

Presidents Report

Thank goodness spring is almost here! I'm with most of the frogs on this one and will be glad when this cold weather has gone. I even tried to escape much of the winter by spending most of May and June in the Gulf undertaking wildlife surveys. Helping the AWC (Australian Wildlife Conservancy) on Pungalina Station (Northern Territory) was a highlight of the trip with it still warm enough to have some frog activity! Some of the frog species we saw included *Litoria pallida* (pale frog), *Litoria watjulumensis* (Watjulum frog), *Litoria coplandi* (Copland's rock frog) and *Uperoleia lithomoda* (stonemason froglet). There were also plenty of critters to be discovered with an amazing array of birds, reptiles and mammals. (Continued page 3)

**Watjulum frog****EXECUTIVE COMMITTEE****PATRON**

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FROGSHEET BY EMAIL

We can send the Frogsheet by email (pdf of about 1MB) – or send you an alert by email that the newsletter is available to download (at your leisure) from the website. Send your email address to Jenny at gldfrogs@bigpond.net.au stating your preference.

UPDATE YOUR EMAIL ADDRESS PLEASE

If you have changed your email address lately, the Secretary would be delighted if you would let her know

FROG HABITAT BUSHCARE

Contact us if you are doing bush-care in Frog habitat and would like your working bees listed in Diary Dates.

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DIARY DATES

FROG HABITAT SITE WORKING BEES

Bowman Park, Bardon from 8-11am
Contact Phil for more info

Grinstead Park, Alderley (off Shand St),
Contact Debbie Dolby – ddolby@hotmail.com
Phone 3355 4134

Carseldine Bush Crew – Cabbage Tree Ck, Carseldine

First Saturday every month 8am-9.30am
Meet where creek crosses Dorville Rd. **ALL WELCOME.** Contact James Hansen for more info.

QFS MANAGEMENT MEETINGS

Third Wednesday of month 7.30pm
Contact Jenny for venue. **ALL WELCOME**

Please note:

The Diary Dates & Venues are also on the QFS web site which is constantly updated so please check between newsletters. Please let Jenny know of other suitable dates.

~~Sept 17-18~~ – SGAP Spring Flower Show at Mt Cootha Botanical Gardens, Toowong

Sept 24 – QFS AGM, 815 Rode Rd, McDowall

~~Oct 2~~ – Family Forest Festival, Civeden Pk off Dobell St Indooroopilly.

~~Oct 16~~ – BCC Green Heart Event – Mt Gravatt Showgrounds Mt Gravatt. 10am-3pm

~~Nov 6~~ – Frog ID Workshop – Mooloolah. Please phone Jan on 0407641327 to book

FROG CAMPS:

~~Oct 15-16~~ – Grumburra Mtn frogs

~~Nov 19-20~~ – Harrys Hut – Acid frogs

Please ring Rod – 32646391 so we know you are coming and for further details (eg bring water, camp cancelled) QNPWS camp fees apply

Most of the Co-ordinators now hold the “Frogs of Brisbane” Poster and you can pick up your FREE (to members) poster from them.

CO-ORDINATORS AWARENESS RAISING

Are there fairs or community events coming up in your areas? Why not put up the QFS display and do some froggy awareness raising? You don't have to be an expert on frog identification or anatomy to get people interested in frogs. Get in touch with Jenny to arrange picking up the display, brochures etc

NEW MEMBERS

Tiana Sadkowsky, Weier Family, Jennifer Riches, Laura Moffatt, Baron Jonsson, David & Lachlan Russell, Mia Pryor-hare, Stewart Luke, Mercene Park, Mikayla Shooter, Josephine Doyle, Samara Van Veenendaal, Mitchell Rooke, Jenny & Shirley Fox, Jane Clark, Lamp Family, Saxon Rice, Shelley Gage, Kellie Butler

SPONSORS

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QFS PUBLIC TRUST FUND – RIC NATTRASS RESEARCH GRANT

The QFS Trust Fund was created to help save frogs through education and research. It is now open to interested applicants. The purpose of the grant is to assist research into Queensland's frogs. The form and grant conditions can be obtained on our website www.qldfrogs.asn.au.

