

CALGAROO

A journey into nature

May 2024



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 2024

8 May Wednesday 10am:

Propagation

11 May Saturday:

APS NSW Quarterly Gathering hosted by our group.

10am to 12 noon: tours of the Community Environment Centre, Currie Ave Annangrove.

12 noon: Gumnut Hall Cherrybrook – lunch BYO

1pm: AGM of APS NSW and talk by Dan Clarke 'Threatened Flora of the Cumberland Plain'

More information [here](#).

5 June Wednesday 10am:

Propagation

22 June Saturday 2pm:

Members' meeting Gumnut Hall Cherrybrook.

Speaker Stuart Read 'History of Garden Design using Australian Native Plants'

3 July Wednesday 10am:

Propagation

13/14 July

Visit to Illawarra Grevillea Park, Bulli, plus other activities to be announced.

14 August Wednesday 10am:

Propagation

24 August Saturday

Visit to Crommelin Arboretum, Pearl Beach

11 September Wednesday 10am:

Propagation

21 September Saturday	Visit to Fairfield Indigenous Flora Park (to be confirmed)
9 October Wednesday 10am:	Propagation
26 October Saturday	Bushwalk Lake Parramatta. Leader Jennifer Farrer
6 November Wednesday 10am:	Propagation
23 November Saturday	Members' meeting and end-of-year celebration Gumnut Hall
4 December Wednesday 10am:	Propagation

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

Report on Bushwalk Pyes Creek Cherrybrook – Saturday 27 April

Ian Cox

We met at the entrance to Fallon Drive Reserve on a beautiful afternoon. There were 16 of us, including one visitor, and I think everyone enjoyed the walk through the tall and impressive trees and rainforest. We were certainly immersed in nature!

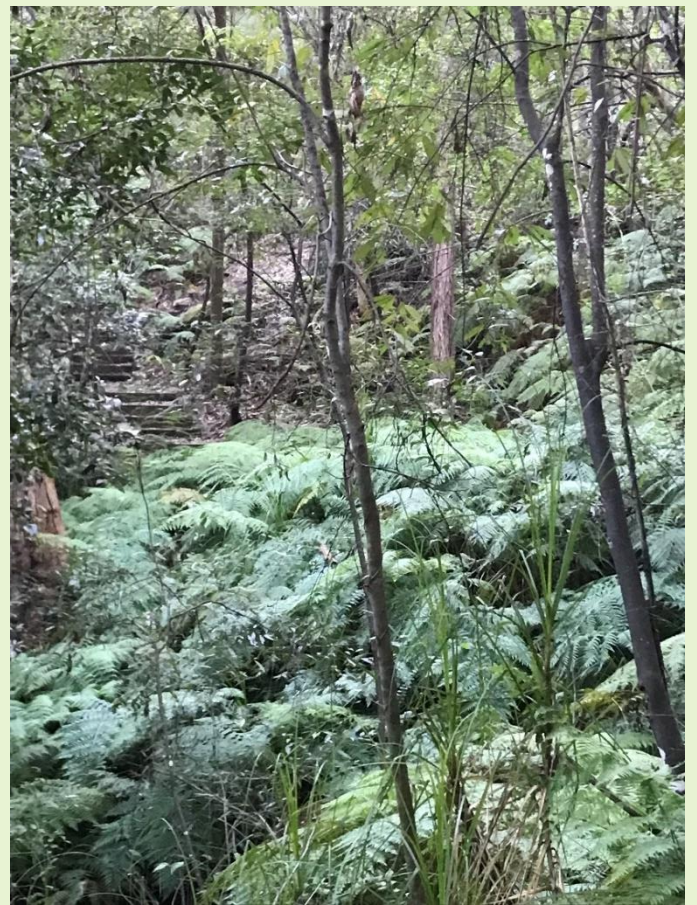


The swing bridge was installed in 2023 as well as the sandstone steps and upgraded track. Pyes Creek cascades below, carrying runoff water from Castle Hill, Dural and Cherrybrook. It flows into Berowra Creek and eventually into the Hawkesbury 34 km away.

We saw tall and majestic *Angophora costata*, towering Turpentines, massive eucalypts, lots of *Callicoma serratifolia* and *Ceratopetalum apetalum* (Coachwood), wonderful Xanthorrhoeas and Lomandras, and large areas of ferns.



The dominant fern was *Calochlaena dubia*, False Bracken, which has a happy knack of spreading over a large area. It was verdant and green, lush, soothing, and tranquil.



