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ACTHA INC. NEWS FEB—MAR 2012

*Newsletter of the
 ACT Herpetological
 Association Inc.*



Photo by Joe McAuliffe

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** Denotes Life Members*

IN THIS ISSUE

Townsville: indexing, sea snakes and the ASH

Conference: this Editor got the opportunity to spend 2 weeks in Townsville with Professors Hal Heatwole & Harvey Lilleywhite, from page 2.

Snakes Alive! Exhibition 2012 the images on this page are just the start. See page 5 onwards for the week that was.

The Evolution of Burrowing Elapids

Peri Bolton, ANU, undertakes research on an understudied group of Australian elapids, page 8.

The Australian & International Scene: page 11.

Monaro grasslands reptile survey: Tim McGrath leads a group of UC students into the field.

Toilet cistern frog identified: ACTHA members help each other out with a frog ID.

ACTH A Christmas party were you there? images last page..

DIARY DATE

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

Belconnen Soccer Club, Hawker
 (cnr Belconnen Way & Springvale Drive)

UPCOMING MEETING

Tuesday, 21 February 2012

This month we are delighted to have Will Osborne who will give a presentation entitled '**Reptiles in the grass twenty years on—threatened grassland reptiles in the face of urban development**'.

Will has been involved in research and conservation efforts for reptiles and frogs in our region for over 30 years. In this talk he focuses in detail on two species that he knows well - the **Striped Legless Lizard** and the **Pink-tailed Worm-lizard**. These species are very different in an ecological sense, but each is presenting a major challenge for conservation in the face of the rapid expansion of urban Canberra. He will describe the research that has been underway, present the results of surveys and consider the many threats that the species face. Will is convinced that there is a need for a stronger role for community groups in helping to manage these iconic species. Ongoing work with park care groups (Mt Taylor and Pinnacle) will be briefly described.



Photo by Mandy Conway



Photo by Lucinda Royston



Photo by Lucinda Royston

TOWNSVILLE QLD: INDEXING, SEA SNAKES, & THE ASH CONFERENCE

By Mandy Conway, with much help by
Professor Harold Heatwole

From the beginning...

Harold Heatwole is a dual citizen: American by birth and Australian by choice. He emigrated to Australia in 1966 and spent 25 years at the University of New England where he was first a Senior Lecturer, then Assistant Professor.

A university in the United States, North Carolina State University, then enticed him back to the land of his birth to become Head of the Zoology Department, where he has been ever since. Having realised the folly of wasting time in administration, he returned to teaching and research after five years. His appointment is half time teaching and half time research so he carries a double teaching load for half the year in the US and then spends part of the rest of the year doing research in Australia. He maintains his home in Armidale and plans to retire there if he ever retires!

I first met Hal in 2010 when I organised a group of ACTHA members to go up and spend a day with him, and Hal Cogger, at the Australian Museum. At the time I asked whether I could help out as a volunteer on some herp project and he suggested I could index future volumes of the 'Amphibian Biology' series that he edits. I accepted and now find myself in the throes of indexing volume 9, with volume 11 looming up before me. Hal has since admitted he was joking at the time and couldn't believe it when I said yes (*I was being helpful, again...*)

I needed to consult with Hal about various specific problems with the editing so decided that I would save queries up and meet with him the next time he came to Australia. That is how I wound up in Townsville last November (2011).

Indexing 'Amphibian Biology' volumes

I spent two weeks in Townsville with Hal and Professor Harvey Lilleywhite, from the University of Florida, whilst they worked on their sea snake project. When I wasn't 'indexing' I spent time in the amazing Library at James Cook University: books, glorious



Prof Hal Heatwole (left) bought a plastic snake and placed it convincingly under a bush to fool Prof Harvey Lilleywhite (right) into thinking it had entered the yard. Just one of many pranks!

books! I finished issue 2 of volume 9, which covers several countries in South America, the last day of my stay, just in time to start another issue!

How much 'work' has this indexing project involved? We're talking at least 2 hours per day since September 2011, but at no time have I found the task a drain or boring. Indexing this series is like studying worldwide geography and landscapes, species types and habitats, disease traits, and environmental issues.

