

CALGAROO

July 2023



Eucalyptus parramattensis - Calgaroo

**Newsletter of the Parramatta and Hills District Group
Australian Plants Society NSW Ltd**

Our vision: inspiring people to admire, grow and conserve native plants

What's on in 2023

5 July Wednesday:	Propagation
22 July Saturday:	Visit Mt Annan Botanic Garden – see page 2
2 August Wednesday:	Propagation
26 August Saturday:	Bushwalk
13 September Wednesday:	Propagation
23 September Saturday:	Members' meeting at Gumnut Hall, Gumnut Place Cherrybrook.
11 October Wednesday:	Propagation
28 October Saturday:	Bushwalk Vineyard Creek Dundas. Leader Jennifer Farrer.
8 November Wednesday:	Propagation
25 November Saturday:	Members' meeting and end-of-year celebration
6 December Wednesday:	Propagation

If you'd like to come to our propagation days at Bidjiwong Community Nursery and haven't been before, you can get full details from Lesley Waite - phone 0438 628 483

Visit to Mt Annan Botanic Garden

Pip Gibian

On Saturday 22nd July our group has planned another all-day event, to visit the Mt. Annan Botanic Garden in Narellan, south of Sydney. We have hired a local community bus to save members from the long drive. Ben has a bus licence and has offered to chauffeur us. Thank you, Ben!

We are to meet at 9.15 am at the Church of the Nazarene, 87 Kenthurst Road, cnr of Bushland Place, Kenthurst. We can leave our cars, parked in Bushland Place, for the day. The cost of the bus will be \$10 per person, to cover the cost of hire, petrol and the toll on the M7. It is essential to register your intention to come with Pip - email pgibian@tpg.com.au. The bus holds 20 people, and seats will be booked on a first-come first served basis. Bring your lunch, nibbles and drinks, although some food is available at the gardens. The weather is looking fine but a bit cold. The bus will leave Kenthurst at 9.30 am sharp. Obviously, members may drive in their own cars if desired.

Mt Annan is very large, and there is plenty to see. Initially, we should park in the main car park, acquire some information and have morning tea. Opposite the main buildings is a large garden, completely renovated in recent years. It is likely to be very interesting. There is a main road circuit that passes through various gardens dedicated to one type of plant, e.g. the Banksia Garden, the Callistemon Garden, and so on. We can drive to some of these, inspect, admire and learn. It can be very informative to see a mature specimen of the little thing you intend to plant in your own garden, or to simply be amazed by the endless variety of our native flora. There are also scattered picnic areas for our lunch. We can walk a little way from the bus to view the Wollemi Pines, planted in a very steep gully. As well as gardens, Mt Annan houses two very important facilities, the Plant Bank and the NSW Herbarium.

The Plant Bank is part of the worldwide network rushing to save seed of all the plants on the rapidly-mounting list of plants at risk of extinction. The Herbarium of NSW was housed in the Royal Botanical Gardens in the city. All was moved to the new, purpose-designed building at Mt Annan, which opened earlier this year. The Plant Bank has a very interesting foyer, full of information and specimens. I understand the new Herbarium also has an open foyer. Whether we manage to see all of this remains to be seen.

Looking forward to seeing as many of you as possible. It should be a great day.

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Challenger Track – bushwalk 24 June 2023

Ian Cox

Thanks to Philip Grimm, I now know why this walk is called the Challenger Track. It runs towards Challenger Head, the headland in Broken Bay. Challenger Head is named after HMS Challenger, a square-rigged sailing ship and scientific research vessel that in 1872 embarked on a three-and-a-half-year voyage from England to the furthest corners of the globe, reshaping marine science, unearthing all manner of underwater oddities, and permanently changing our relationship with the planet's oceans. You can read more about HMS Challenger and its amazing journey [here](#).

When Lesley and I did this walk in October 2022 there were flowers everywhere - the standouts being *Boronia serrulata*, *Darwinia fascicularis* and the three Grevilleas – *G. speciosa*, *G. buxifolia* and *G. sericea*. Today, there weren't as many plants flowering, but more than enough to keep us interested.

On this sunny winter's morning, 16 of us enjoyed this delightful bushwalk.

The vegetation for the first three-quarters of the walk is heath. Imposing specimens of *Eucalyptus haemastoma* and *Corymbia gummiferum* are dotted about. *Banksia serrata* is common, and *Banksia ericifolia* is in full flower. Everywhere you look there's something of interest - lovely rocks, great vistas, imposing trees, evocative flowers. As you get nearer the end of the walk, you're going through a forest of Eucalypt, Turpentine and Allocasuarina. At the very end, we sat on rocks to absorb the super view of Broken Bay and the entrance to the Hawkesbury.

