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## ACTHA INC. NEWS AUG - SEPT 2011

*Newsletter of the  
ACT Herpetological  
Association Inc.*

### IN THIS ISSUE

**2011 ACTHA Grants:** a summary of the four Grants given this year appears on page 2.

**Borneo through a camera lense:** Joe McAuliffe was one of our guest speaker at the June '11 ACTHA meeting. He gave a candid account of his family's recent trip to Borneo and some of his awesome photography can be seen on pages 5 - 7 (*visit our website soon to view these in full colour*). Peter Child introduced his Boyd's Forest Dragons at the same meeting in a 'show & tell', see page 3.

### **54 Eastern Long-neck Turtles saved from a bull-dozer:**

Queanbeyan Wildcare quickly organises volunteers to save turtles at a construction site, page 8.

### **ACT and Region Frogwatch**

**Census 2011:** all you need to know to take part in this annual event can be found on page 9.

**The International Scene:** from page 10.

### **New Australian Toadlet found:**

a *Sciencealert* article describes the new burrowing toadlet, found during ANU Phd student Renee Catullo's work in the Pilbara, WA.

**Turtles more like lizards on the evolutionary tree:** genetic analysis is now being used to solve the riddle.

### **Volunteers needed for Whistling Tree Frog field**

**research:** various water bodies within the ACT and surrounding areas will be targeted, see page 11 for details.

**Heading for Lake Eyre:** a member's aerial snapshots plus a feral cat reality check, page 12.

**You know you're a reptile keeper when...** page 13, can you add some more examples to these?

## ***Snakes Alive! Exhibition 2012***

the Crosbie Morrison Building at the  
Australian National Botanic Gardens has been booked.  
More details and information for volunteers  
in our next Newsletter.

### YOUR COMMITTEE FOR 2010 - 2011

President	Joe McAuliffe
Vice President	Ric Longmore
Secretary	Angus Kennedy
Treasurer	Margaret Ning
Newsletter Editor	Mandy Conway
Webmaster	Angus Kennedy
Public Officer	<b>John Wombey *</b>
Excursion Officer	<b>Ric Longmore *</b>
Conservation Officer	Joe McAuliffe
Committee Members	Dennis Dyer Peter Child Iris Carter Greg Flowers
Student Representatives	Jake McAuliffe Angelique Harrison

*\* Denotes Life Members*

**CHANGE  
OF VENUE!**  
see back page for  
directions

### DIARY DATE

The *bi-monthly* meetings of the Association are held on the **third Tuesday of the month** at 7.30pm,

**Belconnen Soccer Club, Hawker**  
**cnr Belconnen Way & Springvale Drive**

### UPCOMING MEETING

**Tuesday, 16 August 2011**

The meeting will start with a herp species 'show & tell', not to be missed!

Our first guest speaker is Jo-Anne Bauer, Manager, Licensing and Investigations, who will go through licensing requirements for ownership of reptiles in the ACT.

Our next **guest speaker** will be **Juliana Lazarri**, PhD Scholar, The Fenner School of Environment & Society, ANU. Fire ecology and fragmentation.

Juliana is spending three summers trapping reptiles in the Northern Eyre Peninsula in South Australia to investigate how animals are affected by fire and fragmentation in predominantly mallee vegetation. One of the things she wants to find out is which reptiles are persisting in recently burnt or long unburnt remnants. This type of information will be useful for helping to manage these remnants by the use of fire or its suppression. Included will be a slide show of some of the animals she has come across.



## 2011 ACTHA GRANTS FOR HERPETOFAUNA PROTECTION, EDUCATION, TRAINING AND RESEARCH PROJECTS

ACTHA Secretary, Angus Kennedy, reports

In recent years, the **ACT Herpetological Association Inc.** has made a number of grants to projects that might assist to further herpetofauna protection and recovery, education, training and research projects.

The major fund raising effort by the Association is the *Snakes Alive! Exhibition* at the Australian National Botanic Gardens, held each January.

This year 4 grants were awarded.

### **Ben Scheele, Fenner School of Environment and Society, ANU:**

#### ***'Quantifying pond colonisation and chytridiomycosis dynamics in whistling tree frog populations'***

Ben aims to resurvey Whistling Tree Frog sites in the Canberra region to investigate and measure the reported expansion of populations. Anecdotal observations of this frog's populations indicate that they have colonised many ponds since the 1997 survey by David Hunter and Will Osborne.

Investigating chytridiomycosis dynamics through a detailed mark-recapture study of approximately 150 frogs in three widely separated whistling tree frog populations will provide information on the effects of Bd infection, prevalence and infection intensity in post decline populations.

### **ACT and Region Frogwatch: Tadpole Kits for ACT Schools**

Frogwatch will provide school students aged 5 to 16 years throughout the ACT with the unique opportunity to observe different stages of a frog's life-cycle over a period of up to 6 months while caring for tadpoles in their classroom. The program will be complemented by an education kit which is tailored, according to age level, to educate students about anatomy, physiology and ecology of frogs. The program aims to also raise awareness of legal and ecological issues of taking tadpoles/frogs from the wild.

