



Winter Orchids

I gained a love of orchids from my elders who were also intrigued with their beauty and their specific niche in the plant world. During recent visits to Land for Wildlife properties in Sheldon, large colonies of terrestrial (ground growing) orchids were on display. In previous years, they were present, but not as abundant. The wonderful Land for Wildlife members, custodians of these orchids, also share my enthusiasm, and this reinvigorated my appreciation for these plants.

The three orchid species recently seen were King Greenhoods (*Pterostylis baptistii*), Pixie Caps (*Acianthus fornicatus*) and White Fingers (*Caladenia catenata*). All of these terrestrial orchids like well-drained, moist sites and are mostly found on southern slopes, in gullies or near watercourses. Some areas where they grow in Sheldon are periodically inundated.

Orchids are remarkable in that they require mycorrhizal fungi to exist. Without fungi, orchid seeds would not germinate. In addition, fungi attach to orchid roots and transport nutrients from the soil to the

L-R: White Fingers, King Greenhoods and Pixie Caps are in flower now. Photos by Maree Manby (left) and Deborah Metters.

plant. Without fungi, some orchids could not grow or flower.

Terrestrial orchids have extremely small seeds and only a tiny percentage of seeds dispersed will germinate. Orchids are sensitive, so if you have them on your property, please protect them from disturbances such as trampling by stock, machinery compaction or slashing. It is also best to avoid using herbicides, fungicides, fertilisers or pesticides near them as orchids, their fungal partners and their pollinators can be killed by chemicals and soil nutrient changes. Consider hand weeding around orchid colonies.

If you are lucky enough to have terrestrial orchids on your property, please consider photographing them, recording the time of year in which they flower and letting your local Land for Wildlife Officer know about them.

**Article by Maree Manby
Land for Wildlife Officer
Redland City Council**

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Cockspur Thorn



editorial

Should trees have standing? This was the question posed by Alessandro Pelizzon at the Lockyer Valley Land for Wildlife Forum in May. About 130 people attended this community-spirited Forum, held in the eco-decorated Stockyard Creek Hall. This same question was first asked back in 1972 when the Sierra Club tried to protect the Mineral King Valley in California from a proposed development. They argued that the valley and its trees should have a legal right to exist and should be able to defend themselves; hence they should have legal 'standing'. Despite this case being unsuccessful, that question sparked a global movement that continues today. It is called Wild Law or Earth Jurisprudence.

I first learnt about Wild Law a few years ago and with it came optimism and a sense of triumph. These are essential ingredients when working in conservation. Some may argue that our suite of environmental laws are adequate, but if that was the case, why are most indicators of ecological health going backwards, and have been doing so for decades? Unfortunately, our laws have not halted biodiversity declines or climate change. Wild Law argues that the Earth and all its natural wonders have an intrinsic right to exist. Several countries have already granted natural entities legal rights such as the Whanganui River in New Zealand and the Mesoamerican Coral Reef in Belize. They are recognised as living, whole entities with legal rights. Australia hasn't quite caught up yet, but we will...

So although it is interesting to think global, it is also important to act local. This is what Land for Wildlife is all about. This edition shows how landholders across SEQ are making a difference on their properties and in their communities. They are restoring degraded lands and creating habitats for threatened animals.

On the flora front, this edition profiles various vines including the nine different passion vines found in SEQ, pepper vine, cockspur and the Richmond Birdwing Vine. Vines play a critical role in many ecosystems, but they can be prickly characters to deal with. Keep a look out for native vines on your property and consider adding vines to your revegetation list.

There is an article reminding us to be tick aware this winter. This is the time when ticks are in their tiny juvenile stages of life, but can still make us quite sick. In addition to vines and ticks you can also read about spiders and snakes too. I am probably not selling this edition well, am I? Anyway, happy reading.

Thanks to all contributors, and as always, I welcome your input and feedback.

And by the way, the Mineral King Valley is now part of Sequoia National Park and the proposed development was shelved.



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Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
3100	846	56,507 ha	5,781 ha

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Australian Government

fauna vignettes



When secure is not as it seems

When one is a Brown Honeyeater there is always the threat of predation.

Therefore setting up a nest on the back verandah of a Land for Wildlife house seems ideal, especially when there is the aesthetic bonus of a floral setting.

This is what was done by a pair at our place, "Melaleuca", at Kalbar. The nest site was in the inflorescence of a potted Swamp Orchid (*Phaius australis*) about a metre from the kitchen door so there was the extra protection of humans passing by.

However, the builders did not account for the fact that the orchid flowers have a life of only a few weeks after which they fall. So the humans had to come to the rescue by attaching the nest to the inflorescence stem with florist's wire.

All was successful: the birds raised two chicks and the humans had the pleasure of their company.

Barry and Marjorie Jahnke
Land for Wildlife members
Kalbar, Scenic Rim



Enjoy the Small Things

Pictured is a pair of peaceful doves perched on the Hill's Hoist in my backyard. The size of these tiny pigeons can be gauged in comparison to the clothes peg beside them. They share the title of Australia's smallest dove with the similar Diamond Dove of the arid interior. Peaceful Doves are readily distinguishable by the blue skin around their eyes.

Peaceful doves are relatively common in open forests throughout eastern Australia. Three pairs visit the bird feeder at home every day and will stand their ground, even chasing away larger species. They have a most enjoyable melodic call.

Neil Schultz
Land for Wildlife member
Tarampa, Somerset



A Flying Echidna?

This echidna skin was found on my property about five metres off the ground on an outer branch of an Acacia underneath a large Tallowwood tree. The Queensland Museum 'Ask an Expert' service offered the most likely explanation, as follows. A large raptor, probably a Wedge-tailed Eagle, had scavenged this unfortunate, probably road killed echidna, flown up to the Tallowwood to feed, and then discarded the spiky skin, letting it fall into the shrub below.

Peter Hayes
Land for Wildlife member
Perseverance, Toowoomba



fauna profile



Spiders and the Web of Life

What good are spiders? Are they of any 'use' on my block? How do I encourage more of them? Maybe these questions are at the top of your list, maybe not, but hopefully this article goes some way towards answering them.

For some people, spiders are a visual torment. Others just love them. Most of us just let them be. And that is the best way to conserve spiders. Spiders can be found in all manner of habitats: tops of trees, under bark, in leaf litter, in burrows, along creeks and even out in the ocean.

Spiders have evolved over a very long time into a huge number of species that have a huge array of adaptations to thriving on Earth. It is estimated that there are about 10,000 species of spiders in Australia, but only about 3,500 have been named. They are an integral part of the biota (fauna and flora) that drives our very existence. They eat mainly insects and, in turn, are eaten by a host of other species.

