



## Spider sampling in western Brisbane points to a potential indicator genus

This article documents a relatively informal attempt to count and identify plants and spiders to assess biodiversity, comparing spider abundance and diversity in our 'best quality' dry rainforest remnants with other areas under restoration.

The *Brisbane Terrestrial Invertebrate Status Review 2005* conducted by the Queensland Museum noted that invertebrates can be useful in assessing biodiversity and ecosystem health. Because they are generalist predators, eating mainly insects and other arthropods, spiders can tell us a lot about the ecology of the areas they inhabit. Occurring in great numbers in most ecological niches, spiders can reflect local circumstances on a small scale.

One morning at our bushcare site in Walton Bridge Reserve, The Gap, western Brisbane, we took photographs of a small blue spider in a large orb web. As blue spiders are not that common, we sent the photos to Dr Robert Raven at the Queensland Museum to find out what it was. It turned out to be *Araneus psittacinus*. Dr Raven asked us to

Shown here are two species of spiders in the Genus *Thwaitesia*. They are small and display striking reflective colours. Given that *Thwaitesia* were found in remnant bushland areas, but less in revegetated areas and even fewer in gardens, they may be a potential indicator genus of ecosystem health. Photographs by Robert Whyte.

collect it and bring it into the museum. Apparently the museum's specimen had been lost.

If you've ever been asked to collect something for a major museum you'll know how such an experience can turn a harmless interest into a passionate obsession. I started looking for more spiders and found quite a few. Many were undescribed species. It appeared that the remnant dry rainforest at Walton Bridge was something of a spider hotspot.

Firstly I compared a site at Walton Bridge Reserve that was infested with Cape Honeysuckle (*Tecoma capiensis*) to a site of remnant dry rainforest next to it. I collected spiders by beating the foliage and collecting samples in a white plastic tray. On average, I found the remnant habitat had about three times as many genera as the weedy thicket. In sheer numbers, the remnant had about five times as many specimens.

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# editorial

The new year always provides an opportunity to reflect on the year gone by and set some goals for the next one. Apart from my usual wish list of health, happiness and a full wallet, I am looking forward to a couple of long-awaited Land for Wildlife projects to come to fruition.

Some of you may know that for the past two years, yes two years!, we have been working on reviewing the set of technical notes that you would have received when you joined the program. Those that joined in the past two years are no doubt still waiting to receive yours. These notes are a great resource on a range of land management topics.

Early in 2011 you should be receiving your new set of notes and I hope you enjoy looking through them.

The second project is a new website for the SEQ Land for Wildlife program that will offer more options for members to obtain and share information. Sitting behind the website will be a new database that all Land for Wildlife Officers will be able to access. We hope that this initiative will help improve our reporting and result in more support, incentives and recognition of the outstanding on-ground work of Land for Wildlife members.

I haven't travelled overseas in a decade, but recently I was fortunate to go on an overseas holiday. My trip both strengthened my concern for our interdependent environment, but also

put into perspective the blessings that we share from the natural environment here in SEQ. When you compare Singapore with less than 3% of its area forested, or the wildlife of Cambodia understandably being viewed as potential food, it is wonderful that we can enjoy tracts of relatively undisturbed forests. I am not downgrading the threats that we face locally of clearing, fragmentation, inappropriate fire regimes or pests for example, but I am just counting my blessings as a resident of SEQ. Maybe it is end of year sentiment, or maybe I am enjoying the butterflies in my garden, but I do feel lucky.

So, in-turn, I wish all Land for Wildlife members a lucky, safe and abundant 2011 and that you can take advantage of this unusually wet summer season we are experiencing. This rain and warmer weather in combination are bringing displays of flowers, orchids, fungi and wildlife that have not been seen in years. I always enjoy receiving photos from Land for Wildlife members and I hope that this summer season provides a bounty of photographic moments, and that you may choose to share some of them with the Land for Wildlife network.

Happy holidays and welcome to the UN Year of the Forests.



*Deborah Metters  
Land for Wildlife  
Regional Coordinator  
SEQ Catchments*

Landholder Registrations, Land for Wildlife SEQ - 01/11/2010			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
2747	629	50,720 ha	3,699 ha

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

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For all regions contact the Burnett Mary Regional Group, 4181 2999

# fauna vignettes

## Grazing outside my kitchen window

These are some photos of some of the many Red-necked Wallabies that have visited my property at Wamuran over the last 16 years. I don't have any domestic dogs so the wallabies use my 'Land for Wildlife' property as a corridor to cross over the road to a large freshwater dam on a neighbouring property at dawn and dusk.

I often wake up to find a small mob of two to seven wallabies grazing outside my kitchen windows or just laying back on the grass warming up in the morning sun. I have been lucky to see about ten joeys raised on my property over the years, which has been a wonderful thrill.

**Shane Muhling**

Land for Wildlife member  
Wamuran, Moreton Bay



# vale

## Professor John Sprent

On 1st November 2010, I learnt some very sad news, that Prof John Sprent had passed away aged 95.

For those who are unfamiliar with Prof John Sprent, he will always be remembered as the first Land for Wildlife member in Queensland. The launch of the program occurred on his property in 1998 and the 10th Anniversary celebrations were again held there more recently in 2008. John also joined the Voluntary Conservation Agreement program in 2000 and agreed to sell his property to the Brisbane City Council's Bushland Acquisition program, before he joined his wife Mary in a retirement home earlier this year.

John was a pioneer of bush regeneration on his 23 ha property at Moggil, in Brisbane's west, which he purchased as a dairy farm in 1954. He successfully revegetated 25% of the property, reconnecting the Brisbane River corridor to bushland areas to the



south-west. Over the years John planted over 10,000 plants and restored 5.5 ha of cow paddock back to bushland.

He was a wonderfully intelligent and inspiring individual. A scholar and a gentleman in every sense, John will be greatly missed. Forever may he rest in peace.

Written by Sue Nolan  
Land for Wildlife Officer  
Brisbane City Council

## LAND FOR WILDLIFE

### Queenstand

Newsletter for the Land for Wildlife Scheme Queensland Vol. 1, September, 1998

**The official launch of the Land for Wildlife scheme in south-east Queensland**

**On 26 July, the Brisbane City Council Lord Mayor and South-east Queensland Regional Organisation of Councils chair Jim Soerley officially launched the Land for Wildlife scheme in South-east Queensland.**

The function was held at Professor John Sprent's 23 hectare property located at Moggil, as the first landowner to join the scheme. The launch was a great success with over 80 guests in attendance, including representatives from Commonwealth, State and Local governments, environmental organisations and newly registered landholders to the program.

The introduction of the Land for Wildlife scheme in South-east Queensland has been the initiative of nine Local Councils and Bushcare - a program of the Commonwealth Government's Natural Heritage Trust. With over 70% of bushland in South-east

Professor John Sprent releasing a Crested Hawk to mark the launch of Land for Wildlife South-east Queensland

Queensland now privately owned and managed the Land for Wildlife scheme has an important role in encouraging and assisting private landholders to voluntarily contribute to conserving biodiversity by providing habitats for wildlife on their property.

