

CALEYI



NORTHERN BEACHES GROUP austplants.com.au/northern-beaches

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CALENDAR

For up-dates please check our

Facebook page

Australian Plants Society Northern Beaches
Group

or website:

www.austplants.com.au/northern-beaches

Thursday August 5, 2021 APS Northern Beaches Meeting at Stony Range Regional Botanic Garden, Dee Why. **CANCELLED**

CANCELLED Saturday September 11, 2021 preparation for Stony Range 60th Anniversary Celebration. Please bring flower specimens from your garden for the display board.

CANCELLED Sunday September 12, 2021 Stony Range 60th Anniversary Celebration.

Please spare some time to help with the coffee shop, give plant advice, sales table etc.

Many thanks to our wonderful contributors - Conny Harris, David Drage, Helen Dauncy.

If you have any photographs, articles, links or suggestions for CaleyI please feel free to send to/contact me Jane March march@ozemail.com.au or 0407 220 380.

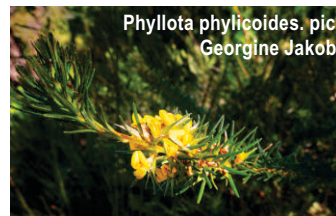
MESSAGE FROM OUR PRESIDENT

Conny Harris

As Australian Plants Society we ought to be celebrating together the explosion of blooming in our bush, but once again we are under lockdown. All activities have to be cancelled and I just hope it will not go on for too long. I would not be surprised if the lockdown will be extended to include the August meeting. Please check your emails closer to the time.

However we know how special this time is and if one wants to see it, one needs to go and explore it individually or with our household partner.

It is gorgeous out there. Every day new blossoms present themselves and the energy of buds wanting to burst open is palpable. Today full branches of *Eriostemon australasius ssp australasius* appeared in flower and I discovered a second *Hovea linearis* along my local track. *Acacia longifolia*, *A.myrtifolia*, *Hibbertia linearis*, *A.ulicifolia* and *Dillwinia retorta* have just being joined by a *Phyllota phyllicoides*, *Hibbertia riparia* and *Phebalium squamulosum* in the yellow colour palette. *Boronia ledifolia* is everywhere and the *Grevilleas*, *G. speciosa* and *G. buxifolia* are adding red and grey.



The amount of people and families walking here is unbelievable. Where once the occasional encounter of a person remained a surprise now it is hard to not see someone else somewhere along the track.

So if you haven't had a walk, please don't miss out this opportunity to be enchanted by our blooming bush. And why not take a photo or two and send it to Jane for our next newsletter, so that we can share your favorites?

Stay well and see you hopefully soon,
Conny

FIFTEEN MINUTE FORAY INTO FAMILY.

David Drage

It was my task for the July 1st meeting of the Northern Beaches Group to present the fifteen minute talk on a selected family of native plants. The brief this time was "mistletoes" which, of course, covers a number of families. To keep the length of the talk manageable and relevant to the east coast of NSW (and inland a bit) I will mostly refer to the family Loranthaceae.

Firstly, a little bit of cultural history. The mistletoe species *Viscum album* is found in the British Isles and across Western Europe and is on its own, apart from one other species which is found only on the Iberian Peninsula. *Viscum album* is in fruit at Christmas time and is used as festive decoration with its white fruits along with holly, *Ilex aquifolium*, with its red fruits. The custom evolved centuries ago that any young woman standing under a bunch of mistletoe could be kissed by any nearby young man – or vice versa.

"The pendant mistletoe, hung up to view
Reminds the youth, the duty youth should do:
While titt'ring maidens, to enhance their wishes
Entice the men to smother them with kisses..."

The Times (London), 24 December 1787 p.3 (poem), The Approach of Christmas.

If you can become a parasite it appears that you are onto a good thing. (One only has to look at human society to see that). Vascular plants have independently evolved into parasitism on at least twelve occasions, and the mistletoe habit accounts for five of them. To be accurate, mistletoes are hemiparasites as they do have green leaves and can, therefore, photosynthesise for themselves. Our target family, Loranthaceae, (only one independent evolution) has 73 genera and more than 900 species worldwide, with 71 species in Australia. In our part of the world there appear to be about twelve species in six genera.

Most mistletoes are found on the branches of trees and shrubs but there are some that grow in the ground and parasitise the roots of other plants. I will start with one of these, although it isn't a local species.

The plant known as the Western Australian Christmas Tree is *Nuytsia floribunda* which is quite spectacular when in flower. Its inflorescences can reach up to 1m in length. *N. floribunda* can grow to 10m tall and will latch its underground haustoria onto any plant it encounters within reach.