Lesley and I have done this walk twice before, and on each of those walks something bad happened – as well as many great things. On the first, I was attacked by leeches and had lots of trouble stopping the bleeding. During the second walk, I did some exploring below the bridge and we became separated – I was 'lost'. Happily, everything went well on today's walk. It was all good!

We saw and marked off many of the plants on Tony's list. *Platycerum bifurcatum*, Elkhorn Fern, was on a tree up high, and we weren't sure whether or not it was a garden escapee.

We passed a few local walkers on our way. What a fantastic walk to have on your doorstep!

Someone described our experience today as FOREST BATHING. It certainly was!



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A serendipity of events that might just lead to a wondrous ending

Lesley Waite

This story was inspired by the photo I took of some gumnuts seen on our Cherrybrook forest walk in April 2024



Somewhere high above the forest floor, a cluster of gumnuts is tenuously attached to a branch. A gust of wind, a preening bird perched close by, or a scampering possum perhaps, shakes the little cluster of gumnuts free and they fall towards the ground. They land on a boulder on the forest floor, bounce and fall over the edge, only to be trapped in a tangle of moss and lichen as they tumble down.

The nuts just happen to be facing downwards and a seed is released.

Just below the lichen, a ripple in the rock surface forms a tiny shelf that captures the seed. The shelf already has some soil caught in its crevasses and it holds onto moisture falling down the rock; there is just enough of each to germinate the seed. The emerging roots follow the tiny shelf along to find a few little gaps that it can delve into, to grab a hold

The serendipitous events continue, and just perhaps, many, many, years later, an unknown bushwalker exclaims, "How on earth did that tree get to grow there?!"

Well, now you know the secret – what just might have transpired to make the 'magic' happen.

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"In every walk with nature, one receives far more than he seeks."

. . . John Muir

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Inosculation

Lesley Waite

The word of the day, demonstrated on our Cherrybrook forest walk.

Inosculation is a naturally occurring phenomenon that occurs when two individual trees or branches growing in close proximity become morphologically joined.

The term is derived from the Latin *ōsculārī*, "to kiss into"



From the APS NSW 2023 Annual Report

Conservation report – Dan Clarke, Conservation Officer

Some of the issues and activities covered on the Conservation front for APS NSW included the following:

- Submission and letter sent to all members of The Hills Shire Council regarding proposed re-development of Fred Caterson Reserve. Modifications to existing sports fields here will impact on remnant trees as well as local bushland.

- Submission to NSW National Parks and Wildlife Services on amendments to feral horse management in Kosciuszko National Park. APS remains deeply concerned about the impacts of feral animals in this and other parks.
- Submission sent to Shoalhaven City Council regarding changes to tree protection laws which would enable an increased removal of trees on private property under self-assessment rules. APS remains focused on protecting remnant native trees in urban environments.
- In addition, APS Sutherland members, John Aitken, Dan Clarke and Rhonda Daniels, along with Eddy Wajon, conservation officer for ANPSA, arranged and attended a meeting with the NSW Department of Planning regarding concerns about impacts to native biodiversity from proposed large-scale solar-power projects. We are encouraging the installation of renewable energy facilities but not at the cost of vegetation removal.
- A project of note and which deserves coverage, is the highly-controversial Lizard Rock development at Belrose. This project is a complicated one for APS, as it is a proposal by a Local Aboriginal Council, in conjunction with the NSW Department of Planning, to develop a completely intact area of high-quality sandstone bushland for residential purposes. Conservation Officer Dan Clarke was engaged to search extensively for any threatened flora on the land over several years and multiple sessions. Dan has decided to no longer work on this project. Submissions for the project were open in November 2023. There will likely be another round in 2024. APS is strongly opposed to this project, which will involve the clearing of completely intact sandstone vegetation in the inner Sydney area, and is monitoring the next stage.

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Science in the Garden - Liebig's Law of the Minimum

Mark Abell

From *Gumleaves*, newsletter of the Hunter Vally Group, April 2024

There is a lot of talk about people getting a balanced diet for good health, well it also applies to optimum plant growth. In plants, this principle is known as "Liebig's Law of the Minimum".

This principle was originally developed in agricultural science by Carl Sprengel around 1840, and subsequently popularised by Justus von Liebig. Liebig was also responsible for contributions to the science of plant nutrition, in particular making the case for plant requirements being based on the mineral elements in the soil rather than the humus theory. He also developed the first mineral fertilisers to replenish nutrients removed by crops from the soil.