The QFS Public Trust Fund balance now stands at \$6762.47

President's report (cont'd from page 1)

With the winter colder than we've experienced in a few years the QFS has had an increase in the number of reported sick frogs. Many of these frogs are being reported with the symptoms of chytrid fungus. Researchers have found chytrid to be more prevalent during winter, with a good summary of current knowledge on chytrid around the world found on the amphibia website (<http://amphibiaweb.org/chytrid/chytridiomycosis.html>) if you are interested to know more. Hopefully the increased reporting we've seen this winter doesn't signal more declines in frog species as many of the populations under threat here in Queensland have stabilised and in some cases begun recovering over the last few years.

The coming of spring also signals the end of the QFS year with our up-coming **AGM on the 24th of September**. I'd like to take this opportunity to thank the committee and the area coordinators for all their hard work throughout the year and to encourage all of you to get involved and help out the frogs anyway you can. You don't need to know about frogs as there are a range of different tasks you could get involved with depending on what you'd like to do and what skills you have or would like to learn. Also, keep an eye out for the up-coming frog camps, a great way to meet like-minded people and see some interesting frogs!

Anyway, I hope to see you all at the up-coming AGM!

Dan

ASHGROVE REPORT

There isn't really to report as it has been an unusually quiet winter with hardly a striped marsh frog calling due to the lack of rain. I have been contacted by few people around the state who report finding dead frogs, usually the big green, in their gardens. As it has been quite a cold winter, these deaths seem to be caused by Chytrid fungus.

Phil Bird has informed me that the next working bee at Bowman Park, Bardon will be on October 2nd 8am to 11am. Phil would like a big turn out as the last date had to be cancelled. The larger pond near the David Ave entrance has now been lined so the water will remain long enough for the tadpoles to mature.



Jenny Holdway

MEMBER'S LETTERS:

QFS member Yvette of Kippa-Ring sent me a letter and photos in June and states that between June 22 and 26 she and he husband have counted up to 57 frogs in their garden. This a an extraordinary number as they do not have a pond but keep their Bird of Paradise, Philodendrons, Heliconias etc well watered so it must be a happy hunting ground for them . Yvette has toad-proof her property by sealing the entire boundary fence with a 30cm thick plastic barrier so the toads don't climb over and this has been a great success. Though most of the photos were of treefrogs but there were a couple of ground frogs too.

Keep up the good work, Yvette.

Jenny

Frogs evolve to avoid croaking

Brian Williams [*The Courier-Mail*](#)



DISCOVERY: Frogs have evolved to expel foreign objects through their bladder.

SCIENTISTS implanting radio transmitters in frogs for tracking have found the animals can expel foreign objects through their bladders. When recapturing the frogs, they found that up to 75 per cent of the devices in one species were no longer in the body cavity, but in the bladder. They also found three transmitters on the ground, with no evidence the frogs had been eaten or died from other causes.

To test their hypothesis about how the transmitters were expelled, Chris Tracy, Keith Christian, Lorrae McArthur and Chris Gienger of Charles Darwin University, Darwin, implanted small beads into the abdominal cavities of a further five frogs and five cane toads. All five frogs expelled the beads within an average 19 days. Only one toad had expelled its bead but the other four had moved the implant into the bladder.

Dr Tracy said in a paper published in science journal *biology letters* bladder tissue surrounded the beads within two days of the implant. "Once in the bladders, the beads apparently floated freely in the urine and were expelled ... when the bladder was voided," he said. Other vertebrates can expel foreign objects, including humans, some fishes, camels, snakes and crocodiles, but unlike frogs, these species expel objects either through the skin or the intestine, not through the bladder. In humans, surgical sponges left in the body can erode through the intestine and be expelled, presumably through a mechanism similar to that of fish.

Scientists who stumbled over the frogs' ability, believe the amphibians may have evolved with the technique because the way they move about disposes them to having foreign objects such as spikes and splinters, enter their skin.

Frogs also often swallow insects whole, without biting or killing them. "Thus, the insects, or sharp parts ... could burrow their way through the walls of the digestive system into the peritoneal cavity, as seen in some lizards," they said.

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Got a Green Spot on your label?

This is gentle reminder that renewal of your membership is due and this might be your last Frogsheet.

The Society values your support and it is only through strength in membership that we can continue the work for our frogs and their habitats.

If you have paid but not received your receipt and card, please contact the Secretary.

Thank you to the members who have renewed.

