

Friends of the Australian National Botanic Gardens
Number 80 August 2015





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Cosgrove

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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: Anne Rawson Printing: Union Offset Printers ISSN 1036 9163

#### Banksias in blankets



Western Australian plants and heavy frosts don't go well together, so Gardens' horticulturist, Rosella Hampshire, has wrapped these precious Banksia coccinia and B. baxterii in hessian cloth to protect them from frost over their first winter season in Canberra. During warmer days the cloths are removed and put back on again as soon as the forecast predicts frost. Sabrina Sonntag.

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Cover: Young leaves of the Birds' Nest Banksia (Banksia baxteri) Photo by Pam Rooney from Photography Group Exhibition.

#### Macadamia integrifolia in the ANBG

Toby Golson, Senior Horticulturist

The long growing season provided by the early start to the 2014-15 summer saw the now almost 50 year old Macadamia integrifolia (Macadamia Nut) in section 75 produce a large crop of edible fruit. (Section 75 is just south of the Top Depot.) Grown from seed collected in a suburban Brisbane garden by long serving ANBG botanist Ian Telford in May 1968, it is the oldest planting of the species in the Living Collection and has been flowering regularly for many years but only producing sporadic individual fruits over the last decade. This year it produced many hundreds.

The plant's cultivated origin diminishes its scientific conservation value but the species is nationally listed as threatened, a status shared by the other three species (M. jansenii, M. ternifolia and M. tetraphylla) in this endemic Australian genus in the Proteaceae family. Three of the four species are growing in the Gardens and we are hoping to obtain propagation material of M. jansenii in the future through the Macadamia Conservation Trust which aims to conserve the remaining wild Macadamia trees in their native habitat.

Despite its natural distribution in the now almost totally deracinated drier forms of subtropical rainforest between Currumbin Creek and Maryborough in SE Queensland, the species is obviously able to withstand the rigours of our climatic extremes, though I wouldn't recommend planting it in a frost hollow in the Canberra region!









Main photo: Macadamia integrifolia in Section 75 at ANBG. Small photos from top: M. tetraphylla by Robert FitzGerald published with permission of the NLA. (See page 8 for more on Fitzgerald at NLA.) M. integrifolia flowers; Nuts from ANBG tree.

#### VISIT THE RAINFOREST WITH TOBY

On 12 or 13 August, tour the Rainforest and hear about Toby's 92 collections brought back from Queensland. Friends only event. See Whats On for details.

#### Delicate by nature



There are only two known populations of the delicate, critically endangered, Pomaderris delicata, both in the Bungonia-Goulburn area. These two small communities have now been boosted by a planting of 500 specimens. This has been a joint effort between Goulburn Mulwaree Council, the NSW Office of Environment & Heritage and the ANBG.

The first attempt to propagate these plants was from a small number of collected seeds, but this was unsuccessful. So the next attempt was by cuttings. Given the ANBG's expertise with this technique, their assistance was sought, and 12 months later there were almost 600 healthy plants ready for translocation. Pomaderris may provide indications of how other Australian plants will respond to our changing climate in the future. These attractive and hardy shrubs, may also have commercial potential.



Happy planters

#### Collecting and connecting in Kakadu National Park

Seed Bank Manager, Tom North, has returned from a field trip to Kakadu where he's been helping with seed collections and training Park Rangers and Indigenous Work Crews in the practices needed to ensure that seed collected is useful in research and conservation projects. This training is part of On Country Training Australia.

It's a timely focus on training and collaboration given some of the important conservation projects now underway in Kakadu and the threats plant species are facing.

- As part of the Australian Seed Bank Partnership's (ASBP) involvement with the Global Trees Campaign, delivered with funding through the Millennium Seed Bank at Kew, 59 species of Eucalypt and Corymbia are being targeted for collection in Kakadu and the NT. As with all collections in this Campaign, they are new to seed banking and have not been well studied.
- Working on a jointly funded project with the Threatened Species Commissioner, A Rescue Plan for Kakadu's Threatened Plant Species will run over the next three years. Sixteen threatened species will be collected and propagated with the ultimate aim of planting out to augment existing populations under threat.



Ben Wirf, from George Brown Darwin Botanic Garden, with Craig Djandjomerr and Johnny Reid, Mudgingburra Work Crew, collecting Hibiscus falax, KNP

#### To the Rescue

Tom has also been establishing a strong partnership with George Brown Botanic Gardens (GBBG) in Darwin as they are a new members of the AASBP (see Fronds No 78 Dec 2014) and are setting up a new Seed Bank for the Northern Territory.

The new partnership with GBBG had an unexpected twist when, on a joint field trip near Jim Jim Falls, GBBG

#### The seedy side of

Nursery Manager, Ben Wirf, suffered a debilitating muscle tear. With Tom deftly administering first aid in the field and the helicopter nearby to effect the rescue, the success of the new partnership was on a very firm footing!



Immobile Ben Wirf with Simon the helicopter pilot, North Australia Helicopters.

#### Rust-Ready!

The destructive Myrtle Rust disease is now ominously close to Kakadu. With the disease already known to be on Melville Island, there is great concern at the vulnerability of the many Myrtaceous species in the Park. Seed banking of these species is a priority as it may allow them to be reintroduced in the worst case scenario of a species 'wipeout'.

On this trip, some of the Myrtaceous species that grow on Kakadu's sandstone heaths were targeted for seed collection. Seeds of the pretty pink-flowering Lithomyrtus kakaduensis, already a species at risk even without the presence of Myrtle Rust, are now safely stored in the National Seed Bank at the ANBG.



Lithomyrtus kakaduensis

#### life in the Gardens

#### **Entering the Eureka Prize**

Two Friends, Fanny Karouta-Manasse and John Fitz Gerald, have entered the New Scientist Eureka Prize for Science Photography. This prestigious competition recognises and rewards outstanding science photography. The emphasis in judging is on creativity in communicating a science concept or idea. First prize is \$5000. Prizes will be awarded at a blacktie event at the Australian Museum in Sydney on 26 August. Fanny's photo is of one seed of Epacris paludosa taken on a scanning electron microscope at the ANU and John's is of an array of seeds of Gonocarpus micranthus illustrating the challenge of finding an 'average' seed. Good Luck to John and Fanny!