The law states that plant growth is limited by the scarcest resource available and not the total resources. Thus, adding more of a resource (or nutrient) that is in plentiful supply does little for plant growth, but supplying the most limited resource has the greatest impact on

growth. It was initially used on crop growth, and it was found that adding more nutrients that were already plentiful did little to increase crop growth.

It was found that increasing the most scarce of the needed nutrients had the greatest impact on the growth of the plants. It can be summed up by the statement that "The availability of the most abundant nutrient in the soil is only as good as the availability of the least abundant nutrient in the soil." In other words, "a chain is only as strong as its weakest link."

In Australia, one of the main limiting nutrients (for traditional agricultural crops) is phosphorus. Whilst the native plants have adapted to low phosphorous levels, many of the agricultural crops that are being grown have their growth limited by low phosphate levels. Thus, the big push and usage of superphosphate on agricultural and pasture land.

What is limiting can vary depending on the particular needs of each type of plant. An excess of some nutrients can result in toxicity in plants. Think of what happens with high phosphate levels on Grevilleas and Banksias.

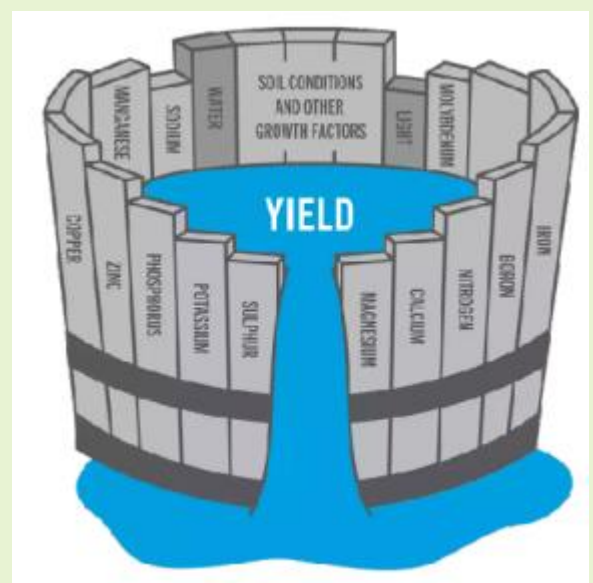
Farmers often undertake detailed soil testing to assess the levels of the nutrients naturally found in their soil. Then, depending on the crop type being grown, a custom fertiliser regime can be used. With the costs of fertilisers, it makes sense to avoid wastage and only provide what is needed.

The resources that Liebig's Law applies to are not solely restricted to the elements in fertilizer. It can be anything that a plant needs to grow, including light, water, temperature and carbon dioxide. For example, in dry conditions, water can be the limiting resource, or light levels in shaded areas.

One thing that is often mentioned in association with climate change, is that CO₂ is not a problem, it is "plant food". This only applies if CO₂ is not the limiting resource. On nutrient-poor soils, dry climates, or under shade other resources are more limiting to plant growth. The areas where additional CO₂ improves plant growth are limited. A better way to get plants to take up more CO₂ is by planting lots more plants.

Whilst the law was initially promoted as a hard limit, the reality is more nuanced, and many things often interact to affect plant growth. It is still a useful principle and can help to optimise plant growth with minimal wastage.

One metaphor Liebig used to illustrate the law was through the use of a barrel. The lengths of the staves represented the nutrients available for the crop to use. The amount of water the barrel can hold is limited by the shortest stave.



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Memories of kunanyi/Mt Wellington

Jennifer Farrer

Tony's presentation of his adventures on kunanyi/Mt Wellington at our January 2024 meeting brought back many memories for me. The trigger was his photo of the track signs at The Chalet "Organ Pipes Track and Zig Zag Track".

My father's family was from Tasmania, and every year we went to Tasmania for our Christmas holiday. When my father considered us old enough to walk all day, he decided it was time for us to be initiated into serious bushwalking. He purchased a map of Wellington Park and so began an annual event exploring the many different tracks on the map.

Mt Wellington was an obvious choice as it was visible from my aunt's back sunroom and backyard. Every day we scanned it for signs of what the weather would be. At night we could see the lights of The Springs Hotel twinkling halfway up the mountain.

Several walks started at The Springs Hotel. This was lower down the mountain than The Chalet where Tony saw the track signs. It had been built at the turn of the 20th century but did not have a licence to sell alcohol. This may be the reason it was not rebuilt after it burnt down in the February 1967 bushfires. As children, we were happy to finish our walk with a Cascade ginger beer at the hotel when the adults probably longed for something a little stronger.

