CALEYI

Australian Plants SOCIETY NSW

NORTHERN BEACHES GROUP

austplants.com.au/northern-beaches

July 2020

Australian Plants Society Northern Beaches
northernbeaches@austplants.com.au

President Dr Conny Harris 9451 3231
Vice-President Russell Beardmore 0404 023 223
Secretary Penny Hunstead 9999 1847
Minutes Secretary Eleanor Eakins 9451 1883
Treasurer Lindy Monson 9953 7498
Regional Delegate Harry Loots 9953 7498
Librarian Jennifer McLean 9970 6528
Website Administrator David Drage 9949 5179
Membership Officer Jan Carnes 0416 101 327
Talk Co-ordinator Russell Beardmore 0404 023 223
Walk Co-ordinator Anne Gray 9402 4797
Catering Officer Georgine Jakobi 9981 7471
Newsletter Editor Jane March 0407 220 380

CALENDAR

APS Northern Beaches Meetings have been cancelled due to restrictions on public gatherings as a consequence of the corona virus outbreak. Please note that there will be no Stony Range Spring Festival this year.

APS Northern Beaches walk Saturday July 18, 2020. We will meet at Manly Dam 10.30 am. Anne will send the full details out by email well in advance.

APS NSW GTG Southern Highland Group, 14-15 November 2020.

ANPSA Biennial Conference 12-17 September 2021: Australian flora -past present future. In 2021, the conference is being hosted by the Australian Plants Society NSW at the Kiama Pavilion in the beautiful village of Kiama on the pristine south coast. To register an expression of interest, click the 'https://austplants.com.au/event-3403188'

Many thanks to Conny, David, Anne and Penny for their wonderful contributions to Caleyi this month.
If you have any articles or photographs (jpgs as attachments please) that you think will interest our members please send them to me.
Editor march@ozemail.com.au 0407 220 380

MESSAGE FROM APS NORTHERN BEACHES PRESIDENT CONNY HARRIS.

Dear Northern Beaches Group,

I am asked by some how long will it be until we can get back together for our monthly group meetings, but I am sorry, I can't tell.

It will not be in July. A maximum of 7 people are allowed in our venue at Stony Range and other conditions regarding distancing and risk minimisation must be followed.

I think the appetite for risking any infection is not present and so I suggest we have walks or garden visits at this stage only, as the risk of infection is hugely reduced if being outside.

I do hope you go outdoors and enjoy the bush. I have been looking at the little white flower of Xanthosia pilosa in my driveway. You may recall we discussed Xanthosia in our lesser family talks. It belongs to the Apiacea as do Actinotus, Hydrocotyle and Platysacea. The books (Les Robinson and Fairley and Moore) advise Xanthosia pilosa flowers usually in spring and summer. Well this one hasn't taken any notice of that and I will try to keep an eye out for others and their flowering time.

Also far too early is this light yellow flower. It belongs to the same family as all citrus fruits. What is it?

The longest night, winter solstice, is over and the days will soon lengthen again. Hurray!!!

Regards Conny

"FLOWERING IN JUNE"

David Drage

Paul Nicholson is the 'Site Coordinator Volunteer Programs' at the Royal Botanic Gardens, Sydney and he sends out information about what is happening in the Gardens for the Foundation and Friends. A recent example of Paul's information bulletins concerned plants, native and exotic, in flower and/or fruit in winter – specifically in June. Paul has given me permission to use his text and images of the native plants currently flowering as the basis for this piece for Caleyi. Thank you, Paul.

The following two species are large trees that are found in North Queensland - not for the average suburban garden in NSW but interesting all the same.

The first species is Elaeocarpus bancroftii (from the Greek word elaia for olive and karpos for fruit) which was named for Dr. Joseph Bancroft (1836-94) a surgeon and farmer who arrived in Queensland in 1864. Restricted to north-eastern Queensland in tropical wet forests of coastal lowlands from Cooktown southwards to Tully, this tree grows to 10-30 metres tall with a spreading canopy. Its leaves are large, mid-green ovate and leathery, turning bright red to scarlet as they age and fall.