Coming back to NSW, *Amyema cambagei* is widespread in the state apart from the far southwest. It is found in sclerophyll forest and woodland where its host is one of several species of *Casuarina*. The flowers are tubular, mostly red and appear in spring, and the fruits are pink or red.



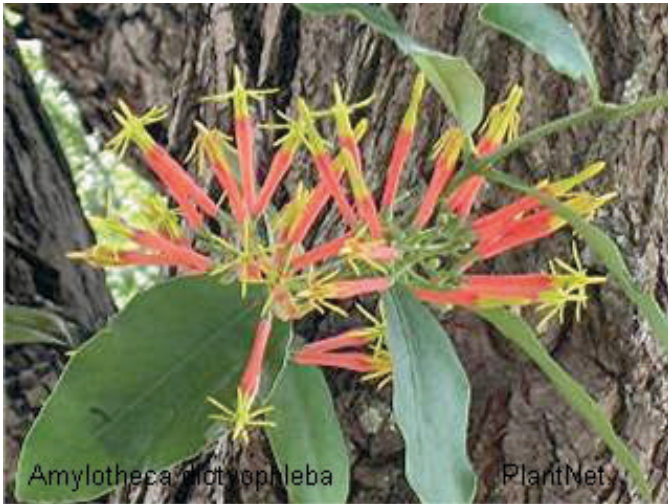
The next mistletoe, *Amyema miquelii*, is another widespread species apart from the far northwest of the state. Flowering is in summer and autumn with the predictable red corolla, but the fruits are yellow and pear-shaped. The chosen host plants are usually *Eucalyptus* spp. A common name for *A. miquelii* is "Drooping Mistletoe" and the image included here shows this habit well.



Another species in the same genus is *Amyema gaudichaudii* which is largely restricted to the Central Coast region where it is also found in sclerophyll forest and woodland. Its red flowers mostly appear in summer followed by fruits which are also red. *Melaleuca* spp are the chosen hosts for *A. gaudichaudii*.



The last species of mistletoe I will mention is *Amylothea dictyophleba*, the sole representative of this genus in eastern coastal NSW. Mostly found in rainforest habitat this species is not fussy about its host and will flourish on many other species. It bears red or pink flowers with a yellow apex in summer, followed by red or purple fruits.



I'm afraid this short piece doesn't really do justice to our mistletoe species. When (if ever) we get back to having meetings it will be a pleasure to have an expert come along and share their knowledge with us.

I didn't even get to the mistletoe bird.

References:

Carolin, R. and M. Tindale. Flora of the Sydney Region. (4th edition). Reed. 1994. PlantNet, ANBG, Wikipedia

AUSTRALIA OR AFRICA? THE BOTANICAL CONTROVERSY OVER WHO CAN CALL THEIR PLANTS 'ACACIA'

ABC Science Jun 20, 2021. Belinda Smith



Acacias are often bright and cheerful, but around the turn of the millennium, these plants caused a rift in the botanical community. (Getty Images: Francesco Carta fotografo)

As chilly winds sweep across south-eastern Australia, the first wattles of the season are preparing to burst into fluffy pom-poms of resplendent gold and pale cream.

Wattle — scientific name *Acacia* — is synonymous with this land. We have around 1,000 acacia species across the continent, more than twice the number of the next largest plant group, eucalyptus. Wattle wood, sap and seeds served and sustained First Nations people for millennia.

Yet Australia is not alone in having a deep connection to acacias. Plants called acacia are found around the tropics and throughout Africa, where they also hold enormous cultural and economic significance.

And in the 2000s, this unassuming posse of plants was at the centre of one of the world's biggest botanical controversies: who gets to call their acacias "Acacia"?

What's in a plant name?

Go to your local nursery, and you'll notice plants have double-barrelled scientific names alongside their common name.

The first part of the scientific name is its generic name (indicating its genus) followed by a specific (or species) epithet. And the person to really push for that two-part name system was Swedish scientist Carl Linnaeus.

"Linnaeus had a fair bit of hubris, it must be said," says Kevin Thiele, director of Taxonomy Australia and ex-head of the Western Australian Herbarium. "The epitaph on his tombstone, which was written by him before he died, was 'God created. Linnaeus arranged.'"

"He saw himself as being subsidiary to God, but, you know, up there."

In 1753, Linnaeus published a plant catalogue called *Species Plantarum*, or "The Species of Plants". While *Species Plantarum* wasn't the first publication to list all known plants, it was the first to do it using the double-barrelled name or "binomial nomenclature" system.

