



# Fronds

*Newsletter of the Friends of the Australian National Botanic Gardens*  
*Number 66 December 2010*

Inside:  
"Sex and Death  
in the Glasshouse"

and  
in the Gardens  
= orchids  
= wattles  
= a hakea



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 Cover: This is only the second time this tropical orchid, *Grammatophyllum speciosum*, has flowered in cultivation. This plant is large and occupies a corner of the display glasshouse; the species is the heaviest orchid in the world. This plant was collected as a small specimen in PNG in 1990. Photo © Mark Clements

# No sex please!

## I am *Hakea pulvinifera*



A few plants of *Hakea pulvinifera* have been flowering in pots near the entrance to the Visitor Centre.

'Discovered in 1950, this highly endangered species is found only in a single population near Gunnedah, NSW. Research indicates that this species is sterile, the only natural means of reproduction being the occasional suckering from the root system. It is suspected that the entire population of *Hakea pulvinifera* is a single plant, since the ability to reproduce sexually has been lost.

The ANBG Nursery holds a propagating stock of these plants, some of them held for over 20 years. These have produced the first observed fruiting for this species. This was achieved by hand pollination as the plant is unable to produce fruit naturally.' (Text on the sign next to the pots.)

The Nursery has now propagated sufficient plants to enable re-introduction of *H. pulvinifera* into its endemic region.

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# Celebrating Forty Years!

An abundance of special festivities, events and exhibitions created an atmosphere of continuous celebration throughout the Gardens this spring.

On 20 October the Gardens marked 40 years to the day since its official opening by Prime Minister John Gorton in 1970. Staff past and present, Friends and visitors joined in for a commemorative cake cutting ceremony. There was twice the cause for celebration as the date also marked the 20<sup>th</sup> birthday of the Friends.

And the Friends used the occasion to hand over to the Gardens their birthday present, a magnificent shade shelter over the Crosbie Morrison amphitheatre. Alan Munns, President of the Friends, 'launched' the shelter; the enormous chocolate mud cake was cut by Alan and Judy West, Executive Director of the Gardens; and the assembled throng enjoyed eating it.



The 40 Years and Growing exhibition in the Visitor Centre highlighted the Gardens enormous achievements and its future visions and possibilities.



# Planting and Partying

The stunning grassy woodland garden was completed in a flurry of activity leading up to the Gardens' 40<sup>th</sup> anniversary. Staff from all sections of the Gardens and many Friends volunteers gave a hand to put over 2,000 plants into the ground within a little over a week. The newly designed garden includes a rich diversity of native grass species set amongst huge rocks and a boardwalk winding through a mosaic of Australian plants.

'We are using this prominent location to show off the diversity and inspiring attributes of grassy woodland plants and to encourage the use of grassland plants in people's gardens,' said David Taylor, Curator of Living Collections. 'Grassy ecosystems are home to a diversity of beautiful plants like daisies, orchids, lilies, peas and of course grasses.'

The new display is a continuation of the Gardens' commitment to threatened ecosystems and to nurturing endangered species. It will also enhance the experience for visitors, keen gardeners and the many school groups that visit. The Friends of the Gardens funded the interpretation signage for the new display.



An intimate crowd enjoyed a unique outdoor fine dining experience in a glasshouse style marquee in the Rock Garden at the Gardens' first ever gala dinner. Special guest Chris Darwin, direct descendent of the evolutionist Charles Darwin, provided some of the entertainment. The Stilettoes provided some more, ably abetted by Dr Tim Entwistle, Senator Kate Lundy, Steve Speer and MC, Andrea Close.



# Gala Garden Party

Celebrations culminated with the Open Day Garden Party on Sunday 24 October. About 5,000 people wandered in the Gardens and enjoyed live music and entertainment, children's activities, talks and walks, and behind the scene tours of the Australian National Herbarium, nursery, library, Cryptogam Herbarium and glasshouses. Three Life Members of the Friends, Anne Joyce, Barbara Daly and Alison McKenzie, cut a beautifully decorated 20<sup>th</sup> birthday cake and about 1,000 people helped demolish it, plus numerous bottles of bubbly.

The week of celebrations was a great success and we are all looking forward confidently to another decade of achievement in creating a wonderful national botanic garden.



Fanny Karoula

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

The winner: John Turnbull

### *Eucalyptus globulus*

Tasmanian blue gum (*Eucalyptus globulus*) was dubbed the 'Prince of Eucalypts' by Ferdinand von Mueller (1825-1896), Director of what are now the Royal Botanic Gardens in Melbourne, because he considered this magnificent Australian tree had the potential to be planted around the world for timber and other products. Time has proved von Mueller's judgement to be correct. Its significance in its native Tasmania was recognised on 27 November 1962 when it was proclaimed the State's floral emblem.

'Tasmanian blue gum' refers to the appearance of the bluish juvenile leaves and the locality where it occurs most commonly. It is also known as 'southern blue gum'. The specific name '*globulus*', from the Latin meaning 'ball-like' or 'spherical', may refer to the shape of the fruit or to the very distinct knob-like projection on the bud operculum.

A tall *E. globulus* is growing in Section 66 on the edge of the Rain Forest Gully adjacent to the car park. Its bark hangs down in long ribbons leaving a smooth greyish surface and its buds and fruits are solitary, unlike those of most other eucalypts which have them in clusters. It is rare to see this species in Canberra as frosts are generally too severe but the closely-related blue gums, *E. bicostata* and *E. maidenii*, are more frost-tolerant and planted commonly in the city.

