

Fronds

Newsletter of the Friends of the Australian National Botanic Gardens
Number 67 April 2011



Inside:
Bombarded by butterflies!



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The Friends newsletter, *Fronds*, is published three times a year. We welcome your articles for inclusion in the next issue. Material should be forwarded to the *Fronds* Committee by the first of June for the August issue; first of October for the December issue; and first of February for the April issue.

Email or post material to the *Fronds* Committee at the above addresses or, place in the Friends letterbox, located inside the Gardens' Visitor Centre, between 9.00am and 4.30pm, Monday to Sunday. Editorial messages: telephone (02) 6250 9548.

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Cover: Larva of the Common Brown Butterfly, *Heteronympha merope*. Photo by Ted Edwards.



Photo by Barbara Podger

New President and Council

Newly elected Friends' President, David Coutts, has a long term interest in science and botany and a particular interest in promoting and facilitating the research functions of the ANBG. David has been a member of the Friends since 2002, a volunteer guide, and Secretary of the Council for the past four years.

David will be supported by a new Council with a good mix of experience and fresh enthusiasm. Congratulations to re-elected Council members and Office bearers, Barbara Podger (Vice-President) and John Connolly (now Secretary), and returning Council members Andy Rawlinson and Warwick Wright. A welcome to Council's new faces, Anne Campbell and Lesley Jackman. They all join continuing members Marion Jones (Treasurer) and Don Beer (Guides Convenor).

Jill More did not seek re-election to Council but will continue as a volunteer guide and administrator of the guides wiki website which she established. She has even agreed to assist in redesigning the Friends website. Thank you Jill.

Retiring President, Alan Munns also stepped down from Council, but was left in no doubt that his wisdom and advice would continue to be much sought after. He was resoundingly thanked for his untiring efforts as President over the past four years. As Alan said, 'It's an indication that a community organisation is in good shape when members readily come forward to fill vacancies.'

Since the AGM Council has learned that Anne Philips, who works in the Nursery and who used to be on the Newsletter committee (before it became *Fronds*), has been appointed by the Gardens to be its representative on Council. Council is pleased to be working with Anne again.

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Bombarded by butterflies!

Ted Edwards

Imperial Blue (or Hairstreak) Butterfly

The Imperial Blue is not a right royal fight but a type of butterfly found only in Australia. It has rightly achieved international fame as a subject of scientific research on butterfly-ant relationships.

It is a spectacular butterfly, with a delicate shade of pale blue on the upper side and a gentle straw-colour underneath with some fine black lines. It has two short tails dangling from the rear of the hindwing and red and black spots. These spots are a false head to attract predator attention away from its real head. It moves the hind wings up and down when it rests to emphasise the false head to a predator.

The Australian National Botanic Gardens is proud host to colonies of this butterfly up near the top of the rainforest gully across the road from Section 220. Here the caterpillars were seen in summer busily eating a small green wattle and silver wattles, *Acacia dealbata*. When they had stripped the tree bare the colony moved on to some nearby small trees which were already attracting the attention of egg-laying females.

The caterpillars and pupae form clusters frothing with busy small black ants. The ants mind the caterpillars and pupae and in return receive a gift from special glands on the caterpillars' backs. This secretion contains both sugars and amino acids, prized foods for the ants. In return the ants drive away some of the parasites and predators that can attack the caterpillars. Remarkably few caterpillars are lost considering their conspicuousness.

In a spectacular display, adult butterflies swarm around the pupal clusters in late summer. They are males, jockeying for position, competing with each other for the females as they emerge from the pupal shell. Humans did not invent cradle-snatching, it has been around for a long time!



Imperial Blues with pupae and ants on *Acacia dealbata*. Photo by Fanny Karoota.
'Bomber' Imperial Blues at top. Photos by Geoffrey Dabb.



Female Common Brown Butterfly. Photo by Geoffrey Dabb



Part of the watercolour drawing by Helena Forde (nee Scott) of *Heteronympha merope merope*. © Australian Museum. Published with permission.

An uncommon courtship—the Common Brown Butterfly

Last December Friends and visitors noticed many golden-brown butterflies, almost all males, in the Gardens and then in late summer hundreds of females erupted from the shade in greeting if you walked the bitumen road south of the rainforest gully. Meet the Common Brown Butterfly, *Heteronympha merope*.

Early encounters

On 7 May 1770 the *Endeavour* weighed anchor and departed Botany Bay forever. On board was the first butterfly ever collected in Australia for a scientific purpose. It was a rather worn female Common Brown Butterfly and can still be seen today in the Natural History Museum, London. The name *merope* was bestowed by Johann Fabricius, a student of Linnaeus, who in 1775 named some of the insects Sir Joseph Banks brought back in the *Endeavour*.

An astute German entomologist, Jacob Hübner, in 1819 first recognised the rather different males and females as the same species. Walker Scott and his daughters, Helena and Harriet, first studied the biology of the butterfly in around 1850. Helena painted a wonderful picture of the adult butterflies, larvae and pupa and the grass on which the larvae fed. They owned a farm, mostly orange orchard, on Ash Island near Newcastle. Walker was a better entomologist and artist than manager and he went broke trying to publish some of the paintings of butterflies and moths he discovered. The painting of the Common Brown was not published until 1988.

A reproduction riddle

Once the different looking males and females had been identified, an obvious question arose. Why were they rarely seen together? How did they manage to reproduce when the males appear early in the flight period but have mostly died before the females are seen later in the season?

Yet reproduce they certainly do; the name Common Brown says it all.

A good deal of their life cycle was described in 1893 by Ernest Anderson and Frank Spry. The eggs are laid singly on the underside of grasses or stems and are pale cream somewhat flattened, spherical in shape. The full-grown caterpillars are plump, with a rugose skin and may be either green or brown and have a dark brown head. The caterpillars feed on many soft green grasses at night and hide in the day deep in the bottom of the grass tussocks. The pupa is pale brown and unlike most of its near relatives rests on the soil with a few strands of silk joining some adjacent dead leaves or debris. Its relatives usually have a hanging pupa. Neither the larvae nor pupae are easy to find and need a long careful search in suitable places such as along fences or in undisturbed parts of the garden.

In 1932 Athol Waterhouse published his gem of a book *What Butterfly is that?* which illuminated butterfly studies in Australia for 50 years. But still the apparent timing discrepancy between the appearance of the males and females was not adequately explained.

It was another 40 years before the full story of the reproductive cycle was revealed.

All a matter of timing

As a child near Sydney I was very familiar with the Common Brown and its odd seasonal occurrence. Later I came to know them in the West Wyalong district where they were also common but their seasonal occurrence was more evidently extreme than in Sydney. At West Wyalong the males started to fly in mid-October and were all dead by late December. Few females could be found in this period. The females became common in early March and flew until early May. I was intrigued when a female laid some eggs on grass in late March, which later hatched to produce normal larvae. Either the females had been around when the males were flying or they were parthenogenetic



Male Common Brown Butterfly. Photo by Geoffrey Dabb



Eastern Flat Butterfly. Photo by Ted Edwards

(laid viable, unfertilised eggs). So I started a series of experiments.