Linnaeus's inspiration to push for the binomial naming system may have come from Swedish societal changes of the time, where people had recently shifted from having only a first name to having a surname as well, Dr Thiele says. "At that time, surnames were only given to people if they were going to go to university or make something of themselves."

The year after *Species Plantarum* was published, English botanist Philip Miller formally pinned the moniker *Acacia* to a genus of plants, consisting of a couple dozen species of plants found in Africa, Asia and the Americas.

The word "acacia" came from the Greek "akis", meaning a barb or thorn. Greek philosopher and physician Dioscorides, who lived almost 2,000 years ago, prepared medicine from the leaves and pods of an African plant he called "akakia".



Also called thorny acacia, this plant is found in Africa and India. (Getty Images: Lalit Mohan Sethae)

This particular species, a thorny African tree with feathery foliage and fuzzy yellow orbs for flowers, would centuries later be known as *Acacia nilotica*.

When Europeans colonised Australia, they struck acacia gold. They "discovered" hundreds of shrubs and trees that looked quite a lot like acacia plants abroad — with those classic fluffy spherical blossoms — so they stuck those plants under the *Acacia* genus umbrella too.

Over the next 200 years or so, some acacia species — including a few from Philip Miller's original batch back in 1754 — were reclassified and booted out of the genus. By and large, though, the genus kept growing. Towards the end of the 20th century, the number of acacia species worldwide had ballooned to more than 1,350.

But it wouldn't stay like that.

An acacia by any other name

In the mid-1980s, as Premier Joh Bjelke-Petersen was on his way out, Queensland Herbarium botanist Les Pedley decided it was time to overhaul the Acacia genus.

Based on traits such as leaf and flower structure and chemistry of wood and seeds, he argued that the mammoth Acacia genus should be split into three separate genera: a group containing *A. nilotica* which would keep the name Acacia, a second genus called *Senegalia*, and a third — which would encompass pretty much all Australian species — named *Racosperma*.

"Sperma' refers to seeds, 'rachis' means an axis, so what it really refers to is that the seeds in the pods are arranged in a linear fashion," says Bruce Maslin, whose 50-year career at the Western Australian Herbarium was dedicated to Australian acacias.



Linear seed pods are typical of Australian acacias, as seen here on a crowded-leaf wattle (*Acacia conferta*). (Getty Images: Auscape)

Mr Pedley started renaming Queensland species of Acacia to *Racosperma*. Other states and territories didn't follow suit, though, and *Racosperma* didn't gain much traction outside of the state.

DNA enters the debate

The question of whether the Acacia genus should be split reared its head again towards the turn of the millennium, when the age of DNA sequencing provided evidence for a name change that the international botanical community simply could not ignore.

After centuries of bundling related plants into genera based on appearance, botanists could suddenly group them through genetics. Evolutionary links were no longer based on educated guesses; lineages could be established through long strings of DNA.

And in the year 2000, DNA studies showed that the Acacia genus was actually at least five separate genera: one large, primarily Australian group, two groups of a couple hundred species found across Africa, Asia and the Americas, and three much smaller groups found in the Americas.

This meant African acacias and Australian acacias — what we call wattles — were related, but only very distantly. Their last common ancestor grew millions of years ago, back when the landmasses were smooched together in the supercontinent Gondwana.

So it was clear: one genus would become five. Of those new genera, one would keep the name Acacia. But which?

Two options: Australia or Africa?

From a cultural perspective, both continents could lay equal claim to keeping the name Acacia.

First Nations people — Australia's first scientists — prepared medicines from wattles, not to mention food, weapons, musical instruments and utensils using seeds, gum, roots and wood. More recently, wattles gave Australia the green and gold splashed across our sporting uniforms.

But across the Indian Ocean, Africa also has an incredibly deep connection with acacias. "They're pretty much the symbol of Africa," says Allan Schwarz, a designer who founded and runs the Mezimbite Forest Centre in Mozambique.

The classic image of a flat-topped thorny tree silhouetted against a sunset is an acacia.



African acacias may be best known in images like this, showing an umbrella thorn acacia tree, but they're found in all shapes and sizes across the continent. (Getty Images: ac productions)

Mr Schwarz also points to the strong connection that many people on the African continent have to acacias. "You will find some remarkable Afrikaans poetry which we learnt at school, which had a lot of deep, spiritual and a sort of sensual meaning embodied in the acacias that we all saw every day."

Plus, Africa had the plant that acts like the anchor for the name Acacia — *Acacia nilotica* — the very species *Dioscorides* made medicines from two millennia ago.

In botanical naming, this anchor species is known as the "type". So on the face of it, the answer seemed obvious. The genus containing *A. nilotica* should retain the Acacia name, and the other genera get new ones. But not everyone agreed.