### **Peter Child, REPTILES INC, Kambah: Schools live reptile education presentation Competition**

The aim of the Competition is to stimulate discussion, education and appreciation of Australia's reptiles and amphibians. This includes learning about species diet and habitat, and any conservation issues.

ACT primary schools will be sent a poster/flier advertising the Competition, invited to name their favourite reptile and create a 'message' about that reptile in any medium they choose: eg a video, poster, sculpture, essay etc. Entries will be judged on creativity and all-round presentation.

The Grant will be used for the prizes: REPTILES INC will conduct a one hour live reptile awareness presentation at the winning schools (six in total), where a selection of animals will be produced one at a time. Peter will impart his extensive knowledge about the species and allow some members of the audience to have a closer encounter.

### **Peri Bolt, Research School of Biology, ANU:**

#### ***'Which came first: the Australian deserts or Australia's sand-swimming snakes?'***

Peri aims to generate the first robust phylogeny of Australian burrowing elapids to help clarify the relationships within the group for future taxonomic consideration. The study will also provide insights into the origin and diversification of burrowing herpetofauna in the developing Australian arid-zone.

Significant conservation concern exists for these elapids, which include the Bandy-bandy, *Vernicella annulata*, the only burrowing elapid that occurs in the ACT. The species' low dispersal ability and the tendency and susceptibility of their habitats to be modified by human activity is a concern. This research will provide a baseline for potential future conservation considerations.



## Corrections for the postal edition of the June - July 2011 ACTHA Newsletter

*Oopsy! A few errors slipped into the last edition of the ACTHA Newsletter which was posted to members in June. The errors have been corrected for the final copy placed on our Website, but just for the record:*

*Page 2: The Striped Legless Lizard has an obvious ear opening like other lizards (not as opposed to...).*

*Page 5: The township of Kimba is situated central north of the Eyre Peninsula, SA.*

*Page 7: To clarify, there are 3 images shown for the Thorn-tailed Gecko (c).*

*Page 12: The snake image shown is of a Southern Death Adder, not a King Brown Snake.*

*Last page: The snake found at Nimmitabel was a White-lipped Snake, Drysdalia coronoides (not a Whip Snake) and the photo was taken by Susanna Chun.*

*My sincere apologies for any confusion caused to members, Ed.*

## JUNE '11 ACTHA MEETING

*Articles by Mandy Conway*

*Between Joe McAuliffe and Peter Child, members were treated to two 'show & tells' and one main slide presentation. The night's proceedings are summarised below under their respective headings.*

### MARbled VELVET GECKO

*Oedura marmorata*



Joe McAuliffe started the meeting by giving a brief talk about the striking Marbled Velvet Gecko, which he has succeeded in breeding.

Arboreal and rock-inhabiting, these geckos have padded digits with

specialised adhesive *lamellae* (tightly packed hairs) bristling with microscopic branched structures called *setae*. These increase the surface area of contact, grasping minute irregularities on most surfaces with incredible control. Some species also have *lamellae* on their tail tips.

The young are pure black with white bands, the black areas fading to brown as they mature.



## BOYD'S FOREST DRAGON

*Hypsilurus boydii*

Peter Child from Reptiles inc. followed Joe to give a talk about the Boyd's Forest Dragons he has kept for some time.

This dragon, once an expensive animal to acquire, is now making its way into herp collections. In the wild, they are limited to the wet tropic areas of Australia.

A highland and lowland type exists with subtle differences between the two, particularly colouration.

The Boyd's Forest Dragon requires a moist, tropical environment but this doesn't mean a dripping wet enclosure set-up with limited ventilation, Peter explains. If an enclosure is constantly wet and damp with no airflow then moulds and fungus will tend to permeate, leading to respiratory problems.

A small dragon, SVL 150mm, it surprisingly needs almost double the enclosure size of bearded dragons. They need a lot of room to 'roam' even though they spend a great deal of time perched on branches, slipping further around one in an effort to remain out of sight.

Boyd's Forest Dragons are slightly different to most other dragons in that they do not thermal regulate in the same manner. They thermo-conform to the ambient temperature rather than bask, mainly due to the dense nature of their





rainforest habitat with its dappled sunlight. "An enclosure temperature should be not less than 18°C and no greater than 30°C", Peter said.

The lowland species has just one clutch per year, containing a maximum of 6 eggs. These are laid in a shallow 'nest' which is dug only a few inches into the very wet and damp soil. Peter's captive dragons had a tendency to lay their eggs in the water bowl without fail, so the bowls had to be removed. Females will try and bask when gravid, seeking grass on the verges of roads to bask in their natural habitat.