Three females were caged in March and they laid several hundred eggs and the larvae were reared through the winter. The adults emerged in late October, about equal numbers of males and females and the peak emergence of females was only seven days behind that of males. So the idea that the males emerged before the females, while true, was only a matter of a week and not months.

Insects have a curious reproductive system where males secrete a spermatophore into a sac in the females' reproductive system while mating. It serves three purposes. It provides sperm, which the females use, a tiny few at a time, to fertilise their eggs as they lay them. The sperm survive for very long periods, years in some insects. The spermatophore provides extra nutrient for the female, it being in the male's interest for her to lay as many eggs as possible and it often forms an internal plug (rarely an external one) to make it difficult for the female to mate again. Presence of a spermatophore in a female then, is evidence that she has mated. All females found in March and April had mated. These observations eliminated the possibility of parthenogenesis and made it clear that the females hid over summer and later came out to lay eggs. This was confirmed when a female marked in November was recaptured in March. In less extreme climates than West Wyalong some females remain flying all summer.

The different behaviour of the males and the females is the most probable explanation of why they look so different. Butterfly colours and patterns are closely adapted to the butterflies' needs and so the female butterflies, which hideaway in shady places, will look different to the males which do not.

The Common Brown is found from Rockhampton through southeastern Australia to the Flinders Ranges and also in Tasmania. In south-western Western Australia a population occurs with rather different females and it

will probably come to be regarded in future as a separate species.

Why were there so many this season? Enough autumn rain to get the young grass established for the newly-hatched larvae is one factor. No doubt there are others to do with predators and parasites that we do not know about.

Eastern Flat Butterfly

What is wrong with the *Cryptocarya glaucescens*?

Another summertime walk, just 20 m up the road from Hudson's to the *Cryptocarya glaucescens* on the edge of the rainforest gully revealed the handiwork of another butterfly species. Many of the lower leaves of this rainforest tree looked shot-holed. A closer look showed that small circles of leaf had been cut out, folded over and silked down on the adjacent part of the intact leaf to form a tent. This is the work of the young caterpillar of the Eastern Flat Butterfly, *Netrocoryne repanda*, which shelters inside the tent and feeds on the green leaf. Larger caterpillars cut a large chunk of leaf, often the outer half, until it almost falls from the plant and they spin silk to mould it into a tubular shelter in which they hide.

This is one of the larger of the Australian skipper butterflies and can be seen in the morning flying very rapidly around the tree; later when the tree is shaded they fly in the rainforest gully. The butterflies are a bright bronze colour with some large yellow spots. The 'flat' part of the name derives from the habit of the adult butterflies of resting when they land with the wings held horizontally.

The butterfly feeds on many different plants in the Gardens including *Callicoma serratifolia* (Black Wattle; the real 'wattle' of early settlement) and *Brachychiton populneus* (Kurrajong) but *Cryptocarya* is flavour of the month. The butterflies are native to Canberra, under natural control, and will do no long term damage.

Growing Friends plant sale

Yvonne Robinson

Plants for sale on 9 April will include:

Asterotrichion discolor is a tall shrub to small tree that is mostly found along watercourses in eastern and south-eastern Tasmania. It has large grey-green leaves and small, highly aromatic flowers in autumn or winter. A fast growing tree it can reach 5 m x 2 m, in three to five years and prefers partial to full shade. It carries both male and female flowers. It is one of several Malvaceous plants to which the Aboriginal name Currajong (Kurrajong) is applied, otherwise it is known as the Tasmanian hemp-bush as the bark is a source of fibre.

Calytrix tetragona (prostrate) is an easily grown and very hardy shrub for the small garden that is tolerant of frost and drought. A low shrub or groundcover, spreading up to 1.5 m and 0.5 m in height, it has star-shaped white (more common) or pink flowers abundant in spring. They are quite spectacular when in flower and have colourful calyces to follow. Prefers well-drained soil in full sun and is useful in rockeries, or as a feature plant or in pots.

Stylidium graminifolium is a tufted grass-like rockery plant that bears pale pink to deep magenta flowers on stems 20-40 cm long in spring. It is found along the east coast from Queensland to Tasmania and in South Australia. They are known as 'trigger plants' because of the unique, irritable flower column which is triggered by insect visitors. It needs well-drained soil and a sunny position and can be used as an interesting pot plant.

As well, we will have a range of that tough little shrub *Correa*, including *glabra*, *reflexa*, and 'Ivory Bells'.

Feel welcome to join our monthly meeting held on the first Saturday of each month at 9 am (9.30 am in winter) in the Joseph Banks Building. Or come to a working bee on the third Tuesday of each month.

See page 18 in *What's on* for details of sale



Above: *Asterotrichion discolor*, *Calytrix tetragona* and *Stylidium graminifolium*. Photos by Murray Fagg © ANBG



Growing Friends at work. Photo by Kath Holtzapffel

We live in interesting times!

Following are edited versions of the reports by Alan Munns, President of the Friends; Marion Jones, Treasurer; Dr Judy West, Executive Director ANBG; and a summary of the talk by guest speaker, Genevieve Jacobs, all presented at the 22nd AGM of the Friends on 8 February 2011.

President's Report

There is an old Chinese curse *may you live in interesting times*. I've reflected on this many times during my four years as President of the Friends. Some times during those four years I've been pessimistic about the future outlook for the Gardens and the Friends. I'm pleased to say in this report that I'm very optimistic.

The management changes introduced towards the end of 2009 have been greatly beneficial to the Gardens. The Friends welcomed the management restructure and the appointment of Dr Judy West as Executive Director. Since then Peter Byron has been appointed as General Manager and there have been other staff changes. From the Friends' point of view these have worked out very well. Staff morale is high and relations between management, staff and the Friends is excellent. We look forward to the future much more confidently than was once the case.

The great highlight of the Friends' year was our 20th anniversary celebration last October. To mark our anniversary, and the Gardens' 40th anniversary, the Friends gave the Gardens a shade shelter over the Crosbie Morrison amphitheatre. This was a very significant project for us, costing \$47,000. The fact that we could do this shows that, 20 years after our formation, the Friends has become a significant and successful community support organisation for the Gardens.

The shelter was launched on 20 October, 40 years to the day since then Prime Minister John Gorton officially

opened the Gardens. Quite amazingly, 60 of our present members joined the Friends in our founding year, 1990, and have been members ever since. We were delighted that many of them were able to join us in the celebrations.

