CALEYI

Australian Plants SOCIETY NSW

NORTHERN BEACHES GROUP

austplants.com.au/northern-beaches

March 2024

Australian Plants Society Northern Beaches
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APS Northern Beaches Group acknowledges the Traditional Owners of the land on which our activities take place. We pay our respects to Elders past, present and emerging, and recognise the continuing connection to lands, waters and communities.

APS Northern Beaches Group Meeting
Thursday March 7, 2024 at Stony Range Regional Botanic Garden, Dee Why.
7.15 pm 'Show & Tell'
8 pm Annual General Meeting
8.30 pm Special General Meeting
Supper - Lorna & Eleanor

APS NSW Quarterly Meeting. Saturday March 9, 2024 at Ku-ring-gai Wild flower Gardens, St Ives.

APS Northern Beaches Saturday March 23, 2024 Guided walk of Macquarie University Arboretum with **Sam Newton.** See more p. 6. Anne Gray will email full details closer to the date

2024 ANPSA BIENNIAL CONFERENCE 'GARDENS FOR LIFE', VICTORIA
30 September - 4 October 2024 Full updated details including fees for tours P.7

Many thanks for wonderful contibutions to Caleyi this month go to Penny Hunstead, Anne Gray and Beth Gower.
Please email stories, photos (as attachments please) etc for Caleyi to march@ozemail.com.au

ROYAL BOTANIC GARDENS WALK

Wednesday, 14th February, 2024
Penny Hunstead

The predicted rain did not eventuate, so we enjoyed a sunny morning, for our Australian rainforest walk, at the Royal Botanic Gardens, assembling at 10.30 a.m.

Paul welcomes us at The Calyx. Pic: Beth Gower

Our guide, Paul Nicholson, has had nearly thirty years as a horticulturist, teacher and walks guide at the Gardens. He introduced his walk by pointing out that the RBG, created in 1816, is the second oldest botanic gardens in the southern hemisphere. The gardens contain significant large trees, representative of those found in the Big Scrub. The Big Scrub, once covering about 75,000 ha. in the hinterland of Byron Bay, was the largest area of lowland subtropical rainforest in Australia. Today, only 1% remains.

Rainforests covered most of Australia, for much of the 40 million years after its separation from Gondwana. From a 4% coverage of rainforest at the time of European settlement, today, only 0.25 % remains, yet it contains one half of Australia's plant species.

The tropical and sub-tropical rainforests are found in Queensland and northern N.S.W. The warm-temperate rainforests are in N.S.W. and the cool-temperate rainforests are in Victoria, Tasmania and in small areas at high altitudes in N.S.W. and Queensland. The characteristics of Australian rainforests include the vegetative structure of several vertical layers together with vines, high rainfall, efficient recycling of nutrients, and high biodiversity of species.

Pic: BG

At the entrance of the Rainforest Walk, Paul pointed out the tree *Cerbera floribunda* (the Cassowary tree) whose fruit are eaten by the cassowary but poisonous to humans. The Rainforest area's first planting was in 1983. Composed of common rainforest plants and plants of special significance.

Along the walk, Paul gave details of the features of some significant species including *Davidsonia johnsonii* which produces infertile seeds. Reproduction occurs from root suckers or branch cuttings. Described in 2008, *Elaeocarpus sedentarius* is rare and endangered. Originally found in 1936, noted in research in 1982 and found again in 1992, only 700 individuals have been found, over seven sites.


Anne & Kylie study the illustrations. Pic: BG


***Davidsonia jerseyana* Plantnet image. Pic: Anne Gray**

Another rare species was *Macadamia jansenii*, with only 90 known individuals. Unlike its relatives, *M. tetraphylla* and *M. integrifolia*, its fruit is poisonous. It also has seed that cannot be dried or frozen for storage. The species of Macadamia are threatened, in wild populations. Paul also pointed out that some species of the basal angiosperms had robust tepals, to cope with their pollinators, the beetles.

The Proteaceae family is well-represented in Australian rainforests. One example that we saw was *Eidothea hardeniana* (Nightcap "oak") a critically endangered Proteaceae plant. Also, *Neolamarkia cadamba* (Leichhardt "pine") of the Rubiaceae family and *Toona ciliata* (Australian red cedar) a valuable deciduous timber tree of the Meliaceae family. Apparently, the *T. ciliata* trees that grew near waterways had the best timber.

