

# *Fron*ds

*Friends of the Australian National Botanic Gardens*  
*Number 91 April 2019*



*Planchonia careya*

Patron Her Excellency Lady Cosgrove  
 Vice Patron Mrs Marlena Jeffery  
 President Max Bourke  
 Vice President Linda Beveridge  
 Secretary Jann Ollerenshaw  
 Treasurer Helen Elliot  
 General Committee Wendy Antoniak  
 David More  
 Alan Henderson  
 Lynden Ayliffe

Public Officer Wendy Antoniak  
 Exec. Director ANBG Dr Judy West  
 Post: Friends of ANBG, GPO Box 1777  
 Canberra ACT 2601 Australia  
 Telephone: (02) 6250 9548 (messages)  
 Website: [www.friendsanbg.org.au](http://www.friendsanbg.org.au)

#### Friends' activities and contacts

*Fronds* Committee: Anne Rawson  
 Barbara Podger  
 Cathy Robertson  
 Denis Warne  
 Pam Rooney  
[newsletter@friendsanbg.org.au](mailto:newsletter@friendsanbg.org.au)

Membership Lesley Harland  
 Pam Cooke  
[membership@friendsanbg.org.au](mailto:membership@friendsanbg.org.au)

Growing Friends John Connolly  
 Guides Lesley King  
 Botanic Art Groups Helen Hinton  
 Photographic Group Jim Gould  
 Plant Science Group Anne Campbell  
 Social Events Tricia Morton  
 Talks Convenor Jan Finley

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)

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

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

Design and layout: Pam Rooney

Printing: Union Offset Printers  
 ISSN 2207-6492

RICHARD FORSHAW



**Little Corella** by Frank Knight from BLACK MOUNTAIN MINIATURES exhibition held in conjunction with Friends of Black Mountain; ANBG Visitor Centre, February - March 2019

As an internationally recognised natural history illustrator for field guides of birds, frogs and mammals, Frank Knight's frame of reference has been accuracy and detail, seen as vital for species identification.

While continuing to show flora and fauna realistically, although more loosely than previously, his exhibition at the Visitor Centre demonstrated his mastery of colour and pattern, light and shade. The paintings showed aspects, generally on a small scale, of Black Mountain flora and fauna.

## IN THIS ISSUE

- 3 From the President
- 4 Seedy Happenings in Norfolk Island
- 6 Fire and Bushland
- 7 Donation to ANBG Library & Archives
- 8 Friendly Chatter
  - Photographic Group
  - Plant Science Group
  - Volunteer Guides
  - Botanic Art Groups
  - Growing Friends
- 10 Cook and the Pacific: the Australian plants
- 12 'Kwikipik' – accessing the pictorial history of the Gardens
- 13 Botanical Bookshop
- 14 Gardens Shorts
- 16 Friends Briefs
- 17 What's On at the Gardens, including Thursday Talks

**Front Cover: *Planchonia careya***, scraperboard and watercolour, by Majorie Roche exhibited in the Botanic Art Groups' exhibition MORE THAN JUST A PRETTY PLANT. Commonly called Cocky Apple this is a small deciduous tree found across northern Australia and down the east coast to about Fraser Island in open forests and woodlands. The flowers are white with numerous pink and white stamens 5-6 cm long; they usually open in the evening, fall by next morning and occur from July to October. The fruit is edible, with a yellow flesh and the taste of a quince when ripe.



## From the President

I have chaired a lot of organisations in the public and private sectors as well as not-for-profits. But I have to say Friends of the ANBG is a 'gift'! It is great to be part of an organisation that is in such a strong financial and resource position, supported by over 2000 members and actively run by truly dedicated and committed people.

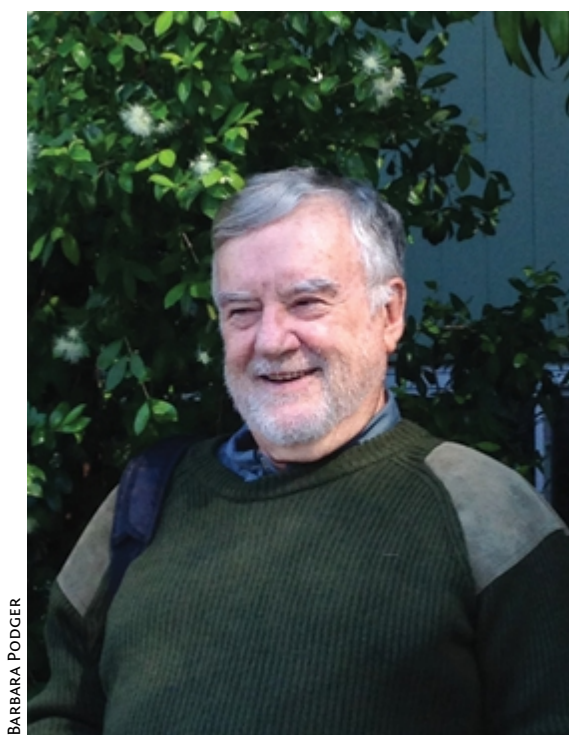
With such diverse activities in the pipeline it has been a steep learning curve for me and I thank Lesley Jackman for doing the most meticulous handover and follow-up support...all 'mistakes' from here on in are mine.

The Council of Friends is actively working with the Gardens at present to prepare for a lot of celebratory activities in forthcoming years. In 2020 especially we will celebrate the 50<sup>th</sup> anniversary of the opening of the Gardens as well as the 30<sup>th</sup> anniversary of the founding of the Friends, and it is also the 200<sup>th</sup> anniversary of the death of our 'intellectual' founder, Sir Joseph Banks! Much to do.

Volunteering in the Gardens, whether it is as a Guide, one of our 'facilitating' functions like our Newsletter and Growing Friends teams, or a member of the many special interest groups, or indeed even on Council is, happily, a matter of supporting passions. But we have to keep recruiting to ensure those passions follow into future generations as they have for the last almost, 30 years.

We, and here I mean ALL Friends, have to commit I believe, to pushing to not only our fellow Canberrans, but also to friends and family from outside Canberra and especially to politicians, the importance of the Gardens. Some of the science and certainly much of the educative functions of these Gardens are crucial for existential reasons for all Australians. We have to keep reminding the community that this is a national institution with a capital N. At the risk of concluding on a down note I urge you to promote not only the work of the Gardens but all botanic gardens as we are facing a very real probability of catastrophic losses of plant species in the medium term, and no plants, no people in the long term! Projects like the new Seed Bank, which might seem esoteric, are so crucial to the survival of germplasm that they might be our last best hope.

**Max Bourke AM, President**



Max Bourke in the Gardens

Visiting the Gardens, even before they were officially opened, has always been one of the huge pleasures of this city for me. But I also feel deeply that we are fortunate to have a botanic gardens managed by such dedicated staff. Having good scientists, as these gardens have had, as Directors, is a huge plus because it is easy, as has been shown in some jurisdictions, to forget that science is in the central DNA of botanic gardens. Sure we want a space that is also beautiful and a place for leisure and pleasure but I believe, as has been done over 500 years in botanic gardens starting in Padua, that they must be driven by scientists, albeit scientists with a broad vision, and we are very well served at present by such an eminent person as Dr Judy West, and her team.



Photograph of the then 'Curator's Cottage' (now the Seed Bank), taken by John Wrigley when he moved into the house as Curator of the Gardens in May 1967. It was later extended on the right-hand side as his family grew. (More on historic photos of the Gardens, page 12)

## Seedy happenings on Norfolk Island

### Tom North, Curator, National Seed Bank

Norfolk Island rose out of volcanic activity around three million years ago. Its isolation has allowed plants and animals to develop here that are found nowhere else in the world, including iconic garden plants such as the Norfolk Island Pine *Araucaria heterophylla* and Norfolk Island Hibiscus *Lagunaria patersonia*. The Norfolk Island group includes Nepean and Phillip Islands and is home to more than 200 native plants including 46 listed as endangered on the Environment Protection and Biodiversity Conservation Act (EPBC), 31 of which are endemic to the islands. Before European settlement subtropical rainforest covered almost the entire island, however, Norfolk Island National Park (NINP) and Botanic Garden now contain most of the island's remaining natural areas, making them a vital refuge for conserving the island's plants and animals.