*Eucalyptus globulus* was discovered in Recherche Bay, Tasmania, in 1792 by the Frenchman, Jacques-Julian Houtou de Labillardière (1755-1834). Labillardière was the naturalist on an expedition, led by Bruni d'Entrecasteaux, which explored coastal areas of southeastern Tasmania. The hundreds of plant specimens he collected in Australia were confiscated by the Dutch when the expedition reached Java and eventually were taken to England. It was only through the intervention of Sir Joseph Banks that they were returned to the collector. *Eucalyptus globulus* was one of the first eucalypts to be named when Labillardière described and illustrated it in 1799. After his death his plant specimens were deposited in the Botanical Museum of Florence, Italy where they still reside.

Tasmanian blue gum is found along the east coast of Tasmania, including King and Flinders Islands in Bass Strait, and in coastal southern Victoria. It grows in tall open-forest and woodland at altitudes up to 450 m. The climate in its range is cool to mild, with wet winters, reliable summer rainfall and only light frosts.

At the time of the French explorations, the virgin forests of Tasmania were amongst the tallest in the world and included blue gums up to 100 m in height. Tall, straight-boled trees up to 80 m tall and 2 m diameter can still be found on well-watered, deep soils in sheltered areas but, occasionally, on harsh, exposed sites they may be reduced to mallee-like shrubs.



Early explorers and colonists quickly recognised that blue gum timber was durable and resistant to the destructive *Teredo* sea worm. It became valued for shipbuilding and marine construction and by the late 1800s the huge trees were being turned into wharf piles and shipped throughout the world. The durable timber was also in demand for railway sleepers, mining timbers and street paving blocks.

Tasmanian blue gum was the first eucalypt to be widely known outside Australia as a garden tree and for wood production. By 1810 it was already growing in the gardens of the Empress Josephine at Chateau Malmaison near Paris. By the 1860s it was being grown elsewhere in southern Europe, Africa, South America, India and the USA. Later in the 19<sup>th</sup> century it helped drain the Pontine Marshes near Rome to combat malaria and became known as the 'fever tree'. Tasmanian blue gum was planted in Ethiopia for fuelwood and poles around the capital, Addis Ababa, and has enabled the city to prosper on that site to this day. In South America it succeeded in Ecuador, Chile and the high Andes in Peru. Blue gums planted by farmers on the Yunnan Plateau in southwest China for fuelwood have now become the primary source of the world supply of eucalyptus oil. In some countries the Australian origin of *E. globulus* was forgotten and local names, such as 'Californian blue gum' or 'Canton blue gum', were applied!

Young plantation-grown wood was prone to splitting and warping and greatly reduced interest in the wood for sawn timber but it continued to be favoured for firewood, charcoal and mine timbers. However, in the latter part of the 20<sup>th</sup> century it became the principal species planted in industrial plantations in temperate regions to provide raw material for the expanding pulp and paper industry. Extensive pulpwood plantations now exist in several countries including Spain, Portugal, Chile and southern Australia. Even the blue gum enthusiast Ferdinand von Mueller could not have imagined the global success of *Eucalyptus globulus*!

**Photos:** *Eucalyptus globulus* in section 66 at the ANBG. Photo by Barbara Podger. *E. globulus* at Golden Temple Kunming, China. Photo by John Turnbull. Leaves and blossoms of *E. globulus* subsp *globulus*. Photo by R. Hotchkiss © ANBG.



## Volunteer Positions Vacant

### SUMMER CONCERTS

Would you like to assist at the Summer Concert series in January 2011? (See What's On for details.) We need help with selling cool drinks, wine and beer; collecting donations; and the children's activity table. Please add your name and contact details to the rosters on the noticeboard in the Friends Lounge, or email details and times to: [info@friendsanbg.org.au](mailto:info@friendsanbg.org.au)

### PRODUCING CAMPSIS

Are you interested in editing and producing *Campsis*, the Newsletter of the Association of Friends of Botanic Gardens? *Campsis* provides news on the ideas, innovations, challenges, events, successes and failures of Friends groups throughout Australia and New Zealand. The Friends of the ANBG is a member.

*Campsis* is produced in May and November. No travel is required as the job can be done from home on your own computer. Support is provided by Association members. To learn more about the Association, and *Campsis* visit: [www.friendsbotanicgardens.org.au](http://www.friendsbotanicgardens.org.au). If you are interested in taking on this role, or would simply like more information, please contact the Secretary, Friends of the ANBG on [info@friendsanbg.org.au](mailto:info@friendsanbg.org.au) or phone 62509548 and leave a message.

# Wattle Watching

Margaret Clarke



These magnified images of *Acacia menzeli* show its bud, flower and seed pod. In real life, the main stem occurring in all three images is around one millimetre thick. Photos by John Fitz Gerald

If you are wondering why some of the wattles in the Gardens have been festooned with little white bags this spring, it's all for the sake of science.

Over twenty Friends are volunteers on a research project under the leadership of Dr Joe Miller from the Centre for Australian National Biodiversity Research<sup>1</sup> to investigate self-pollination in selected *Acacias*. Eighteen *Acacia* plants, representing six different species have been chosen for the project. In late July, mesh bags were tied over three bud-bearing branches on each plant to prevent insect pollination of the emerging flowers within. 'Control' branches were also tagged and buds were counted on both sets of branches allowing a comparison of any seed produced under insect-exclusion conditions compared with the rest of the plant. If any self-pollinated seed is produced, further research will be undertaken to determine if it is viable to produce a normal plant.

Surprisingly little is known about *Acacia* pollination systems. We know they mostly reproduce by cross pollination with another plant of the same species and that hybridisation between species is rare. Insects are usually the pollinators but *Acacia* flowers are generally not specifically adapted for a particular insect pollinator—bees, beetles, wasps and ants can all do the job. For threatened and vulnerable *Acacia* species, understanding their pollination needs is an important consideration in the design of species' recovery plans.



