

# *Fronds*

*Friends of the Australian National Botanic Gardens*

*Number 108 December 2024*





# Friends of the Australian National Botanic Gardens

President	Linda Beveridge
Vice President	Alan Henderson
Secretary	Position vacant
Treasurer	Rod King
General Committee	Beth Tyerman Kerry Moir Chris Mackay Cathy Robertson Ian Primrose
Public Officer	Christianna Cobbold
Post:	Friends of ANBG, GPO Box 1777 Canberra ACT 2601 Australia
Telephone:	02 6250 9548 (messages)
Website	<a href="http://friendsanbg.org.au">friendsanbg.org.au</a>

## Friends activities and contacts

Fronds Committee	Barbara Podger Cathy Robertson Denis Warne Sharon Abrahams <a href="mailto:newsletter@friendsanbg.org.au">newsletter@friendsanbg.org.au</a>
Membership	Lesley Harland Pam Cooke Evelyn Jacobsen <a href="mailto:membership@friendsanbg.org.au">membership@friendsanbg.org.au</a>
Growing Friends	Maurice Hermann
Botanic Art Group	Wendy Antoniak
Photographic Group	Phil Green
Plant Science Group	John Busby
Talks Convenor	Linda Beveridge
Nature Journaling	Lesley Page
For all groups	<a href="mailto:info@friendsanbg.org.au">info@friendsanbg.org.au</a>
Booked Walks	<a href="mailto:bookedwalks@friendsanbg.org.au">bookedwalks@friendsanbg.org.au</a>
Guides	Kerry Moir
Social Events	Kerry Moir

## Fronds is published three times a year. We welcome your articles and photographs.

The deadline for articles is mid-February for the April issue, mid-June for the August issue and mid-October for the December issue.

Email material to the Fronds Committee at the above email address 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. Previous issues of *Fronds* may be found on the Friends website under the Newsletter tab.

Design and layout: Sharon Abrahams

Printing: Union Offset Printers

ISSN 2207-6492

## In this issue

An iconic Australia tree	3
The secret life of plants	6
Friends Briefs	8
AGM	8
Students Photographic Competition	13
Friends-funded scholars	14
Friendly Chatter	16
Gardens Shorts	19
Botanical Bookshop reviews	22
What's on at the Gardens	23
Thursday Talks: February to April 2025	25



Friends of the ANBG is a member of the AAFBG

## Acknowledgment of Country

We acknowledge the traditional custodians of the land throughout Australia and their continuing connection to country and culture, and pay our respects to Elders past and present.

Front cover: Flowers of *Brachychiton populneus* subsp. *populneus*. See pages 3-5. Photo: ©M Fagg 2011, courtesy of APII.

[anbg.gov.au/photo](http://anbg.gov.au/photo)

Back cover: *Chrysocephalum* sp. See page 14. Photo: Shelley Rowntree.

# An iconic Australian tree

By Dave Rowell

When people are asked to name Australia's most iconic trees, the immediate response is usually the eucalypt, or perhaps the wattle. With around 1,000 species of wattle and 800 eucalypts, both with an enormous distribution, this is not surprising.

However, when I gave a talk about kurrajongs to the Friends of the ANBG a few months ago, I was blown away by the enormous amount of interest in this species. It seems that, although wattles and gum trees have a particularly high profile, everybody is familiar with the kurrajongs, and can tell you childhood stories about using the boat-shaped seedpods for races in the local creeks, or about seeing them around caves in the local area.

## A botanical awakening

My first experience with kurrajongs, which I related to the Friends, was about 60 years ago, when my father took me out to Queanbeyan (no doubt in search of old Peugeot parts). We stopped in the main street near a beautiful kurrajong, and I was immediately fascinated by the curious seed pods. I collected an armload of these to take home, and immediately discovered a not-so-pleasant characteristic of kurrajongs: the seed pods are packed with sharp, irritating hairs that can go straight into a 5-year-old's soft skin and cause large welts. Fortunately, when we got home my mum relieved it by doing 'the stickytape thing' then drenching me with calamine lotion.

Talking to people from the Friends after my presentation, I discovered that this particular tree was not just important in my botanical awakening, but it has an important place in Queanbeyan history as well. More on that later.



Dave Rowell

The distinctive, boat-shaped kurrajong seed pods often occur in groups of five, corresponding to the five separate carpels in female flowers.

## The Eastern Kurrajong

The Eastern Kurrajong, *Brachychiton populneus*, has an enormous distribution, covering the eastern half of Queensland and NSW from north of Townsville, with many populations scattered throughout Victoria.

Canberra is well within the natural distribution, and some large pre-European settlement trees can be seen around Wee Jasper, on Tuggeranong Hill and other localities in the region.

One of the most impressive stands of kurrajongs in the Canberra area can be found on the south-eastern ridge of Mt Majura, and is well worth a look. While naturally occurring kurrajongs are common in the local area, these trees were planted by the Officer-in-Charge of Afforestation, Charles Weston, in 1919 and 1920, as part of a revegetation program following the virtual clearance of woodland on the mountain. This has led to the idea that kurrajongs are 'not native' to Mt Majura, although this is extremely unlikely given the widespread occurrence of these trees in the area.



Dave Rowell

Old kurrajong Wee Jasper. Old kurrajongs make excellent paddock shade trees. While younger kurrajongs have a distinctive 'lollipop' shape, the old gnarled trees spread wide, and can be mistaken for old oaks from a distance.



Dave Rowell

Left: Young kurrajongs quickly form a large tuberous root which can buffer them against extreme conditions while they are establishing. Right: It's sometimes said that kurrajong roots 'go down as far as the tree goes up' This large crystallised kurrajong taproot in Carey's Cave is more than 10 m below ground level. Thanks to Geoff Kell for providing special access to Carey's Cave.

# An iconic Australian tree (cont.)

## Kurrajong characteristics

While kurrajongs are rarely the dominant species in Australian landscapes, they have a few characteristics that allow them to compete effectively with other native species, and to grow in very hostile microenvironments. Of particular note is their drought resistance, which is primarily facilitated by their enormous taproots, and their ability to establish and thrive in crevices on rocky outcrops, in the almost complete absence of soil.

Seedlings quickly establish a carrot-like taproot that buffers them against dry periods, and develops into an extremely long, robust root that allows them to access water not available to other, less deep-rooted trees and shrubs. Excellent examples of this can be seen at Carey's Cave, Wee Jasper, where thick kurrajong roots can be seen running down the cave walls more than 10 m below the surface. These enormous taproots also thoroughly anchor the trees: it is extremely rare for a living kurrajong to blow over.

A very confusing characteristic of kurrajongs is the enormous variation in the shape of juvenile leaves, even between trees grown from the seed in a single pod, although the adult leaves are fairly uniform. The differences can be so extreme that it's hard to believe two trees belong to the same species.

From my own research I have established that this variation is genetic in origin, but why it is maintained is a mystery. I believe that it is most probably the result of 'balancing selection', whereby different leaf shapes are selected for in different microenvironments, although this needs to be confirmed experimentally. Interestingly, the same pattern of variation occurs in the Northern Kurrajong, *Brachychiton diversifolius*,



Dave Rowell



Dave Rowell



Dave Rowell

Top: Kurrajong juvenile leaves. There is enormous variation in leaf shape between juvenile kurrajong trees. We know this reflects underlying genetic variation, but the reason this is maintained isn't clear. Above, left and closeup right: This small kurrajong appears to be growing directly out of a piece of limestone.

from the Kimberley, which is a very close relative.

A curious aspect of kurrajong distributions is that while they are common on rocky outcrops, they appear to have a particular affinity with limestone (which is perhaps why they were planted on Limestone Avenue in 1928). The reason this is unusual is that, in cultivation, there is no evidence that kurrajongs establish or grow better in alkaline soils, so the explanation must lie elsewhere.

I suspect that there are two reasons: firstly, because they are able to establish and grow on rocky sites in general, and secondly, that they are also more competitive than other native species on alkaline soils. The combination of the two factors means that they are excellent indicators of the presence of limestone caves, particularly because their bright green foliage can be seen from afar against the more subdued greens of eucalypt forest.

## Uses for kurrajongs

The wood of the Eastern Kurrajong and its relatives, the Queensland Bottle tree (*B. rupestris*) and the Illawarra Flame (*B. acerifolius*) is very soft and fibrous, and so is of no use as a structural timber. However aboriginal people separated the fibres in the wood and bark to make very strong twine or rope, which could be used in tool construction and as fishing line.

Kurrajongs were also an important food source: the seeds were an important source of starch, and would be cooked and eaten whole, or ground and used as flour, while the tuber of young seedlings could be cooked and eaten, as are other root vegetables.