Another highlight was the 2011 summer concert season, which this year was enthusiastically backed by Gardens' management and staff. Publicity was excellent and significant sponsorship was obtained. We especially thank Jenny Blake and Peter Byron. We should make about \$10,000 from this event, compared with \$4,000 last year. But the fact that very large numbers of people were attracted to enjoy the Gardens is just as important as the financial returns.

I mentioned at the last AGM that recently the Gardens had made little call on the Friends for financial support and said we would seek to change that during 2010. We did that. Our largest expenditure was on the Crosbie Morrison shade shelter. We made the second of three annual payments for the alpine research project (\$22,000 a year for three years). We funded new interpretive signs for the redeveloped Grassy Woodland Garden (\$8,500), set-up costs for the orchid display in the Visitor Centre (\$5,500) and new signs for *In Flower this Week* (\$1,600). We are very grateful to David Coutts and other members of the Friends Projects Committee for lots of hard work on this, and to Peter Byron for management co-operation.

Additional financial support was agreed to by the Friends Public Fund. Work is well advanced on the installation of environmental monitoring stations and on the development of a new website on Australian lichens.

The ranks of volunteer guides were boosted by an intake of trainee guides. The highly successful 10-day training course was largely conducted by existing guides and staff, led by Guides' Convenor Don Beer. We are enormously



Executive Director, Dr Judy West, being interviewed under the Crosbie Morrison shade shelter. Photo by Margaret Clarke.



Summer concert January 2011. Photo by Barbara Poidger



Guides at the clock. Photo by Stephen Speer



Footprint Festival. Photo by Barbara Podger

grateful to Don for taking on this important and very demanding task which, until the last 2 intakes, was done by Gardens' staff. When a task like this is taken on by volunteers there is always the problem that the change may be seen as permanent. We have made the point that training for future intakes will need greater staff involvement.

In April and May 2010 we mounted a retrospective exhibition of First Prize winners from previous schools' photo competitions, dating back to 1997. In November the 14th annual photo competition was exhibited and we thank Shirley McKeown for once again co-ordinating and managing this event and the retrospective.

In partnership with the Gardens we applied for and received a grant from the ACT Government to run an environmental festival (the *Footprint Festival*) as part of 2010 Canberra Day celebrations. The event was co-ordinated with the *Festival of Forests* run by the Friends of the Arboretum. Although our event was successful, our grant application for this year was not, so no comparable event is planned this year.

We prepared a new five year *Strategic Plan*. We sent all members a draft for comment, made some changes, and adopted the Plan which is now on the Friends' website.

Many other Friends' activities again operated very successfully over the last year. They include lunchtime talks, Growing Friends, the Botanic Art Groups, facilitators for the Botanical Resource Centre, the Newsletter (now *FronDs*), the Bernard Fennessy memorial lecture and award, the schools photographic competition, two visits to the gardens of Parliament House, Breakfast with the Birds, a twilight dinner and the website. We are enormously grateful to all those who have helped make these activities so successful.

I'm pleased to report another small increase in membership numbers to 1,625. We really appreciate the hard work of the membership team, Barbara Scott and Lesley

Harland with IT support by Les Fielke. At last membership renewal time we offered the option of paying by electronic transfer. This saves work for the Treasurer and reduces bank fees, so we hope more members will take up this option.

Let me touch on a couple of disappointments. The long promised public draft of the Gardens' new management plan has not yet been released. Recent delays have been at Parks Australia and I know this is frustrating for Gardens' management. We are pleased that, despite this, new plans are being implemented, for example the wonderful redevelopment of the Grassy Woodland section and work on a new Red Centre Garden on the old nursery site.

The Friends have two items on our agenda dealing with governance reform that have not progressed. They are establishment of an advisory body and moving the Gardens towards a statutory body model. A main reason we argue for a statutory body model is concern that present governance arrangements may be a hindrance to the Gardens obtaining philanthropic and corporate financial support.

As I step down from the Presidency I can say I've found the role incredibly rewarding and, once ABC radio stopped phoning me at 6.30 am, very enjoyable. The greatest rewards and enjoyment came from getting to know and interacting with a vast number of people. Firstly, the Gardens' staff at every level are incredibly talented, dedicated and hard working and it's been a real privilege to work with them and to be accepted as part of the Gardens family. And secondly, it's been a joy to work closely with and to become good friends with all Council members and a large number of helpers who make this a fascinating and vibrant organisation. Although I will not continue as a member of Council I hope to stay involved and look forward to lots of good times ahead.



Tree of Trees. Photo by Anne Rawson



New Life Member, Bev Fisher, with her granddaughter, Alice, and husband, Ron. Photo by Barbara Podger

Treasurer's report

for the year ended 30 September 2010

Marion Jones reported on the Friends' secure financial situation with the year-end result showing an operating surplus of \$6,877 and accumulated funds of \$369,619. Membership fees (\$55,613) remained the major source of income followed by interest on term deposits (\$20,078). Major expenditure items for the year were the contribution to the Alpine Seed Research Project (\$22,000) and part-payment for the Crosbie Morrison Shelter (\$20,078). The full Financial Statements are available on the website: www.friendsanbg.org.au

Executive Director's report

Dr Judy West paid tribute to outgoing President, Alan Munns, praising his efforts to raise the profile of the Gardens. As well as 'making things happen', she recognised Alan's abilities to keep and promote harmonious relations both inside and outside the Gardens. She also appreciated the emphasis on science and research he had brought to the Friends' agenda.

Judy listed a range of projects and developments completed by the ANBG in the past year, including the supply of non-potable water from Lake Burley Griffin, upgrades to the Grassy Woodland and the Sydney Region Gardens as well as remediation of the old nursery site. The living collections were enhanced by pots for presentation, regional collecting of grassland species and conservation work on Ginninderra Pepperpress. Seed banking continued as an important conservation tool, with an emphasis on ACT species, especially from the Brindabellas, and alpine species as part of the major Alpine Seed Research Project in partnership with the ANU and the Friends.

Other science-based activities included the Tree of Trees of Acacia presented on the old nursery site; development of a project to conserve *Swainsona recta* (a threatened species in the ACT); and development of a lichen website.

A report would not be complete without some statistics. Visitor numbers for 2010 were up by nearly 20 per cent over the previous year to 462,000. And the Australian Cultivar Registration Authority now has 4,000 cultivars registered and described.

Guest speaker: Genevieve Jacobs

Are you passionate enough about trees to phone your local radio station to plead for the preservation of a special one? Our guest speaker, ABC 666 presenter and gardening guru, Genevieve Jacobs, told us the subject of trees (especially when the chain saw threatens), excites more listener call back and interest than just about any other. Yet few officials or experts are prepared to come forth to discuss the tree related issues that Canberrans are clearly so passionate about. Understanding the links between climate, tree selection and climate change is a major challenge and a less than precise science. We need to understand from those responsible for the health and fate of our trees, the rationale for the decisions they make.

