LAND FOR WILDLIFE
South East Queensland

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The Common Grass-yellow has been seen widely across SEQ over the past few months. These photos show male butterflies in the wet season form (above) and dry season form (left). Photographs by Russel Denton.

An extended season for grass yellow butterflies

This is the second year that we have had a good wet season following many years of drought. This year, the wet season has been prolonged in SEQ with rain extending well into May. This has had a positive effect on both plants and invertebrates.

Usually one would only see a few species such as Common Crow and Evening Brown butterflies at this time of the year when the days are getting shorter and drier. However over the past few months, we have had continuing wet weather which has created a good provision of fresh plant material for butterfly larvae to feed on.

As a result of this rain, there are several more species that have been predominating over this time, well beyond their usual flight period. One of these is the Common Grass-yellow, also called the Large Grass-yellow (*Eurema hecabe*). This butterfly has been noticeably abundant across SEQ over the past few months.

The Common Grass-yellow has a broad variety of larval host plants, the main one being the shrub Breynia (*Breynia oblongifolia*). They will also lay their eggs successfully on various ferny-leaved wattles, sennas, *Indigophora* spp. and other native and exotic legumes. Adult butterflies love to feed on nectar from flowers of some herbaceous weeds such as Cobbler's Pegs and Billy Goat Weed.

Common Grass-yellows are active, but not strong fliers, so they are often found flying close to the ground looking for larval host plants and nectar flowers.

There are other species of grass yellow butterflies in SEQ such as the Small Grass-yellow (*Eurema smilax*) and the Scalloped Grass-yellow (*E. alitha*) both of which have similar habits and ecological needs to the Common Grass-yellow, but differing host plants.

Providing a diversity of understorey species on your property will help attract butterflies such as these grass yellows. More details about butterfly host plants can be found in *Butterfly Host Plants of south-east Queensland and northern New South Wales* (see book review on page 13).

Article by John Moss
Butterfly and Other Invertebrates Club

Contents

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editorial

Back in 2002 world leaders met and agreed to reduce the rate of biodiversity loss by 2010. So this year, a report called the *Global Biodiversity Outlook* assessed our progress and concluded that biodiversity loss is continuing, and in many cases, intensifying. It is estimated that about 130 species are becoming extinct globally every day. There is more gloomy news on the Convention on Biological Diversity website if you're feeling up to it.

To combat extinction-statistic blues, I find it helpful to know that new species are also being found regularly. The International Institute for Species Exploration website has a Top 10 list showing weird and fascinating new-to-science creatures. Closer to home, you may have already heard about the re-discovery of the Yellow-spotted Bell Frog in NSW. This frog was re-discovered on a private property and the owners are very keen on protecting it. The article on page 15 gives more detail and reminds us all how important landholders are in the battle against biodiversity loss.

Since the last edition of the newsletter, Councils and SEQ Catchments have undertaken strategic planning about the Land for Wildlife program. We hope to roll out some new initiatives over the next few years including a new database and webpage, another open property scheme and the finalisation of a set of new technical notes. We also hope to offer members the chance to have biodiversity monitoring conducted on their properties.

I hope you enjoy this edition. Please be patient when reading Alan Wynn's excellent article on fig ecology. The life-cycle of figs is one of nature's miracles.

Just before Stuart Mutzig left his role as Land for Wildlife Officer for the Moreton Bay area (and he is sorely missed), he researched the experiences of landholders who had converted their pools to healthy ponds. It is an interesting read and helped debunk my cynicism.

Stephanie Reif, who is now on maternity leave and I wish her all the best, wrote a great article on the importance of incorporating vines into revegetation.

Unfortunately Martin Bennett is leaving his role as Land for Wildlife Officer for the Lockyer Valley. He is a remarkable field ecologist and I wish him all the best with his new role.

Thank you to all contributors, including the photographers whose images lift the whole newsletter. As always, I welcome any stories or photographs that you wish to share with the Land for Wildlife network.

Deborah Metters
Land for Wildlife
Regional Coordinator
SEQ Catchments

Landholder Registrations, Land for Wildlife SEQ - 01/05/2010			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
2678	589	47,818 ha	2,899 ha

Forward all Letters to the Editor, Fauna Vignettes and My Little Corner contributions to:

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fauna vignettes

The Value of Dead Trees (even those scrappy ones!)

We have a number of dead Sally Wattles (*Acacia melanoxylon*) on our hillside Tallebudgera property. On one of her visits, Lexie, from Land for Wildlife, suggested we leave the trees standing as they are important to wildlife. Recently we discovered just how true this is.

There's a long-dead Sally Wattle a short distance from our house, with a termite mound halfway up the trunk. Matt had been pulling out weeds nearby and was puzzled by the occasional cracking sound. A Lace Monitor - or commonly called tree goanna - was perched on the mound, working away at it with its large, powerful claws, breaking off chunks of the hard material and flinging them aside.

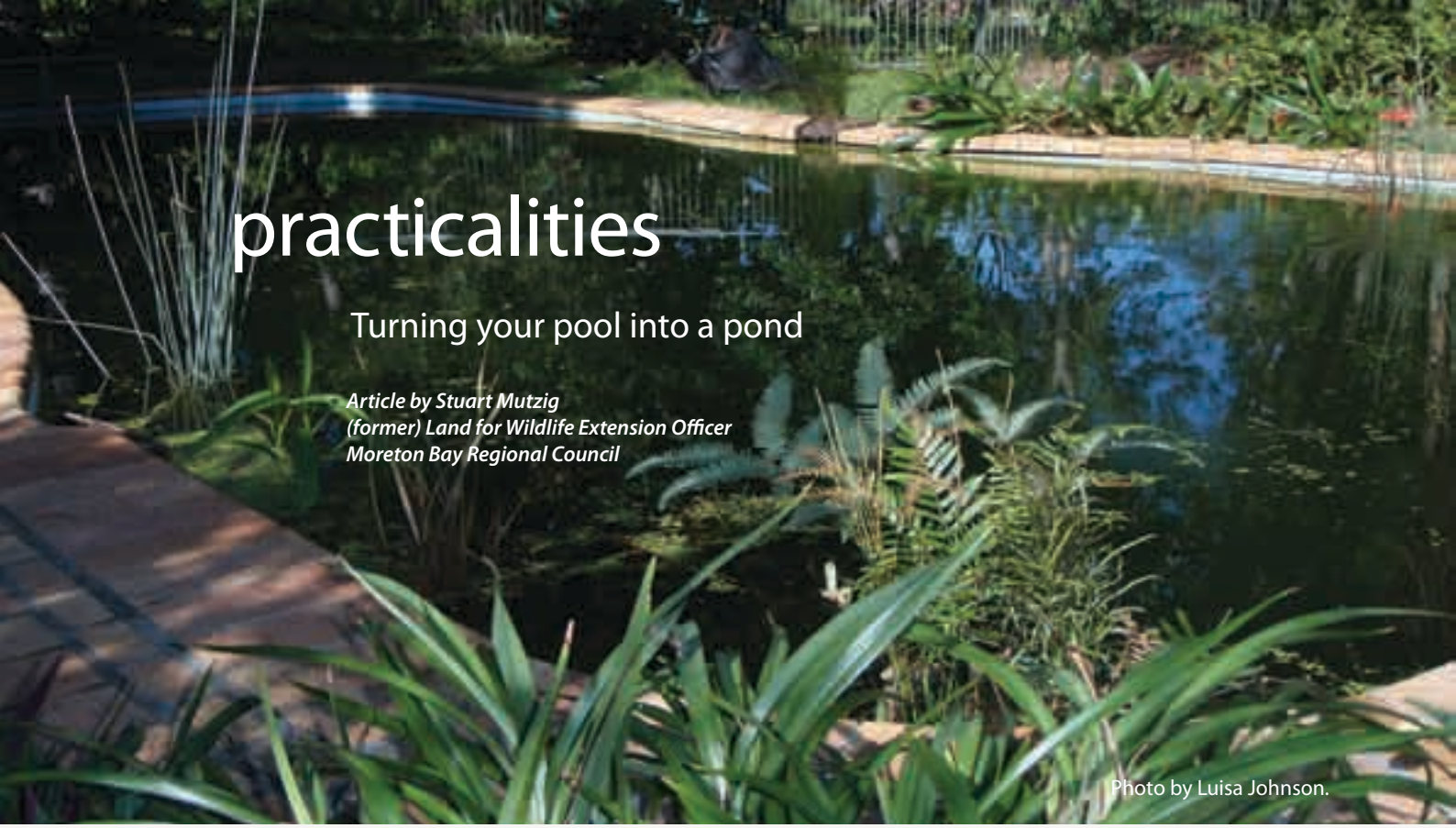
We watched the monitor over two days dig a hole about twelve centimetres wide at the opening. On the third day we observed her sitting in the hole, panting with exertion as she laid her eggs inside the termite mound. That afternoon she'd disappeared.