By early November, it was time for Joe and the volunteer groups to make a close inspection of what was happening under those bags. The first rewards were there: three species had definitely produced pods under the bagged conditions. Indeed the endangered *A. gordonii*, known from only a few locations around Sydney and with less than 1500 plants in the wild, appeared to have more pods in the bagged branches than on the controls! The rare leafless wattle from the hills around Perth, *A. aphylla*, had pods in two of its bags. *A. menzeli*, a vulnerable species endemic to South Australia, was well covered with tiny green pods including in all bags. Two species (*A. viscidula* and *A. rheticocarpa*) were still flowering so their examination is being delayed. Sadly, the Gardens' specimens of the sixth species, the vulnerable *A. pubescens* from the Sydney region which is growing near the Visitor Centre, had very few pods on the bush overall and none were seen on the bagged branches.

It's now a waiting game to see if the pods on the bagged branches mature and produce viable seed. *Fronde*s will keep you posted on project outcomes and their implications for better understanding the breeding system of *Acacias* in the Gardens.

If this project is a success a follow-up is proposed for 2011 to study cross-pollination.

<sup>1</sup> The CANBR is a collaborative venture between the ANBG and CSIRO



Bagged blossoms and a Friends' volunteer checks bags on *Acacia viscidula*, a wattle chiefly from the tablelands of north-east NSW. Photos by Fanny Karouta



# Orchids on Show

Margaret Clarke

Orchids really know how to pack the WOW factor and this year the Gardens is making sure there's plenty of it.

A new exhibition in the Display Glasshouse 'Sex and Death in the Glasshouse' (See What's On for Exhibition details) showcases the Nursery's extensive collection by focussing on the peculiar reproductive practices of orchids and carnivorous plants. Many orchids lure particular male insects to flowers by exuding female insect pseudo-pheromones. But instead of the anticipated sexual encounter, the male insect is tricked into serving as a pollinator for the orchid. The exhibition has other fascinating examples of orchids' cooperative relations with their insect pollinators, many of which are so specific that only one kind of animal can pollinate their flowers.

staff maintain the exotic orchid collection. Working in both the CSIRO and ANBG glasshouses the volunteers expertly tend and nurture the collection. While tasks like re-potting the bigger specimens can be physically demanding, the rewards of the exquisite blooms are more than worth the effort.

With the Sex and Death exhibition now open and the dedicated orchid display area in the Visitor Centre, the volunteers are also busy rotating plants between the greenhouses and the display sites to ensure the best of blooms are on show. Generally, orchid blooms are at their peak for a few weeks only so it's a constant task to plan and arrange the displays. The volunteers also create the display signage for each orchid species.



*Coelogyne fragrans*, *Ceratobium stratiotes* and *Froscula draconis*, all photos by Tony Wood. Below: *Angraecum sesquipedale*, a native of Madagascar, is commonly known as Darwin's Orchid. Darwin predicted that the pollinator would be a moth with a very long proboscis to reach the nectar at the end of the spur. The moth was found 21 years after Darwin's death. Photo by Jane Wright.

An orchid display is now also an ongoing feature of the entry to the Visitor Centre. With funding from the Friends a new display container has been constructed to present both potted and epiphytic orchids. Hopefully, the display here will encourage more visitors to venture deeper into the Gardens to discover the Glasshouse at the top of the hill.

The extensive ANBG orchid collection is a mix of native and exotic species. Many of the exotics were originally illegal-entry plants confiscated by quarantine officers and given to the Gardens for research, education and display. Others have been collected by the Gardens as part of past and current research programs. In recent years the orchid collection has been a low priority, but its potential to capture public interest is still clear. The Gardens hopes that funds will be available in coming years to allow them to replace the aging glasshouses and to build on existing orchid research.

For the past four years a small team of volunteers from the Orchid Society of Canberra has been helping Gardens'



## Darwin's Orchid

*(Angraecum sesquipedale)*  
Waxy creamy white ribbon like petals  
one spurred a foot and a half long,  
was in the glasshouse proudly on display  
from Madagascar this orchid had come  
to be viewed with amazement today.

Charles Darwin predicted there would exist  
a pollinator with a long matching tongue  
or proboscis reaching down that extent  
and years afterwards one was found to  
occur  
to possess one the length of this spur!

We marvel at Darwin's Orchid today  
with its sesquipedaloid spur in full view.  
Darwin's prediction, eventually proved  
that in Nature such a wonder as this is  
found  
and in joy may behold it here too.

June Foster



## Australia's Savannas—one of the v

Stretching right across northern Australia from Cape York to the Kimberley and spreading up to a thousand kilometres south, the tropical savannas of northern Australia are a biological asset of world significance. They cover almost one quarter of Australia. They are still the place of dreaming for large populations of traditional owners who have been there for 60,000 years. For 200 years they have seen dreams of wealth from cattle, agriculture and forestry.

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### Many European dreams have turned to nightmares and our savanna is now in trouble!

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Savannas are grassland ecosystems with trees small enough and far enough apart to allow sufficient light to reach the ground to support an unbroken herbaceous layer consisting primarily of grasses. In these latitudes the rainfall comes in one season, the wet; in Australia from around December to April when 2,000 mm falls in the north and almost 500 mm on the savanna's southern edge. In the dry season fire helps to maintain the structures of these ecosystems.

For those of us interested in plants and their communities savannas are places of abundant diversity. Exceptional iconic trees give structure to these landscapes: *Eucalyptus bigalerita*, the beautiful northern salmon gum, growing between Daly Waters and the Adelaide River; a host of bloodwoods (*Corymbia* spp) and palms (*Livistona* spp and *Hydriastele* spp); cycads (*Zamiaceae*); and the so-called Screw Palms (*Pandanus* spp). In the hugely varied understoreys there are fast-growing grasses like *Sorghum* spp and *Heteropogon* spp, all with variations on spear grass in their common names; widespread shrubs like the beautiful mauve *Calytrix exstipulata* or Turkey Bush; the large yellow-flowered *Cochlospermum fraseri* or Kapok Bush and its taller relative *C. gregorii* the Cotton Tree.