Our thanks to Genevieve for an engaging and stimulating presentation.

Life Member

Congratulations to Bev Fisher who was presented with Life Membership of the Friends at the AGM. Bev has contributed greatly to the Friends, as member of Friends' Council and Treasurer for over 16 years. Bev described herself at the meeting as a 'failed guide' as she originally responded to the first advertisement for people to become volunteer guides. Instead, she was co-opted to organise the first 'Spring Fling' event at the Gardens. She went on to play a major role in initiating and organising many Friends' activities including the summer concerts, schools photographic competition, 'Grazing in the Gardens' and the Friends Public Fund. The Guides' loss has been a real gain for the Friends! Our thanks, too, to Ron for all his work for the Friends.

THE BERNARD FENNESSY 'WHAT'S IN A NAME?' AWARD 2010

Runner Up

Correa backhouseana Peter Davidson

Photo by Anne Rawson

Events celebrating the upcoming Centenary of Canberra in 2013 include the release of the Centenary Plant *Correa* 'Canberra Bells' - resulting from a long process of cross breeding. *C. backhouseana* (sometimes incorrectly spelt *C. backhousiana*) is a known ancestor.

An interesting pair of names conjoin here; indeed each in its own right as significant for Australian horticulture as is that plant itself.

The genus *Correa* is named for Jose Francesco Correia da Serra (1750-1823), the Portuguese-born priest, philosopher, botanist and polymath who spent as much of his life in self-imposed political and religious exile, as in his homeland.

Educated in Rome, he took Holy Orders in 1777 and two years later founded the Royal Academy of Sciences in Lisbon. However his progressive writings and ideas soon brought him into conflict with the conservative religious and political orders of the day, causing him to flee his homeland twice, first to France and later to England.

In England he found a friend and protector in Banks, by whose nomination he was readily elected to the Royal Society. International honours included election to the Royal Swedish Academy of Sciences. An appointment as secretary to the Portuguese Embassy in London was short-lived, with another dispute seeing him flee again to Paris, this time for 11 years.

It was not yet time to go home. In 1813 he sailed for the USA, finding firm friendship and a kindred political spirit in Thomas Jefferson, at whose home he was a frequent guest. Eventually times would change and he came into favour, first as Portugal's Ambassador to Washington,

then three years before his death recalled home to enter into the new national elite.

Banks and Solander had collected *Correa* at Botany Bay in April 1770, but the genus was not named until 1798 by Henry C. Andrews.

James Backhouse (1794-1869) has a genus named for him (*What's in a Name? Newsletter* 63 p.4) as well as this species.

The English Quaker Missionary in Tasmania in the 1830s, who happens to be a professional nurseryman from York (UK), offers possibly the first mention of the species. On 31 January 1832 he is at Cape Grim in the north-west of the state. He writes: 'The low ground near the coast is open, grassy forest, of small Gum-trees, Honey-suckles, &c, and on the sand-banks there are large round bushes of a remarkable, oval-leaved *Correa*'. He must consider it 'remarkable' in habit, seeing its upcoming autumn/winter flowering would be barely discerned. He little guesses the significance of his observation of the as yet unnamed *Correa*.

Less than three years later Ronald Gunn, who becomes Tasmania's unparalleled expert on the endemic flora of the state, is also at Cape Grim. He too describes the scene, but now identifies the *Correa* as *C. backhousiana* (sic). What has happened in the meantime?

Lacking a readily accessible documentary trail we have to conjecture, by following a trail of almost unquestionably correct dot-joining.

Backhouse was an avid collector, sending material to William Hooker, Professor of Botany at Edinburgh and later Director of Kew Gardens, among others. And we

do know that it was Hooker who described the plant for science and ascribed to it its name. No doubt he is honouring his collector in the best way he can. Hooker will, in time, repeat the honour, this time naming a whole genus of rainforest plants in the Myrtaceae *Backhousia*.

This variable plant, of up to two metres high, is endemic (in varieties) from north-western Tasmania through south-western Victoria to the Coorong, Kangaroo Island and beyond into Western Australia (with some examples being found as far as 200 km west of Eucla) but always near the coast. The range is suggestive of its hardiness and adaptability: tolerant of salt and on soils varying from sand to clay, but always well drained.

The tubular bell-shaped flowers of around 25 mm length peak in winter and vary in colour range (cream to pale green), while the strikingly ovate dull green leaves (to 3 x 2 cm) are 'felted' underneath.

Look out for it scattered through ANBG, well represented in Rutaceae beds of Sections 46 and 150, or particularly as a few striking individuals by the path in the more accessible fence-screening Section 33.

Note from Editors of *FronDS*

The *What's In a Name?* Award has now been discontinued, but the editors welcome the submission of articles in the same style for publication in a new Bernard Fennessy *What's In a Name?* series. Articles should be about 500-600 words and describe a living plant in the ANBG and the origin of the plant's name. Please see the Friends website for more details. Queries should be directed to the Editors at newsletter@friendsanbg.org.au.

Bernard Fennessy was a volunteer guide at the Australian National Botanic Gardens from 1992 until just before his death on 6 August 2006. Bernard was a wonderfully enthusiastic and talented educator who totally immersed himself in the Gardens. One of his lasting achievements is a series of articles entitled *What's in a Name?* The articles are on the Friends website at www.friendsanbg.org.au.

Since Bernard's death, the Friends have commemorated his love for and service to the Gardens by establishing an annual Bernard Fennessy Memorial Lecture in early August each year. See *What's on at the Gardens* at page 20 for details of this year's lecture.

Calling all photographers!

Are you interested in photography in the Gardens? Come to a meeting about starting a Friends' Photography Group

A discussion meeting to gauge interest in establishing a Friends Photography Group at ANBG will be held on Monday 18 April.

There will be speakers on botanical photography and open discussion on how such a group might operate.

We envisage a self-sustaining group that would chart its own agenda, with support from the Friends. This is similar to the Growing Friends and the Botanic Art Group.

All photographic skill and experience levels welcome.

When: 10am to (no later than) 11.30am, Monday 18 April 2011

Where: Dickson Room, (opposite Visitor Centre Theatre), ANBG

Contact/ Inquiries: David Coutts on email:info@friendsanbg.org.au or 6258 8840 or 0412 678 682.

If you are interested in the group but unable to attend please let David know.

RSVP: Not necessary, but helpful (to above contact options).



Photo by Tobias Hayashi

Making an entrance— the Grassy Woodland Garden

Margaret Clarke



© ANBG

One of the 40th anniversary projects in the Gardens was to create an arrival experience for visitors. The challenge was to transform the original grassland garden into something which would excite and inspire visitors and show off the diversity and delicacy of these disappearing plant communities. The Gardens' team responsible for rejuvenating the entry garden was determined that it would be simple, striking and engaging. It would recognise the importance of grasslands as one of the most species-rich plant communities in Australia and it would tell the story of its demise to less than one per cent of its pre-European coverage.