Professor John Sprent is one such landowner, when he and his family first purchased their property 44 years ago, there was hardly a tree which had not been ring-barked and as a consequence several areas of serious erosion were apparent. The general plan of activity on the property has been to use part for grazing and part for afforestation. It was this need to provide windbreaks and check erosion that prompted the idea of conservancy. Other activities included fencing to exclude cattle, tree planting on the contours and the construction of dams in strategic sites, thus forming a corridor across the property. "On

Supporting Council representatives and newly registered Land for Wildlife landholders.

the practical side, there has been a bonus, with the improvement of both the quantity and quality of available pasture and all signs of erosion have disappeared" Professor Sprent said.

Schemes, such as Land for Wildlife have an important role in assisting landholders who wish to integrate wildlife habitat with other uses of private land to the benefit of the landholder and wildlife.

I would like to take this opportunity to express my appreciation to all supporting council staff members that assisted on the day and helped make it the success that it was, thank you.

Malcolm Petrie - Land for Wildlife Project Coordinator

Published with the assistance of Bushcare — a program of the Commonwealth Government's National Heritage Trust

# fauna research

## The Dynamics of Hollow Bearing Trees within the Urban Landscape

Article by Donna Treby  
Land for Wildlife member  
Currumbin Valley, Gold Coast  
and PhD student, Griffith University

As advocates for the preservation of wildlife, Land for Wildlife members would, I am sure be aware that tree hollows are essential habitat for wildlife. Hollows offer protection from predators, provide roosting and breeding sites, are used for feeding and offer a stable micro-environment that alleviates ambient conditions. Numerous species rely on tree hollows, however it is not always possible to determine whether all species are obligate hollow users or exploit this resource opportunistically. This relationship can change depending on climatic conditions and hollow availability.

In Australia approximately 300 species of vertebrate fauna, plus an extra 10 introduced pest species are known to rely on hollow-bearing trees for part of their life-cycle. In Queensland alone there are an estimated 134 hollow using species, ranging from micro-bats and reptiles to large marsupials such as possums and gliders.

Tree-hollow formation in eucalypt species takes a long time. The formation of hollows usually requires several factors such as physiological stress, damage from wind or fire or heartwood decay. The tree must be of a sufficient size to endure this decay or damage.

Tree hollow formation is also dependent on a number of tree and environmental variables. The diameter at breast height (DBH) and age of a tree is important as it has been estimated that for hollow formation to take place a tree must be between 140 to 220 years old. Large, old trees are therefore important features on the landscape.

Depending on individual tree species, some will grow faster, are more prone to limb drop or form hollows at an earlier age. Environmental features such as altitude slope and rainfall will also affect growth patterns as will the density of trees within a forest. In addition to environmental conditions current and past human disturbance such as timber harvesting,



All kinds of animals use tree hollows for shelter and nesting, such as this Carpet Python. About 300 species of native animals depend on hollows to live or to breed. These animals are referred to as obligate hollow users. Photo by Deborah Metters.

Katie Robertson and Donna Treby conducting research on a Land for Wildlife property. Photo by Darryl Larsen.

reserve planning and management as well as fire history all play a role in hollow formation and retention. Unfortunately, tree-hollows are a disappearing landscape resource within remnant forest fragments and are further threatened by ongoing land clearing for pasture and agriculture, firewood collection, forestry, changed fire regimes and urbanisation.

My research assesses the dynamics of hollow-bearing trees as a habitat resource within the urban landscape in the Gold Coast City. This study is the first of its kind in Australia and is attempting to determine the impact of urbanisation on this resource and the consequences this will have on biodiversity. Gold Coast City is recognised as a global hotspot for biodiversity and is currently undergoing a rapid transformation. My research will be conducted on a number of Land for Wildlife properties and also some Gold Coast City Council (GCCC) reserves.

My first Land for Wildlife site was located in Currumbin Valley. This forest is dominated

by Flooded Gum (*Eucalyptus grandis*), Tallowwood (*Eucalyptus microcorys*) and Brush Box (*Lophostemon confertus*) with a huge Flooded Gum, containing 17 hollows. Sulphur-crested Cockatoos noisily dominated a massive hollow in the crown of the tree, while Rainbow Lorikeets found refuge in the hollows of the lower branches. Also much to my surprise, I observed a Mountain Brush-tailed Possum sleeping in a trunk-hollow located within a Brush Box at a height of 2.5 meters.

Darryl Larsen, a GCCC Land for Wildlife Officer joined me on two Land for Wildlife properties at Bonogin, to see my research first-hand. It was great to have him there to confirm a couple of tree species that I was having difficulties with. Due to the number of different eucalypt species found on the Gold Coast my pockets are constantly full of seed pods for identification purposes. I am however, constantly frustrated by stringybarks or stinkybarks as my Russian student volunteer calls them, I think that they will continue to challenge me for some time yet.



This Mountain (or Short-eared) Brushtail Possum, commonly called a Bobuck, is curled up in a hollow of a Brush Box tree. Photo by Donna Treby.

Two smaller project sites are located at Mudgeeraba and Gilston. When it comes to conserving hollow bearing trees, size does not matter. The need to retain hollow-bearing trees on the smallest scale, down to individual trees is extremely important, as there is always some form of wildlife in need of a home. Neither of these sites contain many hollow-bearing trees, but again this does not mean that these sites would be classified as 'poor' as tree-hollow formation can take decades even centuries to form. The trees on these sites are described as 'recruitment trees', as in the future they will become hollow-bearing trees.

The last Land for Wildlife property I visited was in Austinville. What a pleasure it was to be shown around this beautiful property that backs onto Springbrook National Park. The property is large enough to support three plots at various altitudes and vegetation stands.

While field work consumes the bulk of my waking hours and I have yet to analyse the data collected, to date the initial observations suggest that there does not seem to be enough tree hollows to go around. At the time of writing (it is now mid August) there is a lot of activity around tree hollows by avian fauna looking for somewhere to nest, with territorial squabbles and fights erupting. It is unfortunate that many of these current hollows will disappear within the next few decades due to natural processes such as senescence and decay.

However, my concern lies in the lack of recruitment trees that are of a large enough DBH to allow hollow formation to occur within a similar time frame. As the Gold Coast region, like most of South East Queensland, has been intensively logged in the past, there currently appears to be an

even age of trees within forest remnants. This will result in a significant time lapse between hollow loss and hollow formation. The potential for localised extinctions of hollow using fauna occurring due to the loss of these assets within the next 20 years is considerable and will form an important component of my research efforts.

There are a few options available to ameliorate the paucity of hollows within our forests. The main focus should be one of preservation of hollow-bearing trees and remnant forest patches. However in the short-term the installation of nest boxes may be warranted. When installing nest boxes one is required to target a specific species to enable the installation of suitable nest box designs, as well as understanding individual species requirements. For example, some marsupials require a number of hollows within their territory to enable them to move across the landscape in search of food as well as a number of denning options. Yet others will require a certain distance between themselves and other species before they will choose a nest box to breed in. There is also the added concern that if nest boxes are used inappropriately they can actually attract unwanted pest species and once installed will also need to be monitored to ensure that they are having the desired effect. As a first step, local knowledge about the availability and use of natural hollow-bearing trees on a site would be useful in formulating any interventions that may be required.

