 1999) or even 25 m (Webb *et al.* 1988), and possibly dioecious (to be confirmed). The plants sucker vigorously. Female plants produce small fruits with red oily flesh and one to two seeds.inside, which birds love. In form, the trees are reminiscent of weeping willows..A more complete botanical description is available in Webb *et al.* (1988).

### Status

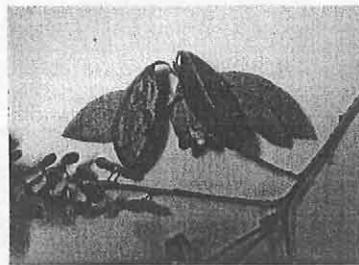
Webb *et al.* (1988) note that *M. boaria* has been collected several times in Christchurch and on Banks Peninsula, although Wilson (1999) considers it to be doubtfully naturalised on Banks Peninsula.The current status given on the New Zealand Plant Names Database is “Wild in New Zealand; Exotic (Fully naturalised)”.

### History

Prior to about the mid 1980's *M. boaria* appeared to be present, in Christchurch at least as male plants only, and probably all one clone. One of us (JC) checked dozens of plants in Christchurch and a few in other areas in the early 1980's to see if there were any female plants, but none were found. Propagation for the horticultural trade at that time was mainly from root cuttings. Around the mid 1980's seed-grown plants started to appear on the market. These plants had slightly different leaf shapes and sizes from the original trees, although this was only obvious when the two different sources of plant were grown together. Several of these seed-grown plants were planted at Harewood Nursery in a shelterbelt and one turned out to be a female. Small fruits were produced and were popular with birds. Almost immediately seedlings started turning up in the area around this tree. The source within the nursery is a female tree that was planted about 12 years ago in a shelterbelt. The original tree has been removed and significant time has been spent over the last couple of years, trying to get rid of it in shelterbelts at one of the Council's nurseries.



A shoot of *Maytenus boaria*



A female plant of *M. boaria* showing capsules and aril.

## Discussion

The seedlings are able to grow in very low light. They grow rapidly in dense shade under other evergreens. The plant suckers from the roots and eventually forms extensive colonies of stems at some distance from the parent tree. *M. boaria* is quite resistant to herbicides. Plants have been drilled and the holes filled with 60% Roundup solution. This kills about half the treated stems. In comparison, this method has a 100% kill of hawthorn, spindleberry, sycamore and eucalypts elsewhere within the shelterbelt. Poisoning is necessary as merely cutting the plants stimulates a mass of root suckers.

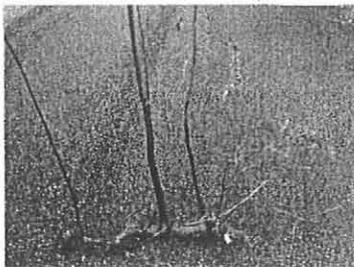
Also of concern is that *M. boaria* looks similar to a lot of our native plants in that it has small evergreen leaves and it "blends in" very well with many of our native species. Plants are difficult to spot. *M. boaria* reaches a significant height of around 10 m. The plants observed started to produce seed at about 2 m tall, when they were probably ~3-5 years old.

## Conclusion

*M. boaria* appears able to readily colonise areas that are relatively undisturbed and densely shaded. It is bird-dispersed, tall, long-lived and difficult to control.

As always, it is difficult to decide to do something when there are apparently small numbers of plants, in an initial stage of establishment. Nevertheless, now is the most cost-effective time to undertake control measures. These could include:

- ξ Requesting additional records from groups such as botanical societies, Landcare, DoC
- ξ Notifying agencies and groups involved in weed control, and/or managing natural areas, of the potential problem
- ξ Advocating a change in status of *M. boaria* to unwanted organism under the Biosecurity Act, thereby eliminating new sources of plants
- ξ Researching effective control methods (other herbicides?) and dissemination of those results



A plant that has been drilled and had 60% Roundup applied. Note the robust root system, and the vigorous new sucker on the right.

*J Cartman & K McCombs, Christchurch City Council, August 2002*

## References

- Allan Herbarium (2000) *New Zealand Plant Names Database*. Landcare Research, New Zealand. Available <http://nzflora.landcareresearch.co.nz/plantnames> (Accessed 18 August 2002).
- Salmon JT (1999) *The Trees in New Zealand. Exotic Trees. The Broadleaves*. Reed Books, Auckland.
- Webb CJ, Sykes WR, Garnock-Jones PJ (1988) *Flora of New Zealand Volume IV. Naturalised pteridophytes, gymnosperms, dicotyledons*. Botany Division DSIR, Christchurch.
- Wilson HD (1999) *Naturalised vascular plants of Banks Peninsula*. Canterbury Botanical Society