Sharing a house with Hal, Harvey and his wife for two weeks was an extraordinary experience. The knowledge and experience these two gentlemen have, and the effort they made to answer all my questions (with many hilarious stories by way of explanation) made this trip truly memorable.

Hal will be spending even more time in Australia in the future because in August of 2011 he was appointed Adjunct Professor in Zoology at his old stamping ground, The University of New England. Hopefully he'll agree to be a guest speaker at one of our meetings!!

Profile: Professor Harold Heatwole

Prof Heatwole is an ecologist with a BS degree in Botany, an MS in Zoology, a PhD each in Zoology and Botany, and a DSc in Herpetology. His research encompasses both invertebrates and vertebrates, has taken him to all seven continents, and has involved vegetation dynamics; community ecology of islands and of deserts; herbivory in tree canopies; thermal ecology and water balance; diving physiology; and population biology; he is one of the foremost authorities in the world on sea snakes

(Townsville article cont'd...)

“For thirsty sea snakes, the ocean can be a desert” according to Prof Lillywhite.

Prof Harvey Lillywhite, from the University of Florida, and Prof Hal Heatwole, from North Carolina State University, recently spent several months in North Queensland conducting research on sea snakes. They are studying how different species of sea snakes have adapted to living in saltwater without suffering dehydration.

Their first field trip was to Weipa, a town on the Gulf of Carpentaria coast of the Cape York Peninsula in QLD, going out in a boat at night to net sea snakes from the surface of the water. They had good luck: 20 snakes the first night, 20 more the second night, and 5 the third night. They set up a mini ‘laboratory’ with lots of aquaria of live snakes in a motel room and did some preliminary experimentation there. The only difficulty encountered was that the maid refused to service their room!

For more sophisticated research they had to take the snakes as checked luggage to James Cook University, Townsville, where they were provided with a laboratory in the Earth Sciences department. When the experiments were completed, they air-freighted the snakes back to Weipa where an agent released them at the site of capture. *“Imagine the stories those snakes had to tell their friends about being kidnapped by aliens and subjected to various indignities!”* Hal said.

The kidneys of snakes cannot effectively get rid of excess salt and sea snakes have adapted by secreting brine from a salt gland beneath the tongue. The brine is secreted into the tongue sheath and when the snake sticks out its tongue it pushes the brine into the sea. There are some species that gradually dehydrate in sea water and it was originally thought that sea snakes could drink seawater and excrete the salt, leaving the fresh water behind for the animal’s use. Prof. Lillywhite found that for some sea snakes that is not sufficient and the snakes needed to have periodic access to fresh water to restore the water they lost by dehydration in the sea.

This spring Harvey and Hal discovered that none of the sea snakes would drink seawater, but that some would drink freshwater. Sea kraits that come out on land periodically can drink freshwater at such times, but what about those

Professor Harvey B. Lillywhite: research interests

Physiology and ecology of vertebrates, especially amphibians and reptiles. Current interests in cardiovascular adaptations, gravitational physiology, functional morphology of integument, water balance and distribution of sea snakes, comparative aspects of energetics and temperature regulation, animal coloration, and fire ecology. Prof Lillywhite also has long-term studies in progress relating to the physiology and ecology of insular cottonmouth snakes.

Turtlehead Sea Snake in the Philippines (below).

Photo by H. Lillywhite



species that never leave the sea? How do they get freshwater? The project that he and Hal were working on was to compare different species to see if they varied in this capacity.

The sea snakes that were used in this experiment were from an area where, in October 2011, there had been no rainfall since April. Species varied in their physiology and behaviour. One species would drink neither sea nor fresh water, even when dehydrated by a further 25% from field condition.

At sea, after a heavy rainfall, there is a temporary thin film of water that floats on the surface. Sea snakes could perhaps drink from this film. In the laboratory, they were seen to poke their nose out of the water and open their mouths with the angle of the jaw just at the surface. In this way, only the water right at the surface is ingested. Thus, in some species, drinking can supplement the salt gland in regulating the salt and water content of the body.