The significance of my research on hollow-bearing trees and their associated fauna is based on understanding the functionality of remnant patches of forests. This could lead to a re-evaluation of such areas as not just places of refugia, but more importantly as potential functioning ecosystems,



Rainbow Lorikeets using a hollow. Photo by Donna Treby.

which until now have not been adequately investigated. It is hoped that this study will lead to a heightened understanding of the resources and biodiversity found within these sites and thus lead to a greater ability to manage them more effectively.

I am very grateful to the Land for Wildlife property owners that have graciously allowed me access to their properties. I would also like to thank Darryl Larsen and Lexie Webster from GCCC Land for Wildlife program for the support they have provided my project. I am currently assessing the impacts of urbanisation, fragmentation and edge effects on all of my sites and look forward to the next stage, which is to monitor these sites for nocturnal vertebrate fauna that utilise tree hollows.

#### References and further reading

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# fauna research

## Management Plan and Tree Hollow Survey for Moggill

Article by Noel Reddicliffe and Graham Hopkinson  
Students, Diploma of Conservation and Land  
Management, Metropolitan South Institute of TAFE



Islands of remnant bushland in suburban areas are vital for sustaining significant and important fauna and flora. This statement was validated by diploma students studying Conservation and Land Management at Metropolitan South Institute of TAFE during a recent project on a Land for Wildlife property in western Brisbane.

The study site, which is a Voluntary Conservation Agreement property in the suburb of Moggill, provided the bushland remnant for the studies to be conducted. This information enabled a management plan to be produced which highlighted the need for structured plans for maintaining the site, to ensure the natural significance of the area is conserved and improved. Primary management issues we identified included the impact of weeds, feral fauna and erosion on the important conservation values of the site.

However, it was heartening to see that rare and vulnerable plant species were found such as Grease Nut tree (*Hernandia bivalvis*) and the Plunkett Mallee (*Eucalyptus curtisii*) in the relatively small area of 12 hectares. Other items of interest included two culturally significant scar trees on site. It

was uncertain whether these were the result of traditional Aboriginal activities or as a product of early European influence.

Spotlighting surveys were also conducted and returned positive results in the form of sightings of animals such as Squirrel Gliders (*Petaurus norfolcensis*), Common Brushtail Possums (*Trichosurus vulpecula*) and even a Koala (*Phascolarctos cinereus*). These surveys were part of studies involving the use and subsequent importance of tree hollows to fauna that utilise them.

Tree hollows can take a long time to develop to a stage where they can be utilised by animals, generally about 120 years. We found that there were significant numbers of these hollow bearing trees available to the fauna that were sighted at Moggill and hence provided a strong argument for the importance of retaining such areas for conservation.

The importance of other Land for Wildlife members in the area was also highlighted in our studies as they provided areas of connectivity for these animals to disperse. Without these islands of habitat in the surrounding suburban landscape they would not be able to fulfil their

requirements needed to survive including foraging and breeding. It is encouraging to note that there are already several properties in the area that have current Land for Wildlife conservation agreements with Brisbane City Council. Is this not the way forward to encourage habitat connectivity for our native wildlife? The Brisbane City Council can also assist in putting together management plans and proposals for properties dealing with the major issues as discussed, including weeds and feral pest species.

It was agreed by all the students involved in this project that it had been a valuable and worthwhile project to undertake as it offered a hands-on role in investigating natural areas for management priorities and highlighted the importance of tree hollows to animals not just in large areas of bushland but in relatively small ones too.

Students conducted various surveys such as birdwatching (lower left), measuring DBH (diameter at breast height) of trees (lower middle photo) and were rewarded with finding several hollows with animals inside and also a roosting Tawny Frogmouth (above).



# flora profile

## Native Mulberry

Article by Doug Mohr  
Land for Wildlife member  
Holmview, Logan  
and consultant with Greening Australia

Most people that regularly work with ecological restoration have their favourite grab bag of pioneer species that can quickly capture a site and help boost biodiversity. One of my personal favourites is *Pipturus argenteus* (Native Mulberry or False Stinger). *Pipturus* is a member of the Urticaceae or nettle family and is native to coastal rainforest areas in northern NSW, QLD, Arnhem land, Papua New Guinea and other Pacific islands.

Native mulberry is a large tree or shrub that grows to about 7 metres, has glossy alternate foliage with serrated margins and a white, powdery underside. While it is a variable plant that can grow in a variety of soils it does prefer full sun and moist, well-draining soils. The fibrous bark has been used by indigenous cultures wherever it occurs for cord and netting and a quick look shows how easy it is to strip the bark and wind into long, strong cords.

Plants can either be male or female. The native mulberry's soft, white edible fruit are generally available in May-July although I have observed plants on my property near Beenleigh fruiting at any time that water is available. As of writing this article (November) they are currently fruiting with recent rains, demonstrating that they are an important fruit source available to animals during different periods of the year.

Native mulberry's leaves and flowers provide food and shelter for several



Native Mulberry produces sweet fruit that are enjoyed by a range of birds such as lorikeets, figbirds and orioles, and also people.

butterflies and other insects including:

- Jezebel Nymph (*Mynes geoffroyi guerinii*),
- Yellow Admiral (*Vanessa itea*),
- Speckled Line-blue (*Catopyrops florinda halys*),
- Blue-banded Eggfly (*Hypolimnna alimena*)
- Varied Eggfly (*Hypolimnna bolina*)

Every year my plants are stripped bare by Yellow Admirals and Speckled Line-blues, but the plants quickly recover. Spring is a great time in the garden with the whole area teeming with butterflies that somehow seem to avoid the Spangled Drongo that prowls around the edge of our patch of bushland.

Many birds enjoy getting into the abundant fruit, with Scaly-breasted Lorikeets, Rainbow Lorikeets, Figbirds and Olive-backed Orioles being regular visitors to the plants around our deck. For me this is one of the best things about this plant.

Five years ago I planted two trees on a relatively open area near our house. These

quickly grew and were fed on heavily by many birds. In the next two years I cleared several large shady weed trees in adjacent areas, hoping that some seed may have been dropped and that *Pipturus* seedlings might appear. Very quickly the large area filled with *Pipturus* and Poison Peach (*Trema tomentosa*) seedlings without me having to lift a finger and now seedlings are emerging through lantana infestations in disturbed rainforest areas on my neighbour's property. *Pipturus* has not dominated established areas on my property and I know it cannot withstand fire, making it an ideal plant to consider encouraging in areas of its habitat during the initial regeneration stage following a major disturbance.

While one of the keys to maximising the function of a forest system is to include multiple species, this species is another great tool to consider for riparian areas or within rainforest systems and margins within SEQ to ensure rapid site capture, lower maintenance and provide great habitat for a number of species.