Paul drew our attention to the decorative capsules on Flinders austral is (Australian "teak"). From the Araucariaceae family, we saw *Agathis atropurpuria*. Then at the *Araucaria cunninghamii* (hoop pine), learned that hoop pine boxes were used to transport butter, because the wood didn't impart an odour.

At the *Macrozamia peroffskyana*, we heard how there was a complex behaviour of weevils, in the pollination of this species.


Paul regales us with Rainforest facts. Pic: JM

Found in both wet sclerophyll and rain forests, *Castanospermum australe* has a wide distribution. The two methods of distribution of the seeds were by seed pods floating down waterways and by being taken by aboriginal people from the coast to the mountains. Although the seeds are toxic, aboriginal people had devised a complex treatment of them to leach out the toxins.

Towards the end of the hour and a half walk, Paul pointed out more species of interest. *Planchonella australis* has red edible fruit, highly favoured by aboriginal peoples; *Melicope elleryana*, the host plant for the beautiful Ulysses butterfly (*Papilio Ulysses*); three species of the Myrtaceae family, *Rhodamnia rubescens, Syzygium paniculatum* and *Syzygium anisatum*. We were given leaves of the *S. anisatum* to discover their powerful aniseed taste. Paul told us that scientists were looking for myrtle rust resistant species to aid in their understanding of myrtle rust control. The rainforest Myrtaceae were the most vulnerable to myrtle rust.

We were given a brief history of the work of Australia's most prolific plant collector of the early nineteenth century, Allan Cunningham, and his importance in the collection of Australian rainforest plant species.


Paul with Pineapple Zamia Lepidozamia peroffskyana. Pic: BG

A most engaging personality, Paul was also an absolute wealth of knowledge. I would write a short book, if I documented everything he told us!

After the walk, a number of our group enjoyed lunch at the gardens' café.

THE BOTANICAL IMPERIALISM OF WEEDS AND CROPS: HOW ALIEN PLANT SPECIES ON THE FIRST FLEET CHANGED AUSTRALIA.

The Conversation Jan 26, 2024 Garritt C.Van Dyk, Lecturer in History, University of Newcastle.

Locally grown produce fills Australian shops, but almost all of these species were imported, as native as cane toads. Icons of Australian agriculture, like the Big Banana and Big Pineapple, proudly display the regions' crops, but these are newcomers to the continent.

British ships carrying plants and seeds from around the world arrived in Botany Bay on January 20 1788. This story is overshadowed by convict ships and Royal Navy vessels, but the cargo on board also had a lasting impact. Colonists, convicts and Indigenous Australians were all affected when new species transformed the landscape.

British colonists introduced plants as foreign as the people who carried them. Some of these plants, ranging from bananas to wheat, were food sources, promoting self-sufficiency. Others were attempts to expand the British Empire. Could the new territory be exploited as a tropical plantation?

Botanical imperialism

In the parliamentary debate over destinations for convict transportation, Sir Joseph Banks and James Matra, both members of James Cook's 1770 expedition, spruiked the potential of the new colony as an extension of the empire. Matra claimed the colony was “fitted for production” of “sugar-cane, tea, coffee, silk, cotton, indigo and tobacco”. Banks claimed Botany Bay was an “advantageous” site, with fertile soil – and virtually no inhabitants.

Two plants carried by the First Fleet stand out as examples of botanical imperialism: prickly pear cactus (Opuntia) and sugarcane. Banks, as head of the Royal Society of London, selected these species as experiments to compete with European trade rivals. His goal was to break a Spanish monopoly in producing fabric dye and to expand British cultivation of sugar outside the West Indies.

Man standing in an invasive prickly pear forest in Queensland, 1935. Queensland State Archives

The secret of the colour scarlet

Prickly pear cactus was imported because it is the preferred food of the cochineal insect. Dried cochineal were crushed to make a vibrant, colourfast scarlet dye for textiles. Discovered in the New World by Spanish colonists, cochineal replaced kermes, another insect that had provided red dye since antiquity.Cochineal dye was ten times stronger than kermes or vegetable dyes from cardinals' capes to British officers' red coats, cochineal was a product for elite consumers signifying power, wealth and prestige. New Spain, based in Mexico, had a monopoly on cochineal. Banks wanted to break the stranglehold on the scarlet dye by establishing production in New South Wales. Plants infested with the precious insects were imported from Brazil in 1788.