There is a lot of botanical activity taking place on Norfolk Island at the moment. Staff and volunteers from the ANBG are involved in delivering or assisting with three concurrent projects that are aimed at supporting plant conservation and research efforts.

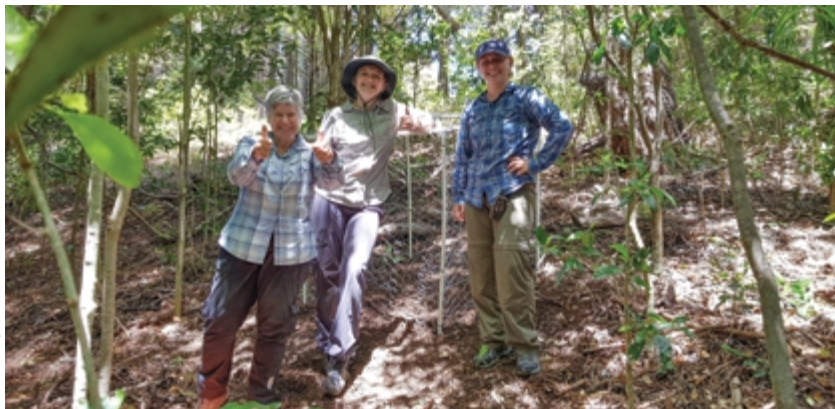
We have had another year of funding for the Global Trees Project from the Garfield Weston Foundation, delivered through Royal Botanic Gardens, Kew and the Australian Seed Bank Partnership to collect seed from tree species that have never been banked. Over two trips in November 2018 and February 2019 we collected seed of 12 tree species from Norfolk Island. The project concludes at the end of March 2019.

Leah Dann is supported in her PhD at the University of Queensland by a four year National Environmental Science Program (NESP) project investigating the impacts of feral vertebrates (namely rats and chickens) on the germination and establishment of Norfolk Island's plants. This work will help us understand the factors that limit the recruitment of threatened plant species, and aims to provide information that can be used in park management activities. Leah will be supervised by ANBG's Dr Lydia Guja along with primary supervisor A/Prof Salit Kark, and co-supervisors Prof Noam Levin and Dr John Dwyer, from the University of Queensland (Levin is also from the Hebrew University of Jerusalem). Leah will also receive funding from the Friends of the ANBG that will assist with research expenses and a top-up scholarship, as well as helping with practical aspects

of the project including getting volunteers to Norfolk to assist during the project. Understanding the plant ecology of Norfolk Island's unique flora is an important step in improving the conservation options available for these species.

Running over a longer timeframe is a Parks Australia Priority Funded Threatened Species Project. Under this project NINP has been able to contract a nursery manager, Mark Scott, to improve horticultural outputs from the nursery on Norfolk Island, particularly for the conservation of ten EPBC listed species assessed as being most at risk. ANBG have provided staff and resources to assist with seed collection of these species. We're also in the process of negotiating permits with the Department of Agriculture and Water Resources (DAWR) to bring these species back to the ANBG so that we have an *ex situ* collection as back-up.

In November 2018 Tom North and Toby Golson with Seedy Volunteers, Dr John Fitz Gerald and Leigh Murray, spent two weeks collecting seeds of endangered and endemic trees and shrubs from Norfolk Island. The collecting covered all



From left to right: Dianne Deans, Amelia Stevens and Leah Dann setting up seedling enclosures designed to exclude feral chickens to investigate whether the absence of chickens changes seed germination and seedling survival



Leah Dann monitoring her seed burial experiment



three projects, so at times they were accompanied by Mark Scott and the NINP staff. Despite being a poor season and a little too early, the crew still managed to make some very good collections and provide useful reconnaissance for future trips. One strategy to help with the poor season was to bag fruiting but under ripe branches in readiness to collect seed in January and February.

There were some notable events while the November crew was on the island. We coincided with a field trip by Kevin Mills and Naomi Christian who were undertaking an island wide survey of flora on agricultural land to assess the quality of remnant patches. On one of their surveys they managed to locate *Anthosachne multiflorus* var. *kingianus*. This plant hadn't been seen in its last known location on Phillip Island since a survey in 2009, so it was a nice surprise to see it turn up on Norfolk Island.

Another notable event was Toby discovering that he was soon short of friends after stepping on a rotten feral chook's egg hidden on the forest floor. There is a downside to being totally absorbed in looking up for tree seeds and that is forgetting to look at what is under your feet!

We also uncovered a great story of success by one of Norfolk's better known locals, Duncan Sanderson. Duncan has been passionate about restoring the native vegetation on his property and in particular, bringing back the Norfolk Island Kurrajong *Wikstroemia australis*, which in 2003 was reduced to only 155 known mature plants. The Norfolk Island Kurrajong is critically endangered and is rarely seen to recruit seedlings. Duncan has managed to propagate nearly one hundred seedlings in his garden shed. Perhaps it is the temperature, light, or Duncan's seed processing methods that are key to this success.

In January 2019 Lydia Guja and Seedy Volunteers Dianne Deans and Amelia Stevens travelled to Norfolk Island to assist Leah Dann in setting up her multi-year research experiments. During the January trip the team built 30 exclusion cages and set them up at sites spanning the National Park, Botanic Garden and local reserves.

Tom returned to Norfolk Island in February with ANBG's Dan Marges to complete the



Mark Scott and Tom North (right) bagging fruits of *Melicytus latifolius*



Leah Dann and Lydia Guja (right) assessing seed maturity on Mt Bates, Norfolk Island National Park

Global Trees Project. This time they were assisted by volunteers Jeanette Jeffery, Jenny Owens and Dr Werner Stur. They also had a visit from Dr Elinor Breman from the Millennium Seed Bank, Royal Botanic Gardens Kew, who spent a week collecting with them.

Across all of the projects, these Norfolk Island collections are part of Australia's contributions to the Millennium Seed Bank and will be stored at Kew and ANBG to provide invaluable conservation for these species. The collections also provide opportunities for new displays in ANBG's planned Ian Potter Conservatory and Pacific Island section.



## Fire & Bushland

### Geoffrey Robertson, President of Friends of Grasslands

If you have been exposed, even in a minor way, to Aboriginal language, lore, culture and beliefs it is easy to imagine what life has been like in our region since the last Ice Age. People camped and moved in small groups of up to twenty people. Their knowledge and technology meant that they knew when and where to be to use nature's resources for their every need. They thrived, assembling periodically in very large numbers, and survived bushfire and flood.



MAREE GILBERT

Cool burning in a Canberra grassland



MAREE GILBERT

The results of a cool burning in a Canberra grassland. The burnt grass areas will open up areas for new plants to grow. (The tiles used for monitoring striped legless lizard have been removed)

In Traditional Land Management practice, fire was used in cooler times. Cool burning created a mosaic of vegetation, providing many habitats, and encouraged prey animals to gather on green pick where they were easily hunted. Prey animals never reached excessive numbers as people and dingoes hunted them. Kangaroo grass, dominant throughout the region, needs fire. If unmanaged it becomes unpalatable for grazing and shades out other plants. Burning grasslands removes rank vegetation and stimulates new growth, highly desirable for grazing animals. Fresh growth attracts invertebrates, the bottom of the food chain for many animals and

birds. Burning also opens up space that allows plants, such as those with bulbs and corms, to flourish. Our Australian bushland has become fire adapted since fire stick farming was introduced over 60,000 years ago.