The original grassland garden, which greeted visitors at the entry to the carpark for 20 years, was an authentic grassland representation with minimal landscaping and plantings that complemented the woody grassland that occurred naturally on the site. Unfortunately the most common visitor response was to ask when this area would be planted out with something interesting!

A bold approach was needed to give the grassy woodland species high visual impact and immediately invite exploration. The new garden relies on a number of design elements to create its striking effect. A boardwalk of recycled timber curves through the garden. Huge rocks (salvaged from the Gunghalin Drive Extension) are a dramatic contrast to the smaller plants and provide a first visual focus. Mass plantings of small grasses create a sculptural effect. Undulations and contours create visual interest and provide different microclimates, including a dry creek bed for water harvesting, increasing the range of species that can be grown. Bare gravel around the Xanthorrhizas (some saved by ACTEW from submersion by the Cotter Dam) allows their full sculptural effect to be viewed without distraction. Container plantings raise small plants for better viewing and examination of their features.

The scientific underpinning of the Gardens is evident here too. Signage explains the work the ANBG is undertaking in collaboration with the ACT Government to ensure survival of Ginninderra Peppergrass (*Lepidium ginninderrense*) which is threatened by urban encroachment and modification of its habitat on the floodplain of Ginninderra Creek amid newer Canberra suburbs. The ANBG is already looking to extend its conservation work; collecting, researching and growing more threatened grassland species such as *Swainsona recta*.

Even the entry signage to the garden is different but connected. The grass cutouts in the rusted steel main sign are taken from illustrations by the distinguished systemic botanist and Herbarium curator Nancy Burbidge, who is also remembered in the Gardens by the amphitheatre that bears her name.

Perhaps the greatest achievement of this project has been its engagement with the community. Friends of Grasslands, Greening Australia and, of course, the Friends of the ANBG have all supported and helped. We reported on the flurry of planting to have the Gardens ready in time for the 40th anniversary celebrations in the last edition of *Fronde*. Men in suits, women in boots, Friends and staff all came to help. A special thank you is due too to Ewan Buckle and his team from Gundaroo Landscaping and Civil who put in a herculean effort to have the landscaping ready on time and then helped to get the last of those 2,000 plants into the ground as night fell.

Plans are now underway for further plantings in autumn and to document the vigour and longevity of each species under different conditions. This will add to our knowledge of the growing requirements for grassland species in cultivation. This is a garden that works on many levels.

BEFORE

Photo by Anthony Haraldson



DURING

© ANBG



AFTER

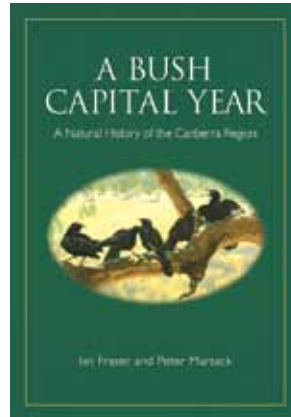
Photo by Anne Rawson



Thanks to team members: David Taylor, Assistant Director ANBG and Curator, Living Collection; Kaiya Browning, Designer; Anthony Haraldson, Horticulture Manager; Laura Schweickle, Custodian; and Sabrina Sonntag, interpretive signage.

From the Bookshop

with Tom Butt, Shop Manager



A Bush Capital Year: A Natural History of the Canberra Region.

by Ian Fraser and Peter Marsack

CSIRO Publishing 2011

Paperback, 218 pages, colour illustrations

RRP \$49.95

ISBN 9780643101555

A long awaited new book by our much-loved local naturalist Ian Fraser. Illustrated beautifully by Peter Marsack who is well known for his natural history illustrations.

Ian writes as well as he speaks, and you can 'hear' the words from the book, as if he was talking on the radio. Very informative, and captivating in style, the book is written as if Ian was with us on a walk, explaining the things we see as we go. From the promiscuous female Superb Fairy-wren in the pre-dawn faint wash of light in the ANBG in summer, to his dilemma over killing silverfish in winter. We are taken through the four seasons and a variety of locations in and around Canberra where we meet different natives, both animal and vegetable, and enjoy an interaction with them from our favourite reading chair. Hopefully to encourage us to get up and go out and physically enjoy, and help to conserve, these wonderful experiences for the future.

Peter's illustrations provide a genuine view into the nature and character of his subjects, from Lyrebirds and Bowerbirds to Trigger Plants and the full page Kookaburra; they are wonderful visualisations and add immensely to the enjoyment of the book.

This book seeks to help anyone who is interested to discover and celebrate the plants and animals that make the ACT so very special. For each month of the year there are 10 stories which discuss either a species or a group of species. Many of the stories are written from the organism's point of view, while others are from that of an observer.

To quote Ian in his Introduction: 'my hope is that this book may, in a very small way, help to increase our sense of stewardship' of the 'teeming and subtle life' that we are privileged to be living with. And with that privilege comes responsibility. 'Sadly, it is not a responsibility that we have fully shouldered yet' but through this book may we experience 'simple pleasure in this most wonderful world into which we have stumbled'.

Friends Briefs

Summer delight



Kids' table at a concert. Photo by Barbara Podger

What would summer be without the wonderful concert series in the Gardens? Thousands of families took the opportunity to picnic and unwind to the sound of music floating across the Eucalypt Lawn during weekends in January. This year saw the construction of a stage at the lower end of the Lawn, community groups providing food for sale, Waste Busters collecting and sorting garbage, and Peter Brady, an experienced MC, presenting the concerts. These innovations were popular with audience members. Donations from the audience and takings from drinks sales raised \$9,600 for projects in the Gardens, (after paying for the bands and the sound engineer). Our thanks to Peter Blackshaw and Urban Contractors, who provided sponsorship to help with the cost of staging the concerts this year.

Botanical Interns Program

Eleven students recently completed a hectic seven week program of seminars, workshops, field trips and training sessions as part of the Students' Volunteer Botanical Internship Program. With backgrounds ranging from botany and horticulture to accounting, the interns experienced working in the Centre for Australian Biodiversity Research and were exposed to many

of the different botanical, conservation and research fields open to them in their future careers.

The Internship program began in 1993 with eight students. Since then 269 students have successfully completed the program, contributing to the Centre's many programs. Amongst their many achievements this year's interns processed nearly 1000 cryptogam specimens and over 2500 loans specimens in the Australian National Herbarium, provided invaluable assistance to CSIRO Plant Industry researchers studying agricultural weeds, and worked with ANBG staff to research the cultivation of Australian native plants for the ANBG Growing Native Plants website.