Spiders can broadly be divided into two main sections: mygalomorphs (primitive spiders) and araneomorphs (modern spiders). The mygalomorphs are one of the oldest known terrestrial invertebrate groups and have remained almost unchanged for millions of years. Mygalomorphs are generally large bodied, with two pair of 'booklungs' (external bags used for breathing) and downward-striking fangs. Araneomorphs are generally smaller or less robust than mygalomorphs and only have one pair of booklungs and one pair of tracheal tubes making them more tolerant to drier environments. They also have opposable fangs that close sideways.

Left: Brush-footed Trapdoors are common around Brisbane. Photo by Robert Whyte.

Above: Trapdoor spider burrows closed and open. Photos by Deborah Metters.

Top: St Andrews Cross Spider and its distinctive web. .

Lower: Australian Jewel Spider - one of the Spiny Orb-Weaving spiders. Photos by Robert Whyte (www.arachne.org.au).

Mygalomorphs include trapdoor, funnelweb, wishbone, tarantula and mouse spiders. Due to their choice of habitats, they are a great indicator of stable micro-climates. Mygalomorphs live in tunnels that they construct into soil; therefore they require soft, moist soil suitable for digging. Most mygalomorphs are thus found along creek banks, soaks and rainforests. These areas were probably refuges for mygalomorphs and a range of other animals during the last Ice Age (~20,000 ya), and they have probably not moved location since then. If you have trapdoors on your property, then you have stable refuge areas, which are very important for conservation. Dr Robert Raven, Head of Arachnology at the Queensland Museum, recommends that landholders pay particular attention to keeping these refuge areas safe for the future.

Nearly all spiders produce a magical substance called silk. It is an organic polymer produced in special glands called spinnerets. Spider silk can be produced with a wide range of properties, from thick and strong like a rope, to curly and springy, to lumpy and sticky, all on demand to suit the situation. It is a valuable substance so spiders usually recycle it, otherwise the world would be covered in thick layers of silk. I know the tracks through my bushland seem to be covered in silk, as I am always walking into a web, but somehow it all seems to quickly disappear.

Here is a brief overview of some spider families that you may encounter in SEQ.

Mygalomorphs

Trapdoor Spiders. They usually live in burrows made in damp places, often with a door that can be very cleverly camouflaged. They usually build trip wires around their door and wait for some unsuspecting insect to wander past and hit the trip wire, upon which the trapdoor will leap out and grab their prey. Females live for up to 40 years and moult every year. Males go exploring for females and therefore are more likely to come into contact with humans.

Funnel-web Spiders. They have a fearsome reputation with venom toxic to humans. Funnel-webs do not directly inject venom but push a drop of venom into a victim with their fangs. Luckily the venom usually gets lost on clothing. Once venom has been produced it takes a month to produce more, so many strikes are dry. They build a distinctive funnel entrance to their burrows.

Araneomorphs

Orb Weaving Spiders (Araneidae). These are the 'classic' spider sitting in the middle of a round web. It is a huge family with currently 268 species. These spiders build a web to catch prey (usually flying insects) and also hide from predators in all manner of disguises. The constant battle for all species is to eat without being eaten! Some commonly encountered species include the large Garden Orb-Weaver with a strong web across the garden path about face high; St Andrews Cross Spider with a distinctive cross-shaped pattern; Tent Web Spiders that hide in a large web the shape



Top: A Northern Golden Orb Weaver (*Nephila pilipes*) - the largest spider in SEQ. Photo by Deborah Metters.

Lower: A Common Net-casting Spider (*Deinopis subrufa*). Photo by Robert Whyte.

of a tent; Spiny Orb-Weavers with colourful ornate appendages on their backs; the Magnificent Spider that hunts by using a line of silk with a sticky drop on the end and emitting pheromones that attract the males of certain moths; Bird-dropping Spiders that looks like a dropping of a bird and also emit a pheromone to attract prey; and, Leaf-curling Spiders that hide in a curled-up leaf.

Golden Orb Spiders (Nephilidae). These are some of the largest spiders in SEQ, with a leg-span reaching over 15 cm and sitting boldly in the centre of a large golden web. There are three species of Golden Orbs here in SEQ.

Net-casting Spiders (Deinopidae). They are rather unique in the spider world with long legs and a special capture net that is opened and thrown over unsuspecting prey. They weave this special web and hold it between their legs and wait.

Huntsman Spiders (Sparassidae). This is a large family with over 150 species. They often run around inside our homes so everyone is familiar with them. They may bite, but their bites are never serious. Huntsmen are well adapted to hunting at night and hiding under bark and in small crevices. They don't make webs. They can climb smooth vertical surfaces and have eight beady eyes in two rows to stare you down. They don't like wind, so they often come inside our homes when it is windy outside. The best way to get them out of your house is to simply turn on a fan.



A yellow Spectacular Crab Spider (*Thomisus spectabilis*) biting a Lynx spider (*Oxyopes macilentus*). Photo by Robert Whyte.

"If you have trapdoors on your property, then you have stable refuge areas, which are very important for conservation."

Ant-eating Spiders (Zodariidae). These spiders are closely associated with ants and some even mimic ants by holding up their first pair of legs to look like ant antenna, and even producing pheromones to stop ants attacking them. There are over 250 species. They are small, black and shiny. Many have colourful spots on their abdomen.

Wolf Spiders (Lycosidae). These large, hairy spiders hunt for prey on the ground and build burrows. Shine a torch at night across the lawn and all the bright eyes looking back at you are wolf spiders hunting. You may also find lots of burrows in the lawn. These spiders are noted for their care of baby spiderlings as the young cling to mum until they are ready to leave.

Crab Spiders (Thomisidae). These are masters of concealment using their camouflage to ambush prey. They are also called flower spiders and they hide in flowers waiting for a bee, butterfly or ant to come along. Shaped like little crabs they are very distinctive and often multi-coloured. They are quite strong and can capture much larger prey.

Jumping Spiders (Salticidae). These are the pin-ups of the spider world. With their two big front eyes looking at you, plus their bright colours and small size, they are so cute. The tiny male Peacock Spider is the latest 'in thing' with its ability to flare out its stunning colourful abdomen while dancing (several Youtube clips show this). Jumping spiders are noted for their



Top: An ant-eating ant-mimic (*Rhombonotus* sp.). Photo by Robert Whyte.

Lower: Orange-legged Swift Spider (*Nyssus coloripes*) hiding underneath bark. Photo by Deborah Metters.

jumping, usually with a silk line attached. This is a large family with up to 400 species across Australia.

Swift and Ant-mimicking Spiders (Corinnidae). These are very fast ground hunting spiders. Many are 'Batesian mimics' of ants that try to look like an ant species that is toxic and therefore avoided by predators. Mimicry can be quite complex as some mimics mimic other mimics!