The highland species tend to have multiple clutches of 1 to 3 eggs, up to a maximum of 4 or 5, during the warmer months of October to December. Peter's dragons have a clutch of eggs every 2 months over the course of a year, not seasonally due to the artificial environment.

Sexing these dragons is not easy, Peter has found, although shining a torch over the cloaca region when the dragons are very young often shows two blood vessels indicating where the hemipenes will be in males.

In the wild, male dragons have a large home range which they fiercely protect. Peter found that his male, occupying a 'safe' enclosure with two females, would just relax and not even bother mating with the girls, meaning any eggs they produced were infertile. Although males may not fight when kept together this should be avoided because a stressful situation ensues, which usually results in one male retreating and refusing to eat. By placing another male in a tank adjacent to the breeding enclosure, however, Peter found his lazy male stirred into action. This was fortunate as Peter had owned the group for several years, their ages were unknown, and the females each laid one fertile clutch before the male died. In optimum conditions the Boyd's Forest Dragon is believed to reach 10 years of age.

This dragon makes an attractive pet in that whilst they can't really be handled, similar to geckos, they are diurnal and can be admired during the day.

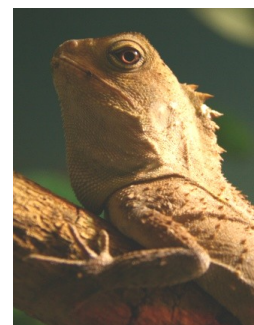
To keep these dragons successfully in captivity the enclosure needs running water. Peter has developed a system where a container above the rock wall is filled with water in the morning

and then drips all day. The water evaporates at the same rate as the dripping which creates a wonderful moist environment.

The Boyd's Forest Dragon's main diet is insects although they are known to eat fruits. One of the problems keeping this species in captivity is metabolic bone disease resulting from insufficient calcium. So, whilst a basking lamp is not mandatory, Peter keeps one on anyway, as well as a UVB light. Food items are also dusted with supplements. Peter was asked whether the female that kept laying copious eggs would suffer severe calcium deficiency, which he indicated was a real possibility. Even though he removed the male and dropped the ambient temperature she continued to lay eggs and died egg bound.

These dragons, although relatively easy to keep, don't appear to be kept in significant numbers in NSW. They are a Category 2 Licence in NSW which means prospective owners need to apply for a licence. Many keepers don't want to bother with licence applications in NSW as many reptiles can be kept without one. Category 2 animals therefore don't easily sell, unlike the ACT where most reptiles require licence applications so keepers are more willing to put the effort in.

The Angle-headed Dragon, *Hypsilurus spinipes*, SVL 110mm, is the smaller of the two rainforest dragon species (*image below*). They are plainer in colour, more prolific breeders and found a lot further south towards Gosford in subtropical areas. Husbandry requirements are simpler, with minimum temperatures around 15°C quite acceptable. They are also more commonly kept as pets in NSW because they are listed under a Category 1 Licence and therefore don't require licence applications.





## DISCOVERING THE HERPETOFAUNA OF BORNEO THROUGH A CAMERA LENSE

*Article by Mandy Conway,  
all photos by Joe McAuliffe*

"If you have an interest in anything living then you can't go past Borneo, an amazing place!" Joe started by saying, adding that he didn't know much about herpetofauna in Borneo so, as a botanist, he had free licence to talk about anything he wanted to in this presentation, including plants.

Joe, wife Lois, and sons Connor and Noah spent about a week in Bako National Park, Borneo, on their way through to Europe. It was late January 2011 and the weather was hot and humid. They made their way by air from Kuala Lumpur to Kuching before going on a short boat trip to their destination.

The McAuliffe's were greeted by a forest of palm trees as they approached the shoreline, crocodile warning signs and many sea kraits (sea snakes) moving gently through the water. Joe's family settled into their hut-style accommodation which was comfortable and had basic facilities. Actually, there was no kitchen, the shower produced cold and slightly muddy water from the creek and there was no flushing toilet, but everything else was great.

Later that night, the McAuliffe's trekked to the small shop in the Park to try and get something to eat. They enjoyed a buffet dinner, 4 cans of soft-drink and 2L of water, which cost a grand total of A\$6-7: so it appeared they would at least not go hungry during their stay.

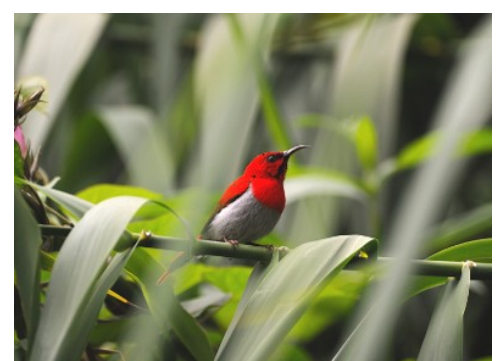
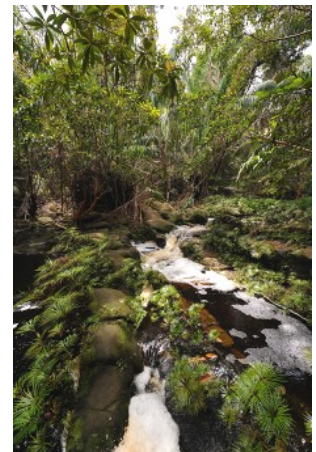
An Island guide was found early the next day to show Joe around the area and hopefully