In modern times, these trees have often been preserved in cleared landscapes or actively planted by farmers as paddock trees for drought fodder and shade for stock. The trees can be coppiced to provide green leaves for stock feed, and as the large taproot can access water that other plants can't, even in drought times leaves can quickly regrow.



Hilary Rowell

Queanbeyan's 'Tree of Knowledge'.



Hilary Rowell



Hilary Rowell

The kurrajongs on Limestone Avenue are nearly 100 years old!

## Queanbeyan tree

Let's return to the Queanbeyan tree that started my fascination with this species. This beautiful tree was planted in 1898 by a William Parker, and once established, it was a popular and shady place for locals to sit and chat about life, the universe and everything. Over time it came to be referred to as the 'Tree of Knowledge', perhaps after the heritage-listed tree of the same name in Barcardine, which is an icon in Labor Party history.

The Queanbeyan tree came under threat in 1970, as it was proposed that it be removed to make way for taxi ranks. The proposal was defeated at a meeting of the Queanbeyan council, entirely on aesthetic and historical grounds.

Struggles to preserve historical trees are more common nowadays, but we can be glad that locals stood up for this fine kurrajong 54 years ago.

## About the author

Dave Rowell is an Emeritus Professor from the Division of Ecology and Evolution at ANU's Research School of Biology. Much of his work has been on the evolution and phylogeography of native Australian species. His interest in the genus *Brachychiton* goes back to his childhood. Dave is living happily in the electorate of Kurrajong.

# The secret life of plants

## Secondary pollen presentation

By Roger Farrow

The bank above the roadside walk below the Visitor Centre at ANBG has an eye-catching display of Paper Daisies (*Xerochrysum* hybrids), spreading bushes of *Homoranthus* (*Homoranthus* spp.), with their pungent odour, and carpeting Fan Flowers (*Scaevola albida*). Visitors may pause to see a range of different insect pollinators visiting these flowers but are probably unaware of the specialised pollination strategy that unifies these plants from quite different families, namely the Daisies (Asteraceae), Fan Flowers (Goodeniaceae) and *Homoranthus* (Myrtaceae), respectively.

Let's start with the basic flower. It is a hermaphrodite (male and female reproductive parts in the same flower) and consists of a cup-shaped ring of sepals and petals surrounding a ring of pollen bearing anthers (the male bits) and a central stigma (the female bit). Pollen is transferred by wind and insects from the anthers to the stigma on the same flower and between different flowers on the same plant and between the flowers of separate plants.

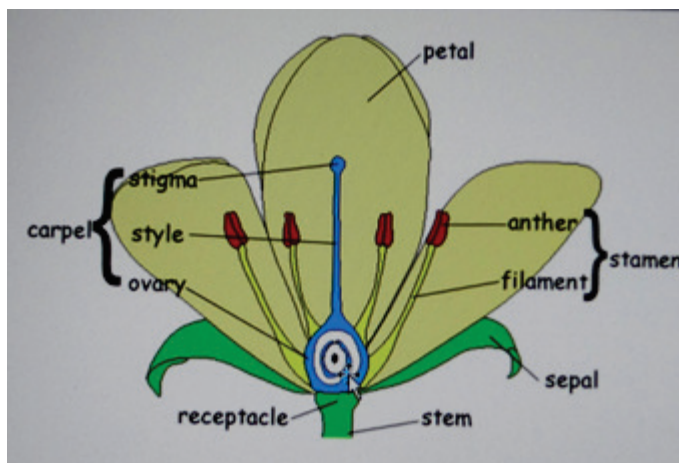


The bank above the roadside walk below the Visitor Centre at ANBG has an eye-catching display of Paper Daisies (*Xerochrysum* hybrids), spreading bushes of *Homoranthus* (*Homoranthus* spp.) and Fan Flowers (*Scaevola albida*). All images by Roger Farrow.

Many flowers retain this basic structure but it has one flaw, namely, how to prevent self-pollination. This is generally achieved by:

- a) self-incompatibility (pollen does not germinate on the stigma of the same plant) and
- b) differential maturation of anthers and stigma (usually anthers release pollen before stigma is receptive, protandry).

A third strategy involves the shedding of pollen from the anthers onto a different floral part from where it can be accessed by visiting insects and is termed secondary pollen presentation. It is found in at least 14 plant families and occurs in all Proteaceae, Asteraceae, and Goodeniaceae and in many genera of Myrtaceae and Lobeliaceae, among other families.



Left: Basic flower.

Right: Star Flower, *Asterolasia* sp. (Rutaceae). ANBG.



Above left: Sawfly (*Eurya* sp.) feeding on protruding pollen noodles of a *Xerochrysum* flower. ANBG.  
 Above right: Central ring of pollen noodles surrounded by a ring of receptive stigmas. ANBG.



The Asteraceae are characterised by a compound flower head consisting of tightly-packed florets. In *Xerochrysum* these are surrounded by papery bracts.

Pollen from the anthers is shed into the floret tube at the bud stage and is pushed out in a piston-like action by a head of sterile tissue covering the tip of the stigma as a result of the elongation of the style.

The sticky pollen cylinders emerge as 'noodles' and provide an abundant food source for visiting insects.

The florets mature from the periphery to the centre of the flower head and the male pollen units are succeeded by the emerging receptive stigmas. There appears to be no attempt to conserve pollen for reproduction and the abundant pollen is extensively harvested by bees, beetles and flies.

Unlike the radially symmetric, upward-facing flowers of *Xerochrysum* that attract overflying insects, the flowers of *Scaevola* are asymmetric and horizontal-facing and act as a landing pad for insect visitors.

The presenter takes the form of a cup-like structure formed on top of the style in the flower bud. It is sometimes incorrectly called an indusium but this should only be used for the sporangium cover found in ferns.

Growth of the style past the anthers pushes the pollen into the cup that then turns downwards in the open flower. Insects, mostly bees, that land to feed at the nectary, brush past the presenter picking up pollen on their dorsal surface.

This mechanism largely conserves pollen for reproduction although some small bees may actively collect pollen from the presenter itself.

The stigma eventually grows out of the presenter and becomes receptive to pollen carried by an insect visitor.

Our final plant, *Homoranthus*, exhibits an even more unusual form of presenter represented by a ring of papillae or nodes on the upper part of the style. Pollen is trapped in a liquid suspension on the ring as the style grows through the anthers at the bud stage.

Insects searching for a feed of nectar, brush against the styles, picking up pollen grains on the legs and lateral body parts that in turn brush against the apical brush-like stigma on another flower.

Selfing is prevented by protandry in which the stigma does not become receptive until the pollen below is all shed.

Next time you pass these plants in flower in ANBG take a closer look at their interactions with insect visitors.

---

### About the author

Dr Roger Farrow is a retired insect ecologist who previously worked in the Division of Entomology at CSIRO. He is the author of *Insects of south-eastern Australia: An ecological and behavioural guide* (2016). CSIRO Publishing.



Pollen presenter of *Scaevola albida*. ANBG.



Solitary bee, *Lasioglossum* sp. harvesting nectar and contacting presenter that dusts bee with pollen.



Muscid fly, *Helina* sp. feeding on nectar of *Homoranthus* and brushing against presenters. The pollen trapping papillae are clearly visible below the bristly stigmas. ANBG.

# Friends Briefs

## Friends Annual General Meeting

The 36th AGM of the Friends of the ANBG was held on Thursday 24 October 2024 in the ANBG Theatre. Full reports from the President and Treasurer (including the audited financial statements) may be found on the Friends website [friendsanbg.org.au](http://friendsanbg.org.au) under 'About Us'.

## President's Report

**The President, Neville Page, reported on the year's highlights.**

Friends membership has continued to hold up well. As at 30 September 2024 we had 2,142 memberships comprising 2,883 individual members (households and groups comprising more than one person). Membership is available for one year or three years, and an increasing number of renewing members are choosing the three-year option.

This year the Australian Government changed the rules relating to environmental funds. The Register of Environmental Organisations has been abolished effective 1 January 2024, and along with it our Public Fund. Supervision of environmental organisations has passed from the Department of Environment to the Australian Taxation Office.

The new rules require that we maintain a Gift Fund, and all donations to the Friends are quarantined in the Gift Fund. Providing we comply with the rules, full tax deductibility for our donors is maintained.

In the year ended 30 June 2024, the Public Fund and Gift Fund received a total of \$29,254 in donations. Several projects have been funded in 2023-24 and significant amounts committed for future projects. Projects funded this year\* were:

### General Fund

Online education resources	\$20,000
Visitor Centre upgrade	\$82,000

### Gift Fund

Online education resources	\$30,000
Conservation video	\$9,500
Don Beer Research Scholarship	\$7,500
Other research scholarships	\$17,000
Fogging system	\$60,000

Growing Friends held two public plant sales over the year. The combined plant and book sale in September 2023 raised \$7,335 and the sale in March 2024 raised \$7,552. During the year, the group commenced a project to upgrade its aging propagation facilities and to also improve the working conditions for its members, and this project is continuing.