The termites will now work to repair the hole, sealing the eggs inside and giving them protection from predators. If all goes well, in eight or nine months time she'll return, the sounds of the hatched lizards acting as a signal for her to dig another hole and free her young before predators get to them. With any luck, we'll have a camera ready for the occasion.

Matt Mawson and Sandra Watkins
Land for Wildlife members
Tallebudgera, Gold Coast

Lace Monitors depend on the temperature-controlled micro-environment of arboreal termite mounds to incubate their eggs. It is remarkable how the mother monitor knows when to return to release her newly hatched babies from inside the sealed mound.

Termites are great recyclers of dead wood and help return essential nutrients to the soil. Monitors will only use active termite mounds to lay their eggs as they need the termites to seal their nest around the monitor eggs providing a predator-free incubation chamber.



practicalities

Turning your pool into a pond

Article by Stuart Mutzig
(former) Land for Wildlife Extension Officer
Moreton Bay Regional Council

Photo by Luisa Johnson.

So it's winter, and you're probably not using your pool very much. How much did you use it over summer? How much time and effort did you put in to maintaining it? How much is it costing you in water and energy bills? Have you considered making your occasionally-used recreational resource into an eco-friendly resource for local wildlife including frogs, fish, birds, microbats, yabbies, turtles, water dragons, dragonflies and a whole host of other insects? It's not as difficult as you may think, and the process is even reversible if you decide to change your mind later.

Why turn your swimming pool into a wildlife refuge?
When you consider all the resources required to efficiently keep your pool clean and running, it's quite confronting. An average pool filter requires 6kWh of energy per day. That's about 2200kWh per year, or in excess of $300 per year in energy bills.

The typical backyard swimming pool holds 50,000 to 80,000 litres of water. Evaporation usually accounts for the loss of one to two metres of water per year in an uncovered pool, plus about 25% loss from general use. So within a year you might be almost completely refilling your pool, but for rain.

Add to this the time spent cleaning and maintaining the pool in today's time-poor climate and you might like to reconsider its purpose. Filling in your pool might be another cheaper option you've considered, but the pool would be lost as a selling point if you were to sell your property. Converting your pool into a pond could be a great alternative.

How can you do it?
There are several steps required to convert your pool into a healthy pond ecosystem. Firstly, turn off the filter. If you have a chlorine pool, stop adding chlorine to the system and within a week, most of the chlorine will have disappeared. After doing this, your pool will eventually turn green. This is due to an initial algal build-up in the nitrogen cycle, but the algae will disappear within the first 12 months. Saltwater pools are more complex and will need to be drained first. Consult your local council about this.

Next, the structure of the pool will need to be changed to make it suitable for aquatic plants, with platforms and ledges for plants to grow on within a short distance of the surface. Logs, rocks and Besser blocks can be useful for this process, but any other similar resource you have at hand will be fine. A range of depths will make the pool suitable for a wide range of plants, and exit and entry points between the water and land are essential for some of the wildlife you are trying to attract. Aquatic plants act as natural filters and can keep your water clean of algae and undesirable nutrient build up.

Have a chat to your Land for Wildlife Officer about what plants may be most appropriate for your pool to pond conversion. Some examples might include the Swamp Club Rush (*Isolepis inundata*), Native Water Primrose (*Ludwigia peploides*) and Frogsmouth (*Philydrum lanuginosum*). Plants to use in the surrounding pond area might include *Lomandra*, *Melaleuca* and *Casuarina* spp. Avoid common water weeds such as Salvinia, Cabomba, Elodea and Water Lettuce. Duckweed, despite its name, is a good, native, surface covering aquatic plant.

What wildlife would you like to add to the pond? Some aquarium stores stock native fish including rainbowfish, catfish and the Firetail Gudgeon. Eels and yabbies might be an interesting alternative. Avoid buying mosquitofish, goldfish and koi – these are all introduced species and more suitable native alternatives are available. You will know when your pool is ready to have fish added to it when you find the first mosquito larvae (wrigglers) in the water. If the water can support the wrigglers, native fish should be able to cope with the current conditions and will have a natural food source ready and waiting for them.

The aim is to create a complete ecosystem where the plants feed off the nutrients supplied by fish and bird droppings, the fish feed off the plants and insect larvae (like mosquitoes and dragonflies), and the algae regulates the carbon dioxide and oxygen levels. Zooplankton and mollusks, such as snails, feed on the algae. Crustaceans such as shrimps or yabbies feed on the zooplankton, and other fish might feed on the mollusks and crustaceans.

The nitrogen cycle
Nitrogen is a crucial element for life. The nitrogen in your pond will help to sustain the relationships between plants, organic matter, bacteria and animals. When these interactions are functioning effectively, your pond water will be clear.

Luisa and her daughter Jaz, from Caboolture, are in the process of turning their disused backyard pool into a successful aquatic ecosystem. The pool (photo left) was left without chemicals for about a year, with the pool cover left in place. Even though the water was clear, the edges were green with algae. By this stage, some aquatic insects had moved in, so Luisa and Jaz decided to place some small native fish in the pool to keep the mosquito larvae down once they removed the cover. The five fish they added multiplied quickly and thrived throughout the pool, which was now well on its way to becoming a fully functioning pond.

Luisa and Jaz encountered an issue with toads using the pond area to breed. In hindsight, they wish they had toad-proofed the area around the pond with vegetation and barriers first. They manually removed the toad eggs and toadpoles, and have now controlled the toad population. They also added reeds and local native water plants rescued from a dam on a neighbouring property marked for development. Along with the addition of some Silver Perch and crayfish, several terracotta pots have been placed on the steps and base of the pool, providing more aquatic habitat.

Jaz and Luisa have reached a point where their backyard pool to pond conversion is now low maintenance. Most of the time spent around the pond is now devoted to sipping tea, eating lunch, watching the fish (photo below) and enjoying nature. The family has thoroughly enjoyed this project and are now reaping the rewards.

