LAND FOR WILDLIFE
South East Queensland

Newsletter of the Land for Wildlife Program South East Queensland

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A (few) fish out of water

The 2011 January floods were as disruptive for wildlife as they were for humans and more than a few native animals found themselves deposited in new and unknown areas downstream, courtesy of the rushing torrents. Even though it has been many months since the waters receded, several members of one of our more unusual native species still needed 'rescuing' from the floods.

In July 2011, a Land for Wildlife partner on the Brisbane River at Kholo called to ask for assistance to relocate some native animals from a pond on his property. I had visited his property several times since the floods and neither of us suspected that the long muddy pool in his paddock contained anything more exciting than manure from his cows. The almost dried pond, now a slimy green puddle, concealed four rather large Australian Lungfish (*Neoceratodus forsteri*), sometimes referred to as living fossils.

The Australian Lungfish belong to a very ancient group, *Sarcopterygii* (fleshy finned fishes). Fossil remains of *Neoceratodus forsteri* have been found in New South Wales dating from more than 100 million years ago, making it one of the oldest living vertebrate genera on the planet.

The pre-settlement distribution of the Australian Lungfish is widely thought to have been restricted to the Burnett and Mary Rivers and that they were translocated to other rivers in the SEQ region in the late 1800s. However, other researchers suggest that lungfish were also originally found in the Brisbane and North Pine Rivers. Ironically, one reason for translocation at that time was to reduce threats faced by lungfish from over collection for scientific purposes.

Article continued on page 4

Several Australian Lungfish were rescued from the slimy shallow pond (top) by Land for Wildlife member, Long Vu, and released back into the Brisbane River. Photos by Peter Hayes.

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editorial

December offers time for reflection on the year gone by and wishful thinking for the coming year.

2011 was a tough year for many Land for Wildlife (LfW) members, especially those affected by floods and the downturn in the property market. The SEQ LfW program recorded its lowest recruitment figure since the program's inception in this region. At the time of going to print, 167 new properties joined the program in 2011 compared to 254 in 2010 and 275 in 2009. I believe that environmental and economic uncertainty, arising from natural disasters and financial downturns, were contributing factors. However, I also see declining, or maybe stabilising, figures as a sign of maturity within the program.

Contrasting the low recruitment figures, during 2011, ten Councils and SEQ Catchments formally renewed their commitment to the regional LfW program, the number of LfW Officers increased, and the amount of funding available for LfW members, through Council grants, was the highest ever offered. It is an interesting time in the program's 13 year history in SEQ and a time to balance support for existing members and recruitment of new members.

I wish to thank all of the dedicated LfW Officers (listed to the right) who bring life to the program and make my job rewarding.

I also thank all the LfW members across SEQ for your continued work on your properties to conserve the amazing diversity of wildlife and their habitats. I hope you find inspiration from this newsletter and I invite you to contribute to its makings in 2012.

This edition is another mixed bag of delights from nature. I encourage you to read the article on page 15 (sobering as it is) about climate change in Queensland and especially the protection of 'refugia'. A timely reminder given the disappointing results from the Durban conference.

If you have any caves or other structures on your property that are home to microbats, please read the article on pages 6-7 and contact me if you wish to get involved in the project.

To end, I will share some of my wish list for 2012 starting with one that is generally a shared wish of good health and peace (both within and without); no new coal mines; renewed commitments by governments to nature conservation on private land; and a Nikon SLR camera.

I wish you all a safe and happy new year.

Deborah Metters
Land for Wildlife
Regional Coordinator
SEQ Catchments

Landholder Registrations, Land for Wildlife SEQ - 01/12/2011			
Registered Properties	Working Towards Registration	Total Area Retained	Total Area under Restoration
2845	690	52,303 ha	4,122 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

Snipped tails

My Land for Wildlife partners found a couple of these tails under the gumtrees near their house, both within month or so, and they wondered what predator was responsible. The tail is from a Sugar Glider (*Petaurus breviceps*) with the white tip at the end. While unfortunate for the individual glider to whom the tail once belonged, it was an exciting find as it is shows not only that there is a local population of Sugar Gliders, but also that Powerful Owls are hunting in the area. When Powerful Owls are eating gliders, the tail often hangs out of their beak and so gets snipped off and falls to the ground.

The Powerful Owl is Australia's largest nocturnal bird, standing 60-66 cm tall, and is listed as Vulnerable under Queensland legislation. They are carnivores and forage within the trees, swooping down to collect prey from tree branches with their powerful, heavy claws. When seen during the day, they are often seen clutching part-eaten remains of prey, which may include possums, gliders, flying foxes, currawongs, magpies and lorikeets. There have also been eye-witness accounts of these owls taking both young and adult Koalas.

Powerful Owls mate for life and pairs occupy a large permanent home territory usually in open forest or woodland, and also in sheltered gullies in wet forest with dense understorey, including along waterways. They need large hollows in old growth trees to breed. Roosts and nesting tree hollows have been observed to be occupied intermittently by Powerful Owl pairs over several years.

Discovering Powerful Owl activity is very exciting as these magnificent birds are top predators. So if Powerful Owls are able to feed in an area it means that populations of their prey animals are also large enough to support them.

Article and photograph by Fflur Collier
Land for Wildlife Officer
Brisbane City Council

This Powerful Owl *(Ninox strenua)* was spotted on the south side of Brisbane in November, obviously after a successful night of hunting, dinner being a Common Brushtail Possum. Photo by Rachel Cruttenden, Conservation Ranger, Brisbane City Council.

This juvenile Southern Boobook was somewhat annoyed to meet humans walking in its bushland home during a morning visit by Land for Wildlife Officer, Fflur Collier, and Jill Dakin at Jill's Land for Wildlife property at Burbank in November 2011.