#### **Under the Microscope**

The Seed Bank is now equipped to take high quality digital images of seeds and has started building an image reference library of its collection. It may take some time to complete, given there are about 6,000 samples of 3,500 taxa in storage! And with the seed collection growing by 300-400 accessions per year, just keeping up with new incoming material will be a challenge.



Fortunately, Seed Bank volunteer, John Fitz Gerald, has mastered the equipment (a Nikon SMZ25 microscope) and the techniques for creating this new, scientifically useful record of the collection. That his images are usually also beautiful, or sometimes quirky, is just an added bonus.

John tells us it's all about z-stacking. This is a modern photographic technique of taking a series of images of an object, each with the camera a slightly different distance

from this object (ie moving the plane of exact focus along what is called the z axis) and then combining the in-focus regions of each image to generate a final image where everything is in focus. While this is a painstaking process for the home photographer, the Seed Bank equipment in the hands of a skilled operator can produce a stacked image in a matter of minutes. One of the these images was stacked from a series of seven, but an image for a serious scientific work may combine as many as 100 images.







Not a seed but Allocasuarina torulosa. Above on the left are stems showing the brownish male flowers, on the right the magnified image as seen through the microscope on the screen by John Fitz Gerald. Below the image magnified even further, with seven stacks, and some whitish, tiny pollen grains visible on the brown bit. The measure  $\mu m$  is a micrometre; there are 1,000 micrometres in a millimetre so the subject in this picture is about a millimetre wide!



#### New nursery benches for Growing Friends

Andy Rawlinson







Dan & Dan at work

Andy Rawlinson, Judy West, Lesley Jackman and the new metal benches.

Old sleeper beds

Early in 2014 the Growing Friends were asked if some surplus nursery benches from the ANBG nursery could be used as a better support basis for the propagated plants being raised. It was agreed they would be an improvement but the existing raised 'sleeper beds', which had quite substantially degraded, would need to be removed first. These beds were installed in the 1980s as part of the (now named) Banks Building for people with disabilities to have some hands-on propagation experience. A meeting was arranged with David Taylor and Phil Hurle who agreed in principle to our plan but could not commit any staff or other resources to the project as the ANBG were working furiously to finish the new Asteraceae Garden. I was asked if I would manage the project, to which I agreed.

Soon after this meeting a large limb fell from a Eucalypt tree which damaged one corner of the support structure for the shade cloth. The needed repairs were done and we took the opportunity to extend the shade cloth cover to allow for a fourth row of benches.

The removal of the sleeper beds was beyond the abilities of Growing Friends volunteers. We would need help! And lots of it. Quotes were obtained from two external contractors and Council agreed to fund the project to \$7,510. The contract was awarded to *Dan & Dan Landscaping*. As it turned out *Dan & Dan* was already on the ANBG site in early May repairing roads and walls, so it was efficient for the work to commence then.

The new benches will be both easier to use (good height) and to maintain (keep clean). Being made of metal they

will also not rot as the previous sleeper beds had done.

Thanks to all the ANBG staff who made this project run so smoothly and to *Dan & Dan Landscaping* who did a good job and left the site clean and tidy with nothing left for us to clean up.

I would like to thank the Friends' Project Committee and Friends' Council for their support in funding this project, and also Phil Price who helped me considerably with the new bench installation. Ailsa George was invaluable with the shuffling of the plants and maintaining order amongst the chaos.

An 'official opening' was held on Thursday 18 June with special guest Dr. Judy West and Friends' President Lesley Jackman presiding. Friends' Council, the Projects Committee, and all ANBG staff were invited to attend with afternoon tea supplied by the Growing Friends.

Feel welcome to join our normal monthly meeting that is held on the first Saturday of each month at 9.00am during spring and summer and 9.30 in autumn and winter in the Joseph Banks Building. We also have a working bee on the third Tuesday of each month.

#### SPRING PLANT SALE

Saturday 14 November at 8.30 Crosbie Morrison carpark

Examples of some of the spring flowering plants for sale will be on the Friends website closer to the date



bourne BG. Campsis 40 May 2013.



Amorphophallus titanum (Titan Arum) at Mel- Leaf sculpture by Warren Pickering at Aust. Arid Japanese Garden at North Coast Regional BG, Lands BG, Pt. Augusta. Campsis 43 Nov. 2014.



Coffs Harbour. Campsis 37 November 2011.

#### Visiting Australia's botanic gardens

Anne Rawson, intrepid botanic gardens' explorer

We thought the Botanic Garden at Wagga Wagga was tiny. That's because we started in the Shakespeare Garden which is about ten metres square with plots of flowers mentioned in the plays in the corners, but no bust of Bill. The rainforest boardwalk is about 20 metres long. The camellia garden is a bit bigger with a pond and a pagoda donated by the Chinese Embassy, but the flowers were dead and drooping. We had our sandwiches and I looked at the brochure and discovered that the Garden is in fact 20 hectares with a big native plant section, rose garden, succulents and water wise gardens. But we went on our way.

Over the River from Mildura and down the road from Wellington is the much bigger Australian Inland Botanic Garden with sweeping lawns, beds with plants from all parts of the world, a large rose garden, extensive Australian plantings and the WOW tree, a 2,500 year old Eucalyptus oleosa or Bull Mallee. While both Councils were involved in the Garden's beginnings (as was John Wrigley) we were told that these Councils are now not overly generous, so the Friends are very busy.

In Adelaide we were impressed by the Victorian glasshouse full of strange and ugly plants from Madagascar, surrounded by beds of weirdly beautiful succulents. Some years ago we were visiting just when the Amazon water lily was flowering. This was pretty impressive but not nearly as impressive as the Amorphophallus titanum (Titan

Arum) in the Tropical Glasshouse at the Melbourne Botanic Garden, where in 2013 we queued for over an hour to see this spectacular short-lived inflorescence.