These are just some of the spiders found around SEQ. The Queensland Museum estimates that most native bushland areas contain about 700 spider species. All of these are performing some ecological roles such as controlling other insects and providing food, as prey, for birds, reptiles, bandicoots and other animals.

You are likely to find an un-named species on your Land for Wildlife property if you start searching. *Spiderus mccoshii* has a ring to it, don't you think?

References and Further Reading

Framemau VW, Baehr BC & Zborowski P (2014) *A Guide to the Spiders of Australia*. New Holland Publishers.

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www.qm.qld.gov.au
www.arachne.org.au



Article by Keith McCosh
Land for Wildlife Officer
Scenic Rim Regional Council

flora profile

Passion Vines of SEQ

Back in the January 2007 Land for Wildlife newsletter, Gold Coast Land for Wildlife Officer Darryl Larsen wrote an article outlining the differences between the various passion vine species of the region. I'd like to extend upon that article, and take a more detailed look at the nine species of passion vine that occur in the South-east Queensland (SEQ) region. The nine species are comprised of three native species, four commonly encountered weed species and two rarely encountered weed species. Once you get your eye in and can recognize the differences, you'll be a passionate passion vine enthusiast.

Firstly some characteristics of passion vines. They're all in the genus *Passiflora*, which is a worldwide genus, with hundreds of species and cultivars. The much enjoyed Passionfruit (*Passiflora edulis*) is the best known passion vine.

All *Passiflora* species have alternate leaves. Opposite each leaf is usually a long curly wire-like tendril, which is the appendage these vines use to grab hold of nearby

plants to help them climb. In addition, all the local *Passiflora* species have fruit with a soft pulpy interior, but they vary in size, shape and colour between the species. The last feature that can help you identify *Passiflora* species is their tiny glands which occur near the base of each leaf or on the leaf stalk (petiole). These glands only become evident after the seedling stage.

A couple of years ago, researchers from the USA came to Australia to study the natural pollinators of *Passiflora*, as pollination and fruit set is difficult in the USA. Over a few weeks they set up motion sensor cameras near wild native *Passiflora* species (*Passiflora aurantia* var. *aurantia*, and *P. herbertiana* here in SEQ) and monitored the action. It was thought that moths or butterflies might be the most common flower visitors, but it was birds! Most commonly honeyeaters, including Noisy Miners. As we know, bird-pollinated native flowers are in abundance here in Australia, much higher in proportion than in most other continents, and from these studies it appears that passion vines are no different.

As well as being a favourite with honeyeaters, most of the local passion vines (including the weed species except *P. edulis* and *P. vitifolia*) are hosts for larvae of the Glasswing (*Acraea andromacha*) butterfly that munch away happily on the leaves.

All three native species are relatively short lived, usually for about a year. They are all thin-stemmed and never take over, preferring to climb up and amongst foliage of other plants. They might have a leafy coverage in a small area, but they never go rampant.

The three native and six weed species of passion vine found in SEQ are profiled below continuing through to page 8.



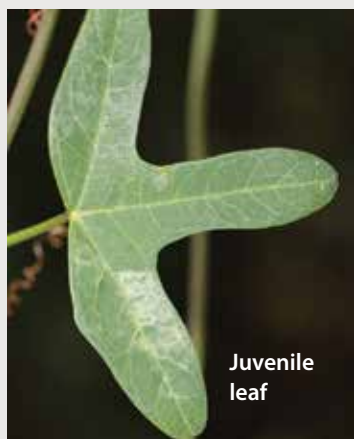
Article and all photographs by Glenn Leiper, co-author, *Mangroves to Mountains: A Field Guide to the Native Plants of South-east Queensland*



Flowers, fruit and mature leaves



Leaf glands



Juvenile leaf

Red Passion Vine (<i>Passiflora aurantia</i> var. <i>aurantia</i>)		Native
Location	Eucalypt forests, some rainforest edges, along gullies and creeks.	
Flowers	Large to 7 cm. Open whitish, then after a few days they turn pale pink, then red before closing. Ovary totally hairless.	
Leaves	Usually 5 cm, up to 8 cm. Often dull bluish-green, not shiny, and always 3-lobed with each lobe rounded at the tip. Leaf underside is whitish-green. Juvenile leaves are more 'winged' than adult leaves.	
Leaf Glands	Two obvious small glands at base of leaf on either side of leaf stalk.	
Leaf Stalk	1-4 cm long.	
Branchlets	Hairless	
Fruit	To 3.5 cm long, oblong, green, edible but not palatable.	



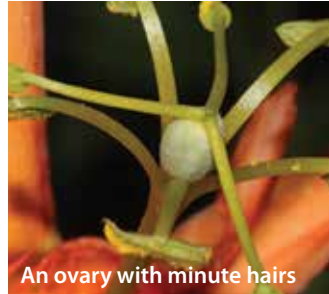
Tendrils



A new pale-coloured flower (left), an older flower (right) and mature leaves



Flowers and fruit



An ovary with minute hairs

Native

Orange Passion Vine (*Passiflora aurantia* var. *pubescens*)

Location	Our rarest native passion vines, with few records from SEQ in recent times. Found around edges of drier rainforests, and along gullies and creeks.
Flowers	Large to 7 cm. Open pale yellow, then after a few days turn orange before closing. Ovary covered in tiny whitish silky hairs.
Leaves	Up to 6 cm. Usually glossy green, and always 3-lobed with each lobe rounded at the tip. Leaf underside is a paler green, barely whitish. Juvenile leaves are more 'winged' than adult leaves.
Leaf Glands	No glands near the base of the leaf, nor on the leaf stalk.
Leaf Stalk	1-4 cm long.
Branchlets	Hairless
Fruit	To 3 cm long, oblong, green, edible but not palatable.

Native

Yellow Passion Vine (*Passiflora herbertiana*)

Location	Eucalypt forests, some rainforest edges, along gullies and creeks.
Flowers	Large to 7 cm. Open white and become yellow over the next few days.
Leaves	Usually 8 cm, up to 12 cm long. Underside finely hairy. Usually slightly glossy and 3-lobed with each lobe being pointed at the tip. Leaf underside is paler green, never whitish. Sometimes leaves may have 5 lobes or just one lobe. Juvenile leaves are more 'winged' than adult leaves.
Leaf Glands	Two obvious glands near leaf base on either side of leaf stalk.
Leaf Stalk	1.5-7 cm long.
Branchlets	Covered with short fine hairs which are easier to see with a magnifying glass or hand lens.
Fruit	To 5 cm long, oblong, green, spotted with pale dots, edible but not tasty.



