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SOUTH EAST QUEENSLAND SNAPSHOT







76,102 have a second se



8,546 Habitat **Under** RESTORATION



www.inaturalist.org/ projects/lfwseq

To join contact your local LfW Officer

Land for Wildlife is a voluntary conservation program that encourages and assists landholders to provide habitat for wildlife on their properties.

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Front Cover Inset Photos: Fishbone Fern, photo by Deborah Metters; Snake Orchid (*Cymbidium suave*), photo by De-Anne Attard.

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Land for Wildlife South East Queensland Team, December 2021

EDITORIAL

Welcome to the november 2022 issue

I'd like to start by thanking all of you who completed our recent membership survey. Over 1800 Land for Wildlife members participated, that's 35% of the total LfWSEQ membership. We are delighted with this high response rate, which reflects the strong level of investment by members into this program. Results are being analysed and will be presented in this newsletter next year.

The LfWSEQ Annual Report 2021-22 is also now available at <u>lfwseq.com.au/resources</u>. Last financial year saw the second highest annual growth in the program's history with 381 new properties joining. The highest growth year was 2020-21. Last year also saw the registration of a 3200 hectare property in the southern Lockyer. This is the largest privately owned property in the LfWSEQ program. I would like to welcome all new members to LfWSEQ. Thanks for joining this network of landholders who are looking after wildlife and their habitats.

The change in Federal Government has brought renewed interest in private land conservation with Australia's commitment to 30 by 30. This is a global initiative that aims to protect 30% of land and sea by 2030. Even if this commendable target is achieved at a national scale (currently 24% is protected), it doesn't necessarily translate to a state or local level. Ideally, all bioregions and ecosystems in Australia should have some degree of protection, not just 30% of the whole.

In SEQ, many ecosystems fall outside of any formal protection (e.g. Council reserve, National Park or conservation covenant). Land for Wildlife properties play an important role in protecting many ecosystems that are not in protected areas. They are also vital for connecting protected areas and thus creating corridors for wildlife across the landscape.

On a final note, I would like to congratulate Gold Coast Land for Wildlife member, Wal Mayr, on being recognised as the Australian Individual Landcarer of the Year 2022. Wal has dedicated over 40 years to landcare and, in August this year, received this prestigious honour at the National Landcare Awards in Sydney.

Wal and his wife Heather have been restoring their Austinville property since the 1970s and joined LfW in 1999. They have converted an old, degraded banana farm into a thriving rainforest and have undertaken regular pest animal control, fire management and flora and fauna surveys to help protect the significant biodiversity values on their property.

In addition to the landcare work on his own property, Wal is the Coordinator of Austinville Landcare and President of Watergum, an umbrella organisation for landcare groups on the Gold Coast. He regularly undertakes landcare work on other private and public properties in the region. Congratulations Wal. You are an inspiration, respected leader and mentor to all of us in the conservation industry, and a well-deserved winner of this award.

Thanks to all contributors to this edition and I welcome any feedback.

Deborah Metters Land for Wildlife Regional Coordinator

We welcome all contributions. Please send them to:



Climate & Weather

REGIONAL OUTLOOK Nov 2022 - Jan 2023

- Daytime and Night-time Temperatures. It is highly likely
- that daytime temperatures will be unusually cooler than average across SEQ. It is likely that night-time (minimum)
- temperatures will be warmer than average.
- **Rainfall.** Above median rainfall is likely for eastern Australia.

Streamflow. High streamflows are likely with increased risk of flooding.

Climate Influences

- La Niña is active in the Pacific Ocean, increasing the chances of above-average rainfall in eastern Australia.
- The Indian Ocean Dipole (IOD) is negative, increasing the chances of above average spring rainfall.
- The Madden-Julian Oscillation (MJO) will strengthen, increasing the chances of above average rainfall.
- Australia's climate has warmed by about 1.47°C since 1910.

Sources

www.bom.gov.au/climate/outlooks/ www.bom.gov.au/water/ssf/ www.bom.gov.au/climate/cyclones/australia

Weeds to Watch

Nov-Dec 2022

Black-eyed Susan - a widespread, long-lived vine that is in flower at this time of year. Reproduces by seed and also by any vegetative fragments. Control with herbicide using foliar spray method.

Brazilian Nightshade - a

widespread, long-lived vine that has distinct purple flowers that turn into shiny red berries over summer. Hand remove small patches, or treat with herbicide using cut stump/ scrape methods.

Duranta - grows to a large shrub/small tree. At this time of year has distinct clusters of orange fruit. The branches often droop, especially when carrying large fruit clusters. Control using cut stump method.



Fruity Arils

A red aril surrounds black seeds - all enclosed within the yellow fruit of Tuckeroo (*Cupaniopsis anacardioides*).

llow me to introduce you to arils. Not only are they important in encouraging the distribution of seeds, they can also be colourful and fascinating to look at or photograph.

Arils are specialised structures that grow out from a seed. They can cover the seed either fully or partially. Arils are often brightly coloured to attract birds and other animals and are often fleshy and edible, which again, entices wildlife to eat it. To eat an aril, an animal also needs to eat the seed as the aril and seed are stuck together. The animal then digests the aril, but defecates out the seed, thereby helping the plant disperse its fruit.