### References and further reading

SOWN Website. Viewed December 2010.  
[http://www.saveourwaterwaysnow.com.au/01\\_cms/details\\_pop.asp?ID=295](http://www.saveourwaterwaysnow.com.au/01_cms/details_pop.asp?ID=295)

Native Mulberry is a great tree to plant in revegetation areas as it grows quickly and rapidly sets seed. Shown here is the parent tree on the left with lots of saplings on the right.  
Photo by Doug Mohr.



# weed profile

## African Tulip



Article by Lexie Webster  
Land for Wildlife Officer  
Gold Coast City Council



The African Tulip is an evergreen tree which has bright red distinctive flowers on it for at least half the year and is unfortunately becoming a serious environmental weed in SEQ. Photo by Darryl Larsen.

In its native home range of Western and Central Africa, the African Tulip's (*Spathodea campanulata*) uses have proven varied and plentiful. As well as being used traditionally as firewood and for carving, the trees offer a variety of functions that you may not have expected. Amongst other things, they provide shade in coffee plantations, act as live fences and African hunters are said to have boiled the seeds to extract arrow poison. In their native homeland and further abroad, various properties of the tree are used to treat a range of ailments including HIV, malaria and diabetes.

In Australia however, they are better known for their invasiveness than their value. Already considered a serious environmental weed in northern Queensland, the African Tulip is becoming increasingly notable in south east Queensland for the same reason.

Like so many of our weeds, the African Tulip was introduced as an ornamental. Their bright red-orange flowers attracted landholders looking to add a splash of colour to their garden and landscapers looking for 'attractive' street trees. The flowers only last a few days but they are large (up to 12 cm) and clustered and can be seen for about half the year (summer and autumn). It is these striking flowers that the African Tulip was named after;

the common name after their tulip shape, and the scientific name from the Ancient Greek words spathe and oida, which refer to the horn shape of the flower's calyx (fused sepals). Some of you may remember playing with the calyxes as children, squirting out the water that is held in them when the flower is still a bud.

After the flowers are pollinated by birds and bats, long seed capsules, typically up to 20 cm long, are produced. Resembling pods, the capsules, which turn from green to brown when mature, hold up to 500 papery seeds with transparent wings. Once released, the wind disperses the seed, as does water when trees are growing along waterways, one of their favoured habitats. And if neither wind nor water manages to spread the seed, there's always the tree's ability to sucker. Collectively, these reproductive mechanisms make the African Tulip an effective and efficient invader, particularly in disturbed areas where they colonise quickly. As well as outcompeting our native flora for resources, there is evidence that suggests toxic components in the flower are killing our native bees.

When the trees aren't in flower, there are a few other characteristics you can use to identify them. They are tall trees, growing up to 25 metres and can have buttressed roots. The bark, which is initially smooth and pale grey-brown when young and dark and rough when mature, is covered in lenticels (small air breathing pores).

The compound leaves are opposite or arranged in whorls of three. Each leaf has 7-17 broad, oval-shaped leaflets (including a terminal leaflet). The leaflets are heavily veined, sparsely hairy and have 1-3 glands at their base (seen as raised structures). They are rusty when young but turn a glossy green as they mature.

The Department of Primary Industries has listed African Tulips as a Class 3 weed and recommends that they be removed, particularly in environmentally sensitive areas such as waterways and areas linked to natural areas.

For recommendations on treating the African Tulip, refer to the DPI's fact sheet which can be found on their website at [www.dpi.qld.gov.au](http://www.dpi.qld.gov.au) or contact your Land for Wildlife officer for further advice. As with all weed control, follow-up treatment is crucial, particularly with the African Tulip which doesn't necessarily go down without a fight.

### References and further reading

[http://database.prota.org/PROTAhtml/Spathodea%20campanulata\\_En.htm](http://database.prota.org/PROTAhtml/Spathodea%20campanulata_En.htm)  
[www.dpi.qld.gov.au/documents/Biosecurity\\_EnvironmentalPests/IPA-African-Tulip-PP64.pdf](http://www.dpi.qld.gov.au/documents/Biosecurity_EnvironmentalPests/IPA-African-Tulip-PP64.pdf)  
[www.issg.org/database/species/ecology.asp?fr=1&si=75](http://www.issg.org/database/species/ecology.asp?fr=1&si=75)

Anecdotal evidence from SEQ and scientific research from Brazil indicates that African Tulip flowers can kill native bees. Shown below are native bees in SEQ dying as a result of pollinating African Tulip flowers. Photos by Robert Luttrell (Bob the Beeman, [www.rovingphotos.com.au](http://www.rovingphotos.com.au)).



The capsules of the African Tulip turn from green to brown when mature and hold up to 500 papery seeds. Photo by Darryl Larsen.



## Spider sampling in western Brisbane points to a potential indicator genus

Continued from front page...



The author, Robert Whyte, shown here hitting foliage in the remnant site to collect spider samples in the tray. Photo by Mark Crocker.

My next comparison was on a bigger scale comparing a 1400m<sup>2</sup> garden block with 1400m<sup>2</sup> of dry rainforest. These sites were very close to each other with identical climate, geology, topography and altitude. In comparison with the garden, the dry rainforest remnant had much more complex and diverse ground cover and canopy. These habitat layers almost certainly contributed to the higher number and greater diversity of the spiders and should serve as a guide to reconstructing habitat during restoration work.

The results found that the dry rainforest had over five times as many individual spiders as the garden site (932 vs. 175). The remnant also contained 2.7 times as many species (96 vs. 35) and 1.3 times as many families (17 vs. 13).

Families in the dry rainforest remnant that were not in the garden included *Clubionidae* (stout sac spiders), *Deinopidae* (net casting spiders), *Mimetidae* (pirate spiders), *Philodromidae* (swift crab spiders), *Tetragnathidae* (four-jawed spiders) and *Zodariidae* (knobbly ground spiders).

The high ranking of *Araneidae* in the garden also fits with observations that orb weavers find gardens relatively attractive, possibly because of the open space in which their webs can operate.

I wondered if it was possible that some spiders might be found regularly in remnant habitats but not so frequently elsewhere? If so, it seems likely that these genera might be useful as indicators. Of these *Thwaitesia* seemed the most useful. 31 specimens of *Thwaitesia* were found in the dry rainforest remnant, while only one specimen was found in the garden.

*Thwaitesia* is a very distinctive and pretty spider genus. It is easy to recognise, reasonably easy to photograph, shows no aggression towards humans and no bites have been recorded.

To find out whether the initial results could be repeated, further sampling was undertaken at Jevons Street Park. This park was closer to the dry rainforest (natural) area than the garden as it had been restored in 2003 with local native

plants. It differed from the garden in that it had substantial numbers of mature native trees present, no use of pesticides and a structural complexity approaching that of the dry rainforest remnant. This area yielded four *Thwaitesia*, correlating well with an informal intermediate habitat rating between the garden and the dry rainforest remnant.