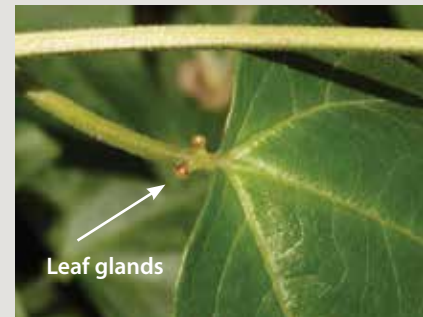
Flower and buds



Mature leaves



Fruit



Leaf glands

Weed

Passionfruit (*Passiflora edulis*)

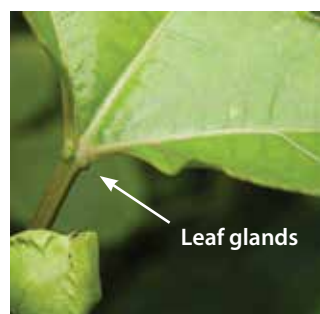
Location	All environments, including eucalypt forests, roadsides with weeds, rainforests, creeks and gullies. Native to America.
Flowers	Large to 6 cm. Startling white and purple; very ornate.
Leaves	Up to 15 cm. Glossy 3-lobed with a serrated edge. Underside paler. Sometimes leaves have only one or two lobes, but this is usually only a random leaf or two on a plant, or a seedling.
Leaf Glands	Two raised glands on either side of the leaf stalk near the leaf.
Leaf Stalk	2-4 cm long.
Branchlets	Hairless
Fruit	To 5 cm, oblong, green usually turning purplish or yellowish. Edible and tasty!



Fruit



Flower



Leaf glands



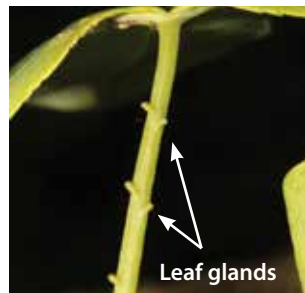
Fruit



Leaves



Leafy stipules



Leaf glands

White Passionflower (*Passiflora subpeltata*)

Weed

Location	Eucalypt forests, rainforests and waterways (usually on the edges) and disturbed weedy areas. Rampant, growing over and smothering nearby plants. Suckers from underground roots. Native to Brazil.
Flowers	Large to 5 cm. White tinged with green.
Leaves	Up to 10 cm. Dull, 3-lobed, with rounded tips. Underside paler green almost whitish. At the base of each leaf stalk are two leafy stipules (like small leaves).
Leaf Glands	1 to 5 scattered along the leaf stalk.
Leaf Stalk	2-6 cm long.
Branchlets	Hairless
Fruit	To 4 cm, oblong, green, not edible.

Corky Passion Vine (*Passiflora suberosa*)

Weed

Location	Eucalypt forests, rainforests and waterways (usually on the edges) and disturbed weedy areas. Rampant, growing over and smothering nearby plants. Native to South America.
Flowers	Small to 2 cm. Greenish yellow with purple centre.
Leaves	Up to 10 cm. Variable in shape; unlobed, two-lobed or three-lobed. Lobes usually pointy. Slightly glossy.
Leaf Glands	Two raised glands (often reddish) near middle of leaf stalk, or near leaf.
Leaf Stalk	0.5-4 cm long.
Branchlets	New growth hairy. Older stems sparsely hairy. Older, lower stems become very corky and pale.
Fruit	Small to 1.5 cm, spherical, purplish-black.



Flowers



Leaf glands



Fruit



Variable shaped leaves



Flower



Unripe fruit with sticky bracts



Feathery stipules at base of leaf stalk



Ripe edible fruit

Stinking Passion Vine (*Passiflora foetida*)

Weed

Location	Eucalypt forests, waterways, roadsides, coastal sand dunes and headlands, and disturbed weedy areas. Native to South America.
Flowers	Large to 5 cm. White with sometimes a pink centre.
Leaves	Up to 7 cm. 3-lobed, lobes pointy, both surfaces of the leaf hairy, with an unpleasant smell. At the base of the leaf are two small fine feathery stipules.
Leaf Glands	None
Leaf Stalk	1-6 cm long, hairy.
Branchlets	Hairy
Fruit	Slightly oblong or spherical, thin skinned, yellow to orange, surrounded by sticky feather-like bracts. Very sweet to eat... a real treat!

Crimson Passionflower (*Passiflora vitifolia*)

Weeds

Very uncommon in the wild, often found in bushland next to houses from where it has escaped. Native to the Americas.

Flowers: Bright red, perfumed flowers with a white centre.

Leaves: 3-lobed leaves up to 15 cm with serrated edges. Hairy underside. Small saucer-shaped glands at leaf stalk base.

Fruit: Oblong, hairy, to 5 cm, sour.

Blue Passionflower (*Passiflora caerulea*)

Rarely seen in the wild and usually in bushland near houses. Will sucker from underground roots. Native to Brazil.

Flowers: White and blue to 8 cm.

Leaves: 5 to 7-lobed leaves up to 12 cm. Paired leafy stipules (similar to *P. subpeltata*). Underside pale blue-grey. 2-4 stalked glands on leaf stalk.

Fruit: 6 cm, spherical, yellow or orange.



The crimson flowers of *P. vitifolia*.



“It helped a lot to have a vision of the anticipated outcome.”

property profile

From Bog to Biodiversity

My property, “Mt. Marysmokes” had a recently excavated dam in a minor watercourse when I purchased it in 1994. It was so new there were piles of clay covered in scotch thistles, and no other vegetation except mature *Eucalyptus tereticornis* on the nearby slope. The dam is spring fed.

It seemed wrong to have a beautiful body of water with no vegetation, which could provide habitat for wildlife, so I set about revegetating within the first week of ownership.

I cut down the thistles and burnt them to prevent further seeding. Then I planted as many Eucalypts, Brushbox (*Lophostemon confertus*), Three-veined Laurel (*Cryptocarya triplinervis*), Silky Oak (*Grevillea robusta*) and Acacias as I could on the mounds. Then I bought various Callistemons, Melaleucas, Casuarinas, hop bush, sandpaper figs to plant as well.

Below the dam was an almost permanently saturated clay bog into which the horses sank almost to their knees. This was fenced off with a small amount of financial assistance from Upper Brisbane Regional Landholder Grants Project.

More trees were purchased for this boggy area with the same funding. I did not try to use local indigenous species exclusively because there weren't many around to use as guide. I chose plants that could grow in soggy acidic soils to try to eventually lower the water table. Species used included *Banksia robur*, various Casuarinas, Melaleucas, Leptospermums and Callistemons. This area was then connected to another earth dam downstream that has also been planted in a similar fashion.

I had a vision of this area eventually becoming a forest full of flowering trees and shrubs, and this has now become reality. In spring, this area is teeming with honeyeaters, bees, beetles and butterflies all swarming on the red and cream blossoms.

As the planted trees slowly grew through many years of drought (no soggy ground in sight) and laborious watering, other local species began to colonise, from rushes around the dam, to Eucalypts. The natural revegetation around and in the dam has been amazing. Nothing was planted – it just came with the wildlife. A wonderful lesson in letting nature take care of herself when given a chance.