An aril is basically a reward that the plant offers to the bird, or other animal, to eat its seed. The great thing for the plant is that many seeds germinate more readily if they have been passed through the gut of an animal. Acids in the gut of wildlife help break down hard seed coats, and the animal deposits the 'treated' seed in a nice pile of fertiliser (dung) ready for germination.

Some fruits that we eat, such as lychee and pomegranate, are actually arils. Botanically, there are many different types of fruit but, in general, wildlife see fruits in two broad categories – berries and a pod containing a seed with an aril (an 'arillate seed'). A berry develops directly from a plant's ovary and has no hard pod. Whereas both the seed and aril grow out from an ovule (found within the ovary). Both the seed and aril are usually enclosed in a tough, woody or hairy pod. When the seed matures, the pod splits open revealing a ripe seed with an aril. Arils and pods are often different colours making the arils more conspicuous to wildlife.

Next time you see one of your native trees fruiting, take a closer look to see if it is a berry-type fruit (e.g. Celerywood, *Polyscias elegans* or Scrambling Lily, *Geitonoplesium cymosum*), or if it is a fruit with an arillate seed, such as wattles and many species within the Sapindaceae family such as tamarinds (*Diploglottis* spp.), coogeras (*Arytera* spp.) and tuckeroos (*Cupaniopsis* spp).

Article by Martin Bennett and Deborah Metters Photos by Martin Bennett Land for Wildlife Officer Lockyer Valley Regional Council

Reference

Skutch, AF (1980) Arils as food of tropical American birds. *Cooper Ornithological Society* 82: 31-42.





A white aril surrounds black seeds - all within the yellow/ orange fruit of Wombat Berry (*Eustrephus latifolius*).



Many wattles have prominent arils such as these long yellow ones on *Acacia wardellii* and a red aril next to an unripe *Acacia* salicina seed.



A red fleshy aril surrounds black seeds (not visible) within the yellow hairy fruit of Pitted Coogera (*Arytera foveolata*).

Practicalities USING BRUSH-MATTING TO MITIGATE SOIL EROSION AND TO PROMOTE NATURAL REGENERATION

Response of the early stages of erosion.

Simply put, brush-matting involves covering a bare area with woody plant material by laying it over the ground as a soil protection layer. It is suited to rehabilitating small degraded areas that have been disturbed (usually by machinery) to the point where all vegetation cover has been removed such as scalded or bald areas. It can be used on the very early stages of gully erosion or small areas of sheet erosion.

On Land for Wildlife properties its applications could be for repairing bare and degraded areas such as old motorcross tracks, eroded horse trails or old logging tracks that are no longer required. It's also suitable for any redundant steep vehicle tracks that have become washed out and where replanting isn't practical due to the level of compaction and the absence of top soil. It is also suited to areas where access issues make it difficult to get revegetation materials such as water and other materials to the site. Brush-matting offers a cheap alternative to help prevent erosion and re-establish vegetation cover without the need for planting or purchasing specialist erosion control materials.

Brush-matting is a technique that has long been employed in the rehabilitation of sand mines and eroded sand dunes. In these areas it generally involves using harvested branches that are carrying fertile materials (seeds). However in my experience, just the simple act of covering up bare earth with deadfall branches and/or harvested branches will gradually create conditions conducive for natural regeneration processes to recommence and for native plant cover to re-establish. Suitable brush-matting materials can usually be sourced adjacent to the area to be covered. This can include dead fall branches, logs, tree limbs, sticks, bark and foliage. Obviously deadfall that provides existing habitat values such as hollow logs should not be disturbed. Brush materials can either be placed in one go or could be gradually accumulated by progressively relocating recently fallen branches from tracks and adjacent areas. You could also use pruned branches that are overhanging tracks. Native grasses can be cut when in seed and also spread over the woody debris in order to introduce seed.

The branches and attached foliage help shade the ground providing some of the benefits offered by mulching such as maintaining soil moisture. However, initially the coverage should not be too thick as it will suppress seed germination. Locally sourced materials can also inadvertently introduce beneficial fungi spores, invertebrates and microorganisms to the site and help reinstate some ecological processes that assist in improving soil conditions to a state that will again facilitate germination of native plants. Once instated, the messy pile of branches also diverts any heavy traffic giving the area a spell from compaction. While at the same time offering some cover for smaller fauna such as skinks.

Similar to the leaky weir concept, branches and bramble should be laid across the slope as this will actively intercept and slow overland water flow, aid infiltration and allow sediment and leaf-litter to settle and accumulate. As organic matter accumulates and covers the bare area, decomposition processes will also recommence and ultimately a humus layer is established. Trapped within the sediment and washed organic material are seeds, some will be native and some may be exotic species such as grasses or annual herbs. As the conditions improve some of these seeds will germinate and the roots of these pioneer plants will help to stabilise and retain the recent deposition of sediments. In the absence of any natives, low priority weeds could be left in the short to medium term to help halt erosion.

Brush-matting is an under-utilised technique that is affordable and achievable for the majority of landholders. Applied in the right situation it can be a great low-input alternative to planting. If you have a bare area on your property, it's worth considering brush-matting as an option for re-establishing vegetation cover.