FREE BOOKS

SEQ Catchments is giving away free copies of *Mangroves to Mountains revised edition* RRP $50.00 to selected contributors of published *Fauna Vignettes* and *My Little Corner* articles in 2012. Limit of two free books per newsletter edition. Please send your article and/or photographs to the Editor (details pg. 2)

A (few) fish out of water

| *Article continued from page 1*

Adult Lungfish are large, commonly around 90 cms but can grow up to 1.5 metres and weigh about 40 kilograms. They have a wide, flat head, a thick, heavy body and a paddle-like tail. The paired fins are also paddle-shaped, ending in points. Lungfish have brown to olive-green bodies and white to pink bellies. The large scales are covered with a slimy coating.

Lungfish diet consists of aquatic vegetation, frogs, tadpoles, small fishes, snails, shrimp and earthworms. Prey is found by smell or by using its electro-sensory organs on the head.

Under normal conditions the Australian Lungfish gets oxygen exclusively through its gills. However, as its name suggests, it also has a single 'lung' and is able to breathe air during dry periods when streams become stagnant or when water quality changes. When Lungfish surface to empty and refill its lung the sound is reportedly like a "blast from a small bellows".

There are six species of lungfish worldwide, some of which can create a 'cocoon' of mud and mucous to survive dry periods. While the Australian Lungfish can not do this, it can survive for some time out of water if covered in damp mud and water plants. In fact, Australian Lungfish travelled to London by sea in 1901, packed in wooden boxes and wrapped in damp water plants, sprinkled with water to keep them moist.

Australian Lungfish are listed as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and are protected under the Queensland *Fisheries Act 1994* whereby their collection requires a permit. Loss of suitable spawning sites and physical barriers blocking the movement of adult fish appear to be causing a decline in the numbers of juvenile lungfish. The long life span of adult lungfish (possibly up to 100 years) may hide the lack of breeding success in the population for many years. Exotic and translocated native fishes, such as the introduced Tilapia (*Oreochromis mossambica*) are also believed to prey on lungfish eggs and young and compete with adults for breeding habitat.

So what happened to the lungfish in the puddle? After lots of splashing, mud, slime and an unceremonious ride in a wheel barrow, they were all returned safely to the Brisbane River.

Article and photographs by Peter Hayes
Land for Wildlife Officer
Brisbane City Council

References
http://www.environment.gov.au/biodiversity/threatened/publications/Lungfish.html
http://www.nativefish.asn.au/Lungfish.html
http://www.annekempsLungfish.com/

fauna monitoring

Odour Detection Dogs Sniff Out Quolls

Logan City Council has stepped up the search for the Endangered Spotted-tailed Quoll (*Dasyurus maculatus*) in Logan by trialling quoll detection dogs to help sniff them out. Council has launched the project in response to several factors including information received about potential sightings from residents across the city, the lack of knowledge regarding the local population as well as the conservation status of quolls in Queensland and Australia-wide. Nationally, the Spotted-tailed Quoll is listed as Endangered under the *Environmental Protection and Biodiversity Conservation Act 1999*, and in Queensland it is listed as Vulnerable under the *Nature Conservation Act 1992*.

The quoll detection dog's handler, Ms Amanda Harris from Carnarvon Canines, worked with the dogs for many hours to help train them to detect specific quoll odours in order to pinpoint where they live. Ms Harris started the Carnarvon Canines wildlife detection dog team with the goal of seeing sniffer dogs play a key role in natural resource management programs for the future. She also wants to see dog detection adopted as a survey method to further the protection of Australian native fauna. In alliance with expert dog trainer, Gary Jackson, Ms Harris started training Sparky to be the first ever quoll detection dog.

Odour detection dogs are trained using their existing 'passion' for ball play. The trainer plays fetch with the dog and eventually quoll scat is hidden in the ball which the trainer hides for the dogs to find. When the ball is found the dog is praised and the game of fetch continues. Thus fetch is the reward for finding the quoll scat. In the field, when the dogs find quoll scent, they sit and bark. When the trainer believes the dog has indicated quoll scent, the dog gets the reward of a game of fetch. The dogs have been tested on odours from the quolls close relatives, bandicoots and antechinus, which they don't take any notice of and indicates they are successfully focussing on finding quoll scent.

Sparky and Kuna, the world's first quoll detection dogs, searched parts of Logan, including Jimboomba, Greenbank and Undullah in a week-long trial recently to see if they could detect the odour of the Spotted-tailed Quoll. The odour detection dog trials were a success with positive indications (of quolls) given by both dogs at various sites across the city. Motion sensor cameras have been set up at these sites in the hope of capturing images of this elusive creature to further confirm their presence. The cameras are triggered by movement and have so far recorded many different species including phascogale, bandicoots, possums, goannas, water dragons, dingo, foxes and cats…..but no quolls as yet!

In addition to this survey, Wildlife Queensland and Logan City Council worked together to hold a Quoll Discovery Day at Greenbank on the 30th October 2011. There was a fantastic turnout and guests were able to see a live quoll and its offspring (which were super cute) as well as find out more about local quoll populations in the Logan area. Leading quoll researcher, Dr Scott Burnett, gave a presentation on the importance of quolls and answered lots of interesting questions.

The next step is to intensify the search efforts using the detection dogs and cameras in 2012. This project will be in collaboration with Logan City Council, Wildlife Queensland, Dr Scott Burnett and a few passionate community members. Watch this space for further quoll updates from Logan and hopefully a captured image of one of these special creatures!

Article by Rebecca Condon
Land for Wildlife Officer
Logan City Council

The endangered Spotted-tailed Quoll is still occasionally sighted in South East Queensland despite significant loss to its habitat. Prior to cats and dogs, quolls were important predators in the Australian environment. It survival in SEQ depends on our efforts to protect large tracts of native bushland.