In isolated pockets there are scientifically interesting

species like the magnificent tree *Allosyncarpia ternata*, a strange relative of the eucalypts, perhaps their progenitor.

Early drovers coming into this region up the Calvert road to the Gulf, north of the ocean of grass that is the Barclay Tableland, encountered these savannas. But among the more benign eucalypt woodlands they would occasionally encounter the fierce pockets of *Acacia shirleyi* (Lancewood) and *Macropteranthes kekwickii* (bullwaddy), impenetrable to successive drovers. But their 'rewards' were superb riverine landscapes, like those around Elsey Station on the Roper River, sparkling clear rivers flowing among narrow, wet, gallery forests of *Pandanus spiralis*, *Melaleuca leucodendron* and *M. dealbata*, plus ancient relict tropical species like the *Livistona mariae* palms and the even more rare *Nauclea orientalis* (Leichhardt tree).

In the wet these woodlands pulse with life as intermittent to heavy rain and humidity drives the system. In the dry a kind of quiet resignation seems to permeate the landscape, though broken by both man-made and natural fires. By July-August each year the skies are smoky and many fires are burning, some slowly, some fiercely. In the main these ecosystems are fire adapted and both the flora and fauna recover well. A superb book bringing together many years of studies in this field is *Culture, Ecology and Economy of Fire Management in North Australian Savannas: re-kindling the Wurrk tradition*.<sup>1</sup> This collection of chapters by Indigenous and non-Indigenous contributors brings together people who have worked and lived in the savannas all their lives. To southerners it is very illuminating to study fire as part of the cycle of life.

This vast ecosystem with largely indigenous plants has supported a huge diversity of fauna and human culture for many millennia.

Since white settlement dreams of large scale agricultural and silvicultural developments have come and gone. An outstanding survey of some of the misconceptions of those dreams is reviewed in the excellent paper 'Limitless lands and limited knowledge: coping with uncertainty



## the world's great woodlands

by Max Bourke AM

and ignorance in northern Australia'.<sup>2</sup> In Maningrida forestry projections were 13 cubic metres per hectare; reality was 0.6 cubic metres. In 1967 \$20 million was invested in growing sorghum at Tipperary; it produced only 16,000 tonnes but destroyed 10,000 hectares of forest. In 1994 research showed that of 500 plant species introduced for pasture improvement only 21 were useful while 60 were weeds, including all but four of the useful species. The dreams of exploitation, from Leichhardt to Bill Heffernan, are not/were never credible.

Tough lateritic soils and great heat in the dry (both of which the endemic flora thrive in), along with Magpie Geese and voracious termites like the giant *Mastotermes* have destroyed many agricultural, horticultural and forestry dreams. In any case most of the staples of white southern diets do not grow there. Most money has been made out of real estate, some out of mining and now out of tourism.

But for this latter to remain sustainable, the no-longer-remote north will require careful management. Some hopeful prospects for better integrating Indigenous management of these systems, particularly fire management, are coming to light through the work of scientists like Dr

Jeremy Russell-Smith of the North Australian Indigenous Land and Sea Management Agency which is working in conjunction with corporates like Conoco to use fire management as a carbon reduction tool.

On the other hand the loss of small mammals continues unabated. On the basis of sampling of 136 plots in northern Australia over nine years, *Into Oblivion*<sup>3</sup> reports site-level species richness declined by 75 per cent; most marked declines were in quoll, antechinus, bandicoot and possum species; and that the main drivers of these declines are feral cats, cane toads, inappropriate fire regimes and vegetation changes.

The savanna has become more familiar to us grey nomads as in growing numbers we spend more winters there. We all, younger and older, need to get engaged in supporting ways to protect this world treasure.

### References

1. J. Russell-Smith, P. Whitehead and P. Cooke (2009), CSIRO Publishing.
2. J.C.Z. Woinarski and F. Dawson (2001) in *Ecology, Uncertainty and Policy: managing ecosystems for sustainability*, pp 83-115, eds J.W. Handmer, T.W. Norton and S.R. Dovers, Pearson Educational, Harlow, England.
3. J.Fitzsimons, S. Legge, B. Traill and J. Woinarski (2010) The Nature Conservancy, The Australian Wildlife Conservancy and the Pew Environment Group, Melbourne.



Photos clockwise from top left: Wide view across central Kimberley savanna, Mornington station, WA; Cadjput waterhole, Fitzroy River, WA; Wet gallery forest of *Melaleucas* and Palms on Roper River, NT; Margie Bourke and Wilfred Nawirridj in Lightning Man Cave on Injalak Hill, Arnhem Land, NT; Pandani on Gulf of Carpentaria, NT; Fire and biodiversity sign NT Wildlife Park, Berry Springs, NT; Regeneration after fire on Tipperary Station, Daly River Road, NT. All photos by Max Bourke.

# Garden Shorts

## From the Executive Director

It's been exciting to have participated during the past month in the various activities around the 40<sup>th</sup> anniversary of the Australian National Botanic Gardens, and all the more so to be celebrating the 20<sup>th</sup> anniversary of the Friends of the ANBG.

The enjoyment and smooth execution of the events is a tribute to the staff and the Friends. The cooperative nature of our interactions is encouraging for the future of these great Gardens.

The dedication and commitment of our long-standing volunteers is astonishing. More than 50 of a total of 145 volunteers have dedicated 10 years or more to helping achieve the goals of the Gardens. Half of those have devoted more than 15 years.