The project soon failed when the cochineal died, but the cacti survived. Colonists used cacti as natural fences and drought-resistant animal fodder. Without insects to feed on them the plants spread, uncontrolled, to cover more than 60 million acres of eastern Australia by the 1920s. Poison, crushing and fire failed to stop the cactus. In 1926, a moth species from Argentina was introduced to eradicate the plants, but Opuntia cacti remain an environmental hazard. Trade in the plants, classified as weeds of national significance, is banned in most states.

The first sugar grown in Australia

Sugarcane was imported from the Cape Colony, now South Africa. Before sugar was planted in Queensland, or even Port Macquarie, in the 19th century, sugar was grown in a small garden plot in Sydney and as an experimental crop on Norfolk Island in 1788.

South Sea Islanders in a sugarcane field in Queensland. State Library of Queensland.

The Royal Navy targeted Norfolk Island as a source of flax and timber, but it also served as an agricultural laboratory, testing tropical crops like sugar and coffee for Banks.

Philip Gidley King, lieutenant-governor of Norfolk Island, reported in his correspondence with Banks in 1790 that his four canes had multiplied into more than 100 plants. Within a few years he sent samples of sugar, rum and molasses to Sydney. By 1798, the cane was declared “prolific” and Norfolk Island was in “a state of cultivation equal to the West Indies”.

This favourable comparison with the West Indies ignores the use of convict labour in producing sugar, and foreshadows the advent of “blackbirding”, a euphemism for the abduction or coercion of Melanesian workers. Blackbirding was introduced in Queensland canefields in 1863 as penal transportation ended and cheap convict labour became unavailable.

Once essential to the sugar industry, in 1901 Pacific Islanders in Australia were deemed undesirable, competing unfairly with white workers. As part of the White Australia Policy, many were deported under the Pacific Island Labourers Act 1901.

The fruits of empire

Reconsidering the impact of alien plant species on Australia gives us additional insight into the process of colonisation. Transplanting species from around the world to create a new environment was a major endeavour in the 18th century, and a manifestation of imperial power and control.

Indigenous connections with Country were disrupted when foreign botanical landscapes displaced native species. The roots of these early imperial projects are deeply embedded in Australian culture and history, with an enduring legacy.

BANKSIAS ARE ICONIC AUSTRALIAN PLANTS, BUT THEIR ANCESTORS ACTUALLY CAME FROM NORTH AFRICA

The Conversation: January 29, 2024 Byron Lamont , Distinguished Professor Emeritus in Plant Ecology, Curtin University, Lynne Milne ,Curtin University,Richard Cowling, Professor, Nelson Mandela University, Tianhua He, Senior lecturer, Murdoch University

Few plants conjure up the Australian bush better than banksias, whose beautiful flowers are irresistible to honeyeater birds, small marsupials and nature lovers. But our research, published in Perspectives in Plant Ecology, Evolution and Systematics, shows that the ancestors of banksias actually migrated here from North Africa.

From early fossil pollen studies, we already knew that the protea family (*Proteaceae*), including banksias, grevilleas, waratahs and macadamias in Australia, originated in northwest Africa 130 million years ago.

Our task was to track their migration to Australia, where they became the unique symbols of the Australian bush that we admire today. To give credit where it's due, we need to know where our natural heritage originated. So, how did this iconic group of plants get here?

Looking at the entire family

Our study relied on two approaches. We used a DNA assessment of the entire protea family to create an evolutionary tree. Then we inserted key fossil pollen records of a known age into the tree, to serve as a "molecular clock". This helped us work out the time of origin of all genera in this family.

Banksia hookeriana, the most important species used in the wildflower trade in Western Australia and now widely planted. This is the most studied of all members of the protea family. Byron Lamont .

We then searched the literature for records of ancient sedimentary deposits that contain fossil pollen with affinities to banksias in Africa, South America, Antarctica (which was covered in forest until 40 million years ago) and Australia.