Dog trainer, Amanda Harris, with Sparky, the world's first quoll detection dog. Photo courtesy of Logan City Council.

fauna research

SEQ Bioregion Cave Bat Surveys

A project is underway in the SEQ Bioregion to identify important caves for bats and to help with their management.

There are 11 species of bats in the SEQ Bioregion that require caves. These species are called obligate cave-dwelling bats and are listed in the table below. The table also outlines the status of these species according to the Queensland *Nature Conservation Act 1992* (NCA) and the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC).

Obligate cave-dwelling microbats are known to roost in caves, disused mines, tunnels (including old railway tunnels) and stormwater drains. Caves are used by bats for a number of purposes including maternity sites, as places of hibernation during winter, dispersal stopover points, day roosts and night-time feeding roosts.

Not all of the above mentioned structures are suitable for bats as certain structural and microclimatic features of caves determine their suitability for use by bats.

Cave architecture is important for the use of sites for maternity colonies of the Common/Large Bentwing Bats. A cave suitable for use as a maternity colony must have a large chamber with a domed ceiling. The young are left within the domed area after the mothers have heated the cavity by roosting and flying in the cavity.

Microbats generally give birth from late November through to mid-January making the caves and other maternity structures very important during this time.

There are many signs that a cave, mine, drain etc. is being used by microbats, such as:

- Presence of guano (bat droppings)
- Urine stains
- Skeletons, wings on cave floors and entrances (including predator signs)
- Presence of microbats
- Wingless fly parasite egg cases on cave walls and ceilings – a parasite particular to bentwing bats.

This project aims to identify and report important roost caves/structures for obligate cave-dwelling bats. It also aims to identify management practices that need to be undertaken for improved management of the sites such as feral animal control, limiting human disturbance and sensitive management in the case of mines, tunnels and stormwater drains.

If you have a cave or structure that is being used by microbats on your property, or in your local area, and you would like to inform this project, please contact Deborah Metters at SEQ Catchments on 3503 1423 or dmetters@seqcatchments.com.au

Common name	Species name	NCA Status	EPBC Status
Eastern Horseshoe Bat	*Rhinolophus megaphyllus*	LC	-
Ghost Bat	*Macroderma gigas*	V	-
Semon's Leaf-nosed Bat	*Hipposideros semoni*	E	E
Common Sheathtail Bat	*Taphozous georgianus*	LC	-
Common/Large Bentwing Bat	*Miniopterus schreibersii*	LC (subspecies is CE)	-
Little Bentwing Bat	*Miniopterus australis*	LC	-
Little Pied Bat	*Chalinolobus picatus*	NT	-
Large-eared Pied Bat	*Chalinolobus dwyeri*	V	V
Chocolate Wattle Bat	*Chalinolobus morio* (cave form)	LC	-
Large Footed Myotis	*Myotis macropus*	LC	-
Eastern Cave Bat	*Vespadelus troughtoni*	LC	-

Abbreviations (shown in order of least to most threatened):
LC = least concern
NT = near threatened
V = vulnerable
E = endangered
CE = critically endangered

Eastern Horseshoe Bats leaving their roost.

Photography by Dr Les Hall.

All bats shown here require caves or similar structures for roosting, breeding and/or winter hibernation and are thus referred to as obligate-cave dwelling bats.

Photographs:
(left) Little Bentwing Bats roosting in a cave;
(right) an Eastern Horseshoe Bat;
(far right) a Ghost Bat.

All photographs by Dr Les Hall.

Large-footed Myotis

Myotis macropus - quite literally, large-footed mouse-eared bat, sounds more like an insult than a description. This remarkable bat is yet another example of the amazing diversity of strategies that have evolved in the microbats (Microchiroptera) to capture prey.

The first clue to the unusual foraging behaviour of this bat lies in its name, it has unusually long feet and dorsi-ventrally flattened (making them narrower) toes tipped with sharp curved claws.

The second clue is that colonies of Large-footed Myotis are almost always situated in close proximity to permanent bodies of water. Popular roost sites include old wooden bridges (though these are becoming increasingly rare), drain holes in concrete bridges, storm water drains and culverts, old rail tunnels, dis-used mines and caves.

The final clue is that while many bat species are often observed flying over water and dipping down to take a drink, the Large-footed Myotis flies just above the water trailing its specially adapted feet and claws through the surface.

Guessed yet? Yep, that's right, this bat likes to go fishing. If the fish aren't on they will also catch and eat aquatic insects like water boatmen or flying insects like moths and crickets. This method of hunting is found in a few other species of Myotis in other parts of the world and in the fish-eating bats of Central America.

Their unusual story doesn't end there – a variable reproductive cycle according to latitude, female harems and bachelor groups are further examples of how this bat likes to do things differently.

In SEQ females may give birth to two young, one in October and the next in January. In the cool temperate regions of southern NSW and Victoria they will have only one young while in the tropical regions they may have three successive births in a breeding season. Occasionally they will form colonies of several hundred but more commonly they are found in groups of 10 to 15 individuals.

During the breeding period males establish territories from which they exclude other males and (presumably) hope to attract a harem of females. Outside the breeding period the males either roost alone or in bachelor groups of up to 20 individuals. Territories can be aggressively defended resulting in scars in their ears that distinctively mark older males.

If your property has a large dam or permanent water body and suitable roost sites on it or nearby, there is a chance that the fishing bat or other microbats may be observed skimming across the surface (good eyesight and binoculars required) at dusk or dawn. If you think microbats might be visiting a water body on your property the best thing you can do is to ensure the good health of the water so that there is a plentiful food resource. There are several Land for Wildlife Notes on how to do this.

All this makes me wonder if anybody has tried to create an artificial cave bat roost?

Large-footed Myotis illustrated here dragging its long feet through the water to catch prey. Illustration by Andrew Howell courtesy of the Australian Museum.

Several Large-footed Myotis roosting in an old blast hole from within a disused tunnel.
Photo by Dr Les Hall.