The volunteers bring a broad range of experiences and skills to the organisation, and approach their tasks with remarkable passion, commitment, enthusiasm and professionalism. We are extremely grateful for each contribution, from those who have committed one year, to those who have given 20.

Working in roles as diverse as volunteer guides, Friends Council members, newsletter producers, Growing Friends, In Flower This Week coordinator or seed bank, library or herbarium assistant – each plays an invaluable part in the work of the Gardens.

*Judy West*

### Photo captions:

The intake valve being lowered into Lake Burley Griffin, ready for the supply of non-potable water to the Gardens in November.

The Gardens' Five Senses Australian plants garden at Floriade was a popular addition among traditional tulips.

*Garden Shorts contributions by Sabrina Sonntag*



Staff member, Rosella Hampshire, adds bursts of flowering colour along the Banks walk.

## Planting out for spring

Gardens' staff took advantage of this year's favourable weather to place over 1,000 plants around the Gardens for the spring plant out. The Main Path, the Rainforest Gully, the Banks Walk, and the Rock Garden were the main areas of focus.

'We have a high plant turnover rate among those areas with showy plants,' Phil Hurle, Gardens' Horticultural Manager, said.

'We are constantly identifying what we need to replenish and how new plants will do in the current weather conditions. We re-propagate these plants in the nursery for a continual supply. That way we make sure we keep the areas looking their best.'



## Growing excellence in research and conservation

The Gardens has taken up the leadership and coordination of Australian seed banking from the Kew Millennium Seed Bank Project which supported Australian partners for several years.

Lucy Sutherland has changed hats and is now in the role of national coordinator and administers the Secretariat for the Australian Seed Bank Partnership, hosted at the Gardens.

'The Partnership's vision is to use seed banks to ensure future access to Australia's plant diversity under the present and changing climate,' Lucy said. 'A key part is research into native plant reproduction and ecology to support conservation in the wild.'

The Partnership draws on the expertise of Australia's leading botanic gardens, herbaria, state environment agencies and academic institutions, as well as non-government organisations.

'I am working with partners to develop a 10 year research program and secure resources for the program's development and implementation.

The national program will include the 1000 Species Project where partners will research and bank seed to secure 1000 significant plants which have not previously been researched or banked in Australia.'

The program will build a network of conservation banks, rather than one central depository.

# Friends Briefs

## How many gumnuts?

It was wonderful to see so many people at the Friends' stall at the Garden Party, joining the Friends, buying cards, guessing gumnuts and eating cake and drinking bubbly.

For the record, there were 144 gumnuts in the jar; the winning guess was 143, made by Ms Ulrike Michl of Kaleen. Her entry was the third last on the day and she only entered because her son did. Ms Michl won a copy of *Australia's Garden*.

## 'In Flower This Week' Walk



Barbara Podger

Those who are familiar with Barbara Daly's wonderful 'In Flower This Week' will be delighted to know that there is a new addition to the map on the reverse of the page to help visitors find the plants mentioned. The Friends have funded a set of numbered markers (see photo) which will be placed near the flowering plants described.

So next time you are in the Gardens, collect your copy of 'In Flower This Week' from the Visitor Centre or the stand outside near the phone box, and set off and follow the trail.

## 14<sup>th</sup> photo comp



Alan Munns

Peter Byron presenting her prize to Katie Skinner, first in Colleges Black and White.

School and College students once again excelled themselves with over 230 entries in this year's competition run by the Friends.

Winners were announced at the opening of the exhibition in the Visitors Centre on 6 November, by the Gardens' General Manager, Peter Byron who said, 'The quality of this year's photos is just incredible – there's certainly no shortage of photographic talent amongst Canberra's youth!'

The President of the Friends, Alan Munns, said, 'The Friends are delighted to sponsor such a successful event; helping young Canberrans express their appreciation of Australian native plants through artistic creativity'.

Winners in each category were presented with \$150, while second and third prizewinners won \$100 and \$50 respectively.

The competition is open to students from high schools and colleges throughout the ACT and Queanbeyan. All entries must feature some aspect of the Gardens, focusing on plants, wildlife, scenery or visitors.

Our thanks to Shirley McKeown for her work in organising and running the competition, and to this year's judges, Carl Davies and Saussanith Nokham, both professional photographers with CSIRO Plant Industry in Canberra.

Prize winning and highly commended entries going back to 1997 can be viewed on the Friends' website at <http://friendsanbg.org.au> – follow the links to *What We Do* and *Schools' Photographic Competition*.

## Strategic Plan

Thank you to those members who commented on the Friends' draft Strategic Plan. These comments have now been incorporated, and Council approved the Plan at its November meeting. The Plan may be viewed on the Friends website at [www.friend-sanbg.org.au](http://www.friend-sanbg.org.au)

## Visit to Parliament House



Alan Munns

Friends enjoyed the tours of the native gardens around Parliament House in September and October. Our thanks to Paul Janssens for arranging these.

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## Elizabeth Bilney

12 Aug 1943 – 26 Sept 2010

Friends were saddened to hear of the recent death of Elizabeth Bilney from cancer.

The Friends knew Elizabeth as an editor of our Newsletter, as a member of Council, and as a Guide. She introduced me to the workings of the Newsletter two issues before she retired after Number 54 in November 2006.

Since her death I have learnt so much more about her life before ANBG: her history as a pioneer feminist; as early advocate for child care; as a founder of the Women's Electoral Lobby; and as publisher of heritage and art publications for the National Gallery and Library.

She will also be remembered as a good friend of the Friends and the ANBG.

Anne Rawson

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# Growing Friends

Yvonne Robinson

By the time of reading the Growing Friends spring plant sale will be behind us. Spring is an excellent time to establish new plants and the recent rain will give them a good head-start before summer. Plants offered for sale included the following.