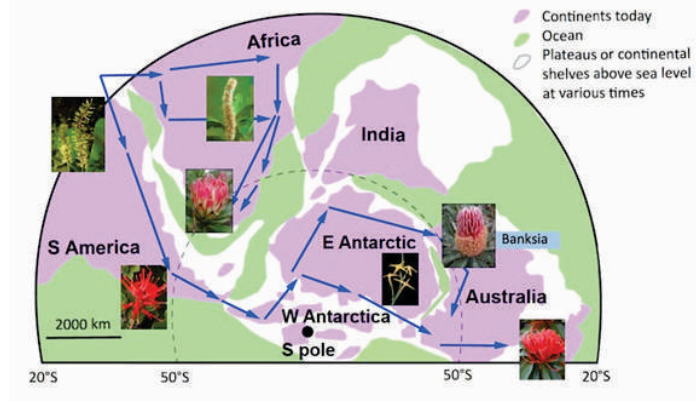
This was made possible by the fact the hard walls of pollen grains allow them to be preserved for millions of years. Also, the pollen grains of plants in the protea family are quite distinctive from those of other families. We then compared the dates and locations of the fossil pollen against our family tree. This showed that by 120 million years ago, the ancestors of banksias had begun crossing into northeast South America. The two continents remained joined at their tips until 100 million years ago.The plants then migrated down the east side of South America – first reaching the Scotia Isthmus about 110 million years ago – and crossed onto the Antarctic Peninsula.

Two routes into Australia

Here, the ancestors separated into two groups. One, the soft-leaved group, followed a cool-temperate rainforest pathway (dark for up to four months of the year) along the south side of Antarctica. They entered Australia via Tasmania from 105 million years ago. The rainforest elements continued up the east coast, with some eventually reaching New Guinea; others entered New Caledonian rainforests directly from southern Antarctica. This route remained open until 45 million years ago, when Australia and Antarctica finally separated.

The other, hard-leaved group followed an open, fire-prone woodland pathway along the warmer, sunnier northern side of Antarctica. They entered Australia via the southwest tip that remained attached to Antarctica until about 70 million years ago.

The two points of entry were separated by a huge inland sea that occupied the Great Australian Bight during that period.



Migratory pathway taken by ancestors of banksias beginning 132 million years ago in north Africa. Note how the ancestors split into 2 groups on entering Antarctica from South America, banksia itself entering via southwest Australia and the rainforest species via Tasmania. Modified from Lamont et al. (2024) Perspectives in Plant Ecology Evolution & Systematics

A proliferation of banksias

Since banksia itself appears to have arisen 100 million years ago, the genus either evolved in northeast Antarctica or at the extreme corner of southwestern Australia. From there, they spread to the rest of Australia over the next 50 million years.

Banksias now consist of around 200 species, 90% of which are endemic to southwestern Australia. Ancestors of the bulk of the hard-leaved genera, such as grevilleas, hakeas, macadamias and waratahs, also entered Australia via the southwestern tip. They then migrated east along the margins of the Nullarbor Plain – thickly vegetated back then – to southeast Australia.

Until the results of our new study, it was believed the protea family arose in Australia and spread from here to Africa, South America, New Caledonia and Asia. Almost all migration would have needed to be over the oceans, as it was thought to have happened after the breakup of the Gondwanan supercontinent.

In fact, the journey was entirely overland as it occurred when Gondwana was largely intact, except for the early departure of Greater India.

Plants out of Africa

Anthropologists are keen to point to the "out of Africa" hypothesis for the origin and migratory history of humans. It now appears such a hypothesis is equally applicable to some important groups of plants.

This is the first time the southwest corner of Australia has been recognised as a major migratory route for the protea family.

We now need to take seriously the Antarctic–southwest Australian link as a likely major entry route for many other hard-leaved plant groups into Australia. They could have originated in Antarctica and South America, and possibly even Africa.

This north Antarctic pathway might well also apply to eucalypts, whose oldest records are for southern South America, as well as currently endemic animals and microbes.

Nature Uninterrupted Photography/Unsplash

THE FIRST FLOWERS EVOLVED BEFORE BEES – SO HOW DID THEY BECOME SO DAZZLING?