\*The President's Report relates to the period from the 2023 AGM to the 2024 AGM.



Graham Gail



Graham Gail

After the AGM and light refreshments, members were invited to explore and admire the new exhibition in the foyer of the Visitor Centre, *More than a Garden*.

The Botanic Art Group's 17th annual art exhibition *Bush Fragrance* was held in April–May 2024. The Friends purchased *Hakea platysperma* by Sue Grieves, and donated the painting to the Gardens to add to their collection. The Group is grateful to the horticulturalists who provided specimens from the Gardens as art subjects.

The Photographic Group's 10th photographic exhibition *Illuminate 23* was held in November–December 2023. The exhibition comprised 45 framed images from 20 exhibitors, cards, unframed prints, calendars, bags, earrings, magnets and bookmarks, all items for sale. It was financially successful with \$1,285 raised for the Friends.

After a successful learning curve in 2023 the group again managed the production of the 2024 Gardens Calendar.

After a few years' absence, we have been delighted to have the 24th Student's Photographic Competition for students of Australian schools and colleges this year. It provides an excellent opportunity for students to become aware of the value and beauty of the ANBG.

Thursday Talks took place on 42 weeks in the financial year of 2023–24. The total audience for the year was 2011 (an increase of approximately 16% compared to the previous financial year).

The Plant Science Group conducts talks on the second Monday of each month. These talks concentrate on topics with a scientific focus. Friends are asked to register their interest in attending, and persons whose names are on the email list receive notification of forthcoming topics each month.

The Plant Recognition Group held its first workshop in September 2023. Workshops held during the year included a variety of subjects and were fully booked.

Ros and Ben Walcott have together collected material for a three-fold, colour brochure *Flowers, Fruit and Foliage* each fortnight. Ros selects 15 plants with interesting foliage, fruit or flowers and Ben photographs each plant. Ros writes a description of each plant and Ben creates the brochure.

Nature Journaling is into its fourth year at the Gardens. The group meets on the first Monday of each month.

Activities organised by the Social Events and Activities Committee included the very popular *Wake up with the Birds*. Two visits to the Walcott native garden in Red Hill in October 2023 were attended by 40 Friends of ANBG. Two fully-booked butterfly walks were held in January 2024, led by Dr Suzi Bond.

Pat and Warwick Wright are Voluntary Ambassadors of ANBG and Friends. Pat and Warwick make themselves available if anyone needs a speaker and in the past year they delivered 12 talks to 357 people.

*Fronds* is the widely read Friends journal. The *Fronds* Team of four people publish three issues a year, in April, August and December.

In addition to *Fronds*, the Friends also have a regular eBulletin. The eBulletin email goes out once a month, plus ad hoc emails when special announcements are made.

Another communication tool is the Friends website which keeps us informed of all manner of announcements, news and details of activities. A new website is under construction and should be rolled out in 2024–25.

To everyone who has contributed over the past year, including Council members, group convenors, membership team, workers, volunteers and Gardens staff, I offer my heartfelt thanks.

**Neville Page**



The new fogging system in the Tasmanian Garden.

Graham Gail

## Treasurer's report

The Friends continue to be in an excellent financial condition, allowing us to continue our work in support of the ANBG.

Our Statement of Profit and Loss for the year ended 30 June 2024 is the basis of the summary below of our finances. (See page 4–5 of the Audited Annual return on the Friends website [friendsanbg.org.au](http://friendsanbg.org.au))

Retained earnings: The bank balance at the start of 2023–24 was \$332,659 and \$331,146 on 30 June 2024 (a small loss of -\$1513).

Income for the financial year was \$150,605 and expenses totalled \$152,118. Capital investments (in term deposits) totalled \$165,454.

Income: Membership payments for the financial year 2023–24 were \$68,100 but the recently introduced 3-year payment option required \$51,310 of total membership fee income to be applied over the next two years. In terms of total member numbers, we have maintained if not increased our membership.

Donations totalled \$29,254 to the Friends Gift Fund and included \$5,000 for the Don Beer Memorial Scholarship.

Interest received on term deposits was \$7,057.

Member-generated income included: plant sales by the Growing Friends, money raised from the Botanic Art Group and Photographic Group exhibition sales, booked walks by the Guides, Thursday Talks, and *Wake up with the Birds*.

Maximum running costs over the last years remain below \$50,000. Thus, there is considerable scope for developing new projects.

Our Finances are very healthy especially with the buffer of \$165,454 Capital Investment.

**Rod King**

# Friends Briefs (cont.)

## Rebecca Pirzl report on the year's activities at the ANBG

What a year it has been, and in no small part possible due to the support of the Friends of the ANBG. Thank you from me, and from Peter, on behalf of everyone at the Gardens.

In an exciting event for the Gardens, we hosted a Royal Visit from Their Majesties King Charles III and Queen Camilla on Monday 21 October. King Charles III is a supporter of conservation and rewilding and has spoken publicly about climate change concerns. These interests align with goals of the Gardens. Minister for the Environment and Water, Hon Tanya Plibersek MP, joined us for the event, and used the opportunity to spend time talking to Gardens staff after the formalities ended. I would like to make special mention of the fantastic efforts of Gardens staff in the build up to the event. This special event required extraordinary attention to logistical coordination, liaison, and hard work to prepare the Gardens, and it was all performed with dedication and great team work.

It has been a record-making year for visitation. Overall visitation has increased by 3.5% over the 2023-24 period, reaching a record 546,065. And we're very pleased that school visitation numbers are up by 16%, reaching a record 22,900.

There have been several activities to attract visitation. Over the winter school holidays, MEGAFUNA 2024 challenged participants to follow clues to discover sculptures throughout the Gardens. The goals were multifaceted: awareness raising of species extinction, awareness of the Gardens' work in species conservation, and increasing foot traffic to the Visitor Centre and café (up by 10% from July last year).



Graham Gail

Dr Rebecca Pirzl (right) – Branch Head Science and the ANBG, Department of Climate Change, Energy, Environment and Water – presenting at the Friends AGM.

September featured the second *Botanica Festival* with 1,425 tickets sold for the two-day event. This event attracted new audiences with 16% visiting the Gardens for the first time. Connection was encouraged through a new station with native foods and flavours promoting Gardens experiences. The Gardens was also featured on the Canberra Monopoly Board.

Significant progress has occurred on infrastructure projects. Upgrades to the fire fighting infrastructure along the northern and southern boundaries of the ANBG was completed in 2023 to protect key infrastructure this summer. Construction has begun on a significant upgrade to the National Seed Bank which will double the Seed Bank's storage capacity, increase research capability and provide improved accommodation for staff and volunteers. This project will be delivered mid-2025.

In the meantime, the Seed Bank will continue their important work from the Crosbie Morrison Building. I look forward to seeing construction of the Ian Potter National Conservatory recommence now that tenders have closed for a new contractor.

The tropical greenhouse nursery team has been continuing preparations for the Ian Potter National Conservatory, visiting south-east Queensland rainforests and suppliers and Verdigris Ferns on the South Coast. 'Frankie' is the new member of the team – Frankie is a beneficial insect, a predatory thrip, that preys on pest thrips.

Our volunteer program has strengthened with 200 volunteers working across 10 programs, supporting visitor services, scientific programs and horticulture. A highlight for 2024 has been the success of the Squishy volunteer program, begun in October 2022. The program assists staff with integrated pest management by controlling or 'squishing' pest insects and scale on the plants being grown for the Ian Potter National Conservatory. The Squishy volunteer program has a pool of 15 people with an average of five volunteers participating each week for a two-hour session.

Funds from the Rare Bloom project, allowed us to host a group of rangers from Uluru-Kata Tjuta National Park in February. Over 10 days, Mala Rangers and Parks staff learned about seed banking and propagation techniques

in and around the Gardens nursery and in Booderee Botanic Gardens.

In a reciprocal visit, National Seed Bank staff visited Country soon afterwards. They collected seed and used the Blue Barrel technique developed by the Millennium Seed Bank for remote seed banking, and also supported plant propagation efforts at Mutitjulu Nursery.

Our conservation projects hit milestones this year. Two hundred small purple pea (*Swainsona recta*) plants were planted into sites in the ACT, in partnership with the ACT Government. This work is part of the Survive and Thrive project which is due to finish in mid-2025.