A low shrub, 70 cm high by 1 m high, is *Lasiopetalum baueri*. While it is not showy, it is drought resistant and frost hardy. It grows in New South Wales, Victoria, South Australia and Tasmania. It has grey-green, narrow leaves and pink or occasionally white flowers in spring and summer.

A more recently propagated plant that will most likely be available at the autumn sale is *Muehlenbeckia gunnii*, a twining climber with reddish stems and bright green shiny, arrow-shaped leaves. It flowers profusely in spring and early summer with yellowish flowers. It is a quick-growing climber suitable for cooler climates and can be used as a ground cover.

*Grevillea confertifolia* is a low growing spreading shrub (groundcover) from the high altitudes of the Grampians in Victoria and is 15 cm high to 1 m wide with narrow linear leaves. Its spidery mauve-pink flowers are borne terminally. It is frost hardy and prefers a well-drained, sunny position with ample moisture.

Feel welcome to join our normal monthly meeting that is held on the first Saturday of each month at 9.00 am during spring and summer in the Joseph Banks Building. We also have a working bee on the third Tuesday of each month.



Photos by Murray Fagg

## A Touching Experience

(recalled at ANBG at the 20<sup>th</sup> Birthday Celebrations of the Garden Friends)

*A trainee volunteer with a new name badge,  
I came for our Tuesday meeting.  
I saw a stranger near the rainforest bridge  
and she gave me a friendly greeting.*

*"I wonder how they are getting on now?  
Would you care to accompany me down?"  
At her request I made the descent  
into the gully right down below.*

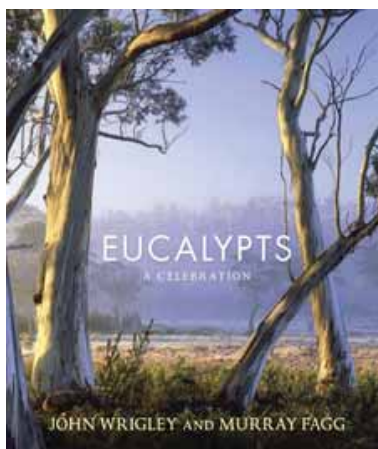
*I held my breath as the steps were wet  
and slippery and steep.  
Jokingly I stroked a leafy frond  
saying "It seems to be fast asleep".*

*My companion replied "I don't suppose  
you are hurting that plant very much".  
I'll never forget the reproof she gave –  
Eyes on, but do not touch!*

*I told Bernard Fennessy what she had to say  
and, in ignorance what I had done.  
To find my guiding companion that day  
Had been Miss Henry, ANBG Friends Number 1.*

*June Foster October 2010  
(Volunteer Guide 1997 – 2004)*

# From the Bookshop with Tom Butt, Shop Manager



*Eucalypts. A Celebration*  
by John Wrigley and Murray Fagg  
\$65.00  
Hardcover, 352 pages  
Nov 2010

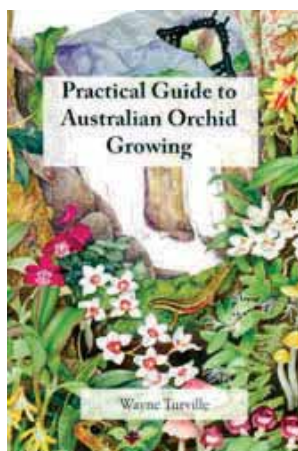
'The tallest and most stately trees I ever saw in any nobleman's ground in England cannot excel in beauty those which nature presented to our view.' First fleet surgeon Arthur Bowes

Eucalypts are a familiar part of our landscape and an integral part of the Australian identity. We have farmed them and used them to build houses, furniture, roads and bridges since the beginning of white settlement. We have been inspired by them, painted them, made films about them, written books about them and of course Aboriginal Australians have long made musical instruments from them. Though a small number are found as native plants in several other countries, eucalypts are a very Australian tree.

This book celebrates their diversity, their beauty and the role they play in our history, culture and economy. It looks at their evolution, biology, horticulture and ecology, together with their classification and the botanists involved. Through historic and contemporary images, it examines the many ways in which they have served Aboriginal, colonial and contemporary Australians in both practical and aesthetic ways.

Eucalypts have quite literally been the building blocks of our nation and this beautiful book tells their complete story for the first time. Another great book by our very own two experienced publishers: Wrigley and Fagg.

Wonderful to have this book available again after being in preparation for the past year. This is the 10<sup>th</sup> edition and the Society keeps working to make each edition more relevant to current trends, fashion and climate. It is divided into four main sections: the water conscious gardener; the ornamental garden; the kitchen garden; and caring for your garden. All information is relevant to Canberra and the book will benefit both experienced gardeners and beginners. The Gardening Calendar is a wonderful tool to remind you of tasks that should be done, and the Appendix on Weed Regulations for Canberra gives important information to us all when choosing plants for our gardens. This will be a well-appreciated Christmas present to anyone with an interest in gardening in Canberra. For a wonderful concept of the rotating vegetable garden/chook run, check out page 257 – a great idea!



*Practical Guide to Australian Orchid Growing*  
by Wayne Turville (Australian Orchid Nursery, Vic)  
\$15.00  
Paperback, 62 pages

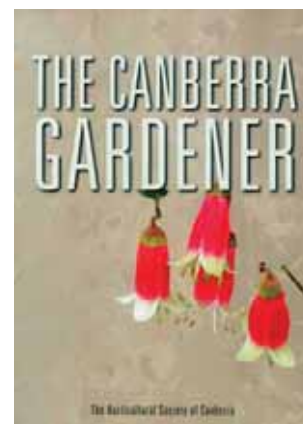
This book is dedicated to the beginner orchid grower.