## The *Bomarea* mystery deepens....

In the last newsletter Moira Parker wrote about the invasive climber *Bomarea*, and mentioned that both *B. caldasii* and *B. multiflora* are listed as pests in Otago. I have been investigating further and there is clearly some confusion as to whether we have *B. caldasii*, *B. multiflora* or both species in New Zealand. The only *Bomarea* mentioned in the Flora (Healy & Edgar 1980) is *B. multiflora*. This species is described in the New Royal Horticultural Society Dictionary of Gardening (Huxley et al. 1992) as having approximately equal tepals (2.5 cm long), 20-40 flowers per umbel, and leaves to 10 cm. The Otago plants fit the description of *B. caldasii* rather than *B. multiflora* based on the obvious unequal lengths of the inner and outer tepal whorls; *B. caldasii* tepal sizes are described by the same publication as outer 2-2.5 cm, inner 2.5-3.5 cm. Tepal lengths of Otago specimens fall clearly and consistently into these ranges. The same publication also lists *B. caldasii* as having 20-60 flowers per umbel, and leaves 15 x 2.5 cm. As Moira's article mentioned, Otago *Bomarea* can have more than 70 flowers per umbel, and leaves of Otago herbarium specimens held at OTA are up to 13 x 2.3 cm in size (leaves closer to the inflorescence tend to be smaller than more distal leaves, which makes measuring from herbarium specimens problematic).

But the *Bomarea* identity crisis extends beyond Otago. *Bomarea multiflora* specimens held at the Landcare Herbarium in Lincoln (CHR) have apparently already been redetermined as *B. caldasii*. I have recently seen the Auckland *B. multiflora* specimen (AK 105812) referred to in Healy & Edgar (1980), and it too appears to have unequal tepals (outer 2.3-2.5, inner 3-3.1). This is also the case for all other *B. multiflora* specimens held at Auckland War Memorial Museum. Furthermore, leaves are usually over 10 cm long, but there are 40 or fewer flowers per umbel.

Confused, and in need of a more definitive reference than the Royal Horticultural Society Dictionary of Gardening, I contacted Dr Roy Gereau, a *Bomarea* expert at the Missouri Botanic Gardens, who admitted to being somewhat confused himself! It appears that the initial descriptions related to two clearly distinct species, which later typified separate sections within the genus. However in a recent work on the vascular flora of Ecuador, *B. caldasii* was placed in synonymy under *B. multiflora*. Based on a scanned image I sent him, Dr Gereau agrees that our Otago *Bomarea* most likely represents *B. caldasii* as he defines it, but all parts are at the smaller end of the range of sizes for *B. caldasii*. Dr Gereau has forwarded my email and scanned image to a colleague working on *Bomarea* in Colombia, so hopefully I will have a more definitive diagnosis to report in the next newsletter.

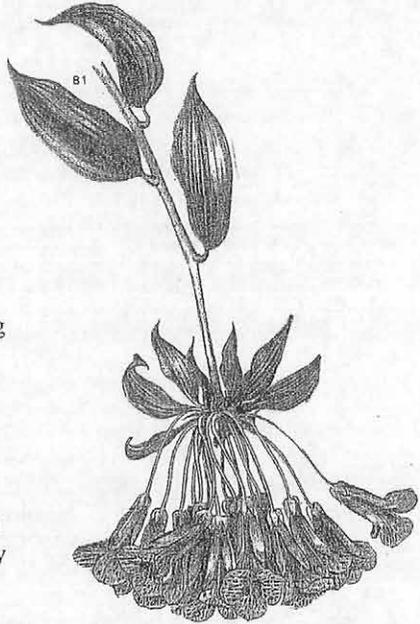
**Watch this space...**

*Janice Lord*, Botany Dept, curator of vascular plants, OTA

### References:

- Healy, A.J., and E. Edgar. 1980. Flora of New Zealand, Volume III, Government Printer, Wellington.
- Huxley, A., M. Griffiths and M. Levy. 1992. The New Royal Horticultural Society Dictionary of Gardening, MacMillan Press, London.

*Fig. Bomarea caldasii* flower.  
(Wild Flowers of the World., 1970.  
Painted by Barbar Everard  
Text by Brian Morley  
Edited by WT Stearn & PS Green.)



### ***Bomarea caldasii*: reproduction and biomass allocation**

As a postgraduate diploma student studying through the Dept. of Botany at Otago University, my thesis topic has been concerned with patterns of reproduction and distribution in *Bomarea caldasii*, a pest weed in Otago. Upon reading Moira Parker's article entitled "*Bomarea* on the Otago Peninsula", I was approached by Allison Knight to share the results of my research concerning this invasive weed.

*B. caldasii* is a climbing vine native to Ecuador, and has recently become a serious invasive weed problem to the Otago region. The species is particularly difficult to eradicate due to an underground rhizome from which it can regenerate. *B. caldasii* infests disturbed sites, most importantly native forest remnants where it strangles and smothers native plant species. *B. caldasii* has been recorded in the Otago area as early as 1952, (*pers comm.* McPherson, 2002) yet it is only in the past 2-3 years that populations have begun to spread to pest proportions. My study aimed to investigate the reproduction and biomass allocation of *B. caldasii*, to hopefully provide data to aid in the effective management of the species.

A study of three separate inflorescences over the course of their floral cycle discovered that *B. caldasii* flowers exhibit **protandry**; whereby anthers **dehisc**e before the stigma becomes receptive (Raven, 1991). Field tests for **apomixis** and self-compatibility suggest that *B. caldasii* does not produce seed asexually, yet is self-compatible. Germination experiments of seeds failed to produce any results in the laboratory.