Article and photos by Nick Clancy Land for Wildlife Officer Sunshine Coast Council



tishbone tern **A PIONEER SPECIES?**

ike many lovers of the Australian bush, when I moved on to my 2.5 hectare property in December 1998, I tried to eradicate anything that wasn't native.

"Away with the lantana, groundsel and privet; death to the camphor laurels!" I cried as I slashed, pulled and poisoned.

Among the unwanted plants cluttering my piece of Paradise was a lot of Fishbone Fern. It's a hardy and very stubborn plant. In seeking to banish it into oblivion, the only thing I produced was a sore back.

So eventually I sought to put it to good use by allowing it to grow down a bare slope that needed protection from erosion. It did a fine job. And there things rested for 3-4 years, when suddenly lots of native vegetation began to poke their heads through the dense, seemingly impenetrable mass of Fishbone Fern. White Bollygums, Celerywood, Piccabeen Palms and Native Ginger to name a few, all started to grow up through the fern, about 50-60 plants in an area 10x30 metres.

I had never had any success getting anything to grow on that bare slope. Was the Fishbone Fern enriching the soil? I pulled up a clump and smelled the roots.

"Wow! If I was a plant I'd really like that!"

Then I inspected the front along which the Fishbone Fern was spreading. It was outcompeting the Molasses Grass!

"Alleluia, there is a God!" I cried in ecstasy knowing that the grass that had bothered my sinuses for years was on the way out.

The Fishbone Fern was acting like a pioneer species, renewing the soil, encouraging the growth of natives and out-competing noxious grasses. It's saved me a huge amount of work.

6

"No one will believe this," I thought. "No one who has spent days, weeks, years getting rid of Fishbone Fern will want to hear that their labour may have been unnecessary."

My enthusiasm for Fishbone Fern goes against the accepted way of doing things.

Maybe we've been too hasty to remove this 'weed' rather than let it be and see what good it might do. In the long term it may provide a hardy and resilient ground cover that will survive the ravages of climate change, protect the soil from erosion and provide habitat for small animals. After all, ferns have been around for 300 million years and have survived many of Earth's upheavals.

Our local Land for Wildlife Officer, Stephanie Reif, visited my property and had not seen anything like this on any other property. Perhaps there are factors at work on my property that, in combination with the Fishbone Fern, have produced this result. By trying it out on other properties, we may see if what I've found will apply in other conditions.

In a perfect world, we would do a scientific study to determine if Fishbone Fern on its own is a pioneer species. It might require a 3-4 year study, maybe one day it will happen.

Meanwhile, I suggest this to my fellow bush regenerators: if you have a patch of Fishbone Fern of perhaps 5x5 metres, try weeding around it to keep it from spreading for 3-4 years and see what happens. It might surprise you.

Wishing you every success...

Article and photos by Herb Fenn Land for Wildlife member **Blackall Range, Sunshine Coast**

Native Ginger grows up through the dense Fishbone Fern.





A CONSERVATION PARTNERSHIPS OFFICER'S VIEW

erb's property is at Cooloolabin on the Blackall Range at around 300m elevation bordering Mapleton National Park. Looking at aerial photos, Herb's property was first cleared between 1971 and 1974. You can see from the 1988 aerial that it was nearly fully cleared and heavily disturbed with some areas grass free with exposed soil.

The Cooloolabin area has some patches of basalt that were highly sought after for crops and pasture. Herb's property doesn't have basalt, but is the older, less fertile North Arm volcanic soils. As a goat farm for many years, the goats would have seriously eroded and compacted the topsoil. Using a combination of natural regeneration and revegetation, Herb has allowed his property to come back to mostly native vegetation. Being surrounded by an excellent seed source has helped a lot.

In the areas where Fishbone Fern is in the understorey, a number of other species are coming up on their own – Celerywood (*Polyscias elegans*), Piccabeen Palm (*Archontophoenix cunninghamiana*), White Bollygum (*Neolitsea dealbata*), Native Ginger (*Alpinia caerulea*), Muttonwood (*Myrsine variabilis*), Creek Sandpaper Fig (*Ficus coronata*) and Scentless Rosewood (*Synoum glandulosum*). The planted Blue Quandongs (*Elaeocarpus grandis*) are starting to reproduce as well.

Has the Fishbone Fern helped with regeneration of native species? Maybe. Maybe it has in conjunction with the trees Herb planted 20 years ago finally getting tall enough to shade out the weedy grasses and helping slow down and allowing water to soak in. The Fishbone Fern would have also helped create mulch by trapping leaves amongst its fronds and improving the soil fertility. In an area that had been previously heavily grazed by goats, for potentially decades, the soil would have been very compacted and potentially nutrient poor. To know for sure, we would have needed to set up a scientific experiment to compare different areas over time.

Herb's example shows that weed control is not always a black and white choice between good and bad. Sometimes regeneration is a choice between leaving an unwanted plant for now and removing a really bad weed. Or leaving a weed to fill a purpose for a certain length of time, e.g. erosion control. In a fire prone environment, I would definitely prefer Fishbone Fern to the highly flammable Molasses Grass! I'll be interested to see how the site progresses into the future.