point him in the direction of the resident herps. The language barrier meant the guide did a lot of pointing, only vocalising more common words like "cobra... no touch...". The guide was appalled when, later, Joe grabbed one on the spur of the moment. He continued to show Joe around but was probably more careful in what he pointed out! "The guide's skill at finding creatures was incredible," Joe said. "He was able to spot things that most people would just walk past: a chewed leaf that, once gently moved, revealed an interesting insect or a gecko hiding on the back of a branch."

They traversed across mud flats into the Mangrove forest where Joe found many beautiful plants, resulting in many, many photos. He showed members a small number of the most spectacular plants he found. They also

saw many of the primates that call Borneo home, hiding amongst the trees. Joe found that by sitting quietly for 5 mins many animals would resume their normal activities, which produced some wonderful photographic opportunities. A couple of photos of "brightly coloured things with wings..." were also shown (see image below).

"Borneo and geckos go together," Joe said. He became so complacent about them that he admitted he probably missed a good many of the species. The fact that his guide was able to spot a gecko at 30 feet resulted in the word "gecko" being used all too frequently.





The temperature inside the rainforest was a cooler 30°C, however the palm leaves with their long, needle-sharp spikes and the leeches made for some unpleasant treks. Every time Joe stopped to take a photograph there was some critter trying to crawl up him. At one point, Joe was kneeling down in the thick mud photographing a herp on a tree trunk, when he felt something attacking his sandals. Looking down he realised he was kneeling on a snake! It took off as quickly as he jumped up!! "It may have been a Slug Eating Snake but I wasn't quick enough to catch it.." Joe said remorsefully.

Slides of the herps encountered came next and although Joe went to some effort to identify them he pointed out that their ID was only his interpretation.



**Malaysian Tree Skink,**  
*Apterygodon vittatu.*



**Kendall's Rock Gecko,**  
*Cnemaspis kendallii.*  
This image was taken in the rainforest in the middle of the day.



**The Bent-toed Gecko**  
*Cyrodactylis consobrinus,* is a very large and striking gecko that is comfortable on tree trunks and rock faces alike.

Several times, whilst walking in their hut's general area, Joe spotted something flying through the air that appeared remarkably like the Horned Flying Lizard. He was unsuccessful in photographing it and vowed to try harder on his next trip!

The **Crested or Fence Lizard**, *Bronchocoela criststella*, was striking, reaching a total length of approximately 40cm.



Frogs could be heard calling everywhere and most stones upturned revealed a specimen. Every encounter produced a different species, Joe commented.

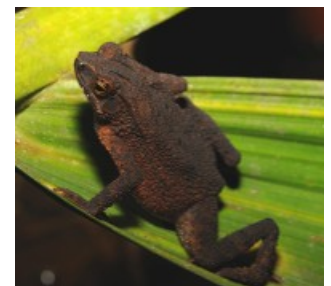
The **Dark-eared Tree Frog**, *Polypedates macrotis*, is one of the most common species in Sabah but with its excellent camouflage was not that easy to actually find and photograph. The males are much smaller than the females, as with many other frog species.



The **Short-nosed Tree Frog**, *Rhacophorus gauni*, photographed looked like a juvenile to Joe.



Joe only found one specimen of the **Swamp Toad**, *Bufo quadriporcaus*, which inhabits the palm swamps. Interestingly, its call characteristics are unknown. Joe suspects there are in fact many herps living in Borneo which have yet to be formally identified let alone the call characteristics recorded.





The **White-lipped Frog**, *Rana chalconata*, is apparently heard more often than seen.

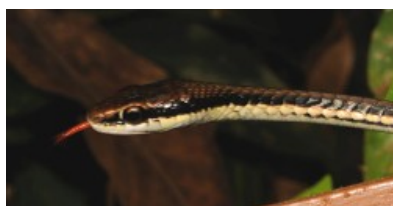


A **Wagler's Pit Viper**, *Tropidolaemus wagleri*, had many photos taken of it (*above*), especially as it didn't actually move for almost a week once it was placed on a palm frond, presumably waiting to ambush prey. The images above are of a beautifully coloured juvenile. Note the reddish/white stripe across the eye area. (ACTHA website soon dear readers!)



The image at left is of an adult viper. Joe commented that he engaged the juveniles to assess their demeanour, which was calm, before attempting to handle

them. The adult, on the other hand, appeared quite cross and was photographed in-situ.



The **Striped Bronze-back Snake**, *Dendrelaphis caudolineatus*, is a fast moving snake that hunts frogs.