Having a reliable indicator species would be a great benefit for bushcare volunteers and private landholders. Whether this might be *Thwaitesia* spp. in the Enoggera Creek catchment remains to be seen. Perhaps it might be a group of spider species or even some other invertebrates.

South East Queensland's invertebrates are fascinating and diverse. There are many enthusiasts exploring this world of small things. Many undescribed species from the surveys carried out for this study were collected for the Queensland Museum collection.



Article and photographs by Robert Whyte  
Save Our Waterways Now



Shown here are various species from the *Thwaitesia* genus. These were all sampled from the remnant dry rainforest site.

# property profile

## A Biodiversity Hotspot

Article and photographs by Mervyn Mason  
Land for Wildlife member  
Mount Crosby, Brisbane

Our 2.5 acres of paradise in the western suburbs of Brisbane is a veritable biodiversity hotspot. Since purchasing the property in 2003 (or should I say, my wife said yes to the deal without me having even seen it – she knew I would love it), we have been continually awestruck by the amazing array of diversity it supports, which we are continually discovering.

We inherited a jewel as far as land care is concerned: the previous owners had embarked on a Lantana (*Lantana camara*) eradication programme, and we are greatly indebted to them for this. Our role has now been a maintenance one in keeping the Lantana at bay. As fantastic as the property is, as I am sure many Land for Wildlife members know, weeds are an ever present reality that need constant attention. In our opinion, Lantana is the easy one to keep in check. The real thorns in our side are the Creeping Lantana (*Lantana montevidensis*), Mother-of-millions (*Bryophyllum delagoense*), Asparagus Fern (*Asparagus africanus*) and Chinese Elm (*Celtis sinensis*). These are the more noxious of the 29-odd exotic species that occur on the property.

Yet in spite of this seemingly large array of nasties, there is an amazing diversity of native life in a place only 19 km from the city centre.

### A diversity of plants

The property is mostly covered by Spotted Gum (*Corymbia citriodora*) and Narrow-leaved Ironbark (*Eucalyptus crebra*) forest on the high ground. The northern border is formed by a reach of Kholo Creek. Vegetation along this creek is dominated by Weeping Bottlebrush (*Melaleuca viminalis*), River She-oak (*Casuarina cunninghamiana*) and Water Gum (*Tristaniopsis laurina*).

To date, with the help of Brisbane City Council, we have identified 169 species of native plants on the property, representing 59 families. Included in these are the vulnerable Lloyd's Mock Olive (*Notelaea lloydii*) and the Wild Jack Bean (*Canavalia papuana*), a species restricted to the Ipswich area and surrounds. We have identified 68 individuals of Lloyd's Mock Olive on the property, quite a nice population, we believe.

### Aquatic diversity

When it comes to the wildlife on the property, we are constantly finding new surprises. Take Kholo Creek for example, even during the severest of the drought there was always water in the deep pools. During those hot, dry days, these pools were an oasis for all wildlife.

We have identified ten fish species living in these pools; yet we are sure there are many more, if we look harder. Our favourites are the tiny Dwarf Flathead Gudgeon and the Crimson-spotted Rainbowfish. At night the waters really come alive: be it migrating Long-finned Eels, or the seemingly millions of eyes reflected back in the torch-light, which belong to innumerable Long-arm Shrimp and Glass Shrimps. Now where are those Platypus?

These pools also support healthy populations of Broad-shelled River Turtle, Eastern Long-necked Turtle, Short-necked Turtle and Saw-shelled Turtle.

### On the land and in the trees

Although Kholo Creek offers fantastic aquatic habitat, most of the frogs we encounter are a long way from the creek. Of the ten native frogs we regularly encounter, the Graceful Treefrog (*Litoria gracilentia*) is by far our favourite. Our other favourites are the tiny Brood Frogs (*Pseudophryne* spp.).

Within the reptile world on the property, there are some real treasures amongst the 32 species we have encountered to date. The Collared Delma (*Delma torquata*) is a small creature that can easily be over-looked. This vulnerable species is a reasonably common resident around the garden.

On the bird side of things, the resident Grey Goshawk occasionally makes an appearance in the skies above. Generally, however, the diversity of birds in the area is not as high as we would have expected, with a dominance of larger species, like the Tawny Frogmouths who regularly present us with their young. Over the last six or so years we have noticed a sharp decline in the diversity and numbers of the smaller bird species, and a dramatic increase in the number of Noisy Miners.



Photos (from top):

- Lloyd's Mock Olive in flower.
- A fledgling Tawny Frogmouth.
- The magnificent Graceful Treefrog.
- Collared Delma, the jewel in the crown.
- A Brush-tailed Phascogale, not the easiest of creatures to photograph in the wild.

Perhaps one of the most fascinating, and beautiful residents is the Brush-tailed Phascogale. We had the fortunate opportunity to witness this fantastic little animal in the throes of procreation. For a few evenings around the house, the male and female would dance around each other, seemingly totally oblivious to our presence. At the end of the whole display though, the unfortunate male was found dead on the garage floor – all the excitement was just too much for him, as is the case for the males of most of the small carnivorous marsupials! The female then hung around the house for the next few nights, but was not still enough to let us get a photograph though!

Other regular visitors include the ever-shy Red-necked Wallaby, Long-nosed Bandicoots and Brown Bandicoots.

### Lessons learnt, or the learning never ends

Apart from the constant journey of discovery that we take on our property every day, perhaps the greatest observation we have made is the resilience of nature.

Take the Collared Delma, for instance. The literature about this little lizard states that Creeping Lantana (amongst other things) is a threat to its survival; however, a word of caution from our experiences. We have found these animals in pure stands of the weedy Wandering Jew (a species, in our opinion, that is just, if not more virulent than Creeping Lantana).

So perhaps two lessons: 1) be careful when removing dense monocultures of weeds because they may harbour interesting things, or be favoured habitat; 2) perhaps weeds are not as big a threat to the Collared Delma as is perceived? Just a thought.

Biodiversity is not stagnant; it is a dynamic, constantly evolving thing. Weeds and pests are a part of our landscape whether we like it or not, and a part of that biodiversity. The chances of eradicating them completely are, we believe, impossible. Therefore, being aware of the dynamics of ecosystems and evolution, and the economics and effort needed in trying to get rid of weeds, we have adopted a more pragmatic approach.

We act as the 'natural' predator and disease pressure on the local weed and pest populations, which, as any ecologist would know, is one of the driving forces in ecosystem dynamics. Yes, they should be controlled, but we will never be able to remove them completely, and, whether we like it or not, they do provide habitat – even for threatened species.

# letter to the editor

## Why don't fig seedlings grow under fig trees?

I found the July 2010 issue of the Land for Wildlife newsletter the best ever. They're all good but this one really hit the mark in terms of my own property which consists largely of riparian rainforest along the Burpengary Creek. In particular, the article that really caught my attention was the 'Figs of SEQ' written by Alan Wynn. Quite a number of the stranglers and sandpaper figs occur here, there are also a number of stranglers in various stages of maturity which are fascinating to observe.