Sit up and be counted you Mary inhabitants

Greetings from the lovely Mary River, a place where I live, work and play. I have been a Catchment Officer with the Mary River Catchment Coordinating Committee for over 8 years now and have had the privilege of earning part of my living researching and monitoring our stream frog populations, now for 8 seasons.

I have to say that I do love winter as it gives me time to catch up on other work and enjoy evenings at home by the fire! However it was just a few nights ago that many *Litoria peronii* (Emerald-spotted treefrogs) awoke me from my tranquillity. These guys had been ratchetting away intermittently for a few weeks, exercising their voices in readiness. But this night their calls were both numerous and smooth, as we expect from them during the breeding season. The evening temperature rose just enough for humans to be able to emerge into the night air with just one layer of outer covering. Mind you the frosty days that followed have certainly put a swift stop to their spring prelude!

With that warning I decided it was time to plan for the coming warmer months. Each season I emerge one or two times a week to carry out spot surveys of new sites in the Mary River catchment and to visit my long-term monitoring transects of which there are currently 14. Some of these I have been visiting for 6 years now courtesy of funding from the Sunshine Coast Council. These sites are relatively pristine for lowland country and we hope to be monitoring long into the future. From the information gathered we will be able to determine what is a 'normal' population under various weather conditions. So far we have been able to collect data during some extreme dry periods and more recently some very wet ones! With the information we may also determine if something is going awry with species presence and/or population levels and be alerted to changes that may go unnoticed in the environment.

Some of my other monitoring sites may only continue for a total of three years and the data is collected to monitor potential changes that may result from various construction activities being carried out in this catchment.

The Mary River catchment, besides losing two of its fine frog characters; *Rheobatrachus silus* (Southern gastric brooding frog) and *Taudactylus diurnus* (Southern dayfrog), has a high diversity of frog species. Included in this suite is the very fine *Mixophyes iteratus* (Giant barred frog) to whom I am thankful for my job and which always gives me great excitement when found. A very regular character both near permanent and temporary water is *Adelotus brevis* (Tusked frog); outrageous in its abundance for a vulnerable species. It does not seem to be too particular about habitat type, frequently residing in old car tyres in back yards. It is nice to see them so prolific considering their plight in other parts of their range. Another lovely jewel is the tiny *Litoria pearsoniana* (Cascade treefrog); its presence indicating that we are indeed in fine stream habitat.

I look forward to keeping you posted on how the season progresses. Hopefully this season will be a good one for our stream frogs; not too wet, not too dry!

Eva Ford

Catchment Officer

Mary River Catchment Coordinating Committee

mrccceva@ozwide.net.au



Young volunteer (and *Litoria peronii*) assisting with frog monitoring
In the Mary.

**Volunteers are welcome to enjoy
frogging in the Mary River and its
tributaries.
Contact Eva Ford at MRCCC**

Miniature frog discovered in the Pilbara By:Natalie Muller July-27-2011 Scientists have discovered a new frog in the remote and sparsely-populated Pilbara region of WA.



The Pilbara toadlet has been discovered by researchers in WA's desert region. (Credit: Henry Cook)

FOR DECADES, A CRYPTIC and tiny species of frog has remained hidden from scientists in the arid environment of Western Australia's Pilbara region. But its recent discovery is cause for excitement.

"To find an amphibian in such an inhospitable environment is something special," says Professor Arthur Georges, herpetologist at the University of Canberra. "The biology of this species no doubt holds many surprises in terms of how it manages to survive and thrive in the Pilbara."

The Pilbara toadlet (*Uperoleia saxatilis*) is a 2cm-long burrowing species that eats termites and small insects it finds underground. Toadlets are native to Australia and this new species brings the total number to 27, the second largest group of frog species in the country.

Toad in the hole

The frog was a surprise find for a team of researchers from the Australian National University, Western Australian Museum and the University of Western Australia. Renee Catullo, lead author and PhD student at ANU says the discovery of the brown toadlet was a great bonus in their research efforts.

She says she found the toadlets in rocky gorges and dried-up pools: "They sit in the rocks and find little [natural] amphitheatres so that they can amplify and direct their call to the females." "We didn't expect to find [a toadlet] in the arid zone...the deserts of Australia are often believed to be empty regions with few species. Species have to be quite adapted to survive here," she says. "Little is known about this small, brown creature but it has been found following cyclonic rains and occurs in rocky gorges and creeks of the region. The good news is that it appears to be secure from a conservation perspective."