Thanks to the generous support of Friends the Gardens has:

- Upgraded the entry foyer of the Visitor Centre with the exhibition *More than a Garden*, highlighting the important work that the Gardens, National Seed Bank, the Australian National Herbarium and the Gardens' nursery undertake to safeguard Australia's biodiversity.
- Launched and promoted the Plant Science Learning Hub, an online education resource for primary school students and teachers.
- Installed a fogging system in the Tasmanian Garden creating a better microclimate for Tasmanian species. Additional investment from the Gardens has seen major improvements in this area including a new bridge, improved pathways, repaired ponds and the rebuilding of the 'Otto' Shelter on the original footprint.
- Funded three PHD scholarships.

We thank the Friends for their unwavering support, without which we would not be able to deliver such an effective range of conservation programs and visitor experiences.

**Rebecca Pirzi**



Glenys Bishop (L) was presented with the Handbury Award by the Patron of the AAFBG, Judy West (R).

## Handbury Award

The Australian Association of Friends of Botanic Gardens (AAFBG) has this year awarded a Handbury Award to Friends of ANBG member, Glenys Bishop. The Handbury Award, named in honour of the late Geoff Handbury AO, recognises exceptional contributions to an Australian botanic garden, arboretum or park, by an AAFBG member group or individual from a member group. Glenys has been recognised for her major contribution to education and research fostering the cause of botanic gardens through guiding and volunteering.

## Welcome to new Council Members

The following people were elected to the Friends Council at the AGM:

President: Linda Beveridge  
Vice President: Alan Henderson  
Secretary: position not filled  
General Council members (four vacancies): Chris Mackay, Cathy Robertson, Ian Primrose, (one position not filled).

Continuing Council members (halfway through their two-year terms) are Rod King (Treasurer); and Beth Tyerman and Kerry Moir as General Members. Retiring members of the previous Council are Neville Page, Christianna Cobbold, Marg Nicholls and Masumi Robertson.

The Friends thank all retiring Council members and congratulate new members.

## Changes to the Constitution

Due to new legislation and the abolition of the Register of Environmental Organisations, our Constitution required amendment to reflect the new administrative arrangements and the setting up of a new fund. Other amendments were also required to align our Constitution with changes to the model rules for incorporated bodies in the ACT. The Special Resolution to amend the Constitution was passed unanimously.

# Friends Briefs (cont.)

## Congratulations to new Life Members

Life Membership is the highest award which may be conferred by the Friends and is awarded to members who have contributed outstanding service to the Friends. This year Life Membership was awarded to two members: Wendy Antoniak and Jim Gould.

### Wendy Antoniak

Wendy joined the Friends in 2006. She has been an active and long-term member of the Botanic Art Group, including being its longstanding and highly regarded Convenor.

Wendy has exhibited each year in the Botanic Art Group's exhibitions, and been a pivotal member of the exhibition organising committee for many years.

She was also instrumental, in conjunction with the ANBG Librarian, in arranging an exhibition in November 2023, *Botanic Images*, of a unique collection of botanic art and photographic works donated to the Gardens by the Friends over more than 10 years. The exhibition showcased the talents of members of the Botanic Art Group and the Photographic Group in depicting botany.

Wendy has also been a member of the Friends Council for two terms, and was the Public Officer for some of that time. She was also a volunteer at the Visitor Centre for 10 years, dealing with enquiries from the visiting public in her cheerful way.

### Jim Gould

Jim has been a member of the Friends for 10 years. He has been a longstanding member of the Photographic Group, of which he has been a committee member, including in the roles of Convenor and Secretary, over a number of years.

He was instrumental in establishing, organising and running the group's Annual Photographic Exhibition,



Graham Call

Left to right: Former President, Neville Page, Jim Gould and Wendy Antoniak with their Life Membership Awards, and new President, Linda Beveridge.

including organising entries; the financial aspects of the exhibition; seeking sponsors; and arranging the hanging of the exhibition.

He has also been a judge for the Schools Photographic Competition.

Jim has arranged various activities for Photographic Group members both at the Gardens and elsewhere.

He was also involved in initiating the Friends calendar which is now produced by the Photographic Group and sold in the Botanic Bookshop.

He has always been a strong proponent of native plants and the Gardens, and photographs and promotes activities in the Gardens, including recording Friends events.

## 25th Photographic Competition for Students

The 25th Students Photographic Competition is open to students attending Australian schools or colleges, and provides an excellent opportunity for students to become aware of the value and beauty of the ANBG and, by exercising their photographic skills, to share that beauty with other visitors.

All entries must be digital photographs taken in the ANBG between 30 August 2024 and 28 August 2025, and feature some aspect of the Gardens, such as plants, wildlife or scenery.

Closing date is Friday 29 August 2025.

Cash prizes will be awarded in several categories. Entries will be on display on the Banksia Garden of the ANBG from 27 September to 26 October 2025.

For further information please see the Friends website at [friendsanbg.org.au/activities\\_schoolsphotocomp](https://friendsanbg.org.au/activities_schoolsphotocomp)

## Students Photographic Competition 2024

We congratulate the prize winners and commendations in each of the five categories in the Friends ANBG Students Photographic Competition 2024.

Eighty eight students sent in more than 200 entries from 17 schools and colleges. The judges were impressed by the entries, and the winners of 1st, 2nd and 3rd prizes in each category received cash prizes, and the schools attended by the prize winners won cash prizes too.

An Australian native plant for the school's or college's garden was also given as a prize to the school or college attended by the winners of first prize in each category.

The prize winners and commendations are on the Friends website at [friendsanbg.org.au/activities\\_schoolsphotocomp](https://friendsanbg.org.au/activities_schoolsphotocomp)

An outdoor exhibition of the prize-winners and commendations was in the Banksia Garden, 28 September to 27 October 2024, and all eligible entries were displayed on the video wall near the entry to the ANBG Theatre for the same dates.

**Linda Beveridge**



Emily De Bono

**PRIMARY first prize winners**  
Above: Monochrome: 'Magpies eye' by Emily De Bono from Weetangera primary school.  
Right: Colour: 'Pimelea physodes with leaf-like petals' by Mako Takakusagi from Torrens Primary School.



Mako Takakusagi



Jade Watts

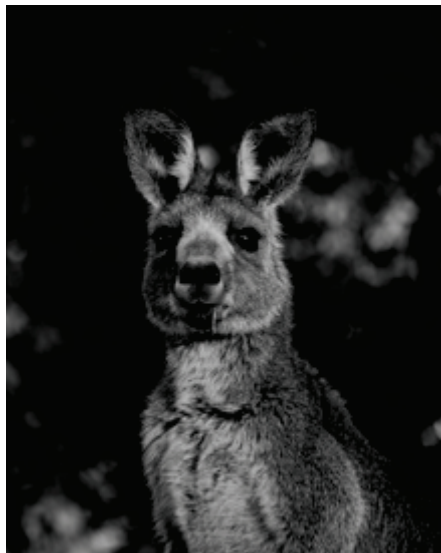
### SECONDARY first prize winners

Centre: Colour: Untitled by Jade Watts from Dickson College.

Right: Monochrome: 'Muncher' by Anna Henderson from Melrose High School.

Far right: Altered reality: 'Flower swirl' by Ari Matthews from Canberra College.

The Rangers Award went to Clare Russell from Dickson College with 'New Holland Honeyeater' (not shown).



Anna Henderson



Ari Matthews

# Friends Briefs (cont.)

## Friends Benefits

### As a Friend you are entitled to:

- Three issues of *Fronds* a year
- Three hour free parking pass

### Discounts at:

- Botanical Bookshop (most items)
- Pollen
- Jindii Eco Spa
- Cool Country Natives, Pialligo
- Australian Choice, Canberra Centre

### You also receive:

- Advance details of lectures
- Advance bookings for some events
- Discounts on some events
- ANBG library membership – borrow books, serials, videos and DVDs, and use computers and interactive CDs
- Special rates for functions at ANBG

### You can join:

- Botanic Art Group
- Growing Friends
- Photographic Group
- Plant Science Group
- Nature Journaling Group
- Assist with ANBG research projects
- Become a guide

And you can relax with tea/coffee and interesting reading material in the Friends Lounge in the Ellis Rowan Building, open 9.30 am to 4.30 pm.



Provided

Jay Nicholson and his colleagues surveying plants at Uluru-Kata Tjuta.

## Friends-funded scholars

The Friends of ANBG are currently providing support to three PhD students. The research topics and their significance to plant identification and conservation are described below.

**Jay Nicholson** is a PhD candidate at the Australian National University looking at how climate change is impacting culturally important plants at Uluru-Kata Tjuta National Park.