We ticked off the plants as we saw them from Tony Maxwell's list, and added quite a few new ones. We got to over 70 species, too many to list here.

After the walk some of us drove to the end of West Head Road and enjoyed lunch and each other's company at the picnic area, in the close company of Brush Turkeys, Ravens and Magpies. The lookout was closed today due to roadworks.

Thank you to Alicia Morgan, James Indsto and Ricki Nash for these great photos:



Ereostemon australasius



Banksia ericifolia



Banksia ericifolia



Styphelia tubiiflora



Banksia serrata



Grevillea sericea



Grevillea speciosa



Darwinia fascicularis



Pterostylis daintreana



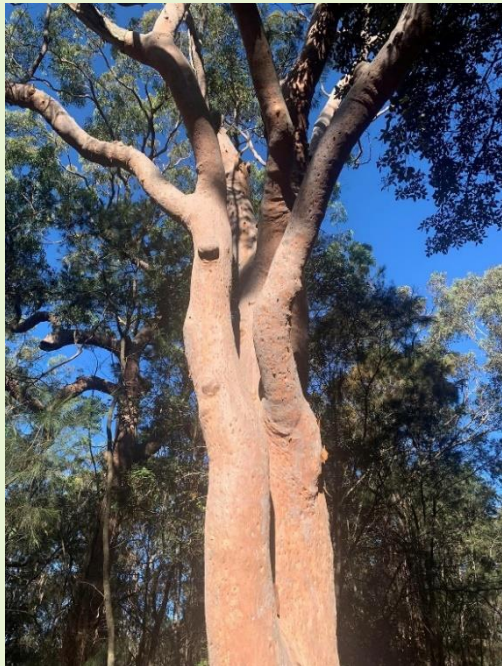
Sandstone cave



Acacia suaveolens



Hakea teretifolia



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Recognising plant species: biological vs phylogenetic concepts

From Sutherland Group's newsletter May 2023 – by Rhonda Daniels, from Peter Olde's notes:

We give names to plants to give them an identity, but much is unresolved and botany has transformed over time. There are two different approaches to recognising species and subspecies, which affect naming.

We used to think of a species as meaning no interbreeding, known as the biological species concept, which tended to be based on visible morphological differences.

Now, we can study species in the context of evolutionary history and genetics, known as the phylogenetic species concept, where species are units of evolution. A phylogenetic species is a population having a shared and unique evolutionary history. Most *Grevillea* subspecies are good phylogenetic species. Because slight differences can usually be found, the concept tends to encourage the division of species into ever-smaller groups. Peter says he tends to be a splitter, rather than a clumper.

Today we have the tools to reconstruct evolutionary history. We can separate a plant's genes from its morphology, which can yield some surprises about evolutionary history and relationships.

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***Exocarpos cupressiformis* (Native Cherry)**

What's it doing here?



This *Exocarpos cupressiformis* is growing in Annangrove Park, not far from the cricket/soccer fields. It's a bit of a surprise to find it here. Normally, we find it on bushwalks a bit further away from civilization.

It has a few dead branches, no doubt from the drought three or so years ago, but the verdant new growth shows that it's now thriving.

This species is what we call 'hemiparasitic'. It can photosynthesise, but gains extra nutrients by attaching its roots to host plants. Here, it has probably attached itself to the roots of the nearby Ironbark eucalypts.

There's a lot we don't know about these strange plants. They've been found to be almost impossible to propagate or transplant.

You can read more about *Exocarpos cupressiformis* from *The Conversation* by clicking here: [*Native cherries are a bit mysterious, and possibly inside-out.*](#)

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This article was first published in the Australian Flora Foundation's newsletter of January 2014, and is reproduced here with Rodger and Gwen's permission.

Following plant passions by being garden volunteers at the Australian Garden at the Royal Botanic Gardens, Cranbourne, Victoria

Rodger and Gwen Elliot*



The brilliantly-coloured Sand Garden with its circles of *Rhagodia spinescens* and North Line of *Chrysocephalum* 'Golden Buttons' contrasts with the displays of variously-coloured Kangaroo Paws, *Anigozanthos* hybrids and other shrubs.

The Australian Garden at the Royal Botanic Gardens Cranbourne, designed by Taylor Cullity Lethlean with Paul Thompson, was named 'World Landscape of the Year' at the prestigious World Architecture Festival Awards for 2013.

The World Architecture Festival Awards are regarded by many as the "Olympics of Architecture" and this was one of three major awards announced at a gala dinner in Singapore on October 4th, 2013.