In a 2003 paper, Australian botanists Mr Maslin and Tony Orchard presented a case that the least disruptive solution to the Acacia name question was to make *A. penninervis*, a small tree native to Australia's east coast, the new "type".

If their proposal was given the green light, all 960 Australian wattles would remain Acacia, while the 400 or so found in Africa, Asia and the Americas would be renamed.

"By weight of numbers, we certainly had the more species," Mr Maslin says. "Not only that, the Australian species important around the world forestry and other utilisation programs."

Should their proposal fall over, the Australian genus — containing the best part of 1,000 species — would be called *Racosperma*, just as Les Pedley proposed in the 1980s.

But if that happened, they argued, another spanner would be flung in the works. Latin nouns have a gender. *Acacia* is feminine; *Racosperma* is neutral.

So switching *Acacia* for *Racosperma* wouldn't be as simple as hitting the find-and-replace shortcut on your keyboard. The ending of hundreds of species names would need to change to reflect the gender change too.

For instance, *Acacia pycnantha*, the wattle emblazoned on the Australian coat of arms, would become *Racosperma pycnanthum*. "And I thought that this would be extremely disruptive for a long time to come," Mr Maslin says.

The Orchard/Maslin proposal was only two pages long, but it kicked off a flurry of passionate debate around the world as botanists and taxonomists went in to bat for one side or the other.

Broadly, there were two camps. There was the "Australian side", which supported the Mr Maslin and Dr Orchard's proposal that would give Australian species the *Acacia* name.

Then there was the "African side", which argued to keep the *Acacia* name attached to African species. "The community was pretty well split over what they thought about these alternatives," Mr Maslin says.

That said, not all Australian botanists supported the Australian side, and some African botanists did.

When winning the vote is a loss

A change in plant names of this scale needs to get past a couple of committees of the International Association for Plant Taxonomy.

Both committees voted in favour of the Orchard/Maslin proposal, but only just.

It was then put to a much wider vote at the 2005 International Botanical Congress in Vienna, where hundreds of botanists gathered.

There, only 45 per cent of votes were in favour of the recommendation that the Australia group have the *Acacia* type and, hence, the name. But for a recommendation to be rejected, at least 60 per cent of the Congress in Vienna needed to vote against it.

This meant the Australian side won — with a minority vote, sure, but it was enough.

When the result was announced, silence settled over the auditorium. "The whole atmosphere was people trying to be dignified about it," Dutch plant naming specialist Paul van Rijkvorsel says.

It quickly became apparent that the Vienna vote wouldn't be the end of the *Acacia* name issue. "Afterwards, there were several people who came to me who were feeling ... that they were robbed."

'You could sense the tension'

The next chance to interrogate the *Acacia* name debate was six years later, when the International Botanical Congress was held in Melbourne in July 2011.

Both sides of the *Acacia* issue were keen to settle the matter — one way or another.

Priya Rangan, a political ecologist then at Monash University, was at the Melbourne Congress. "When that particular item came about for discussion, you could just sense the tension in the room," she recalls. And the Australian side, once again, prevailed — this time, by a clear majority. Nearly 70 per cent of votes cast were in favour of upholding the Vienna decision.



When the *Acacia* type changed to an Australian species, the African knobthorn's scientific name changed from *Acacia nigrescens* to *Senegalia nigrescens*. (Getty Images: Education Images)

Dr Rangan, who is now at the University of Melbourne, knew botanists who attended the Congress hoping to overturn the Vienna decision. Afterwards, she says, they felt defeated and deflated. "There was a very, very strong sense that this was ... a neo-colonial push by the Australians to assert dominance over a genus name."

Others were angry — an entirely understandable reaction, Dr Thiele says. "I can imagine that if someone came to me and said, we have just made a determination that your daughter Sophie will be renamed Margaret, I'd be pretty stroppy about it. And in some ways, that's what happens when taxonomists reclassify. Sometimes reclassification requires us to change a name. People have grown fond of that name, they've memorised it, they know it, it means something to them — and then it all changes."

Why does this all matter anyway?

In the decade since the Melbourne Congress, the botanical community has by and large accepted the name change, Dr Thiele says.



Aussie, Aussie, Aussie ... wattle is our national floral emblem. (Getty images: Jenny Dettrick)

While the botanical community has moved on to use the new names, Mezimbit Forest Centre founder Allan Schwarz says it's not necessarily the case for those in Africa outside academia.

"For the people in nature, timber, nurseries — in all the different things related to trees — we all still use the old names," Mr Schwarz says. "And as far as I'm concerned, it doesn't matter what some bunch of self-indulgent scientists call it. "It's the people who use it, the people at the base, the people who live in the forest, what they call it is what counts."