On the way home we went to Daylesford and in the rain drove past mature trees round the bottom of a conical hill that is the Wombat Botanic Garden. I was glad it was too wet to clamber up and down this steep hill. The gallery in the historic convent at the bottom of the hill was a relief. Finally we called into the new Australian Botanic Gardens Shepparton, built on an old rubbish tip with a big metal daisy on top. The one paid employee and droves of workers for the dole have done major engineering works with many paths and gambions (rocks in cages) going up the hill. At close quarters the daisy was an irrigation wheel and we looked down on a garden that was miniature paddocks representing local agriculture, the Indigenous weaving garden and the incipient wetlands.

The Friends of all these gardens, except Wagga, are members of the Australian Association of Friends of Botanic Gardens, as are we. There are 58 members in all states but most of them are in Victoria where many Gardens were established in the 1800s. You can read all about them in the AAFBG's twice yearly publication Campsis, (of which I am editor) in the Friends' lounge or on the Friends' website. And on your next holiday plan to visit some of these beautiful gardens.



November 2011.



Stony Range Regional BG Dee Why. Campsis 37 Moama Echuca BG Moama, NSW. Campsis 38 May 2012.



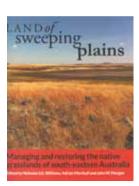
Perrenial Border at Geelong BG. Campsis 42 May

## From the Bookshop with Bookshop staff



Photographic Guide to
Native Plants of the
Australian Capital Territory
Meredith Cosgrove
\$45
Paperback, 360 pages,
colour photographs

This incredibly detailed new book covers 327 native plant species and subspecies found in the ACT and region. Seven years in the making, this field guide features one species per page with information covering distribution, key identification features, habitat, flowering and fruiting. Life-size scale bars are also featured for key parts of each plant. It includes an outline of the habitat types of the ACT, a map of the region, a list of plant families by colour, a visual glossary, a list of characters used in Eucalyptus identification and a handy glossary. It is easy to use and comprehensive. Meredith Cosgrove is a PhD student at the ANU, studying evolution of native plants. She has worked on the Australian Plant Census at CSIRO.

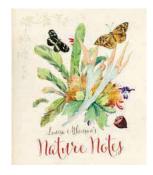


Land of Sweeping Plains: Managing and restoring the native grasslands of southeastern Australia Edited by Nicholas S.G. Williams, Adrian Marshall and John W. Morgan Paperback, 450 pages, colour photographs. \$59.95

Native temperate grasslands, Australia's most threatened ecosystems, are threatened by urban expansion, agricultural intensification, weed invasion and the uncertain impacts of climate change. Practical, easy to read and richly illustrated, *The Land of Sweeping Plains* combines the current scientific literature with the grassland knowledge of experts in ethnobotany, ecology, monitoring, planning, environmental psychology, community engagement, flora and fauna management, environmental restoration, agronomy, landscape architecture and urban design. This new publication provides a detailed understanding of native grassland ecology, its management challenges and solutions and, importantly, inspires engagement with this critically endangered ecosystem.

#### **Nature Notes**

Reviewed by Margaret Clarke



Louisa Atkinson's Nature Notes Published by the National Library of Australia in association with The State Library of NSW, 2015. ISBN 978-0-642-27860-9 \$34.99 (paperback)

*Nature Notes* is an insight into the inquiring mind of mid-19<sup>th</sup> Century Australian naturalist, journalist and novelist, Louisa Atkinson.

A tuft of pendulous green fronds caught my eye. Fern-gatherers will understand the eager nervous fingers which grasped them as if they were a living thing which would presently elude the extended hand: not so however.

This is how Louisa began to describe her encounter with the Birds-nest fern, *Asplenium australaticum*. It is just one of the many ways this book combines selections from her charming nature articles, published in Sydney newspapers, with drawings and paintings from her numerous sketchbooks.



This is a visually attractive book, combining large font, italic text on a parchment-look background, to give the impression of a field scrapbook. Principally organised by season, Louisa's keen observational powers are applied across the full range of flora and fauna she encountered, mainly around her home in the Blue Mountains of NSW. Not scientifically trained (indeed she lamented the use of taxonomic nomenclature as detracting from nature's charms), she was none the less a valued contributor to the work of scientists of the day including Ferdinand von Mueller. Thanks to von Mueller, several species (a Kurrajong, *Erechtites atkinsonia* and a Mistletoe, *Atkinsonia ligustrina*) now honour her name. A companion piece essay about her life and accomplishments by Penny Olsen gives historical context.

This is a lovely book for dipping into as the seasons change and to inspire a fresh look at the natural world.

#### **Guides in the Gardens**

Christianna Cobbold

In addition to leading the regular walks and Flora Explorer tours, the Guides have been busy over the winter months preparing for Tree Week and spring. For Tree Week, which was from Monday 20 July to Sunday 26 July, there were two special walks offered at the Gardens. For the twice daily free walks an Iconic Trees walk was offered every day during the week. With over one third of Australia's plants growing in the Gardens this walk enabled visitors to see and learn more about a number of our Iconic tree species including: the tallest flowering plant Eucalyptus regnans from the cool temperate rainforests of Tasmania; the Queensland bottle tree (Brachychiton rupestris); the ancient Bunya pine (Araucaria bidwillii) from Gondwanaland; the tallest Grevillea commonly called the Silky Oak (Grevillea robusta); and the delightful Lemon Myrtle (Backhousia citriodora), among others.

Guides from the ANBG, including some who guide at the Arboretum, prepared a walk called 'Linking Trees: ANBG



Iconic E. regnans

to the Arboretum' which was offered several times during Tree Week. Sixteen of the forests at the National Arboretum are Australian native trees and this walk enabled visitors to see 14 of them in their mature form and learn more about them and why they were chosen for the Arboretum.