Senator Kate Lundy and Friends President David Coutts presented the interns with their graduation certificates, complimentary Friends memberships and book vouchers for The Botanical Bookshop on Friday 18 February. The ceremony was quickly followed by a rush on the bookshop. On behalf of the interns I would like to thank the Friends for their generosity and ongoing support for the program.

Bronwyn Collins

Coordinator, Students' Volunteer Botanical Internship Program



Interns at work at Fitzroy Falls. Photo by Bronwyn Collins.

Alpine seed update

The Alpine Seed Ecology Project is now into its second season of collecting seeds in the Australian Alps. Friends are again involved with collecting trips. Due to wet weather seed set has not been as prolific this year as last.

Research at the Australian National University and at the ANBG into seeds and seedlings on selected alpine plants is continuing and findings are progressively being presented at national and international meetings.

Among recent highlights has been the best inaugural talk prize given to last year's honours student Deborah Segal at the December 2010 Ecological Society of Australia Conference for her honours work on alpine seeds and seedlings under the project. Findings from the Alpine Linkages Project will also be discussed at the International Botanical Congress to be held in Melbourne in July.

Rhythm Interrupted— Life Redirected



Photo by Barbara Podger

Jenny Rees, lacemaker, wrote to thank the Friends for their financial support for her exhibition which ran in the Visitor Gallery from January to early March. She reported that, 'Rosemary Shepherd, who opened the exhibition for us, commented that it is the biggest modern lace exhibition ever mounted in Australia and from what we can gather it is very different to what is being produced overseas and it sounds as though we have put Australia on the "modern lace" map.'

Are we 'spinning'?

A reader has challenged our report of the Gardens' first ever Gala Dinner event last year (*Fronde* 66, p4). Was our description of the 'intimate crowd' attending code for 'a disappointingly small gathering' or 'an expensive failure'? We asked the Gardens for their reflections on, and evaluation of, their anniversary events.

On a measure of number of people impacted per dollar spent, the ANBG display at Floriade was a standout success. With much of the design and landscaping donated by Gundaroo Landscaping and Civil and with Friends' volunteers helping with interpreting the display to many of the 470,000 visitors who came to Floriade, it was a high benefit/cost ratio activity. The Open Day too was supported by many volunteers and supporters. With the good media coverage and promotion, it is likely many of the 3,000–5,000 visitors were first-timers in the Gardens.



Before 77 diners arrived. Photo by Anne Rawson

The Gala Dinner was a very much smaller affair with 77 ticket holders. This was a smaller number than planned and we understand the aim was to break-even on costs and not make a profit. But is profitability the best measure for a 40th anniversary celebration? This was a new and unique experience—the Gardens, transformed by lighting, music, fine dining and dancing. It was a wonderfully enjoyable event. No doubt there are lessons to be learned for future diners, but let's hope there will be more opportunities to enjoy the magic of the Gardens by night.

Celebrating volunteers

A special morning tea for ANBG volunteers was held on 6 December, to celebrate International Volunteers Day. Executive Director Dr Judy West and special guest Peter Gordon, Founder and Managing Director of Economic Futures, and committee member of Hands Across Canberra, thanked volunteers for the work they do in a wide range of areas, to support the work of the Gardens, and awarded recognition of service certificates to volunteers with 10 and 15 years service.



Photo by Margaret Clarke

Twilight dinner

More than 90 members and guests enjoyed the 1970s theme at the Twilight Dinner at Hudson's restaurant in February. Guest speaker, Bernadette Hince, reminisced about gardening and street plantings in the 1970s when many of those present were setting up home and gardens—those familiar trees like Claret Ash, Liquidambar, Silver Birch—and so few Australian natives. Gastronomic delights included devils on horseback, Beef Wellington, and chocolate mousse with fresh raspberries. Our new President and his wife suspected an uprising of Council when they were attacked (without injury) by a falling loudspeaker; but we are assured it was, in fact, an accident!

The clock

Life Member of the Friends, Alison McKenzie, about to unveil the clock that advertises the times of guided tours. See also the AGM report on pages 3-5. Photo by Barbara Podger.

Acacia Pollination Project



Acacia pubescens. Photo by Murray Fagg

The Acacia Pollination Project has been a fascinating insight into the world of biological research for the volunteers assisting Dr Joe Miller investigate self-pollination in selected wattles (*Fronde* 66 p8). The six wattle species in the study behaved very differently, with wide variations in the number of seeds set on the branches which had been covered in mesh bags to exclude insect pollinators.

Numbers of seeds reaching maturity on the bagged branches varied from zero (*A. pubescens*) to around 100 on *A. menzliei*. With so few seeds and such wide variations, analysis of the results will be difficult. A further experiment to gather more data may be worthwhile. If this does go ahead, there will be some useful lessons learned from this round which can be applied to improve and streamline the process.

Most of the volunteers found the experience with the project very enjoyable and hope it will stimulate more involvement of the Friends in ANBG research.



Garden Shorts

Myrtle Rust

'Myrtle Rust is a serious fungal disease that affects Australian native plants such as bottle brush, tea tree, eucalypts and other members of the *Myrtaceae* family,' Executive Director of the ANBG, Dr Judy West, said to the press at a workshop at the ANBG on 10 March. The workshop was exploring options to manage the outbreak of this South American fungal disease, focusing on the threat to botanic gardens and bushland.

The rust first emerged in a central New South Wales plant nursery in April 2010 and has now spread north and south in NSW and into Queensland.

The workshop brought together horticultural and agricultural experts to update current knowledge of the disease in the Australian environment, primarily to determine research priorities. As well as protecting the ANBG's unique collection of native plants, Judy West said national parks and reserves had to be protected.

So far no-one in the world has managed to eradicate the fungus, so Australia needs to contain its spread through education, handling guidelines and strict hygiene protocols.

The workshop was part of an ongoing collaboration between federal, local and state governments and industry to minimise the threat of Myrtle Rust.



Myrtle Rust on *Melaleuca quinquenervia* (Broad-leaved Paperbark) Photo: © I&I NSW

Lichen website

At 12.30 pm on Thursday 10 April 2011 the ANBG Lichen website, funded by the Friends Public Fund, was officially launched. The site went live three days earlier and by launch date there had been so many hits it had moved up to number three on a Google search for lichens, according to Murray Fagg, who put the site on the web.

Speakers at the launch revealed lots of fascinating facts about lichens. Christine Cargill, Curator of the cryptogam section of the Australian National Herbarium, hosted the proceedings.

Jack Elix, Emeritus Professor of Chemistry and internationally renowned lichenologist, outlined the basic fact that lichens are symbiotic organisms, 95 per cent fungus and five per cent algae (or cyanobacterium), the bit that generates carbohydrates to feed the fungus through photosynthesis. A lichen therefore must be in the light.

He also had many samples and showed us the different forms: fruticose, crustose and foliose. Fruticose lichens are three dimensional and stand up or hang down; all speakers had fruticose lichens hanging from their name tags.