One of the world's most stunning and unique places, Uluru-Kata Tjuta National Park is one of the most at-risk to the impacts of climate change. Mass plant death has recently occurred associated with extreme drought and heatwave events. Anangu (Pitjantjatjara and Yankunytjatjara people, the Traditional Owners of Uluru-Kata Tjuta National Park) expressed concern about these events and a desire to understand how and why Country is changing.

Jay's PhD project investigates the vulnerability of culturally important plants to climate change, working with the Anangu to design each study and learn together how these plants cope with heat and water stress.

**Shelley Rowntree** is a PhD Candidate at the University of New England.

*Chrysocephalum* Walp. is a medium-sized genus occurring across all states of Australia. The Australian Plant Census currently recognises nine species of *Chrysocephalum* and two phrase-name species. In revising the *C. apiculatum/semipapposum* complex, Wilson (2016) recognised 29 and five subspecies, respectively, based on morphological characters. The subspecies are highly complex.



Shelley Rowntree

*Chrysocephalum* sp.



Shelley Rowntree

*Chrysocephalum* sp.

The project aims to answer the questions:

- 1) Does *Chrysocephalum* represent a cohesive genus? What is its relationship with other genera?
- 2) What are the limits of species within *Chrysocephalum*? What evolutionary processes explain the morphological complexity of the genus in eastern Australia?
- 3) What are the dominant processes affecting the breeding and conservation of *Chrysocephalum*?

**Tasha James** is a PhD Candidate at the University of Canberra and recipient of the Don Beer Memorial Scholarship.

Tasha will explore if and how endemic species on Mt Imlay – including *Eucalyptus imlayensis*, *Hibbertia circinata*, *Boronia imlayensis*, *Oxylobium ellipticum* and *Olearia rugosa* subsp. *distalilobata* – might persist in situ in the face of threats, including climate change, *Phytophthora* dieback, and recent intense fire.

Substantial resources are allocated to managing threatened and endemic species in situ, with an increasing reliance on ex situ conservation methods. Yet little is known about how different species will persist in situ in the presence of various threats.

Conservation methods such as establishing insurance populations are often approached with little information about population genetic structure or species biology.

This research will inform both ex situ and in situ conservation strategies and will advance the emerging discipline of 'conservation horticulture'.



Helen De Bray

## Visit the Gardens' birds

Visit the Gardens early in the morning, and discover some of the fascinating secrets of the Gardens' birds.

The Gardens are a hot spot for bird activity, with water and nectar in abundance.

On Saturday 1 or Sunday 2 March 2025, join experienced guides who will show you some of the favourite haunts of a number of birds, and tell you about their habits.

This event is specially for Friends members and their families (not suitable for children aged under 8). The cost is \$10.

**Bookings are essential.**

For further information and to book, see the Friends website [friendsanbg.org.au](http://friendsanbg.org.au)



AP11 ©M Fagg

*Hibbertia circinata* at ANBG

# Friendly Chatter

## Botanic Art Group

We are proud to acknowledge that one of our members, Judith Canon, won an Encouragement Award for her entry *Corymbia ficifolia* in the national Botanic Art Exhibition, CanAssist. Congratulations Judith!

For over 18 years now the BAG has successfully operated with a cooperative rather than a hierarchical structure. We have a number of people who volunteer to coordinate one of three sessions each month. The absence of a strict hierarchy means that coordinators are able to take absences for holidays and other family events without disrupting regular meetings, and more members are empowered to take leadership roles.

Other members volunteer for duties such as running workshops and organising exhibitions. Most recently we held four workshops for members: *Coloured Pencils* with Annette Dahler, *Beginning Watercolour* with Chris Meadham, *Framing Artwork* with Kristen O'Keeffe and *Botanical Nomenclature* with Glenda Shelley. All four tutors donated their time to share their knowledge and fees were donated to the Friends.

We are fortunate to have so many members who generously contribute to the running of the group.

An exhibition committee is also currently in the process of preparing for next year's exhibition from 5 April to 4 May 2025 entitled *Rainforest*.

None of these activities would be possible without the generous support of the venues team, rangers and horticulturalists at the Gardens. Thank you!

Email [botanicalart@friendsanbg.org.au](mailto:botanicalart@friendsanbg.org.au) for more information.

**Kate Ramsey**



*Corymbia ficifolia*, by Judith Canon

## Growing Friends

As we head into spring and summer in the Gardens, its many natives are unusually festooned with flowers. Growing Friends had their spring plant sale in October, adding more native plants to gardens in and around Canberra. Before 9.00 am when the sale started, there were 130 people in a very long line eagerly waiting for the plant sale to begin. Everything sold within 30 minutes of the sale opening.

Great help was received from the Gardens' rangers in setting up for the sale, which was much appreciated. The sale raised about \$7,000, all of which goes to the Friends for the benefit of the Gardens and its many projects.

Kath Holtzapffel, one of Growing Friends' original members and previous Convenor, and a Life Member of Friends of the ANBG, recently celebrated her 90th birthday. Growing Friends and other Friends, joined Kath at the Pollen Cafe to celebrate.

Growing Friends recently took delivery of a new propagation bed which will be used to trial new ways of propagating plants, especially from seed.

For more information about the plants that the group propagates for its sales, as well as how to join, please email [growingfriends@friendsanbg.org.au](mailto:growingfriends@friendsanbg.org.au)

**Donna Growcock**



Donna Growcock

Growing Friend Kath Holtzapffel celebrating her 90th birthday at Pollen Cafe.



Ranger Bruce

Visitors to the Gardens enjoy a Flora Explorer tour. With special thanks to the parents and children, Flora Guide Robyn and Ranger Bruce for the photo.

## Volunteer Guides

On weekends, public holidays and school holidays, visitors can enjoy the Gardens by taking a tour on the Flora Explorer bus. In this article Flora Guides share what they like about taking the Flora tours.

The Flora Explorer enables people with limited mobility to see a large portion of the Gardens and this makes driving the bus a rewarding and interesting experience for Jane.

Jane says a Flora tour is a great way for visitors to get a snapshot of Australian ecosystems, geography and flora.

Donna says she loves the connectivity with people and the great enjoyment sharing some of the amazing qualities and stories of the plants and the ANBG.

Jocelyn also likes to showcase the diversity and adaptation of plants from around Australia, including the non-cultivated section on Black Mountain with wildflowers from our local region.

Although the Flora follows a set route, the tour is always changing, depending on the seasons. Kris enjoys being a Flora Guide because the route covers such a wide range of constantly changing plant communities, from the rainforest to the Red Centre and everything in between.

During school holidays, Guides run the *Secrets of the Australian Bush* Flora tours for families with small children. Kris says it's wonderful to see how excited kids get about travelling on Flora, and Jill says the children are always coming up with interesting input and 'keeping us on our toes' with their questions and observations.

**Kerry Moir**

## Plant Science Group

There have been three very interesting talks given to the Plant Science Group in recent months.

In August Carol Dale, Senior Horticulturalist in the ANBG Nursery, provided a follow-up talk to the one she had given in July in which she discussed the work being undertaken, and the challenges being faced, by the Horticultural Staff in preparation for the opening of the new Conservatory.

In September Tasha James, a PhD candidate from the University of Canberra, updated us on the work she is undertaking on the distribution and management of three critically endangered species in a threatened island population at Mt Imlay, NSW.

In October Dr Pieter Arnold, a researcher from the Division of Ecology and Evolution at ANU, described his work on the thermal tolerance and sensitivity of Australian native plants, findings that will provide crucial information on the responses of plants under a changing climate.

In the final talk for 2024, John Turnbull, one of the long-term Friends of the ANBG, will focus on the exploration and domestication of the rainbow gum (*Eucalyptus deglupta*) and Timor mountain gum (*Eucalyptus urophylla*). In recent years these two species have been planted extensively in the tropics by farmers and commercial companies.

Whilst we hope there will be more interesting talks in 2025 we do need some assistance in sourcing speakers and also with the administration of the group.

If you are able to provide assistance or would like information on future talks, please email [plantscience@friendsanbg.org.au](mailto:plantscience@friendsanbg.org.au)

**Lesley Harland**

# Friendly Chatter (cont.)

## Photographic Group

The Photographic Group has been busy with the regular Friday gatherings and interesting guest speakers. In July we heard from the BirdLife Australia 'Birds on Farms' project. In August Graham Gall presented to a large attendance on all things macro photography. In September Phil Green and Steve Playford spoke about their post-processing techniques. The October meeting was our AGM which was followed by an image feedback and critiquing session held for and by members. In November we will hear from Rainer Rehwinkel on his recent travels in South Africa.