In conjunction with the ANBG and Floresco, the guides will be offering 'Spring Flower' themed booked walks to visiting Coach Tours. These walks will focus on the flowers in the Gardens during Floriade and booked groups will enjoy a meal at Floresco as part of the experience. Over winter the guides prepared a variety of routes through the Gardens for differing levels of mobility which will ensure that visitors are able to see a wide selection of flowering plants during their one hour walk.

#### **Breakfast with** the Birds

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

During Floriade (19 September to 11 October) we offer an early morning walk at weekends. Join us for a 90 minute guided walk to see many of the Gardens' amazing birds. This is followed by a delicious hot breakfast at the Gardens' café, Floresco.



Yellow Robin by Ann Eldridge

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

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

See What's on, page 19 for dates, times, and booking information.

#### Advance Notice for new Guides

Become a voluntary guide in the ANBG. Advertisements seeking applications from people interested in becoming a voluntary guide will appear from 1 September. More information will be available on the ANBG website and through the Friends at that time. If you would like to receive notification of the advertisement please email: guides@friendsanbg.org.au.









#### Planning the

Peter Byron, G

The Master Plan for the Australian National Botanic Gardens was launched on the 25 June by the Hon. Bob Baldwin, Parliamentary Secretary for the Minister for the Environment. The launch included the announcement of \$5 million funding over the next three years to start the implementation of the plan.

The Master Plan provides the framework for the Gardens' future infrastructure needs supporting enhanced visitor experiences, and advanced horticulture and research capabilities over the next 20 years. It gives a long-term vision that will ensure the Gardens remain at the forefront of contemporary gardens world-wide.

A key objective of the Master Plan is to develop new infrastructure and attractions to support the growth of the Gardens' visitor experiences, educational and recreational opportunities without impacting on the precious living collection. The Master Plan focuses on the following precincts of the Gardens:

Core Precinct: aim of this area is to focus on welcoming visitors, enabling them to quickly orientate themselves and plan their visit. Emphasis has been placed on developing a central hub featuring the Visitor Centre, Cafe and Function Centre, Event Amphitheatre and Nature Play Terrace.

**Northern Precinct:** a range of functions will be consolidated into a new integrated-service zone, including the new National Seed Bank and maintenance depot.

**Bushland Precinct**: this zone will focus on ecotourism and a treetop adventure course, utilising the bushland setting. An initial development will be a walking track that links to the National Arboretum.

Implementation of the Master Plan will enhance the character of the Gardens. It will integrate the existing landscape with the built environment. Utilising the existing footprint of our current buildings, it will not impact on the living collection.

The Master Plan will create new memorable experiences and visitor destinations such as the Nature Play Terrace situated in the core precinct, attracting families and engaging children in educational and adventure play.

A new Conservatory will be constructed near the Visitor Centre, which through its outstanding architectural design will become an iconic feature of the Gardens. It will display plants from Australia's tropics as well as threatened species, and provide spaces for educational and visitor experiences.

#### next 20 years

eneral Manager

A key objective of the plan is to deliver increased horticultural and research capabilities such as the new National Seed Bank—a world class facility commensurate with the Gardens' international best practice in seed banking, reflecting the critical importance of the work that is undertaken there.

A planned program of public art will be integrated into the landscape to add layers of meaning and content for

The Master Plan will be implemented over a 20 year period, or sooner if funding becomes available, with many projects planned to be undertaken in the next five years. To bring the Master Plan to fruition we will be establishing a range of fundraising campaigns supported by capital funding from Parks Australia.

The completed Master Plan provides creative and sustainable directions for the Australian National Botanic Gardens that will greatly improve a most valuable cultural asset.

The full Master Plan report can be downloaded at www. nationalbotanicgardens.gov.au/gardens



Artist's impressions taken from Master Plan: Bridge to Visitor Centre; New National Seed Bank (to be developed in Stage One); Conservatory (also in Stage One); View of Visitor Centre from Cafe lawn; View of Rainforest Gully from Visitor Centre; Map of the Core Precinct.



It's our Silver Anniversary! The Friends have been supporting the Gardens for 25 years. So join us on Thursday 1 October to enjoy some of the fruits of our labour:

- Explore the newly-lit Red Centre Garden at night
- Enjoy wandering through the mistily lit rainforest
- Ride Flora Explorer through the Gardens at dusk
- See some of our gifts to the Gardens
- Share drinks, nibbles and memories!







The celebrations proper will begin at 5.30 pm at the Visitor Centre where there will be a photographic display of some Friends funded projects, and some of the activities of our special interest groups. Prior to the celebrations at 4.30 pm, come for a walk to some of the items we have donated, including the Cascades, Rock Garden shelter, sun dial, and Daisy Garden. See a list of all our gifts at: www.friendsanbg.org.au/friends\_funded\_projects.







Get involved: send us a photo of your favourite place in the Gardens with a few words about it, or a story about a family event, or a plant that has some special meaning for you...(email to: newsletter@friendsanbg.org.au or drop in Friends letterbox in Visitor Centre). We want to create a display to show what the Gardens means to us all.

Our anniversary celebration is on Thursday 1 October, with Guided tours beginning at 4.30 pm, celebrations beginning at 5.30 pm

Bookings: This is a free event for all Friends, but we need to know if you are coming. Please email (acceptances only) to events@friendsanbg.org.au with your name, phone number and email (or leave a message on the Friends phone: 6250 9548), and let us know if you will be attending the 4.30 pm guided tour, as well as the celebrations at 5.30 pm. RSVPs must be received by Monday 28 September. Further details will be provided on the website and via email nearer the event.

#### **Botanical art at NLA**

Jonette McDonell

On 17 June 40 Friends viewed amazing botanical illustrations and watercolours by artists Robert David FitzGerald (1830-1892), Adam Forster (1848-1928) and Ida McComish (1885-1978). Catriona Anderson and Barrie Hadlow introduced the artists, and with their NLA colleagues showed us their works.