**Biomass allocation data of 63 *B. caldasii* individuals of varying size indicates that rhizomes are not produced until plants are at least 20cm in length.**

There were also strong correlations that suggested an allocation of plant resources towards above ground plant structures such as stems and leaves once individuals were more than 60cm in length. Various strategies of chemical control of *B. caldasii* have been attempted and although results appear promising, any long term success at killing underground rhizome structures remains to be seen (Parker, 2002).

*Peter Nichols*, Postgraduate student, Botany Dept.

## References:

- McPherson, N. (2002), *pers comm*
- Parker, M. (2002). *Bomarea* on the Otago Peninsula. Botanical Society of Otago Newsletter 33: 5-8.
- Raven P.H., E. R. F., Eichhorn S.E. (1999). Biology of Plants. New York, W.H. Freeman and Company Worth Publishers.

**Botanical Definitions** of terms in Peter Nichol's article.

*Alison Stringer*

**apomixis:** the production of viable seed without fertilisation

**dehiscence:** to open and shed contents when ripe

**protandry:** the anthers shedding pollen before the stigma is receptive in the same flower.

**Reference:** HH Allan. Glossary, *Flora of New Zealand Vol 1*.

## Biographical Note

### **John Smaillie Tennant (1865-1958) *Educationalist, Botanist, Sportsman***

There are members of the Botanical Society of Otago who, as staff or students of the Department of Botany, University of Otago, will be grateful to the Tennant Bequest for research funds or a grant-in-aid to attend workshops or conferences, and there will be other members who have attended the Department's annual John Smaillie Tennant Lecture. Over the years the Bequest has supported distinguished speakers such as David Bellamy, David Galloway, Peter Wardle and Eric Godley among others.

So who was Tennant?

John Smaillie Tennant was born in Dunedin on 15 April 1865. His father, John Tennant, had arrived at Port Chalmers in March 1859 on the *Tamora*, his birthplace given as West Linton, Peeblesshire, Scotland, 1835. Upon settling in Dunedin he took up the post of clerk in a customs agency and soon became Chief Clerk and Cashier for the Government Customs Office. His mother, Elizabeth Colledge, arrived at Port Chalmers on the *Selvilla* in 1862. She was the second child of Joshua Colledge and Elizabeth Farquhar, born in Cavers, Roxburgh, Scotland, 1842. His parents married on 2 June 1864 and were living in Grant Street, Dunedin at the time John, the eldest of six children, was born.

When John was five the household (including cat and dog) were transported by lighter to their new home "Whitfield" in the bush at Ravensbourne, which was an isolated location in 1870, access being via a track around Pelichet Bay (now Logan Park) or by boat. His mother took responsibility for his primary education until the road to Port Chalmers went in. Then he began formal classes at Albany Street School. He much preferred the bush and beach but after his father discovered his "wagging", the daily five mile walk became part of his routine. In addition to this formal education, John, who was a precocious child with an absorbing interest in everything around him –

social and natural, was learning from his parent's wide circle of friends, plus at a very early age was cultivating his own useful friendships including that with G. M. Thomson (1848-1933), a noted Otago naturalist.

The family shifted to College Street, Caversham at the end of 1877 and the next year John went to the Normal School in Moray Place that had opened as a Teachers Training College in 1876. He is recorded in the 1879 Examination Lists as being in Standard V and having passed his exams. The School Inspector overseeing these exams was Donald Petrie (1846-1925) who would become a friend and fellow botanist in later years.

It was in 1880 that John, aged 15, began his teaching career as a Pupil-Teacher at the Normal School. He stayed in this post until the end of 1884, then he was at Teachers Training College fulltime passing his School Management Examination in 1885. He enrolled for a BA at the University of Otago in 1886. Tennant's obituary said that while at Training College he had worked for and helped establish a Diploma of Education at the University.

Fig. J.S. Tennant, Graduation, 1899

In March of 1887 Tennant took up the post of 4<sup>th</sup> assistant teacher at the newly opened High St School, Dunedin. This teaching position was a full-time post so the ensuing years were busy ones as he also studied for a BA (1891), BSc (1892) and MA (1899), went on several expeditions to Fiordland, researched locally (he became a member of the Otago Institute in 1893) and taught botany on a part-time basis at the Technical School and the University. After the Professor of Biology, T. J. Parker, died in 1897 and before his replacement, Professor W. B. Benham arrived in May 1898, Tennant and his friend W. Mawson took the Botany and Zoology classes. He was steadily promoted at High St School ending up as 1<sup>st</sup> assistant in June 1895 and is described in Inspectors Reports as

an intelligent and thorough teacher but with some want of force...[and] takes commendable interest in the outdoor sports and past-times of his pupils.

[Otago Education Board, 1883-1901]



These years also held sadness as several members of his close-knit family died, including three siblings, his grandfather, aunt, mother and father-in-law. He had married Edith Ethel Moresby Zohrab in 1894 and they lived in Maitland St while in Dunedin. Edith was the eldest daughter of Constantine Edward Zohrab and his wife Edith Wills of Wellington.