The **Smooth Slug-eating Snake**, *Pareas laevis*, is known to dislike being kneeled on!

One of Joe's favourite encounters turned out to be of the furry variety (?!).

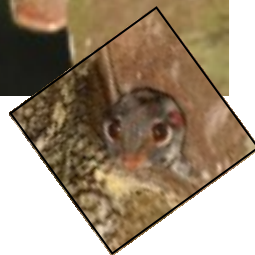
The **Colugo**:

a **gliding lemur**

"... a really ugly possum or a mega sugar-glider..."

Joe had seen an animal gliding through the air and land on a tree trunk. He eventually identified it,

commenting it was a really bizarre, slow moving lemur that was incredibly cryptic. Lois had taken some time to see the creature that Joe was pointing out to her, which was roughly 5 metres away. Joe's ACTHA audience took a bit longer to work out what it looked like from the photos (*above, right*). The Colugo is the second reason Joe would like to return to Borneo: to photograph it flying. (Some ACTHA members suggested a fieldtrip to help Joe achieve his goal, this Editor included.)



The McAuliffe family appeared to have a brilliant holiday in Borneo although Joe commented that asking your spouse to help along treks, by holding the torch, needed serious consideration in the first instance. His experience? the torch light was great for the spouse to see where they were going on a rough track but not so good for the photographer carrying 3kg of camera gear who was trying to keep said gear dry whilst looking for herps in darkness. Finding, catching and holding a snake, which your spouse sees in the torch light, also causes choice words emitting from said spouse and slightly dampens your achievement thrill...





## WILDCARE QUEANBEYAN QUICKLY RESCUES TURTLES

*This article by Mandy Conway*

Maryanne Gates, Reptile Coordinator, Wildcare Queanbeyan, wrote on an on-line freshwater turtle forum: "I'm preparing to rescue Eastern Long-necked Turtles from a dam [on the ACT's border] near Queanbeyan, NSW, that is in the process of being drained to make way for a highway upgrade... the bulldozers are already on site..."

Maryanne later advised "The rescue went ahead on Wednesday 8 June 2011. **Fifty-four Eastern Long-necked Turtles** were found in the small pool of water left in the centre of the dam and relocated to a nearby dam which would not be affected by roadworks. This area will be monitored to check for any signs of turtle mortality due to their disturbance during brumation."

### Rescue attempt at second dam

Volunteers gathered once again on Friday 17 June to search the second dam affected by the road works.



Volunteers included several students from the Canberra Institute of Technology at Bruce, who were doing a 5 month course on wildlife rehabilitation and/or undertaking vet nurse studies (*left*), several RSPCA (ACT) wildlife carers, half a dozen Wildcare Queanbeyan carers who had succeeded in bringing their partners along, a few members of the public who heard about the rescue over the radio, and me (*left*), the passionate turtle lover from ACTHA.



The construction site manager met our group at the site office where we were given a brief OH&S talk before jumping into our cars and following his vehicle to the dam.



*The image above gives an indication of the dam's size.*

Everyone donned their gumboots, zipped up their jackets, grabbed their long poles and started walking as a straight line, methodically prodding the knee-high silt and mud.

After an hour, and having covered over half the dam, we stopped to assess the situation. Many yabbies were found and placed in buckets, a lone frog was removed from the dam's edge, however not one turtle was found. We decided to continue for another 30 minutes before calling it quits. I started searching the dam banks to see if I could find any reptiles, including lizards and snakes whilst others decided to up their efforts by using their hands to feel through the mud. These volunteers were a dedicated lot indeed considering the wind chill factor was about -20°C!



We hadn't found any reptiles or turtles but left the area knowing that we'd sleep with a clear conscience that night because we had at least looked.

On reflection, we surmised it was possible that most of the turtles had been disturbed by the noise and vibration of machinery the previous week and had probably been siphoned with their water into the first dam over a two day period.







## ACT AND REGION FROGWATCH CENSUS 2011

**16 - 22 October - National Water Week - Frogwatch Census Week**

*Diary dates and scheduled events from Anke Maria Hoefer, Frogwatch Coordinator*

The annual Frogwatch Census Week is less than 12 weeks away and important times and dates are provided below. **RSVP is essential!** If you would like to attend a Training Seminar or the field trips you can register online at [frogwatch@ginninderralandcare.org.au](mailto:frogwatch@ginninderralandcare.org.au) or call the office on **62783309**. The Frogwatch team hope to see you there! *Cost is free and tea and coffee will be provided.*

### Training Seminars

This year there will be 4 Introduction Seminars. This Seminar is essential for the first time Frogwatcher or as a refresher for those who have participated in previous years. It will cover all you need to know to participate in the 2011 Frogwatch Census, including identifying frog species, using Frogwatch Field Data Sheets, undertaking habitat assessments and performing your first frog monitoring activity. Seminars run from 1800 to 2030hrs and will include a short walk outside to practice frog identification skills. Please bring sturdy shoes, a torch, and wet weather gear if necessary. **Please note:** *all introductory seminars will cover the same information - you only need to attend on one evening.* Maximum numbers per seminar: 40.