The wildlife has moved in and is always changing with the seasons and what is flowering. The bird life is very diverse such as swamp hens, coots, wood ducks, whistling ducks, hardheads, Pacific Black Ducks, cormorants, spoonbills, egrets, herons, ibis, Pacific Bazas, Whistling Kites, Pale-headed Rosellas, lorikeets, honeyeaters, Eastern Spinebills, friarbirds, kingfishers, kookaburras, peewees, Willie Wagtails, Grey Fantails, Restless Flycatchers,

maggies, butcherbirds, Golden Whistlers, Brown Warblers, Rainbow Bee-eaters, finches, wrens, Grey-crowned Babblers, robins and Grey Shrike Thrushes.

Red-necked Wallabies now camp under the Casuarinas during the day. There are water rats, turtles, keelbacks and other snakes, water dragons and numerous small fish.

Unless there has been excessive rain, the once barren and boggy flat is now solid ground with a beautiful forest and water reeds around and on the dam. I believe it helped a lot to have a vision of the anticipated outcome. This project has been a labour of love with nature rewarding me with the most beautiful wetland area one could wish for.

**Article and photos by Michelle Ledwith
Land for Wildlife member,
Mary Smokes Creek, Somerset**



Above: The boggy, degraded dam in 1994.

Below: The same dam in 2014 - now a diverse, thriving wetland.



flora profile

Peckish Pigeons pick a pile of piper peppers... Pepper Vine: an important food source

All photos by Glenn Leiper.

The native Pepper Vine (*Piper hederaceum* var. *hederaceum*) grows in the rainforests of eastern Australia from the south coast of NSW to North Queensland and is relatively common in Southeast Queensland (SEQ). It belongs to a large genus of shrubs and vines, with an impressive 2000 odd species occurring in the warmer areas of the globe. In Australia there are seven species in the Piper genus with just the one found in SEQ.

The leaves of Pepper Vine were used by some Aboriginal people for the treatment of sore gums. Further afield, numerous Piper species are widely used for culinary, medical and intoxication purposes. These include the Malaysian Black Pepper (*Piper nigrum*) that graces most kitchens. *Piper methysticum*, commonly known as Kava is used in Polynesia as an intoxicant while numerous Asian species, such as *P. betle* are chewed together with betel nuts. In Southeast Asian countries such as Thailand numerous species are used in cooking. The fruits of our Pepper Vine are said to have a taste similar to Brazilian Cherry, while the seeds when ground are an acceptable pepper substitute (Cribb, 1975).

This attractive vine climbs tree trunks using its adventitious root system which grasp onto the bark at intervals along the vines stem. The fleshy, palmate veined leaves can form large, dense curtains of foliage. The leaves are heart shaped and up to 10 cm long, however they are usually smaller on fruiting branches. Female flowers are

followed by bright-red ovoid berries about 5 mm long on stalks 1-2 cm long.

It is these clusters of bright red fruits in the rainforest canopy that fruit-eating (frugivorous) birds are attracted to. Over the years a number of observant Land for Wildlife landholders have relayed stories to me of how they have seen multiple Rose-crowned Fruit Doves feeding together on the fruits of Pepper Vine. Getting a good view of a Rose-crowned Fruit Dove is a special birding moment, so to see half a dozen feeding at once, and at close quarters, is an image that stays with you forever.

Recent research by Hawkins (2014) on the feeding habitats of Topknot Pigeons in the rainforests on the mid-north coast of NSW found that Pepper Vine fulfils an important ecological niche in subtropical rainforests. In the warmer months of the year a single vine can bare large volumes (up to 10 kg) of their spicy fruits, which are an important food source for pigeons, fruit doves, bowerbirds and other frugivorous birds.

Topknot Pigeons (not to be confused with the common Crested Pigeons) are a large fruit-eating specialist of rainforests. Accounts from early pioneers relay stories of flocks consisting of thousands of birds flying overhead. Today you rarely see flocks larger than 100 birds, and more often in flocks of about a dozen. Hawkins reports observing 15-40 topknots feeding on Pepper Vine at one time. Precious few other seed dispersers travel in such numbers and

are so mobile in the landscape. Collectively, Topknot Pigeons have the capacity to move large quantities of seeds between their feeding and roosting sites. This seed dispersal is considered to be a crucial ecosystem process in facilitating natural regeneration of rainforests.

Pepper Vines fruit over the summer months and do so annually. Compared to many fruit-bearing rainforest trees, Pepper Vines provide a consistent and reliable summer food source. Attracting large numbers of frugivorous birds to your patch is likely to result in some seed input from adjoining patches of forest where the birds have been foraging.

While many rainforest revegetation efforts include a range of tree species that produce fleshy fruits it is not often that you see vines included in the planting palate. Indeed some native vines can be temporarily undesirable (*Cissus* spp.) in the establishment stages of revegetation due to their vigorous growth and smothering habits. Pepper Vine however is not so vigorous, and it can be introduced once trees are over head height and are providing sufficient shade and climbing opportunities. Pepper Vines can also be planted on protected edges such as the southern side of a rainforest patch.

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**Article by Nick Clancy
Land for Wildlife Officer
Sunshine Coast Council**

practicalities

Aerostart for Ticks



A collection of ticks. Most are on their backs. The males (on the far left) have smaller mouthparts. Photo by Gordon Grigg.

Ticks are bad this season. Neighbours talk about getting three or four, even more, after working or a walk on their properties. There are various ways to manage ticks once they are attached. A few years ago we adopted a method suggested by a doctor at Royal Brisbane Hospital and found it very easy and successful. You simply give the tick a couple of squirts with Aerostart and the tick dies within a few seconds. Very convenient!

The sooner you apply Aerostart, the better. Try not to touch or poke the tick as this will reduce the amount of material that the tick injects into your body. If a tick is squeezed, as can happen if you try to remove a tick using fingers or normal tweezers, its gut and salivary contents can be pushed into its host. This can transmit foreign proteins and pathogens (if present) from the tick to the host.

After killing a tick using Aerostart, there is no urgency to remove it. Larger ticks can be removed (once they are dead) by using fine forceps to grasp the tick by its 'beak', where it enters the skin. The trick is to avoid squeezing the tick's body. Smaller ticks, such as those in their nymphal or larval stages, are nearly impossible to remove manually, so it is best to let these dead ticks just drop off.

Aerostart is sold for starting recalcitrant two-stroke motors and can be purchased at SupaCheap Auto and such places. Aerostart contains up to 60% gasoline and up to 30% ether and is extremely flammable so it is important to use it only in a well-ventilated place and well away from open flames or other ignition sources. Ether is also an anaesthetic and may cause drowsiness or dizziness if inhaled.