The researchers have used DNA analysis to tease apart different species of frogs that look very similar. Renee's team built a 'family tree', which categorised the DNA sequence in the toadlet group of frogs. They realised that the Pilbara toadlet was in fact a separate species. She says genetic techniques are particularly useful to tell apart species that look identical.

High-pitched calls

"Humans are such visual creatures that when we see two little brown things it's hard to tell them apart," she says. "They tell themselves apart by their different calls, but we're not so good at that." The Pilbara toadlet's closest relative is thought to be the mole toadlet (*Uperoleia talpa*), which is very similar in appearance but has a more intense, high-pitched call.

DNA identification has helped prise out several new species in recent decades. Professor Ross Alford, a herpetologist at James Cook University in Townsville, Queensland, says the discovery of new species of frogs "shows that we really do need to understand our own biodiversity better. On a fine detailed scale, there's a lot we don't know." These frogs are "very small, cryptic animals that we know very little about, other than that they show up each breeding season," adds Ross. The remoteness of the Pilbara and the fact it lives underground may explain why the newest toadlet went undiscovered for so long.

The research was published in the June issue of the journal, [Zootaxa](#).

INCREASE OF POSTAGE .

Unfortunately, due to Australia Post's postal increases on parcels, we have had to change the costs on the Mail Order form.

Spare a day or two during the year?

QFS displays are usually manned by the same members and they would love to have new hands to help out. Don't think you have to be an expert as we all learnt on the job and it is interesting meeting with people who just love their frogs. Please let Jenny know if you would like to help out.

Hopstop



I recently went along to a seminar series (11/7) presented by the Sugar Research and Development Corporation. The first speaker was a Dr David Dall, managing director of Pestat a bio-tech agency based in Canberra, he talked about the product Hopstop designed as a pest management tool for cane toads. The other speaker Dr Peter Samson gave a presentation on management of the grey backed cane beetle. After some discussion the QFS management committee has agreed that we will neither promote nor dissuade the use of Hopstop but will simply present the facts and let you the potential consumer decide.

Hopstop is a new product on the market designed to kill cane toads it is sold as a household aerosol spray that contains 4% chloroxylenol as the active compound. Chloroxylenol is a phenol based biocide, in other words it kills life and is used to kill microbes such as fungi, bacteria and algae. This is the same antibacterial found in Dettol (at 4.8%), however in Dettol there are other compounds such as pine oil and isopropyl alcohol which are the chemicals considered to be irritants to toads. Interestingly chloroxylenol is used at an industrial strength (10%) in fracking fluids as a biocide to prevent breakdown of fracking formulations and any corrosion or slime produced by microbes.

The target market at present for Hopstop is you, the domestic urban market; and is to be used much like you would use any other household spray on pests. You see the pest, you spray it and it dies. This product is considered innovative and has been awarded an industry prize as best innovative aerosol product and who would have thought there was such an award? The active chemical present in an aerosol can form does mean that silly people can still spray it in their face but is safer in that they can't unscrew the lid and drink it. If used as directed- only on *Rhinella marina*, it is considered safe, effective and storable. All the criteria required for it to be acceptable to regulators and importantly it is considered humane, convenient and attractive making it acceptable to the consumer.

So how does chloroxylenol kill toads? In bacteria it destroys cell membranes, therefore it is assumed a similar mechanism occurs in toads. There is no requirement for manufacturers to research this and establish exactly what the mechanism for toxicity is. In fact you will find in most manufacturers MSDS –material safety data sheets, little or no information about the biochemical properties of a chemical (i.e. does it bind to fats, does it damage DNA??) and there is rarely any data on the carcinogenic (cancer causing) or teratogenic (embryo damaging) properties of most chemicals either. That is because this is long term research and for new products there just hasn't been the time to find out.

What we do know about chloroxylenol is that even though it has low acute toxicity for mammals it is toxic to fish, bees and aquatic invertebrates. Therefore "correct usage" would include avoidance of ponds and hives. It is readily absorbed through human skin (so one assumes that it is absorbed rapidly through toad skin) and can cause irritation particularly to eyes and upper airways. There are at least two reports in the medical literature of dermatitis associated with its use as a skin prep or antiseptic. So if you are prone to allergies prudent usage may be to wear gloves or even a face mask. The xlenols are considered to have low toxicity in the environment as they are rapidly broken down by microbes (obviously the ones it doesn't kill) and don't produce any known toxic byproducts. The use of chloroxylenol in this form is considered to have a low impact on the environment as the chemical is to be applied directly to target species and the toads are to be disposed of in the rubbish (not the compost). In fracking the "produced" water, used water containing a cocktail of chemicals including xlenols is often left in plastic lined pits or condensation tanks to evaporate off the water component and allow the natural breakdown of chemicals.