It was published last year and shown to us by the author. We purchased it straight away because of the interest we see in growing orchids. The beautiful exhibition just inside the Visitor Centre also creates interest, when people can see what beautiful orchids we do have.

Orchid growing is common sense, with a bit of research thrown in.

Australian indigenous orchids are some of the hardest plants on this planet. They are succulent by nature and hardened by extreme conditions in which many grow. Most are not tropical, not lush, and certainly not fussy about their needs.

*The Canberra Gardener*  
by Horticultural Society of Canberra  
\$27.50  
Paperback, 430 pages, colour photographs throughout.



# Photo Competition 2010

Some Prize Winners



**From top left downwards:** 'Last Leaf' by Natasha Zivkovic, First Open Digital/Photographic Effects; Untitled by Alexandra Begnell, Second High Schools Colour; 'Clean White Love' by Erin Mueller, Third Open Digital/Photographic Effect; Untitled by Nikki Harvey, Equal First High Schools Colour. **From top right downwards:** 'The Poser' by Jordani Fisher, Equal First High Schools Colour; 'Stop and Smell Me' by Erinn-Kate Blundson (*the Banksia*), First Colleges Colour; 'The Cup of Life' by Chloe Lankshear, Third Colleges Colour; 'Spitting Dragon' by Jordani Fisher, First High Schools Black and White.



# What's on at the Gardens

December – April



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 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 at 12.30 on Thursdays.

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 time of printing. For changes and updates please check the Friends' website: [www.friendsanbg.org.au](http://www.friendsanbg.org.au), or on the Gardens' site at: [www.anbg.gov.au](http://www.anbg.gov.au), or in the local press.**

## DECEMBER

**Saturday 4 December 5-7 pm**  
**Carols in the Gardens**  
**Burbidge Amphitheatre (Eucalypt Lawn)**

Join us for a wonderful evening of Christmas Carols, presented by the Australian National University Choral Society and RhythmiAs. Refreshments available or bring your own picnic.

**Sex and Death in the Glasshouse**  
**Until 1 February**

A diverse display of exotic and native orchids, carnivorous and tropical plants showcasing stories of seduction and deception of the plant world.



'Flies Beware!' by Kira Dowling, entered in the Friends' 2010 Photographic Competition

## Exhibitions in the Visitor Centre Gallery

**Monday 6 December to Thursday 6 January**  
***Biodiversity and Threatened Species Australia***  
**United Nations Photo Competition**

A photo exhibition addressing the theme of Biodiversity and Threatened Species in Australia by students of the Canberra Institute of Technology to mark the International Year of Biodiversity 2010. Presented by the United Nations Information Centre, the Canberra Institute of Technology and the Australian National Botanic Gardens.

**12 January to 8 March**  
***Rhythm Interrupted – Life Redirected***



Bushfire panel

An exhibition of original lace works by Jenny Rees and Vicky Taylor, and inspired by Jenny's experience of the 2003 Canberra bushfires, which destroyed her home. In 2009 she published *Lace from Australian Bush: Australian wildflower patterns in torchon lace, a guide to creating lace works of native plants*, including *Swainsona*, *Telopea*, *Eucalyptus* and *Zieria*.

# JANUARY 2011 – SUMMER SOUNDS



Brian McLeay

Share a sparkling summer evening with your family and friends at Canberra's most popular outdoor music series. A partnership presentation of the Australian National Botanic Gardens and the Friends.

Donations collected by the Friends are used to fund new projects in the Gardens each year. Wine, beer and soft drinks are available for purchase from the Friends.

Saturday 8 January	As Famous As The Moon
Sunday 9 January	Karismakatz
Saturday 15 January	The Wedded Bliss
Sunday 16 January	The Cashews
Saturday 22 January	Key Grip
Sunday 23 January	Annie & the Armadillos
Saturday 29 January	Julia & the Deep Sea Sirens
Sunday 30 January	Vertical

Performance times 6 pm – 7.30 pm.

Weather check: Concerts will be cancelled on days of total fire ban or severe weather conditions. Check on 6250 9540.



Barbara Podger

## Snakes Alive!

*Frogs In Our Backyard:  
Hop in to meet the locals!*

**17 - 23 January**  
**Weekdays 10 am – 4 pm**  
**Saturday and Sunday**  
**10 am – 6 pm**

**Crosbie Morrison Building**

\$2 child, \$5 adult (concessions \$4)

Exhibition presented by the ACT Herpetological Association. Proceeds assist with research into herpetology

## FEBRUARY

**Thursday 3 February 12.30 pm**  
**'Trials and Tribulations of Growing Flannel Flowers'**

**Presenter: Lana Mitchell**

Local commercial flannel flower producer, Lana Mitchell, talks about her integrated methods of production and marketing, particularly relating to a beautiful cultivar of *Actinotus helianthi*.

**Friday 4 February 10-11 am**

**Bush Magic:**

**Storytime in the Gardens**

Join us for a story, a short walk or craft activity at a special spot in the Gardens. Suitable for pre-school age children with parent/carer. Follow the signs from the cafe or check in at the Visitor Centre for location details on the day.

**Tuesday 8 February at 5 pm**  
**Friends Annual General Meeting**

Please join us for a drink and nibbles at 5pm in the Dickson Room. The AGM will start at 5.30 pm in the Theatre.

**Guest Speaker: Genevieve Jacobs**

Noted ABC presenter Genevieve Jacobs, has been a long-time supporter of ANBG and the Friends. Her enthusiasm for native plants, and gardening, will no doubt inspire us.

**Thursday 10 February 12.30 pm**  
**'A Tragic of Ellis Rowan'**

**Presenter: Ray Brown**

Ray Brown will be talking about the life of Ellis Rowan and Ellis Rowan collectable items, original and contemporary. As well as being noted for his development of the highly popular Grevillea Gardens at Bulli, Ray tells a beautiful story.