However, not all species would drink freshwater so a mystery remains. Harvey and Hal are returning next year to continue pursuing this fascinating saga.





36th AGM of Australian Society of Herpetologists, 8-11 November 2011

By Mandy Conway

The Australian Herpetological Society (ASH) came together for their general meeting in Paluma, which just happened to coincide with this Editor's trip to Townsville. Hal Heatwole and I were lucky enough to catch a lift with Dr Mark Hamann, Principal Research Fellow & Senior Lecturer, School of earth &

Environmental Sciences, James Cook University, who happened to specialise in marine turtles much to my delight, for the one and a half hour drive to Paluma to attend the second day.

We arrived just in time to hear several PhD students talk about their projects. Guess who was sitting in the doorway and who was the very first person I saw? Arthur Georges! What a small world.

Several students familiar to ACTHA, including Renee Catullo, Mitzy Pepper and Peri Bolton were to give presentations the following day. I hope to produce a summary of some of the proceedings in the next Newsletter.

5 generations of PhD students

Prof. Hal Heatwole had an "academic geneology" picture taken. With him was Rick Shine, one of Hal's 28 PhD students, and then Rick's PhD students and their PhD students and so on for a total of 30 persons. Many were absent but still, it was an impressive group.

Many thanks to Rick for putting names to faces!



Above: pictured left is Prof Arthur Georges with Rick Shine just included on the right.



Back row (left to right):

Frank Lemckert, *Forests NSW*
 Michael Kearney, *University of Melbourne*
 Ben Phillips, *James Cook University*
 Stewart Macdonald, *James Cook University*
 Anna Pintor, *James Cook University*
 Paul Doughty, *Western Australian Museum*
 Rickard Abom, *James Cook University*
 Dan Noble, *Macquarie University*
 Renee Catullo, *ANU*
 Mitzi Pepper, *ANU*
 Rebecca Bray, *Monash University*
 Lynette Plenderleith, *Monash University*
 Dave Chapple, *Monash University*
 Kate Umbers, *ANU*
 Gabrielle Openshaw, *ANU*



Front row (left to right):

Elisa Cabrera-Guzman, *University of Sydney*
 Hal Heatwole, *North Carolina State University*
 Rick Shine, *University of Sydney*
 Reid Tingley, *University of Sydney*

Second row (left to right):

John Llewelyn, *James Cook University*
 Crystal Kelehear, *University of Sydney*
 David Pike, *James Cook University*
 Fabien Aubret, *CNRS, France*
 Lin Schwarzkopf, *James Cook University*
 Leonie Valentine, *Murdoch University*
 Simon Blomberg, *University of Qld*
 Scott Keogh, *ANU*
 Ben Croak, *University of Sydney*
 Matt Greenlees, *University of Sydney*
 Ligia Pizzatto, *University of Sydney*



Snakes Alive!

23 - 29 January 2012
 10am - 4pm Weekdays, 10am - 6pm Saturday and Sunday
 Australian National Botanic Gardens, Crosbie Morrison Building

Be charmed by live displays of snakes, lizards, turtles, frogs and crocodiles.

Enjoy....

- seeing and touching live reptiles and amphibians
- learning about rare and threatened species
- kids competitions (for more info visit www.actha.org.au)
- morning and afternoon feeding times
- gifts and souvenirs
- a great educational experience

Cost: \$2 child, \$5 adult (Concession \$4)
 Enquiries: e - info@actha.org.au p - 6250 9540
 Proceeds fund reptile and amphibian research

Reptiles Inc. Australian Government Australian National Botanic Gardens

www.actha.org.au / www.anbg.gov.au

**SNAKES ALIVE!
 EXHIBITION
 23 TO 29 JANUARY
 2012**

Foreword by Dennis Dyer

The ACT Herpetological Association caters from those involved in professional herpetological

studies to those who are interested and may initially know little or nothing about herpetology. The scope of the Association is therefore very broad. Other activities in which it is involved include participation in the Easter Extravaganza at Tidbinbilla, providing displays at schools where able, and individual members visiting schools and community groups when invited to do so. The Association also provides advice to the Government on relevant issues, including Regulation in regard to Licenses and related issues to broader issues such as areas required for the conservation of species, particularly those considered vulnerable.