Fire has been increasingly recognised as an essential management tool in conservation and restoration of grasslands. Cool burning in woodlands has a similar impact, by removing weedy shrubs and saplings, helping those that survive to rejuvenate, opening up the understorey to fresh grass and plants with bulbs and corms. Each plant within a community has its own fire recovery strategy to cope with fire of different intensities - fire is never universally uniform. Many plants produce numerous seeds readily dispersed by wind, water or animals via barbs and hooks. Many plants recover from root stock, bulbs and, corms. Some trees and shrubs reshoot from epicormic buds or lignotubers. Some plants burn hot to crack the seed they retain. Long seed dormancy allows some deeply buried seeds to take advantage from hot fire that removes plant material above them. Concepts of fuel reduction, mosaic and cool burning are becoming more closely aligned thanks to the work of Rod Mason, a hands-on Traditional Land Management elder and Dr Charles



MAREE GILBERT

Results of cool burning



Massey, a regenerative biologist and farmer; both come from the Monaro Plains. Charles is the author of *Call of the Reed Warbler: A New Agriculture - A New Earth*, which is a ground-breaking book on regenerative land management. Community groups such as Kosciuszko to Coast, Friends of Grasslands and both the NSW and ACT Governments have established biodiversity and conservation programs aligned with their work.

'Burning for Biodiversity' is a three year program of cool burning trials that began in Canberra's grassland reserves in 2015. The trials are designed to improve our understanding of the impact of fire regimes on the biodiversity and function of ACT grassland ecosystems. The program documents the impacts on the structure and composition of grassland ground vegetation, grassland fauna and plant diversity. The cool burns should also assist in reducing fire risk in hotter months. The trials are certainly indicating that fire is highly beneficial to managing and restoring our biodiversity.

Geoffrey Robertson is President of Friends of Grasslands and until 2018 was the President of Kosciuszko to Coast, a community land management organisation.



Jerrabomberra Grassland (4 April 2016)

STEVE FORBES



Smoke and flame height in a cool burn, native grasslands

MAREE GILBERT

### Donation:

Thanks to the generosity of Susan Parsons, the ANBG Library and Archives has acquired another two framed artworks from Joseph Banks' Florilegium, a set of botanical engravings showing plants collected on Cook's first Pacific voyage in 1770.

In 1980, the British printing firm, Alecto Historical Editions, took up the task of finally printing the 743 line engravings originally created between 1772 and 1784. A limited edition of 100 full sets, entitled Banks' Florilegium, was printed in full colour directly from the original plates held by the British Museum. The project took 10 years to complete.

The donation from Susan's private collection comprised of Plate 117 *Melaleuca quinquenervia* and Plate 121 *Eucalyptus crebra* (both Myrtaceae). The donation is a welcome addition to our artwork collection.

Jane Black, Librarian



## Photographic Group

Last year ended on a high for the Photographic Group (PG) with record sales at the 'Perspectives' exhibition and with the Botanical Bookshop calendar, which incorporated images by PG members, exceeding sales expectations. This year started with a presentation on macro techniques by Tim Leach in February, followed by a practical macro workshop in late March. Various activities have been planned for 2019 and the program is regularly updated on the Friends' website. If you would like more information, please contact us at [photo@friendsanbg.org.au](mailto:photo@friendsanbg.org.au). Meetings are held on the last Friday of the month (unless changed due to public holidays) in the Theatre adjacent to the Visitor Centre.

On Friday 3 May, the PG and Friends of the ANBG will honour the memory of David Cox, a PG member and Friends supporter who passed away last year, with a special lunchtime talk.

**DAVID COX Memorial Lecture  
Friday 3 May at 12.00 Midday  
ANBG Theatre**

All friends of the ANBG are invited to attend.

The guest presenter will be Brent Wilson, a horticultural photographer from Sydney. Brent has been a botanic photographer for over 30 years, shooting still images for publications such as *Botanica* and *Gardening Australia Magazine* and television programs including *Better Homes and Gardens*, *Backyard Blitz*, *Renovation Rescue* and *Bourke's Backyard* in Australia as well as overseas.

His photographs are submitted to the largest plant and garden photo library in the world, based in the United Kingdom, *GAP Photolibrary*. He regularly teaches photographic workshops covering different aspects of photography including macro photography.

Due to the Memorial Lecture, there will be no meeting in April. At the regular May meeting, Canberra's own kayak-

cameraman, Paul Jurak, will be our guest speaker.

Later in the year, in the spring, the PG is proposing to host their second workshop on 'Introduction to Digital Photography'. More details will be posted on the Friends website.

**Helen Dawes**

## Plant Science Group

The Plant Science Group continues its program of monthly technical talks. In the final talk of last year, Dr Nick MacGregor of Parks Australia spoke on 'Monitoring the condition of ecosystems across the Commonwealth national parks'. Parks Australia is developing a framework for monitoring the condition of and change in ecosystems across the parks that they manage, taking into consideration individual priority species, broader biodiversity, habitat and structure, and the ecological processes that underpin all of those. Their current focus is on terrestrial parks (Pulu Keeling, Christmas Island, Kakadu, Uluru-Kata Tjuta, Booderee, Norfolk Island), but they hope to extend it eventually to Australia's marine parks.

For the first talk of the new year, Dr Rob Lanfear, ANU Research School of Biology, addressed the question 'Do plants evolve differently?' It's often assumed that animals and plants evolve differently because animals have a segregated germ line but plants do not. If this is true, plants should accumulate heritable and potentially harmful mutations in their genomes as they grow. Recent work, including his, is challenging this long-held view, potentially upending a century of thinking.

For further information, or to be put on the email list, email: [plantscience@friendsanbg.org.au](mailto:plantscience@friendsanbg.org.au) or see the Friends website under Activities.

**Anne Campbell**

## Volunteer Guides

Every visit to ANBG is different. And so are our guided tours and walks, varying according to the season, weather, interests of the visitors, and special themes such as plant adaptation and Aboriginal peoples' uses of plants. Over those recent hot summer days, the Guides led visitors to the coolest spots and most interesting sights. For those who wafted through the mist along the rainforest floor, the pink toned plume-like flowers of *Helmholtzia glaberrima* (Stream Lily) were on display. Visitors who braved the heat in the Rock Garden were rewarded by the sight of the large, spectacular red flowers of *Eucalyptus macrocarpa*. And those traversing the main path in late February would have seen the *Telopea* 'Canberry Gem' (Waratah) flowering, unexpectedly.

What the walks and tours all do, though, is explain aspects of the Gardens, or ways of looking at the plantings, that you might not otherwise have thought about. We not only take visitors to interesting spots, but also recount stories about the development and role of the Gardens, and characteristics of the plants. These stories give a sense of why the Gardens look the way they do. There is always something for everyone. Even our younger visitors experience highlights such as the water dragons and Treehouse.

The weekend Flora Explorer tours are increasingly popular. The great advantage of these is that they take you to parts of the Gardens that you won't often reach by foot (even if you are a keen walker). Lookout for our dashing new Flora Explorer vehicle.

Our booked tours or walks, catering for all kinds of groups, must be one of Canberra's best kept secrets. Any group can make a booking for a day/time of their choice, choose a theme or focus they are interested in – and arrange a guided walk or Flora tour. This is an excellent outing for locals



and visitors alike; whether it is for a social group, a tourist group, or part of a professional event.

**Guided Walks are offered twice a day, at 11 am and 2 pm and are free. Flora Explorer runs on weekends and public holidays, at 10.30 am and 1.30 pm.**

Group walks/tours can be booked by emailing [bookedwalks@friendsanbg.org.au](mailto:bookedwalks@friendsanbg.org.au).

**Lesley King**

### Botanic Art Groups

#### ART IN THE GARDENS

**The Friends' Botanic Art Groups  
12th Annual Exhibition  
'More Than Just a Pretty Plant'  
ANBG Visitor Centre  
16 March to 14 April  
Daily 9.30 am to 4.30 pm**

This year, the theme of our art exhibition celebrates native plants and their uses. The many diverse and sometimes surprising uses of Australian flora are often underappreciated. Native plants have been used as a food source, as timber for construction, furniture, and weapons, for perfume and in traditional and modern pharmacology, to name just a few. Many of the subjects chosen have a contemporary as well as traditional use. To accompany the exhibition, the Friends have published a high quality book featuring over 60 botanical works of art with examples from the entire plant kingdom except for ferns. The book will be available for sale for \$25 and would make an excellent gift for friends and relations.