Article by Stephanie Reif Land for Wildlife Officer Sunshine Coast Council







2021 Aerial. Images from QImagery, qimagery.com.au

ishbone Fern (*Nephrolepis cordifolia*) is a native plant that is naturally distributed from northern NSW through to north-eastern Australia, including SEQ. The populations growing around Sydney and in parts of Victoria, and in many countries around the world are introduced and considered weedy.

Even though Fishbone Fern is native, it is often considered a weed and is actively removed. However, as Herb's article shows, Fishbone Fern is a very tenacious and valuable pioneer plant that can help the restoration process of degraded lands. The creeping underground stems (rhizomes and stolons) make Fishbone Fern great at holding onto steep slopes and trapping sediment and moisture, enabling other plants to grow and eroding soils to stabilise. Fishbone Fern can become a problem when it jumps the fence from backyards or is dumped into bushland areas as garden waste. If you have Fishbone Fern on your property and it is not spreading or taking over other native ground-covers, just leave it as it is. Ruffled teathers How BIRDS KEEP THEIR FEATHERS HEALTHY

ike humans, birds spend a lot of time looking after themselves. Feathers are like a bird's hair, clothes and make up all in one package. So it's not surprising birds end up spending a lot of time looking after their feathers. Healthy feathers mean the bird has good insulation from the cold, waterproofing for when its wet and good flight as feathers are important for aerodynamics. If your feathers are uncared for, you're not going to be as attractive as a mate compared to another who puts more time into looking after themselves.

Bird feathers are like human hair in that they are not living and are essentially dead. But they are more complex than a strand of human hair. The shaft that runs down the middle of the feather has rows of fine filaments called barbs coming off both sides. Along each of these barbs are interlocking filaments called barbules. Usually, these barbules interlock so the feather appears smooth. When birds get their feathers ruffled up from brushing up against vegetation or interacting with other birds the barbules can become disorganised and no longer interlock together neatly. If you've ever pulled backwards on a feather, you have unzipped the barbules. If you then smooth out the feather this reorganises it and zips up the interlocking barbules.

Birds spend a large portion of each day looking after their feathers and because of this a lot of bird behaviour can be attributed to their care. You might think a dip in the bird bath just cools a bird down and lets it have a drink, but it also allows birds to give their feathers a good wash and they can often be seen afterwards preening their feathers as well. When birds fluff their feathers up it helps re-zip the barbules back together.

Preening is a maintenance behaviour that birds use to look after their feathers and keep them in good condition. Preening is the birds 'me' time to sort their feathers out and get the barbules to interlock again, helping to keep all the parts of the feather working together efficiently and aerodynamically. Preening also removes dirt and extends the life of feathers.

The most common form of preening is nibbling which involves working a feather with their bill from the base to the tip. Nibbling assists in redistributing feathers, distributing preen oil, finding parasites (like lice and mites) and rejoining unzipped barbules. Stroking feathers is another kind of preening but is not as efficient as nibbling.

Most birds have a gland above the base of their tail feathers (the preen or uropygial gland) where they get preen oil from. Preen oil is a mix of waxes, fatty acids and water and helps to reduce bacteria, fungi and parasites that cause feathers to degrade. Birds rub the uropygial gland with their beak collecting preen oil on it and then rub the preen oil through their feathers to distribute it.

Some birds including emus, ostriches, cassowaries, rheas, kiwis, some parrots and some pigeons do not have a uropygial gland or preen oil. Instead, they have powder down feathers which continuously break down into a powder that is used in a similar way as preen oil.

An important part of preening is keeping external parasites (ectoparasites) in check. Ectoparasites include lice and mites and usually irritate the skin or damage the feathers. Studies have found that birds with damaged beaks are not able to preen their feathers and keep ectoparasites in check as effectively as birds with undamaged beaks.

Sunning, Dust Baths and Anting

Birds like to stretch out in the sun and can enter an almost trancelike state where they are enjoying the warmth of the sun. This behaviour is called sunning. They fan out their tail feathers and spread their wings exposing their feathers to the sun, warming



Most birds undertake a complete moult of their feathers each year. Shown here is a Whistling Kite moulting its primary and tail feathers.



Birds spend a lot of time preening to ensure the barbules in their feathers are 'locked together'. Shown above are Double-barred Finches and here a Noisy Friarbird.

themselves up and/or drying off after rain or a dip in the bird bath. Water birds especially are often seen sunning themselves to dry their feathers. Sunning may also have benefits in controlling ectoparasites by disturbing the parasite and making it easier to find when preening.

Dusting is another behaviour thought to help with parasite control. Having a good dust bath is something that domestic chicken owners will be familiar with, but many other birds also like to ruffle themselves up in fine dirt or sand distributing the particles through their feathers. It is thought that the fine particles dry out and kill or disturb parasites enough to make it easier to remove them while preening. Dusting can also remove excess preen oil.