Photo by Luisa Johnson.

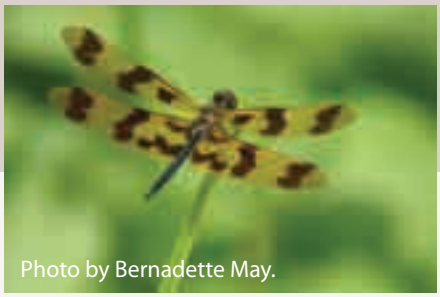


Photo by Bernadette May.

Margaret is a Land for Wildlife landholder in Logan who turned her backyard pool into an eco-pool every winter, in the days before water restrictions. By switching off the pool filter and no longer adding chemicals, Margaret noticed a gradual increase in the aquatic insect life. Water boatmen, backswimmers and whirligig beetles were the first to arrive to the system. These invertebrates then attracted frogs and predatory insects like dragonflies. Dragonfly larvae kept mosquito larvae under control.

The bottom of the pool often collected leaf litter, and on the sides grew a layer of green algae. Margaret noted that the water took on a shade of brown due to the decomposing leaf litter, but the water stayed relatively clear. When Margaret wanted to use her pool again in summer, the family siphoned the water out onto the garden and scooped the leaf litter out for mulch. Once the pool was refilled, filtered and chlorinated, the algal levels were controlled and the pool could be used again.

When you first start the conversion process, bacteria is virtually non-existent in the water. The water will initially turn green until the bacteria levels are right. Bacteria can be added to the water to accelerate this process – consult your local aquarium shop for more information.

As the nutrient and organic matter levels in the water rise, algae will grow, providing a food source for microscopic creatures, which form the basis of your new ecosystem. Bacteria and zooplankton live off the algae, which then provide a food source for higher life forms such as crustaceans and fish.

Aquatic plants are very effective filters and provide the final step in the nitrogen cycle. Nutrients are absorbed by the plants and oxygen is delivered into the water, providing the basis for a healthy pond ecosystem.

What issues might be encountered?
Some pool owners may be reluctant to change their family asset into a wildlife haven. The process described above is completely reversible and your pool can be returned its former state if you change your mind in the future. Pool fencing will still be required under Council laws and must also be maintained. Any issues with mosquitoes can be overcome by stocking your new pond with fish (see above). Your pond may be prone to Cane Toads using it as a breeding spot, so keep an eye out for toad eggs and tadpoles, which can be fairly easily distinguished from native frogs and tadpoles. Ask your Land for Wildlife Officer for more information on this. By planting dense vegetation around the pond boundary, you may be able to deter toads from using the water source in the first place.

Algal blooms can be controlled by adjusting nutrient and sunlight availability to the system. Overstocking your pond with fish will cause a nutrient spike and subsequent algal bloom. A lack of oxygen can be overcome by installing a simple filtering system which also aerates the water.

References and useful resources

Pool to Pond - Turning your swimming pool into a thriving pond. Ku-ring-gai Council. http://www.kmc.nsw.gov.au/www/html/1190-wildthings.asp

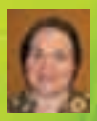
Turn your swimming pool into a swimming pond. *Renew Magazine*, Issue 91, April-June 2005, pp 17-20.

The Permaculture Research Institute of Australia. http://permaculture.org.au/2009/7/21/convert-your-eco-unfriendly-swimming-pool-into-a-biologically-active-and-attractive-fish-farm/

How not to do it. Since maintenance has stopped on this pool, it has lost its aesthetic appeal and is a breeding ground for Cane Toads and mosquitoes. Photo by Stuart Mutzig.

ecosystem profile

Native Vines and Revegetation



Article by Stephanie Reif
Land for Wildlife Extension Officer
Sunshine Coast Regional Council

Native vines are an important resource to native wildlife. Their fruits are eaten by birds and their leaves are eaten by caterpillars and other insects. Vines are an interesting group of plants, however the growth habits of our more vigorous native vines can sometimes cause problems when trying to re-establish rainforest. This article gives a background to vines and explores some issues and options for landholders.

Why climb?
Climbing has evolved as a growth habit in multiple plant families indicating that there must be evolutionary advantages to climbing. Studies have found that climbers have proportionally more biomass in their leaves than trees, as trees have large trunks and branches to support themselves. By using trees to get up into the canopy, climbers don't have to put a lot of resources into woody support structures and can concentrate resources into leaves, flowers and fruits.

Climbing gives vines an advantage, but it also puts them at the peril of their host. If a vine is climbing a small sapling or shrub that will never reach the canopy or is not able to support a mature vine, the vine may be wasting resources on growth that may not benefit them in the long-term.

How to climb
Vines use a variety of strategies for climbing. The most common types are:

- Twiners. They use lead shoots to wind around a support and pull themselves up. For example Native Wisteria (*Callerya megasperma*) and Scrambling Lily (*Geitonoplesium cymosum*).
- Tendril climbers. Their tendrils are modified parts of the vine that are used to reach out and coil around a support, pulling the plant upwards. For example passionfruits (*Passiflora* spp.) and native grapes (*Cissus* and *Cayratia* spp.).
- Hook and thorn climbers. They use hooks or thorns to catch onto surrounding vegetation to pull the plant upwards. For example native raspberries (*Rubus* spp.), Cockspur Vine (*Maclura cochinchinensis*) and Lawyer Vine (*Calamus muelleri*).
- Adventitious root climbers. They use specialised roots that come out the vine stem enabling the vine to climb up tree trunks. For example Native Pepper Vine (*Piper hederaceum* var. *hederaceum*) and climbing pandans (*Freycinetia scandens* and *F. excelsa*).

Some vines use a combination of strategies to climb, for example Barb Wire Vine (*Smilax australis*) uses both tendrils and thorns. Monkey Rope Vine (*Parsonsia straminea*) uses adventitious roots to get into the canopy then twining to spread through the canopy of a tree.

> *"An alternative to totally removing native vines from revegetation areas is to cut them back to soil level and let them re-sprout."*

Growth forms
Native vines come in a variety of growth forms. Some like Wombat Berry (*Eustrephus latifolius*) and Scrambling Lily are small twiners of the understorey. Others like Molucca Bramble (*Rubus moluccanus*) will often form a tangled thicket on the edge of rainforest much like lantana does. Unfortunately it often grows in amongst lantana as well which creates a nasty prickly combination when hand weeding!

Hook and thorn climbers tend to be messier than other types of vines, forming a tangled thicket before the vine is able to pull itself upwards. This is often seen in areas of regrowth where Cockspur Vine will form a tangled thicket amongst the regenerating trees. Or it is seen in areas of intact rainforest where Lawyer Vine will form a dense thicket before a cane will get itself up into the canopy.

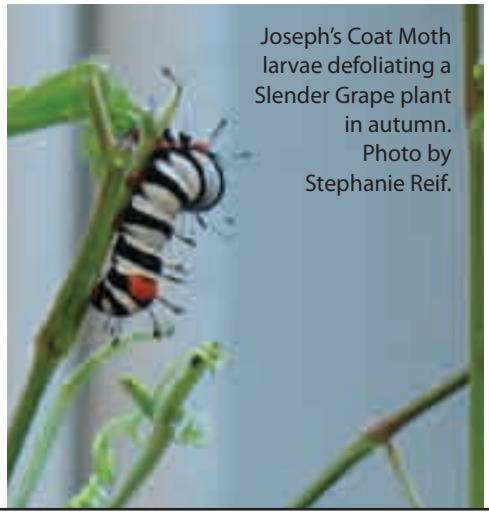
Other vines are vigorous climbers that quickly colonise a rainforest gap or edge. Members of the grape family Vitaceae often display these characteristics. These native grapes include Three-leaved Water Vine (*Tetrastigma nitens*), Hairy Water Vine (*Cayratia acris*), Slender Grape (*Cayratia clematidea*), Water Vine (*Cissus antarctica*), Long-leaved Water Vine (*Cissus sterculiifolia*) and Five-leaved Water Vine (*Cissus hypoglauca*).