Usnea sp. Photo by Heino Lepp.

The crustose lichens Professor Elix showed us were closely attached to the substrate on which they were growing.



Caloplaca sp. Photo by Heino Lepp.

Foliose lichens are those that grow on rocks or the soil; they are thin and only partially attached to their substrate.



Xanthoparmelia substrigosa. Photo by Murray Fagg.

The fact that lichens contain 1,000+ chemicals perhaps explains why a chemist became fascinated by them. Heino Lepp, who wrote the 115,000 words and chose the 400 pictures on the website, entertained the audience with assorted facts: invertebrates and vertebrates eat lichens (they keep reindeer alive, but not fat, in the winter); it is said that manna from heaven was a lichen; lichen dyes, which have been used for thousands of years, give fast colours; Harris tweed traditionally was dyed with lichens. The website elaborates this tidbit by informing us that the name 'Harris Tweed' is protected by UK legislation, the *Harris Tweed Act 1993*, which prescribes that the tweed must be hand-woven in the outer Hebrides, but not that the dyes must come from lichens.

Murray Fagg, provided some web-use statistics to emphasise that 'the Friends are getting their money's worth'. For example, the Fungi site had received 25,000 hits in February this year, but last year in April, at the height of the fungus season, it had received 49,000 hits.

Flix in the Stix

Movie and music lovers turned out in force for what was a memorable night out under the stars on the Eucalypt Lawn at Flix in the Stix. With music by Mark Seymour, internationally regarded as one of Australia's best singer/songwriters, interspersed with a collection of short films, the Gardens' first-ever ticketed event was a huge success.

Aquatic collecting



Photo by Murray Fagg

Canberra is not the place you would expect to collect plants by boat, but that was the only solution when it came to invasive waterlilies in Lake Burley Griffin. The Australian National Herbarium maintains a Census of the ACT Flora, including naturalised plants, and until now it did not include the genus *Nymphaea*. To collect the plant, field botanist Dave Mallinson used his own kayak, launched amid the willows and blackberries of the Jerrabomberra Wetlands last week. The tentative identification is *Nymphaea mexicana*, and from aerial photographs it appears to be spreading. The information will be passed on to the ACT Government for action.

Gardens shorts contributions by Sabrina Sonntag and Anne Rawson

Saving a species

The Gardens recently received a graft of one of the country's rarest eucalypts from the New South Wales Department of Environment and Climate Change and Water. Only five individuals of *Eucalyptus recurva*, commonly known as the Mongarlowe Mallee, are known to exist in the wild.

Previous efforts to reproduce the species from tissue culture and cuttings had failed, but one grafting trial was successful.

Gardens' staff are hopeful they can conserve and propagate the plant to help ensure its survival.



John Briggs of NSW DECCW shows Gardens' Curator, David Taylor, the uniquely curved leaves of the rare Mongarlowe Mallee.

Alpine rock garden



Photo by Anne Rawson

Staff were out in full force breaking ground for a new alpine display in the rock garden featuring plants from the Australian alps. The display will showcase a selection of plants collected as seed through the Gardens' joint Alpine Research Project and will enable staff to experiment with growing alpine plants outside of the nursery. Planting of the garden bed is due to begin this autumn. Partners in the research project include the Gardens, the Australian National University, University of Queensland and the Friends.



Robyn Diamond collecting seeds of *Herpolirion novae-zealandiae* in the Alps in March 2011. Photo by Bindi Vanzella.



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What's on at the Gardens

April to August 2011



The Friends of the ANBG thank the many speakers who volunteer their time and talents to further the knowledge of all who attend the events in the Gardens. The Friends use the 'gold' coin donations received at each activity to support Gardens' programs and development. The Friends thank all those who have donated, and all those who will.

Please note: unless otherwise indicated, talks are in the ANBG Theatrette.

When bookings are required, phone the Visitor Centre on 02 6250 9540. Members who make bookings for events are requested, as a courtesy to their fellows, to notify the Visitor Centre if they are unable to attend.

Summaries or PowerPoint presentations of Thursday talks are available to Friends from the ANBG library. A donation to the Friends for the use of this material will be gratefully accepted.

Details of events are correct at the time of printing. For changes and updates please check the Friends' website at www.friendsanbg.org.au or on the Gardens' site at: www.anbg.gov.au or in the local press.



Bush Magic Story Time

In the Gardens from 10 to 11 am
Education Building

Cost: \$1 per child

Friday 1 April April Fools' Day stories

Tuesday 19, Wednesday 20,

Tuesday 26, Wednesday 27 April

Easter Bilby stories

Friday 6 May Mother's Day stories

Friday 3 June Bird stories

Friday 1 July Doona stories

PLANTS FOR SALE

Saturday 9 April

8.30 to 11.30 am

Propagated, tended and sold by the
Growing Friends

in the car park behind the
Crosbie Morrison Building

see page 6 for details of some of the
plants for sale

APRIL

Thursday 7 April 12.30 pm

'Recovery of the Mountain Pygmy
Possum'; and,
'Rehabilitation of the Riparian Zones
on the Wolgan River'

Presenter: Trevor Evans

Two iconic recovery programs in which
Australian Ecosystems Foundation
collaborates with noted scientists to
save *Burrumys parvus* and a riparian
zone.

Tuesday 12 April

Tours of the NGA Sculpture Garden
and the NLA Ellis Rowan collection
with Barrie Hadlow (former ANBG
Guide)

Tour 1 Meet at the National Library
9:30 am for a 50 minute tour of the
Library's Ellis Rowan collection then
coffee at the 'Book Plate' before
moving on to the NGA's Sculpture
Garden around 11 am for 35 minutes
to one hour.

Tour 2 Meet at the Sculpture
Garden at the National Gallery at 1.30
pm for 45 minutes to 1 hour, then to
the Library to view the Ellis Rowan
collection, then coffee, finishing around
3:30 or 4 pm.

Limit of 15 people per tour

Bookings **essential** at the Visitor
Centre, phone 6250 9540.

Thursday 14 April 12.30 pm

'Developing Australian Plants for
Australian Gardens'

Presenter: Peter Ollerenshaw

Practical and energetic horticulturist,
Peter Ollerenshaw, brings an update
on some of the work being carried out
at Bywong Nursery in the growing of
Correas and other native plants bred
especially for Australian gardens.