The Conversation: January 26, 2024 Adrian Dyer, Associate Professor, Department of Physiology, Monash University ,Alan Dorin , Associate Professor, Faculty of Information Technology, Monash University, Jair Garcia, Researcher and analyst, Monash University , Mani Shrestha , Senior Researcher and International Fellow, Disturbance Ecology, University of Bayreuth, Germany, Bayreuth University

Colourful flowers, and the insects and birds that fly among their dazzling displays, are a joy of nature. But how did early relationships between flower colour and animal pollinators emerge?

In a study published in Proceedings of the Royal Society, we have unravelled this mystery by analysing the visual environments in which the ancestors of today's bees foraged from flowers.

We measured and analysed the light reflected from today's flowers, as well as the rocks, soil, sticks, bark and leaves that form their natural backgrounds.From this data we built computer simulations that recreate the ancient visual environment when the first flowers emerged.

Insect colour vision came before flowers

Today, bees are prolific pollinators of flowering plants, including food crops. Bees use colour vision based on ultraviolet, blue and green sensitive photoreceptors (light-sensing cells) to detect and discriminate the most rewarding flowers. In comparison, most humans perceive colour using blue, green and red sensitive photoreceptors.

When the first flowers evolved during the Mesozoic era, between 252 million and 66 million years ago, the ancestors of bees had to orientate themselves, maintain stable flight, avoid collisions, and find food among natural backgrounds. We suspect their visual systems may have been influenced by evolution to efficiently operate in that environment.

By the time the first flowering plants appeared, bees' ancestors had already evolved colour vision – and we know it has stuck around throughout the evolutionary history of bees.

So, while bees weren't initially around, their ancestors were. Flower colours likely evolved the vivid colours we see today to suit this ancient visual system. At the same time, the first bees emerged as the most efficient pollinators.

What colour were flower backgrounds on the ancient Earth?

Australia is an ideal place to collect data on natural background materials that early insects would have seen, as it is a geologically ancient continent. We collected background samples from across Australia and measured their reflective properties using a tool called a spectrophotometer.

We used this data to create a database of materials that would have been present in the visual environment of flying insects more than 100 million years ago – when the first flowers appeared.

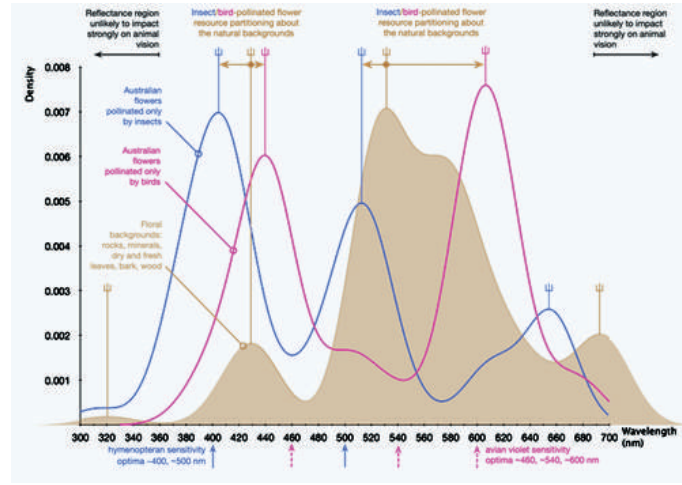
Flower colour evolved in response to bee colour vision

For our collection of natural backgrounds, insect and bird pollinated flowers, we calculated marker points – rapid changes in the intensity of light reflected from a surface, within a small wavelength band.

These marker points identify the key visual features of coloured surfaces, and we can use them for statistical testing of the evolutionary process. We then wrote computer simulations to generate possible flower backgrounds. By analysing their marker points, we tested the visibility of today's flowers against the simulated backgrounds.

Interestingly, we showed that the distribution of marker points on petals from plants pollinated by bees clearly indicates these flowers are "salient" – that is, they stand out as stronger signals from natural backgrounds.

This finding matches with previous studies suggesting that in the Northern Hemisphere and Australia, flowering plants evolved colour signals to facilitate colour perception by bees.



The distribution of marker points for simulated backgrounds (brown); Australian flowers pollinated only by insects (blue) and pollinated only by birds (pink). The figure allows comparison of the markers of floral signals that have evolved in response to pressure from insect and bird vision systems and systematically straddle the markers of simulated backgrounds. Author provided from Dorin et al. (2023), Proceedings of the Royal Society B.