Our first walk was along the Organ Pipes Track. This became a firm favourite. The track leads from The Springs to The Chalet and then around the bottom of the distinctive basalt columns known as The Organ Pipes. The views down into the Hobart City Centre are far superior to those from the Pinnacle. Walkers have the impression that they can throw a stone into Collins Street. As well as the marvellous views, the water condensing from the rock face above ensures there is continuous moisture for the profusion of plants growing along the track. The track comes out on the road to The Pinnacle.

The other track in Tony's photo was The Zig Zag Track. This is the track to The Pinnacle. As its name implies it zig zags up the mountain to reduce the gradient of the climb. Nevertheless, it is still a strenuous climb, and once the track is above the tree line it is very exposed. I have only walked this track once in my life. It is always very cold on the summit of Mt Wellington, but I vividly recall the day we arrived there after climbing the Zig Zag. We were so hot from our exertions that we just faced into the cold wind in sheer enjoyment. I would recommend the Organ Pipes Track to anyone with adequate fitness. It is not a strenuous walk and the flora are magnificent.

I have no photos of any walks we did on kunanyi/Mt Wellington. In those days my camera was a Kodak Box Brownie.

This is the view of kunanyi/Mt Wellington from Kingston Beach, where we spent our holidays. Brown's River, named after the botanist, Robert Brown, is in the foreground. The Organ Pipes are on the right.



Tasmanian tour

Ian Cox

In February 1999 Tamara and I went on the 16-day Plants of Tasmania tour with Bert Bolton's Outback Track Tours. There were 22 fellow passengers, most of whom were members of the Australian Plants Society, including six from the Nowra Group and Narelle and Mark from our Group. A couple of Society members from New Zealand were to show how passionate they are about Australia's plants by photographing almost every one they saw in flower. They surprised us with their knowledge about them too.

After boarding the coach in Sydney and proceeding to Melbourne, we crossed Bass Strait overnight on the Spirit of Tasmania. This was the first time we had experienced this vessel, and were impressed by its massive size, luxurious cabins, good meals and smooth passage. The Tasmanian government subsidises it to promote tourism, keeping the cost of transporting a car to only \$30. It makes six crossings each week.

On arrival in Devonport, we reboarded our coach and met up with our leader for the next fortnight, Dick Burns. Dick, a recently-retired school teacher, brought up in Sydney and now living at Penguin on the north coast, has been bushwalking and studying plants in Tasmania for 30 years. Dick is a Life Member of SGAP Tasmania. For ten years he has been collecting wild plants in Tasmania for the Australian National Botanic Gardens, and his collection formed the basis of the recently established Tasmanian garden there. An article by Dick about his garden appears in the September 1998 issue of Australian Plants. We were lucky to have Dick as leader.

Briefly, the tour went west from Devonport to Stanley, then to Cradle Mountain, Strahan, Lake St Clair, Hobart, Freycinet National Park, and thence to Launceston to catch the flight back to Sydney.

On the way to Stanley, we visited the coastal heath of Rocky Cape National Park, where we saw *Epacris impressa* (mainly pink), *Leptospermum scoparium*, *Persoonia juniperina*, *Pittosporum bicolor* (with its yellow and red flowers) and *Melaleuca squarrosa* all in flower. Bushes of *Persoonia gunnii*, perhaps three metres by four metres were magnificent with their large and fragrant soft yellow flowers, their four perianth members with frilled margins rolled back from protruding stamens. Here we also saw the only known population of *Banksia serrata* in Tasmania (although I dispute this, as our son Andrew discovered another population in the south-west a few years ago, and this has yet to be recognised). The other *Banksia* found in Tasmania, *Banksia marginata*, is widespread.

On a day trip south of Stanley we went through magnificent forest country to the north of the Tarkine wilderness. Unfortunately, native forests are still being felled for woodchips in Tasmania, sacrificing wonderful natural areas for a handful of jobs. For those interested in ferns, we visited a private garden on this day and saw a naturally occurring population of the rare fern *Hypolepis distans*. Our copy of *Australian Ferns* (Jones and Clemesha) states that this fern is only found on King Island and in New Zealand, but does hint at an extension of range.

On the way to Cradle Mountain, we passed through wet sclerophyll forests and sub-alpine woodlands and grasslands, and once there we walked amongst its many delights of sub-

alpine heath with its boronias, and tarns edged with Pencil and King Billy Pines, Deciduous Beech, and Pandani. A wonderful area.