An unusual method of ectoparasite control is anting. This is where a bird deliberately allows ants onto its feathers. There is active anting where the bird applies an ant to its feathers. Passive anting is where the bird permits the ants to swarm on it by sitting where ants are active near an ant nest or ant trail. Many bird species have been observed anting. Birds that are anting usually have a particular posture where they are prostrate or semi-prostrate on the ground with their wings held out and open which can look very similar to birds sunning themselves.

Ants are not the only species used to 'ant'. Other species which have been observed include beetles, bees, millipedes and aromatic leaves. Another theory about anting is that it is used by birds to prepare the invertebrate before they eat it e.g. ants will use up all their formic acid on the feathers before the bird eats them. Another idea is that anting is a form of sensory selfstimulation (the ants give the birds a massage?) or that it helps to decrease skin irritation during a feather moult.

Only species of certain ant families have been observed to be used in anting. These ants spray or exude formic acid so support the theory that anting is for ectoparasite control and/or to help irritation. Some evidence suggests formic acid helps control mites. Whatever reason the bird has for anting it must be beneficial considering the importance of their feathers to birds.

An extreme example of anting is by rooks in England which used discarded, still-burning cigarette butts to smoke their feathers with. Given the range of theories about anting there is still a lot to learn about bird behaviour!

Stephanie Reif Land for Wildlife Officer Sunshine Coast Council Photos by Deborah Metters





This Tawny Frogmouth looks like it is sunning itself, but video captured at the same time also shows invertebrates (maybe ants) on the feathers. Image taken on a fauna monitoring camera on a Land for Wildlife property on the Sunshine Coast.



Bathing is one of the activities that birds, like this Grey Fantail, do to keep their feathers clean and healthy.



Orchids of SEQ

ast summer, La Niña's wet weather brought with it both floods and a recharge for our catchments and forests resulting in beautiful displays of flowering orchids throughout SEQ. Australia has an estimated 1,900 described orchid species that vary from evergreen epiphytes (in trees), lithophytes (on rocks), climbing orchids and terrestrial (ground) orchids.

This article splits orchids into three main groups: epiphytes, lithophytes and terrestrial orchids and describes a few common species that hopefully you may see this summer.

Orchids are easiest to see when they are in full flower and are easy to forget, or undetectable, when not in bloom. If conditions are unfavourable, ten years can pass between flowering events. Almost all terrestrial orchids are seasonal and deciduous with an annual dormant period where the plants are not visible above the ground. After flowering, most terrestrial orchids dieback to a tuber or rhizome, which persist in the soil. The exceptions are Christmas orchids (*Calanthe* spp.), tongue orchids (*Cryptostylis* spp.) and swamp orchids (*Phaius* spp.), which are evergreen with leaves present throughout the year. Sadly, terrestrial orchids account for 15 species in the top 100 Australian plant species at risk of extinction according to the *Action Plan for Australia's Imperilled Plants 2021*. Land clearing, urbanisation and inappropriate fire regimes are known key threats to epiphytic and terrestrial orchids. As we protect and conserve our forests, wetlands and heathland, it is important to observe and understand some of the more cryptic, unique and sometimes invisible species that make up ecosystems. I hope we will continue to see this diverse family of plants flourish.

Article and photos by De-Anne Attard Land for Wildlife Officer Sunshine Coast Council

References and Further Reading

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Jones DL (2021) A Complete Guide to Native Orchids of Australia. 3rd Ed. Reed New Holland.

Leiper G, Cox D, Glazebrook J & Rathie K (2017) *Mangroves to Mountains. 2nd Ed.* Logan River Branch, Native Plants Qld.

Terrestrial Orchids



Sun Orchids (*Thelymitra* spp.) are one of the most widespread orchids across Australia. Even though they are common, they can still be difficult to spot amongst dense heath and other groundcovers. The Wallum Sun Orchid (*Thelymitra purpurata*) can be found along track edges and in dense wallum heath. They flower from August to January but can be easily missed as flowers only tend to open when the sun is out.



Blotched Hyacinth Orchids (*Dipodium punctatum*) grow in both wet or dry eucalypt forests. This orchid is also saprophytic (acquiring nutrients from dissolved organic matter) and has reduced leaves and up to 60 spotted bright pink flowers on a single stem. The flowers can be seen from November to March and often appear after rainfall. Keep an eye out for this beauty when walking through eucalypt forests throughout SEQ.



Donkey Orchids (*Diuris* spp.) can be found in various ecosystems across SEQ, from wallum heathlands to eucalypt forest ridges. As the common name suggests, this Wallum Yellow Donkey Orchid (*Diuris unica*) grows on sandy soils in coastal wallum heathlands and flowers late winter to spring.



One of my favourite local orchids is the Christmas Orchid (*Calanthe triplicata*). These orchids have a tall flower stalk full of large white showy flowers (with yellow calli on the labellum). Known to bloom around December, you can see these orchids flowering from October to January. If you are lucky enough to be hiking through Conondale National Park at the right time of year, you may see the edges of walking tracks dominated by these orchids. The broad palm-like leaves of this species are easily spotted all year round and are a spectacle even when they are not in flower.



Lithophytic orchids can be split yet again into two categories. Species that grow on rocks are obligate lithophytes and species that grow on rocky substrate (rocks and soil) are facultative lithophytes. The following orchids are generally found growing on rocks or in a mix of rocks and soil substrates but there are exceptions to every rule, where occasionally they have been seen growing on trees.