How vigorous a vine is in its growth form, and to some extent its climbing method, will dictate how much of an impact it will have on its host. This is especially important to keep in mind with revegetation. For example the Small-leaved Water Vine (*Clematicissus opaca*) is a smaller vine that can be incorporated into revegetation as it is a much weaker climber than other native grapes, but is still an important resource for native wildlife.

Native vines and wildlife
Vines are very important to wildlife. The best known example of a native vine and its importance to wildlife is the Richmond Birdwing Butterfly and its host vine *Pararistolochia praevenosa*. However there are many other examples of native vines that are larval hosts to insects, in particular butterflies and moths.

Fruits of vines are eaten by many rainforest birds. For example the Soft Water Vine (*Cayratia eurynema*) has fruit eaten by the Wompoo Fruit-dove, Rose-crowned Fruit-dove, Topknot Pigeon and Brown Cuckoo Dove. Its leaves are also eaten by Jospeh's Coat Moth larvae.

Nectar from flowering vines is also used by butterflies, for example Blue Tigers feed on Monkey Rope nectar.



Joseph's Coat Moth larvae defoliating a Slender Grape plant in autumn. Photo by Stephanie Reif.

Vines and revegetation

The more vigorous native vines can cause issues when doing rainforest revegetation. There needs to be a balance between achieving a closed canopy quickly, whilst providing the range of resources for wildlife that our native vines offer.

Here are a range of ideas you may wish to adapt to your particular situation:

- ✓ Think in the long-term and have a plan.
- ✓ Monitor the growth of a vine over a year to see what impact it is having. Vigorous growth of a vine in spring and early summer may be halted by herbivory in late summer and autumn. I have seen a Slender Grape with large amounts of new growth in spring and summer totally defoliated in autumn by Joseph's Coat Moth and hawk moth caterpillars.
- ✓ Keep in mind your location. If your site is far away from established rainforest, any vines that do come up naturally may be very important to local wildlife.
- ✓ An alternative to totally removing native vines from revegetation areas is to cut them back to soil level and let them re-sprout. Regrowth will need to be managed until the revegetation is able to handle the vines.
- ✓ Remove problem native vines from your revegetation area but leave others where they don't pose a problem. For example, vigorous vines could be allowed to grow over fence lines where they will not impact on seedlings.
- ✓ Allow natural regeneration of vines to increase plant and structural diversity especially when seedlings are at a suitable height to handle vines.
- ✓ Smaller less vigorous vines such as Scrambling Lily, Wombat Berry or Small-leaved Water Vine should be encouraged in revegetation and natural regeneration areas.
- ✓ The Richmond Birdwing Vine is another vine that can be incorporated into revegetation. It likes some protection but not dense shade. It is often slow to get started and can take a long time to take off and get up into the canopy. However this growth habit can be advantageous in revegetation areas where the Richmond Birdwing Vine can "grow up" with a host tree once seedlings are a couple of metres tall.
- ✓ If there is little natural regeneration of native vines in a mature revegetation area, consider planting some to increase plant diversity and provide wildlife habitat.

Birds may use vine thickets for nesting. I've seen Eastern Yellow Robins nesting on a Lawyer Vine stem – a very prickly place for snakes and other predators to brave to get an egg or chick. Many mid-storey vine thickets, especially ones with prickly vines, are used by birds for foraging. Similarly, a well-developed understory with vines is used by many ground foraging birds such as whipbirds and scrubwrens.

Using native vines to your advantage (and our wildlife's)

Vines that have "sealed-off" a rainforest edge, often in a dense curtain of growth, are shading the inside of the forest. This shade and protection from wind helps stabilise the microclimate of the rainforest and can also minimise the amount of weed growth within a remnant. Don't remove these vines as they are doing a useful job.

Consider the growth habit of a vine. If you've cleared lantana from a bushland edge make sure you leave the native raspberries as they provide similar habitat and food resources for small birds and other wildlife. This may mean that whilst controlling lantana, you cut back native vines but don't poison them.

Joseph's Coat Moth.
Photo by Deborah Metters.

Adventitious root climbers can look very dense, but due to their growth habit most of the weight of the vine is concentrated on the stem, which should not affect healthy host trees.

Vines and regenerating rainforest

The same principles of incorporating vines into revegetation areas apply for areas of natural regeneration. In these areas, vines can be quite overwhelming as they often have perfect conditions for growing. For example, you often see Cockspur Vine tangled up in regenerating trees. In regenerating rainforest don't rush in and remove all vines at once, even though it is tempting to think you are liberating the trees. The high light conditions may result in an increase in weeds. Instead, have a plan and if you think vines need to be controlled, do so slowly in stages and monitor the results, taking into consideration the principles mentioned in the above text box.

Finally check your vegetation clearing laws both with your local Council and the State Government. In some areas of mapped vegetation your small regenerating patch may be mapped as remnant. Depending on the laws governing damage to vegetation you may need to apply for a permit before you damage any native vegetation. Some vines are listed as threatened under the *Nature Conservation Act 1992* and cannot be damaged without a permit. If you need further advice on native vines and your revegetation or regeneration areas contact your local Land for Wildlife Extension Officer.

Broad-leaf Climbing Pandan (*Freycinetia scandens*) showing profuse growth up a rainforest tree. It grows by adventitious roots so most of the weight of biomass is concentrated on the trunk.
Photo by Stephanie Reif.

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flora profile

Figs of SEQ

Article by Alan Wynn
Land for Wildlife Extension Officer
Sunshine Coast Regional Council

This Rusty Fig (*Ficus rubiginosa*) has abundant recruitment of plants (native and introduced) underneath it as a result of many different animals visiting the tree, to eat figs and deposit seeds of other plants at the same time.

As Colin Tudge writes in his wonderful book *The Secret Life of Trees*, of all the trees there is nothing, absolutely nothing, quite like a fig tree.

There is a lone fig tree growing behind the office where I work. It is a Rusty Fig (*Ficus rubiginosa*) sometimes known as the Port Jackson or Rock Fig. Underneath it is a wonderful microcosm of bird dispersed rainforest plants (and garden escapees) that provide momentary distractions from the demands of the office when I wander out for a spot of weeding. When it fruits, it attracts mobs of figbirds, lorikeets and even the occasional Wompoo Fruit-dove, even though the nearest rainforest remnant is over a kilometre away.

Going by the evidence left on the picnic table underneath it, the night time visitors are just as varied and probably even more numerous, with flying foxes and possums being the most obvious. It is for this reason that figs are considered to be a 'keystone' species in our local vine forests, inextricably linked to the lifecycles of many different species of plant and animal.

A brief guide to ID

Of the more than 750 species of fig tree worldwide there are nine species endemic to the SEQ region and another two have distributions occurring as far south as Gympie. They range from the magnificent, towering Moreton Bay Fig to the shrubby Creek Sandpaper Fig.