Then on to Strahan and a Gordon River cruise with its riverine rainforest and ancient Huon Pines. We landed ten kilometres upriver and did a short rainforest walk, where we saw a 2,000-year-old Huon Pine, half of which had recently fallen over. We were told that the fallen trunks shoot and grow again, and consequently, clones can populate a large area. In Strahan, we went to Hogarth Falls - a delightful ferny walk through *Dicksonia antarctica*, *Blechnum watsii*, *Blechnum nudum* and *Polystichum proliferum*.

Strahan has the biggest growth rate of any town on the island, having trebled its population over the last few years. This growth is all tourist-based, mainly in accommodation, eating places, tours and craft shops. Tourism is Tasmania's number one industry these days - they are exploiting their greatest asset - breathtaking scenery and wilderness.

At Lake St Clair we took a boat ride to the northern end of the lake and walked the 16 kilometres or so back along the lakeside track through open woodlands and forests.

On the way to Hobart, we called in at Mt Field National Park and Russell Falls. From Hobart, we visited the summit of Mount Wellington - another delightful place, and the Botanic Gardens.

On a free night in Hobart, we were guests at a regular meeting of the Hobart SGAP Group, and were made to feel very welcome. The speaker was a national park ranger who had spent several years on Macquarie Island doing research, and his talk about the island was illustrated with splendid slides. A Plant of the Month presentation about the cushion plant was also full of interest. The Group does a lot of propagation in its nursery and is planning a large wildflower display and plant sale in the spring.

We saw an excellent exhibition on the Tasmanian Tiger at the museum in Hobart. It has now finished there and is to go on a tour of the mainland capital cities - don't miss it if you get a chance. Also in Hobart, we visited Jeanette Closs' garden which was featured in Australian Plants of September 1998. She has a very open block with a north-east aspect and can grow many mainland species including a good number of Grevilleas and Banksias. We also visited Corbett's garden which includes local species as well as many of Tasmania's conifers, and Van Der Meer's garden which is quite bushy. We noticed in Corbett's garden that the Huon Pine *Lagarostrobos franklinii* does well as a garden plant, and when young has a very attractive weeping habit. One of the plants in Van Der Meer's garden that impressed was *Allocasuarina crassa*, which Dick was responsible for bringing into cultivation from south-west Tasmania. It had long arching angular branches with large fruit attached to the main stems.

Just to the south of Hobart at Ridgeway is the Plants of Tasmania Nursery, which specialises in Tasmanian endemics. They have excellent display gardens as well as a huge range of plants for sale, including many alpine species. As examples of their excellent range, they have ten species of Epacris, six forms of *Bauera rubioides*, three forms of *Grevillea australis* (Tasmania's only Grevillea), and three forms each of *Calytrix tetragona* and *Correa reflexa*. I have a catalogue and intend to place a small mail order for tubes.

We booked to make a flight to Melaleuca near Port Davy on the southwest coast, but had to cancel because of bad weather - maybe another time. Then on to Coles Bay and the Freycinet National Park, and the magnificent walk to Wineglass Bay.

It could be said that we toured Tasmania at the wrong time to see plants. We were indeed too late for the Waratahs (*Telopea truncata*), but did see enough plants in flower to keep us satisfied. The Epacris, Leptospermums, Boronias and Leatherwoods were great, and the berries in the sub-alpine areas were like beacons. We saw a good proportion of Tassie's 200 endemics.

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Interesting Links . . .

Koala count bouncing back in Sydney's north-west decades after deadly Hills-Hornsby fire - from [The ABC](#).

Myrtle rust is lethal to Australian plants. Could citizen scientists help track its spread? – from [The Conversation](#).

Forest bathing offers path forward in times of stress – from [The ABC](#).

Australian brush-turkey: unwelcome guest or ecosystem engineer? - from [ANPSA](#).

WeedScan: A new weapon in the war against weeds - from [Landcarer](#).

The surprising world of Sydney's coastal upland swamps - from [Environment NSW](#).

Bunya Pine dieback is spreading - from [The ABC](#).

Our tall, wet forests were not open and park-like when colonists arrived – and we shouldn't be burning them - from [The Conversation](#).

Native bats should be celebrated like other Australian wildlife, ecologist says – from [The ABC](#).

It's time to strike an environmental grand bargain between businesses, governments and conservationists – and stop doing things the hard way - from [The Conversation](#).





Warrumbungle National Park. Image credit: Destination NSW

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Share your stories . . .

Your contributions to *Calgaroo* are always welcome.

If you have interesting observations of plants in the garden or the bush, photos, or any other news, please send them 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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Parramatta and Hills District Group

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