

# *Fron*ds

*Friends of the Australian National Botanic Gardens*  
*Number 83 August 2016*





## Friends of the AUSTRALIAN NATIONAL BOTANIC GARDENS

Patron	Her Excellency Lady Cosgrove
Vice Patron	Mrs Marlena Jeffery
President	Lesley Jackman
Vice President	Jan Finley
Secretary	Rita Maclachlan
Treasurer	Helen Elliot
General Committee	Jeff Brown
	Christianna Cobbold
	David Cox
	Sue Serjeantson
	Barbara Tyler
Public Officer	Rita Maclachlan
Exec. Director ANBG	Dr Judy West
Post:	Friends of ANBG, GPO Box 1777 Canberra ACT 2601 Australia
Telephone:	(02) 6250 9548 (messages)
Website:	<a href="http://www.friendsanbg.org.au">http://www.friendsanbg.org.au</a>

### Friends' activities and contacts

<b>Fronde Committee</b>	Margaret Clarke
	Barbara Podger
	Anne Rawson
	Pam Rooney

[newsletter@friendsanbg.org.au](mailto:newsletter@friendsanbg.org.au)

Membership	Lesley Harland
	<a href="mailto:membership@friendsanbg.org.au">membership@friendsanbg.org.au</a>

Growing Friends	Kath Holtzapffel
Guides	Christianna Cobbold
Botanic Art Groups	Helen Hinton
Photographic Group	Ann Eldridge
Plant Science Group	Anne Campbell
Social Events	Tricia Morton
Talks Convenor	Sue Serjeantson

For all these groups contact:

[info@friendsanbg.org.au](mailto:info@friendsanbg.org.au)

Booked Walks:

[bookedwalks@friendsanbg.org.au](mailto:bookedwalks@friendsanbg.org.au)

*Fronde* is published three times a year. We welcome your articles for inclusion in the next issue. Material should be forwarded to the *Fronde* Committee by mid-February for the April issue; mid-June for the August issue; mid-October for the December issue.

Email or post material to the *Fronde* Committee at the above addresses or, place in the Friends letterbox, located inside the Gardens' Visitor Centre, between 9.30 am and 4.30 pm, Monday to Sunday. Editorial messages: telephone (02) 6250 9548.

Design and layout: Pam Rooney

Printing: Union Offset Printers

ISSN 1036 9163

## SHOWY SEEDS

Congratulations to Nathan Emery for this prizewinning photo of an opened female cone of *Macrozamia communis*. Nathan's photo took the delegates' vote to win the seed photo competition at the recent National Seed Science Forum (report in *Fronde* 82 April 2016)

Nathan Emery, <http://njphotography.500px.com/>



## 'Fronde Needs You'

The *Fronde* team is looking for new members.

Two Friends have recently joined the team but we are still looking for someone with relevant experience in writing and in the practical aspects of newsletter production including:

- dreaming up interesting articles, finding authors to write them (or interviewing the relevant people and writing the article) and ensuring deadlines are met
- some editing skills
- liaising with the printer and mailing house.

It is also important to be able to develop relationships to enable the team to find out what is happening in the Friends and the Gardens in order to report on it.

Interested? Contact the *Fronde* team to arrange a chat at [newsletter@friendsanbg.org.au](mailto:newsletter@friendsanbg.org.au)

## In this Issue

- 3 What's in a Gall?  
Roger Farrow
- 6 Friendly Chatter  
Plant Science Group  
Botanic Art Groups  
Growing Friends  
Garden Guides  
Photographic Group
- 7 Glasshouse Makeover  
Margaret Clarke
- 8 Botanical Bookshop
- 10 Bush Blitz:  
Alexandra de Blas
- 13 Friends' Briefs
- 14 Gardens Shorts
- 17 What's On
- 19 Lunchtime Talks

COVER: *Leionema* sp. Aff. *gracile* grows in one area of 20 metres by 50 metres on the gorge rim, Oxley Wild Rivers NP near Walcha, NSW. 189 plants have grown out from 12 clones in the nursery. ("Bush Blitz" page 10) PHOTO: JEREMY BRUHL



# What's in a Gall?

Roger Farrow

Many visitors to the ANBG, and anyone taking an interest in our native vegetation, will notice the odd swellings, deformities and other out-of-place structures on the leaves, stems and buds of native plants. These are galls that are induced by a variety of different agents and are a response by the plant to the invading organism. Most galls are induced by insects, a few by mites and some by fungi. The dominant trees of Australia, the eucalypts have the greatest array of gall-inducers followed by wattles, but many other shrubs, forbs and grasses have galls that involve many thousands of different species of gall inducer. Whole families of gall-wasps and gall-midges and different species of scale, psyllid bugs, moth caterpillars, beetle larvae, thrips and mites induce different types of galls whose appearance and structure can often identify what is within. There are some remarkable life-

histories and adaptations out there, some examples of which are described here.

## WITCH'S BROOMS

These are often seen on the terminal branches of eucalypts as bunches of deformed shoots. Most are caused by a type of diaspid scale, *Maskellia globosa*. Instead of feeding on the sap of the host externally, like most scales, the first stage nymph of this unique species burrows into the host where it induces the production of short shoots which ensure the survival of the next generation of the insect.

Male and female witch's broom galls are separate as shown here: male galls are red on a deformed leaf whereas the female galls are greenish on the swollen stems. A stem is sliced open to show the female. She never emerges but produces her eggs in the cavity after mating and the larvae hatch and crawl to a new site along the stem. Some may be blown to a different host tree.

## WOODY GALLS

These resemble small pears and fluted vases and are often seen on the stems of eucalypts. These are induced by a species of *Apiomorpha* in the family Eriococcidae or felted scales. The white scales that often clothe the stems of eucalypts are also in this family. The females of these scales can reach a very large size of more than 2 cm in length. They never emerge from the gall but produce their numerous eggs inside its cavity. The larvae emerge through a small terminal exit hole and disperse.



Witch's Brooms: Male (red) and female (greenish) galls



Witch's Brooms: Female inside stem



Woody Gall



Galls on a eucalypt leaf induced by an unidentified gall wasp



Woody Gall



## What's in a Gall?

### LEAF AND STEM GALLS

Various types are also found on phyllodinous acacias. One of the commonest is a round gall found on the stems of many wattle species. When sliced open a central cavity is revealed that is occupied by a single gall-wasp larva.

### FLOWER GALLS

Arguably some of the most interesting galls are those induced on flower buds. These galls are on *Acacia paradoxa*. The species of gall wasp responsible has not yet been reared out but it would be minute in size.

The flowers of flax lilies, such as *Dianella tasmanica*, are often distorted by gall-inducing thrips, *Anaphothrips carlylei*, that live in large colonies in the plant tissue. Thrips are very small insects and are represented by the tiny white dots just visible on the gall surface.