Members of the FitzGerald family were present and chatted about their ancestor and his works. FitzGerald was a civil engineer and an ornithologist who arrived in 1856 from Ireland. He was an enthusiast for Australian natural history. FitzGerald became an avid studier of orchids following a trip to Wallis Lake north of Newcastle, where he saw magnificent clumps of dendrobium. We handled the illustrations, safely enclosed in mylar sleeves, and gazed at the exquisite hand coloured lithographs in FitzGerald's *Australian Orchids*.

Ida McComish was a watercolour painter with a passion and enthusiasm for natural history. We saw one of Ida's eight specimen albums, within its shiny wooden cover. It is in a very fragile state and contains a collection of fruit and flowers accompanied by colourful illustrations.



Friends examining and exclaiming over the paintings of Adam Forster.

Adam Forster arrived in Australia in 1888 changing his name from Carl August von Wiarda. He had a strong interest in botany and from 1915 onwards travelled widely and indulged in his naturalist obsession. The illustrations reveal his strong interest in botany and skill in illustrating Australian wild flowers. It was a joy for us to see *Wild Flowers of Australia* (1938) by Thistle Harris.

Some Friends were lucky enough to pick up copies of Christobel Mattingley's book on Forster and Penny Olsen's on FitzGerald. We can explore the digitised works by these artists via the NLA's website and online catalogue. A future visit can be to our Library at the ANBG which has some of FitzGerald's work. See page 3 for one example of his work.

#### **Botanic Art Groups**

Helen Jensma

This year's exhibition was said to be the best yet and we received very positive feedback from our visitors. Thank you to the 35 artists who contributed 89 paintings to the exhibition. Fifty paintings were sold and the commission of \$3,373 was donated to the Friends.

A small committee worked to organise and set up the exhibition assisted by BAG members and staff from the Gardens. As this was our eighth Exhibition, we are getting it down to a 'Fine Art'. The overall success of the exhibition is attributed to the work of many talented and helpful people.

Wendy Antoniak's large painting of Eucalypt Leaves and Leonie Bubb's *Banksia heliantha* were purchased by the Friends and presented to Judy West for the Gardens' artwork collection.

The raffle was particularly successful with Vivien Pinder's painting of Native Lilies as first prize. The support of the Bookshop with their \$50 gift voucher was appreciated as was the donation of greeting cards from several BAG members.

The exhibition is the culmination of work done at painting days at the Gardens. We appreciate the work of the Rangers who collect specimens for us and the members who help. Painting days are very enjoyable and informative and we encourage all Friends to come and see what we do.

In recognition of the work of Helen Fitzgerald, a well known teacher and mentor to many of the members, we asked her to open the Exhibition. She talked about solving problems in Botanical Art. We thank her for her advice and her contribution to BAG.

This year the BAG members are participating in workshops organised by Maria Boreham and Wendy Antoniak. These have been very popular and are available for beginners through to more advanced students. We look forward to a new selection of workshops for next year and encourage interested Friends to join BAG.



A page of one of Ida McCornish's books at the NLA.

#### Photographic Group

**Graham Brown** 

The Photographic Group's Exhibition 'Focus on Nature' got off to a great start with Lesley Jackman, the President of the Friends, speaking at the launch in the Visitors Centre on 27 May. The Exhibition, which ran through the month of June, attracted significant interest from members of the public and resulted in a number of new members joining the Photographic Group. The Exhibition also provided some financial support to the Friends through sales of framed and unframed prints and cards.

The exhibition displayed photographs of native fauna and flora plus landscapes in the Gardens, birds, mammals and insects. It was encouraging to see so many visitors and to hear their praise for the quality of the works.

Members of the Photographic Group spent many hours



At opening of exhibition.

staffing the exhibition and during that time forged new friendships and participated in lively discussions about the various photographic techniques used and the diversity of the subject matter.



Lechenaultia formosa by Fanny Karouta-Manasse



Lomatia silaifolia by Pam Rooney



Cross cocky by Ann Eldridge





www.botanicalbookshop.com.au

always welcomes Friends! with a 10% discount:

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

(no discount on redemption of gift voucher)



where friends meet to eat

#### Open every day (except Christmas) 8.30 am-4.30 pm

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

Floresco Bookings - (02) 6248 9680 www.floresco.inthegardens.com.au

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# Garden

#### **Executive Director's** report

#### Master Plan

The formal release of the Master Plan in the past week has been met with a lot of interest, and the Open Day on Sunday June 28 was well attended. A separate article about the Master Plan is included in this issue. We are very pleased that the Australian Government has allocated an initial five million dollars over three years to assist with implementation of the plan. This will enable designs of key facilities to be initiated and will provide leverage to help secure further funding from corporate and philanthropic sectors.

#### Gardens turns forty-five

This year marks the Gardens' forty-fifth birthday since opening to the public on 20 October 1970. We are investigating a range of activities to commemorate and celebrate the occasion as we look ahead into the future with the Master Plan.



Hon. Bob Baldwin, Parliamentary Secretary for the Minister for the Environment, launching the Master Plan on 25 June.

#### Threatened species and ex situ collections

With some financial assistance from the Threatened Species Commissioner we are running a project to assess the genetic diversity of the 300 EPBClisted critically endangered, endangered and vulnerable species growing in the ANBG. This involves tracking plant materials through propagation lineages in our databases, ground truthing the status of individual plants in the Gardens, followed up with checking wild populations in the field to assess the representation of our ex situ collections compared with total diversity of the species. In the long term I anticipate this enhanced information of our ex situ threatened species will help the Gardens take more strategic decisions on particular species for which we may need to incorporate further accessions, or in some cases sharing responsibility for conservation of species with other botanic gardens.

Judy West

#### **45th Anniversary Celebrations Sunday 25 October Open Day**

Explore behind the scenes. Enjoy live entertainment and family activities. A day for all the family.

#### Other activities during **October**

Horticultural Chats – each Thursday during October

Gardens' Reflections - an outdoor exhibition during October highlighting how the Gardens have changed over the past 45 years with an opportunity to share your photographs and stories.