**Thursday 10 February 12.30 pm**  
**Friends Twilight Dinner**

**At the Gardens**

Further information and booking form will be sent out in January with the information about the AGM.

**Saturday 12 February 1.30-3.30 pm**  
**Music, Dances and Roads**

Presented by the Bulgarian-Australian Association 'Rodina' Inc.

**Thursday 17 February 12.30 pm**  
**to be advised**

**Thursday 24 February 12.30 pm**  
**'Plants of Mongolia - south to the Gobi desert'**

**Presenter: Rosemary Purdie**

A rough NNE-SSW transect of Mongolia takes you from 'dark' and 'light' forests in the north, through grassy steppes to barchan dune fields, mountain 'islands' and stony plains in the arid south. Rosemary will introduce us to the spectacular and sweeping landscapes, the diversity of plants (including prostrate junipers up to 3000 years old) and outline some of the factors influencing the flora.

**Flix in the Stix**  
**Saturday 26 February 6.30-10.00 pm**  
**Eucalypt Lawn**

A ticketed outdoor cinema and live music production, screening award winning Australian made short films and featuring Mark Seymour live on stage.

## MARCH

**Thursday 3 March 12.30 pm**  
**'An Update on IBIS'**

**Presenter: Greg Whitbread**

Greg Whitbread talks of developments in information systems of the ANBG and the Australian National Herbarium as part of a collaborative study with the Atlas of Living Australia and the Australian Biological Resources Study. This example of collaborative teamwork has raised overseas interest.

**Friday 4 March 10-11 am**  
**Bush Magic:**  
**Storytime in the Gardens**

Join us for a story, a short walk or craft activity at a special spot in the Gardens. Follow the signs from the cafe or check in at the Visitor Centre for location details on the day.

**Thursday 10 March 12.30 pm**  
**Launch of the Lichen Website**  
**Presenters: Heino Lepp and Christine Cargill**

The ANBG has a new website devoted to lichens. The site's development was funded by a grant from the Friends of the ANBG. Lichens, often seen but largely ignored, are symbioses between fungi and algae or cyanobacteria. The website assumes no previous knowledge of lichens and presents information on many topics.



**Thursday 17 March 12.30 pm**  
**'Antarctica, Glossopteris and a sexual revolution'**

**Presenter: Liz Truswell**

On his ill-fated expedition to the South Pole in 1912, Scott and his party collected plant fossils, holding on to these after they had jettisoned all their equipment. Later studies of the fossils showed the place of Antarctica in Gondwana. Did the party at the time realise the importance of these? If so, how? The answer may lie in a meeting Scott had had previously with a young woman who was to become one of the most influential figures of the 20th century.

**Thursday 24 March 12.30 pm**  
**'The New National Rock Garden'**

**Presenter: Brad Pillans**

The Geological Society of Australia is planning a national rock garden to be located on 6 ha of land adjoining the Lindsay Pryor Arboretum at the Western end of Lake Burley Griffin.

**Thursday 31 March 12.30 pm**  
**'Plants Vs Animals and Plants Vs Plants'**

**Presenter: Warwick Wright**

Warwick talks about some of the often weird things plants do to preserve their place in space, to reproduce or just avoid getting eaten.

## 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**

The founder of Australian Ecosystems Foundation presents the recovery program for the endangered Mountain Pygmy Possum, *Burramys parvus*, and the collaborative work between scientists and the Foundation. He will also describe the positive processes of rehabilitation being carried out in the riparian zones of the Wolgan.

**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. He has worked with children and adults in classrooms and gardens, working to inspire people to 'walk on the grass'.

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

**Presenter: Richard Arculus**

Richard reports on major technological developments 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.



From Foundation for National Parks and Wildlife website

*Caloplaca* sp. from Aranda Bushland, from Australian Biological Resources Study website:  
[www. http://www.anbg.gov.au/abrs/lichenlist/introduction.html](http://www.anbg.gov.au/abrs/lichenlist/introduction.html)

## Support the Friends

Buy a DVD, a card, or a book  
from the Botanical Bookshop



### Impressions of a year in the Gardens

A series of photos of flowers as they bloom, season by season, throughout the Gardens. A slide show to be played on a TV or home computer. Price \$10.



A beautiful *Patersonia occidentalis*, painted by Nilavan Adams and donated to the Friends, graces a card for birthdays and other special occasions. Price \$3.50

# Australia's Garden



A new souvenir book for the Gardens, to celebrate the Gardens' 40th birthday and the Friends 20th. Price \$17.95.

The Bookshop gives 10% discount to Friends

## The Botanical Bookshop

[www.botanicalbookshop.com.au](http://www.botanicalbookshop.com.au)  
always welcomes Friends of  
the ANBG to the store.

A 10% discount is offered:

- on purchases over \$10
- on production of your membership card
- to the person whose name is on this card

No discount given for  
'Red Spot Specials'.

### Friends' Benefits

Your Membership Card entitles you to the following benefits:

Free Parking Pass

Botanical Bookshop—A discount on most items.

Hudsons Café—Loyalty cards, one for meals, one for tea/coffee.

Friends Lounge—in the Ellis Rowan Building, open to members 9.30 am to 4.30 pm. Relax with tea/coffee and lots of interesting reading.

Botanical Resource Centre—Public access herbarium, next to Friends' Lounge, with text books, access to online resources and trained facilitators to help you.

ANBG Library Membership—Borrow books, serials, videos, DVDs plus use of computers and interactive CD ROMs.

Function Facilities—Special rates on bookings for functions at ANBG.

ANBG Opening hours

8.30 am to 5.00 pm daily, except Christmas Day. Visitor Centre 9.00 am to 4.30 pm. 62509540.