Aerostart works very quickly because the ether dissolves the tick's waxy cuticle and permeates the tick. Please note that Aerostart is an engine starter aerosol and is not approved for use on humans and repeated exposure may cause skin dryness or cracking, so please be careful if you decide to use Aerostart to kill ticks.

It's only the female tick that sucks your blood. The males have a smaller rostrum ('beak') and you may find them crawling over you looking for a female with which to mate, or to feed on!

The life cycle varies a bit between years but, in general, tiny larvae (pinhead size, with 6 legs) hatch from eggs in late summer/autumn. After their first feed they moult to a nymph (8 legs) and moult again after a second feed to become an adult. In summer, fully fed females fall off their host and can lay up to 6000 eggs in leaf litter or in dense foliage. If you are unlucky enough to sit where these eggs have hatched, you may collect many dozen of the tiny, dark, tick larvae, all having their first feed. Aerostart is then magic; spray the affected area and kill the lot.

The Queensland Museum has a downloadable fact sheet which can be found easily on their website (but it advises killing ticks with an insecticide, which is very slow).

**Article by Gordon Grigg
Land for Wildlife member
Brookfield, Brisbane**

Modified from a note in the Moggill Creek Catchment Group's newsletter, Summer 2011.



Aerostart is one ether-based product on the market being used to kill ticks. The risk of getting a bad reaction from ticks is reduced when the tick is killed as soon as it is detected. Remember to never squeeze or irritate an attached tick.

Editors Note...

They say that prevention is better than a cure, so always remember to use some kind of insect repellent when doing bush regeneration work. Keep a couple of containers of your preferred insect repellent in various places - your car, house, shed or at work and try to get into a habit of using them everytime before you head out into bushland areas.

Unfortunately, just last month, a Land for Wildlife Office contracted tick typhus (a Rickettsial bacteria infection) as a result of visiting a Land for Wildlife property and collecting several tiny ticks. He became terribly ill but thankfully his symptoms were correctly diagnosed and he is now recovering.

It is just another reminder to be mindful of ticks, especially during winter when larval and nymph stage ticks are actively feeding.



fauna vignettes



Ophiophagy in action.

Cannibal Black Snakes

Returning home at dusk from one of our paddocks, we came across a bizarre scene – in a shallow, moist gully, partly buried under detritus, a Red-bellied Black Snake (RBS) in the process of eating one of its colleagues. The predator snake, at least a metre long, appeared slightly smaller than its prey.

Enquiries with more knowledgeable people revealed that ophiophagy among snakes, especially RBSs, is not so unusual. Professor Rick Shine, at the School of Biological Sciences, University of Sydney, having examined stomachs of many RBSs over the years, has occasionally recorded other snakes (small-eyed, browns and blacks), making up 5% or less of prey records. However, he tells us that big prey items like this are rare. RBSs eat mostly frogs, and occasional lizards, although Rick

suspects that our snake “just managed to get a chance at a lovely big prey item, and took its chance”.

Another possibility, suggested by Kieran Aland of the Queensland Museum, is that the first snake had started getting its mouth around a frog, when the interloper appeared, and grabbed the frog plus attached predator, which it then proceeded to ingest, almost inadvertently. Either way, it was not a good outcome for one of them. The following morning we could find no sign of either snake in that location.

Ophiophagy (literally meaning ‘snake eating’, not to be confused with opiophagy or the habitual use of opium) among RBSs has become almost ingrained into the folklore. We have been surprised by

just how many landholders in South-east Queensland believe having a large RBS population keeps away larger lethal species, such as Eastern Browns and Taipans, although we can find no published evidence in support. A conclusive study would be extremely difficult to plan and execute, but we might have witnessed the underlying mechanism.

Regardless, seeing there has never been a documented human fatality from a RBS bite, our observation strengthens the case for doing as much as possible to protect these beautiful animals and their habitats.

Paul and Melissa Procriv
Land for Wildlife members
Mt Mellum, Sunshine Coast



The Snake and the Toad

One morning at the beginning of November last year I walked down my back steps at Mt. Crosby to retrieve a sprinkler. As I bent down I realised that there was a fairly large snake lying beside it. The snake didn't move at all and on closer inspection I saw that it had a toad wedged in its mouth. I thought that was somewhat reassuring at first as I figured that the snake wasn't going to bite me when it already had a large mouthful!

Then when they didn't move I presumed that they were both dead. I thought that the snake had killed the toad and the toad's toxin had killed the snake. So I went back into the house and came back with my camera. The snake still hadn't moved. However I realised that my first assumption was wrong when an hour or so later the snake had moved a short distance away and then later disappeared altogether.

I sent the photo to the Queensland Museum and was very impressed to promptly receive an answer on a Sunday morning. I was told by the Information

Officer that the snake was a harmless Keelback or Fresh Water Snake and it's the only Australian snake that can successfully eat introduced toads.

“I suspect that the ability of the Keelback to survive toad toxin is a legacy of its ancestry. Keelbacks hail from somewhere in Southern Asia and arrived here recently (in geological terms). Several toxic species of toad also occur in Southern Asia, living with and being preyed upon by snakes related to our Keelback”.

I apparently witnessed an epic battle though because there is a catch to all of this. Trying to eat a large Cane Toad can sometimes have fatal consequences for the Keelbacks as large toads have more toxins than smaller toads. I'm hoping that my snake ended up surviving and will return again for another delicious toad meal. The Keelback is a welcomed snake at our place.

Judi Davis
Land for Wildlife member
M Crosby, Brisbane

book & app reviews

A Guide to the Spiders of Australia

By Volker W. Framenau, Barbara C. Baehr and Paul Zborowski

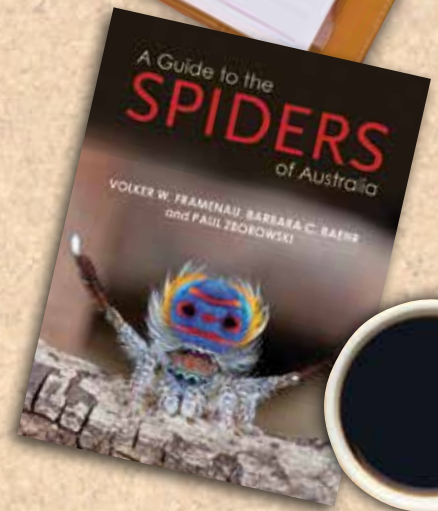
With a front cover showing a brilliantly coloured Peacock Spider, this book is sure to capture your attention. They seem to be the flavour of the month – Peacock Spiders are everywhere. Alan Wynn captured a photo of one on a Land for Wildlife visit and printed it in the October 2014 newsletter. The Nov 2014 Australian Geographic magazine followed suit and had a fascinating article on them too. There are lots of Youtube clips available which show the colourful and intriguing dances of male Peacock Spiders trying to impress the ladies.