A video during the presentation showed us the aerosol in use. A two second spray time is recommended and hitting the toad is also. Failures to kill toads have been put down to not spraying for long enough and spraying in windy conditions and not hitting target. Big toads need more than little toads. The chemical immobilised the toad within a minute, that is it stopped moving and tucked its legs in, the toad did not froth nor appear to be in distress. It is believed that they become unconscious at this stage as they are unresponsive to stimuli. It takes on average 45 mins (and up to 55 mins for large toads) for them to actually die- that is cessation of a visible heart beat. The one thing however that might decide whether you use Hopstop or not is the cost. In experienced hands a single can will kill up to 40 toads and the current price in Bunnings is estimated to be about \$17.

The critter responsible for the introduction of the cane toad in the first place is the grey backed cane grub. It is the larvae



of a native beetle species; *Dermalapida albohirtum* and for some reason decided it preferred huge tracts of monocultured sugar cane instead of its native grasses. The larvae cause damage as they feed on the cane grass roots. After they pupate the adults either fly off to native fig trees or return to the cane fields to lay eggs for the next generation. Humans have been trying to eradicate it from Queensland ever since the first cane crops planted here. Firstly there was a bounty on dead beetles and farmers were paid by the kilo. When this looked like it was failing the cane toad was introduced, and we all know how that turned out. Then it was the chemical age.

Firstly carbon bisulphide was pumped as a gas into the base of each cane grass stolon/ root mass but this was time consuming. Then it was the 50's and the organochlorines were used: DDT, heptachlor, lindane etc. All found to have low acute toxicity until years later. When these products finally were banned from use around the mid to late 80's, something else had to fill their place. Suscon blue, a slow release pellet that leaches insecticidal levels of chlorpyrifos into the soil for up to 3 years filled that gap until resistance was discovered. The good scientists found out that high ph in the soil broke the chemical down too quickly and so they improved the product "Susconplus" by adding a coating of acid to lower soil ph when it was released. Suscon maxi (imidocloprid- a chloronicotinyl compound) followed and to this day remains one of the few effective chemicals for killing the cane beetle grubs.

There is a biological product available, a bacterial pathogen of the cane beetle- *Metarhizium*, but is infrequently used as it breaks down if incorrectly stored. Research shows that cane beetle adults are attracted to the highest cane stalks so baiting (leaving stands of high cane) can be used to concentrate the areas where they poison. I was left wondering what happens to this land when cities like Cairns expand into the surrounding cane fields and of course how well is this soil runoff buffered in riparian habitat before washing out to the reef. I also wondered what happened to the cane beetle's native food source- is it still out there? Could it be used as a decoy crop?

It all ends up a bit like the Cat in the Hat and the pink bath stain: one solution ends up having to be cleaned up or just ends up spreading the problem around more. At the base of it all is of course is our addiction to sugar, and with ethanol as an alternate source of fuel I can't see us getting off that roundabout any time soon.

Pearl Symonds





These pictures were kindly sent in by Marion Hempfing from the Sunshine Coast who also found these toad eggs near where she lives.

-ooooOooo-

From the Editors Desk:

Hello again everyone, hope you are starting to warm up and that your frogs have been busy. We had a nice downpour of rain over the weekend and our frog pond is very busy and VERY noisy again. There were 10 lots of eggs on the first night, which made me very excited and also the pobble bonks are at it again.

Quite a few of the tadpoles that hatched from the layings earlier this year have survived and are now active. I saw quite a few of them lifting their heads out of the pond to get air. I always have a bit of a chuckle when I see this as they remind of whales breaching.

Hoping to make it to the frog ID workshop in Nov and looking forward to meeting members.

From our house to yours – hope you and yours are well and that your ponds, dams and streams never run dry.

DEADLINE FOR NEXT NEWSLETTER 14TH NOVEMBER, 2011

Til next time, Cheers

Naomi

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better Brisbane*

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