

# CALEYI



## NORTHERN BEACHES GROUP

[austplants.com.au/northern-beaches](http://austplants.com.au/northern-beaches)

April 2023

**Australian Plants Society Northern Beaches**  
[northernbeaches@austplants.com.au](mailto:northernbeaches@austplants.com.au)

<b>President</b>	Dr Conny Harris 0432 643 295
<b>Vice-President</b>	Russell Beardmore 0404 023 223
<b>Secretary</b>	Pamela Dawes 0419 036 800
<b>Minutes Secretary</b>	Eleanor Eakins 0413 759 819
<b>Treasurer</b>	Lindy Monson 9953 7498
<b>Regional Delegate</b>	Harry Loots 9953 7498
<b>Librarian</b>	Jennifer McLean 9970 6528
<b>Membership Officer</b>	Jan Carnes 0416 101 327
<b>Talk Co-ordinator</b>	Penny Hunstead 0415 613 870
<b>Walk Co-ordinator</b>	Anne Gray 0466 309 181
<b>Catering Officer</b>	Georgine Jakobi 9981 7471
<b>Newsletter Editor</b>	Jane March 0407 220 380

*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.*

### CALENDAR

**APS Northern Beaches meeting Thursday April 6, 2023.**

7.15 pm. **Lesser plant family. Polygalaceae - Pam Dawes.**

7.30 pm. **Presentation - Helen Smith 'Huntsman Spiders'**. Helen is Technical Officer in Arachnology at the Australian Museum in Sydney. See p. 5.

Supper. **Eleanor & Lorna**

**Saturday April 15, 2023 APS Northern Beaches**  
10.30 am walk Elvina Track, West Head followed by lunch at Akuna Bay.

Registration essential with Anne Gray 0466 309 181 or [annepsgray@optushome.com.au](mailto:annepsgray@optushome.com.au). See more p. 5.

**Saturday May 20, 2023 APSNSW Gathering & ACM** hosted by APS Central Coast. Details later.

Many thanks to Jennifer McLean, Anne Gray and Pam Dawes for their invaluable contributions.

Please send your stories, photos (as attachments please) etc for CaleyI to [march@ozemail.com.au](mailto:march@ozemail.com.au)

**Jane March** [march@ozemail.com.au](mailto:march@ozemail.com.au) 0407 220 380

### FEBRUARY VISIT TO 'PLANTS IN PERIL' AT THE ROYAL BOTANIC GARDEN, SYDNEY.

Jennifer McLean

We met at 10:20 am at the Woolloomooloo Gate for a 'Plants in Peril' walk and talk excursion with the affable Paul Nicholson. Paul is the Manager of Volunteer Programs and has been working at the Royal Botanic Gardens for 30 years. Two experienced volunteer guides, Ann Webber and Pam Davis assisted Paul on the walk.



In deference to our focus on Australian Native plants Paul concentrated on our own threatened and endangered species, there being 1362 vascular plant species listed as threatened nationally and at least 10 times that number by State and Territory. Botanic gardens play an important role in the understanding of endangered plants and the threats to them and in ways to conserve them. Land clearing, introduced pests and diseases and climate

change are all threats to native plants which in many cases have adapted over thousands of years to thrive in difficult environments.

Paul led us hither and forth across the gardens looking at different threatened or endangered species. In all we saw about 20 different species. We began at a *Syzygium anisatum* or Aniseed myrtle, a rare rainforest tree from the Nambucca and Bellinger Valleys, growing to 45 metres and used as a bushfood spice and for essential oil. It has antimicrobial properties and is threatened by Myrtle Rust.



Paul with *Acacia terminalis* sp. Pic:AG

Soon we found ourselves at an *Acacia terminalis subspecies terminalis*, it being a distinct subspecies differing from more widespread forms and is a shrub of the Eastern Suburbs plant community with which we are familiar. It is endangered of becoming extinct in the wild, its habitat having been largely cleared for 'development'.

A stroll further on, we came to *Archontophoenix myolensis* a palm endemic to Black Mountain in Queensland, seriously threatened by habitat clearance with only about 100 mature trees left and the remaining trees unprotected by any intervention. Seedlings are washed away by floods.

*Diospyros mabacea*, or red-fruited ebony a sub-tropical tree from Mullumbimby and Murwillumbah in north eastern NSW has edible fruit. It grows on privately owned land where it is threatened by weeds, and trampling by cattle. Regeneration from seed is slow and difficult.