Dr Thiele says it's really only in scientific literature where the scientific names are used, and that's where correct names have their implication. "It's really important for us to have our scientific names reflecting our knowledge of relationships. "Scientific names are the basis upon which we do an enormous amount of important work, conservation, ecology research.

"We can only understand nature and biodiversity correctly if our scientific names are right."

Where Did That Cockatoo Come From?

newyorker.com June 28, 2021 Rebecca Mead

Birds native to Australasia are being found in Renaissance paintings—and in medieval manuscripts. Their presence exposes the depth of ancient trade routes.



Andrea Mantegna's "Madonna della Vittoria" was completed in Italy in 1496. Art work from © RMN-Grand Palais / Art Resource, NY

Helen Dauncy alerted us to this great story about how a sulphur crested cockatoo finished up in a painting by Mantegna, in 1496 in Italy. Read the full account at:

https://www.newyorker.com/magazine/2021/07/05/where-did-that-cockatoo-come-from?utm_source=onsite-share&utm_medium=email&utm_campaign=onsite-share&utm_brand=the-new-yorker,

WILDLIFE SHOW SIGNS OF RECOVERY AT NORTH HEAD SANCTUARY

www.australianwildlife.org July 21, 2021 A Wright/AWC

AWC has had some exciting results at North Head Sanctuary, located on Sydney's doorstep. In recent surveys, AWC's team of ecologists in the field at North Head Sanctuary have recorded new individuals and pouch young among reintroduced mammal species, and come face-to-face with four elusive Brown Antechinus.

At North Head Sanctuary, AWC is contracted by Sydney Harbour Federation Trust to deliver research and monitoring projects, including the reintroduction of locally extinct species such as the Brown Antechinus, the Eastern Pygmy Possum and the native Bush Rat, and to provide strategic advice on the conservation of the headland's critically endangered Eastern Suburb's Banksia Scrub Community.

The new mammals and pouch young are positive signs that wildlife is continuing to recover at the sanctuary, nine months on from a hazard reduction burn that jumped containment lines (The Harbour Trust and AWC, who is not contracted to deliver fire management at North Head,

were not involved in the burn). Since the fire, our team of ecologists have been closely monitoring wildlife populations and working to support ecosystem recovery.

During the recent biannual mammal survey, 17 new Long-nosed Bandicoots were processed as well as 12 Eastern Pygmy Possums (five new individuals, two previously caught adults and five pouch young). One of the Eastern Pygmy Possums was previously captured in March with young at foot and only two months later she was recaptured with two new young ones in her pouch.



Five pouch young Eastern Pygmy Possums were recorded during May's small mammal survey. This is a positive sign that the population is growing post fire. H Nelson/AWC

During the survey, the team also captured and processed four new Brown Antechinus – the highest number of live captures since the species was reintroduced. Two individuals were also detected in nest boxes during a survey earlier this year. Brown Antechinus had previously proved difficult to capture. The occurrence of these individuals in traps is likely due to an increased number of nest boxes that are now deployed across the headland as well as changes in habitat and food availability after the fire.

"It was really exciting to pick up four Brown Antechinus. We know that they're out there, thanks to sporadic camera sightings, but we haven't caught one in a trap for a long time" explains Vyanna Leo, AWC Wildlife Ecologist. "We believe they may be appearing more frequently as they are seeking refuge within our survey areas due to loss of habitat from the fire."

New native Bush Rat individuals were also processed during the survey. A total of 92 were encountered, in comparison to only eight invasive black rats. Between 2014 and 2016, after reducing the black rat population, AWC reintroduced Bush Rats to North Head as part of a unique initiative to use a territorial native species as a biological control against invasive black rats.

Since the reintroduction of Bush Rats, the population of black rats has decreased from an estimated 112 in 2019 to 29 in 2020. These results demonstrate the success of the initiative and the Bush Rat's ability to outcompete the introduced species.

To further promote wildlife recovery, North Head will soon have an extended frog habitat. AWC is providing guidance on the project to Sydney Harbour Federation Trust, North Head Sanctuary Foundation and the North Head Nursery.

The Sydney Harbour Federation Trust team excavated an existing drainage area and the North Head Sanctuary Foundation is currently lining it with sandstone and planting wetland species propagated on the headland. Once complete, this will extend available habitat for existing species and hopefully encourage new species to move in.

Learn more about AWC and Sydney Harbour Federation Trust's work at North Head Sanctuary, here www.australianwildlife.org/native-bush-rats-reclaim-territory-from-black-rats-in-sydney/.