It should be noted that by 1880 Leonard Cockayne (1855-1934) was teaching in Otago and taking an increasing interest in local flora. B. C. Aston (1871-1951) was also working and studying in Dunedin in the 1890's and he too would be an expedition companion in later years. Professor Geoff Baylis thinks this coterie of Otago botanists were tough characters. Certainly photographs and expedition notes suggest this, and we know from Tennant's obituary he was a keen sportsman winning trophies for rowing, swimming and diving while also participating in representative cricket and rugby. The most notable of his achievements at this time was the first navigation by canoe of the Waiiau River, Southland, in January 1892 (apparently Maori avoided this hazardous waterway in their long canoes). Tennant was a lean, tall man. Professor Baylis said his uncle, B. C. Aston, was 6 feet and Tennant is taller when they were photographed beside one another on the Auckland Islands in 1907. As testimony to his fitness (even in middle age) we have the following:

During the four years beginning January, 1911, Aston made six excursions to the Ruahine-Kaimanawa mountain system. Some of these trips were very strenuous. In January, 1911, he and J. S. Tennant explored the Kaimanawa Mountains which, up to that time, were unknown botanically. They ascended Waipahi, 5,200 feet, and Korokarenga, 5,300 feet. As if that were not enough mountaineering for one week, they crossed the plain on the west side of the Kaimanawas and climbed to the top of Ngauruhoe, 7,500 feet.

[Oliver, 1952]

During 1899 he resigned his Dunedin teaching job and became Headmaster at Ashburton High School, remaining there until 1905. Besides his commitment to the school and local Technical College, around this period he was also an active member of the Australasian Association for the Advancement of Science.

After leaving Canterbury he became Inspector of Schools in Wellington. During the following years he was botanically active throughout the region, the Chatham Islands and on the Subantarctic Expedition of 1907 where he concentrated on collecting lesser-known plants - grasses, mosses, liverworts and lichens. On various occasions he teamed up with Petrie, Aston and Cockayne.

In 1912 he was appointed Principal of Wellington Teachers Training College, Kelburn, and *ex officio* lecturer in education at Victoria University College. He would openly defend his controversial introduction of Montessori methods into the Public School system but it was his belief that school should be an enjoyable experience and that each child develop at their own rate. When the University created a chair in education in 1923 Tennant became its first Professor, although this was only a part-time appointment at first. J. C. Beaglehole, who knew him during these years, wrote

Tennant's calibre was considerable- with both literary and biological interests he was a really well read man, and could quote Holy Writ to advantage. In courtesy he was second only to Kirk.

[Beaglehole, 1949]

He retired in 1926, first living in Wellington then Nelson. Edith died in November 1924 and was buried with her parents and one of her 8 sisters in Karori Cemetery,

Wellington. His marriage to Winifred Jessie Gray Maitland took place in 1926. There were no children from either marriages.

Travelling, painting and writing were his retirement activities but he retained an interest in botany being especially concerned about the flora of the dunes at Tahuna Beach, and plantings that were being made there. He died at home on 7 April 1958 in his 93<sup>rd</sup> year. A Dawn Redwood in Queens Gardens, Nelson has the honour of his ashes buried at its base.

When Winifred died in 1974 she more than made good her husband's wishes by gifting over half her estate to the Department of Botany, University of Otago for "the scientific study of native plants". Tennant's original bequest, in recognition for "all the university had done" for him, was thought to have come from his friendship with the Reverend John E Holloway (1881-1945), first head of the Department.

Besides the John Smaillic Tennant Lecture and Bequest, the grass, *Poa tenmantiana* Petrie, first described on the 1907 Subantarctic Expedition of the Philosophical Institute of Canterbury, was named after him.

### Acknowledgements

My thanks to Professor Peter Bannister for permission to research J. S. Tennant and to staff at the University's Libraries, especially those in the Hocken. Also, to staff at the following institutions: the Dunedin Public Library, the Nelson Provincial Museum, Otago Museum, Otago Settlers Museum, the Alexander Turnbull Library, Archives New Zealand Dunedin Office. Special acknowledgement must go to Tennant's great-nieces, Mrs Judith Duxbury and Mrs Gillian Davy, for access to Tennant's diaries, photographs and notes.

**References:** (Only the major references are mentioned below. The list is extensive and will be included in a full biography to be published elsewhere).

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Mary Anne Miller, Department of Botany, University of Otago

# Reports and plant lists.

## Wetlands up North

A good crowd turned up to our August meeting to hear Peter Johnson give a new angle on the botany of wetlands and the complexity of trying to classify them. Right from the start Peter flew off at a tangent, heading due north from his home on the Otago Peninsula, and taking us on a circumnavigation of the wetlands of the world. Warning us that he would finish with a quiz, Peter first explored the broad classification of hydrosystems; marine, coastal, estuarine, lacustrine (lake), palustrine (land), riverine, underground, geothermal and nival (snow), with examples of their vegetation around the globe. Then he honed in on the overlap and finer details of classes of wetland, exploring the relationships between swamp, fen, bog, wet heath, peat land, marsh, salt marsh, seepage, flush and ephemeral wetland, each with their characteristic vegetation, varying, of course, with altitude and latitude. In the quiz some of the most alert managed to classify the local examples of wetlands thrown up on the screen, and Bastow added the terms 'mire' (peat bog) and 'carr' (forest swamp, such as Kahikatea on poorly draining pakahi soil). We await with interest Peter's forthcoming book.