Seminar 1	<b>26/09/2011</b>	Scottsdale Reserve	Ben Scheele
Seminar 2	<b>28/09/2011</b>	Botanic Gardens	Murray Evans
Seminar 3	<b>29/09/2011</b>	Botanic Gardens	Murray Evans
Seminar 4	TBA	Queanbeyan	David Hunter

### Field Trips

Four field trips will be held this year. These field trips are aimed at experienced Frogwatchers who would like to further develop their identification and monitoring skills. Participants will have the opportunity to investigate important components of frog habitat and talk with expert ecologists in the field. Each field trip will involve walking as a group to observe a number of sites throughout the evening. Please bring sturdy shoes, a torch and warm clothing and wet weather gear if necessary. Maximum numbers per field trip: 25. *In case of severe weather conditions, participants will be advised of an alternative venue closer to the date.*

Field trip 1	<b>26/09/2011</b>	Scottsdale Reserve	Ben Scheele
Field trip 2	<b>05/10/2011</b>	Mulligans Flat	Will Osborne
Field trip 3	<b>06/10/2011</b>	Tidbinbilla	Murray Evans
Field trip 4	TBA	Queanbeyan	David Hunter

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### Recent Grants to Frogwatch

Frogwatch was successful in the **2011-2013 NRM Council** funding round but did not receive enough to follow-up all of its programs. Frogwatch is now busily seeking additional funding from the corporate sector and other agencies.

The **ACT Herpetological Association Inc.** has kindly awarded a **\$1200 Grant** in support for the *Tadpole Kit School Education Program*. "Thanks to this generous contribution Frogwatch will be able to provide 30 schools with the chance to observe the amazing development from tadpoles to frogs."

In addition, Frogwatch has applied for an ACT Environment Grant to start the new exciting school education program *Frogs For The Future*. This program provides students with the unique opportunity **to care for an endangered frog species, the Green and Golden Bell Frog**, while learning about the wonderful world of frogs and the reasons behind their dramatic global decline. Frogwatch are currently running a pilot for this program at the Palmerston Primary School and very much hope that *Frogs For The Future* will receive much needed funding.



## THE INTERNATIONAL SCENE

ACTHA member Tony Lawson keeps us posted on developments in the international science arena.

### NEW AUSTRALIAN 'TOADLET' FOUND

The Australian National University, Wednesday, 27 July 2011 [www.sciencealert.com.au/news](http://www.sciencealert.com.au/news)



Above photo of toadlet by Paul Doughty

A new miniature frog species or 'toadlet' has been discovered in the resource-rich Pilbara region of Western Australia, an area previously thought to support very few of the amphibians.

Researchers from the Australian National University, the Western Australian Museum, and the University of Western Australia have used genetic techniques to show more species of frog are present in the Pilbara than previously thought.

Lead author and PhD student from the Research School of Biology at ANU, Renee Catullo, said the findings included a species previously unknown to science.

"The deserts of Australia are often believed to be empty regions with few species. However genetic work on reptiles and amphibians has shown that there are large numbers of species in what looks like a barren landscape to most people," she said.

"We have also identified a new species of burrowing frog called the Pilbara toadlet *Uperoleia saxatilis*, which is just over two centimetres long.

"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.

"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."

The discovery was part of a research project funded by the Herman Slade Foundation that uses genetic techniques to try and understand the true number of species of toadlets.

"Genetic techniques are increasingly being used to identify new species across Australia that use

calls, pheromones, or behaviour to tell each other apart," Ms Catullo said.

"In these cases genetic techniques can tell us which groups are interbreeding, even when it's hard to visually differentiate them.

"This new breakthrough emphasises the need for further research into understanding the biodiversity of Australian deserts."

### TURTLES MORE LIKE LIZARDS ON EVOLUTIONARY TREE, NEW GENE STUDY FINDS

By Chloe McIver of *Nature* magazine, 19 July 2011  
[www.scientificamerican.com/article](http://www.scientificamerican.com/article)

Turtles should sit on the same branch of the tree of life as lizards, according to a genetic analysis that could clear up a long-standing mystery over the creature's origin.

Palaeontologists have long used morphological data, obtained by looking closely at the physical characteristics of fossils and living relatives, to show the evolutionary relationship between different species. In recent decades, however, genetic comparisons have become important.

But molecules and fossils don't always agree, and this has created a lot of confusion for the turtle. A study published today in *Biology Letters* could put the beleaguered reptile in its rightful place using genetic analysis.

#### Odd one out

Turtles have proved particularly problematic to categorize because they look so different from other reptiles, most of which belong to the Diapsida clade. Diapsids' skulls all have two holes, called temporal fenestrae, which carry muscles that attach to the jaws.