### STEM GALLS.

Many herbaceous and shrubby plants exhibit swollen stem galls often induced by fly larvae in the fruit fly family Tephritidae. The adults are often seen feeding on the flowers of these plants especially the genus *Craspedia* in the Asteraceae family.



Stem Gall: round gall on *Acacia longifolia*



Stem Gall: sliced open to show gall-wasp larva



Flower Gall: flowers replaced by galls on *Acacia paradoxa*



Flower Gall: spent flower galls showing wasp exit hole



Stem Galls. The speckled wings are diagnostic of *Tephritis* spp.



Flower Galls on *Dianella tasmanica*



Leaf Gall

### SWOLLEN LEAF GALLS

Although there are many types of leaf galls on eucalypts, one which is induced by the gall fly *Fergusonina*, is remarkable in that it has a complex relationship with a symbiotic nematode *Fergusobia*. The fly lays its eggs together with the nematodes in the eucalypt shoot. The fly larvae or nematodes induce the growing leaves to fuse together and swell, producing a mass of undifferentiated tissue. Inside this tissue are a series of cells each occupied by a fly larva.



Leaf Gall: cells occupied by fly larvae



## What's in a Gall?

### ROSETTE GALLS

Another type of gall seen on the terminal shoots of many different plant species is the rosette gall, comprising a cluster of scale-like leaves that fail to expand and resemble an unexpanded bud. In fact they are often mistaken for flower buds. A scale, *Cylindrococcus spiniferus*, induces galls on *Allocasuarina* species. In between the large female galls, two small cylindrical male galls can be seen protruding between the leaves. When the female gall is sliced open, the structure of the gall is self-evident with the actual scale feeding in the centre.



Rosette Galls on *Allocasuarina* species

### MITE GALLS

Anyone who has seen the Tuggeranong lignum *Muehlenbeckia tuggeranong*, or the common lignum *M. axillaris*, will have seen the numerous red lumps on the leaves. These are galls and are hollow and when sliced open reveal colonies of the eriophyid mite, *Eriophyes lambi*, unfortunately too small for me to photograph. What is interesting is that this mite is also found on the same species, *M. axillaris*, in New Zealand. As far as we can see the mite does not appear to debilitate the host plant.



Mite Gall on Tuggeranong lignum, *Muehlenbeckia*



Female Rosette Galls on *Allocasuarina* species sliced open to reveal the actual scale feeding in the centre

### FUNGAL GALLS

The most familiar gall of this group is *Uromycladium tepperianum* that is very common seen here on bipinnate acacias but also seen on some phyllodinous ones. Another species of *Uromycladium* occurs on the cherry ballart, *Exocarpus cupressiformis*. These galls are home to many insect species feeding on the fungus, called inquilines or boarders, which do not harm the host.

A large book could be devoted to cataloguing all the galls known in Australia and there remain many in which the inducing agent still needs to be identified by the process of collecting and rearing out.

REF: **Farrow, RA** (2016) *Insects of South-Eastern Australia: an Ecological and Behavioural Guide*. CSIRO Publishing Melbourne.

Available at the Botanical Bookshop (see review page 9). IMAGES IN THIS ARTICLE BY ROGER FARROW



Fungal Gall: *Uromycladium tepperianum*

# Friendly Chatter

## Plant Science Group

We now have 117 people in the Plant Science Group. Our regular monthly event, the Technical Talks on the first Monday of each month (except for Public Holidays), attracts on average about 30 people. The most recent ones have covered:

'Cleomaceae- The tangled web of Australian "Spider Flowers", genus *Cleome*' presented by Dr Russell Barrett from the Australian National Herbarium. Globally, the Cleomaceae are a family of about 10 genera and 300 species found in tropical and warm temperate regions. The highest diversity of Australian *Cleome* species is in the Kimberley and 'Top End' of the Northern Territory. They are thought to have speciated across tropical Australia, presumably from a single dispersal event to this continent.

'Measuring photosynthesis from a distance' presented by Professor Barry Osborne, ANU and University of Wollongong. Barry demonstrated the equipment he is developing to allow remote sensing of photosynthetic activities in leaves from inaccessible plants and within canopies.

For further information contact us at [plantscience@friendsanbg.org.au](mailto:plantscience@friendsanbg.org.au) or see the Friends website under Activities

Anne Campbell

M. FAGG © AUSTRALIAN  
NATIONAL BOTANIC GARDENS.



*Cleome viscosa*  
Taken at Kakadu NP,  
road from Jabiru to  
Mamakala NT

## Botanic Art Groups

The annual *Art In The Gardens With Friends* in March and April was our best and biggest ever. There was an extra exhibition of matted works displayed for Eucalypt Week and in all, 84 art works were sold from just over 120 paintings. The Exhibition was opened by Halina Steele who has had a long connection with the Botanic Art Groups (BAG). The standard of work was excellent and two paintings were selected by the Friends' Executive Committee, to be added to the collection of art work at the Gardens. The Friends received over \$3,900 in commission from the painting sales, the raffle and card sales. Raffle prizes included a painting by Wendy Antoniak, cards donated by the artists and vouchers for Jindii Eco Spa and the Botanical Bookshop. All the artists and their supporters, Friends and Gardens staff did a great job and the BAG Exhibition Committee would like to thank them all.

As the numbers of members of BAG have increased and the first Thursday and third Wednesday groups are so well attended, a new group is now meeting on the third Saturday of the month in the Banks Building. This is for those who work during the week and members who would like an extra day of Botanical Art. The weekend classes run for the members are enjoyed by the participants and profits are returned to the Friends. Everyone enjoyed painting birds with Viv Pinder and the drawing class with Sharon Field.

Please feel free to drop in on any BAG meeting and have a look at what the members are doing.

Helen Jensma

## Growing Friends

The autumn sale was held on Saturday 9 April 2016. Plants on offer included some advanced specimens of banksia, hakea and telopea that were well-received additions. A complimentary email from a customer, thanking us for a well-run sale, was much appreciated feedback.

One delightful plant on sale in April was the *Brunonia australis*, a widespread perennial herb with dense heads of blue flowers like a pin cushion. Unfortunately, establishment

SUE FISKIN



## OUR NEXT SALE WILL BE ON SATURDAY, 12 NOVEMBER

can be difficult and it is not unusual for plants to die out after a year or two. However, seed propagation is not difficult and the plants can be treated as annuals.

Our 'mother plant' area is now operational with a plant list ready. We had a slight delay because of a change of plans to accommodate the automatic watering system, not under the path as originally planned but via an overhead pipe.

Feel welcome to join our normal monthly meeting held on the first Saturday of each month at 9.30 am June to August and 9.00 am other times during the year, in the Joseph Banks Building. We also have a working bee on the third Tuesday of each month.