The concept for 'Snakes Alive!' was introduced by our current Vice President and Life Member Ric Longmore in 1987 when he gave a talk to the Staff of the Australian National Botanic Gardens and public on reptiles and their place in our environment. Ric made this an annual event which was taken up by ACTHA in 1992, and since then it has grown each year.

The main aims of 'Snakes Alive' is to show our visitors, of all ages from the ACT, surrounding regions and further afield, including some from overseas, some of Australia's unique reptiles and amphibians and to educate about the role they play in our environment and the importance of their conservation.

The 'Snakes Alive!' exhibition has been instrumental in making the public aware of the

efforts of the ACT Department of Environment to assist in the survival of the local Corroboree Frogs by placing some of them on display. This has resulted in the continued public support for the Department's program in this regard and it is most pleasing to know that it is planned to commence returning some to the Alpine Areas. The Association is also liaising with the Government with the view to assisting in the survival of other native species such as the Grassland Earless Dragon, Whip Snake, Legless Lizard and Pink-tailed Worm-lizard. The Association also assists in the furthering of knowledge and understanding of Australia's unique herpetofauna (reptiles and amphibians) by providing research grants for students and community organisations such as FrogWatch. One outcome from these grants has been the recent provision of tadpole kits to schools in the region. Another, on a different level, has resulted in the discovery of new species of lizards in Australia.



Photo by Lucinda Royston

Above: Dennis Dyer asks young members Sophie Sloane (L) and Angelique Harrison (R) what reptiles mean to them.



Photo by Mandy Conway

The well behaved Perentie, *Varanus giganteus* (above) and one of the badly behaved, constantly trying to escape, turtles (below).

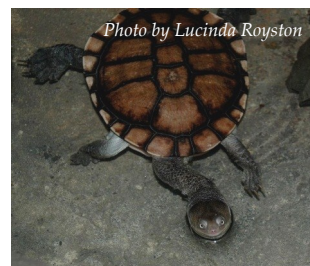


Photo by Lucinda Royston



Photo by Lucinda Royston

The ever popular petting enclosure with a variety of lizards and dragons (left) and Peter Child in action giving an outstanding talk about goannas to his audience (right)



Photo by Lucinda Royston

(*'Snakes Alive!' Exhibition 2012 cont'd...*)

Summary of Media Release

Opening of 2012 *Snakes Alive!* Exhibition

Member for Fraser Andrew Leigh today opened the '*Snakes Alive!*' exhibition, an event conducted by the ACT Herpetological Association with the support of the Australian National Botanic Gardens.

"The '*Snakes Alive!*' display shows snakes, along with other reptiles and amphibians, as part of Australia's delicate ecological balance," said Andrew Leigh.

Dr Leigh handled a python as a part of the opening event.

" '*Snakes Alive!*' provides an opportunity to safely handle suitable pythons, lizards and turtles to practically experience some of their

characteristics. It's a hands-on event suitable for all the family.

"Visitors can also observe snakes, lizards and frogs being fed, and have the animals' requirements explained to them.



"My two young boys came out to see the display with me today and are very excited about being able to see some snakes. I encourage all Canberrans to bring their families along to this unique exhibition.

"The event is nationally recognised as the leading such display in Australia. This year marks the 20th Anniversary of '*Snakes Alive!*' display by the ACT Herpetological Assoc."

The ACT Herpetological Association provides an important role in the ACT by informing the Environment and Sustainable Development Directorate about local endangered species of reptiles and amphibians.



From left: Dr Andrew Leigh, Greg Cover, Margaret Ning, Ric Longmore

The week that was...

By Margaret Ning

It began with a lot of promotional activity by the ANBG media people, Jennifer and Julie, leading to several radio interviews by Ric, and mentions in many other 'what's on' type opportunities, so our opening Monday was comfortably busy.