Article by Alan Wynn
Land for Wildlife Officer
Sunshine Coast Council

property profile

Rehabilitation of Indooroopilly Mine

Mining at Finney's Hill, Indooroopilly began in November 1918 following the accidental discovery of some silver lead ore in a garden rockery by G. Olsen and P.J. Madden. The upper part of the ore shoot, discovered in 1918, was mined by an open-cut. Underground mining followed with a circuitous network of audits, shafts and drives. Total production of the mine from opening to final closure in 1929 was 227,343 oz of silver and 1796 tonnes of lead, which amounted to £100,000 (around $13 million at current prices).

The mine remained derelict for a number of years before being gazetted as a flora and fauna reserve by the Brisbane City Council. The University of Queensland acquired the site in June 1951 as a long term lease and was purchased outright in 1967.

The Indooroopilly Mine site is a significant inner urban bushland site. In August 2005, the University decided to develop a land management plan for the seven hectare site. The objectives of the plan were to identify and encourage native flora and fauna on the site by restoring it back to as close to its original state. This included the control of environmental weeds and rehabilitation of native plant communities to provide valuable habitat and free movement for native fauna. This would increase the biodiversity and ecological health of the site as well as encourage natural regeneration.

Rehabilitation would also provide a valuable link between regional flora and fauna corridors from the Brisbane River to Mt Coot-tha forest. The site is also linked via remnant vegetation along Witton Creek and Moore Park. There are excellent opportunities for a diverse range of fauna due to the large number of flowering Eucalypts and Acacias, breeding hollows, stag trees and gullies for habitat.

After six years of rehabilitation by removing weeds, encouraging natural regeneration and revegetating mosaic patches, the mine has really come to life with many species of birds, reptiles and mammals now calling the mine home. Since 2005, there has been over 150 species of fauna and over 200 different species of flora observed and recorded on site. Considering the fragmentation and proximity to urbanised areas this is an outstanding achievement. Fauna such as Eastern Whipbirds, White-headed Pigeons, Southern Boobook Owls, Tawny Frogmouths, King Parrots, Yellow-faced Whip Snakes, Carpet Pythons and Burton's Snake Lizards regularly visit the site. There are also remnant plant species such as figs, eucalypts, quandongs, Rough-leaved Elm, Red Kamala, Foambark, Celerywood and Hoop Pine that survived the original mining process and are contributing to the natural regeneration process.

Monthly spotlight surveys at the mine have revealed some surprising results of nocturnal animals such as the Short-eared Brushtail Possum (Bobuck), Common Ringtail Possum, flying foxes, micro-bats and Squirrel Gliders. Glider nest boxes that have been placed around the mine are regularly used by Squirrel Gliders.

Since 2008, the mine has been a member of the Land for Wildlife program. In recent months we have joined forces with the Richmond Birdwing Conservation Network, becoming a flagship site for the recovery program. With the help of Conservation Volunteers Australia we plan to establish 300 Richmond Birdwing Vines (*Parastolochia praevenosa*), the larval food plant, with the aim of attracting a population of the Richmond Birdwing butterfly to the site. The Richmond Birdwing butterfly used to be a common sight in the Brisbane region but due to habitat loss and the introduction of the Dutchman's Pipe vine, which is poisonous to the larvae, the butterflies have almost been lost and there are only isolated populations that are extremely restricted in their distribution.

In the few short years of revegetation we are already seeing excellent results with a huge increase in the site's biodiversity. With the help of staff, volunteers and community groups, the natural process of regeneration has been given a helping hand and the site is moving from strength to strength.

Article by Julia Blumhardt
Environmental Project Officer
Indooroopilly Mine Site

Site 2 after restoration three years on.

Site 2 before restoration of the degraded ridgeline.

Site 1 at Finney's Hill - before restoration - heavily weed infested.

Site 1 at Finney's Hill - during restoration - getting the site ready for revegetation.

Site 1 at Finney's Hill - after restoration - five years on.

fauna profile

Australian Painted Lady

How would you feel having to go through life as a male Australian Painted Lady? This was the question I used to ask my father when I was much younger. The question just doesn't seem to have the same impact anymore.

The Australian Painted Lady (*Vanessa kershawi*) is one of those select few butterflies that land with their wings in an outstretched attitude. Another of these butterflies, and the main one that it is confused with, is the Meadow Argus. The easiest way to tell them apart is the eye spots on both the fore and hind wings of the Meadow Argus, these are not present on the Australian Painted Lady.

It is best described as a medium sized butterfly, having a wingspan averaging about 45 mm. If you have noticed something dining on your daisies, the chances are that it was the larvae of this butterfly. This is actually one of the few butterfly larvae that I have seen spin a web in which they hide during the day and come out at night to feed.

The egg, greenish in colour, is laid singly on a leaf of the food (host) plant. Host plants for the larvae of the Australian Painted Lady include Everlasting and Paper Daisies (*Xerochrysum* and *Helichrysum* species). The spiny larvae are very variable in colour, some are brown, some grey and even some are green. Even though they are adorned with spines, they are not irritable and so can be handled safely.

The pupae are also variable in colour, ranging from greyish brown to reddish brown. They are either found on the foodplant or on an object nearby, but they are always found hanging head down.

The adult butterfly is mainly orange in colour, with some brown patches and white spots on the fore wings, and four bluish spots on the hind wings. The undersides are very cryptic and they can seem to disappear upon landing. The butterflies have rapid flight usually about one metre from the ground and are often seen feeding on nectar.

The Australian Painted Lady is one of our migratory butterflies and can sometimes be seen in large numbers.

Article by Bob Miller

A male Australian Painted Lady. Creative Commons license photo from Flickr John from Canberra.

practicalities

Macro-photography

Why is it called MACRO photography? When most of the photographs associated with macro photographs are of tiny things, why is it called 'macro' photography? Shouldn't it be called 'micro' photography? After all, seeing the miniature world, greatly enlarged, is very much like looking down a microscope.