All paintings, as well as a range of cards, are for sale. In previous years paintings have sold quickly. Don't be disappointed – take the opportunity to visit the exhibition at the Visitor Centre.

**Kate Ramsey**



*Xanthorrhoea glauca*. Wendy Antoniak



*Eremophila bignoniiformis* Christopher Meadham

### Growing Friends

Over the last few months the Growing Friends have been busy propagating and preparing for the March 2019 plant sale and beyond. We continue to welcome new members so please talk to one of the Growing Friends today, or telephone John Connolly (0477 257 188) or Maurice Hermann (0429 361 256) if you are interested in joining us.

Our meetings are held on the first Saturday morning of each month, usually in the Crosbie Morrison building, and are followed by morning tea and a propagation session. A small group of our members volunteer to run each propagation session and these sessions are a great way to see different parts of the Gardens, and to learn about the wide range of native plant families and species that we are able to propagate.

#### Advanced Notice:

#### NOVEMBER PLANT SALE

**Banks Building carpark, Saturday 9 November, 8.30 am until 11.30 am (unless sold out earlier).**

**Wendy Merritt**



The new Flora Explorer decorated with images based on photographs taken by Kevin Thiele (*Fronde* no 88, April 2018 page 15)

MURRAY FAGG

## Cook and the Pacific: the Australian plants

Glenys Bishop, Volunteer Guide

Two recent exhibitions at the National Library of Australia (NLA) inspired three ANBG Guides to develop a special themed walk for visitors to the Gardens. 'Cook and the Pacific' featured two plants collected by Joseph Banks and Daniel Solander and illustrated by Sidney Parkinson in 1770 on their voyage along the east coast of Australia in the Endeavour, while 'Beauty, Rich and Rare' displayed the use of some of the collected plants by Indigenous Australians.

The aim of the walk was to emphasise the importance of the featured plants to the indigenous people of Australia. Many plants were sources of food, some had medicinal uses, some were used in ceremonies and some were used to make household items and hunting equipment. The plants included in the walk were plants collected by Banks and Solander and illustrated by Sidney Parkinson that were subsequently included in the *Banks Florilegium* (see p7). Banks, Solander and Parkinson did not comment on the indigenous uses

of the plants. Most of our information about indigenous plant uses comes from observations by early land explorers of the eighteenth and nineteenth centuries, and from later anthropological investigations of largely untouched Aboriginal tribes in more remote areas.

The two plants featured in the 'Cook and the Pacific' exhibition were *Callistemon citrinus* (Crimson Bottlebrush), collected at Botany Bay, and *Grevillea pteridifolia* (Fern-leaf Grevillea or Golden Tree), collected at Endeavour River. These plants are both rich in nectar; such flowers were a good source of sweetness for Aboriginal people. Nectar could be sucked or licked from the flowers, or the flower heads could be dunked in water to produce a drink.

Banks and Solander collected four different species of Banksia, another nectar-rich flower, at Botany Bay (the genus was subsequently named to honour Banks). *Banksia serrata* was one of them. The old flower heads could be used as strainers for water and to carry fire when people were on the move.

When in season, fruits and greens would have attracted large numbers of people to particular areas. At other times they depended on edible roots, tubers and seeds. *Triglochin procera* (Water Ribbons) was collected at Botany Bay. It flowers from spring to early autumn and the flowers are followed by clusters of green fruit, which have a pleasant taste of fresh peas. But under the ground is another story. Tubers do not form if the plant is continually immersed in water but in response to drying conditions, they descend into the mud from a long rhizome; so the tubers became a very important food source in times of drought. Nutritionally they are 22 per cent carbohydrate (compared with potatoes, about 20 per cent) and there might be 50 tubers per plant. These crisp and sweet tubers were easily collected and cooked in ground ovens.

*Melaleuca quinquenervia*, another nectar-rich plant was collected from Bustard Bay in Queensland, near the modern town of Seventeen Seventy. Both its paperbark and leaves were used



*Callistemon citrinus*, © The Trustees of the Natural History Museum, London. Licensed under the Open Government Licence.



*Banksia serrata*, © The Trustees of the Natural History Museum, London. Licensed under the Open Government Licence.



*Grevillea pteridifolia*, © The Trustees of the Natural History Museum, London. Licensed under the Open Government Licence.



in making the lining for ground ovens. Ground ovens were prepared by digging a pit about 90 cm long and 60 cm deep. Clay collected from the digging was fashioned into smooth lumps, or stones could be used. The pit was filled with firewood and the clay lumps or stones placed on top. As the wood burned the clay lumps would dry out and become very hot. They were then removed, the pit swept out and lined with green grass or leaves, or paperbark; the food was placed on the lining with more lining to cover it, and then the clay lumps and an earth covering, to prevent loss of steam. The damp lining material creates the steam. (*Aboriginal cooking techniques*, ANBG Education Services, Wright, 2000).

Plants were more than just an important source of nutrition. Many plants had multiple uses for Indigenous Australians. *Lomandra longifolia* (Spiny Mat Rush or Basket Grass) collected at Botany Bay, is very widespread in eastern Australia. It is a useful food plant: the heavily scented fleshy creamy-yellow flowers appear late winter to early spring and can be soaked for nectar; these are followed by yellow fruits in late spring to summer. The white leaf bases were chewed for starch and also for water to quench thirst when walking; and the seeds were ground to make a flour. In addition, the leaves could be split, tied into bundles and soaked, then woven into baskets or mats and fish and eel traps. The roots of the plant were also used to treat bites and stings.

There were other plants that had medicinal uses. *Clerodendrum floribundum*

(Lolly Bush), collected at Endeavour River, was used to treat sore throats, rashes and sores with a decoction made from the leaves. Modern pharmacologists have found that a similar plant, *C. inerme* (Scrambling Clerodendrum) has anti-inflammatory and analgesic properties.

*Xanthorrhoea resinosa* (Grass Tree) was collected at Endeavour River although the *Xanthorrhoea* genus is widespread throughout Australia. Nectar-rich flowers form on a spike, which can be up to four metres long. They were used to make spears, particularly for fishing because they were very light and would float, but the lightness made them unsuited to throwing long distances. The dried flower spikes were used to generate fire by the hand drill friction method.

Under the skirt of leaves of some Grass Trees there is a trunk-like structure formed from old leaf bases stacked on top of each other and stuck together by a naturally occurring resin. Globules of this resin can be collected from around the base of the tree and it was used by Aboriginal people to make glue for such things as mending coolamons and attaching spear heads to the shafts.

In Asia and Europe, the main food plants have had the benefit of many centuries of cultivation, which has led, through selection and hybridisation, to the production of forms vastly superior to those in the wild. By 1788, food plants from other regions were already so far in advance after a long period of cultivation that it seemed hardly worth

starting work on Australian species. As recently as 1975, Macadamia was the only commercially produced Australian native food. (Cribb, A.B. & Cribb J.W. *Wild Food in Australia*, Collins, Sydney 1975). John Newton (*The Oldest Food on Earth*, NewSouth Publishing, UNSW, Sydney 2016) attributes the lack of interest in Australian plant foods to food racism: Europeans settlers did not want to eat what Aboriginals ate.

Ferdinand von Mueller expressed hope that the *Eustrephus latifolius* (Wombat Berry) might be a suitable food crop. This plant, collected at Botany Bay, occurs from southern Victoria to the tip of Cape York and in Papua New Guinea. The small fruits contain 6 to 18 black seeds, with a little white aril, and the roots bear small tubers up to 3 cm long. The arils were eaten, like the red arils on pomegranate seeds, and the skin and seeds discarded. Mueller travelled extensively in Australia for thirty years, collecting plants. In 1853 he was appointed Government Botanist of Victoria and later director of Melbourne Botanical Gardens. He investigated the suitability of land for farming and the suitability of plants for cultivation. In Mueller's view: *this climber (the Wombat Berry) produces sweet though only small tubers, which, however, are probably capable of enlargement through culture.* But it never happened.