The flowers are bell-shaped, approximately 15mm across with fringed petals, and hang in clusters during autumn. (Very like the more familiar Elaeocarpus reticulatus which grows to only 15m.) The flowers are followed by blue-green football-shaped fruit about 40mm diameter with a leathery, sometimes fleshy outer layer. Within the fruit, the seed is found inside a hard case known as an endocarp and once extracted from the shell the seed has a nutty flavour (hence the common name Johnstone River Almond) similar to macadamias, and can be eaten fresh or dried. It has traditionally been eaten by aboriginal people and special 'nut-stones' are often left under trees, ready to crack open nuts and expose the seed. The fallen fruits are eaten by Southern Cassowaries (Casuarius casuarius), which contribute to the distribution of the seeds. One of Australia's largest rodents, the Giant White-tailed Rat (Uromys caudimaculatus), which is about the size of a rabbit or small cat, also enjoys eating the seeds. Germination rate of the seed is very, very slow, taking 2 or more years.

The second species is Idiospermum australiense (Diels) S.T.Blake, (from the Greek idios, unusual and sperma, seed), common name Ribbonwood. I.australiense is endemic to the Humid Wet Tropics of NE Queensland and occurs in mature lowland rainforest and is described as a medium sized, evergreen tree growing to 15 metres, with glossy leaves 10 - 17cm long and 3.5 - 5.5 cm wide. Its flowers are small and spirally arranged, (a primitive feature) with creamy white tepals that change to pink and then red as they age. They are fragrant and attract beetles and thrips as pollinators. The fruits are large and globular, about 5 - 5.5 cm by 6 - 6.5 cm. Whilst most modern plants produce seed with one seed leaf or cotyledon (monocotyledons) or two cotyledons (dicotyledons), seedlings of the Ribbonwood have between two and five cotyledons. The seeds are black and poisonous.

In 1902 German botanist Ludwig Diels came to Queensland on a project, funded by the Humboldt Institute, to collect and catalogue rare and unknown plants. He found some unidentified flowers in rainforest south of Cairns and took them back to Germany to compare them with fossil records and concluded that they were from an unknown species of the Calycanthaceae family – the first to be discovered in the southern hemisphere, and which confirmed the ancient nature of the species. Ludwig Diels needed a second sighting to confirm his discovery, but the area of rainforest had been clear-felled for growing sugar cane. Nothing more was done until the species was rediscovered further north in Daintree forest in 1971 by Stan Blake.

Such is the toxicity of the seeds of this species that even the southern cassowary with its extraordinary digestive system cannot eat the fruits.

Paul Nicholson's original item is at https://www.rbgsyd.nsw.gov.au/Stories/2020/What-s-flowering-and-fruiting-in-the-Garden? Text & photographs Paul Nicholson.

If you wish to see these trees in the Botanic Gardens use the new Garden Explorer plant finder at: https://www.rbgsyd.nsw.gov.au/Visit/Garden-Explorer

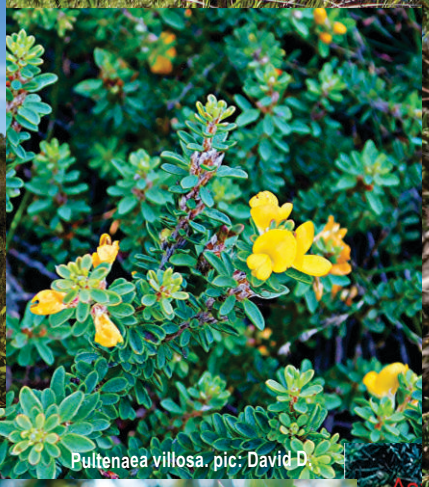
More information on Idiosperma australiense can be found at https://coopercreek.com.au/living-green-dinosaur/

NORTH HEAD WALK IN JUNE

A sunny day for a walk at North Head.


Hanging swamp. pic: Ed


Experts. pic: Ed


Pultenaea villosa. pic: David D.


Banksia ericifolia. pic: Anne Gray


Olax stricta. pic: Ed


Epacris longiflora. pic: Ed


Astroloma humifusum. pic: David D.

John Tann/Flickr, CC BY

THE COASTAL BANKSIA HAS ITS ROOTS IN ANCIENT GONDWANA

Theconversation.com June 12, 2020 Gregory Moore , Doctor of Botany, University of Melbourne

If you fondly remember May Gibbs's Gumnut Baby stories about the adventures of Snugglepot and Cuddlepie, you may also remember the villainous Big Bad Banksia Men (perhaps you're still having nightmares about them).

But banksias are nothing to be afraid of. They're a marvellous group of Australian native trees and shrubs, with an ancient heritage and a vital role in Australian plant ecology, colonial history and bushfire regeneration.