Yvonne Robinson



## Gardens Guides

The training course for new Guides now completed, trainees have been practising their skills in the Gardens, mentored by current Guides. Congratulations to those who have now completed their 'assessment walk', and been awarded their Guides Badges.

The induction of new Guides hastened the decision that had been threatening: choosing a new uniform. Anyone who has ever been on a uniform committee would shrink from this task. But Guides Co-ordinator, Christianna Cobbold, is no shrinking Viola hederacea. She took on the task of co-ordinating a committee (while at the same time co-ordinating the new Guides training), and came up with not just a new shirt, but a new jacket and vest as well.

All Guides were consulted during the process of choosing the new shirt and jacket which are embroidered with the Gardens 'and the Friends' logos. The new uniform will be gradually introduced as new Guides start working in the Gardens, and current Guides retire their old uniforms.

**Barbara Podger**



ANNE RAWSON

New uniforms for the Guides



BRENDA RUNNEGAR

Fig Tree, Mt Annan

## Photographic Group

We are having a busy year including various interesting and informative speakers, a very successful excursion to the Australian Botanic Gardens at Mt Annan and a workshop on flash photography.

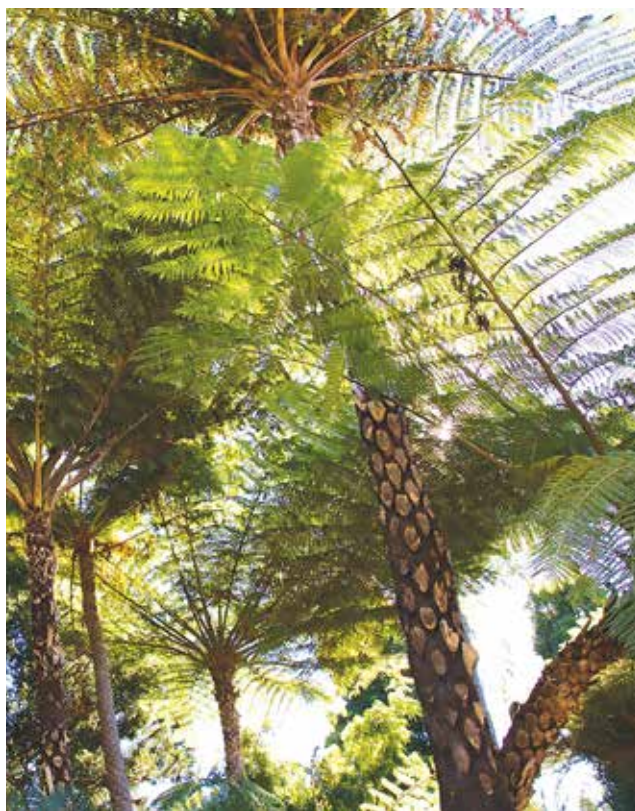
The Group has agreed to document significant building developments in the Gardens. This project will continue over the next few years with a sub-committee headed by David Cox.

A second project has also been initiated to document changes to various sites within the Gardens over a number of years. PG member Graham Brown has agreed to set up a sub-committee in conjunction with Gardens staff, to identify suitable sites. This is an exciting project and requires a long-term commitment by the Group.

Forward planning has begun for our upcoming exhibition at the Visitor Centre. The exhibition titled *Refocus* will open on 25 November and run until 11 December 2016.

Future events include a continuation of our very successful and well attended early morning walks and another field trip. The Group always welcomes potential speakers and new members. Contact us at [photo@friendsanbg.org.au](mailto:photo@friendsanbg.org.au)

**Brenda Runnegar**



BRENDA RUNNEGAR

Tree Ferns, Mt Annan



# Glasshouse Makeover

Margaret Clarke

Although the Display Glasshouse is now closed to the public it is far from retired. Rather, it is being converted along with adjacent glasshouses to the nursery hub for the new \$3 million Ian Potter National Conservatory. Nursery Supervisor Joe McAuliffe and his team are now readying the glasshouse plants for eventual display in the new Conservatory.

Its plantings are being removed from the raised beds and potted to enable transfer to the new Conservatory. For the larger ferns and cycads in particular this is no small feat. The centrepiece of the collection is a splendid old King Fern, *Angiopteris evecta*, which is being slowly acclimatised for potting and possibly division.

A number of existing plants are likely to provide the framework of the Conservatory display, with the layout and composition to be inspired by the building's design. Hopefully, the new building will allow the King Fern space to fully unfurl its up to 8 metre long fronds (the

largest produced by any fern in the world); the native bananas (*Musa banksii*) to shoot up to around 3 metres; and the Christmas Island Cycad, (*Cyas rumphii*) to soar to a potential 6 metres. Existing structural element plants like the Australian Fan Palm (*Licuala ramsayi*) may be supplemented by purchased plants to provide lush, dense foliage effects.

The structural display will be complemented by a changing display of smaller plants that can be moved back to the old Glasshouse nursery for rest and rejuvenation. Recognising that the Conservatory cannot provide the perfect environment for every plant, the Glasshouses will become the primary back-up service for a dose of tlc from Nursery staff who can respond to their individual requirements.

This ability to rest plants away from the Conservatory is particularly important for orchids allowing them to be brought in at their peak of flowering. Other plants like elkhorns and staghorns simply need a rest from the wet conditions of a tropically wet environment.

Amongst the spectacular foliage plants there will be small jewels of plants to reward close inspection. Displays of *Drosera adelae* will not only provide charming feathery forms, but can also serve as biological controls with their carnivorous habit (they are especially partial to fungus



*Angiopteris evecta* being readied for a pot



Joe McAuliffe inspects the base of the Christmas Island cycad

BARBARA PODGER

BARBARA PODGER



gnats whose larvae like to chew on the roots of young potted plants).

There will be flowers too. Orchids of course, and the Nursery staff are hoping to substantially increase the variety of Australian orchids in the collection. There will also be a range of flowering plants from Christmas Island, Kakadu and Norfolk Island. The established connections the Gardens already has with these locations through Parks Australia provide opportunities for the collection of seed and cuttings from some exceptionally lovely species. *Hoya aldrichii* from Christmas Island and the rare *Lithomyrtus densifolia* from Kakadu are just two species that are already being successfully propagated by the Nursery.