Birthday Cake with current and former staff - Tuesday 20 October

Check Gardens' website for more details

#### Dinosaurs in the Gardens

A unique interpreted discovery trail through the Gardens will give visitors a one-of-a-kind opportunity to explore the world of dinosaurs and Mesozoic fossils of Gondwana during National Science Week. The Gardens has partnered with the National Dinosaur Museum to bring this trail to life. The trail will introduce visitors to the evolutionary history of plants using the dinosaur models as a drawcard highlighting the living plants around them as links to the past.

Understanding how plants have evolved and altered the planet over time is crucial to figuring how plants might respond in a rapidly changing world. The trail will run as part of National Science Week from 14 – 24 August 2015.



The Gardens' own Jurassic Park.

#### **Education Rangers'** inspiration

Education Rangers at the Gardens offer programs for school groups, both during the day and also after dark. A few of these dedicated Rangers reflect on what inspires them in their jobs.

'My passion is teaching young Australians about the science of Australian plants and there's no better classroom than ANBG, especially at night. Lurking



around in the dark leads to many 'light bulb' moments and there's nothing more gratifying than when (interstate) kids go out of their way to say "Thank you, that was awesome; the best thing we've done in Canberra". Bruce Driver.

'It's the plants and their associated animals...day and night they are a magnet, it's education...wanting to share the delight of it all and it's my colleagues....an eclectic group of amusing, environmentally dedicated team players. It's...a student who tells me...I don't want to leave, this is the best day I have ever had. A teacher who tells me ... this fits in exactly with our curriculum and it's my colleagues who are just great fun to work with. It is simply addictive. Barbara Schreiner. 'As an educator I aim to build on the child's or adult's sense of wonder as they are put in touch with the real world that they are part of.' Pat Wright.

#### **Aboriginal trail**



The Aboriginal Plant Use Trail has been redesigned and is now open again. The trail highlights a selection of plants used by Aboriginal groups in different parts of Australia. Indigenous cultures of Australia trace back to the oldest living cultural history in the world. It is acknowledged that one of

the reasons Aboriginal people have survived has been their relationship with their surroundings, including plants, and their ability to adapt and change over time.

Indigenous people's knowledge of plant use, such as an ability to identify and locate edible and useful plants. has been critical to their survival. The trail at the Gardens is one way that this knowledge can be shared with and appreciated by people today. The updated trail was generously supported by the Friends Public Fund.

#### **Revamped Seed Bank**



The National Seed Bank (NSB) has a new look after renovations funded by the Director of National Parks, to accommodate a range of new equipment and a growing team of NSB scientists. students and volunteers.

The building has had many changes; from an early focus on orchid research, to a facility for horticultural research, and its current role as the home of the NSB. The laboratory facility is where the NSB and Centre for Australian National Biodiversity Research's seed research program is conducted.

Some of the latest equipment added to the lab from the generous support of the Friends Council and Friends Public Fund includes a new growth chamber for germination testing under different climate regimes, an extension of the freezer-space used for long-term storage, and a seed counting machine (pictured above) to improve efficiency in processing seed collections.

Garden Shorts contributed by Sabrina Sonntag

# Friends

#### From the President

The Friends exist to help the Australian National Botanic Gardens across the range of its activities. We thought that in this introductory column it might be useful to discuss some of the ways in which the Friends provide assistance.

Each year, the Friends raise money, as well as providing in-kind support, to help the Gardens. Support has ranged from the modest costs involved with the purchase of books for the ANBG library to much larger expenditures on Flora Explorer, lighting in the Rainforest Gully and the Red Centre Garden, and also the dazzling pavement art that you can see in the Red Centre Garden. There is now a very informative list on the Friends website about the uses made of Friends money since 1990; this can be found at: www. friendsanbg.org.au/friends\_funded\_ projects

Looking ahead, planning is now underway on another project that was mentioned in the April issue of Fronds. Two areas of the melaleuca swamp



Friends' President, Lesley Jackman, speaking to the media at the Master Plan launch.

have been selected as possible sites for a commission to create a 'unique, magical, whimsical site-specific gazebo among the trees', to be elevated within the vegetation or tree canopy level.

The gazebo will provide an informal wildlife-watching platform for early morning bird watchers and walkers, and a resting place and shelter from the heat or rain. It is also planned as a place of imagination and delight for children visiting the Gardens. Work is expected to begin late this year and the project should run for about 18 months.

Lesley Jackman

#### Friends' AGM Thursday 8 October

The 2015 Annual General Meeting of the Friends of the ANBG will be held on Thursday 8 October. Refreshments will be served in the Dickson Room from 5 pm, and the AGM will be held in the Theatrette from 5.30 pm. The President. Treasurer and Executive Director of the ANBG will report on the year just ended, and elections will be held for vacant Office-bearer positions, that is, the Treasurer, and two Council members. In addition, the agenda will include an award of life membership and consideration of the revised and amended Constitution of the Friends. All financial Friends are welcome to attend. Immediately following the AGM, Ms Sally Barnes, Director of National Parks, will discuss the exciting new 20-Year Master Plan for the Gardens that was launched on 25 June.

#### **Plant Science Group**

The Technical Talks, on the first Monday morning of each month (bar Public Holidays) have covered:

- 'World-class wilderness: exploring the unknown plant diversity of the Kimberley region' presented by Dr Russell Barrett, Australian National Herbarium
- 'Making a Photographic Guide to Native Plants of the ACT: putting digital botanical databases to work',

- presented by the author Meredith Cosgrove
- 'Lichens: colour and chemistry' presented by Heino Lepp, Australian National Herbarium
- 'The ACT Rare Plant List' presented by Dr Greg Baines and Dr Michael Mulvaney, Conservation Planning & Research, ACT Government.