According to the fossil record, turtles first appeared in the Triassic period around 230 million years ago, and have changed little since. Crucially, turtles lack temporal fenestrae, suggesting that they are the living relatives of a more primitive reptilian form that pre-dates the diapsids. Consequently, they were set aside in their own clade, somewhere between amphibians and the rest of the reptiles.

However, there are two other possibilities that would bring turtles into the diapsid fold. One is that turtles are more closely related to birds and



crocodiles than to lizards. Most of the genetic studies undertaken so far support this.

The other possibility is that turtles are much more closely related to lizards and snakes, with this group sharing a more recent common ancestor than the rest of the diapsid clade.

#### Disappearing act

Genetic analysis of a turtle, a lizard and an alligator now supports the latter hypothesis. This implies that the ancestors of turtles did once have temporal fenestrae in their skulls, but that these have disappeared as turtles evolved.

"What we've been able to provide is unambiguous evidence for one hypothesis over the others," says molecular palaeobiologist Kevin Peterson of Dartmouth College in Hanover, New Hampshire, a co author on the new study.

The work differs from previous efforts because it used microRNAs, short regulatory genetic

molecules found in cells. They are particularly useful for solving phylogenetic puzzles because, although additional microRNAs can develop over millions of years of evolution, once established in a clade they are rarely lost.

MicroRNAs have been used to determine other similarly deep phylogenetic relationships, and most scientists agree that they are reliable tools. What makes the conclusion of this study particularly convincing is the fact that it agrees with an existing hypothesis that is also supported by morphological data.

"Over the years, as we've been trying to reconstruct the tree of life, there's been a sort of to and fro between anatomy and fossils on the one hand, and molecules on the other," says Mike Benton, a palaeontologist at the University of Bristol, UK, who was not involved in the study. For turtles, he says, this is "the first time we have anatomy and molecules seeming to agree."



## Field volunteers required: "Can frog populations recover from chytridiomycosis?"

### Why volunteer?

- Help contribute to local research on whistling tree frogs.
- Gain valuable hands-on experience in:
  - Frog surveys
  - Chytrid fungus and genetic sampling

### When?

Fieldwork will be carried out most nights between 6pm and 12pm from mid August until October, 2011

### Where?

Various water bodies within the ACT and adjacent areas of NSW.

### What is supplied?

Transport and equipment. All you need is some warm clothing! But there is the option to do additional, independent surveys.

To register your interest or find out more on what we are aiming to achieve and why it's important contact: Ben Scheele, PhD Scholar at the ANU's Fenner School of Environment and Society [ben.scheele@anu.edu.au](mailto:ben.scheele@anu.edu.au)





## OUT WEST TOWARDS THE EYRE PENINSULA

It's late July '11 and **Margaret Ning**, our intrepid Treasurer, who is on a road trip through western NSW to South Australia, emailed a brief message and some photos. There must be a travel bug in the air judging by the number of Committee members who have travelled over the past 6 months!

"We are at Roxby Downs for the next few nights before we head for the Eyre Peninsula." Margaret writes.

"A handful of pics from yesterday when my friend and I flew over the Cooper Ck where it has cut the Birdsville Track, and where the punt is now operating. The Cooper Ck opens up to a huge wetland before closing again into a tighter channel where it winds its way towards Lake Eyre, which it should reach quite imminently. All magic!"



Margaret also forwarded these disturbing photos (below) which were taken at the **Arid Recovery Project Centre**, situated 20kms north of Roxby Downs, South Australia. Visit the Centre's website for more information regarding ongoing conservation efforts: [www.aridrecovery.org.au](http://www.aridrecovery.org.au)



*There are an estimated 12 million feral cats in Australia. Each feral cat kills thousands of native animals each year. This cat was shot at Roxby Downs and its stomach contained 24 painted dragons, 3 juvenile bearded dragons, 2 earless dragons, 3 Ctenotus skinks, a house mouse and a zebra finch in its stomach. This catch represented a single meal.*

### FERAL CATS AND FOXES

Feral cats and foxes are common outside the Reserve and prey on many native species, including mammals, birds and reptiles. Foxes and cats are regularly captured in traps set around the Reserve perimeter. Audio lures which sound like cats or small birds are used to attract them into traps.

**Nearly 1000 feral cats have been shot or trapped in the Roxby Downs area over the past decade.** Stomach content analysis revealed that their diet included 34 reptile, 13 bird, 6 mammal and 1 frog species.

**Contrary to popular belief, feral cats are not noticeably larger than their domestic counterparts.** The average weight of adult feral cats weighed at Roxby is 3.8kg, with

the heaviest weighing 7.3kg. Before the outbreak of RCD, rabbits comprised a significant component of the diet of feral cats and foxes in the area, particularly when kitten rabbits were plentiful in spring/summer. After the decline of rabbits following RCD, feral cats and foxes preyed more heavily on native species. Approximately 30% of cat stomachs examined before the outbreak of RCD contained rabbits, compared with only 15% afterwards.