All the local species of figs have a few features in common; the developing leaves are covered by pointed, rolled stipules and they have milky sap, except for the sandpaper figs which have sparse, watery or slightly milky sap. The fig tree 'fruit', called a syconium, is basically an inside-out flower formed by the enlarged base of the inflorescence (peduncle) encasing the florets.

There are three kinds of floret inside the fig; male, female (short style or gall forming) and female (long style or seed forming).

COMMON NAME	BOTANICAL NAME	FIG	FEATURES
Strangling figs			
Moreton Bay Fig	*Ficus macrophylla*	Paired, spherical to 25 mm. Orange, turning purple when ripe	Leaves with brownish undersurface.
Strangler Fig	*Ficus watkinsiana*	Paired, ovoid to 35 mm. Green, turning purplish black when ripe.	Nipple at apex of fruit.
Small-leaved Fig	*Ficus obliqua*	Paired, spherical to 10 mm. Orange with dark spots	Smallest figs and leaves of the strangling figs.
Deciduous Fig	*Ficus superba* var. *henneana*	Solitary, spherical to 20 mm. Yellowish turning red/ purple with pale spots.	Deciduous.
White Fig	*Ficus virens* var. *sublanceolata*	Paired, spherical to 20 mm. White or pinkish-brown.	Deciduous. Leaves with pale veins.
Sandpaper figs			
Creek Sandpaper Fig	*Ficus coronata*	Solitary 15-25 mm. Hairy purplish black fruits, often borne on trunks and branches.	Branchlets and undersurface of leaves hairy.
Sandpaper Fig	*Ficus fraseri*	Paired roundish to 20 mm. Rough, yellow turning red/black when ripe.	Sometimes deciduous.
Sandpaper Fig	*Ficus opposita* var. *opposita*	Paired roundish to 15 mm. Rough, pink, red, purple or black.	Leaves mostly opposite.
Others			
Rusty Fig, Rock Fig	*Ficus rubiginosa*	Paired roundish to ovoid to 20 mm. Yellow turning red when ripe.	Fig usually prominently warty
Small-fruited Fig	*Ficus microcarpa*	Paired spherical 6-10 mm. Red with small white dots.	Gympie southern limit of distribution.
Cluster Fig	*Ficus racemosa*	Clusters. Spherical to 20 mm. Borne on trunk and branches (cauliflory). Red when ripe.	Often deciduous. Imbil southern limit of distribution.

Stranglers

Anybody who has been for a walk in the tropical, subtropical or warm temperate rainforests on the east coast of Australia will be familiar with the sight of giant emergent fig trees with a lacework 'trunk' formed by a mass of coalesced roots. The very oldest of these will be hollow as the original tree that supported the fig has died and rotted away.

In the rainforest, light is often a limiting factor, so by beginning life up in the canopy the seedling fig tree has an advantage, but this long-term strategy has difficulties. The young fig tree has to live a very frugal life as an epiphyte until it grows its root system from the humus filled hollow where it germinated down the trunk of the host tree to the ground below. This process can take decades and many seedlings will die during periods of drought or will fail to establish a strong enough root system before the host tree dies and falls over.

Reproduction

Figs have a complicated sex life that relies on tiny chalcid wasps (Family Agaonidae) for pollination of their flowers. In turn, the fig wasps can only reproduce within the fig. This relationship is probably one of the most elegant examples of obligate mutualism that I can think of. Obligate mutualism is where two species totally depend on each other for survival.

Most species of fig have a single specific wasp pollinator but this is not always the case. Only the female wasps have wings. The wingless males' only role is to mate, then chew an exit hole in the fig for the female to exit, after which he dies.

Male wasps emerge first and mate with females before they even emerge. Once the females emerge, they collect pollen from the male florets (flowers) in the fig cavity, either actively or passively. Female wasps then exit the fig through the hole made by male wasps.

A female wasp then needs to find another fig tree with receptive fruit, which is quite a feat given that she is only a couple of millimetres long. DNA studies of figs have suggested that despite her dimunitive size she is capable of flying great distances.

Each type of fig tree has specific chemical signals released by the fig when it is receptive. A female wasp accesses the florets, located inside the fig cavity, through a narrow bract-lined opening called an ostiole. This passage is so restricted that her wings and often antennae, break off.

There are two types of female florets within the fig, some have short styles and some long (filiform). Female wasps can only lay eggs into the ovaries of the florets with the short styles. The florets with the long styles will be pollinated and eventually produce viable fig seed.

All figs such as this Strangler Fig *(Ficus watkinsiana)* have pointed rolled stipules - the whitish rolled-up "leaf" at the end of the stem.

Strangler fig – trunk or aerial root system?

"Figs are considered to be 'keystone' species... inextricably linked to the lifecycles of many species of plant and animal."

Transverse section of *Ficus watkinsiana* syconium.

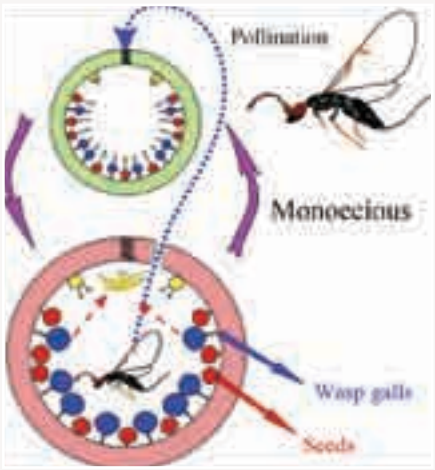

Fig wasp lifecycle. Diagram courtesy of Simon van Noort, Iziko Museums of Cape Town. www.figweb.org

The wasp larvae feed on endosperm (nutritive) tissue formed in the galled ovary, pupate and then emerge as mature wasps to complete the cycle.

The time taken for the larvae to mature into adults is closely correlated to the time it takes for the fig to ripen. Believe it or not this is the simple version of fig reproduction.

To allow this complicated lifecycle to continue, fig trees need to have asynchronous fig production. In other words, individual trees of the same species do not all produce fruit at the same time. Alternatively, individuals of some fig species will produce fruit at different stages of maturity (unripe to ripe) at the same time.

There is also a suite of non-pollinating wasps that lay their eggs into figs. Some of these species have larvae that parasitise (eat) the larvae of other wasps in the fig.

Each fig tree is an amazing ecosystem in itself. If you don't have a fig tree in your patch, go and plant one today.

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www.figweb.org

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practicalities

Figgin' Camphors - How to use strangling figs to replace weed trees

Soaking a Strangler Fig in water.

This article discusses how to attach a strangling fig plant to a large woody weed (such as Camphor Laurel, Chinese Elm or Broad-leaved Privet) so that the fig takes over the weed tree and eventually kills it.

This technique is only suitable for very large weed trees in situations where control options like physical removal or poisoning 'in-situ' are not viable or in some cases undesirable. It seems to work best on species with fissured or rough bark like Camphor Laurels or Slash Pine.

There are other methods that work just as well. I have seen planter boxes built into the forks of weed trees made from scrap pine (non-treated) wood. Some landholders have even added dedicated micro-irrigation systems to help speed up the process.

Lastly, you will need to be patient as figs grow very slowly. Remember that figs have very enthusiastic root systems. Keep them well away from any buildings, driveways, fencelines and other structures.