There is one particular fig here though that really grabs the attention, a *Ficus virens*, with a buttress diameter of about 5 metres. It is the biggest one I have ever seen and one can walk up inside it.

I use one quadrant of the tree's canopy as a shelter to for the nursery plants that I propagate from seed I collect elsewhere

*Alan Wynn replied...*

Thanks for your email and your keen observation. At first glance the chemical inhibition (allelopathy) explanation does seem likely and it is a factor in some same species interactions (auto allelopathy). Allelopathy can also be a positive relationship where some species benefit from the chemicals produced by other species growing in close proximity, a good example would be some kinds of companionship planting in the veggie patch.

However, factors that regulate and influence germination are complex. Many plants rely on packaging their seeds in a tasty fruit to encourage ingestion and eventual dispersal by animals. Often the flesh of these fruits contain inhibiting enzymes to prevent germination before the seed has been ingested and pooped out. Each seed will have a set of environmental tolerances (pH, moisture, temperature, photoperiod etc) that have to be met before it will germinate. Other factors such as seed predation can have a significant impact on germination success.

Research on *Ficus stupenda* (like *F. virens* also a strangler or hemiepiphytic fig) in Borneo has shown that moisture availability is key to the germination of seed and survival of fig seedlings. It also showed that ant predation was significant. Another more recent study

on the property and I thought Alan may be interested in a phenomenon I have observed. The pots beneath the canopy are off the ground by way of wire trays but while most of these pots are 'infected' with *Ficus virens* seedlings, which I pull out all year, there is not one *Ficus virens* seedling growing anywhere else under the canopy.

What I would like to know is: does the tree emit some sort of soil – born chemical barrier to prevent competition from juveniles? It doesn't mind the germination of seeds from other species as is testified by the variety of seedlings that emerge under the remaining three quarters of the canopy. Hoping this information is of interest.

### Meg Thomas

Land for Wildlife member  
Moorina, Moreton Bay Region

on another strangler fig (*F. aurea* - native to Central America) showed that it was more likely to germinate in the humus that collected in the crowns of palm trees than in soil due to the differences in water potential (basically a measure of the tendency of water to move from one area to another) between the two substrates.

So here is what I think is happening. The potting mix in your pots has a higher water potential (and also gets watered regularly?) than the soil under the tree. There may also be seed predation by ants on the ground but not in the pots. You could try a little experiment to test this hypothesis by filling four containers with different 'substrates' to test their germination suitability. One with potting mix, one with well rotted compost, one with soil from under the fig tree and one with soil from nearby but outside the root zone of the fig tree. Collect some fig seed (ready processed by birds or flying foxes is good - wear gloves or wash your hands when you are finished) and distribute it as evenly as possible between the four containers. Don't forget to label each one. Place each container so that it is exposed to similar conditions (eg light, rainfall etc) and water each equally. Count seedlings or take digital pictures. Rough science I know but we are not aiming for a thesis here.

If you go ahead with the experiment I'd be interested to find out the results.

# program coordination

## Land for Wildlife in Byron Shire

*Article by Justin McDowell  
Biodiversity Extension Officer  
Byron Shire Council*

Following the development of the Byron Shire Biodiversity Conservation Strategy in 2004, was the appointment of a Biodiversity Extension Officer. More recently in 2009 this role expanded to include the Land for Wildlife Program. This came about through recognition that private landholders played a key role in nature conservation.

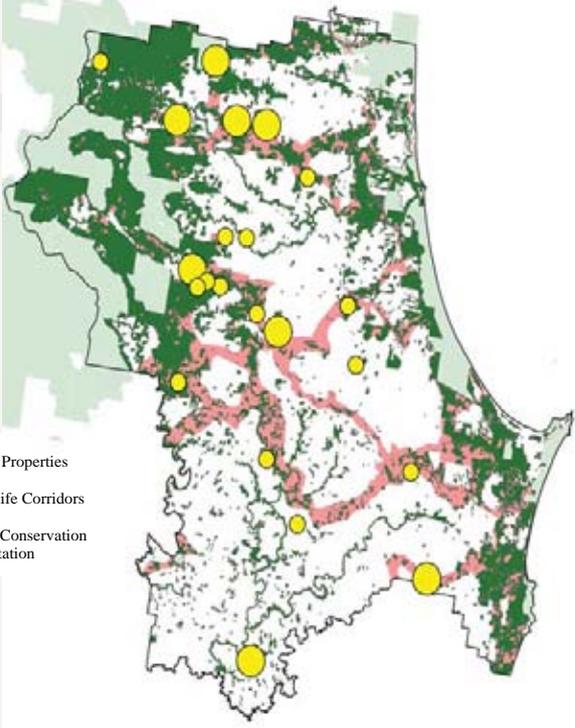
The program offered a framework by which private landholders could be recognised and assisted in managing the significant biodiversity occurring within the region. The continued survival of many rare and threatened animals and plants was dependant on restoration of habitat on private lands, and Land for Wildlife was a great way to achieve this essential outcome.

In late October 2010 the Byron Shire Council's Land for Wildlife program celebrated its first anniversary. Currently 23 landholders, with a combined total of over 500 hectares of land are actively involved in program. Despite being in its infancy, the program has had an encouraging uptake by the local community, with many positive outcomes for the shires biodiversity.

One part of the program enjoyed by many of the participants has been a Biodiversity Seminar Series. The seminars aimed to share practical knowledge from local experts in the area of biodiversity management. The four seminars held during 2010 were:

- Biodiversity initiatives in Byron Shire presented by Byron Shire Council Staff.
- Tree hollows and nest boxes presented by Ross Goldingay from Southern Cross University.
- Flying Fox ecology presented by Billie Roberts from Griffith University.
- Living with wildlife in towns and cities - human / wildlife interactions presented by Darryl Jones from Griffith University.

The seminars provided a good opportunity for property holders to learn about the latest research happening throughout region and ask questions specific to the management of their land. Additionally, fact sheets outlining key points from the seminars have been developed for local residents. These include the recent 'Nest Boxes for Wildlife' fact sheet available from Byron Shire Council.

- 
- LFW Properties
  - Wildlife Corridors
  - High Conservation Vegetation

Although separated by state boundaries, the Byron Shire is within the same bioregion as South East Queensland. Because of this, we share many of the same ecosystems, species and land management issues. Collaboration between individuals and organisations within this bioregion therefore has and will continue to benefit all those involved.

To this end, we hope to continue making contributions to resources within the bioregion including articles within this newsletter. Additionally, we have been promoting the benefits of the Land for Wildlife program to surrounding shires, with the hope that a vibrant and productive network of people can collectively contribute to the management of the regions amazing biodiversity.

For further information please contact Byron Shire Council's Biodiversity Officer on [biodiversity@byron.nsw.gov.au](mailto:biodiversity@byron.nsw.gov.au) or on (02) 6626 7104.

The Byron Shire looking west  
from Chincogan.  
Photo by Wendy Neilan.

# book reviews

## A Guide to the Katydid of Australia

by David Rentz

**K**atydid is not a dirty word!

Have you ever wondered what a Katydid is? Or wondered how is it different from a cricket or grasshopper? Well David Rentz's book has the information you need!