Rabbits make up a large proportion of the diet of foxes and fox numbers declined temporarily following the reduction in rabbit density after RCD. Foxes prefer larger prey items than cats and have contributed to the extinction of many medium-sized arid zone mammals.





## YOU KNOW YOU'RE A REPTILE KEEPER WHEN...

*Suggestions taken from a herp website.*

- asked of a rodent's lifespan your answer takes into account such things as the size of the snake its being fed to;
- you go to a pet shop, look at all the cute and furry animals and think "My pet would/could eat that!";
- you go to put the leftovers in a plastic container and they all have holes in them;
- you hear the word 'dragon' or 'lizard' and your head pops up like a Meerkat;
- you have a woodie or cricket infestation in your house due to a few escapees;
- you see a pile of furniture on the side walk and think "ENCLOSURES!";
- your mum opens the freezer to get some ice cream and screams at what she finds;
- you hear the neighbours scream and you check your outdoor enclosures;
- at night your house sounds like the heart of a rainforest from all the bug noises;
- your filing cabinet is full of envelopes marked 'shed date' and 'name';
- the only baby pics you carry are of your new hatchys;
- you get excited when Sistema tubs are on sale at Woolies;
- you risk your life herding a lizard or turtle off a busy road;
- your local food supplier has your order ready before you walk into the shop and gives you free stuff/ discounts for being his most loyal customer;
- the upstairs lounge room looks like a red light district from the street, because of all the enclosures;
- you make sure the motel you book is closest to the zoo/reptile park;
- you have 10 bookmarks on your computer and 8 of them are reptile sites;
- Herp Shop is your home page;
- you check on your herps just before going to bed and end up watching them for the next hour... (happens every night);
- you go to sleep to the sound of your pair of geckos digging.

### **This Editor's?**

Everyone is watching TV and a brown mouse runs across the lounge room floor: more traps are set. But if the mouse is a black and white one then it's one from your snake food breeding stock and you are severely reprimanded.

**Yours?** email them to [mmconway@homemail.com.au](mailto:mmconway@homemail.com.au)



#### **A note from the Editor**

*The views expressed by contributors and authors and any links to Websites provided in this Newsletter are not necessarily those of ACTHA.*

## ACT HERPETOLOGICAL ASSOCIATION INC. 2011 - 2012 MEMBERSHIP RENEWAL NOW DUE

Membership renewal runs from 1 July 2011 to 30 June 2012 and costs **\$10** for all memberships.

Herpetofauna is an additional \$12 for the two issues of Dec 2011 and June 2012.

**Payment at our August meeting** would be appreciated.

**OR** please make your cheque out to ACTHA Inc., fill in your details below and send it to the ACTHA Membership Officer, PO Box 160, Jamison ACT 2614.

*Surname:*

*Given name(s):*

*Address:*

*State/Territory:*

*Postcode:*

*Telephone (h):*

*Telephone (w):*

**Email:**

**OR** you could make a direct deposit to ACTHA's bank account:

St George Bank, BSB 112-908, A/c 040003311

**PLEASE!** Don't forget to note your name so we can identify whose payment it is on our Bank Statement.

Queries? please call Margaret on 02 6241 4065 (h).

### ***CHANGE OF MEETING VENUE!***

After 8 years of meeting at the former West's Club (now the Southern Cross Club) in Macquarie, ACTHA has investigated other suitable venues due to the lack of a permanent meeting room.

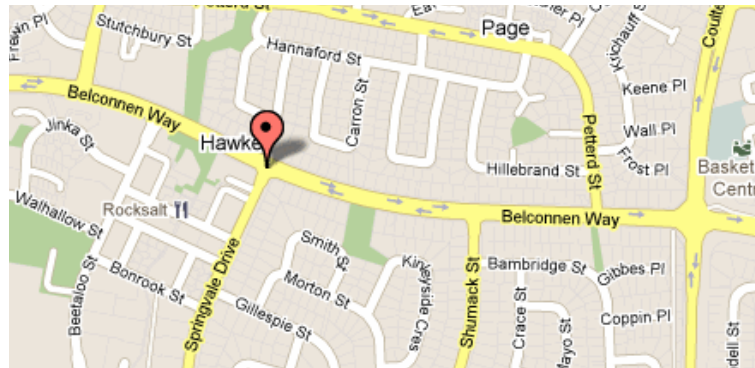
**The ACT Herpetological Association Inc. has been offered a permanent conference room for our bi-monthly meetings at**

### **the Belconnen Soccer Club, Hawker**

**located on the corner of Belconnen Way & Springvale Drive, Hawker**

The Club has **dining** and **bar** facilities, so why not have a meal with other members where you can talk herp before our 7.30pm meeting starts.

ACTHA would like to thank the Belconnen Soccer Club for their invitation and we hope to share a long and prosperous association.



ACTHA News

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