Allison Knight

## Principal weeds in turf and sward zones of kettle depression ephemeral wetlands of inland eastern South Island

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

a = abundant, f = frequent, o = occasional

<b>AQUATICS</b>		<b>DAISIES</b>	
<i>Callitriche stagnalis</i>	o	<i>Achillea millefolium</i>	o
<i>Glyceria declinata</i>	f	<i>Cirsium arvense</i>	o
<i>Elodea canadensis</i>	f	<i>C. vulgare</i>	o
<i>Myosotis laxa</i>	a	<i>Crepis capillaris</i>	f
<i>Ranunculus trichophyllus</i>	o	<i>Hieracium pilosella</i>	a
<i>Rorippa microphylla</i>	o	<i>H. praealtum</i>	f
		<i>Hypochoeris radicata</i>	f
		<i>Leontodon taraxacoides</i>	o
		<i>Taraxacum officinale</i>	o
<b>GRASSES</b>		<b>SEDGES &amp; RUSHES</b>	
<i>Agrostis capillaris</i>	f	<i>Carex ovalis</i>	f
<i>A. stolonifera</i>	o	<i>Juncus articulatus</i>	a
<i>Alopecurus geniculatus</i>	f	<i>J. bufonius</i>	f
<i>Anthoxanthum odoratum</i>	f	<i>J. effusus</i>	a
<i>Holcus lanatus</i>	f	<i>J. tenuis</i>	f
<i>Poa annua</i>	o	<i>Luzula congesta</i>	o
<i>Poa pratensis</i>	o		
<i>Schedonorus phoenix</i>	o		

OTHER DICOT HERBS			
<i>Centaurium erythraea</i>	f	<i>Rumex acetosella</i>	a
<i>Cerastium fontanum</i>	f	<i>R. crispus</i>	f
<i>Epilobium ciliatum</i>	f	<i>R. obtusifolius</i>	o
<i>Limum catharticum</i>	a	<i>Sagina procumbens</i>	o
<i>Plantago lanceolata</i>	o	<i>Stellaria alsine</i>	f
<i>P. major</i>	o	<i>Trifolium dubium</i>	a
<i>Prunella vulgaris</i>	a	<i>T. pratense</i>	o
<i>Ranunculus repens</i>	f	<i>T. repens</i>	a
<i>R. sceleratus</i>	o	<i>Verbascum thapsus</i>	f
		<i>Veronica arvensis</i>	o
		<i>V. serpyllifolia</i>	a

### Threatened plants of Otago.

In September John Barkla, a botanist with the Otago Conservancy of DOC, treated another full house to a wonderful array of some of the rarest and most threatened plants in Otago and talked about the conservation programmes being implemented for them. Some of the many plants and issues covered ranged from the big, old *Olearia hectorii* in the Matukituki Valley, at last producing seedlings after protection from grazing, to the tiny and seldom seen "spring annuals" in Central; *Ceratocephala pungens*, *Myosurus minimus* subsp. *novae-zelandiae*, and *Myosotis pygmaea* var. *minutiflora*. Research is going on to determine their ecology and threats. There are a variety of native forget-me-nots (*Myosotis* spp) on block mountain crests, especially Dunstan Range. Some have just one or two populations.

Otago is a stronghold for Cook's scurvy grass, *Lepidium oleraceum*, which is very rare on mainland NZ, and new populations have been established at several coastal sites.. Central Otago has several at risk inland *Lepidium* sp. including *Lepidium kirkii* and three subspecies of *Lepidium sisymbrioides* which raises many issues relating to changing land use and weed invasion. *Carmichaelia hollowayi* is a native broom restricted to three sites in Waitaki Valley. Replanting has been carried out at one limestone cliff site, along with the very rare cress, *Ischnocarpus exilis*, while oddities like scree pea, *Montigena novae-zelandiae*, with colourful flower and very large seed pod, at also at risk from hares and other browsers. All eight mistletoes in Otago have problems with loss of pollinators/dispersers (birds) and browsing by possums. Some banding of host trees has been carried out and there is spectacular recovery of *Tupeia antarctica* in the Catlins following possum control

A recent invasion of *Hieracium lepidulum* - threatening the grass, *Simplicia laxa* on rock outcrop on slopes of Old Man Range, is being controlled. New populations of *Hebe cupressoides* have been found, causing a rethink of species ecology. A huge amount of very dedicated conservation work is obviously being done and we look forward to a fuller list of Otago's rare and threatened plants in a later issue.