Pink Rock Orchids (*Dendrobium kingianum*) most commonly grow on large boulders and rocks in montane environments. A common orchid, this species is known to hybridise with other Dendrobium species. Pink Rock Orchids flower from August to October and can often be seen as pink flowering masses growing with other lithophytic ferns and groundcovers on the sides of steep cliff faces in SEQ.



The Tiny Strand Orchid (*Bulbophyllum exiguum*) is known to be both epiphytic and lithophytic. The first time I encountered this species was in the late summer of 2021 in a deep ravine of a tributary of the upper Stanley River. The small flowers and bulbous fruit stood out on the rockface. These orchids flower from February to May with large plants and inflorescences visible cascading down rock faces in rainforest, wet sclerophyll and open eucalypt forests.



Epiphytic orchids grow on trees and dead timber and can be encountered across northern and eastern Australia. Two commonly occurring epiphytic orchids of SEQ are the Giant Boat-lipped Orchid or Native Cymbidium (*Cymbidium madidum*) and Snake Orchid, *Cymbidium suave*, shown above. *Cymbidium suave* mainly establishes in tree hollows but can be found with *C. madidum* in fallen trees and logs on the forest floor. These orchids have beautiful flowering displays from August to February with bright yellow, pendulous inflorescences.



Another commonly occurring epiphytic orchid is the Brushbox Feather Orchid (*Dendrobium radiatum**), which can be seen growing on the trunks of Brushbox (*Lophostemon confertus*) trees. Similar species include the Ironbark Feather Orchid (*D. aemulum*) that grows on ironbark trees, the Rainforest Feather Orchid (*D. deuteroeburneum**) that grows on a variety of host trees in wet eucalypt and rainforests, and the Forest Oak Feather Orchid (*D. angustum**) that grows almost exclusively on Forest Sheoak (*Allocasuarina torulosa*) and infrequently on Black Wattle (*Callicoma serratifolia*). These orchids flower locally from August to October and have white feathery petals which can be seen draping off the trunks of host trees.



Finally, an epiphytic orchid that you will see mostly in rainforests is Myrtle Bells (*Sarcochilus hillii*). It usually grows in gallery rainforest and most often on Grey Myrtle (*Backhousia myrtifolia*) or occasionally on rock faces. Although relatively common, this small epiphytic orchid can be easily overlooked in the rainforest due to its dark leaves and very small, short-lived flowers. Keep a close eye out for the slender leaves and small pendant white to pale pink flowers from October to December.

*Scientific names as per *Guide to Native Orchids of NSW and ACT (2022)*, reviewed on pg 13.

BOOK REVIEWS

Native Plant ID Resources

Many of you would be familiar with these native plant identification resources. Your books may be dog-eared and marked with dirt from your various plant forays. New editions and revisions of these books and apps continue to be released. Hopefully this review reminds us all of these gems, and maybe prompts an update from your old version to a new and expanded edition, complete with fresh unadorned pages.



Mangroves to Mountains: A field guide to the native plants of South-east Queensland

By Glenn Leiper, Jan Glazebrook, Denis Cox & Kerry Rathie

576 pgs | 25x17cm | \$50+postage Published by Native Plants Queensland, Logan River Branch www.mangrovestomountains.com

Representing decades of research and extensive field trips by the authors, *Mangroves to Mountains* remains the cornerstone to native plant identification in SEQ. Covering 2450 species of plants shown with colour photos, this is an incredible resource.

The Third Edition was released this year and is a major update and extension to the 2017 Second Edition. Many people I know still have and use the 2008 Revised Edition – my copy now props up my computer monitor (sorry Glenn). In addition to the 'usual' native plants, the latest edition covers all of SEQ's orchids, gum trees, wattles, mistletoes and vines. Impressive.

One of the best things about *Mangroves to Mountains* is its layout. The book is divided into seven broad habitat types: tidal wetlands and dunes, freshwater wetlands, eucalypt forest, rainforest, coastal heath and montane heath. Then within each habitat type, the plants are grouped together by flower or fruit colour. Those two major groupings can help you narrow down your plant very quickly, especially if it is flowering or fruiting. Basically *Mangroves to Mountains* is a must have if you are interested in our local native plants.



Dictionary of Botanical Names

By Don Perrin

222 pgs |A5 | \$32.95 + \$10 postage Self-published. Available from Tracey Perrin at greendataprojects@gmail.com

People develop an interest in native plants for many different reasons. The origins of nomenclature can draw one into the world of early explorers, the colonial

mindset and botanical intricacies of shape, texture and smell. It can be helpful to understand what is meant when you say *Jacksonia scoparia* (Dogwood), for example. For those interested, *Jacksonia* refers to George Jackson, an early plant illustrator and editor, and *scoparia* is Latin for a domestic broom – hence the other common name for Dogwood is Winged Broom-pea.

This book is a one outcome of Don Perrin's passionate interest in native plants, which also resulted in the Redcliffe Botanic Gardens. His daughters continue to self-publish the book and the 3rd Edition was released in 2020.