Thus, the opening by Federal local member, Andrew Leigh, on the Monday morning was well attended, and Andrew read an excerpt to us from a Steve Irwin publication. He toured our display with his family, posed with one of the pythons and posted a summary of the event on his website.

For the second year running, Peter Child of Reptiles Inc did the setting up of all the enclosures in the week before the display, although there was still a huge flurry of activity on the Monday morning before we opened our doors for the first time.

Throughout the week, we displayed around 30 herpetofauna species; including snakes (12 species), lizards (13 species), turtles (2 species), frogs (2 species) and one crocodile species. Peter provided around half of the animals we displayed and our members provided the rest. Highlights included Ric's spectacular new green python, his desert death adder and desert python, Dustin's very impressive and supremely elegant red-bellied black snake, Joe's beautiful olives and coastal carpets which we have watched grow over the years, Peter's pig-nosed turtle, croc and goannas (including a Perentie), our largest exhibit Fingers the carpet python, and of course the delightful corroboree frogs provided once again by the Tidbinbilla breeding facility.

(‘Snakes Alive!’ Exhibition 2012 cont’d...)

And outside the Crosbie Morrison Building it was all happening as well. Steven Holland, one of ACTHA's newest members, brought along seven pairs of his beautiful brown snake bronzes which were creatively arranged at the entrance to the building, much to the consternation of the resident choughs and many other birds throughout the first morning. By the second morning, nearby birds no longer



Dr Andrew Leigh with Steve Holland, creator of the bronze snakes

acknowledged the presence of the bronzes, and by the Thursday a magpie happily wandered amongst them. The exhibition of eastern brown sculptures proved to be a valuable tool to reinforce the message that children should not touch or handle a wild reptile.

Our members supported us by volunteering in greater numbers than ever before; around 40 of them offered their time for anything from a day to the whole week, and that was over a wide range of ages as well. Approximately one third of these were our younger members who all enjoy each other's company, and who carried out a range of tasks, including helping out with the exhibits and attending the ‘shop’. Other members were on the entry desk, sold raffle tickets, manned the sound system, counted money, conducted the feeding sessions, did coffee runs - there wasn't a lot of down time!!!



Feeding times continue to be a worthwhile attraction as they are very popular. Peter Child conducted a couple in his own inimitable

style, and Ric's feeding of the elapids had the audience breathless and gasping. The larger pythons also put on an impressive show at feeding time that induced a few gasps as well. The anticipated media coverage by WIN TV and the Canberra Times, on which we rely,

did not eventuate this year, so in the days following our opening we did not get the normal media-induced bounces. In addition, our display week included the Australia Day holiday, and crowds were also down due to that. So, numbers were down (to around 2850, from 3800 last year), but the bright side to that was that our members were able to engage the public more than usual, and the animals would have been handled less as well, which is always a good thing.

The ‘shop’ and raffle still did a pretty good trade, and we shall finalise the finances and donations to corroboree frog causes as soon as possible.

We had our normal mid-week feast and drinks on the Wednesday evening and were treated to an absolutely wonderful presentation by Steven Holland, which traced the development of his use of reptiles in his art work. Everybody was wowed by his efforts, and much discussion followed.

Our Sunday evening get together to celebrate the end of yet another *Snakes alive!* was lively, and some already had ideas for next time!



Venomous exhibits: Death adder (above) and the Red-bellied Black Snake provided by The Reptile Sanctuary, Nicholls (below)



Special guest: A Green Tree Snake, who decided to have a nap on duty!



THE EVOLUTION OF AUSTRALIAN BURROWING ELAPIDS

Article by Peri Bolton

Peri Bolton completed her Honours degree with Prof. Scott Keogh at the Research School of Biology, Australian National University. Peri, who was our guest speaker at the October 2011 meeting, spoke about her research on Australian burrowing elapids of the genera: *Simoselaps*, *Brachyuropis*, *Neelaps* and *Vermicella*. Ed.