Allison Knight

## Trip to Graham's Bush

Saturday the 28<sup>th</sup> of September was one of those days when you couldn't imagine living anywhere else but Dunedin. The weather was perfect as nine of us headed along Otago Harbour to Sawyer's Bay and the start of the Graham's Bush walking track. Ralf Ohlemüller introduced us to this significant remnant of coastal Otago forest, explained his work at three quadrats in the reserve and handed us a handy exotic and native species list. We headed up the road and onto the track to the top of the hill. As we climbed the view over the harbour got better and better and the exotic weeds started to thin. By this stage most of us had declared our interest: some were hunting plants and lichens, some were pulling exotics, some discussed postgraduate life, all seemed to be having a good time.

Past the turn off to the old scout ground, and a few good memories for some of the party, and we were into the forest. Soon we were upon some of the largest Tree Fuchsias I've ever seen (I don't get out much) and we'd checked through most of the fern species on Ralf's list. Further on, mature Rimu stood back from a creek in a damp gully as the track kept climbing to higher ground. We paused in a grove of podocarps for something to eat and a glimpse of Otago harbour out through the trees. Something else had been feeding here too: scattered all about were Miro seed with a few tatters of undigested flesh.

By the time we had threaded our way past some regrowth Kanuka and into a patch of Gorse and Himalayan honeysuckle we felt we'd seen the best of it and headed back down the hill. On the way down three of us remarked that we had lived in Dunedin for so many years and not realised that this gem was just at our back door. Thanks Ralf for introducing us to Graham's Bush.

Oh yes... You'll be pleased to know there are virus-like symptoms on Mahoe and Tree Fuchsia in my freezer awaiting the end of the teaching year.

*Paul Guy*, Plant virologist, Department of Botany, Otago University

PS. Look forward to the species lists from Ralf's quadrats in the next issue – *ed.*

## Some terricolous lichens and orchid, Graham's Bush trip

The clay bank alongside the track through Graham's Bush was rich in lichens. First noticed were several grey/black foliose species containing nitrogen-fixing cyanobacteria as their photobiont. Of these, the ragged over-wintered *Peltigera* sp. were attached to the earth with thick, felted rhizines, while the superficially similar *Nephroma* sp. had chestnut brown kidney-shaped apothecia (fruiting bodies) on the underside of their lobes, and no rhizines. Black 'jelly lichens' *Collema subconveniens* nestled in the moss, while at the base of the bank we were delighted by the exquisite flower of a tiny, insect-pollinated, spider orchid, probably *Corybas macranthus*.

Higher up the track three crustose lichen species with striking pink apothecia grew near each other. The stalked, pinky-fawn apothecia belonged to *Baeomyces heteromorphus*.

Beside it the *Dibaeis arcuata* had longer, thinner, whiter stalks, brighter pink apothecia and distinct paler patches of soredia on the thallus. Further on patches of bright green crust sported the larger, sessile, pink fruiting bodies of *Icmadophila ericitorum* - altogether a spring spectacle in miniature.

*Allison Knight*, Assistant, Lichens, OTA

## Reviews

**Books** - More from John Steel next issue! Other book reviews always welcome.

**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@landcareresearch.co.nz (NOTE CHANGE of email address!!)

**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 2127

## Web Sites

**Where to buy 40,000 plants:** [www.plantfinder.co.nz](http://www.plantfinder.co.nz)

The Botany department has taken out an annual subscription to this and Mary Anne Miller is trialling it. One BSO intending member and keen grower of edible fruit trees has already checked it out and found it very useful..

**Botanical Society of Otago:** <http://www.botany.otago.ac.nz/bso> our web site, sadly, has regressed but David Orlovich is working on upgrading. Be patient - soon it will be better than ever!

## News

### **Botany Student Symposium – BSO Prize-winner.**

This year the annual Botany Colloquium became a Symposium, ably run by PhD students Jane Marshall, Matt Scott and Denise Hunter, with assistance on the day from Alison Stringer. Well done, team!

Congratulations also to the prize-winners: Chris Hepburn, won the BSO prize of \$100 for best student speaker with his talk *Chasing crayfish and bothering kelp in Otago Harbour*.

Prizes for other placings were generously donated by The University Book Shop, Knox Row House & Garden, Rialto Cinemas and Whitcoulls. Second prize went to Louise

Kregting, talking on *The relative roles of light and salinity in controlling the upper depth range of black coral communities in the New Zealand fiords.*

Angela Hunter and Suzie Draffin won third prize for their joint talk; *The phylogenetic analysis of Festuca spp.*, and Johanna Nielsen won the poster prize with *The Vegetation Pattern of the Rock and Pillar Range.* BSO member Rory Logan donated some very healthy-looking native plants as prizes, which were won by Mary Anne Miller and David Orlovich as a spot prizes. Mary Anne also won the baking prize – again!

Look forward to an article from Chris and all the abstracts next issue – ed.

## **Trial Display for Newsletters from other Botanical Societies**

Current newsletters from botanical societies in Auckland, Waikato, Rotorua, Manawatu, Wellington, Christchurch, Wakatipu and Berlin! are now displayed on a trial display shelf from BSO in the Department of Botany tea room. Back copies of newsletters, including the Botanical Society of New Zealand and BSO, are stored in the Department of Botany computer room.