Back to this book... it is not a field guide but rather an overview of the taxonomic diversity of Australian spiders. Spiders can be particularly hard to identify, especially when using just photos in a book. So this book is as good as it gets without using detailed keys and microscopes. There are so many species of spiders in Australia, with about 3,500 identified across 79 families. The Queensland Museum

suggests that there is probably a total of 10,000 Australian species with many yet to be officially discovered and classified.

This book has a section on each spider family, all with excellent colour photographs, and descriptions of the key features of each family. It also covers basic spider anatomy and biology, silk and venom, along with some systematics and evolution of the Australian Araneae (the taxonomic Order of spiders).

With excellent photos and interesting information, this book is an essential companion to gain a better understanding of the spiders at an Australian scale. They are of course an essential component of the fauna of every Land for Wildlife property. This book might even give you a clue to the identification of that strange looking spider you found in the gully you recently liberated from a thicket of lantana. This is what most Land for Wildlifers (including me) seem to be doing!



New Holland Publishing, 2014
Soft cover, full colour, 448 pages
ISBN: 978192151724
Price: \$45
Available from most online bookshops.

Review by Keith McCosh

Suburban & Environmental Weeds of South-East Queensland

By LucidMobile

This free app contains descriptions and excellent photographs of over 600 weeds found in SEQ. It includes all types of weeds such as trees, shrubs, vines, herbs, succulents, aquatic and grasses.

The key is powered by Lucid technology, which is easy to use and intuitive. This helps users to quickly identify the plant in front of them. I have this app on my smart phone, and can easily refer to it when I am out in the field as it does not require internet access to run.

As with all Lucid-based keys, you can start anywhere using any information that you know about the plant, such as basic features like its location, form (eg. tree, shrub, vine), does it have prickles, its leaf size, leaf shape, flower colour and fruit colour. The world of app field guides just keeps getting better and better and this one is a great starting point for learning how to use a Lucid key while identifying those pesky weeds on your property or nearby road reserve.

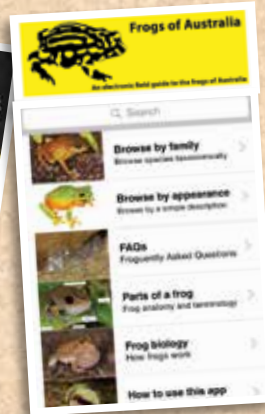
Last updated June 2015

Size: 343 MB

Compatibility: iPhone, iPad, Android, Google play

Price: Free

Reviews by Deborah Metters



Frogs of Australia

By Ug Media

Written by Conrad Hoskin, Gordon Grigg, David Stewart and Stewart Macdonald

Bringing together detailed descriptions and images of 238 species of described Australian frogs, plus the calls of nearly every species, this app is the most comprehensive product about Australian frogs on the market. It also has detailed FAQs, frog biology and anatomy sections, as good as any hard copy field guide.

There are two main search fields - frog family or appearance. Your location can easily be turned on to show only local frog species. Every species described has a range of stunning photographs, which is very handy because the colours and patterns of frogs can vary greatly within the same species.

The calls are just brilliant thanks to David Stewart for a lifetime of sound recording. I love that the calls are graphically represented so that you can 'see' and hear the calls. The calls are easy to start, stop, fast-forward and flick between. I assume it is only a matter of time before apps can 'work out' the calls for you. In the meantime, this is a must have app for all nature enthusiasts.

Last updated May 2015

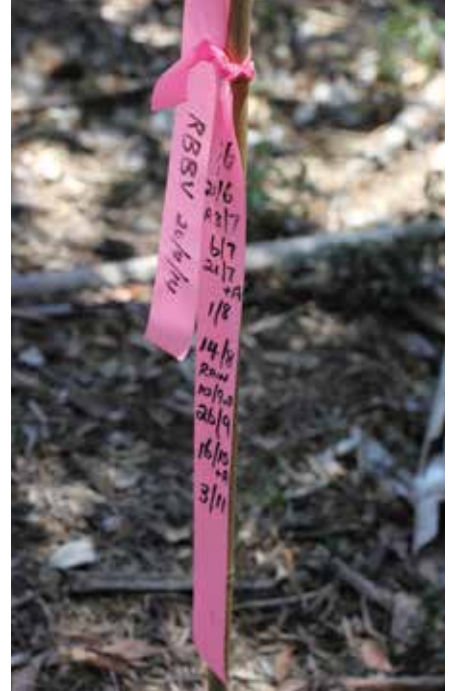
Size: 589 MB

Compatibility: iPhone, iPad (Android in development)

Price: \$24.99



restoration in action



Foam Bark Gully Birdwing Corridor

From a young age, I had a good knowledge of NSW wildflowers. After moving to Brisbane in 1967, Vernon and I developed an interest in butterflies and native plants. This was increased to a passion when we spent four years in North Queensland in the seventies. On our return to Brisbane in 1975 to our home in Fig Tree Pocket, our interest in butterflies and their host plants continued.

After a talk by Dr Don Sands at CSIRO, I became very interested in the Richmond Birdwing butterfly. The larvae of Richmond Birdwing are very selective eaters and will only survive in lowland areas if they eat the leaves of the Richmond Birdwing Vine (*Pararistolochia praevenosa*). I hope that through our planting of Richmond Birdwing Vines here at Fig Tree Pocket we will encourage birdwings back to the inner western Brisbane area where they were last seen in their hundreds in the 1870s.

We firstly planted *Pararistolochia*

praevenosa in 2007. The vines were grown by Chris Hosking and Richard Bull. Fourteen vines are still growing well, however two died in the 2011 flood.

In March 2013, I planted 70 seeds from my 'stock' vines. Fifty of these seeds germinated and survived their first year. These are being 'potted on' by a registered grower and many will be planted in habitat restoration programs.

After a visit from Don Sands in November 2013, we were asked if we would be interested in becoming more involved in Richmond Birdwing recovery activities. Our neighbours, Sylvia Alexander, Ian Yeo and Cherrell Hirst are also members of Land for Wildlife and they too started to plant vines. Combined, our three properties cover about four hectares and we have all been undertaking weed removal and bushland regeneration since early 2000.

An ephemeral watercourse runs through our properties and joins the Brisbane River.

"We live in anticipation of one day seeing an adult Richmond Birdwing butterfly here."

The native vegetation on our properties is a mixture of sclerophyll open eucalypt forest, remnant rainforest and riverbank mangroves.

Don Sands suggested that this would be an ideal site for a concentration of *Pararistolochia praevenosa* vines to augment those already established. We were delighted to be nominated as the first rehabilitation corridor for the Richmond Birdwing in the inner western Brisbane area. Our site is named the Foam Bark Gully Birdwing Conservation Corridor and we have, with our neighbours, already planted 250 mature vines since March 2014. Our site is part of the Richmond Birdwing Conservation Network's 1000 Vines Project.