Paul with *Brachychiton* sp. Pic:AG

*Brachychiton* sp. Ormeau, from Queensland, known as the bottle tree, is a 25 metre rare and endangered tree within a limited range of about 6.5 square kilometres. It is one of 30 trees given the highest priority of protection by the national government.



*Davidsonia johnsonii* is a small endangered tree native to rainforests in eastern Australia. It is cultivated for its sour fruit which is made into jam, but has no viable seed and is reproduced from cuttings or divisions.

*Prumnopitys ladei* or Mt Spurgeon Black Pine endemic to the Atherton Tablelands of Queensland is a rare (Vulnerable on the ROTAP list) species, an ancient and slow growing conifer. It can grow to 20 metres and live 600 years. Male and female cones are found on different trees.

*Wollemia nobilis* or Wollemi Pine, classified as critically endangered grows naturally in a temperate rainforest of the Wollemi National Park NSW was known only from fossil records before it was discovered in 1994. A successful protection of the site from the Mt Gaspers fires was achieved by having a species recovery plan.



### Destruction of our habitats

Human beings are the greatest threat to plants and animals. We are destroying wild habitats with such alarming speed that scientists predict by the year 2050, half of all the known species alive today could be lost forever.

Tropical rainforests cover seven per cent of the world's land surface but contain half of all known plant and animal species. Yet every minute an area of rainforest almost one-and-a-half times the size of the Royal Botanic Gardens in Sydney is levelled for timber and farmland.

Although natural forces, such as changes in climate, cause extinctions, these processes often take tens of thousands of years which gives time for new species to emerge. We are causing extinctions at 25,000 times the natural rate.



ABOVE: where a stand of tropical forest once blanketed Papua New Guinea's highlands is now a panorama of desolation. Indiscriminate burning for farmland leaves little tropical soil sterile. Once trees are cleared, heavy rains wash away huge quantities of top soil. BELOW: clearing scrub and woodlands to develop farmland in Australia can increase the level of salt in soil which is harmful to both crops and native plants.



Botanic Gardens Trust SYDNEY

This sign proudly sponsored by the Friends of the Gardens

Pic:AG

*Rhodamnia argentea*, or Malletwood, grows from the Hastings River NSW to Bowen in QLD. It can reach a height of 30 metres. It is in the Myrtaceae family and is severely threatened by Myrtle Rust. *Floydia praelata* in Proteaceae is of a similar height, a vulnerable species from the same area in QLD.

*Hibiscus insularis* from Phillip Island, along with the rest of the island's vegetation, was under threat due to grazing by feral animals. These have now been removed, but the *Hibiscus* is reduced to two small clumps of a single genotype.

*Syzygium moorei* is an important canopy species from north of the Richmond River NSW and into Queensland. It is unusual in that it is cauliflorous, ie the flowers and fruit appear out of the trunk and branches. Its conservation status is Vulnerable due to clearing and fragmentation of habitat, stock trampling of seedlings and small population size. However a targeted strategy for management of the species is being undertaken by the Saving Our Species program which includes genetic sampling and remnant genetic translocation from small pockets of rainforest.

The red cabbage palm, *Livistona mariae subsp marie* from Palm Valley on the Finke River NT is another Vulnerable plant with an interesting story. The anthropologist Karl Strehlow recorded in his diary in 1894 that the seeds were moved there by the local indigenous people's ancestors from a site over 1000 kilometres to the north. It has been recently verified that the two populations are genetically identical and that the translocation would have taken place 15000 years ago.

*Macadamia jensenii* is an extremely rare and endangered poisonous tree from Bulburin National Park Qld, found and described only in 1991. There are only about 100 known trees in the wild, but an insurance population from cuttings has been established, the seed being recalcitrant. The small kernel is bitter and inedible.



Macadamia jensenii. Pic:AG

These examples of threatened species that Paul showed us are only a few of those that are on the brink of extinction in Australia, but there are hundreds more world-wide. Paul helped us to understand how scientists at botanic gardens and universities are doing their best to keep these plants from extinction.

## MARCH VISIT TO CICADA GLEN

Pamela Dawes



Turning off Mona Vale Road into Chiltern Rd and then immediately left into Cicada Glen Nursery's driveway, you drive past a beautiful pond and a sense of peace descends. The gardens surrounding the nursery are 100 years old this year and the exotic trees along the entrance driveway are huge.