The jury commended the project, saying "This garden brilliantly summarises the great variety of Australian flora, as well as the large part of the country which is arid desert. Like a botanic garden, it is a collection of differences, but with a strong unifying set of journeys through the various landscapes. This landscape stood out with its originality and strong evocation of Australian identity without having to use any signs or words - just the beautiful flora of Australia's countryside!"

The Australian Garden occupies an area of 15 hectares, in what was previously an old sand quarry. It is set within the Royal Botanic Gardens Cranbourne which has a total area of 363 hectares, the majority of which is superb native bushland, now surrounded by housing developments. The Royal Botanic Gardens Cranbourne was established in 1970, and is the younger sister garden of the Royal Botanic Gardens Melbourne.

Stage 1 of the Australian Garden was opened to the public in May 2006, and Stage 2, which completed the construction, was opened in October 2012.



The Lily Pad Bridge leads people from the Gondwana Garden to the Northern Exhibition Gardens. The Gardens Explorer transporter does circuits of the Australian Garden about every 30 minutes, and there are six stops en route allowing passengers to get on and hop off wherever they select.

As with all Botanic Gardens around Australia, and indeed the world, their success is dependent to a very significant extent on the contribution of volunteers.

This is not a one-way street, however. Involvement in gardens as volunteers offers rich rewards through enhancing lifestyles and the forming of many valuable friendships. When a garden is filled with Australian plants this is a further enticement for all native plant enthusiasts.

It is not necessary to have extensive plant knowledge to be a volunteer in Botanic or Community Gardens. There are plenty of tasks for all, and opportunities to learn so much as we share with other enthusiasts. Many public gardens have their own plant nurseries, and here we can learn how to propagate both easy-to-grow plants and some of the more challenging ones. Volunteers can start by perhaps sowing seed or doing cuttings of the many easy-to-propagate plants in groups such as the daisies. As we learn from others who are more experienced, we will be ready to tackle the more challenging species including many that are regarded as difficult from the Proteaceae family.



Angophora costata and *Acacia salicina* form a backdrop to the lunettes of the Sand Garden, with a range of shrubs from the Dry River Bed in the foreground.

At the Royal Botanic Gardens Cranbourne, the 'Growing Friends' nursery recently needed to be demolished to make way for a new Depot and Administration Centre. They say that *'Every cloud has a silver lining'*, and for the Friends at Cranbourne, this has meant a new nursery site with a much larger workshed, all funded by the 'Growing Friends'. The growing area is now being set up with a sturdy overhead wire canopy to protect the plants from the numerous possums sharing the site. The members were delighted when a private donor funded this project. Some of the plants produced have been planted on-site, while others have been grown specifically for the local City of Casey. Numerous schoolchildren visit the Gardens, and part of the program provided is usually to give each student a plant to take home. There are also three plant sales per year and proceeds from these sales help to fund the activities of the Friends Nursery and other projects within the Botanic Gardens.

If you are not into the actual growing of plants, there are many other tasks in which Friends groups are always seeking volunteers, from staffing the office and perhaps an information desk, to participating in special events throughout the year, or even in the packing and posting of newsletters.

At Cranbourne some groups concentrate on the collection of seed produced within the Botanic Gardens, the pressing of plant specimens for the Herbarium, the recording of birds seen on the site, botanical art, photography, and there's also a sewing and quilting group with a concentration on Australian plant fabrics and designs.

Garden Ambassadors and Guides help visitors who come to the Gardens, and some members of the Friends also assist the staff in providing lectures to visiting groups. These may be on particular subjects such as plants that are indigenous to the area, native plant

gardening, gardening in particular areas such as coastal regions, bush food plants, plant identification or specific workshop days on one genus such as Acacia or Grevillea, or a family of Australian plants such as Fabaceae or Orchidaceae. There is an excellent relationship between the staff and members of the Friends group, and this is extremely important if activities such as those mentioned are to work smoothly and be well received. The Friends' all-day workshops are held in high regard, and are often used by staff as part of their training and development program.

There are also opportunities for supporters of our public gardens to become involved on several committees and boards. Rodger Elliot was a member of the Royal Botanic Gardens Board for over 15 years, and was involved with the development of the Australian Garden at Cranbourne from the early stages, when a brief was prepared for landscape architects to present their designs. He is no longer a Board member, but continues as a member of several RBG committees.

For some time, the Elliots had been thinking that by living at Heathmont, a 45-minute drive from Cranbourne, they should really consider reducing their "road miles" for the sake of human wellbeing, as well as from an environmental point of view. It just so happened that they had a look at a unit in Berwick in January 2013, and agreed to purchase it the next day. As Berwick is just a few kilometres north of Cranbourne the move has reduced their travelling time by more than half.