Please note that this process involves work at heights. Before undertaking any work, a risk assessment should be undertaken with risk control strategies and personal fall protection systems (eg. harnesses, lanyards or static lines) in place. For more information on working safely at heights, contact Workplace Health and Safety Queensland.

Strangler Fig nailed in position.

Fig root ball wrapped in plastic sheeting.

Step 1 Select a healthy, container grown fig tree from any of the strangling species. Remembering that you will have to get it up into the weed tree so make sure it is not too large. If it has a stem thicker than your thumb this is advantageous.

Carefully prune back the foliage to leave only a small amount of leaf, this will reduce water loss from the foliage and transplant shock. Give the root ball a good soak in a bucket of water. You can add a bit of fish and seaweed emulsion to the water if you like to provide the fig with some nutrients.

Step 2 Remove the bag or pot from the root ball (not essential but it is easier to do this while on the ground). Select a generous sized fork in the host tree. Undertake a risk assessment and put in place risk control strategies and personal fall protection systems relevant to the selected fork.

Using a short, sharp nail carefully nail the fig tree, through the base of the stem, in position. This will not harm the fig tree and will help secure it against any movement (important for root development). You could also use a thick natural garden twine (like sisal) to tie the fig tree in position but it must be tight and secure enough to prevent movement.

Step 3 Wrap the root ball securely with plastic sheeting that has been stuffed with pre-soaked cocopeat (or you could use well rotted compost or a quality potting mix). Secure with duct tape or similar. The plastic wrap and tape can be removed once the fig has established its root system adequately (this might take a few years).

The fig shouldn't need watering as rainwater running down the trunk will be enough. However, you may like to water through a hole in the plastic wrapping during dry periods or to speed up the growth of the fig. Adding fertiliser is also not necessary, but a foliar application of any kind of water soluble fertiliser, such as fish or seaweed emulsion, will help speed up the growing process.

Article and photographs by Alan Wynn
Land for Wildlife Extension Officer
Sunshine Coast Regional Council

my little corner

Land for Wildlife living

It was with excitement and an overriding sense of challenge that she faced the swathe of lantana two years ago - about an acre of it, like a blanket, in the gully. "A breeze", she thought! "No sweat!" she mused "It'll keep me fit and healthy after a day leaning over the keyboard" she justified to her husband, who looked on cynically. The vision of native bush full of creatures lured her on, drawing her towards a picture from a childhood book of a child sitting on a log, surrounded by animals and birds (or was it St Francis?). After all, next door's plot looks so healthy and she can hear the birds tweeting. The neighbours had mumbled something about 123 species of birds counted in the area.

Later, staggering out of the gully then lying fully clothed in the pool to recover my colour and my dignity, reality began to kick in. Lantana scratches! Ticks live in it, so do carpet snakes of an enormous size. Boy! This could be too much for a 'mentally 18 yrs, physically 55 yrs old woman'. Where was the vision, now? Yet, what a sense of accomplishment achieved when another lithe gum tree freed its branches from a load of lantana creepers and unwound itself to point skyward again. How many young native seedlings I joyously found growing under the lantana, cleared then freed ready to grow rather than to fade away and die from smothering. I struggled on, metre by metre.

It rained, and it rained. The lantana was getting the better of me! It grew more than I could clear it. It extended back over the beautiful young trees I had freed. My vision fuzzed and I lost focus, the economy downturn hit and I worked longer hours to re-focus the company. It's too much for me I pathetically moaned.

A bright idea - advertise at the local shopping centre for some help! A young couple answered, perfect! They personified the energy I believed I still possessed. The young man hoed into the garden, clearing more in a day than I had achieved in a year, arms flailing – the lantana was felled. I began to cheer up. It stopped raining and dried out, rain was longed for now. The lantana died off quickly and so did many of the young plants I had so carefully planted the year before. Australia can be so cruel – it's our nature.

Rain came again and I gathered my resources, went back to the catchment nursery, another 400 plants please, lets get this thing moving! I found a young Hoop Pine growing under the lantana and it has become the symbol of the recovery. I've found several fig trees, even a local *Macrozamia*. The trees I released are double the height they were last year. This year the gully will be filled with grasses and small shrubs. The King Parrots have started to regularly visit and two pairs of Pale-headed Rosellas. I have released from care many ringtails and brushies, and this week five Squirrel Gliders will join the mayhem of my Australian garden.

The ups and downs of any project, constrained by the parameters of the uncontrollable, and I love it with a passion. My garden will be native, it will be full of animals and I will one day put a caveat on it for the future, as I hope all the others in our Land for Wildlife patches will do.

Catherine Prentice
Land for Wildlife member
Brookfield, Brisbane

View from above the lantana where the house is situated.

The lantana war.

Have your reflections on your Land for Wildlife property printed in My Little Corner in 2010 and receive a free ***Suburban and Environmental Weeds of South-East Queensland*** DVD valued at $64.90. Send a max. of 200 words and a min. of 3 good quality images to the Editor (details on pg 2).

What's blocking our rainwater tank?

We were wondering why our rain water wasn't going from the roof to the tank. We disconnected the elbow in the pipe to investigate the problem, thinking it might be a build up of leaves. What a surprise we had on disconnecting the joint to find a two metre python caught inside. We were able to release it and all concerned were happy.

David and Jan Bodman
Land for Wildlife members
Brookfield, Brisbane

weed profile

Getting smutty with Mistflower

Article by Peter Hayes
Land for Wildlife Extension Officer
Brisbane City Council

Mistflower growing along a secluded waterfall. Photo by Peter Hayes.

Mistflower. Photo by Robert Whyte.

We were deep in Lamington National Park in the Gold Coast hinterland. The babbling rainforest creek tumbled down a small waterfall into yet another secluded, crystal pool. The sun was shining, we were hot and sweaty and the water was cool. Our thoughts simultaneously turned to one thing…. Weeds!

Well, just one weed in fact. Mistflower (*Ageratina riparia*). It bordered the edges of our rainforest pool and clambered up the steep rocks at the side of the waterfall. Literally miles from civilization, this introduced plant was busily replacing the diverse native vegetation that should be naturally lining the edges of this waterway. Not what we had expected at all.

Mistflower is a low-growing sprawling perennial herb usually 40 to 60 cm high. It has numerous stems which readily produce roots where they contact they ground. The leaves are arranged opposite one another along the stem and taper to a point at both ends. They are usually around 7.5 cm long and 2.5 cm wide and toothed along the edges. Mistflower produces small dense clusters of white flowers at the ends of the branches in winter. After flowering, the top of the plant appears to die off, but re-shoots from the base.

A prolific seeder, a mature Mistflower plant can produce 10,000 to 100,000 seeds per year. Seeds are 2 mm long with a tuft of fine white hairs. These hairs aid dispersal by wind, allowing it colonise upstream and upslope from the parent plant. Seeds are also spread by water or carried by animals. Broken pieces of Mistflower stem can also take root.

Mistflower is an aggressive weed which can quickly invade frost-free slopes and pastures. Unlike many other invasive plants, it is able to spread upstream along riparian corridors into undisturbed bushland areas where it can exclude native species and impact the native fauna reliant on them. Mistflower can restrict the establishment or growth of nearby plants and several threatened native plant species are negatively impacted by its presence.

"Unlike many other invasive plants, it is able to spread upstream along riparian corridors into undisturbed bushland areas..."