## **Corrections**

### **John Scott Thomson - spelling**

Jennifer Bannister has brought to our attention a typo in Botanical Society of Otago Newsletter 16. The title of her article on page 9 was originally submitted as 'John Scott Thomson's lichen collection in OTA'. The then editor changed this heading and in doing so accidentally spelt the name 'Thomson' incorrectly. Jennifer's article was recently cited in a Landcare document, and, to her embarrassment, attention was twice drawn to the misspelt name in the title.

We apologise for this editorial slip of the key, and would be grateful if any further citations could use the correct spelling of 'Thomson'.

### ***Lactarius* sp. aff. *umerensis* - scale**

Slaven Kljucanin has pointed out that the scale on his photograph of *Lactarius* sp. aff. *umerensis* on page 17 of BSO Newsletter 33 was written for an A4 sized page. As the page size was reduced by half, to B5, in the printing, the scale for the photograph should be adjusted accordingly.

*Editor* (it's hard to be perfect)



*Pennantia baylisiana* (WRB Oliver) GTS Baylis

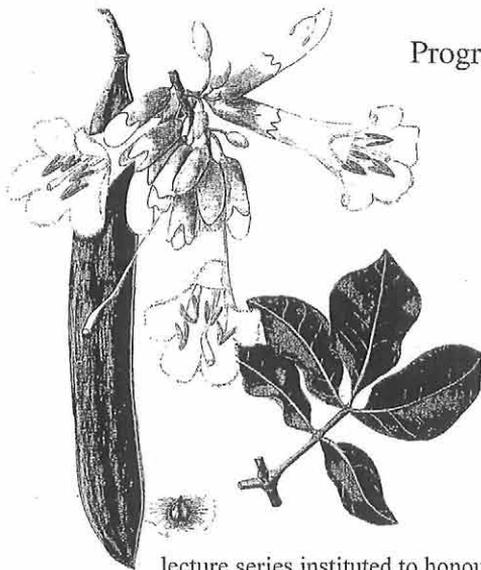
## Programme, Inaugural Geoff Baylis Lecture

The Botanical Society of Otago and the Department of Botany, University of Otago, are delighted to invite you to:

### The Inaugural Geoff Baylis Lecture:

*Plants, People and Mycorrhizas.*  
Wednesday 30 October, 5 pm

*Tecomanthe speciosa*, drawn by Audrey Eagle.



This evening of talks is the first of an annual lecture series instituted to honour the considerable contribution to botany that Geoff Baylis, Emeritus Professor of Botany at Otago University, has made over the past 60 years. The speakers will cover some of the wide range of botanical activities that Geoff and his students have inspired.

#### Draft Programme:

5.00 pm: Drinks, finger food and special display in the atrium of the Dr Marjorie Barclay Theatre, 1<sup>st</sup> floor, Otago Museum, 419 Great King St.

5.30 pm - 7.00 pm, **Speakers:** David Orlovich, BSO president, Bot Soc announcements; *Introduction* by Alan Mark, Chairman and speaker. Geoff Baylis, Dunedin, *Mycorrhizas*. Ann Wylie, Dunedin, *The Transition Years*. Alan Mark, Dunedin, *Reminiscences*. Ian Hall, Crop & Food, Invermay, *As it was*. Jim Crush, Ruakura, Hamilton. Peter Johnson, Landcare, Dunedin, *Baylis in Botany*. Melanie Stephen, *Ectomycorrhizal diversity*. Geoff Baylis, *Summing up and rebuttal*.

7.30 pm **Dinner.** Venue to be announced. Cost around \$35 for the food. Drinks extra. Booking essential. Registration form enclosed.

Related **guided tours** in the afternoon of Wednesday 30 October  
Subject to numbers and weather there is a possibility of three short , guided by BSO members. Please indicate numbers coming on the enclosed Registration form.

3.00 p.m. The native section of the Botanic Garden, Guide: Tom Myers

3.50 p.m. The Botany Department , Guide: David Orlovich

4.40 p.m. The basement of the Otago Museum, Guide: Brian Patrick

**Special Displays:** Three displays are being planned around the theme of the evening. They will be in the Botany Department, the Science Library and in the Atrium at the Otago Museum where we gather before the talks. If you have any photos/memorabilia to contribute we would be delighted to have them to add to the museum display, which will be in a glass case in the atrium.

Please contact Sean Gaffaney, Collections Manager, Otago Museum Ph (03) 4747 475, email: [sean.gaffaney@otagomuseum.govt.nz](mailto:sean.gaffaney@otagomuseum.govt.nz) about displaying your treasures.

Please register by Wed 23 Oct to Trish Fleming <[trish@planta.otago.ac.nz](mailto:trish@planta.otago.ac.nz)> with how many dinner reservations you wish to make, and if you are interested in any of the tours

Accommodation is available at Otago University's Executive Residence. Cost \$80 single, \$95 double. Includes breakfast. Book through Trish Fleming, on enclosed registration form.

## Botanical Diary

### National

#### **18<sup>th</sup> John Child Bryophyte Workshop, 28 Nov – 3 Dec.**

Based at Albert Town, near Wanaka, Central Otago. May be full.  
For registration forms and more information see our noticeboard

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

Based on two camp sites near Katikati and Matata in the Bay of Plenty  
**Please register by 15 Sept.** Forms are on our BSO noticeboard, Botany Dept.