In other contexts when we talk about 'macro', we usually refer to big things. The big picture. The things we can see with the naked eye. Macro photography reveals the opposite. It shows us the segments of insects, pollen on a flower, crystals in a rock, veins in a leaf. It shows us things we don't normally see.

Unfortunately the term 'macro' photography has a technical basis, and it just won't go away. It means the image on the negative, or digital sensor, is equal to or greater than life size. In other words, an insect 5 mm in length is equal to or greater than 5 mm on the sensor. If you want to know more, check out 'macrophotography' on Wikipedia, but be warned, it's a cure for insomnia.

A better term might be 'close-up' photography. Most point-and-shoot cameras have a close-up setting with a flower symbol. You'll notice if you choose that setting you can get the lens really close to the subject and still achieve focus. In some models your lens can be touching the subject.

Point and shoot

You don't have to pay big dollars for macro ability. One of the most famous macro photographs of all time was this photo (right) taken in 2007 by Toni Verdú Carbó using a Canon PowerShot A640 – a simple point and shoot.

Your first steps into macro photography should be to take advantage of the equipment you already have. Taking great photographs is not dependent on having great equipment. It is more about taking lots of photographs, wherever and whenever you can.

Bridge Cameras

The next step is to what are called bridge cameras, one step before SLR, the top end.

Bridge cameras are also known as super zoom cameras. Typically they have a single lens capable of shooting pictures of wide scenes also able to zoom in tight to distant objects.

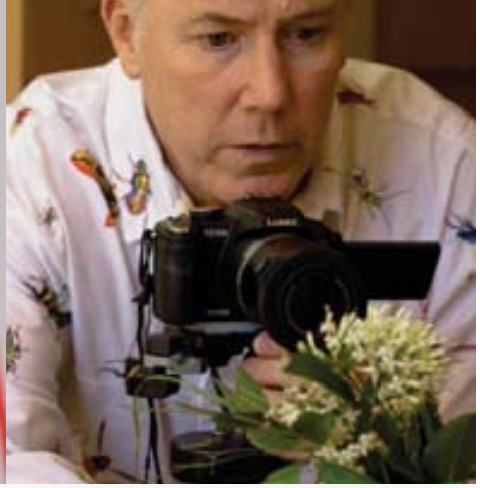
This sort of camera has the ability to attach what are called snap-on or screw-on lenses. These include magnifying lenses for close-up photography and telephoto lenses for doubling the optical zoom for far away objects.

Apart from the Panasonic camera (shown top right facing page), other brands with superzoom capacity and macro ability include Fuji, Canon, Nikon, Sony, Casio, Olympus and Ricoh.

This famous macro-photograph was taken by Toni Verdú Carbó on a simple point and shoot camera.

A collection of Raynox snap-on magnifiers, 1.5X, 2.5X, 4X and 5X. These numbers refer to the practical magnifying power.
Photo by Mark Crocker.

Macro-photographs of bracken (top of page) and a Lauxaniid fly taken with Raynox snap-on magnifiers.
Photographs by Robert Whyte.



The author, Robert Whyte, with a Panasonic Lumix FZ100 with snap-on Raynox lens. This camera has noise problems and image quality is not as good as its predecessor the FZ35. A newer model, the FZ150, has improved image quality and can double as a more than adequate HD video camera.

Photo by Mark Crocker.

Panasonic soon realised the demand for add-on lenses and offered a close-up and a tele-converter lens after the Japanese lens company Raynox began supplying them for all the cameras in this class. The Raynox lenses are high quality and very affordable, generally cheaper than the brand name alternatives. The brand name lenses do not appear to have a quality advantage, but some of them fit better and do not have 'masking' when fully wide. This is not a problem with Raynox lenses because you very rarely shoot fully wide when using a magnifier. You nearly always zoom in to get the extra benefit of the zoom.

Raynox have a website http://www.raynox.com/ where you can choose your camera from a list to find the appropriate lenses and lens adaptor extension tubes. One Australian Raynox reseller is Greg Smith at www.photovideo.com.au. They are also available on eBay.

One advantage of an extension tube and snap-on magnifier is the way it increases the focal length. This means you can have the lens further away from the object and still get high magnification. This is very useful, if not essential, when taking photographs of animals. Without a snap on lens you have to get so close you scare the animal away. Typically a snap on lens increases the workable distance to between 20 to 30 cm.

With a snap on magnifier, the zoom lens multiplies its magnification the more you zoom in. Therefore a 5X magnification with a 24X zoom results in a 120 times magnification, greater than a high-end stereo zoom microscope. Unfortunately, at these extremes the arrangement is not very practical due to the very narrow depth of focus at high magnifications. Depth of focus refers to the amount of the image in focus, or sharp, in depth. This is hard to explain in words, but easy to see in pictures, like the one above of a Callistemon flower. Only the ones in the middle are in focus, while the rest are blurry and getting blurrier the farther away you get. The depth of focus is only about one millimetre resulting in a look known as bokeh, or 'pleasing blur quality' for the out of focus areas.

Sheer Luxury

The duck's nuts, or bee's knees, of macro photography is undoubtedly Canon's high-end system, combining a full frame digital back with the Canon MP-E 65mm Macro Lens and MT-24EX Macro Twin Lite flash. This system has been around since at least 2003 but has yet to be bettered in the prosumer range. Prosumer is a portmanteau word combining 'professional' with 'consumer' referring to high-end products available off the rack at your regular camera shop.

With a camera like Canon's 5D or even the humble 550D and this set up you can get the filmic look only the most expensive cameras seem to be able to produce. In other words, the results look equal to or better than traditional film cameras, with none of the flatness, noise and digital artefacts of less expensive cameras.