Thursday 21 April 12.30 pm

'Whimsy, Wild Plants and Wollemi
Pines'

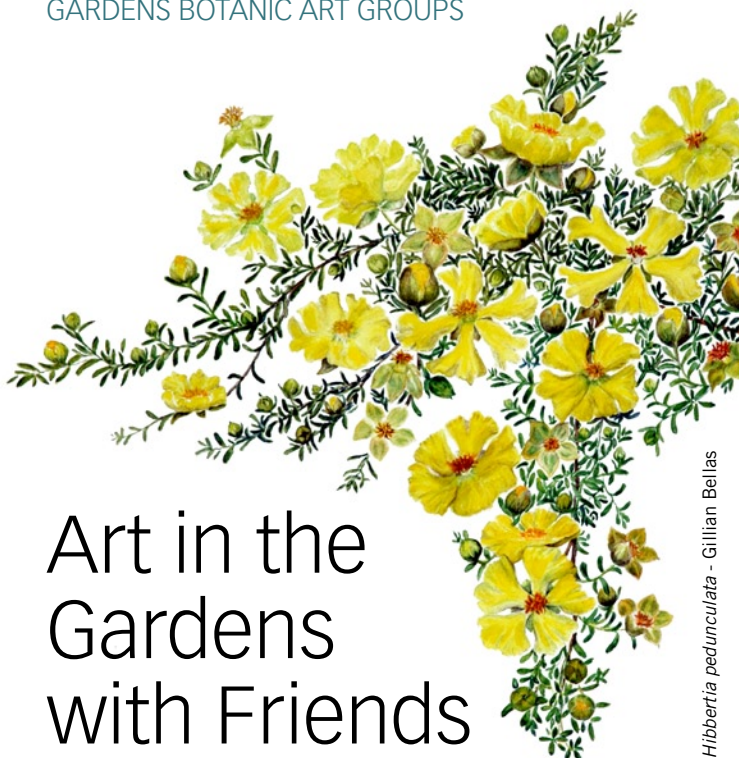
Presenter: Rusty Worsman

Join Rusty Worsman for an eclectic
view of environmental education at
Mount Tomah Botanic Garden over
15 years. Rusty comes from a
background of adventure, the bush,
health and horticulture. He has worked
with children and adults in classrooms
and gardens, working to inspire people
to 'walk on the grass'.



Photo by Rusty Worsman

AUSTRALIAN NATIONAL BOTANIC GARDENS
FRIENDS OF THE AUSTRALIAN NATIONAL BOTANIC
GARDENS BOTANIC ART GROUPS



Art in the Gardens with Friends

Hibbertia pedunculata - Gillian Bellas

BOTANIC ART EXHIBITION

13 to 27 April 2011, 9.30 am to 4.30 pm

Fourth exhibition of botanical paintings and
drawings of Australian native plants

Visitor Centre Gallery

For details phone 02 6250 9540

or visit www.friendsanbg.org.au

Some works will be available for sale

April School Holidays

Last two weeks in April



Bilby Children's Trail

Details available at Visitor Centre

Thursday 28 April 12.30 pm 'Submarine Volcanoes of the South- West Pacific'

Presenter: Richard Arculus

Richard reports, both globally and specifically, on major technological developments in recent decades that have enabled a greater understanding of the dynamics of the ocean floor. Recent discoveries include deep sea hot springs, diverse magmatic activity and the dynamic deformation of the earth's crust.

MAY

Thursday 5 May 12.30 pm 'Landscape Architecture in Canberra'

Presenter: Paul Scholtens

In 2009 Canberra based DSB Landscape Architects celebrated 30 years of landscape architect services to Canberra. Paul Scholtens, a partner during all of that time, will discuss the creation of a range of well known landscapes in Canberra.

Thursday 12 May 12.30 pm 'Gudgenby Bush Regeneration'

Presenter: Hazel Rath

The use of indigenous plants in the rehabilitation and revegetation of what was the fire devastated Gudgenby pine forest provides a story of care and application in recovery towards native bushland.

Thursday 19 May 12.30 pm 'Bugs I have known and loved'

Presenter: Murray Fletcher

Entomologist, Murray Fletcher, gives us a look at some of the extraordinary products and structures produced by the Order Hemiptera, or true bugs.

Thursday 26 May 12.30 pm 'Planting With A Purpose'

Presenter: David Taylor

David Taylor, Curator of the Living Collection at ANBG, talks informally about the what and why of plantings in the ANBG. This talk will give all who attend a better understanding of some of the complexities of maintaining the living collection.

Thursday 2 June 12.30 pm 'What were Walter and Marion up to in 1911?'

Presenter: Brett Odgers

Noted Canberra historian, Brett Odgers, brings an interesting story of a courtship and competition entry of exactly 100 years ago.

JUNE

Thursday 9 June 12.30 pm
'Beautiful Flowers of New Zealand South Island....'

Presenter: Pat Wright

In a trip to New Zealand in 2010 with the Native Plants Society, Pat discovered a new talent – wildflower photography. With her usual tongue-in-cheek approach, this should be a memorable talk.

Thursday 16 June
TBA

Thursday 23 June 12.30 pm
'The Australian Seed Bank Partnership'

Presenter: Lucy Sutherland

Lucy Sutherland relates the important role ANBG is playing in the preservation of native species by means of the Australian Seed Bank Partnership.

Thursday 30 June 12.30 pm
'Ikebana Australiana'

Presenter: Ping Block

By popular demand, Ping Block returns to give a demonstration and talk about the use of Australian native plants in traditional Ikebana form.

JULY

Thursday 7 July 12.30 pm
'The World of Tidbinbilla'

Presenter: Wendy Rainbird

Wendy Rainbird discusses the book, 'The World of Tidbinbilla' released late last year. The book is a user-friendly guide to the plants, animals, rocks, and also the history of the Tidbinbilla-Birrigai-Jedbinilla reserve.

Thursday 14 July 12.30 pm
'Westbourne Woods Revisited'

Presenter: Tony Fearnside

One of the oldest arboreta in Australia, the Westbourne Woods holds many links with ANBG and Canberra's history. Tony Fearnside, renowned ACT forester, brings some of the stories associated with the Woods.

Thursday 21 July 12.30 pm
'Habitat Preferences of Orchids in the ACT'

Presenter: Tony Wood

The veritably rich orchid flora of the ACT is indicative of the diverse range of habitats, from grasslands to sub alpine areas. Supported by many of his stunning photographs, Tony talks about the orchids found in these different areas.

Thursday 28 July
'Birds'

Presenter: TBA

AUGUST

Thursday 4 August 12.30 pm
'Is There a Doctor in the Garden?'

Presenter: Warwick Wright

Botanists come in many guises. This tells of some doctors whose names have become attached to plants in the ANBG - or who have been involved in the collecting of Australian plants.

Thursday 11 August
Bernard Fennessy Memorial Lecture
—My Little World

Presenter: Julia Cooke

In *My Little World*, a children's picture book set on Black Mountain with vivid, realistic illustrations by Marjorie Crosby-Fairall, Julia aims to inspire children to explore, enjoy and conserve the smaller things in nature with a story from her childhood. She will talk about the development of the book, the species featured and conveying conservation messages.

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Assist with Gardens research projects

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