The nursery itself is expansive with a large range of native plants, including many ferns in a large shade house with an automatic watering system and there are many small water fountains throughout the nursery.



We were given a history of the previous owners, starting from when Mona Vale Rd was unsealed Gordon Rd, with sulky carts traversing it. Kelly, the manager is very knowledgeable about the range of plants and their ideal growing conditions and has many tips about the best care of plants. One of those tips was watering early in the morning and another was never to water a plant which is in a hot pot; put it in the shade for a few hours to it cool down before watering.



The nursery is open 7 days a week: M-Th 8-4pm and Fri-Sun 9-5pm. The cafe will be open soon, beside a small gallery. It is a truly delightful place.

# THE BATTLE TO SAVE SYDNEY'S FLORAL TREASURES GOES THROUGH THESE MEN

SMH February 24, 2023 Robin Powell

Eastern Suburbs Banksia Scrub may not sound exciting, but don't be deceived, this plant community is one of Sydney's treasures. Evolved to thrive in the nutrient-poor, sandy soils, hot sun and salty winds of the coast, it is a flower-filled, bio-diverse wonder of some 80 core species that once dominated an area of 5300 hectares from North Head to Botany Bay.

In ESBS, as its called, banksias, wattles, tea-tree and shrubby casurinas give protection to shrubs like mountain devils, small-flowered grevilleas, and the nastily-named but very pretty cigarette flower, *Epacris longiflora*, so-called for its thin tubular white flowers with glowing red tips. Flannel flowers bloom in the sunny spots and grass trees add their distinctive form. Small mammals, birds and insects make ESBS home.

Peter Cooley, CEO of Indigrow, an Indigenous social enterprise and nursery that is trying to save one of Sydney's critically endangered ecological treasures, the Eastern Suburbs Banksia Scrub.



Peter is pictured with Tahī Williams-Forbes (left) with a rare Five Corners or Bush Lollies (*Styphelia Viridis*). CREDIT: STEVEN SIEWERT

Tragically only 3 per cent of this uniquely Sydney biosphere remains, wiped out by the triple threat of land clearing, feral plants and the end of the rejuvenating low temperature fires with which local people managed Country.

One nursery is on a mission to bring ESBS back from the brink of extinction. Indigrow is a project of First Hand Solutions, which also runs Blak Markets and the National Indigenous Art Fair. Indigrow CEO Peter Cooley says the project started with two key areas of focus – ESBS and bush foods.

The two come together in the story of one plant known as five corners. Botanically speaking five corners is *Styphelia viridis*, a stiff-leaved shrub less than a metre tall with tubular green flowers and five-pointed fruits renowned as one of the tastiest berries in the bush.

The reason we don't all have one in the backyard gets back to one of the challenges in preserving ESBS – only a tiny proportion of its plants are commercially available.

Understandably, commercial nurseries prioritise plants that are easy to propagate, quick to grow and quick to sell. Five corners is anything but. Cooley says that despite years of trial and error Indigrow has still not germinated its seed.

"Some of our old people say that the fruit has to pass through the stomach of an animal before it can germinate," he says, "and we do know

it responds to fire." While the seed remains persistently difficult, Indigrow has had success with cuttings and has started to share the plant with local elders. "When all our old people can go into their backyards and share the five corners fruit with the young kids and tell them about culture, that will be our proudest moment," says Cooley.

Indigrow offers a wide range of ESBS plants and bush food plants from around the country at its two nurseries in La Perouse and Matraville. Why not try sea celery, *Apium annuum*, with a flavour a bit like parsley; a native raspberry such as *Rubus parvifolius*, which is a scrambling shrub about a metre high and wide that fruits well when grown in a pot; or if you have the room, a deliciously tart Davidson plum, *Davidsonia jerseyana*?

And if you live in the former heartlands of ESBS, Cooley says you can contribute to its preservation by planting what you can in the space you have. "Even if you have one plant in a pot on the balcony, the life dependent on that plant will find it. We have to care for it."

## THE GARDEN

Gardens are the mirrors of our soul  
where, like Narcissus we create a role  
in the reflected glory of our lair,  
in ritual, retreat, and daily prayer;  
where we have been, and where we plan to go;  
and all the memories that we may grow,  
to plant a hedge between us and the herd,  
a cage and shelter from the strident word,  
responding to some ancient law of life –  
preferring plants to people for they're quiet.