Unfortunately the only part of the Canon system I have is the desire to own it, so that story will have to wait until another day.

Article and book review by Robert Whyte, President, Save Our Waterways Now. Article based on a presentation given by Robert Whyte at the Sunshine Coast Conservation Forum in Sept 2011.

Australasian Nature Photography ANZANG Eighth Collection

Edited by the South Australian Museum

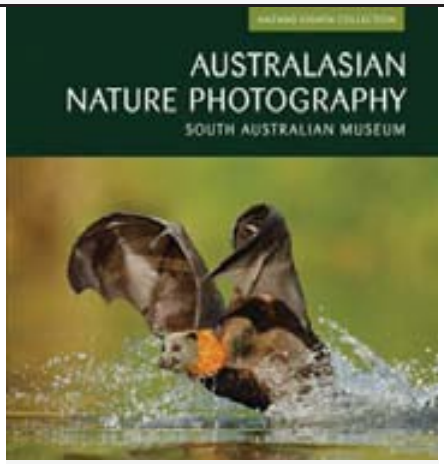
Having an interest in nature photography, and dabbling in it myself, I have been getting the annual ANZANG Nature Photography books for a number of years.

There is always a risk, I feel, of compilations like this becoming a surfeit of visual awe, simply too many stunning images, leaving you feeling like the starry-eyed kid half an hour after having been let loose in a lolly shop.

Not so with this, the eight collection. The book's themes group the images into satisfying chunks, each with their own visual narrative.

Starting with the cover shot by the overall winner of the Nature Photographer of the Year competition, Ofer Levy, the book's pages are grouped into sections including animal behaviour, animal portraits, botanical, underwater, wilderness, landscape and threatened species.

Each photograph is accompanied by technical information and captioned by the photographer. The series gives us a fascinating glimpse of the bioregions of Australia, New Zealand, Antarctica and New Guinea.



Published by CSIRO Publishing, 2011
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Price: $39.95
Available from CSIRO Publishing and all good bookshops.

weed control

Biological Control of Madeira Vine

Adult *Plectonycha correntina* and damage to a Madeira Vine leaf.

For those of you battling with the ghastly Madeira Vine (*Anredera cordifolia*), there may be help on the way. After extensive research and laboratory testing by Biosecurity Queensland, a biological control agent called *Plectonycha correntina* has been approved for trialling in the field to help with the control of one of the most invasive weeds within South East Queensland. *Plectonycha correntina* is a leaf feeding beetle which originates from South America, the native range of Madeira Vine.

The adult beetles lay their eggs on Madeira Vine in two oblique rows usually on the underside of the leaf. These eggs take around five to six days to hatch. Immediately upon hatching, the larvae feed for nine to thirteen days (this appears to be the most damaging phase) before they pupate by dropping into the soil, emerging again as adults approximately 19-21 days later. The adults are found mostly on the underside feeding on the leaves and can live for 130 days.

The short lifecycle and abundance of offspring of *Plectonycha correntina*, combined with voracious larval feeding is conducive to producing large populations capable of inflicting significant damage to Madeira Vine infestations. Testing in the laboratory under different conditions has concluded that feeding and hatching slows down over winter, however they do not appear to go into diapause.

After talks with Biosecurity Queensland, it was decided that some of Brisbane City Council's Wildlife Conservation Partnership Program partners (including Land for Wildlife members) were ideal candidates for a trial release. It took no time to find ten willing partners around Brisbane with different vegetation communities that had serious infestations of Madeira Vine.

Releases on partner properties of up to 500 beetles, some within enclosures, began in May 2011. Inspections after a month of the release found active adults and some egg batches. However, disappointment set in when inspections in the height of winter generally failed to find adult beetles. The disappointment soon abated in mid-September while completing a VCA audit on a property in Upper Brookfield; several *Plectonycha correntina* were found busily eating away on Madeira Vine leaves.

Further inspections on four properties in early October found beetles, eggs and larvae on three properties and freshly chewed leaves on all the properties. This indicated that the beetles have indeed survived the cold winter and are now starting to build up numbers to make a dent in the large Madeira Vine infestations.

In the following months, more beetles will become available and greater numbers will be released onto properties. These release sites will be closely monitored for some years to ascertain whether the insect has established. Should the insect establish, assessments will be made on its long term effects on Madeira Vine.

We hope that in a few years the biological control will spread naturally and be present in all our bushland sites. With the help of the biological control and appropriate management strategies, Madeira Vine may one day no longer be a threat to our environmentally significant areas.

Article by Cody Hochen
Land for Wildlife Officer
Brisbane City Council

The two oblique rows of *Plectonycha correntina* eggs on underside of Madeira Vine leaf.

Larvae of *Plectonycha correntina*.

Adult *Plectonycha correntina*.
All photographs courtesy of Biosecurity Queensland

book reviews

Wild Guide to Moreton Bay and Adjacent Coasts

A Queensland Museum Wild Guide

Published by Queensland Museum, 2011
Two books, paperback, full colour, 443 pages. ISBN: 978 0 9870555-6-9
Price: $49.95
Available from the Queensland Museum and all good bookshops.

Moreton Bay supports an enormous diversity of marine and terrestrial life including more than 70 species only found here. We are fortunate to have such a scenic and biologically rich area on our doorstep. We also have a first rate museum which not only discovers, describes and researches thousands of marine and terrestrial life forms but also introduces these to non-scientists through publications such as the Wild Guide to Moreton Bay. As the full title suggests, the Guide is also relevant for adjacent coasts – the Sunshine and Gold Coasts and well beyond.

The Guide first appeared in 1998 and I have a well worn copy. Now there is a new edition in two volumes which is considerably expanded and benefits from new research. Apparently the two volumes are needed because there is a one-third increase in content but I found having it all in the one book more convenient. That's a small criticism of an excellent publication.