This century we have seen a burgeoning interest in Australian bush foods. There are now many growers of bush foods such as Muntries, Warrigal Greens, and herbs and spices such as Lemon Myrtle and Mountain Pepper Berry. Those foods that were once appreciated for their nutrition and flavour by Indigenous people are now being enjoyed by many more Australians.

*This article is based on a presentation Glenys Bishop and Pam Cooke made to the Friends of the National Library of Australia in 2018 and subsequent walks in the Gardens led by Glenys, Pam and Jane Keogh using this theme.*



Basket made from Spiny Mat Rush or Basket Grass, *Lomandra longifolia*, ANBG



Wombat Berry, *Eustrephus latifolius*, Wittunga Botanic Gardens, SA

## ***‘Kwikipik’ – accessing the pictorial history of the Gardens***

Unlike many botanic gardens, the ANBG has had a well-documented pictorial history since its earliest days.

Bertram Dickson in his 1935 Report laid the foundations for the Gardens as it is today. We are fortunate that Dickson and his CSIRO colleague Colin Barnard were interested in photography, documenting the potential sites for the Gardens with black-&-white photos, some of them later hand-tinted. Lindsay Pryor, Superintendent of Parks & Gardens for the ACT in the 1940s and 1950s, who actually started implementing Dickson’s plan, was also a keen photographer, as was botanist Betty Phillips in the 1960s and Curator John Wrigley a little later. The Rangers, Murray Fagg, and other staff photographically documented most of the significant activities in the Gardens from the 1970s onwards.

These ‘non-plant’ photos were always seen as an ‘add-on’ to the ANBG’s Photograph Collection, the major role of which is the recording of the Australian flora in photographs. However the collection holds over 20,000 non-plant photos, over 7,000 taken in the ANBG.

Jan Wilson, who assumed the role of Photograph Curator in the 1980s, catalogued these non-plant photos on index-cards in sets reflecting their use, under categories like: ‘Birds’, ‘People’, ‘Scenes’, ‘Development’, ‘Field Trips’ and ‘Lecture Slides’, each with a prefix letter followed by a consecutive number sequence. This data was transferred to an electronic database in the late 1980s and incorporated these alphanumeric sequences. This later became an early component of the Gardens’ website.

When digital images from scanned 35 mm slides were first able to be linked to the online database in the 1990s, priority was given to the plant photos. This part of the Photograph Collection became known as the Australian Plant Image Index (APII). Few non-plant photos were scanned, unless required for displays, publications, or later PowerPoint lectures. Indeed, there wasn’t even a way of accessing the digitised non-plant photos until Jim Croft wrote a ‘quick-and-dirty’ web interface one night in 1993, which he called ‘Kwikipik’. Now, 25 years later, and with almost no modifications, that is still the way to search for these photos on the internet.

In the lead-up to the 50th anniversary of the opening of the Gardens next year, a decision was made to give some priority to scanning 35 mm slides that show the history and development of the Gardens. This was one of the jobs I was given, working as an Associate in the Photo Collection alongside Photo Curator Cheryl Backhouse. Although only about 40 per cent of non-plant 35 mm slides have been scanned – in many cases just a few of a long sequence of photos capturing an event at the Gardens – Kwikipik gives the Friends, and the general public, a chance to find and view images of development, changes and past activities.

You can search by date, decade, topic, keywords, Gardens sections, or people’s names. As well as scanned 35 mm slides you will also see entries for those 35 mm slides that have not yet been digitised and all the more recent born-digital images. Go to: <http://www.anbg.gov.au/photo/kwikipik-search.html>.

**Murray Fagg**



A black-&-white photo taken by Colin Barnard for Dr B.T. Dickson for his 1935 Report on the establishment of the Canberra Botanic Gardens, looking towards the current entrance of the Gardens. It has been hand-tinted and an attempt made to ‘paint in’ the proposed Lake Burley Griffin. (Photo: S 1703)



A black-&-white photo taken by Lindsay Pryor while piloting a light plane over the proposed botanic gardens site in 1948. The scoured area in the centre is now the Red Centre Garden, while the open area lower left is the present-day Rock Garden. The early plantings of Weston Park can be seen top-centre. (Photo: S 1634)



***Pests, Diseases, Ailments and  
Allies of Australian Plants***

**David L. Jones, W. Rodger Elliot and  
Sandra R. Jones, 2015, soft cover,  
448 pages, colour photographs, line  
drawings, \$50.00**

This book looks at a huge range of introduced and native pests and diseases that you might find in your garden. It is divided up into useful chapters that help with identifying various pests and diseases. At the beginning of the chapters the authors have included a handy snap shot of photos of the more common symptoms and signs that we might generally notice on affected plants. There are also chapters that cover nutritional disorders of native plants, climate-induced ailments as well as information on pest ecology and pest control.

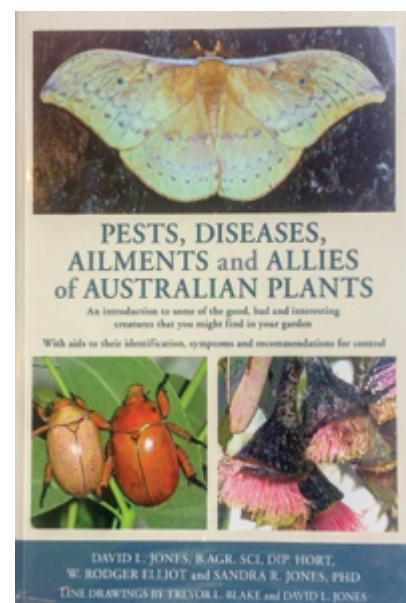
This is a very comprehensive book written by experts in the field. It would be a useful reference for nurseries, gardeners, horticulturalists and students.

***A Patch from Scratch***

**Megan Forward, 2016, soft cover, 30  
pages, colour illustrations, \$15.00**

This is a wonderfully inspiring book that takes us on a journey with Jesse and Lewis as they transform their suburban backyard into a productive, thriving fruit and veggie patch. They dig, build, plant and grow (with a little help from their family and friends). First they draw up some plans for the garden, then the chooks arrive, a chook pen is built, the new compost bin is installed, raised garden beds are constructed, seeds are bought at the local nursery and planting begins! The children learn about gardens and plants and pests and weeds and so much more...and finally they invite everyone who helped them to build their patch from scratch, to come along to their backyard and enjoy a lovely feast together (and of course the menu features their own fresh fruit and veggies from the garden!).

*An engaging book, with beautiful  
illustrations, that helps show children  
the joys of growing, harvesting,  
preparing and sharing fresh, seasonal,  
delicious food in their own backyard.*  
(Stephanie Alexander Kitchen  
Garden Foundation)



***Zieria citriodora*, vulnerable plant finds a safe haven**

Two *Zieria citriodora* plants were given as gifts to those attending the launch of a campaign for the proposed new National Seed Bank on 19 April 2018.

These were planted at our Braidwood property late April, in an area of *Eucalyptus pauciflora*, fenced off 14 years ago, to encourage regeneration.

Local Land Services and Greening Australia had encouraged us to plant some shrubby plants in there to maintain the safety of small birds and particularly the Scarlet Robin.

About 50 shrubby plants, including the *Zieria*, were planted on a northern slope into dry ground, with plenty of added water, which continued every 3-4 weeks until established.

All the plants have done well, having survived a winter and drought. Also over the years there is much regeneration of the Snow gums.

***Sally White***

[*Zieria citriodora* (Lemon-scented Zieria) is listed as Vulnerable under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, and is one of the plants the ANBG is cultivating to assist in its conservation – eds.]



## Gardens Shorts

### From the Executive Director

The Gardens and Friends have been going from success to success in these past few months and are busier than ever.

I would like to welcome, and I look forward to getting to know, the new intake of Volunteer Guides who are in training this month, and many of whom are Friends of the Gardens.