Gardens are not the mill-ponds they may seem,  
but turbulent constructions of our dreams;  
of avarice and lust, obsessive greed,  
unmitigated warfare on the weed,  
a battleground from cottage gate to verge;  
and, the sublime some wild neurotic urge  
we spray for sundry thrips, and murder ants,  
and run around decapitating plants –  
to rule the world up to the garden wall,  
the garden is our sanctuary, our core.

Gardens are our monuments in time  
where Tradescantia and ivy climb –  
instead of letting nature have her rein  
we try to push the limits of the game,  
a home for cripple plants and other sports  
that lurch and dribble, huddle for support;  
double and spot, instead of tooth and claw,  
lined up with drips as patients in a ward –  
and when the last encumbered keeper dies,  
the rampant weeds and other urchins thrive.

Edwin Wilson New\_Selected\_Poems\_2011



Explorers at Cicada Glen. pic: Ed.



## APS NORTHERN BEACHES WALK ELVINA TRACK, WEST HEAD ON APRIL 15, 2023.

Meet at 10.30 am Saturday April 15 at the parking area at the Elvina Track. After the walk we will have lunch at The Shed, Akuna Bay.

Remember to register with Anne by Wednesday April 12 indicating whether you are just walking or also joining the group for lunch. Anne Gray 0466 309 181 or [annepsgray@optushome.com.au](mailto:annepsgray@optushome.com.au)

Your walk starts in coastal heathland, here are some of the species, photographed by the late Richard Hunstead, flowering at this time of year on the Elvina Track.



Hemigenia purpurea



Banksia ericifolia



Leptospermum squarrosum

One of the most impressive and accessible Aboriginal engravings, the Elvina Aboriginal Site lies just off the Elvina Track at West Head. A narrow and unsignposted walking track leads to an enormous tessellated platform (the site was originally called "The Tessellated Pavement").



pic: Jane

The Elvina engravings include a "large spiritual ancestor of the Daramulan type in the composite guise of hero and emu" which indicates that this is a ritual site of great importance. The emu is the totem of Daramulan, and he is associated with the two emus here. This group was regarded not as an isolated entity, but a part of many interconnected sites across the Lambert peninsula, including the Topham Hill Daramulan and the nearby Coal and Candle Creek engraving site.

## APRIL MEETING PRESENTATION: HUNTSMAN SPIDERS.

Thursday April 6, 2023, Stony Range Botanic Garden, Dee Why.



We welcome Helen Smith, Technical Officer in Arachnology at the Australian Museum in Sydney.

Many of us encounter huntsman spiders as we go about our daily lives. Their turn of speed and agility are impressive but can also be a bit scary. Spiders are important pest controllers in our gardens, so keeping cool when you have a surprise meeting with a particularly large one is a useful skill to ensure the safety of both parties.

Knowledge can help us to temper our natural fear and instead encourage enquiry and respect, so let us take a closer look at huntsman spiders. What makes a huntsman a huntsman, and how can they apparently defy gravity to run up smooth glass? How many different kinds of huntsman spiders are there in the Sydney area? What do they feed on and how do they grow? How can you relocate one without hurting either of you?

Answering public enquiries is a regular part of Helen's job. While the first part of the talk will focus on our hairy huntsman friends, it will finish with a more general Q & A on spiders.

## ANPSA BIENNIAL CONFERENCE 'GARDENS FOR LIFE' VICTORIA

30 September - 4 October 2024

Melbourne Convention and Exhibition Centre

The next ANPSA conference will be hosted by APS Victoria.

During the conference we will hear about all types of gardens and their impact on our life and the life of our world. We will visit spectacular gardens during the in-conference excursions including the world renowned Australian Garden at Cranbourne. Pre and post conference tours to Gippsland, the South West and the Grampians will be offered.

if you are interested in the conference, please go to the website ([apsvic.org.au](http://apsvic.org.au)) and register your interest.

### TOURS

The tours will visit some of Victoria's best scenic areas and spectacular displays of wildflowers. We are offering each tour pre and post conference.

Conference attendees will have the opportunity to choose up to two out of the three tours. Each tour will visit areas of wildflowers in natural bushland, public and private gardens.

This is an opportunity of a lifetime as some of the gardens are only available through these tours.

Each tour will be accompanied by experts.