Originating in Central and South America, Mistflower has become a serious weed in many tropical and sub-tropical parts of the world. Introduced to Australia in 1875 as an ornamental plant, Mistflower is currently found in coastal and hinterland areas from Gympie in Queensland south to Ulladulla in New South Wales, including several World-heritage listed National Parks. There are also outlying records from North and Central Queensland and Carnarvon Gorge. Mistflower is common on moist rocky hillsides, damp creek banks and other moist sheltered sites.

Like all weeds, prevention or the early removal of small infestations is the best method of control. In bushland areas management options for Mistflower are restricted to hand-pulling and using herbicides. Several herbicides are registered for use on Mistflower. Both mechanical and chemical control methods can create disturbed areas allowing weed seeds to germinate, so control should be followed up by planting native species or encouraging natural regeneration. Access to infestations in upstream riparian areas and cliff faces can be very difficult, making conventional controls largely impractical.

Mistflower's widespread distribution and its seriousness as a threat to biodiversity has prompted several attempts at biological control. A stem gall-fly was introduced to Australia from Hawaii in 1987. However it is heavily attacked by native parasites and has had little impact on Mistflower in Australia.

A much more promising bio-control option is the White Smut Fungus (*Entyloma ageratina*). This fungal pathogen was imported to Hawaii in the 1970's and was highly successful in controlling Mistflower. In 1998 the same fungus was introduced to New Zealand with similar success. International testing indicates the fungus is highly host specific. The closely related weed species, Crofton Weed (*Ageratina adenophora*), may also be affected.

A proposal has been made to undertake local testing of White Smut Fungus for Mistflower control. The CSIRO believes the fungus could be tested for host specificity in Australia and ready for mass release in around two years. However, Mistflower is not considered a 'Weed of National Significance', limiting the availability of Federal funds for this research. Other funding sources are currently being sought, with the Lake Baroon Catchment Care Group on the Sunshine Coast helping to administer the funds currently collected.

In the meantime, we'll just have to keep using conventional methods and wait until we can 'get smutty' with Mistflower!

Further reading
DPI Mistflower fact sheet provides information on herbicide use and application rates www.dpi.qld.gov.au

book reviews

Butterfly Host Plants of south-east Queensland and northern New South Wales

by John T. Moss

Whenever I chat to the author of this booklet, I always learn something new, whether it be about a butterfly, orchid or grammar. John is a passionate field ecologist and this booklet reflects his dedication to invertebrate ecology and his attention to detail.

This booklet is a must have for those who are planning revegetation projects, regardless of the size, and want to ensure that butterflies will have plants on which to breed. The list of host plants is divided into sections based on the size of the plant, from large trees to shrubs, grasses and vines. This is a helpful filter for small revegetation sites or suburban backyard plantings.

The lists of host plants includes local knowledge gathered from members of the Butterfly and Other Invertebrates Club (BOIC) and other serious butterfly observers which has not been published elsewhere. This booklet is therefore essential reading for those with a keen interest in butterfly ecology in SEQ.

This booklet has steered away from using photographs as there are excellent colour field guides of native plants and butterflies available. Cross-references to readily-available plant books are provided so that readers can easily find images and more information about the host plants.

The booklet is divided into two sections. The first section lists 407 plant species based on the form of the plant followed by the butterflies (and some moths) that use these plants for successful rearing of their larvae. The second section lists 203 species of butterfly and moth followed by their host plants. Given that continental Australia has about 400 butterfly species, this booklet demonstrates how rich the SEQ region is for invertebrate biodiversity, and that there is still a lot more to discover.

This booklet is a credit to the author, other contributors and BOIC.

Review by Deborah Metters
Land for Wildlife Regional Coordinator
SEQ Catchments

Published by BOIC
Second (revised) Edition, 2008
Black and white, 56 pages
ISBN: 0 9752335 0 5
Price: $10 (includes postage)
To have a copy delivered by post, write to BOIC at PO Box 2113 Runcorn Q 4113 and include $10 cash, cheque or money order.

Birds of Brisbane

A Queensland Museum Wild Guide

by Greg Czechura

This little pocket guide is a handy introduction to the most likely birds to be seen by the average citizen in the Brisbane City area. It is another in the series of pocket wild guides published by the Queensland Museum focused on the wildlife of the South-east Queensland area. The other pocket wild guides cover the topics of snakes, raptors, frogs, fishes, ants and backyard insects.

Birds of Brisbane is a handy companion for the casual observer or visitor and a good introduction into the fascinating world of birds. It is quite amazing to realize how much native avian diversity still survives in inner Brisbane.

The bird that adorns the front cover, the Golden-headed Cisticola, is an example of a relative common grassland bird in Brisbane, but a species that not many people, apart from birdwatchers, would know about. Hopefully this wild guide plays a role in introducing Brisbane residents and visitors to the wonderful world of birdwatching beyond crows and ibis.

This wild guide features good photographs of selected birds (both native and introduced species) and their look-a-likes, although a few of the photographs are a bit obscure and would have benefited from a size indicator. Each selected bird has detailed descriptions of essential features.

Even though the limited geographic scope of this guide precludes many species from the greater Brisbane area, such as birds found in Moreton Bay and rainforests, it is still a handy reference for beginner birdwatchers and those who work or live in the city.

Review by Keith McCosh
Land for Wildlife Officer
Scenic Rim Regional Council
(and self-confessed amateur bird nut)

Published by Queensland Museum, 2010
Full colour, 76 pages
ISBN: 978 0 9775943 7 5
Price: $9.95
Available from the Queensland Museum and other specialist bookshops.

land for wildlife workshops

Rainforest Plant Identification - getting to know the red book

Article by Deborah Metters
Land for Wildlife Regional Coordinator
SEQ Catchments

Inside the red book.

Back in March, I attended a workshop run by Marc Russell for Land for Wildlife members of the Sunshine Coast. Marc is a former Land for Wildlife Officer in the Gympie region and is well-respected for his knowledge of rainforest plants.

I will admit that I am not very good with plant identification. You can show me a bird and I will remember it ten years later, but show me a plant and I will forget it in about ten minutes. That is why I depend on reference books so that I can keep looking up the same plant several times over, until it finally sticks.

The best book for learning rainforest plants in SEQ is the colloquially-known "red book" or *Rainforest Trees and Shrubs: A field guide to their identification* by Gwen Harden, Bill McDonald and John Williams. The red book contains 99% of all rainforest species found in SEQ so you should find what you are looking for. The workshop I attended guided participants through the steps of using the red book so that the same techniques could be applied when we are all back home.

As Marc pointed out, there are other excellent plant identification books also on the market such as *Noosa's Native Plants* by Stephanie Haslam and *Mangroves to Mountains* by Glenn Leiper, Jan Glazebrook, Denis Cox and Kerry Rathie.

Where the red book differs from these above publications is that it has no photographs, but relies entirely on a step-by-step key based on the leaves of the plant. Considering that it is difficult to find fruits or flowers of many rainforest plants, it makes sense that a key needs to be based on leaves. The red book requires patience and logic to use. It is recommended to use both the red book and one of the above-mentioned colourful publications together to cross-reference your ID.

The red book is divided into 17 groups of plants. Marc spoke about each group and then all workshop participants set about keying out the numerous specimens that were made available. Three Land for Wildlife Officers from the Sunshine Coast Regional Council (Josh Birse, Alan Wynn and Dave Burrows) were also there to help. This workshop was intensive and required participants to nut out plant specimens on their own. Keeping workshop numbers to only 25 people made sure that everyone got the help they needed.