Thank you to the Friends volunteers for your amazing job on another successful summer concert season. It was our first season trialing online ticket sales with overall success. All concerts went well with good crowds, great music and energetic dancing, no weather cancellations and no first aid incidents.

The concerts were a wonderful prelude to another Gardens' first, the Carramar Koala Quest. The trail of Hello Koalas sculptures was a huge hit with visitors, drawing record crowds for the month of March. It gave the Gardens a great opportunity to work with partners around Canberra and bring attention to messages about conservation of plants and habitat.

Living Collections are working tirelessly on developing the Banksia Garden in preparation for the Gardens' 50<sup>th</sup> anniversary in 2020.

Lastly, after serving as Acting Director of National Parks for nearly 10 months this past year, it is with pleasure that I share with you the appointment of Dr James Findlay as the new Director of National Parks. James is now responsible for Australia's six Commonwealth National Parks, three of which are jointly managed with traditional owners, the Gardens, and the 58 Australian Marine Parks. He has a career spanning more than 20 years in fisheries and resource management, aquaculture and marine science, and brings a wealth of knowledge to the role.

**Judy West**

### Goats in the Gardens

The Gardens has recruited an efficient new weed team. Goats are being used in the Sydney Gully and in the upper Rainforest Gully to eat problem weeds including blackberries, ivy and honey-suckle. They will seek out and graze on weeds rather than desirable pasture species. Goats are able to sterilise seeds in their gut so the seeds are less likely to be spread.

While the goats are in the Gardens, a goat herder is onsite to supervise their



PAM ROONEY

work and protect the living collection. The use of goats is being trialed as a means to reduce chemical use, soil compaction and fuel loads as a fire risk, and to increase soil fertility through manure deposits.

### Mountain Rescue – high altitude tropical plants

The Gardens will be working with James Cook University and several other partners on a new project aiming to secure the future of Australia's tropical mountaintop plants threatened by climate change.

Botanists, including Gardens' staff, will gather plant material from ten mountaintops in the Wet Tropics World Heritage Area for propagation at the Gardens and distribution to participating botanic gardens in Queensland, New South Wales (Mt Annan and Mt Tomah) and Victoria (Cranbourne), where they will be grown in conserva-

tion collections and used in research and education.

Through the National Seed Bank, the Gardens will conduct novel research on seed banking strategies, while our nursery will play a significant role in the project's propagation program.

The five-year project is funded by a \$500,000 grant from the Ian Potter Foundation and \$50,000 from the Wet Tropics Management Authority.



M FAGG APII ©

*Eucryphia wilkiei* is one of the high altitude tropical species botanists will target to collect and grow at the Gardens



M FAGG APII ©

*Grevillea guthrieana* plants were grown at the Gardens for reintroduction into the wild

### Gardens contributes to Saving our Species

A major but sometimes hidden part of the Gardens' work is on projects involving propagating and production of threatened plants ready to be placed into the wild to boost natural populations; as well as seed collecting and seed banking through the National Seed Bank.

The Gardens is involved in a range of *ex-situ* conservation projects as partners in Saving our Species, a New



## Gardens Shorts

South Wales state-wide program that aims to secure the future of threatened plants and animals in the wild.

Just a few of many examples of successful propagation projects include: growing *Senecio macrocarpus* and *Lepidium hyssopifolium* for planting at McLeods Creek Nature Reserve; specialist propagation using non-seed methods and some reintroductions of *Acacia carniorum* and *Acacia atrox* for the western slopes of NSW; as well as growing a range of threatened *Pomaderris* species for translocation, including *Pomaderris delicata*, *P. bodalla* and *P. walshii*.

We have also contributed to reintroduction of *Grevillea guthrieana* to Oxley Wild Rivers National Park and collecting and growing a range of threatened species for testing susceptibility to *Phytophthora* fungal damage.

Our well-established collaborations with threatened species officers and land managers is essential in achieving the best outcomes for conservation of threatened species.



Open 7 days | 9am - 4pm  
Book online [pollencafe.com.au](http://pollencafe.com.au)

### Carramar Koala Quest and Luminous Botanicus IV: Shade of Trees

If you visited the Gardens throughout the month of March, you were sure to come across the Carramar Koala Quest, a free discovery trail featuring 20 larger-than-life Hello Koalas sculptures in the Gardens and around Canberra.

Hello Koalas is an imaginative sculpture project founded in Port Macquarie, NSW. This was the first time a travelling exhibition of the Hello Koalas has happened.

The original idea to host the sculptures was to commemorate National Eucalypt Day on 23 March, a day to celebrate another Aussie icon and main koala food source and habitat, and bring focus to conservation.

Each Hello Koalas sculpture was selected for its important environmental and cultural message and the Gardens provided the perfect setting for the Hello Koalas to shine as conservation ambassadors, highlighting the importance of protecting threatened plants, animals and habitat in Australia.

The event's success would not have been possible without the support of many partners: Enlighten Festival, Event AV Services, The Electric Canvas, Canberra Weekly, Arts and Health Australia, University House, Mantra Group, Pollen, Jindii Eco Spa, National Zoo and



PHOTO SUPPLIED BY SABRINA SONINTAG

Visitors young and old were drawn to the beauty and vibrance of the Hello Koalas sculptures

Aquarium, ACT Parks and Conservation Service, Friends of the Gardens and sponsors Cool Country Natives, Bosisto's and NatureArt Lab.

### The Gardens comes to life at night for Luminous Botanicus IV: Shade of Trees

The magical experience of Luminous Botanicus IV: Shade of Trees lured Canberrans and visitors from around the region for a special after-dark experience of the Gardens as part of Canberra's annual Enlighten Festival. Participants on this self-guided discovery followed a path of lights through the Gardens from rainforest to Red Centre, with music and light projections of magical koalas feasting on leaves and highlighting the beauty of native plants against a dark backdrop along the way. This year's event incorporated some of the Hello Koalas sculptures to bring focus to one of Australia's most celebrated icons – the koala – including messages about the importance of conservation of plants to sustain wildlife.



PHOTO SUPPLIED BY SABRINA SONINTAG

Light projections of magical koalas feasting on leaves

# Friends Briefs

## Find a Plant

The Gardens is launching an exciting new project that has been strongly supported and assisted by the Friends. The **Find a Plant (FAP)** application will help visitors, staff and researchers to locate specific plants growing in the Gardens. The application will show all plants that are in publicly accessible sections. The data displayed is linked to the Living Collections system and plant records, and the nursery and horticultural staff regularly maintain the records on which this application is based. However, this is a huge task and while staff endeavour to keep the data current there will be occasions when plants are no longer in the ground where expected, or they have been recently planted and the records have not caught up. The application uses the name applied to an accession based on the Herbarium's identification, which may occasionally differ from the plant label as there is ongoing taxonomic review. The current application is intended to be only stage 1, with a possible later stage to add more information, additional ways to search and photos of the plants.

The application should be accessible on any web browser but works best on Google or Firefox. It should be accessible on mobiles, tablets/iPads and laptops/desktop computers and can be accessed remotely from the Gardens. To find it go to <https://www.anbg.gov.au/fap> There

is information on the Gardens and the Friends websites and guidance will available at the Gardens Visitor Centre.

This project has been developed with funding and other support from the Friends of ANBG. Acknowledgments for a lot of hard work – to update the section boundaries to provide a current map, are due to Lauren Carter (Friends volunteer) and Maria Mulvaney, Tamera Beath, Peter Hesp, and Randal Storey (from ANBG); the design and development have been the task of Peter McNeil and Anne Fuchs and many Friends have provided feedback during the design and development phase. Thanks are due to all these people.

Members are encouraged to try it and provide feedback to Anne Fuchs at [anne.fuchs@environment.gov.au](mailto:anne.fuchs@environment.gov.au). This will greatly help iron out any imperfections and help open the way to a possible next phase.