Rainforest Plants of Australia

By Gwen Harden, Hugh Nicholson, Bill McDonald, Nan Nicholson, Terry Tame & John Williams

Android or Apple or USB | \$50

Rainforest Trees and Shrubs (aka the 'Red Book')

By Gwen Harden, Bill McDonald & John Williams

318 pgs | A4 | \$45

Rainforest Climbing Plants (aka the 'Green Book')

By Gwen Harden, Bill McDonald & John Williams

192 pgs | A4 | \$35 Gwen Harden Publishing www.rainforests.net.au

The Red Book and Green Books have long histories, dating back to 1979 and 1980 respectively. The current format of the Red Book was first released in 2006 with the Green Book following the year after in 2007. Upon release, they immediately set a new benchmark for rainforest plant identification in SEQ.

The Second Edition of the Red Book was released in 2018 and now covers 880 species of rainforest trees and shrubs. The Red and Green Books both contain line drawings of plant leaves or other key characteristics with the layout using a synoptic key that arranges all species into 17 major groupings.

In 2014, the Red and Green Books were merged into one remarkable interactive USB or app. Moving to a digital platform created space for photographs. The USB includes over 12,000 images and the app has over 8,000 images. The multitude of images offers a whole new level of assistance with identification. Powered by Lucid, the USB and app have an interactive key where the user can select certain traits of the plant such as leaf, flower, fruit, bark or location to narrow down identification quickly and without using botanical terms.

Whether you use the Red or Green Books, the USB or the app, this is a valuable body of work to tap into to learn more about the rainforests on your property or region.



Personally, I have found combining the abovementioned field guides with the citizen science platform, iNaturalist, to be the best way to learn native plants. Using iNaturalist, I can take photos of the plants I see, upload them and start to build up a catalogue of my own sightings. Learning is about repeat, repeat, repeat, and each time I photograph and upload a plant to iNaturalist, I am laying down memory, which helps my recall next time.

iNaturalist also uses artificial intelligence (AI) technology to suggest identification based on your photographs, and its AI is getting smarter and smarter. The more photos it has to learn from, the more accurate its recommendations are. A fabulous free app to record any living organism on Earth.

Article by Deborah Metters Land for Wildlife Regional Coordinator

Guide to Native Orchids of NSW and ACT

It has been 20 years since the last field guide on native orchids for NSW was produced. Given that 24 new species of orchid have been discovered in the past five years (in the NSW and ACT regions), this guide has sprouted at a good time. Whether you're scanning for orchids high up into the treetops, or searching through rocky ravines, or looking on the forest floor, this field guide is a good companion for your travels in NSW, the ACT and also in South East Queensland (SEQ).

This guide describes 582 species of native orchids that occur in NSW and ACT and approximately 300 of these species also occur in SEQ. Although distribution maps only show NSW and ACT, the distribution and habitat descriptions always note which species occur in Queensland (and other states).

For most arboreal or evergreen terrestrial orchids, the authors have included multiple photos of the form (leaves and stem) and flower of the orchid. In instances where the flower is the dominant distinguishing feature, generally only one photo per species is included in the description. In instances where terrestrial species variation may relate to features of form such as stem size, variation in flower colour and leaf number, the lack of additional photos may leave some readers wanting more.

In summary this is a great field companion for orchid enthusiasts and beginners alike. It is compact and user friendly. I also love how it includes notes on how the subject orchid differs from similar looking species. If you don't want to find yourself in an 'orchid' position, this is a good field guide to refer to when you're next identifying that orchid species on your property or in other bushland areas.

Review by De-Anne Attard Land for Wildlife Officer Sunshine Coast Council



GUIDE TO NATIVE ORCHIDS OF NSW AND ACT



Lachlan Copeland and Gary Backhouse

Paperback | 2022 | \$50 456 pages | 21.5x15cm CSIRO Publishing





Koalas on the move

and for Wildlife members, Heidi and John, were thrilled to see a young Koala on their property at Booral. In their five years on the property, this is only the second Koala sighting on their acreage known as Virtue Farm.

The tree they found the Koala clinging to, in the wind, was a Queensland Peppermint (*Eucalyptus exserta*), sometimes known locally as messmate. Queensland Peppermint is often reported as the preferred food tree species for Koalas in the Fraser Coast region. The sighting was in the Koala breeding season (July to January), and this individual may have been a young male trying to move into new territory.

"We are so excited to know that we are seeing an increase in wildlife moving onto our property. We have 27 acres of native forest that we are preserving and maintaining for just that purpose." - John.

As part of the Land for Wildlife program, John is selecting trees and native plants to rejuvenate areas and actively encourage animals like Koalas to live there. He has already planted a number

of Queensland Peppermints that Fraser Coast Regional Council have provided freely to program members.

Queensland Peppermint grows up to 20m on shallow soils. The bark is tightly matted fibres at the base and smooth on the branchlets. Leaves are narrow with a pungent peppermint smell on crushing.

Article by Jim Johnston Land for Wildlife Officer Fraser Coast Regional Council



Fruits of *Eucalyptus exserta* show exserted (protruding) valves. Photo by Scott Gavin



allitris, colloquially known as Australian Cypress or Cypress Pine, although a conifer, is not actually a pine tree but is a member of the Cupressaceae family.