In September Helen Dawes, Graham Gall and Steve Playford performed as judges for the very successful ANBG 2024 Students Photographic Competition and Hedda Murray acted as official photographer at the presentation ceremony for prizewinners. Graham Gall presented at a well attended Friends Thursday Talk on his award winning approach to photographing Australian flora.

Several more weekend 'Cameras and Cafe' Gardens walks have been held and enjoyed by members attending. We have also continued to supply the Gardens' Social Media staff with high quality images for Facebook and Instagram.



Bee on *Grevillea petrophiloides*.

Phil Green



Five New Holland Honeyeaters and a *Banksia*.

Phil Green

The new banners at the Visitor Centre promenade feature images by group members and new images for the ANBG web site are in the pipeline.

*Illuminate 2024* is this year's annual photographic exhibition. Our exhibition includes plant portraits, close-up shots of flowers, birds and insects, intimate landscapes within the Gardens and fauna from our local region. All photographs exhibited are for sale and, given exhibition timing, they make great Christmas presents.

We will also have other items for sale, such as unframed prints, cards, fridge magnets and specialty calendars by individual members.

**The exhibition will be open to the public from Thursday 28 November to Sunday 15 December 2024, from 9.30 am to 4.30 pm at the ANBG Visitor Centre.**

The David Cox Memorial Award theme for this year is *Grevillea*. Each year the Friends Council purchases and donates a selected frame from the exhibition to the Gardens: a Ranger's Award and People's Choice Award will also be voted on.

Members have also been busy assisting the Council with photographing events.

**Phil Green**

## Nature Journaling

Nature Journaling meets on the first Monday of the month at 10.00 am at the Visitor Centre.

If you would like to join us, please contact [lespage26@gmail.com](mailto:lespage26@gmail.com)

**Lesley Page**



Rose Hurley

This issue's reflections from Nature Journaling is Sand-paper Wattle (*Acacia denticulosa*) by Rose Hurley.

# Gardens Shorts

## Royal visit

On Monday 21 October the ANBG had the honour of welcoming His Majesty King Charles III and Her Majesty Queen Camilla.

Branch Head Dr Rebecca Pirzl and ANBG Director Peter Byron were delighted to showcase Australia's unique biodiversity and highlight the role that the ANBG plays in conservation.

Joined by The Hon Tanya Plibersek MP, Minister for the Environment and Water, their Majesties toured the Banksia Garden and Rainforest Gully. As their Majesties walked through the Banksia Garden, they met with Ms Beverly Ardler and Mr Kain Ardler from the Wreck Bay Aboriginal Community who shared cultural knowledge of the value of *Banksia* species. Their Majesties then discovered the specialist skills and techniques used to grow Western Australian banksias in Canberra and how the Gardens is working to preserve Australia's flora.

Local students from Ainslie Primary School and Margaret Hendry Primary School demonstrated activities from the Plant Science Learning Hub education resource, such as germinating seeds in agar, extracting seeds from *Banksia* follicles using tweezers, and crafting air-distributed seeds using natural materials.

To commemorate their visit, their Majesties planted a Watergum tree, *Tristaniopsis laurina*, at the entrance to the Rainforest Gully assisted by long term volunteer, 92 year old Ms Doreen Wilson, and Minister Plibersek.

This visit marks a significant milestone, being King Charles' first as the Monarch of the Commonwealth, following his earlier visit in 1985 to open the Visitor Centre. What a memorable day for the Gardens!

A small group of staff, Friends and Volunteers were invited to farewell Their Majesties, and a student presented the Queen a native posy of flowers grown in the Gardens.



AP11 ©M Fagg



Department of PM&C



Department of PM&C



Department of PM&C

Top: Ms Beverly Ardler and Mr Kain Ardler from the Wreck Bay Aboriginal Community shared cultural knowledge of the value of *Banksia* species. Middle: Their Majesties planted a Watergum tree, *Tristaniopsis laurina*, at the entrance to the Rainforest Gully. Above: Students from Ainslie School and Margaret Hendry School undertook a number of activities. Left: Flowers and foliage of the Watergum tree, *Tristaniopsis laurina*.

# Gardens Shorts (cont.)



Tilda Joy



Tilda Joy



Tilda Joy

Friends Explorer backpack and contents. Friends Explorer Backpacks will be available to borrow from the Visitor Centre from December 2024.

## Friends-funded backpack

I have been coming to the Gardens since I was young with my grandma and have fond memories of walking amongst the incredible variety of native species found here. I'm now studying environmental science and design at ANU and was excited to be given the opportunity to help develop the children's Explorer Backpacks through the ANU Science Communication internship program.

The Explorer Backpacks offer a new way for young visitors to engage with the Gardens. Containing things like magnifying glasses, binoculars, a plant spotting guide and prompt cards, it is my hope that they will help engage families, encourage exploration, and spark wonder for Australia's environment.

This internship has been a valuable experience, providing insight into the operations of the Gardens, and helping me develop my skills as a children's illustrator and designer.

I was supported by the lovely visitor experiences team and want to give a special thanks to my amazing supervisor Amanda Coleman who made my experience so enjoyable.

I'm looking forward to seeing the backpacks in action and can't wait to see what the rest of my experiences at the Gardens will involve.

Tilda Joy

## Hire a venue at the Gardens

Are you hosting an event soon and looking for a venue? As a Friend of the ANBG, you are eligible for a 20% discount on ANBG Gardens venue hire.

Rooms include the Celia Rosser Room and Courtyard, The Solander Studio, The Dickson Room and the Theatre.

The offer extends to outdoors places, including the Brittle Gum Lawn, Burbidge Amphitheatre and Ducrou Pavilion.

To view venues or make a booking visit [trade.parksaustralia.gov.au/book/botanic-gardens](https://trade.parksaustralia.gov.au/book/botanic-gardens) Make sure to note your Friends membership when booking to receive the discount.

For further information or queries, please contact the Bookings Officer on 02 6250 9408 or [venues@anbg.gov.au](mailto:venues@anbg.gov.au)



Dickson Room

This light-filled venue is across from the Visitor Centre, close to the Cafe. Private courtyard, kitchenette. Max...

From \$400.00 AUD

Book



Banksia Centre - Solander Studio

Beside the Banksia Garden this venue is ideal for anything that may get messy. Hard floors and sinks...

From \$250.00 AUD

Book

## Banksia Garden update

Geoff is an ANBG horticulturist with a passion for banksias.

"Many banksias at the ANBG are from Western Australia. The soil there is sandy and coarse, allowing water to drain away. Much of Canberra's soil is heavy clay from volcanic activity in the Silurian period (400 million years ago). So we've had to work hard to replicate Western Australian soil conditions", Geoff said.

"Most banksias have woody fruit, putting them in the Proteaceae family along with *Grevillea*, *Hakea*, *Telopea* and others. But what sets banksias apart from their cousins is their distinctive flowers: tall, woody interiors and tightly packed flowers attached at right angles, and often serrated leaves."

The Banksia Garden has taken years of planning, landscaping and planting. "We have banksias from multiple latitudes, rainfall regimes and soil types all in one small patch of Canberra," Geoff said.

"Horticulture gives us the tools, blending soil science, botany, geology, hydrology and more."

"The team and I regularly trial new species and vary the planting conditions and positions with respect to sunlight and drainage. This knowledge will not only lead to a stable display in the Gardens, but also add to the body of scientific understanding of these iconic plants."



*Diuris brevissima*.



ANBG



ANBG



ANBG

The Royal visit gave ANBG a reason to expedite some work required in the Banksia Garden.

## How to know if an orchid is at risk of extinction

In September 2024, Tom Le Breton (University of New South Wales) and I presented an all-day workshop on extinction risk assessment as part of the 8th International Orchid Conservation Congress.

Orchids pose several challenges for extinction risk assessment. For example, many ground dwelling terrestrial orchids (such as many *Caladenia*, *Diuris*, *Prasophyllum* and *Thelymitra*) are visible above ground often only for part of the year and flower only for a few weeks, making them difficult to find (to estimate distribution) and count (to estimate population). In addition, orchids can pose a challenge for estimating generation length, delimiting subpopulations, subpopulation sizes where species can reproduce vegetatively, and in defining species with taxonomic uncertainty.

For a species to be classified as vulnerable, endangered or critically endangered it must meet certain criteria.