BARBARA PODGER

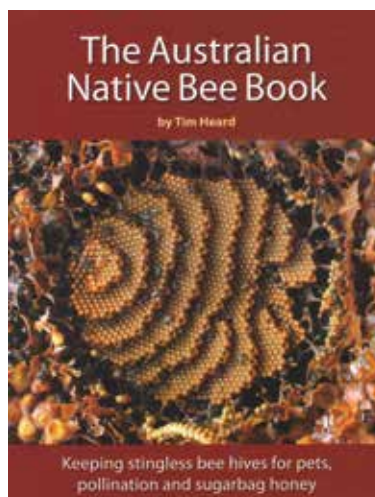
Displays of *Drosera adaelae*

Thanks to the careful work of Joe and his team in the good old greenhouses, there will be a wonderfully diverse range of plants to form the displays in the Ian Potter National Conservatory when it opens in 2018.



JOE MCAULIFFE

*Hoya aldrichii*



## ***The Australian Native Bee Book***

Tim Heard

2016

Paperback

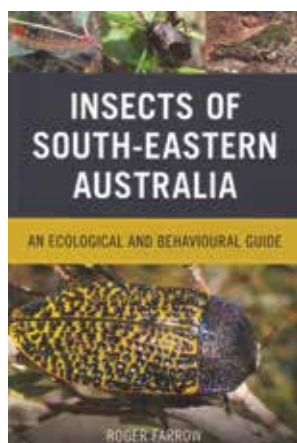
247 pages

Colour Photographs

\$35

Bees are a hot topic at the moment, especially here in the Gardens with the addition of a Bee

Hotel. Home hives are becoming increasingly popular and this book is the perfect accompaniment to an endeavour into beekeeping. In this book you'll find the complete guide to native stingless bees, written by an expert who has spent his lifetime intimately engaged with these very special creatures. As well as being able to produce honey, looking after your own hive can help conserve native bees.



## ***Insects of South-Eastern Australia - An Ecological and Behavioural Guide***

Roger Farrow

2016

Paperback

288 pages

Colour Photographs

\$45

Roger Farrow's new book exploring the insects of south-eastern Australia was recently launched here at the Gardens. This particular field guide is unique in that it uses host plants and behavioural attributes as the starting point for identifying insects. Full of colour photographs, the different species of insects found in the south-east region of Australia, including plant feeders, predators, parasites and decomposers, are all represented within this easy to follow guide.



# Bush Blitz: helping to discover & protect rare Australian plants

## Alexandra de Blas

**B**ush Blitz is Australia's largest nature discovery project and its two most recent expeditions will help secure a future for some of Australia's rarest and endangered plants.

The expeditions to Oxley Wild Rivers National Park, near Armidale in New South Wales, and Tasmania's South West Wilderness, explored two unique and richly diverse places. In Oxley Wild Rivers it was the narrow rim above the gorge, near Walcha, and in the South West – a deposit of limestone high up on the North-east Ridge of majestic Mount Anne. Helicopters were an essential component, allowing scientists to collect specimens from inaccessible locations in record time.

Since Bush Blitz began in 2010, it has sent more than 200 scientists into the field to survey over two million hectares of land across Australia. They have found almost 1,200 new species, 1,136 animal species and 57 new species of plants. But it's not only about new discoveries, creating *ex-situ* populations can be important too.

## OXLEY WILD RIVERS

When David Taylor, Curator of Living Collections at the ANBG, joined the Oxley Wild Rivers blitz in November last year he knew what he was looking for. He collected cuttings of more than 15 rare and significant species including the *Prostanthera* sp 'Rowley's Creek' and *Leionema* sp. Aff. *gracile* – found only in isolated pockets of the park.

This was due, in no small part, to the work of Dr Lachlan Copeland, who had extensively surveyed the plants in the area over many years and provided much of the information on what to find and where to find it.



JEREMY BRUHL

*Leionema* sp. Aff. *gracile*

Lachlan couldn't join David on the blitz, however, in May this year he nominated six plants to be listed under the *Threatened Species Conservation Act 1995 (NSW)*, five of them from Oxley Wild Rivers National Park.



LACHLAN COPELAND

*Grevillea guthrieana*. 300 plants have been cultivated from 12 clones in the nursery

'It is critically important', says Lachlan, that *Prostanthera* and *Leionema* are protected with *ex-situ* populations as 'they are both extremely vulnerable'. The *Leionema*, in the citrus family, has been found in just one location measuring 20 metres by 50 metres on the western side of the Rowley's gorge rim. 'It doesn't appear to set fruit, so there isn't any seeding, which means one fire could take it out completely, rendering the species extinct', he says.

The *Prostanthera*, in the mint bush family, found just a few kilometres to the east, is being heavily grazed.

Viewed from above, the cleared plateau of the New England Tablelands feed rivers which flow down through the steep, rugged, inaccessible gorge country in the national park and out towards the coast. The park abounds with native vegetation but a disproportionately high number of endemic species are found in a narrow band around the gorge rim.



LACHLAN COPELAND

*Prostanthera* sp 'Rowley's Creek' under strong grazing pressure



While collecting alongside David, Honours student Tim Collins found a new population of *Eucalyptus magnificata*, the rare and threatened species he is researching for his thesis at the University of New England. The discovery of five mature trees was an important find as very few other stands remain. Of the two largest populations, one stand of 500 trees is on private land and the other grove of 220 individuals is threatened by a haulage road for a mine expansion, so neither are safe. Tim will also send seeds to the ANBG for propagation.

## THE GARDENS

‘The blitz at Oxley Wild Rivers was a very successful collecting trip for ANBG’, says David. ‘The timing was excellent’. In the case of *Grevillea guthrieana*, ‘plants burnt in a bush fire, two years ago, now contained delicious cutting material, whereas older plants would have been difficult to strike. There was no seed, so we were lucky to find the cutting material.’

LACHLAN COPELAND



*Eucalyptus magnificata*

Frequent fires are an issue in the park and if a second fire had followed in close succession, before the seedlings had flowered and set seed, the population could have been wiped out.



JEREMY BRUHL

*Eucalyptus magnificata*, very few stands remain

Back in the nursery in Canberra, 800 plants have propagated from the cuttings collected and some are still striking. All plants have been labelled and tracked as separate clones (or genotypes) so the parentage of each plant is known and retained – ensuring genetic diversity.

‘We are very excited about being able to grow so many plants, from so many parents’, says David. ‘We have a huge insurance policy in place now.’ The species growing-out in the Gardens, will provide backup populations for ‘re-wilding’ or translocations.

‘One of the biggest success stories from the expedition is the ongoing connection between the Gardens, the land managers and threatened species officers in that region’, David adds. ‘As a result, we’re now discussing the potential for some re-introductions, which is fantastic.’

## MOUNT ANNE

High up on the Northeast Ridge of Mt Anne, 1000 m above sea level, in Tasmania’s South West Wilderness, the Bush Blitz helicopter landed on a quartzite ledge, just large enough to hold a chopper. It’s a day’s walk from the nearest road, incredibly rugged and hard to move around in the limestone karst country – full of sink holes, caves and cliffs.