The very first flowers were likely a dull greenish-yellow colour and initially pollinated by flies. However, as the first bees – with their tuned vision systems – started pollinating flowers, the flowers likely evolved new colours to match the bees' visual capabilities.The process of natural selection seems to have driven flower colours to stand out from their backgrounds in the eyes of pollinators.

Birds were involved, too

Birds became established as flower visitors millions of years after insect pollination evolved. Bird vision uses four types of colour photoreceptors, and they can see long-wavelength red colours that bees cannot easily process against natural backgrounds.

Our analysis confirmed that bird-pollinated flowers evolved marker points towards longer wavelengths than bee-pollinated flowers. Our new discovery also showed that these flowers systematically differ from natural backgrounds. As Earth's climate changes, it is important to consider what might happen to ecosystems and our food production systems in a world without bees. It is vital that we understand how pollination and plant reproduction may be altered.

Our research shows that bees are a major driver of floral evolution. Unless we protect these insects and their habitat, we will lose fundamental and beautiful aspects of life we all enjoy and need.

APS MARCH DATES

APS Northern Beaches Meeting Thursday March 7, 2024 at Stony Range Regional Botanic Garden, Dee Why.

7.15 pm 'Show & Tell' Please remember to bring your specimens, stories and photos to share with your fellow members.

8 pm Annual General Meeting

8.30 pm Special General Meeting

Supper - Lorna & Eleanor

APS NSW Quarterly Gathering Saturday March 9, 2024 at Ku-ring-gai Wildflower Garden
APS North Shore Group is hosting the first quarterly gathering of the year at Kur-ring-gai Wildflower Garden at St Ives, with guest speaker Heather Miles, our former President.

11-12 noon - meet at Cayley's Pavilion and choose between two walks

12-1 pm Lunch - Bring your own lunch and enjoy it with your friends and fellow native plant enthusiasts at Caley's Pavilion, where tea and coffee will be available.

1-2 pm Presentation/ Workshop with Heather Miles
Native garden design workshop - design or trial and error?

APS Northern Beaches Guided Walk at Macquarie Uni Arboretum Saturday 23 March 10.30-12.00
Our next outing is to Macquarie Uni's Arboretum on Wednesday 23 March. Anne Gray visited the university in June last year with her walking group and can confirm that the plantings and landscape design are nothing short of stunning (mostly native). We are very fortunate to have Sam Newton to guide us on this walk. Sam was the Co-ordinator of the Arboretum from it's instigation in 2010 to 2020. Her background is in Botany, Landscape Design and researching ecological-sustainability issues.

Please meet at 10.20 for a 10.30 start at the Bush Tucker Garden on Wallys Walk - see yellow star at N23 on the map. If you have trouble finding the Bush Tucker Garden, Sam is happy for you to ring her on her mobile: 0401 486 926

There is disabled parking shown with bright blue rectangles at M25 and K22 for those who have a disabled sticker. For everyone else Sam suggests we park at Macquarie Shopping Centre which has 3 hours free parking. The path from Macquarie Shopping Centre (S30) is highlighted in bright blue.

After the walk we will be having lunch in the Central Courtyard (L17) There are many take away cafes or bring your own lunch.

If you feel you cannot manage the full walk perhaps you could consider listening to the talk about the Bush Tucker Garden and then follow this with a coffee in the Central Courtyard.

Please reply by Wednesday 21 March to Anne's email only: annepsgray@optushome.com.au

ANPSA BIENNIAL CONFERENCE 'GARDENS FOR LIFE' VICTORIA

30 September - 4 October 2024

A CHANGE OF VENUE

ANPSA 2024 Biennial Conference Melbourne

We have changed our venue for the ANPSA 2024 Conference from the Melbourne Convention and Exhibition Centre (MCEC), Docklands, Melbourne CBD to The Round in Nunawading, Melbourne.

The Round is a Performing arts and cultural centre in Nunawading, 379 - 399 Whitehorse Rd, Nunawading Victoria 3131. Nunawading is a suburb of Melbourne, 18km east of the CBD.
Website: https://www.theround.com.au/ Phone: (03) 9262 6555.