There are 15 species of Callitris, of which 13 are found in Australia and 7 of those in south-east Queensland. Callitris are mostly monoecious (i.e., they bear male and female parts on the same plant). The name Callitris is derived from the Greek words kallos (beauty) and treis (three) and refers to the arrangement of leaflets in whorls of three.

Resins from Callitris trees have traditionally been used by Indigenous Australians as an adhesive for attaching axe heads to handles, and barbs and tips to spears.

This article focusses on one cypress species found in the western regions of SEQ. Bailey's Cypress (*Callitris baileyi*) has a restricted and sporadic distribution along the ranges of the Eastern Darling Downs as well as the Lockyer Valley and Scenic Rim regions. It is listed as Near Threatened in Queensland and Endangered in NSW, but is not Commonwealth listed.

In SEQ, Bailey's Cypress tends to grow on shallow, usually clay soils on rocky slopes, hills and mountains. In contrast, in NSW, it is found in grassy eucalypt forests near a creek. Across its range, the main threatening process has been increasing fragmentation and simplification of habitat as well as inappropriate fire regimes.

Bailey's Cypress can be recognised by these features:

- Grows to about 18m tall (can be taller, I have one on my property that is about 30m high)
- Green foliage
- Sharply keeled leaves which makes the branchlets appear triangular
- Smaller fruit size than the other Callitris species
- Prickly new growth is in whorls of three.

Baileys's Cypress and Black Cypress (*Callitris endlicheri*) are similar in appearance as well as having an overlapping range, so may be hard to tell apart to the untrained eye. The most notable differences observed include the more distinctly keeled nature of the leaves of Baileys Cypress, and the more common and obvious prickly new growth on Bailey's Cypress. Also, the fruit of *Callitris baileyi* is consistently smaller i.e., less than 15mm in diameter.

Bailey's Cypress creates an attractive diversity and contrast in Eucalyptus woodlands and forests. The diversity of bird species, particularly the woodland birds, always seems to be greater whenever there is some cypress pine thrown into the mix of plant species present in an area.

It is an attractive tree that would make a lovely feature tree in any garden or can be

used as a windbreak on rural properties and is relatively drought tolerant once established. Potted specimens can also make great native Christmas trees.

Bailey's Cypress is not fire resistant however the seeds do grow well in an ash bed after a fire.

The other commonly occurring cypress pine in western SEQ is White Cypress (*Callitris glaucophylla*). This species has a bluish-grey foliage colour and the seed capsules are quite large, up to 25mm.

There are two species of cypress pine found in higher altitude places of SEQ. On exposed rocky areas of Lamington and Mt Maroon is a short, stunted tree, the Dwarf Cypress Pine (*Callitris monticola*). On the Springbrook and D'Aguilar Ranges grows the Stringy-barked Pine (*Callitris macleayana*).

On sandy coastal soils, such as on North Stradbroke Island, two species of cypress can be found - Dune Cypress Pine (*Callitris rhomboidea*) and Coastal Cypress Pine (*Callitris columellaris*).

If you come across a cypress pine, you should be able to narrow it down to one or two species depending on where you are in the landscape. The facing page provides some photos of the species most likely to be confused with Bailey's Cypress.

Article and photos by Sandy Robertson Land for Wildlife Officer Toowoomba Region

Black Cypress





Black Cypress (*Callitris endlicheri*) grows as a more open tree than Bailey's Cypress and its leaves are less keeled than Bailey's Cypress. The trunk of Black Cypress is generally tough and deeply furrowed.

References and Further Reading

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Sapling bark

White Cypress

White Cypress (*Callitris glaucophylla*) has a bluish-grey appearance with large seed capsules (above right) and rounded (not keeled) leaves.

THANKYOU FOR TAKING OUR SURVEY

Over 1800 Land for Wildlife members completed our survey representing 35% of the LfWSEQ membership. Thank you. All responses were unanimous and results are currently being analysed by the researchers at James Cook University and will be report through this newsletter next year.

Congratulations Prize Winners

Two nights accommodation plus breakfast, dinner and \$200 on beverages at Spicers Hidden Vale.

Two nights accommodation plus wine, cheese and breakfast at Lyola Pavilions.

R. Hungerford Sunshine Coast Faunatech fauna monitoring camera.

R. Hall Brisbane A solid wooden Camphor Laurel chopping board set.

A. Dover Donna Somerset Brisbane Hollow Log Home nest boxes.

D J. Watkinson Lockyer Valley A collection of reference books.

Two nights accommodation at The Stonehouse Retreat.

Wt Barney Lodge Two nights accommodation at Mt Barney Lodge.

Two nights accommodation at Binna Burra's Safari Tents.

Thankyou to all our sponsors: The Turner Family Foundation and Spicers Hidden Vale Lyola Pavilions Mt Barney Lodge

Stonehouse Retreat Binna Burra Lodge Adam Richardt for making the handcrafted chopping boards City of Gold Coast, Brisbane City Council, Scenic Rim Regional Council and Sunshine Coast Council