‘It is an amazing area’, says Dr Miguel de Salas, Senior Curator of Botany at the Tasmanian Herbarium.

Mount Anne has the only patch of alpine dolomitic limestone in Tasmania and is like an island rich in diversity. While the peak of Mount Anne is dolerite, a common Tasmanian rock type, the Northeast Ridge is made of dolomite, a much rarer geology – the vegetation each supports is completely

## Bush Blitz

different. Here they found three exciting undescribed plants all with white flowers – a new species of Billy Button, a Gentian and a subspecies of Eyebright. Both the Gentian and Eyebright were known to grow there, but the Billy Button was a new discovery.

Tasmania has about 1,900 species of native vascular plants and finding something completely new is becoming quite a rarity. In 2015, Miguel

also discovered a new species of violet *Viola* sp. on a Blitz in the Tarkine in Tasmania's north west.

After disembarking on the ridge, they descended 50 metres down a steep gully and found the Gentian *Gentianella* sp., then walked around the massive Annakananda sink hole, the third deepest sink hole in Australia (373 m).

The Eyebright *Euphrasia gibbsiae* and the Billy Button *Craspedia* sp. were growing in a gully on the far side of the sink hole on a shady south-facing cliff.

In the first week of February fires were raging throughout much of Tasmania's wilderness and a major fire close to Mount Anne kept the area closed for all but one day of the week long Blitz. 'It was really good luck for us to be able to get there on that day', says Miguel. During their flying visit to



MIGUEL DE SALAS

A new species of violet, *Viola* sp. discovered on the Tarkine Bush Blitz in 2015.

the mountain, Miguel and his team collected 195 plant specimens and a total of 947 over the week.

*Bush Blitz is a multimillion dollar partnership between the Australian Government, BHP Billiton Sustainable Communities and Earthwatch Australia.*

[www.bushblitz.org.au](http://www.bushblitz.org.au)



MIGUEL DE SALAS

Matilda Brown with the newly discovered Billy Button *Craspedia* sp on Northeast Ridge.



MIGUEL DE SALAS

*Gentianella* sp.



MIGUEL DE SALAS

Field work on Northeast Ridge with the towering peak of Mount Anne in view.



# Friends' briefs

## From the President

I was very pleased recently to visit Geelong for the biennial conference and Annual General Meeting of the Australian Association of Friends of Botanic Gardens.

The AAFBG exists to:

- encourage and support the growth of groups or associations interested in the conservation, development, wellbeing and public appreciation of botanic gardens;
- to represent the interests of the Friends of Botanic Gardens throughout Australia and New Zealand.

AAFBG has nearly 70 Friends groups as members and some overseas affiliates. The meeting was an excellent way to make contact with other Friends groups, in Geelong and afterwards.

There was a large Canberra contingent. Warwick Wright was involved with the Association for many years but has stepped down. Congratulations to Dennis Ayliffe who was elected President, and *Fronde* editor Anne Rawson who will continue to edit the AAFBG newsletter *Eucalypt*.

**Lesley Jackman**



### Annual General Meeting 2016

The 28th Annual General Meeting of the Friends of ANBG will be held on Wednesday 19 October 2016 at 5.30pm in the Theatre at the Gardens. Light refreshments will be served from 5pm in the Dickson Room.

Elections will be held for the position of President, Vice President, Treasurer and Secretary and four ordinary members of Council. If a current ordinary member of Council nominates for and is elected to a vacant executive position, there will be an additional vacancy for an ordinary member. In addition, the agenda will include an award of life membership.

The AGM will be followed by a talk on the Ian Potter National Conservatory.



PHOTO: GRAHAM BROWN

Water colour by Vivien Pinder ('*Callistemon pinifolius*') and scratchboard by Marjorie Roche ('Lace Leaf' *Brachychiton acerfolius* or Illawarra Flame Tree) which were purchased by the Friends at the Botanic Art Groups' exhibition in March, and presented to the Gardens.

## Geelong conference

The AAFBG conference attended by our President (see her report) and 10 other Friends, tackled the big issues. Its title was 'Geelong –Regional Relevance: Botanic Environments and their Survival in a Time of Global Warming'. Presentations included: plant conservation in Gardens; urban tree management; threatened flora of Victoria; citizen science in the Brisbane Ranges; and on a lighter note, Tim Entwistle talking

about the role of social media in a Garden. We also got excellent advice on legal and financial matters, and on surveying your visitors. If you want to read all about it, the Conference edition of *Eucalypt* is now in the Friends lounge.

It will also tell you about the excellent food (the muffins were exceptional) and three trips into the country. First in the rain in the footsteps of Ferdinand von Mueller

down the Bellarine Peninsula. After the conference we toured along the Great Ocean Road to gardens in the Otways and the next day to the Western plains with lunch provided by Karen refugees. I can personally recommend going to Geelong to see the brand new, domed Arts and Culture Precinct.

The 2018 conference will be in Benalla, Victoria.

**Anne Rawson**

# Friends' Briefs

## Breakfast with the Birds In touch with Floriade

SATURDAY & SUNDAY MORNINGS  
24 SEPTEMBER TO 16 OCTOBER

The ANBG provides a fantastic habitat for many of Canberra's birds with water and nectar in abundance.

During Floriade we offer an early morning walk at weekends. Join us for a 1½ hour guided walk to see many of the Gardens' amazing birds. This is followed by a delicious hot breakfast at the Gardens' café – Floresco in the Gardens.

It is a real treat to be in the Gardens in the early morning in Spring at a time when the birds are most active. Come and observe the feeding and nesting behaviour of our birds. We can show you how to identify our most common black birds – magpies, currawongs, ravens, choughs, magpie larks – and introduce you to some cockatoos, parrots and several honeyeaters. Discover where they are most commonly encountered in the Gardens. We can share with you findings from the research undertaken by our universities and what is revealed about bird behaviour.

Some binoculars will be provided, but bring your own if you have them. Wear comfortable footwear and warm clothes.

Breakfast with the Birds is on at 7.45 am each Saturday and Sunday during Floriade, (event not suitable for children under 8). Price has remained the same; \$32 for Friends of the ANBG and \$35 for others.

Bookings are essential:

Enquiries: 0418 670 704 or

[birds@friendsanbg.org.au](mailto:birds@friendsanbg.org.au)

**Jonette McDonnell**

## Gang-gang survey in ANBG

Following the Special Survey of Gang-gangs as part of the 50th Anniversary celebrations of the Canberra Ornithologists Group (see April *FronDS*) an enthusiastic group of ANBG volunteers is continuing to monitor these much loved birds in the Gardens with quarterly surveys. Happily more Gang-gangs were seen at the Eucalypt Lawn site during the 2016 May survey week than had been seen at that time in the previous two years.