A small group of ten visited the Herbarium and we have established a subcommittee comprising: Anne Campbell, Maureen Connolly, Murray Fagg, Lesley Harland and Diana Kirby. Further information is at: friendsanbg. org.au/activities\_plantscience

Anne Campbell

#### **Forest Music**



On Thursday 7 May the ANBG hosted Forest Music, a musical treasure hunt inspired by Roland Peelman, the 2015 Director of the Canberra International Music Festival.

Single and small groups of musicians were scattered at 15 sites, from the Rainforest to the Red Centre, providing gentle sounds to add to the beauty of the natural surroundings. Visitors were encouraged to find where the sounds were coming from—a solo trumpet, a wind ensemble in a gum tree, voices in the rain forest gully, a treble voice with solo violin in a tepee, unusual percussion instruments—15 delightful surprises in total. Dr Judy West delivered a fine lecture linking the gardens and the arts. It was an imaginative and thoroughly enjoyable event and worthy of an encore.

Marjorie Lindenmayer

## More Friends gifts to the Gardens

























## What's on at the Gardens

August - December

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

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

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

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



#### Friday 7 August 10-11 am and first Friday every month

Enjoy stories and craft activities in the Gardens. \$5 per child. Suitable for pre-schoolers. Follow the signs from the Cafe bridge.

August - Book Week stories Sept – Flower fairies and magical folk October - Birthday stories November - Summer stories

#### afterDARK tours Saturday 8 August and first Saturday of every month



Experience the sights, sounds and smells of the Gardens' native flora by night. These specialised tours reveal various biodiversity and habitat regions including the Rainforest Gully which boasts a striking thematic lighting display. Bookings are essential as numbers are strictly limited. Prices and full details at: www.anbg.gov.au/gardens/whatson

#### **Until Sunday 30 Aug Exhibition 'Canopy'** 9.30 am - 4.30 pm **Visitor Centre Gallery**



'Edge 1' etching 56x48 cm

An exhibition of drawings and prints by renowned Canberra artist John Pratt. John was a founding member of the Mt Ainslie Weeders Park Care group and the exhibition features works inspired by the flora and fauna of Mount Ainslie and the artist's connection to this local nature park. All works are for sale and the proceeds go towards revegetation efforts by the Mt Ainslie Weeders. Raffle tickets for one of John's works are available throughout the exhibition. For more information contact: mtainslieweeders@gmail.com

#### Thursday 6 August 12.30 pm Chris Davey & Kathy Eyles 'The gang-gang special survey'

Chris and Kathy from the Canberra Ornithologists Group will tell us what has been learned from the 2014 Ganggang cockatoo survey.



#### Wednesday12 and Thursday 13 of August 10 - 11 am Walks in the Rainforest with Toby Golson

Friends are offered an opportunity to see and hear about the 92 collections made by Toby Golson and Julie Percival on their trip north to Queensland rainforest last September. As a thank you to Friends for the assistance given to the expedition Toby will take us through the Rainforest. Bookings via email to: events@friendsanbg.org.au (or leave a message on the Friends phone 6250 9548) giving your name, email and phone number.

#### Thursday 13 August 12.30 pm Lori Gould 'Re-greening the Capital Region'

Lori, scientist with Greening Australia, will talk about community and landholder engagement in Boorowa River recovery and Canberra's recovery from bush-fire.

#### **National Science Week Dinosaurs in the Gardens**



#### Saturday and Sunday 15 & 16, 22 & 23 August at 11.30 am and 1.30 pm

A rare opportunity to participate in a prehistoric 'discovery' trail exploring the world of dinosaurs and Mesozoic plant fossils of Gondwana. Presented in association with the National Dinosaur Museum and National Science Week.

Pick up your self guided booklet from the Visitor Centre or book into a guided tour led by ANBG and National Dinosaur Museum education staff.

Cost - \$12 per person

#### Thursday 20 August 12.30 pm Dr Brian Cooke 'A rabbit's progress: from the Crusades to Barwon Park'

Brian will describe his research at CSIRO into control and management of wild rabbits in Australia's arid zone and on sub-Antarctic islands.

#### Thursday 27 August 12.30 pm Meredith Cosgrove 'Oh the humanity: rarity in plants, with examples from the ACT flora'

Meredith. PhD student at the ANU and author of 'Photographic Guide to the Native Plants of ACT', will give an overview of the process that threatens plants, with examples from the local flora, in recognition of National Threatened Species Day.

#### Sunday 30 August 10.30 am **Sunday Story Session with ACT Storytellers**

Escape into the Gardens with a guided storytelling experience exploring the themes of 'Fire and Light in the Australian bush'. Finish your session in the Red Centre Garden toasting marshmallows over a fire. Adults \$20 Children and Concessions \$15. Booking essential.



#### Wed 2 Sept – Sun 11 Oct **Exhibition of Timber Sculptures** by Dirk Lejeune **Visitor Centre Gallery**

These extraordinary sculptures were recently displayed at the Bungendore Woodworks. This photo was taken from their website which is at: www.bungendorewoodworks.com.au



#### Thursday 3 September 12.30 pm Catriona Anderson 'What a lot about Wattles: Wattles in the Pictures Collection of the National Library of Australia'

Catriona has experience in the Picture Collection and Reference service areas of the NLA and will describe images of wattle held by the NLA in the Picture Collection, in recognition of Wattle Week.

#### Thursday 10 September 12.30 pm Dr Matt Colloff 'Flooded forest and desert creek: the fascination of the River Red Gum'

Matt, Principal Research Scientist, Land & Water, CSIRO, will talk about the history and ecology of the River Red Gum and why we are fascinated by Australia's most widely-distributed eucalypt species.

#### Thursday 17 September 12.30 pm **Third Alison McKenzie Memorial** Lecture Geoffrey Dabb 'Ten birds of Canberra'

Geoffrey, a life-long bird watcher and observer in ANBG for over 35 years, will look at bird art and photography of ten birds, common and rare, recorded in ANBG.