A Guide to the Katydid of Australia covers all you need to know about these little creatures. The book looks at their biology, collection and study, ecology, conservation, and has an in-depth look at the different species and features within the family. The guide also has an extensive range of great images, clearly showing the vast array of katydids for easy identification.

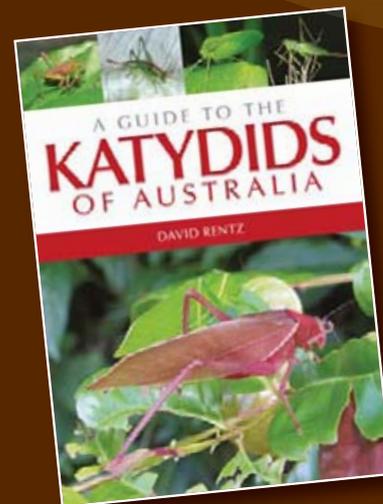
Rentz has studied extensively on this subject and as such his knowledge of the subject provides the reader with a greater appreciation of katydids. Katydid are a

truly remarkable group of insects that vary immensely in both shape and size and are some of Australia's most commonly seen insects.

With over 6000 species of katydids (family Tettigoniidae) recognised worldwide, we are talking about little critters with big family connections. Don't go messing with the katydid family, because you just don't know who they know, if you know what I mean!

If you have an interest in this field of insects, then this guide is certainly a must to put on your wish list.

*Review by Josh Birse  
Land for Wildlife Officer  
Sunshine Coast Council*



Published by CSIRO Publishing, 2010  
Paperback, full colour, 224 pages  
ISBN: 9780 64309 5540  
Price: \$49.95  
Available from CSIRO Publishing and  
all good bookshops.

## Wildlife Conservation Action Statements

by Brisbane City Council

**A**s Australia's most biologically-diverse capital city, Brisbane supports 1500 plant species, 523 vertebrate animal species and innumerable invertebrate species. However, more than 40% of Brisbane's vertebrate fauna species and almost 10% of vascular plants are at risk of local extinction.

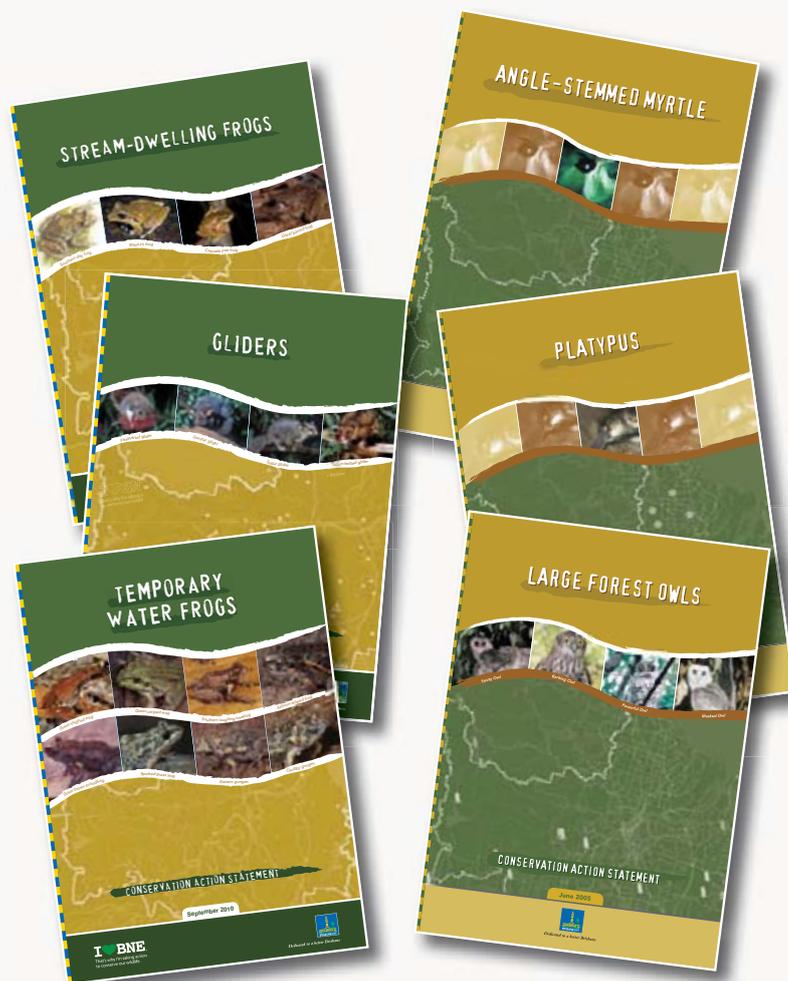
Brisbane City Council has produced *Wildlife Conservation Action Statements* for significant fauna and flora most 'at risk' in Brisbane.

Series 1 of the statements was released in 2005 and covered 28 'significant' species. Series 2 was released on National Threatened Species Day 2010 and includes an additional 21 species. They cover a range of animal groups such as gliders, flying-foxes, small marsupial carnivores, owls, raptors, crakes, rails and frogs as well as single species such as Platypus, Soft-spined Sunfish, Collared Delma, Cunningham's Jute and Angle-stemmed Myrtle.

They are packed with useful information for anyone interested in finding these species, learning about their ecology and assisting in their conservation.

All statements are available on the Council website at [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au) under Environment and Waste > Wildlife > Threatened Species.

If you would like further information or a copy of the Wildlife Conservation Action Statements CD-ROM please contact Kristen Dangerfield on 3403 9473 or at [Kristen.Dangerfield@brisbane.qld.gov.au](mailto:Kristen.Dangerfield@brisbane.qld.gov.au)





# workshop review

## Native Beekeeping

Article and photos by Deborah Metters  
Land for Wildlife Regional Coordinator  
SEQ Catchments

In mid-2010 I attended a workshop with Dr Tim Heard on native bee keeping organized by Redland City Council. The workshop had been fully booked for months and I was invited to attend on the proviso that I write an article for this newsletter. I figured that was a good arrangement, so that those who were unable to attend will at least be able to read about it and hopefully become inspired to attend another one of Tim's workshops.

Workshop participants were from diverse backgrounds including commercial beekeepers, amateur native beekeepers, people who wanted to harvest native bee honey and those with just an interest in bees.

The first part of the workshop was an excellent presentation by Tim on the ecology of native bees, facts about honey, keeping native bees and rescuing and splitting native bee hives. The remaining part of the workshop involved four practical demonstrations:

1. transferring a stingless native bee hive from an old log into a box
2. splitting a stingless native bee hive into two colonies
3. extracting honey from another native bee hive, and
4. sampling delicious native bee honey on ice-cream. I recommend staying for all demonstrations!

Native bees survive very well in both rural and suburban areas, even inner city apartments, as there are ample food sources in both environments. Unlike European Honeybee hives that need to be registered, no permit is required for the keeping of native bees. It was interesting to note that several workshop participants believe that there has been a significant decrease in the number of both native and European bees in SEQ. People believe that this is due to pesticide use, restrictions on the keeping of European bees and the hive beetle.