Unfortunately we don't have too many Land for Wildlife properties which can boast estuarine or marine habitats. However, as the book reminds us, the way we manage our hinterland properties directly affects the health of our catchments and six of our rivers and many smaller creeks feed directly into Moreton Bay. If you can tear yourself away from lantana bashing to spend a bit of time snorkelling, fishing, birdwatching or beachcombing you will find this guide indispensable. It's a one stop shop, regardless of whether your primary interest is fish, whales, plants, shorebirds, crabs, shells or jelly fish! In fact this book will encourage you to survey your surroundings with renewed curiosity. Be careful – you may even develop a new interest… or passion.

I guarantee any reader dipping into the Guide will discover unfamiliar, fascinating organisms, all superbly photographed and described by specialists in their field. You will encounter the Striped Pyjama Squid, the Mournful Reef Crab and the Yellow- speckled Sea Squirt to name just a few.

The Guide also contains facts which may come as a surprise to some. For example did you know that a number of the low, mangrove covered islands in the Bay are actually coral atolls? No need to travel all the way to Green Island off Cairns for your reef trip. You could do a day trip to Green Island on our own Moreton Bay - or King, Mud or Bird Islands! These reefs are not actively growing and the resort facilities are somewhat lacking but they do all have coral!

The human history of the Bay is also covered and it's a long and interesting one. For example, archaeological excavations on South Stradbroke Island have revealed twenty thousand years of occupation by ancestors of the present Dandrubin-Gorenpul people. The ruins of the penal settlement on St Helena Island are the Bay's answer to Port Arthur (not much remains of the earlier prison settlement at Redcliffe).

If you think you may be starting to take our great natural assets for granted, buy yourself a copy of the Guide. It may lead you to a new appreciation for the biological, scenic and cultural wealth Moreton Bay contains.

Review by Darryl Larsen, Land for Wildlife Officer, Gold Coast City Council

The Complete Guide to Finding the Birds of Australia (2nd edition)

by R. Thomas, S. Thomas, D. Andrew and A. McBride

Published by CSIRO Publishing, 2011
Paperback, colour photographs, line maps, 480 pages. ISBN: 978 0 643097858
Price: $49.95 Available from CSIRO Publishing and all good bookshops.

Several decades ago, I imagine birdwatching would have been more of an explorative pastime where people ventured out into bushland areas with incomplete field guides, dodgy binoculars, and hopes of discovery. Today, the birding community is global, well-connected and full of resources for people who want to find certain species.

Even if you have prior-knowledge of a bird's location, it doesn't diminish the excitement, dare I say adrenalin rush, of finding your target species. Printed books such as this one are still desirable to complement the range of online and electronic birding resources to help find good birding locations and target species. This is a great book to have on hand when travelling.

Fourteen locations in SEQ are described, ranging from suburban Brisbane sites such as JC Slaughter Falls and Gold Creek Reservoir through to the large National Parks of Lamington and Conondales. Each site is described in detailed such as "the small pool down from the carpark is a good site for Lewin's Rail".

Used in conjunction with a good field guide or smart phone app for identification, this is a must-have birding resource.

Review by Deborah Metters

property profile

The journey to joining the Land for Wildlife program

About 5 years ago, Ron Smith saw some Land for Wildlife signs appearing around his area, but didn't think the program was for him. Things changed about 12 months ago after attending a workshop and since then he has taken several steps to protect the bushland on his property, and has received some financial help to do so.

There's often an interesting story behind a property owner's decision to join the Land for Wildlife program. One such story began approximately seven months ago, when I received a phone call from an interested property owner in the Lower Mount Walker area.

Ron Smith's property is situated in Lower Mount Walker, approximately 35 minutes drive south west of the centre of Ipswich. The land covers around 16 hectares and Ron has owned it for over 35 years. Initially the block was bought to raise cattle and use as a small farm, with some intention to move there later on. So far Ron hasn't moved there, instead over time he slowly moved away from grazing on the land.

Choosing to keep hold of the land to visit and enjoy watching the bush grow back. Ron says "I didn't want to sell because I love the bush environment and the tranquillity that it brings". Ron always believed there was a need to "keep somewhere for the wildlife to hang out and live". With all the urban sprawl, vegetation clearing, industry growth and mining in the area, Ron was getting concerned that he might eventually lose his patch of the Australian bush.

Around 5 years ago Ron saw Land for Wildlife signs around the area and made some inquiries. At the time he didn't think the program suited him and he was uncertain of how the Land for Wildlife program would benefit him.

Things changed for Ron fairly recently. He attended a Swamp Tea-tree (*Melaleuca irbyana*) workshop run by SEQ Catchments in Marburg around 12 months ago. Having a chat to SEQ Catchments staff, Ron was advised to contact Ipswich City Council (ICC) to join Land for Wildlife. With renewed enthusiasm, Ron made contact with me here at ICC.

Ron felt confident that with "the help of the council officers and the Land for Wildlife program things could be improved and protected better".

After joining Land for Wildlife, Ron hasn't taken a step backwards. He has since signed up to a Bushland Conservation Partnership with ICC, changed his land zone to conservation, offered his property as a release site for injured and rescued wildlife, and applied for ICC's Nature Conservation Grant. In addition, he has been working with SEQ Catchment staff to monitor and conserve the endangered Swamp Tea-tree forest on his property.

Things can change over time and so can people's goals. Ron hopes now, thanks to his commitment to conserving this little piece of the Aussie bush, that future generations will still be able to appreciate it too.

Article by Andrew Bailey
Land for Wildlife Officer
Ipswich City Council

Ron's property contains Swamp Tea-tree (*Melaleuca irbyana*) forest shown above, which is listed as 'endangered' as most for these forests have been cleared. Swamp Tea-trees only occur in the SEQ region.

ecosystem research

Climate Change in Queensland

A report written by Tim Low entitled *Climate Change and Queensland Biodiversity: An independent report commissioned by the Department of Environment and Resource Management* (DERM) was released in 2011 and reviews the state of knowledge and the likely effects of future climate change on biodiversity in Queensland. The report can be downloaded for free from the DERM website.