We are looking forward to another survey week 18 – 24 August 2016. If you would like to be involved contact Linda Beveridge on 0437 298 711.

**Linda Beveridge**

## Kangaroo Kollars

Visitors to the Gardens who have managed to spot some of our resident Eastern Grey Kangaroos recently, may have noticed that a few of them are sporting white collars. These kangaroos are part of a fertility control project that was announced last year by the ACT Government, and which is being carried out at five sites in Canberra. A fertility control vaccine, GonaCon, is injected into female kangaroos, and if the trial is successful, these kangaroos won't reproduce for several years.

Each collared kangaroo at the Gardens has been captured and vaccinated by hand, so it is a labour intensive process. In the next step of the research, which will commence soon, kangaroos will be administered the vaccine via a dart. If successful, this more efficient delivery method will make vaccination with GonaCon a more practical option for managing some free-ranging populations of kangaroos in the ACT.



PAM ROONEY

The vaccinated kangaroos have been fitted with collars and ear tags to help researchers track and identify them, to monitor how the vaccine is working. The collars are made of lightweight vinyl and are light and pliable, and fitted to allow for growth.

Source: Conservation Research Environment and Planning Directorate ACT Government



BARBARA PODGER

ANBG female kangaroo resident wearing her new collar



# Gardens Shorts

## From the Executive Director:

I am delighted to report on the outcomes of the expression of interest phase for the design competition for The Ian Potter National Conservatory, which will become a unique and must-see feature of the Gardens. The national call for expressions of interest attracted 39 submissions from leading architects around the nation.

Five leading architects and their design teams were selected to participate in the design competition phase:

- Grimshaw Architects – lead architect Andrew Perez
- BVN – lead architect James Grose
- Sean Godsell Architects – lead architect Sean Godsell
- Terroir – lead architect Professor Gerard Reinmuth
- CHROFI – lead architect John Choi.

It is a wonderful sign of confidence from the design community in the special and significant nature of this project. We are excited to be in the next phase of the competition and getting closer to developing what promises to be a national and international showcase for Australian tropical plants. The Ian Potter National Conservatory will define the Gardens as the leading conservator of such plants, contributing to our mission to inspire, inform and connect people to the Australian flora.

The eminent competition jury, chaired by Professor Richard Johnson AO, will select the winner, with an announcement to be made soon. All of the submitted designs will be exhibited at the Gardens.

## *The Ian Potter National Conservatory will define the ANBG as the leading conservator of Australian tropical plants*

The construction of The Ian Potter National Conservatory is planned for early 2017, with the official opening in early 2018. The Conservatory is one of the major recommendations from the Gardens' Master Plan released in 2015 and will be one of the first construction projects from the 20 year vision.

### THE GARDENS HAS ALSO RECENTLY HONOURED RETIRED ENTOMOLOGIST, DR MAX DAY.

Dr Day's original studies on Scribbly Gum conducted here at the Gardens inspired the research that led to the discovery of the way the iconic scribbles are formed by moth larvae on the trunks of the trees, and to the discovery of 11 new species of moth. He and colleagues went on to document that at least 15 moth species produce their scribbles on at least 20 different eucalypt species. We have honoured Dr Day with a Scribbly Gum interpretive panel located near the Northern Eucalypt Lawn.

**Peter Byron**  
Acting Executive Director



PAM ROONEY

Scribbles on *Eucalyptus rossii*

### ***Bushland Precinct Walking Trail***

Following a ten week delay in gaining works approval from the National Capital Authority the contractor has started to build the bridges for the trail off-site and has started works on-site.

The walking trail construction period is weather dependent but we are allowing 6 – 8 weeks and we will be looking at other improvement works associated with the trail in the Bushland Precinct which may be able to be undertaken in the next three months.

Graphic design team LookEar has been engaged to develop the interpretation plan for the Bushland Precinct Walking Trail and this plan should be finalised in approximately ten weeks.

# Garden Shorts

## New Developments

In addition to progressing the Master Plan construction program we have been busy with other new exciting developments.

The Who Lives Here children's trail has been upgraded and renamed the **Who Did That** children's trail. Children join Betty the Blue Banded Bee to explore for signs of animal and plant life in the Gardens.

The Gardens now has **free Wifi** following a partnership with the ACT Government's CBRfree program. Visitors can access the free Wifi in areas surrounding the Cafe precinct, the Eucalypt Lawn and the Red Centre Garden.

The Gardens has been refreshing the presentation of the entry experience for visitors. There has been a **significant renovation** of the Gardens landscape outside the entrance gates and the carpark has had fresh line marking and traffic signage. Our conference hire facilities – the Crosbie Morrison building and the Dickson room have also been renovated with fresh paint and window treatments.

The Gardens has a **new online booking system** for Education and Venue hire and this will improve the ease in booking education programs and indoor and outdoor venues.

## Scientific Trial To Save Endangered Plant

The Bomaderry Zieria, *Zieria bauerlenii*, produces limited viable seeds to ensure its own survival, a problem that has seen the decline of the species to less than 500 plants in the Shoalhaven River region.

Known to grow in only the one wild population, this critically endangered species has been cultivated over many years in collections at the Australian National



Rehabilitation team collecting *Arenga listeri*. The Christmas Island Lister's Palm has irritant hairs that make collecting a challenge, hence the protective suits.

Botanic Gardens, Booderee Botanic Gardens and Wollongong Botanic Gardens as part of a long term project to save the species.

Around 100 plants were recently planted at the Yallah TAFE to determine the ideal growing conditions by the southeast NSW bioregion partnership.

A mix of genetic types were deliberately planted to see how the plant responds to differing conditions. Data from the trial will give information for a second proposed trial planting in the wild.

## Christmas Island Collecting

Tom North, Curator of the National Seed Bank and Heather Sweet from the Gardens Nursery, recently visited Christmas Island to collect seed for the Australian Seed Bank Partnership 1000 Species Project and for propagation for the Ian Potter National Conservatory. While there, they assisted the Christmas Island National Park's Rainforest Rehabilitation team with improving their seed collection techniques and storage protocols.

The Rehabilitation team undertakes revegetation projects across Christmas Island and relies on collected seed to sow in their nursery. They currently grow about 30 species of plants, providing about 20,000 plants for revegetation. While the volume and hardiness of the plants they produce is impressive, they would like more diversity amongst the species they produce.

Heather was able to see how the Christmas Island nursery operates and shared her expertise on nursery operations.



Heather Sweet, ANBG, inspecting seed of *Calophyllum inophyllum*. The trouble with collecting rainforest species is that they germinate very quickly to sit as a seedling bank on the forest floor. All the *Calophyllum* inspected had already shot.