Bees are a well-researched group of animal. They evolved from wasps about 80 million

years ago. This is roughly around the same time that flowering plants started to dominate Earth. Prior to 100 million years ago, there were only angiosperms (non-flowering plants). Obviously bees need flowering plants so that they can collect pollen which they use to feed their offspring. In return the plants benefit from bees by being pollinated.

Bees differ from wasps in that they evolved to have feather-like hairs under their bodies that trap pollen. Bees land on flowers and get pollen all over them. They then use 'brushes' and 'combs' on their body to wipe the pollen into a pollen press that presses pollen into balls on their legs.

### Solitary Bees

There are about 20,000 different species of bees on Earth with about 2000 species native to Australia. 99% of our native bees are solitary and do not form colonies like the European Honeybee or the social native bees that can be kept in hives. Some bees are highly specialised and pollinate only one group of flower type. For example, some bees in the *Leioproctus* genus only feed on Geebung (*Persoonia* spp.) and in addition, Geebung can only be pollinated by this bee. This is an example of specialised co-evolution. No Geebung, no bee; or no bee, no Geebung.

Leaf-cutter bees are an interesting family. These solitary bees chew a round section of leaf and take it back to their nest to mix with pollen and nectar on which they lay an egg. Cuckoo bees, as the name suggests, invade nests of other bees, kill the host eggs and larvae and lays its own eggs. The host bee continues to feed the 'cuckoo' larvae.

If you have a veggie garden, you may have noticed a noisy buzzing bee pollinating eggplant and tomato flowers. This may be the native Blue-banded Bee which, as its name indicates, has lovely blue stripes on its abdomen. These bees like to nest in dry soil such as underneath Queenslanders. Another large native buzzing bee is the Carpenter Bee which is often described as a 'bumblebee'. However, it should be

noted that the Large Earth Bumblebee, native to Europe, does not currently occur on mainland Australia. It was unfortunately introduced to Tasmania in the last decade and is now listed in NSW as a key threatening process as it may disrupt pollination of native plants and may increase the spread of weeds.

### Social Bees

There are many different examples of social bees in the world with some being more social or organised than others. In highly social structures, there is no solitary phase at all. All individual bees depend on others in their colony for survival.

Temperature regulation is very important in social bees as if the hive gets too hot or cold, the colony could die. Bees can regulate the temperature of a hive to some degree. They can either ventilate the hive by fanning their wings to make it cooler, or use their metabolic energy to make it warmer.

European Honeybees defend their hive with their sting, whereas native stingless bees have limited defences. Both types of bee have been kept by people in purpose built hives for thousands of years. Tim showed photographs of people in South America keeping stingless bees in simple ceramic pots.

### Transferring and splitting hives

The most interesting part of the workshop was of course the practical demonstrations where Tim transferred a hive from an old log into a beehive and also split a hive into two. Stingless native bees can not relocate themselves as their queen bees can not fly. So if a stingless bee hive is threatened by fire or tree removal, the colony will not survive unless it is relocated by people. All the native stingless bees shown at the workshop were *Trigona carbonaria*.

The hives Tim uses are honey hives which have a top chamber that collects honey separate to the brood chamber (where the bees' larvae are reared). Both the transfer and the split went well with limited damage to the brood chamber and Tim was



Photos (clockwise from adjacent page): inside a native beehive; Tim Heard splitting a native stingless beehive; the hive split in two; pricking the honey pot to release the honey; pouring out the honey.

confident that all three new hives will be successful.

It is best to split hives in spring when there are lots of plants in flower so the bees can replenish their stores of honey quickly. A hive full of honey and bees weighs about 11 kgs whereas a newly split hive may only weigh about 6.5 kgs.

### Harvesting honey

Many people keep native stingless bees for their tangy, citrus-tasting honey. A good native bee hive produces about 2 kgs of honey per year, compared to 7 kgs per year from a European Honeybee hive.

During the hive transfer, the splitting and the honey extraction processes, many bees died and were swarming around 'lost'. Understandably, some workshop participants found this a bit distressing. Tim said confidently that you must see a colony as the individual entity, not a single bee. In one hive there are about 5000 adult bees plus 10,000 larvae and eggs. About 300 bees emerge and die each day with an individual adult bee living for about 50 days.

Overall, the workshop was a fantastic opportunity to learn about the ecology of bees from a respected entomologist as well as see the practical side of keeping native stingless bees. Prior to the workshop, I had purchased a native bee hive from Tim and after the workshop I had a much better understanding and appreciation of what is happening inside the beehive that lives proudly in my backyard.

If you wish to attend one of Tim's workshops, his website [www.sugarbag.com.au](http://www.sugarbag.com.au) shows the dates for his 2011 workshop series. They will be held at Burpengary, Redlands and the Gold Coast, and I encourage you to book early. You can also find out more about purchasing or renting a native bee hive from the same website. There is also an excellent book available on native bee keeping called *Australian Stingless Bees: A Guide to Sugarbag Beekeeping* by John Klumpp. It is available from Earthling Enterprises at [www.earthling.com.au](http://www.earthling.com.au)



Tim cuts out a native stingless beehive that was rescued from an old fence post. The brood chamber of the hive was then transferred into a hive specially made to accommodate native bees (as shown in photos above).



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

The Australian Paralysis Tick (*Ixodes holocyclus*). Photo by Robert Whyte.



This unusual encounter was seen adjacent to a Land for Wildlife property near Splyard Creek Dam and appeared bemusing for both the Koala and cow. I wonder what each of them was thinking? Photographs by Darren McPherson.

### Are you tick ready?

The community group, Save Our Waterways Now, recently distributed an article to help raise awareness of ticks and the diseases they carry.

There are two main tick-related disease in SEQ; Queensland tick typhus transmitted by the Australian Paralysis Tick, and scrub typhus transmitted by mites known as scrub ticks or pepper ticks (chiggers). Both Qld tick typhus and scrub typhus are uncommon in SEQ, but bushcarers have been diagnosed with Qld tick typhus this year.

The diseases are caused by tiny organisms that live in the blood of local mammals such as bandicoots. The diseases can be very serious in humans. Early symptoms include high fever leading to bouts of sweating, shivering, savage headaches and extreme weakness. If the cause is recognized, it is easily treated with doxycycline, a very specific antibiotic.

Prevention is better than cure. It is recommended that you wear full protective clothing such as long sleeves, trousers, boots and gloves plus wear insect repellent to exposed skin and the hairline. Make sure you wash your clothing at the end of the day.

If you find a tick on you, the best treatment is to kill it with an insecticide (not a repellent), such as anti-scabies cream, Lyclclear, which is available at pharmacies. Avoid using tweezers to remove ticks as these push poison into the host, instead you can purchase a 'tick-twister' that removes small ticks. A couple of Land for Wildlife members have reported suffering from near-fatal anaphylactic shocks as a result of Australian Paralysis Tick poisoning, so please take care this summer.

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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