#### Thursday 24 September 12.30 pm Dr Ken Hodgkinson 'Restoring Canberra's native grasslands by fire: the science and people issues'

Ken, a plant ecologist, will make the case for prescribing fire to improve the survival of native plants in urban and peri-urban Canberra.

## Breakfast with the Birds



#### September: Saturday 19, Sunday 20 Saturday 26, Sunday 27

October: Saturday 3, Sunday 4 Saturday 10, Sunday 11

#### Meet at Visitor Centre at 7.45 am

The ever-popular program is celebrating its 12th season. An excellent opportunity for early morning access to the Gardens to view birdlife with a knowledgeable guide, followed by breakfast in Floresco Café. Bring binoculars if you have them. Walk will only be cancelled in extreme weather conditions. Please note: this walk is not suitable for children under five years.

BOOKING: www.friendsanbg.org.au on Home page under Coming up, or Friends phone: 6250 9548 ENQUIRIES: birds@friendsanbg. org.au

COST: \$32.00 for Friends and \$35.00 for others

#### Thursday 1 October 12.30 pm Jerry Olsen 'Raptors of the ACT'

Jerry, author of many papers and books on Australian raptors, will talk about the 14 raptor species that breed in the ACT.

#### Thursday 1 October Friends Silver Anniversary

Day of exploration, discovery and memories. See page 11 for all the details.

#### Sunday 4 October 10 am and 1.30 pm

#### Orchids walks on Black Mountain

Meet at the car park on Caswell Drive (head south towards Glenloch interchange). Join Tony Wood to discover some of the spring flowering native terrestrial orchids. Some off-track walking so wear sturdy shoes. Bring a hand lens if you have one. Numbers are limited to 15 for each walk so early booking is essential. For more information and to book ring Tony on 6254 1795. The afternoon walk is a repeat of the morning walk.



#### Thursday 8 October 12.30 pm **Sherry McArdle-English 'Truffles** in the ACT region'

Sherry, successful Canberra truffle grower, will describe her delightful journey with Snuffles, the truffle dog.



#### Saturday 10 October 9.30 am to 12 noon or later 44th Black Mountain spring wildflower ramble

Belconnen Way entry just before Caswell Drive turnoff - watch for balloons. Celebrate the spring flowering on Black Mountain and discover the diversity of tiny orchids, bush peas, wattles and billy buttons on easy bush tracks with experienced guides and good company. Friends of Black Mountain welcome all comers. We plan four guides with helpers and will take different directions. BYO morning tea, water, hat, sunblock and stout shoes

BOOKING ESSENTIAL to ensure we have enough guides. Contact: friendsofblackmountain@gmail.com or Jean Geue on 6251-1601.

#### Friday 14 October to Sunday 8 November Friends 2015 School Photo Competition **Visitor Centre Gallery**

Annual exhibition of student photographs taken in the Gardens.

#### Thursday 15 October 12.30 pm Darren Le Roux 'Biodiversitysensitive cities: fact or fiction'

Darren, a PhD candidate in the Fenner School, ANU, will ask whether cities can find strategic ways to balance socio-economic interests with wildlife habitat.

#### Thursday 22 October 12.30 pm Dr David Shorthouse 'STEP: a regional botanic gardens for the southern tablelands - from vision to reality'

David will talk about Southern Tablelands Ecosystem Park (STEP) and its collaboration with the National Arboretum and community groups to develop Forest 20 as a special place to visit.



#### What's on

#### Sat 24 and Sunday 25 October 8.30 am to 5 pm both days Nature photography workshop with Steve Parish OAM **Crosbie Morrison Room**

Fifty years of experience behind a camera and marketing to millions via an array of media and products have given Steve Parish a unique background in photography. This workshop will broaden and enhance skills as they apply to landscape, plant and animal photography and will challenge to consider using alternative styles. www.steveparish-natureconnect.com.au Visit Gardens website for more Steve Parish activities during October

#### Sunday 25 October Open Day to celebrate the Gardens' 45th birthday.

See page 14 for more details.

#### Thursday 29 October 12.30 pm Doug Laing 'The mysterious baobab'



Doug, retired diplomat and volunteer guide at ANBG, will explore the ecology, distribution and lore of the baobab, from ancient times to the present.

#### **During November and December** Sunset Cinema, Eucalypt Lawn

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

#### Thursday 5 November 12.30 pm Dr Brett Summerell 'Root rots. rusts and water moulds: invasive diseases in botanic gardens'

Brett, Deputy Executive Director at Sydney Royal Botanic Gardens, will focus on some of the key plant diseases affecting Australian plants in botanic and home gardens.

#### Wed 11 Nov - Sun 6 Dec **Exhibition of Rare Books Visitor Centre Gallery**

An exhibition of rare books from ANBG library in association with Australian Systematic Botany Society annual conference



#### Thursday 12 November 12.30 pm Dr Roger Farrow 'Travels through the world's oldest desert and beyond'

Roger, formerly from CSIRO Entomology, will describe plant life encountered on a trek through Namibia and Botswana, with an evolutionary perspective.

#### Thursday 19 November 12.30 pm Atticus Fleming 'AWC: from Bilbies and Bettongs to Gouldians and Grasswrens: implementing a new model for conservation in Australia'

Atticus, chief executive of the Australian Wildlife Conservancy, will explain the AWC model for conservation to reverse the decline in Australia's wildlife.

#### Friends' Benefits

As a Friend vou are entitled to: Three issues of Fronds a year Three hour free parking pass Botanical Bookshop - a discount on most items Discount at Floresco cafe Discount at Jindii Eco Spa You also get:

Advance details of lectures Advance bookings for some events

Discounts on some events ANBG library membership borrow books, serials, videos, DVDs plus use of computers and interactive CD ROMs

Function facilities – special rates for functions at ANBG

And opportunities to:

Join Botanical Art Groups, **Growing Friends** Photographic Group Plant Science Group

Assist with Gardens research projects

Become a Guide

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

#### Thursday 26 November 12.30 pm Dr Helen Cleugh 'Australian climate change and earth system science: research to support a productive and resilient Australia'

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