# What's on at the Gardens

## August - November 2016

Details of events are correct at the time of printing. For changes and updates please check the Friends' website at [www.friendsanbg.org.au](http://www.friendsanbg.org.au) or the Gardens' site at: [www.anbg.gov.au](http://www.anbg.gov.au) or in the local press. Exhibitions in the Visitor Centre are open from 9.30 am to 4.30 pm.

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

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.

## Exhibitions

Visitor Centre Gallery

Open Daily 9.30 am – 4.30 pm; **FREE**

**KALAMURINA DESERT LIGHT EXHIBITION 10 AUG – 4 SEPT**

Presented by Tony Fleming. The exhibition captures the vastness of the Kalamurina landscape and the luminous desert light.

**FROM THE RED HEART EXHIBITION 7 SEPT – 9 OCT**

Presented by Cathy Franzi and Sharon Field. Featuring paintings, drawings and ceramics based on the flora of the Red Centre Garden.

**FLORA OF THE PARIS BASIN 2 OCT – 6 NOV**

Sponsored by the French Embassy in Canberra. Flora of the Paris Basin flora will be described via its history in the advancement of science, wild flowers depicted in impressionist art, and the relationships between Australian species and French species.

**FRIENDS SCHOOLS PHOTOGRAPHIC COMPETITION 9 – 20 NOV**

The 20th Annual Schools Photographic Competition highlights the work of students attending ACT & Queanbeyan High Schools and Colleges – all taken within the Gardens.

**REFOCUS 25 NOV - 11 DEC**

Friends Photographic Group Annual exhibition & sale



*Bush  
Magic  
Story  
Time*

**First Friday of every month at 10.00am. \$5 per child**

Follow the signs from the café bridge

Have fun with stories, songs, rhymes and creative activities brought to life by the ACT Storytellers Guild. An engaging treat for pre-school children, parents and carers.

AUGUST — Book Week Stories

SEPTEMBER — Flower Fairies & Magical Folk

OCTOBER — Birthday Stories

NOVEMBER — Summer Stories

## Sunset Cinema

**Wed, Thurs, Fri & Sat nights from 11 Nov - 17 Dec**

Various ticket and seating price options. Enjoy latest releases, children's and classic films in the beautiful garden surrounds. Bring a picnic or purchase your dinner at the event.

[www.sunsetcinema.com.au/canberra](http://www.sunsetcinema.com.au/canberra)

## afterDARK: Winter Lantern Tour

Sat 6 Aug | 6.30 pm | \$26 adult, \$21 concession

Build your own lantern then embark on a night-tour of the Gardens with a ranger guide. Finish your evening enjoying supper and toasting marshmallows over the open-air fire. Not suitable for children under five years

Online bookings essential. [www.nationalbotanicgardens.gov.au/gardens/whatson](http://www.nationalbotanicgardens.gov.au/gardens/whatson)

## afterDARK: Spring Scavenger Hunts Special National Science Week events:

7 pm - Sat 13 & 20 Aug

Plus regular events at 7 pm on:

Sept - Saturday 3, 24,

Oct - Saturday 1, 8

Nov - Saturday 5

\$26 adult, \$21 concession

Gather your family for a night-time botanical scavenger hunt and obtain the most points to take home the coveted 'super-sleuth' prize. Not suitable for children under five years.

Online bookings essential [www.nationalbotanicgardens.gov.au/gardens/whatson](http://www.nationalbotanicgardens.gov.au/gardens/whatson)



## 45th Black Mountain Spring Wildflower Ramble

Saturday 8 Oct 9.30 - 12noon

Meet at Belconnen Way entry just before Caswell Drive turnoff - watch for balloons

Celebrate the spring flowering on beautiful Black Mountain with a social ramble for wildflower lovers. Discover the surprising diversity of tiny orchids, bush peas, wattles and billy buttons on easy bush tracks with experienced guides and good company. Friends of Black Mountain welcomes all comers. We plan several guides, with helpers, who will take different directions.

BYO morning tea, water, hat, sunblock and stout shoes.

BOOKING ESSENTIAL Contact: [friendsofblackmountain@gmail.com](mailto:friendsofblackmountain@gmail.com) or Jean Geue on 6251-1601

## September & October

### Breakfast with the Birds

#### September

Saturday 24, Sunday 25

#### October

Saturday 1, Sunday 2

Saturday 8, Sunday 9

Saturday 15, Sunday 16.

The ever-popular program is celebrating its 13th season. An excellent opportunity for early morning access to the Gardens to view birdlife with a knowledgeable guide, followed by breakfast in Floresco in the Gardens. Bring binoculars if you have them.

The walk will only cancelled in extreme weather conditions. Please note: this walk is not suitable for children under eight. Meet at Visitors Centre at 7:45 am.

Bookings: [www.friendsanbg.org.au](http://www.friendsanbg.org.au) on Home Page under 'Coming up'.

Enquiries: 0418 670 704 or [birds@friendsanbg.org.au](mailto:birds@friendsanbg.org.au).

Cost: \$32.00 for Friends members, \$35.00 for non-members.

## Black Mountain Orchid walks

Sunday 9 October 10 am & 1.30 pm

Meet at the car park on Caswell Drive (head south towards Glenloch interchange)

Join Tony Wood and Jean Egan to discover some of the spring flowering native terrestrial orchids, and to learn something of this fascinating group of plants. Some off-track walking involved so wear sturdy shoes. Bring a hand lens if you have one.

Numbers are limited to 15 for each walk so early booking is essential. For more information and to book ring Tony on 6254 1795. The afternoon walk is a repeat of the morning walk.



TONY WOOD

Purple Beard Orchid, *Calochilus platyichilus*, from Black Mountain

## Weeding Black Mountain:

### Removing woody weeds from Black Mountain and ANBG annexes

Check Friends website for meeting place for each weeding work party.

Please email your name and phone number to: [friendsofblackmountain@gmail.com](mailto:friendsofblackmountain@gmail.com) or phone Linda (0437 298 711) or Libby (02 6296 1936) so there is enough morning tea.

Saturday 3 Sept 9.00 - 12.00 noon

Saturday 1 Oct 8.30 - 11.30am

Saturday 5 Nov 8.30 - 11.30am

Saturday 3 Dec 8.30 - 11.30am.