Peri with one of her study species *Simoselaps bertholdi*. Photo: Juliana Lazzari

The elapids were the first venomous snakes to arrive in Australia. As there were no competitors, this allowed them to speciate rapidly on their arrival from Asia 10-20 mya (million years ago). This adaptive radiation of elapids generated about 100 species and 33 genera with a variety of body forms, reproductive lifestyles and diets. During this time, Australia also experienced significant climatic changes associated with its northward drift away from Antarctica (once Gondwana). These changes included drying of the continent, the formation of our familiar Eucalypt vegetation and some of our desert landforms.

The Burrowing Elapids

The Australian burrowing elapids are a mostly nocturnal and cryptic species. My research is some of the first to focus exclusively on these snakes. These elapids consist of about 16 species, distributed primarily throughout the Australian arid zone and monsoon tropics. The diet of

elapids is also unique in that *Brachyuropis* specializes almost exclusively on eggs, and *Vermicella* on blind-snakes, whilst *Simoselaps* and *Neelaps* eat only some *Lerista* and *Ctenotus* skinks.

Questions

I sequenced the DNA of 117 individual burrowing elapids, including 16 species. Seven genes from the mitochondrial and nuclear genomes were used. Individuals were from museum specimens and were chosen from across their known range to capture any genetic structuring.

These were combined with pre-existing DNA sequence data from representatives of other Australian elapids and all snakes. I used these DNA sequences to reconstruct the evolutionary history of this group and built 3 phylogenies (evolutionary tree), which were used to address these questions (and many more not included here):

- ◇ What intra-specific genetic diversity exists within the burrowing species?
- ◇ Are there any cryptic species?
- ◇ When did diet specialisation and burrowing evolve in the context of elapid evolution and Australian aridification?

Intra-specific variation and cryptic diversity

To look at questions of intra-specific diversity, mitochondrial genes were used. The mitochondrion is an organelle in all animal cells; its DNA complement is small and separate from our main genome (with



Above: Egg specialist *Brachyuropis semifasciatus*. Note the upward turned rostral scale (nose), an adaptation for burrowing through sand.

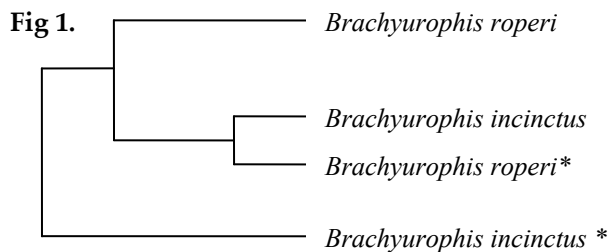


B. incinctus (left, photo: Matt Summerville) and *B. roperi* (right, photo: Dan Lynch) may actually be 4 or more species in a historically complex landscape!

chromosomes). These genes are extremely variable, and therefore contain a lot of information about recent evolution within and between species.

Burrowing species were found to have very different levels of genetic variation within each species. Some species had almost no genetic differences across their entire range; others had deep genetic differences. These genetic differences sometimes corresponded to geographic features within the range of the species. This provided a tantalizing hint that some of these species might warrant future research into their evolutionary history with respect to landscape features and history.

Cryptic species are a common phenomenon. They are considered as two or more species that are often classified as a single species. This is often owing to a very similar appearance, but investigating their genetics shows that they are distinct.



I discovered that the morphologically distinct, central-Australian and Top-end dwelling *Brachyuropis roperi* and *B. incinctus* appeared to contain cryptic species. The simplified phylogeny (Fig 1.) shows possible cryptic lineages, denoted by an asterisk. It shows that animals that look like *B. incinctus* are not more closely related to each other than to ones that look like *B. roperi*. These lineages also appear to inhabit different geographic regions. However, my data was, sadly, not detailed enough to revise the taxonomy of these species.

This cryptic diversity is a common theme for the monsoon tropics and arid regions. As biologists investigate species from these regions, more and more cryptic diversity is discovered. This is owing to a complex landscape history in these regions. The complex interactions of the landscape with the flora and fauna are only now becoming appreciated.

When did diet specialisation and burrowing evolve?

Some frogs and rodents are thought to have evolved burrowing as a response to increasing aridity. Burrowing buffers against temperature and water stresses experienced in arid climates. Burrowing is also facilitated by the creation of open, sandy habitats.