**Anne Fuchs & David Coutts**

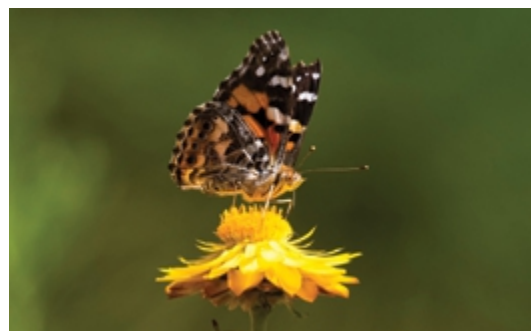
## Summer Sounds

The crowds poured in to the Gardens for the annual summer event, Summer Sounds, in February. The combination of good weather, excellent music provided by local bands, energetic dance performances and then lessons, delicious food, drinks and ice-cream as well as excellent company proved to be a winner.

Summer Sounds are put on by the Gardens with a major contribution towards the cost by the Friends. The concerts also rely on our wonderful team of volunteers who assisted with welcoming visitors, collecting entry fees, directing parking, driving the assistance buses, and staffing the Information Tent. On-line ticketing was trialed for the first time and was a popular option for concertgoers. Thank you to everyone. Many thanks to Icon Water who sponsored the concerts again this year.



**Patricia Morton**



RICHARD ARCULUS

Australian Painted Lady

## Butterfly Walk with Suzi Bond

Despite the prolonged heat this summer the butterflies in the ANBG came out to greet the Friends on our much-anticipated Butterfly Walk. A total of 13 species were recorded including the charming green Macleay's Swallowtail, Bronze Flat, Saltbush Blue found appropriately around the saltbush in the Rock Garden, Stencilled Hairstreak, Imperial Hairstreak, Australian Painted Lady, and of course, the Common Brown, the most abundant butterfly on the walk. In the rainforest area, caterpillars of the Dainty and Orchard Swallowtail were spotted on the same food plant, *Citrus australis*. This gave us a great opportunity to compare the two species. Many thanks to Suzi Bond for leading this fascinating walk.

**Patricia Morton**



SABRINA SONNTAG



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)

### Guided Walks

Daily at 11 am and 2 pm

Meet a volunteer guide at the Visitor Centre for a free one-hour tour of the Gardens.

### Storytime in the Gardens

First Friday of every month, Suitable for pre-schoolers. 10 am – 11 am

Cost: \$5.00 per child

### Flora Explorer tours

Weekends & public holidays, 10.30 am and 1.30 pm

Tours cost \$8 for adults and \$5 for children and concessions. Children under 3 travel free

Forty-five minutes of discovery around the Gardens. Purchase tickets from the bookshop.

### NatureArt Kids Club

Last Sunday of every month:

28 April, 26 May, 30 June, 28 July, 25 August

10 am – 12.30 pm

Meet at Banks Building

Cost: \$48.00

Kids art and science adventures designed for children aged 8 - 12 years. An exciting exploration of nature in the Gardens through drawing and observation, nature journaling, painting and hands-on activities. Book via ANBG website: What's On

### School Holiday Programs – NatureArt Puggles & Explore NatureArt

Mon 15 April – Thursday 18 April

Saturday 8 July – Wednesday 12 July

Saturday 15 July – Wednesday 19 July

**Puggles:** 5 – 8 year olds, 9 am – 12 noon

**Explore:** 9 – 12 year olds, 1 – 4.30 pm

Cost: varies depending on number of sessions attending.

High quality educational and fun art science experience for children. Run by experienced science communicators and artists who inspire a love of nature through drawing, painting, animal encounters and outdoor play. Book via ANBG website: What's On

### Canberra International Music Festival – Magic Garden Concert

Monday 6 May, 11.30 am – 1 pm

Cost: \$30.00

Bookings through Canberra International Music Festival [www.cimf.org.au](http://www.cimf.org.au)

See the Gardens come to life with music with high calibre musicians on a musical discovery walk, Sonic art saxophone quartet, Chin Cheng Lin, Bree van Reyk, Jess Green, Jason Noble, Veronique Serret, Alex Raupach, William Barton and musicians from Los Pitutos.

## EXHIBITIONS

**Visitor Centre Gallery, Open Daily 9.30 am – 4.30 pm, FREE**

**MORE THAN JUST A PRETTY PLANT 16 MARCH – 14 APRIL**

This is the twelfth anniversary of the art exhibitions of the Friends' Botanic Art Groups. The exhibition will focus on native plants with a use, whether indigenous, colonial or modern.

**HIGH COUNTRY 17 APRIL – 12 MAY**

'High Country' is a selection of paintings, drawings, pastels and limited edition prints by artist Janita Byrne focusing on the 'natural patterns' found in the Australian high country region of NSW and ACT, particularly the eucalypts of the Australian National Botanic Gardens.

**CLOSER 15 MAY – 9 JUNE**

A response to all the beautiful experiences the artist has had at the Gardens, the artist invites visitors to look closer, uncovering the wonderful world of macro details and connecting with the surroundings through photography, video and lightboxes. Artist: Rachael Harris.

**FROM PLANT TO BASKET 12 JUNE – 30 JUNE**

An assortment of fibre works ranging from string bags and baskets to more sculptural forms encompassing the variety of materials and methods used in basket making throughout history and the extent to which these can be stretched to become either utilitarian or esoteric objects. Artist: Janet Meaney.

**BUSHLIFE AND BIRDLIFE 31 JULY - 25 AUGUST**

The exhibition explores the contextual beauty of Australian flora, in particular its centrality in local natural landscapes, and the birdlife which it draws. Artist: Penny Deacon.

**THE TRANSFORMATIVE NATURE OF MOSAICS 28 August - 29 September**

This exhibition highlights the diverse stylistic and material approaches to the mosaic artform with artists working to a limited scale around the theme of Transformation, by the Mosaic Association of Australia and New Zealand.

## What's on (contd.)

### Creating a Visual Art Diary

Sun 26 May and Sun 18 Aug

10 am – 12 pm

Cost: \$45.00

Julia Landford from NatureArt Lab puts on an inspiring, creative session where you learn how nature and art can be combined to create artistic images. The workshop is suitable for complete beginners to accomplished artists, and will develop skills of observation, drawing and appreciation for our natural environment.

Book via ANBG website: What's On



Always welcomes Friends!

with a 10% discount on purchases over \$10, including the purchase of gift vouchers, on production of the customer's membership card for the person whose name is on this card.

No discount on redemption of gift vouchers.

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

more information on our Facebook page at 'Botanical Bookshop'

### Botanic Gardens Day - 26 May

Held across Australia and New Zealand on the last Sunday in May each year to celebrate botanic gardens' important conservation work. See Gardens' website closer to the day for details.

### Macrame Plant Hanger - two Workshops

Sun 23 June

session one: 10 am – 1 pm,

session two: 2 pm – 5 pm

Cost: \$80.00

Macrame can be used in so many practical and decorative ways around your home and garden. In this workshop you will learn how to make a macrame plant hanger. Workshops are limited to 10 participants and are suitable for 15 years and over.

Book via ANBG website: What's On

### Weeding Black Mountain

Saturday 4 May 9 am to 12 noon

Saturday 1 June 9 am to 12 noon

Saturday 6 July 9 am to 12 noon

Saturday 3 August 9 am to 12 noon

Removing woody weeds from Black Mountain and within ANBG

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)

[gmail.com](mailto:friendsofblackmountain@gmail.com)

or phone Linda (0437 298 711) or Libby (02 6296 1936) so there is enough delicious morning tea.

### Guided Walks:

### Mosses, Lichens, Fungi and Plants in the Days of Dinosaurs



Sunday 28 July, 10 am to 11 am

Sunday 4 August, 10 am to 11 am

About 50 million years ago, Australia was part of Gondwana, a supercontinent in the southern hemisphere. Dinosaurs roamed this great landmass. Join Volunteer Guide Linda Beveridge on this one hour guided walk through the ANBG discovering the plants that are similar to those growing in the days of the dinosaurs.

These walks are free and open to the general public. Numbers are limited.