The pre conference tours are from Monday 23 September to Saturday 28 September 2024 and post conference from Saturday 5 October to Thursday 10 October 2024. Each tour covers 6 days.

## 25-MILLION-YEAR-OLD FOSSILS OF A BIZARRE POSSUM AND STRANGE WOMBAT RELATIVE REVEAL AUSTRALIA'S HIDDEN PAST

The Conversation March 22, 2023 Arthur Immanuel Crichton, Aaron Camens, Gavin Prideaux, Flinders University,



Relative of *Chunia pledgedi* named *Ektopodon serratus* (top left), with *Wakaleo oldfieldi*. Reconstruction of the early Miocene Kutjumarpu faunal assemblage by Peter Schouten, C

Imagine a vast, lush forest dominated by giant flightless birds and crocodiles. This was Australia's Red Centre 25 million years ago. There lived several species of koala; early kangaroos the size of possums; and the wombat-sized ancestors of the largest-ever marsupial, *Diprotodon optatum* (around 2.5 tonnes).

A window onto this ancient time is provided by a little-studied fossil site near Pwerte Marnte Marnte, south of Alice Springs in central Australia. This late Oligocene site yielded the earliest-known fossils of marsupials that look similar to modern ones, as well as fossils from wholly extinct groups such as the enigmatic ilariids, which were something like a koala crossed with a wombat.

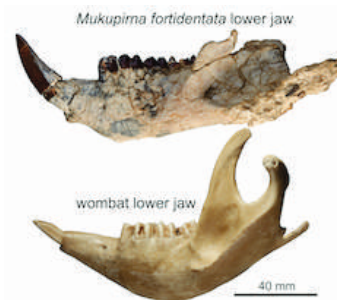
While excavating this site from 2014 to 2022, Flinders University palaeontologists have found fossils from many more wonderful animals. In a pair of recently published studies, we name two of these species: a strange wombat relative and an even odder possum.



Flinders University palaeontologists at Pwerte Marnte Marnte fossil site. Arthur Crichton,

### A toothy wombat

We discovered 35 specimens, including a partial skull and several lower jaws, from an animal that would have looked a bit like a modern wombat crossed with a marsupial lion (*Thylacoleo carnifex*). Weighing in at around 50kg, it was among the largest marsupials of its time. We named it *Mukupirna fortidentata*. Everything about its skull and jaws shows this animal had a pretty powerful bite. Its front teeth, for example, were large and spike-shaped, being more like those of squirrels than wombats. These would have enabled them to fracture hard foods, like tough fruits,



Left lower jaw of *Mukupirna fortidentata* compared with that of the southern hairy-nosed wombat. Arthur Crichton, Author provided

seeds, nuts and tubers. Its molars, by comparison, were actually quite similar to those of some monkeys, such as macaques.

*Mukupirna fortidentata* is only the second known member of a new family of marsupials described in 2020 called *Mukupirnidae*. These animals are thought to have diverged from a common ancestor with wombats over 25 million years ago. Sadly, they went extinct shortly thereafter.



Close relative of *Mukupirna fortidentata* named *Mukupirna nambensis*. Reconstruction of the Pinpa faunal assemblage by Peter Schouten, CC BY-SA

### Anutcracker possum

The second species we described is a newly discovered early possum, named *Chunia pledgedi*. It had teeth that would be a dentist's nightmare, with lots of bladed points (cusps) positioned side by side, like lines on a barcode. This tooth shape is characteristic of species in the poorly known, extinct possum family called *Ektopodontidae*. The new species is unusual in that it has pyramid-shaped crushing hard foods — a bit like a nutcracker.

So what did *ektopodontids* eat? We don't really know for sure — there's no animal like them alive today anywhere in the world. Based on aspects of their molar morphology, we infer they were probably eating fruits and seeds or nuts. But they may have been doing something totally different!

*Ektopodontids* are tantalisingly rare in the fossil record, known only from isolated teeth and several partial jaws. The fossils show they had a lemur-like short face, with particularly large, forward-facing eyes. But until we find more complete skeletal material, their ecology will likely remain mysterious. What remains astonishing is just how little we know about the origins of Australia's living animals, owing in no small part to a 30-million-year gap in the fossil record — half the time between now and the extinction of the dinosaurs.

At the same time, it's inspiring to think about the countless strange and fascinating animals that must have once lived on this continent. Fossil evidence of these creatures may still be sitting somewhere in the outback, waiting to be discovered.