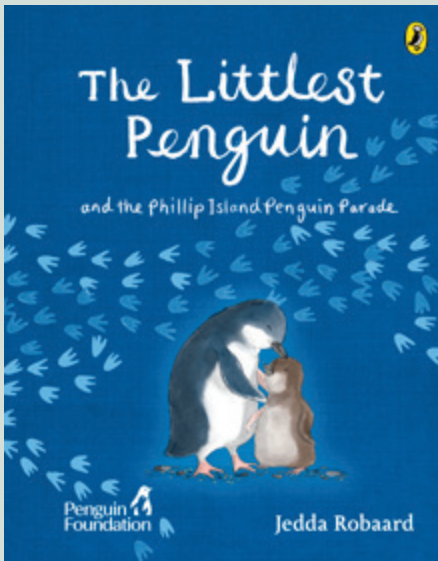
The globally accepted criteria are those of the of the International Union for Conservation of Nature (IUCN) Red List ([www.iucnredlist.org](http://www.iucnredlist.org)), which weigh up information on a species' geographic range, population size and declines (past, present or future).

Categories such as 'critically endangered' give us a common language to discuss extinction risk across different species and help us to prioritise conservation action, along with information on things like resource availability.

These issues and more were discussed during the workshop, solutions were volunteered by presenters and participants ... and by the end of the day, the workshop was functioning more as a community with a shared purpose. A short journal article describing our findings is planned.

**Heidi Zimmer**  
**Centre for Australian National**  
**Biodiversity Research**

# Botanical Bookshop book reviews

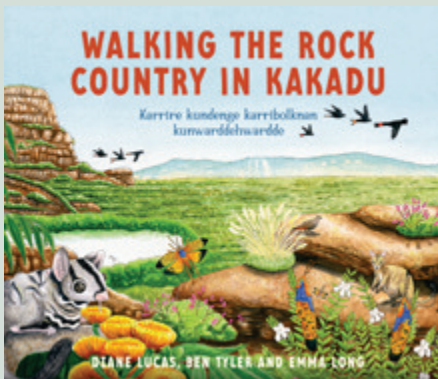


## **The Littlest Penguin and the Phillip Island Penguin Parade. 2023**

**By Jedda Robaard**  
**Hard cover, colour illustrations, 134 pages, \$25**

This gorgeous book was discovered on a trip to Phillip Island when attending the memorable and exciting Penguin Parade! It is a fantastic, very accurate summary of the experience of seeing the little penguins come waddling in from the sea and head for their burrows. We follow Little Penguin and his family and friends on their journey through beautifully descriptive text and hand drawn illustrations depicting their behavioural antics, including grooming, feather tidying, socialising and making a lot of noises (especially their distinctive 'huck, huck' sound).

Educational, uplifting and suitable for all ages, this book is a great addition to our collection. The Littlest Penguin is affiliated with the Penguin Foundation, which provides support to help protect the habitat of Phillip Island and surrounding coastal regions for future generations.

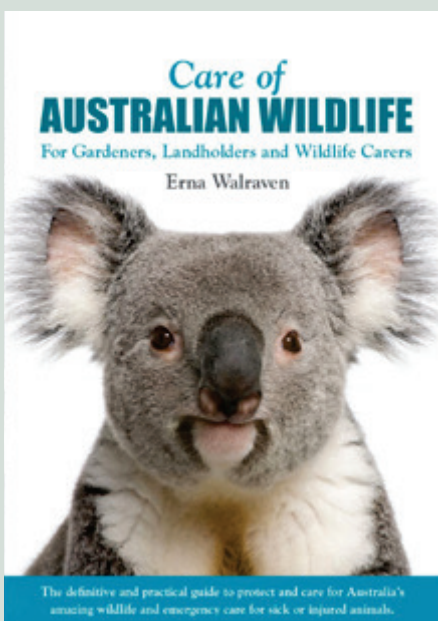


## **Walking the Rock Country in Kakadu: Karrre kundenge karri-bolknan kunwarddehwardde. 2024**

**By Diane Lucas and Ben Tyler. Illustrations by Emma Long**  
**Hard cover, colour illustrations, 34 pages, \$30**

Explore Kakadu's Rock Country with Ben as he walks through the beautifully illustrated Kunwarddehwardde (Arnhem Land plateau) in the Northern Territory. This book introduces readers, young and old, to the Kundjeyhmi language and culture. Each page delves into another wondrous part of Kakadu's ecosystem as Ben talks us through indigenous uses of native plants and stories of the wildlife from the clan groups of the area. A picture book filled to the brim with information, including a glossary, that takes the reader on a tour of Kakadu.

Another fabulous book by the same creators is Walking in Gagudju Country: Exploring the monsoon forest



## **Care of Australian Wildlife. 2023**

**By Erna Walraven. Illustrations by Rebecca Hale**  
**Paperback, black and white illustrations, colour photographs, 136 pages, \$30**

We have all come across injured wildlife out on the roads, or perhaps one of your regular backyard visitors is looking under the weather. If you are someone who would like to learn about looking after our fauna this book is the perfect first step. First published in 1999, this recently updated edition has everything you need to assist Australian mammals, reptiles and birds in their rescue and recovery. Find out about rehabilitation, diets, wildlife habitats, emergency first aid, preventing injury and releasing recovered animals. An accessible guide for those living in urban areas, as well as landholders and wildlife carers.

# What's on at the Gardens

## December 2024 to April 2025

Details are correct at the time of printing. Please check the Friends website [friendsanbg.org.au](http://friendsanbg.org.au) or the ANBG website [anbg.gov.au](http://anbg.gov.au) for changes and updates.

## Walks, Tours and Trails

### Guided Walks

**11.00 am and 2.00 pm daily**  
**Free\***

Enhance your visit and discover seasonal changes and hidden treasures in the Gardens with a Volunteer Guide.

### Self-guided walks

**Collect a map from the Visitor Centre to begin the trail**  
**Free**

### Flora Explorer Bus Tours

**Saturday, Sunday and Public Holidays**  
**11.30 am and 1.30 pm**  
**\$8 adult, \$5 child and concessions**  
**Book on ANBG website**

Sit back, relax and be taken on a 45 minute highlight tour of the Gardens.

### Book a Private Tour

#### Costs apply

Tour the Gardens with your own tailored guided walk or Flora Explorer bus tour to suit your special interests, or purchase as a gift. Conditions apply. For more information contact [bookedwalks@friendsanbg.org.au](mailto:bookedwalks@friendsanbg.org.au) or [floragroups@anbg.gov.au](mailto:floragroups@anbg.gov.au)

\*Meet at the clock near the cafe bridge. No booking required for individuals, but groups of more than six people should contact [walks@friendsanbg.org.au](mailto:walks@friendsanbg.org.au) a week in advance.

## Secrets of the Australian bush: A family adventure

**School holidays**  
**Book on ANBG website**

Discover the amazing secrets of the plants that live in the Australian bush on this family-friendly tour at the ANBG. This 1-hour tour is designed for children 4-10 years who must be accompanied by an adult.

## Storytime in the Gardens

**First Friday of the month**  
**10.00 – 11.00 am**  
**\$5 per child, adults and infants under 12-months free**  
**Crosbie Morrison Lawn**  
**Book on ANBG website**

Join us on the first Friday of every month for family fun with stories about Australian plants and animals. Each themed session is packed with stories, songs and craft. Suitable for pre-schoolers.

## Sunset Cinema

**21 November 2024 – 1 March 2025**  
**5.30 to 11.00 pm**  
**Eucalypt Lawn**

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

Visit the Sunset Cinema website for details [sunsetcinema.com.au/canberra](http://sunsetcinema.com.au/canberra)

## Removing woody weeds from Black Mountain and/or ANBG

**Saturday 6 December 2024, and 4 January, 1 February, 1 March and 5 April 2025**  
**8.30 to 11.30 am**

Weeding Work Parties are the first Saturday morning of every month. See details on the Friends of ANBG website for the meeting place for each party.

Please book on the Friends ANBG website, so there is enough delicious morning tea.

Email [friendsofblackmountain@gmail.com](mailto:friendsofblackmountain@gmail.com) for further information or phone Linda on 0437 298 711.

## Snakes Alive!

**3–19 January**  
**Four sessions per day**  
**10.00 am to 3.30 pm**  
**\$9 adults, \$8 concessions, \$7 child**  
**Banksia Centre**  
**Book on ANBG website**

The ACT Herpetological Association invites kids and carers to get up close and enjoy live displays of snakes, lizards, frogs, turtles, crocodiles and more.

## Bonsai Exhibition 2025

**22–23 February**  
**9.30 am to 4.00 pm**  
**\$5 adults, \$3 concession, under 12 years free**  
**Banksia Centre**

Have you ever wondered whether Australian plants make good bonsai? Well, bonsai artists think they do! This annual exhibition showcases the best of Australian bonsai from the local Canberra Bonsai Society. Banksias will be a special feature this year, along with many other Australian plants with over 40 bonsai on display. Demonstrations will be held at 11.00 am and 2.00 pm.