Glenn Cocking surveying moths. Thursday Talks, 15 August 'Moths and Bushblitzes'



---

## THURSDAY TALKS: APRIL – AUGUST 2019

Lunchtime talks are held at 12.30 pm every Thursday from February to November in the Gardens' Theatrette.

Talks last for one hour. Admission is by gold coin donation. There is no need to book but please note that for safety reasons the ANBG Theatrette seating is strictly limited to 90 people. So, do come early for a seat at a Thursday Talk.

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

Some 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.

Please direct queries about Thursday Talks to Jan Finley; [jfinley@webone.com.au](mailto:jfinley@webone.com.au)

---

### APRIL

#### Thursday 11 April

##### Dr James Nicholls 'Manipulation of Host Plants by Herbivorous Insects'

James works at the Australian National Insect Collection at CSIRO, and will talk about how parasitic Oak Gall wasps manipulate their host plants to produce unusual structures and compounds to gain higher quality nutrition and increased protection from predatory wasps.

#### Thursday 18 April

##### Dr Sue Fyfe 'Detecting Photosynthetic Stress in Temperate Australian Seagrasses'

Sue, from the ANBG, will introduce the evolution of temperate Australian genera to their marine environment, and discuss photosynthesis in sea-grasses, their physiological response to light stress, and the potential for monitoring meadow health with remote sensing.

#### Thursday 25 April

##### Dr Michael McKernan 'Selected Gallipoli Cemeteries'

A social and military historian, Michael, will speak on some of the better-known cemeteries, their locations, the unique nature of each, and the stories of the men who lie buried in them.

### MAY

#### Thursday 2 May

##### Associate Professor Andy Leigh 'How do Plants 'do' Heat Stress? Further Lessons from the Australian Desert'

Andy, from the University of Technology Sydney, will explore what factors determine whether high temperatures become stressful to plants. Does water stress make a difference; is thermal

tolerance static or fluctuating; and over what time scale?

#### Thursday 9 May

##### Dr Sonia Pertsinidis 'Classifying People and Plants: The Extraordinary Works of Theophrastus'

Sonia, a lecturer at the ANU will introduce Theophrastus, the successor to Aristotle and a pioneering botanist in the fourth century BC. She will discuss some fascinating similarities between Theophrastus' classification of plants and his classification of human types.

#### Thursday 16 May

##### Dr Rolf Oberpieiler 'Unique Weevil Fauna Preserved in Burmese Amber (100 Million Years Old)'

Rolf, a weevil taxonomist at the Australian National Insect Collection, CSIRO, will speak about this fascinating phenomenon, which dates back to early Upper Cretaceous deposits. The weevil fauna in Burmese amber exhibits distinct affinities to modern-day Gondwana taxa that are relictual in Australia.

#### Thursday 23 May

##### Dr John Evans 'The Physiology of Leaf Photosynthesis'

John, a chief investigator in the ARC Centre of Excellence for Transitional Photosynthesis, will describe how it has been possible to link photosynthetic properties to underlying biochemical and structural elements resulting in the application of increasing photosynthesis by crop plants to help raise yield potential.

#### Thursday 30 May

##### Ingrid Singh 'Camp and Colonies: Bats in the Australian Capital Territory'

As a volunteer wildlife carer, Ingrid, has been helping to rescue, rehabilitate and release bats around Canberra with ACT Wildlife since it was established.

### JUNE

#### Thursday 6 June

##### Dr Linda Broadhurst 'Connecting Indigenous and Scientific Plant Names'

Linda, from CSIRO, will discuss a proposal to co-develop processes and practices with Indigenous communities to connect Indigenous and scientific plant names to improve the conservation and management of our Australian flora.

#### Thursday 13 June

##### Robert Spiers 'Conservation of the Pink-tailed Worm-lizard *Aprasia parapulchella* at Googong'

Robert, Capital Ecology's principal ecologist, will talk about this lizard that lives in ant galleries under small surface volcanic rocks in our region. Much of the species' habitat is being destroyed or modified by agriculture and urban development leading to its decline and its listing as 'vulnerable'.

#### Thursday 20 June

##### Dr Stephen Utick 'National and International Focus on Conserving Camellia Collections'

Stephen is a recognised world expert on Camellias. While not endemic to Australia, the genus *Camellia* is of immense horticultural and cultural significance internationally. This presentation will examine initiatives in Australia and internationally to conserve rare and endangered cultivars.

## Thursday 27 June

### Sharon Field 'Monaro Runes: an Artist's Response to Dieback on the Monaro'

Renowned botanic artist, Sharon will discuss how the impact of dieback on *Eucalyptus viminalis* in the Monaro region has been widespread and dramatic. Sharon will tell the story of a visual artist's response to dieback.

## JULY

### Thursday 4 July

#### Dr Graeme Worboys 'Flinders Ranges Geo-heritage: Potential World Heritage'

Graeme, from the ANU, will present the core Outstanding Universal Value narrative for the Flinders Ranges that will help to underpin a World's Heritage nomination under Criteria (viii) geological phenomena. His presentation will present ancient climates and four attempts at the emergence of animal life on Earth.

### Thursday 11 July

#### Geoffrey Dabb 'Nine Interesting Canberra Birds'

Geoffrey, a lifelong birdwatcher, will present an illustrative talk concentrating on nine species of birds that have a particular connection with Canberra. Three of the birds are residents, three are migrants, and three come and go, to some extent, throughout the year. There are different views on what birds are migrants and what are notable.

### Thursday 18 July

#### Dr Ben Walcott 'Garden Design with Native Plants'

Ben will talk about garden design using native plants with illustrations from some well-known native gardens.

### Thursday 25 July

#### Brendan Lepschi 'Your Time Would Be Better Spent Digging Holes - Taxonomy, Plant Names and Why Nothing Ever Stays the Same'

Curator at the Australian National Herbarium, Brendan will discuss some of the reasons plant names change and outline the principles of botanical nomenclature and the rules governing it,

using members of the iconic Australian family Goodeniaceae as an example.

## AUGUST

### Thursday 1 August

#### Dr Jane Roberts 'Value of Wetlands and Swamps'

Jane, a wetland ecologist, will talk about wetlands, and how they are currently of scientific interest for their role in carbon storage, though that has not always been how they have been valued. An historical perspective of wetland values and their changes says more about human society than about wetlands.

### Thursday 8 August

#### Damian Wrigley 'Australian Seed Bank Partnership'

Damian, from the Australian Seed Bank Partnership (ASBP), will outline how the ASBP is contributing to global conservation efforts and will give an update on the Seed Science Forum to be held at the ANBG in 2020.

### Thursday 15 August

#### Glenn Cocking 'Moths and Bushblitzes'

Glenn, a volunteer curator at the National Insect Collection, will discuss the moth fauna of Black Mountain in the context of some general observations about moths, and how to understand the families present in the ACT. He will tell some stories about an eclectic selection of particular species from wider afield.

### Thursday 22 August

#### Dr Laura Rayner 'Parrot Central for a Bird on the Edge'

A conservation ecologist, Laura will bring us up-to-date on her research on



Superb Parrot, Mulligan's Flat, ACT

## FRIENDS BENEFITS

### As a Friend you are entitled to:

Three issues of *FronDS* a year  
Three hour free parking pass

#### Discount at:

Botanical Bookshop (most items)  
Pollen  
Jindii Eco Spa  
Cool Country Natives in Pialligo  
Australian Choice, Canb. Centre

### You also receive:

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.

Superb Parrots - a superb bird pushed to the very edge of its natural range by climate change and land clearing. It is now a race against time to determine what pressures the parrot is facing and what needs to be done to secure its future.

### Thursday 29 August

#### Anke-Maria Hoefer 'Frogwatch: Successfully Marrying Citizen Science and Community Engagement Since 2002'

Anke-Maria, from the ACT and Regional Frogwatch Program, will introduce you to the program that engages hundreds of volunteers each year. The data collected feeds into a wide range of frog projects, including frog census, climate change investigations and frog habitat studies.