The Round, a beautiful venue set in extensive parkland was a stand-out, it ticked all the boxes. It was built, a $78 million project undertaken by the City of Whitehorse, over the last few years and opened in October 2023. It wasn't in existence when we were first selecting a venue. It has many versatile spaces eminently suitable for presentations, several airy light-filled spaces for our social gatherings in addition to outdoor spaces for relaxing with heaps of car-parking.

Transport

This venue is equidistant from two well-serviced metropolitan railway stations of Nunawading and Mitcham. Both a 15 minute walk to The Round. There is also an extensive network of buses into the area. It is a few kilometers south of exits from the M3 freeway.

Accommodation

There is a large choice of reasonably priced accommodation available to attendees.
From many AirBnBs to Hotel/Motels such as:
- Nunawading Motor Inn (3 Star, $128-)
- Canterbury International Hotel (4 Star $122)
- Beau Monde International (4 Star, $104)
- Burvale Hotel (3 Star, $111-)
- Quality Hotel Manor (4 star, $116)
- Ringwood Lake Inn (4 star $121),
- Sage Hotel Melbourne Ringwood (4.5 stars, $152)
- The Sebel Melbourne Ringwood (5 star $216)
- Best Western, Box Hill ($119)
- City Edge Box Hill Apartments ($204)
- and many more not listed

There is also a selection of Caravan Parks available. All these caravan parks have powered sites and onsite cabins:
- Crystal Brook Tourist Park is an easy 15 minute drive to The Round. The entry is surrounded by eucalypts and it has a heated outdoor swimming pool. There are several bush parks nearby. Fees weren't available but contact through https://www.crystalbrooktp.com.au Ph: 03 8877 1601. Address: 182 Heidelberg-Warrandyte Road, Doncaster East 3109.

- Lilydale Pine Hill Caravan Park is half an hour from The Round, easily accessed using the Maroondah Highway. They have quoted a rate of $50 per night for a powered site and they can move caravans for storage off site at $5 per night for people taking tours.
Visit: www.lilydalepinehill.com.au

The Round. To see more on the new venue https://youtu.be/ZMyW380IU1k

- Sundowner Caravan and Cabin Park, half an hour from The Round, either paying tolls on Eastlink or tackling several traffic lights. The park has space but 85% are permanent. Cost is $34 per night, 7th night free. Visit www.sundownercp.com Email: sundowner@bigfoot.com.au Ph: 03 9546 9587. Address: 870 Princes Highway, Springvale 3171.

Please note that prices listed above are current and may have changed when booking. ASN Events is also looking into a package deal from a couple of nearby hotels. These will be released as soon as we have the details.

Important Dates

After recent meetings with ASN Events we have the ollowing key dates:

- December, 2023 - ANPSA 2024 Biennial Conference Website,
- **Mid February 2024 - Early bird registration for the ANPSA 2024 Biennial Conference. The conference itself will cost $650 or $585 early bird registration for the 5 days including 3 days of lectures and 2 days of excursions**.

- **February 2024 - Bookings open for pre& post Conference Tours.**

Tour fees

Pre conference tours 23-28 Sept. Post conference tours 5-10 Oct.
Wimmera Grampians $1,800 (Single person supplement $394)
Great Ocean Road Otways $2,380 (Single supplement $763)
Gippsland Wilsons Promontory $2,060 (Single supplement $525)

- **1 July 2024 - closing of early bird registration** for the ANPSA 2024 Biennial Conference. (Bookings will still be taken but at full regular price)

- **31 July 2024 - closing of bookings for pre and post tours**.

Conference Tours

The Spring 2023 edition of Australian Plants is the 'ANPSA Conference 2024 Tour Edition'.
We look forward to seeing you there and invite you to register your interest through the website https://apsvic.org.au/anpsa-biennial-conference-2024/

Miriam Ford Convenor Nicky Zanen Co-Convenor
ANPSA 2024 Biennial Conference
Email: lilydalepinehill@bigpond.com
Phone: 03 9735 4577.

TO REGISTER YOUR INTEREST

Email: anpsaconference@apsvic.org.au
https://apsvic.org.au/anpsa-biennial-conference-2024