The report presents the likely features of climate change in Queensland and how these can affect plants and animals. There are both general assessments and region specific analysis. It also presents likely impacts on ecosystems (i.e. relationships between plants and animals and resources in the landscape).

The section on management gives an overview of the changes that are required in conservation thinking in order to prepare for the future.

Key messages for the South-east Queensland Bioregion are:

- Sea level rises will threaten coastal paperbark forests. This will affect species that depend on a winter nectar source and unfortunately this includes many of our key pollinating species.
- The management of fire, weeds, feral pigs and the conservation of pollinators are the main issues for land managers. Fire is expected to increase with the help of introduced grasses. Weeds will become more problematic as climate changes will advantage more weeds. It is likely that pigs will become established in sensitive wetter areas (the refugia) and cause extensive damage. Climate change impacts may disadvantage pollinators such as flying foxes, honeyeaters and lorikeets in our fragmented landscapes.
- High altitude vertebrates (frogs) and invertebrates will be vulnerable to habitat contraction mainly caused by fire.

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

Key Messages for Queensland

- **Climate change is expected to increase temperatures, reduce rainfall**, increase drought frequency and severity, increase cyclone intensity (but not frequency), and increase sea levels. There could be an increase in rainfall in some areas as different climate models inherently contain varying probabilities.
- Extreme climatic events will have the most impact (as they always have).
- Important corridors will be from inland towards the coast (i.e. west to east).
- Temperature and moisture changes will make inland areas drier and the wet coastal strip narrower.
- **We need to increase the conservation of climate refugia**, that is places that are more protected from extremes in climate, such as high places and south facing slopes. The more unusual climate refugia include thick beds of leaf litter, areas of deep shade, rock piles, old sheds, mine shafts and landscape hollows where cold air ponds.
- **Increased fire risk may pose the greatest threat to species survival**.
- Most plants perform better under higher temperatures and increased CO2 in the air; however, leaves will have lower food quality for herbivores.
- Many species will benefit (perform better) from climate change and may dominate ecosystems to the detriment of other species.
- Conservation of pollinators such as flying foxes, honeyeaters, lorikeets and pollinating insects will be critical to the survival of many plant species.
- Rare and threatened species will probably not move along corridors and may become more threatened. Common species will be more likely to move.
- **We need a special focus on soils and their conservation** especially fertile soils, sands and cracking clays as these can buffer certain species.

Past Climate Changes

Over the past 700,000 years, the world has gone through about eight cycles of glaciation. Each time, world temperatures dropped causing massive ice sheets over much of the northern hemisphere. Each time in Australia the climate became very arid, sea levels dropped and land bridges formed. Life was tough for our fauna and flora. Then the ice would melt and we would enter into a mild interglacial period. Temperatures would slowly rise, the climate became wetter and ocean levels rose. There is much speculation on what causes cycles of glaciation.

The last period of glaciation (called the Last Glacial Maximum (LGM)) lasted for 5,000 years and ended about 20,000 years ago. During the LGM, sea levels dropped to create land bridges from New Guinea to Tasmania. The climate changed from very wet to very arid. All our native species survived in climate refugia through special adaptations.

Since then, the world has been warming and species have been expanding their ranges if possible. Very disjunct distributions of particular species (eg. Coxens Fig Parrot) may be explained by a previous widespread distribution being fractured by the last ice age with an inability to disperse or expand since then. So our current diversity of fauna and flora are certainly survivors but may still be affected by the LGM. This makes the impacts of the current rapid warming so hard to predict.

Natural regeneration depends on native seeds, such as these *Allocasuarina* seeds, being stored in the soil or falling as 'seed rain' from bushland areas.

LAND FOR WILDLIFE

SEQ Catchments
Healthy Land – Healthy Water

CARING FOR OUR COUNTRY

Land for Wildlife Regional Coordination is proudly managed by SEQ Catchments through funding from the Australian Government's Caring for our Country

Natural Regeneration

Natural regeneration is the recovery of native vegetation through natural regrowth and is the preferred method for bringing back the bush where it is technically feasible. It is usually much quicker than planting; it is cheaper; trees are usually healthier; and it retains the local genetic material (a major objective of conservation).

Natural bushland is covered in 'seed rain'. Seeds from mature trees rain down onto the ground, at different rates throughout the year, and some find conditions suitable for germination and survival. Open areas close to mature forest will be included in this seed rain.

Seed laden branches that fall should be spread across regenerating areas. Rainforest seeds (fruits) can be collected, liberated from outer coatings, washed and then spread around. Some wattle seeds can be collected, washed in hot water and then spread around.

Be patient and you will be quite surprised at how quickly the bush will recover.

Check out Land for Wildlife Note V2 and call your local Land for Wildlife Officer to get advice on specific property situations.

Habitat Trees

Habitat trees are those large enough to contain hollows and crevices and can be both living and dead. They provide shelters for arboreal mammals and nesting sites for a range of birds.

Arboreal mammals (those that depend on living in the trees, not on the ground) are gliders, possums, phascogales and some native rats. Birds that need hollows for nesting include the Boobook Owl, Powerful Owl (in fact all owls), Rosellas, King Parrots, Cockatoos, Dollarbirds and Treecreepers.

The Owlet-Nightjar is quite unique in that it shelters in hollows during the day and also uses hollows for nesting.

Check out Land for Wildlife Note V7 and call your local Land for Wildlife Officer to get advice on protection of habitat trees.

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

Habitat Trees, such as this old Blue Gum *(Eucalyptus tereticornis)*, offer homes and shelter to a wide range of wildlife. They are indispensable in the Australian landscape.

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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