## Visit the Gardens birds

**1–2 March 2025**  
**7.45 am**  
**Cost \$10**

Especially for Friends members and family. **Bookings are essential.**

For further information, see page 15 or visit the Friends website [friendsanbg.org.au](http://friendsanbg.org.au)

# What's on at the Gardens (cont.)



## Growing Friends Autumn 2025 Native Plant Sale

**March TBC**

**9.00 – 11.30 am (unless sold out earlier)**

**Banksia Centre Carpark**

There will be hundreds of plants to choose from at the Growing Friends autumn sale: grasses, groundcovers, small and large shrubs. Plant lovers will be able to find just the right plant at only \$6 a pot.

All proceeds go to the Friends to support the Gardens. Sales by card only. See Friends website for details closer to the date.



## Exhibitions

**Visitor Centre Gallery**

**Open Daily 9.30 am – 4.30 pm**

**Free**

**28 November – 15 December**

### **Illuminate 2024**

The annual Friends Photographic Group exhibition includes plant portraits, close-up shots of flowers, birds and insects, intimate landscapes within the Gardens and fauna from our local region. The David Cox Memorial Award theme for this year is *Grevillea*.

**19 December – 19 January**

### **In the moment**

Sophie Baker delights in the gnarled transient beauty of Australian flora, fauna and the weather. She creates landscapes 'en plein air' striving to share her experience captured in a moment. As both an artist and biologist, Sophie is curious about what the landscape and its colour tells us about the ecology.

**January–February**

### **Botanical Connections**

Join local artist/printmaker Jo Hollier's exploration of her connection with the environment and a concern for the changes we see and experience.

Jo's work focuses on the beauty of small things. Native plants, birds, seeds, leaves, feathers and pods 'make their way' into her works. They represent an awareness of the vulnerability in nature a curiosity, interest and concern for the world around us.

**March TBC**

### **Frank Knight**

Join us to celebrate the long career of Australia's wildlife and landscape artist Frank Knight. Frank loves the arid landscapes and the way spinifex makes patterns in the sands. The exhibition includes works from the Pilbara and central Australia.

## Flowers, Fruit and Foliage

**All year  
Free**

The *Flowers, Fruit and Foliage* brochure is your self-guided tour to what's flowering in the Gardens. The current version is always available from the Friends' website [friendsanbg.org.au](http://friendsanbg.org.au)

You can print your own hard copy or pick one up from the Visitor Centre, or view the guide on a mobile device while in the Gardens.



# Thursday Talks

## February to April 2025

One hour talks are held at 12.30 pm every Thursday from February to November in the ANBG Theatrette. We welcome donations by gold coins, notes or electronically. The Friends use the donations received to support Gardens programs and development and thank all those who have donated.

It is a good idea to reserve a seat at the talks that you wish to attend; talks can book out very quickly. The booking link is on the [friendsanbg.org.au/calendar](https://friendsanbg.org.au/calendar) entry for the talk. Bookings can be made about 30 days in advance of the Wednesday night before the 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. Some summaries or PowerPoint presentations of talks are available from the ANBG library. Please direct queries to [talks@friendsanbg.org.au](mailto:talks@friendsanbg.org.au)

## February 2025

### 6 February

**Dr Roger Farrow**

#### **Plant recovery after 2020 mega-fires**

Roger, an unretired entomologist previously with the CSIRO, will describe the resilience of flora after the 2020 infernos in the Morton and Tallaganda National Parks. Five years on from the fires a complex pattern of succession is already apparent.



**Always welcomes Friends...**

...with a 10% discount on purchases over \$10 (including gift vouchers) on presentation of their current membership card.

No discounts given on redemption of gift vouchers or sale table items.

For more information please visit the Botanical Bookshop Facebook page, Instagram or website

**[botanicalbookshop.com.au](https://botanicalbookshop.com.au)**

### 13 February

**Dr Jane Roberts**

#### **Macrophytes in upland ACT streams: Overlooked and under-rated**

Jane trained in natural resources and botany and became an ecological consultant to government in vegetation and water management. She will present the findings of a survey done in summer 2022 on important but little known plants in upland streams of the ACT. By exploring the geographic patterns revealed in the survey, she will reveal the role of physical conditions, extreme environmental disturbances, and the legacy of past land use in their formation.

### 20 February

**Dr John Turnbull**

#### **Emigrant eucalypts: Successes and failures**

John, a former CSIRO forest research scientist and now an ANBG guide, will trace the spread of eucalypts throughout the world. Conservation and sustainability issues with eucalypt plantations in some countries will be discussed.

### 27 February

**Phillippa Alvarez**

#### **The bottleneck and the beginning of the plant universe: Thermal tolerance in the early stages of a plant's lifecycle**

Pip is the seedbank technical officer at the ANBG. She is looking at the thermal tolerance of seeds, freshly sprouted germinants and seedlings for her PhD thesis and hopes to determine the best conservation practices for them.



Phillippa Alvarez



Phillippa Alvarez

Above: Phillippa Alvarez is studying the thermal tolerance of seeds, freshly sprouted germinants and seedlings to determine if there is a point in a plant's lifecycle when it is most vulnerable to heat stress.

# Thursday Talks (cont.)

March 2025

6 March

**Brad Desmond**

**Small seeds, big impact: How dedicated small-scale projects can save Australia's threatened flora**

Join Brad from the Australian Seed Bank Partnership to discover the vital role of ex situ conservation in protecting Australia's most threatened plants. The presentation will include the goals of the partnership and highlight two small but powerful projects.

13 March

**Associate Professor Benjamin Schwessinger**  
**Pest monitoring in the ANBG**

Benjamin focuses on genome evolution and host adaptation of rust fungi in his role as associate director of the ANU Research School of Biology. He will describe how this team catch fungal spores from the air for plant pathogen diagnostics.

20 March

**Dr Luke Keogh**  
**Museum collections and Australia's gardens**

Curator and historian Luke Keogh will showcase some of the objects and stories about Australian gardens he has uncovered in his work with museums, focusing in particular on his recent work with the National Museum of Australia Collection.



Australian Seed Bank Partnership



Nic Vesers

Top: Small Flowered Conostylis (*Conostylis micrantha*), known from only 250 plants across 35 km of Western Australia, is the subject of the Seeds of Hope Project by the Australian Seed Bank Partnership.

Above: Ben Schwessinger (next to the 'sentinel') explaining how the air sampler works, and the research done on the samples, to a group of Gardens visitors.



@ian Sanderson

Lake George.  
(flickr.com/photos/iansand/30204097931)

27 March

**Associate Professorial Fellow**  
**Brad Opdyke**

**Paleoclimate records and stratigraphy from Lake George: What we can learn about climate change and our future**

Brad from the Research School of Earth Sciences will discuss the sedimentary record of Lake George

going back almost 4 million years. Pollen records indicate much greater rainfall in the past and are relevant to climate change. Also, the long written historical records show how swiftly the lake fills and dries out.

## April 2025

### 3 April

#### Dr Kylie Cairns

##### Dispelling the wild dog myth

Kylie, a researcher from the University of New South Wales, specialises in wildlife genetics and conservation biology. Cutting-edge genetics has altered our understanding of the dingo and its origins and is leading to policy changes about dingo management.

### 10 April

#### Professor David Lindenmeyer

##### A 25 year experiment to document the effects of large-scale plantation transformation on forest biodiversity

David, a world-leading expert in forest and woodland ecology, resource management, conservation science, and biodiversity conservation, has maintained some of the largest, long-term research programs into forests in Australia.

### 17 April

#### Dr Peter Fullagar and Chris Davey

##### Potential impacts of a rodent eradication program on Lord Howe Island lowland terrestrial avifauna

Peter and Chris, from Canberra Birds, will describe the extent to which a rodent control program caused a detectable change in abundance of birds on Lord Howe Island. They matched the avian response to rodent removal in terms of the known biology of species, particularly the Lord Howe Island Woodhen.

### 24 April

#### Emma Cooke

##### Breaking family ties: The genetic rescue of Canberra's Small Purple Pea population

Emma will discuss work done over the last nine years by the National Seed Bank, ANBG nursery, ACT Office of Nature Conservation and the Parks and



Provided



Provided

Top: Kylie Cairns is studying the genetics of dingoes to determine their origin and inform their management.

Above: Peter Fullagar and Chris Davey are studying the impact on birds of the removal of rodents from Lord Howe Island.

Conservation Service teams to collect seed from across the region, establish a seed production orchard, grow on established plants for translocation and design and implement a translocation plan incorporating both genetic rescue and ex-situ population formation of the Small Purple Pea.



Scott Woodard, ACT EPSDD

*Swainsona recta* planting, spring 2023.



*Friends* of the  
Australian National  
Botanic Gardens

*Helping The Gardens Grow*