All Richmond Birdwing Vines have been planted according to the recipe for success. Healthy plants from large 8 inch pots are planted into a combination of potting mix,



A stunning adult male Richmond Birdwing.

Photos clockwise from top left:
Healthy Richmond Birdwing Vines climbing up a trellis.

Niki Hill stands proudly in front of a trellis that supports 20 Richmond Birdwing Vines.

Every Richmond Birdwing Vine is tagged to record planting and watering dates and also rainfall events to help ensure their survival. Over 300 vines have been planted in Foam Bark Gully.



One of two trellises of Richmond Birdwing Vines in Foam Bark Gully. These mass plantings of vines are part of a project that aims to create corridors for the threatened Richmond Birdwing butterfly across South East Queensland. Photos by Deborah Metters.

Both trellises have constructed wooden edging and are covered with chicken wire to retain moisture and prevent brush turkeys from scratching up the vines.

dolomite and soil. They are then mulched and ringed with rocks or chicken wire for protection from brush turkeys. Each vine is given its own sturdy bamboo pole that will direct the vine towards suitable large companion trees. Vines climb up the poles in an anti-clockwise direction. Unless it rains, they are watered three times a week and fertilised with soluble fertiliser.

On average, the vines have grown at least one metre in seven months! Some have already reached a height of four metres and are in the lower parts of the canopy.

In addition to the individual vines that have been planted throughout our properties, we have also installed two trellises, which support 20 vines each. These have a constructed wooden edging to hold the mulch and help retain

moisture. The ground is then covered with chicken wire to prevent turkeys from digging up the vines. These trellises are similar to the Richmond Birdwing stations that have been constructed at Kenmore High School and at Brookfield.

This truly is a joint project, and without the help, encouragement, knowledge, cooperation and enthusiasm of our wonderful two neighbours, this project would be far less advanced.

Last year (2014), I planted 300 seeds, which I collected from my established vines, into styrofoam boxes. Many are already germinating. When they are big enough, I will pot them up and give them to a registered grower. Because the Richmond Birdwing Vine is listed as Vulnerable under Queensland legislation, you have to be

registered to sell mature vines.

Feel free to visit our blogspot at www.foambarkgully.blogspot.com.au, it is worth a look.

All Richmond Birdwing Vines are doing well and the only thing required is healthy larvae!! We hope that it will just be a matter of time before the butterflies discover our place and our hopes seem achievable. We have heard stories of butterflies nearby, as was the case in October 2014 when a dead male Richmond Birdwing butterfly was found in Stanley Terrace, Taringa. We live in anticipation of one day seeing an adult Richmond Birdwing butterfly here.

**Article by Niki and Vernon Hill
Land for Wildlife members
Fig Tree Pocket, Brisbane**



Help bring back the birdwings

The Richmond Birdwing is arguably SEQ's most stunning butterfly. The wingspan of the male birdwing is 13 cm across and is iridescent green and black in colour. The female is larger (up to 16 cm wingspan) and has predominantly black and white wings. Birdwings used to be commonplace in SEQ with thousands reportedly flying around Brisbane streets in the 1870s. They depend on subtropical rainforests to survive, but unfortunately most of these rainforests have been cleared in the last 150 years resulting in Richmond Birdwings declining and becoming locally extinct in many parts of SEQ.

Thankfully, the Richmond Birdwing's

plight has been championed by a team of scientists, landholders and dedicated community volunteers, who have been working for decades to conserve known habitats and to also plant host vines to re-create lost habitat. The caterpillars of Richmond Birdwings are fussy eaters and will only eat two native vines, the Richmond Birdwing Vine (*Pararistolochia praevenosa*) and Mountain Aristolochia (*Pararistolochia laheyana*). So by planting these vines in appropriate locations, it is hoped that birdwing numbers will grow.

In early 2014, a project was developed to help create corridors of host vines across SEQ allowing butterflies to travel

to new areas and successfully start new populations. This project, led by the Richmond Birdwing Conservation Network (RBCN), will plant 1250 (it was originally 1000 but was increased due to public support!) host vines in strategic locations across SEQ, including Burleigh Heads, Pomona, Witta and also Foam Bark Gully at Fig Tree Pocket. Most of the 1250 vines have already been planted.

If you see a birdwing butterfly or find a mature host vine, please contact either your Land for Wildlife Officer or email the RBCN on birdwing@wildlife.org.au



focus on flora

Cockspur Thorn

“Why on Earth would anyone write about the prickly monster that is cockspur?” I hear you say. “Surely it’s not native, is it?” Well actually it is, and not only is it a local native plant, it’s one of those annoying natives that have the audacity to not only survive the altered landscapes we have created... but even thrive!

Living and working in the bush can give one a begrudging admiration for this spiky vine, even when you’re removing its thorns from your person. Believe it or not, Cockspur Thorn (*Maclura cochinchinensis*) is a somewhat close relative of both figs, and perhaps not so surprisingly, mulberries (notice the similar type of fruit). All are members of the Moraceae family. Like figs and mulberries, Cockspur Thorn has a milky sap and simple leaves that can range from less than 10 mm on juvenile specimens through to nearly 100 mm on mature plants.

Juvenile plants tend to grow in crowded, tight, thorny clumps before producing mature foliage on thicker erect stems. Mature plants arm themselves with savage spines up to 50 mm long. The vine itself

is more of a scrambler than a climber and the spines seem to assist with holding the branches in position, while the fast growing upright stems shoot skywards.

Cockspur Thorn is widespread along the east coast of Australia, all the way from Ulladulla NSW to Cape York, and beyond to Papua New Guinea, SE Asia and the Pacific Islands. It is relatively common in dry rainforests, subtropical rainforests and along watercourses. Mature plants produce prolific quantities of orange fruit, which are very attractive to birds and are readily eaten and widely dispersed throughout the landscape. The fruit is edible, juicy and sometimes sweet.

Cockspur Thorn is a host plant for the Common Crow Butterfly (*Euploea core*). It also provides valuable habitat for many small birds, where they can hide and nest with a degree of safety from larger predators. The thorns of cockspur are sometimes used by butcherbirds as a useful spike on which to impale their victims! All in all, it is a prickly character, but crucial habitat in our disturbed landscape.



Cockspur Thorn is literally a thorn in many bush regenerators arms, legs and bodies. It grows into an impenetrable spiky shrub providing difficulties for us, but great habitat for small birds. The sweet fruit are favoured by birds and some bush regenerators. Header photo by John Tann, Flickr. Fruit photo by Glenn Leiper.



Spencer Shaw
Land for Wildlife member
Owner, Brush Turkey Enterprises
Reesville, Sunshine Coast

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