**Local events, Oct-Dec (BSO events in boxes, details on front cover!)**

**19 Oct, THIS Sat. 10 am. BSO field trip with Robyn Bridges to botanise *Heyward Point*. Good 6 h tramp. Bring lunch, hand lens, boots etc. Meet Botany Dept car park.**

**23 Oct, Wed. 12 noon. Botany Dept Seminars. Castle A Lecture Theatre. Note changed venue. *Masters/Post Graduate Diploma in Science student presentations*. MSc Proposal: Invasion ecology of *Nardus stricta* L. (Poaceae). Daniel Kissling, Botany Dept, University of Otago and University of Greifswald, Germany,**

and:

**Testing the effectiveness of long-term predator-proof fencing in a red tussock grassland (*Chionochloa rubra*), with implications for the captive management of takahe (*Porphyrio hochstetteri*).**

**Rachel Peach, B.Sc;P.G Dip Wildlife Management, Dunedin**

**30 Oct, Wed, 5 pm. Inaugural Geoff Baylis Lecture, to honour Emeritus Professor GTS Baylis. Details inside. Please Register by 23 Oct.**

**8-10 November: DoC Volunteers Catlins "Attack of the Sycamores"**

...But we'll be the ones attacking! Join us for a weekend of sycamore control, staying at the F&B lodge in the Lenz Reserve, Tautuku. We'll be seeking, cutting and poisoning trees of all sizes, and some will need chainsaw action. The cost including food and transport is only \$35, and there will of course be time for some fun after the work's done. **Please contact Steve Broni for further information or to book: sbroni@doc.govt.nz, Ph 474 6932.**

**24 Nov, Sun, 1 pm. Trip to Donaldsons Garden. Speciality natives in an exotic setting. Meet 1pm, Dept. of Botany car park, 464 Great King Street.**

**4 Dec, Wed 5.15 pm. *Botanical and other delights of China*. David Orlovich.**

**Meet 5.15 pm.** for drinks, chat & nibbles before talk at 5.30. Followed by an end of year Chinese banquet. **RSVP to Robyn Bridges by 27 Nov to book dinner.**

**Local contacts and meeting places of groups with overlapping interests.**

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

**Dunedin Naturalists' Field Club (DNFC)** Meetings are at 7.30 pm, first Monday of the month, 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**

**DOC Conservation Volunteers:** ongoing opportunities for hands on conservation work in coastal Otago. Learn new skills in some neat places, help conservation efforts and have fun all the while! To sign up, and receive newsletters and event programmes, **contact Caren Shrubshall, DOC: email: cshrubshall@doc.govt.nz, Ph 474 6932, or after 5th Nov, Steve Broni, email: sbroni@doc.govt.nz**

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

**Southland Natural History Field Club.** Meetings 7.30pm on the second Thursday of the month, currently at the Otatarā Hall, just out of Invercargill. Field trips the following Saturday or Sunday to places of botanical, ornithological, ecological or geological interest. **Contact Lloyd Esler 032130404, email [esler@southnet.co.nz](mailto:esler@southnet.co.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 **chairman** or **secretary**, as below:  
(We are looking for a new treasurer. Can you help?)

For media, publicity or event enquiries, email the **secretary**:  
**Robyn Bridges**, [robyn.bridges@stonebow.otago.ac.nz](mailto: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](mailto: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](mailto: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/>

**This Newsletter was published on 16 October 2002. ISSN 0113-0854**  
**Please submit copy for next newsletter by end of November.**



**Membership form: Botanical Society of Otago, 2002**  
**- and all of 2003!!!. (re)Join now, before the subs go up!**

Title: \_\_\_\_\_  
Name: \_\_\_\_\_  
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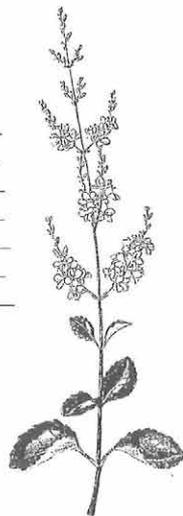
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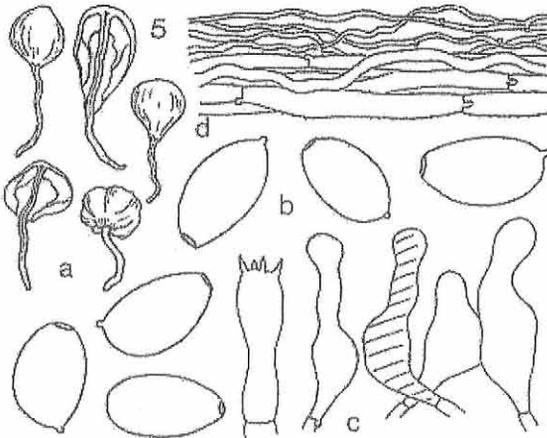
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Enlarged image of *Nivatogastrium baylisianum* Hk.



Caption: *Nivatogastrium baylisianum* Hk. : a. carpophores (nat. size) b spores (2000 x). c. chrysocystidia (1000 x). d. cuticle (500 x).  
View description (no. 714)