They are certainly not the first people to make such a move, and personally know two other couples who have moved to the Cranbourne area recently, primarily to be closer to the Botanic Gardens. It does make a lot of sense. Botanic Gardens, Regional Gardens, State and National Parks all have a real need for enthusiastic volunteers, and everyone has so much to gain from being involved. If you don't live close to the area of your involvement, or where you would like to be more involved, it is certainly worth considering your passions and interests if you are ever thinking of moving house.

*Rodger and Gwen Elliot are recipients of many awards and honorary life memberships, too numerous to list here, for their huge contribution over several decades to the horticulture of Australian plants. They were both awarded membership of the Order of Australia (AM) in 2001 in recognition of their outstanding roles in the promotion of our flora.

Very few people (if any) in this country would know as much about the propagation and cultivation of native plants as Rodger and Gwen. They owned and operated both wholesale and retail nurseries specializing in native plants from 1963 to 1992, and are authors of several books featuring Australian plants.

Rodger and Gwen are always willing to share their vast knowledge of native plants, and have done this for many years during appearances on radio and television gardening programs, and as guest speakers, lecturers and educators, workshop presenters, tour guides, office-bearers, and contributors to local and overseas horticultural publications.

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Hakea bakeriana is one of my favourite native plants.

Mine started flowering in May, and will continue throughout winter. It puts on a spectacular display each year, and flowers best on the old wood.

It's a very old plant - I got it from Hugh Stacy as a seedling 20+ years ago. Hugh was an expert on Hakeas. Some of my plants remind me of people!

Hakea bakeriana grows naturally between Newcastle to just south of the Hawkesbury River.

Our Propagation Group has this species – so watch out for it at our plant sales. We've planted one at the Community Environment Centre, Annangrove, and it's growing well.

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Forest floor magic

From Wild Blue Mountains Facebook. Photos Teresa Sanchez

In the dim depths of the rainforest at Coachwood Glen, on the way to Megalong Valley, lies a magic carpet of colourful and quirky fungi, cool green ferns and mosses, and intricate lichens.

Giant Coachwood and Sassafras trees stretch their limbs to the light above, Pulpit Hill Creek winds its way through the valley, and a variety of birds including lyrebirds, scrub wrens, whip birds, and fantails forage in the trees and undergrowth.

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Wollemi Pine



A pleasant surprise! I didn't expect to see the Wollemi Pine (*Wollemia nobilis*) growing at Castle Towers Shopping Centre, Castle Hill. Here it is, in a lovely garden between the multi-storied carpark and the shops.

It looks terrific, and seems to like this unusual and unlikely location. Congratulations to Castle Towers!

* * * * *

Mr Bosisto and the tale of Australian eucalyptus oil

Kevin Mills

I recently visited a chemist and noticed spray cans labelled *Bosisto's Eucalyptus Spray*. I knew that name; *Eucalyptus bosistoana* is a local tree of dry country, such as around Lake Illawarra.

Joseph Bosisto (1824-1898), parliamentarian and chemist, was born in Leeds, England. He left school in 1839 and was apprenticed to a druggist and gained certificates in 1847 from the Pharmaceutical Society of Great Britain. He arrived in Adelaide in 1848 and soon met botanist Ferdinand Mueller, a friendship that lasted 50 years. He married Eliza Johnston in 1852 and settled down in Richmond, Victoria, opening a prosperous pharmacy and establishing Australia's first commercial distilleries.