"The red book is the bible of rainforest plant identification" Marc Russell (above).

Alan Wynn (left) works with Karen and Barry Sinclair to key out specimens.

The 17 groups of plants are based on basic botany such as determining if the plant is a pine, treefern, fig, palm or other tree, and basic leaf structure. As soon as you enter into the world of rainforest leaf structure, you have to work out the difference between compound and simple leaves and determining if the leaf structure is opposite or adjacent.

Once you have determined one of the 17 groups that your plant fits in, the key then takes you to another menu containing more detailed botanical terminology. The simple drawings, glossary and workshops like this one can help clarify where, or how, to find plant features such as the leaf rachis, rachis tip, oil dots and domatia, which are sometimes crucial for correct identification.

I enjoyed the challenge of learning new terminology and studying features such as domatia using a hand lens, and even looking at tiny red mites that live in domatia.

The red book is a fantastic resource for all landholders who have rainforest on their property and who have the desire to learn about basic botany and the patience to work through a key. If you have a go at identifying the rainforest species on your property using the red book, but still have unknown plants, you can always ask for help from your local Land for Wildlife Officer or send in specimens to the Queensland Herbarium for identification.

Marc was a fantastic presenter who is full of passion for the ecology and conservation of our rainforest ecosystems. If you have the opportunity to attend a workshop with Marc Russell or another presenter on how to use the red book, I would encourage you to attend.

Reg Miles and Paul Prociv (top photo) and Marlene Davie and Marilyn Shrapnel (lower photo) enjoying the workshop.

Some tips from Marc...

- The Weeping Cabbage Palm (*Livistonia decora*) can be distinguished from the Cabbage Tree Palm (*Livistonia australis*) by drooping leaves due to the deep splits in the leaf giving it the weeping look. They are called cabbage palms because the top of the young trees used to be eaten like a cabbage.
- Group 9 in the red book identifies stinging plants such as the Giant Stinging Tree and the rare Gympie Stinger (*Dendrocnide moroides*) that was heavily cleared because people disliked them so much. Stinging trees inject tiny silicone stings into the skin that can still sting for up to six months and can make some people quite sick.
- Use smell to help identify plants by crushing up leaves. Some plants, such as lillipillies (*Syzygium* spp.) are hard to distinguish without using smell. The Aniseed Tree (*Syzygium anisatum*) is aptly named and easy to identify due to its smell.
- The Creek Sandpaper Fig (*Ficus coronata*) has very sandpapery leaves, is bushy and grows like an umbrella in shape. Whereas the very similar Sandpaper Fig (*Ficus fraseri*) grows straight up, is often deciduous and has lobed juvenile leaves.

good news

The frog that never said die...

Article by Nick Clancy
Land for Wildlife Extension Officer
Sunshine Coast Regional Council

Extinction is forever or so the saying goes. By definition extinction means that there is no reasonable doubt that the last member of a species is dead. Or as another well known phrase goes… …'it's as dead as a Dodo'.

In a world of declining biodiversity, good news stories are about as rare as many of the critters that appear on threatened species lists. However one story that recently bucked this trend was the remarkable rediscovery of the Yellow-spotted Bell Frog (*Litoria castanea*) in the New South Wales Southern Tablelands. I say remarkable, because it was found more than 30 years after it was thought to have become extinct! While the species is still considered to be endangered, steps are now being taken to ensure that the species doesn't again slip backwards into the realm of extinction.

Interestingly the Yellow-spotted Bell Frog 'disappeared' roughly around the same time that there was a global phenomenon of frog declines of mainly high altitude species, a decline in which the contagious chytrid fungal disease probably played a significant role. Included in this decline were no less than a dozen Queensland frog species.

Two frog species in our own backyard, the Southern Gastric Brooding Frog (*Rheobatrachus silus*) and the Southern Day Frog (*Taudactylus diurnus*), are now listed as extinct under Commonwealth legislation. Unfortunately regular monitoring of their former haunts continues to end in disappointment. While it might be overly optimistic to expect the reappearance of these two frogs, the story of the Yellow-spotted Bell Frog does show that there can be exceptions to the extinction rule, and private landholders can play a leading role.

The Yellow-spotted Bell Frog wasn't rediscovered in some remote inaccessible corner of World Heritage-listed National Park, it was found on private property. So much of the precious little known about our native flora and fauna is information that has been gleaned from public land, such as National Parks and State forests.

The majority of the remaining bushland in Queensland is in the hands of private ownership and/or management. I think it is safe to say that much of this land has never had an ecologist or biologist stomp over it in search of rare or threatened species.

> *"The Yellow-spotted Bell Frog wasn't rediscovered in some remote...National Park, it was found on private property."*

For this reason there is still hope that there are more hidden gems like that of the Yellow-spotted Bell Frog population that are still out there on private land; hopefully safe from harms way.

If you consider that less than 5% of Queensland is in National Parks, and the great majority of the landscape is under private ownership and management, it highlights just how important the role of private landholders is in the conservation of not just threatened species, but all our wildlife.

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Land for Wildlife Regional Coordination is proudly managed by SEQ Catchments with support from the Australian Government.

Queensland Landcare 2010 Conference

Landcare - a Balancing Act

14 - 17 September 2010, Caloundra

This September offers Land for Wildlife members a great opportunity to meet like-minded people and be inspired at the Qld Landcare Conference. It is being held in Caloundra on the Sunshine Coast.

The central theme of the conference is the planning and implementation of integrated, sustainable, whole-of-property land management.

The conference will offer all those attending the opportunity to actively participate, discuss and evaluate ideas and experiences of landowners, scientific experts, conservationists and others involved in land management.

Four land management strategies (natural sequence farming, carbon farming, permaculture and organic farming) will form the framework around which the core of the conference is built.

These strategies are currently of particular relevance and importance to landholders because the practices involved stand at the forefront of the implementation of greenhouse gas reduction and carbon sequestration policies being considered by the Australian Government. Thus, landholders who know about these strategies will be poised to take advantage of some excellent business opportunities. The nature of these opportunities will be discussed in income diversification forums during the conference.

There will also be a forum for landholders to discuss weed management strategies within a nature conservation context. Panel members will include Land for Wildlife Officers and others with expertise in environmental weed control.

The conference program is still being finalised, but looks to include tours of local Land for Wildlife properties and also presentations by Land for Wildlife members talking about their experiences with revegetation and ecological restoration.

For more information, visit www.landcare2010.com or call the conference organisers, NaRLA (Nature Refuge Landholders' Association), on 3844 0417.

Living with Flying Foxes

Flying foxes play a crucial role in the upkeep of our forests. Through their diet of eating fruit, nectar and blossom, they help disperse seeds and pollinate many native plants. Unfortunately, their ecological roles are often overshadowed by their noisy, smelly and social habits.

This new brochure is designed for people who live near flying fox colonies. It provides information on the flying foxes found in Queensland and explains why they are noisy, smelly and live in colonies. It addresses concerns regarding flying foxes and the health of humans and horses.

If you live near a flying fox colony, or just want to learn more about these animals, you can obtain a copy of this brochure from your local Land for Wildlife Officer, or download it from www.derm.qld.gov.au or www.rspcaqld.org.au/wildlife/

Opinions expressed by contributors to the Land for Wildlife newsletter are not necessarily those of the Land for Wildlife program nor any of the supporting agencies.

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