The genus Banksia has about 173 native species. It takes its name from botanist Sir Joseph Banks, who collected specimens of four species in 1770 when he arrived in Australia on board Captain Cook's Endeavour.

One of the four species he collected was B. integrifolia, the coastal banksia. This can be a small to medium tree about 5m to 15m tall. In the right conditions, it can be quite impressive and grow up to 35m.

It's found naturally in coastal regions, growing on sand dunes or around coastal marshes from Queensland to Victoria. These can be quite tough environments and, while B. integrifolia tends to grow in slightly protected sites, it still copes well with sandy soils, poor soil nutrition, salt and wind.

In the right conditions, coastal banksia can grow to 35m tall. Shutterstock

From ancient origins

Coastal banksia – like all banksias – belong to the protea family (Proteaceae). But given the spectacular flowering proteas are of African origin, how did our Australian genera get here?

The members of the Proteaceae belong to an ancient group of flowering plants that evolved almost 100 million years ago on the southern supercontinent Gondwana. When Gondwana fragmented more than 80 million years ago, the proteas remained on the African plate, while the Australian genera remained here.

The spikes of woody fruits on the Australian banksia, sometimes called cones, are made up of several hundred flowers. The flower spikes are beautiful structures, soft and brush-like. But with B. integrifolia, they are pale green, similar to the foliage, and can be hard to see within the canopy at a distance.

Up close, these fruit spikes can look quite spooky, almost sinister, especially when wasps have caused extensive gall formation. Galls are swellings that develop on plant tissues as a result of fungal and insect damage, a bit like a benign tumour.

Maybe this is what led May Gibbs to cast them as the baddies in her Gumnut Baby stories. While the galls may look unsightly, they rarely do serious harm to banksias.

Banksias were depicted as the Big Bad Banksia Men in May Gibbs's Gumnut stories. May Gibbs/The Northcott Society and Cerebral Palsy Alliance

Indigenous use

Given the fruit spikes of coastal banksia look like brushes, it's not surprising Indigenous people once used them as paint brushes.

The flowers are very rich in nectar, which attracts insects and birds. If you run your hand along the flower spike you, like generations of Aboriginal people before you, can enjoy the sweet taste if you lick the nectar off your hand. You can also soak the flowers in water and collect a sweet syrup.

In the garden, B. integrifolia is wonderfully attractive to native insects, birds and ringtail possums. It's easy to establish and, until it grows more than a few metres high, can be successfully moved and transplanted.

Coastal banksia doesn't need fire to release its seed. Shutterstock

Unlike many other banksia species, coastal banksias don't need fire to release their seed. For many Australian species, the woody fruits remain solid and sealed, and it's only when fire comes through that they burn, dry, crack open and release their seed.

This can happen with B. integrifolia too, but in a garden setting the fruits will mature, dry and crack open and release the seeds, which germinate readily. This makes propagating coastal banksia easy work.

In touch with its roots

Perhaps one of the more important, but less obvious, attributes of B. integrifolia are its roots. These are a special type of root possessed by members of the protea family.

The roots form a dense, branched cluster, a bit like the head of a toothbrush, that can be 2-5cm across. They greatly increase the absorbing surface area of the roots, as each root possesses thousands of very fine root hairs.

Proteoid roots can be very handy in sandy and other poor soils, where water drains quickly and nutrients are scarce.

These roots, also described as cluster roots, are often visible in a garden bed just at the interface of the soil with the humus or mulch layer above it. They're very light brown, almost white, in colour.

Rainbow lorikeets love hanging around in banksias. Flickr/Salihan, CC BY-NC-ND

B. integrifolia, like other banksias, also has the ability to take in nitrogen and enrich the soil, which can be very handy in soils low in nitrogen. It's like a natural living and decorative fertiliser.

Proteoid roots are unfortunately very well suited to the presence of Phytophthora cinnamomii (the cinnamon fungus). It causes dieback in many native plant species, but can be particularly virulent for banksias.

But B. Integrifolia is one of the more resistant species to the fungus. Promising experiments have been done on grafting susceptible species onto the roots of B. integrifolia to improve their rates of survival.

This could be important, as banksias have a role in bushfire regeneration in many parts of Australia, so the occurrence of the fungus can compromise fire recovery.