Weeding work parties anniversary



## What's on

### ANPS Spring Plant Sale

**Saturday 15 October | 8.30 am – 1.30 pm or until sold out | Gardens' Southern Car Park**

Large range of native plants for sale including local and regional species

### Annual General Meeting of the Friends of ANBG

**Wednesday 19 Oct 2016, 5.30pm**

More information page 13

The agenda is on the back of your address sheet with this newsletter

### Growing Friends Plant and Botanical Book Sale

**Saturday 12 Nov 8.30 - 11.00 am or until sold out**

Banks Building Car Park

Plants \$3 & \$5

Don't miss your chance to purchase a selection of native plants at this boutique plant sale



**where friends meet to eat**  
Open every day (except Christmas)  
**8.30 am - 4.30 pm**

Friends receive a 10% discount  
on production of membership card or name tag

[www.floresco.inthegardens.com.au](http://www.floresco.inthegardens.com.au)

Also catering for  
Weddings, Conferences & Special Events  
in the Gardens

call 02 6162 6707

[www.hellenicclub.com.au/premium-catering/  
enquiries@hellenicpremiumcatering.com.au](http://www.hellenicclub.com.au/premium-catering/enquiries@hellenicpremiumcatering.com.au)

### LUNCHTIME TALKS

Lunchtime talks are held at **12.30pm every Thursday** from February to November in the Gardens' Theatre. Talks last for 1 hour. Admission is by gold coin donation. There is no need to book.

### AUGUST

**Thursday 4 August 12.30pm**

**Ben Walcott 'Gardens that have influenced us'**

Ben and Ros Walcott have created a large native garden in Red Hill. This talk reflects on the many gardens world-wide that have inspired its creation.

**Thursday 11 August 12.30pm**

**Dr Janine Deakin. 'Transmissible tumours threatening survival of Tasmanian devils'**

Janine, University of Canberra, will discuss the genetics of transmissible tumours in Tasmanian devils.

**Thursday 18 August 12.30pm**

**Dr Susan Serjeantson 'John Gould's shooter: the unsung hero, John Gilbert'**

Sue, Chair of the Friends' Thursday Talks committee, will celebrate the contribution of John Gould's collector in Australia, John Gilbert.

**Thursday 25 August 12.30 pm**

**Professor Graham Farquhar 'Plant growth in a changing climate.'**

Graham, Professor of Environmental Biology at the ANU, received the 2015 Prime Minister's Prize for Science. He will discuss the impact of climate change on vegetation around the world.



Wattle Day, September 1

### SEPTEMBER

**Thursday 1 September 12.30 pm**

**Dr Emma Kindred 'Spring's Golden Plumes: Wattle in Australian art of the 20th century.'**

Emma, Assistant Curator of early Australian paintings and sculpture, NGA, will celebrate wattle-week by highlighting the significance of wattle in early Australian art.

**Thursday 8 September 12.30 pm**

**Dr Greg Johnson 'Quill and Spade: Pioneer garden writing in Australia 1788 - 1888.'**

Greg, a prominent contributor to the Australian Garden History Society, will reflect on how gardens and gardening reflect the social changes of the times.

**Thursday 15 September 12.30 pm**

**4th Alison McKenzie Lecture**

**Brett McNamara 'The natural appeal of the Bush Capital: Surveyors, catchments and the kitchen sink.'**

Brett, Regional Manager, Parks and Conservation Services, ACT, will consider the natural and cultural values that shape our Bush Capital.

**Thursday 22 September 12.30pm**

**Peter Marsack 'Painting birds for field guides: why not photos?'**

Peter, one of three artists providing illustrations for the forthcoming CSIRO volume, the Australia Bird Guide, will outline the step-by-step process that results in an illustration for a field guide.

**Thursday 29 September 12.30 pm**

**Max Bourke and Lainie Lawson 'Looking after a lost bit of Australia: Montague Island.'**

Max and Lainie, an agricultural scientist and a heritage consultant, have combined their expertise in conservation work on Montague Island.

## OCTOBER

**Thursday 6 October 12.30pm**

**David Taylor 'Weird and wonderful Australian plants: how to engage with them.'**

David, Curator, Living Collections, ANBG, will promote cultivation of Australian plants including rare species.

**Thursday 13 October 12.30 pm**

**Helen Fitzgerald 'A Florilegium to celebrate 200 years for the Royal Botanic Gardens Sydney.'**

Helen, a distinguished botanical illustrator, will be talking about the production by Beverly Allen of a florilegium to celebrate the 200 year anniversary of RBG, Sydney.

**Thursday 20 October 12.30pm**

**Kim Ellis 'Innovation, conservation and change: The Royal Botanic Gardens, Sydney, 200 year birthday.'**

Kim, Executive Director of Sydney's Parklands and Botanic Gardens, will discuss the changes that are occurring in RBG, in Sydney, Mount Annan and Mount Tomah, in the context of the 200 year anniversary.

**Thursday 27 October 12.30pm**

**Dr Brett Howland 'Impact of grey kangaroos on reptiles and birds in diminished grasslands.'**

Brett, currently engaged in habitat promotion with the ACT government, will describe how large mammalian grazers are truly ecosystem engineers.

## NOVEMBER

**Thursday 3 November 12.30pm**

**Alan Munns 'Smelly socks and snottygobbles: Encounters with the flora of Western Australia.'**

Alan, a past-President of ANBG Friends, will give a broad-ranging talk on his encounters with flora of W.A.

**Thursday 10 November 12.30pm**

**Roger Farrow 'Insects: more to them than meets the eye.'**

Roger, formerly of CSIRO Entomology, will feature the remarkable adaptations that are found in local insect fauna.

**Thursday 17 November 12.30pm**

**Dr Helen Cleugh 'Australian climate change and earth system science: research to support a productive and resilient Australia.'**

Helen, Leader of CSIRO's Earth Systems and Climate Change Hub, will outline Australia's national capability in weather and climate prediction, observation and research.

**Thursday 24 November 12.30pm**

**Gregory Andrews 'Strategies for Australia to protect threatened species.'**

Gregory, Australia's first Threatened Species Commissioner, will tell us how he initiates strategic approaches to threatened species conservation.

**Queries about lunchtime talks to**

[Sue.Serjeantson@bigpond.com](mailto:Sue.Serjeantson@bigpond.com)

## Friends' Benefits

*As a Friend you are entitled to:*

- Three issues of *Fronde* a year
- Three hour free parking pass
- Botanical Bookshop – discount on most items
- Discount at Floresco cafe
- Discount at Jindii Eco Spa

*You also get:*

- Advance details of lectures
- Advance bookings for some events
- Discounts on some events
- ANBG library membership – borrow books, serials, videos, DVDs plus use of computers and interactive CD ROMs

- Function facilities – special rates for functions at ANBG

*And opportunities to:*

- Join Botanical Art Groups
- Growing Friends
- Photographic Group
- Plant Science Group
- Assist with Gardens research projects
- Become a Guide
- Relax in the 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.



[www.botanicalbookshop.com.au](http://www.botanicalbookshop.com.au)

always welcomes Friends!

- with a 10% discount:
  - on purchases over \$10
  - on purchase of gift vouchers
  - on production of your membership card
  - to the person whose name is on this card
- no discount on redemption of gift voucher