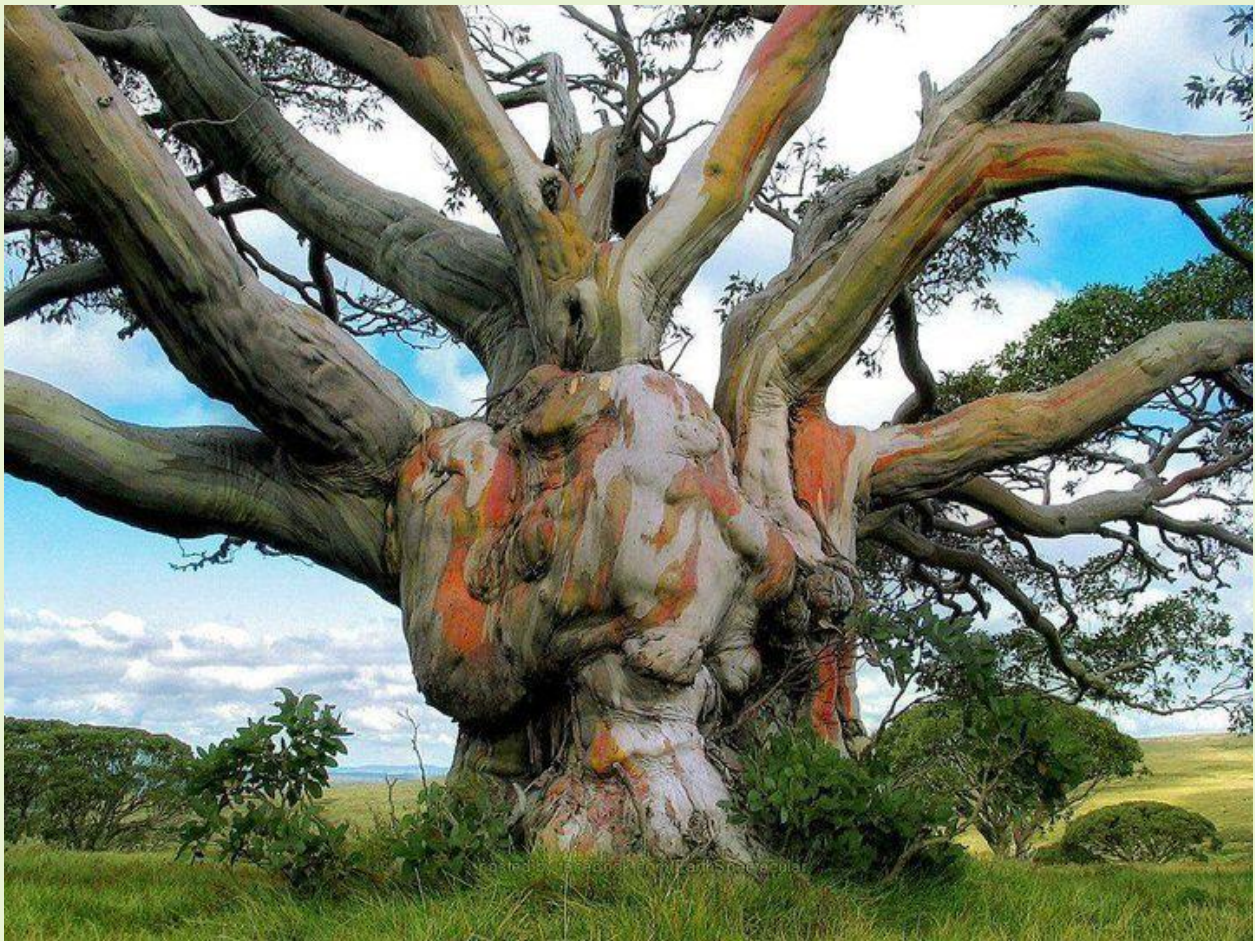
By June 1882, 40 pounds of eucalyptus oil had been produced for export to England and Germany. By 1900 Australia's eucalyptus oil industry was well established and supplying the world market. Bosisto's Eucalyptus Oil quickly became a global phenomenon, and was Australia's first indigenous export product. The Abbott family has owned the company for the past 45 years, managing 10,000 acres of eucalyptus plantations at Inglewood Victoria.



Bosisto's Eucalyptus Oil is made from the leaves of Blue Mallee *Eucalyptus polybractea*. Blue Mallee trees come from a unique natural forest around Inglewood and Glenalbyn, near Bendigo, Victoria.

Returning to *Eucalyptus bosistoana*: it is also known as Coast Grey Box, is a tree ranging from the Sydney region to western Gippsland in Victoria. It was named in 1895 by Mueller, named on honour of his pharmacological friend. Mueller wrote in the paper describing this species - "As richly oil-yielding and also as exuding much kino, this tree is especially appropriate to connect therewith the name of Joseph Bosisto, Esq., C.M.G., who investigated many of the products of the Eucalypts, and gave them industrial and commercial dimensions."

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Eucalyptus pauciflora (Snow Gum), from Australian Native Plants and Bush Tucker Facebook page. I wonder how old it is?

Share your stories . . .

Your contributions to *Calgaroo* are always welcome.

If you have interesting observations of plants in the garden or the bush, including photos, or any other news worth sharing, please send it to me at itcox@bigpond.com for the next edition.

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In the spirit of reconciliation, we acknowledge the Traditional Custodians of our Country, the people of the Dharug Nation, whose cultures and customs have nurtured, and continue to nurture, this land since time immemorial. We honour and celebrate the spiritual, cultural and customary connections of Traditional Owners to Country and the biodiversity that forms part of that Country.

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