Conservationists push to save Banksia vincentia from extinction

ABC Illawarra May 28, 2020 Sarah Moss

Stig Pedersen says it took a bit of trial and error to start propagating the Banksia vincentia.(ABC Illawarra: Sarah Moss)

Conservationists from around the country are working to save a critically endangered species of banksia from extinction.

Fourteen Banksia vincentia plants were discovered 15 years ago in the New South Wales South Coast town of Vincentia. But now, with only four remaining in the wild, conservationists from the Booderee, Wollongong, Australian, and National Botanic Gardens are collaborating to keep the species alive.

"In NSW the plant has been declared critically endangered, which in terms of conservation and declaration, is a rarity," Booderee Botanic Gardens acting curator Stig Pedersen said. "This is the last stage before it's deemed extinct."

The Banksia vincentia is the focus of a planting spree taking place in Booderee.(Supplied: Stig Pedersen)

Seeds of survival

Banksia vincentia is among six species that occur in the Shoalhaven region, but it does not grow naturally in the nearby Jervis Bay suburb of Booderee. Where it has grown has left it vulnerable — eight years ago half the population was wiped out by fire, and then in 2016 the remaining seven plants were affected by wet conditions.

“Parts of the other half that survived became inundated with water for weeks," Mr Pedersen said. "Like most plants that can't handle wet roots,

we had a few more die."

The Banksia vincentia only grows to about a metre in height.(Supplied: Stig Pedersen)

While things are looking dire in the wild, the push to propagate the plants in the Booderee National Park is proving successful so far. "A decision was made that we would actively do some conservation establishing seed orchards," Mr Pedersen said.

"Now at Booderee we have well over 1,200 individual propagated plants. "We aim to establish 800 plants in the wild. We've planted 400 so far, with another planting session this week and a final one in August."

The Banksia vincentia's striking flower.(ABC Illawarra: Sarah Moss)

'I've killed hundreds' The banksias need good drainage and mild conditions year-round to survive, and Mr Pedersen said getting the plantation going took some trial and error.

"One thing we've found is that, like many Australian plants, they do not like fertiliser, in particular, phosphors," he said.

"We are at a stage now where we don't give them any fertiliser until they are well established, and we use a seaweed-based liquid.

"I would estimate I've killed hundreds.

"I can laugh about it now but it's very distressing and disappointing when you've actually managed to propagate them and they are doing well."

PETER OLDE AWARDED OAM FOR SERVICE TO NATIVE FLORA

theleader.com.au June 8, 2020 Murray Trembath

Peter Olde is a world expert on Grevillea. Picture: supplied

When Peter Olde, a newly returned Vietnam War veteran, was establishing gardens in his Illawong home in the 1970s, a friend suggested growing plants native to Australia was the patriotic thing to do. "That rather took my fancy," he said as he looked back on how his interest in native flora developed.

"I had never thought about it before, but it seemed that it was like running the flag up for Australia and doing something important for the environment at the same time." Mr Olde not only embraced the idea, but embarked on a voyage of discovery that led to him becoming a world expert in this field and pre-eminent in knowledge of Grevillea.

His contribution to the knowledge of Australian native flora, made in a totally voluntary capacity, led to him being awarded the medal of the Order of Australia (OAM) in the Queen's Birthday Honours.

Mr Olde joined the Australian Plants Society (APS) Sutherland group in in 1977, quickly becoming president and serving until 1982.

He became leader of APS's Grevillea Study Group in 1980, a position he continues to hold. He was appointed NSW life member in 1998 and received the Australian Plant Medal in 2015.

Mr Olde said his interest in Grevillea was aroused by the ability and power of the genus to attract native birdlife to his garden.

He has since co-written the three volume Grevillea Book and, from 1993, been Honorary Research Associate at the National Herbarium of NSW at the Botanic Gardens. He has described many new species of Grevillea and collected over 5000 specimens all over Australia. Grevillea oldei was named in his honour

In 2003, he and his wife Margaret established a hobby farm at Oakdale to display native plants to their full potential. Silky Oakes, as it is called, was a regular participant in the ABC's Open Gardens Australia program, which ended in 2015. The park-like garden, which is filled with hundreds of native plants, including many species and cultivars of Grevillea, can still be viewed by appointment.

"Our aim was to create a garden that would display the best of Australia's native plants in the most beautiful manner possible," Mr Olde said. "We now have one of the largest collections of Grevillea in Australia."