My hypothesis was that the evolution of burrowing in the elapids may have also been a response to aridification in Australia. The cold and dry Pleistocene period (~2.5mya-10kya) was responsible for the creation of much of the Australian deserts. Thus, if aridity sparked the evolution of burrowing, the age of burrowing groups would be similar to the date of the Australian deserts derived from geological and palaeontological records.

Alternatively, burrowing and diet specialisation may have evolved early in the history of the elapids, as part of the ecological diversification in the elapid adaptive radiation.

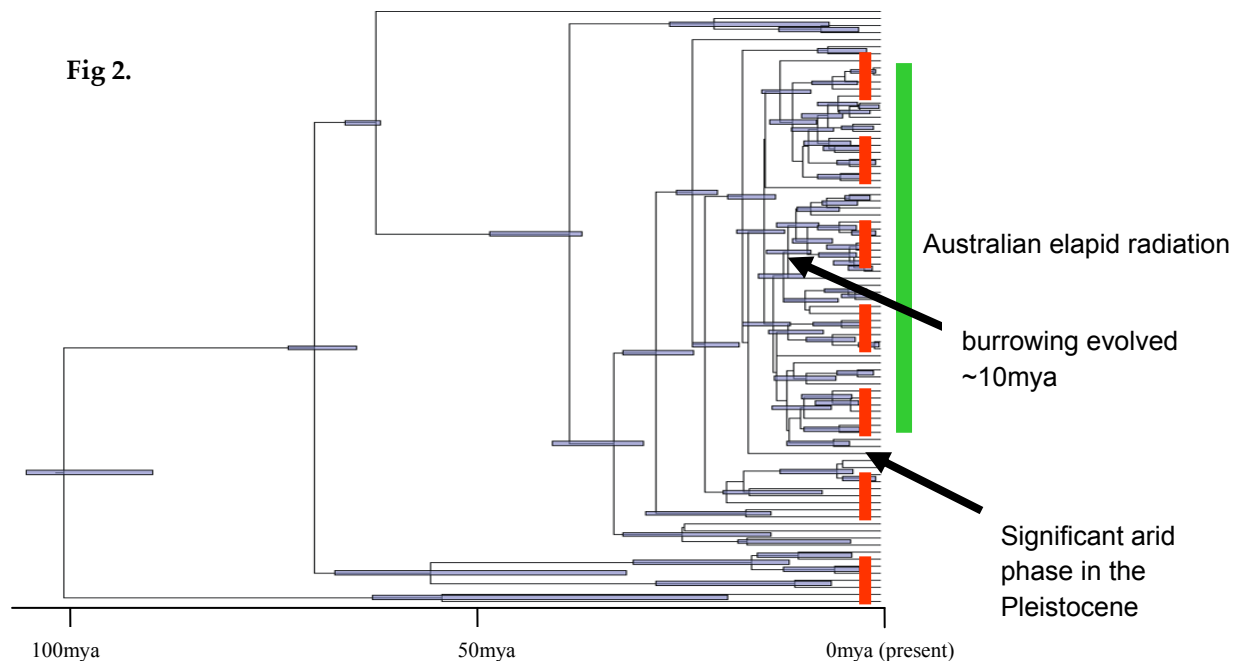
To test these hypotheses, a cut-down dataset with only representatives of each species of burrower was used. In collaboration with Vimoksalehi Lukoschek at James Cook University, a phylogeny was generated that used six snake fossils to estimate the age of living snake groups.

The dates on the phylogeny were compared against the date for a particularly dry period within the Pleistocene.

The phylogeny (Fig 2.) shows that burrowing evolved some 8-10 million years prior to the onset of the Pleistocene aridity.

This is not strong evidence for the role of aridity in sparking the innovation of burrowing in Australian elapids.

When the burrowers' key traits are mapped onto this phylogeny (i.e. small size, diet and burrowing), it appears that all of the key adaptations in this group evolved almost immediately after the elapid's arrival in Australia. Thus, burrowing evolved early as part of the adaptive radiation! However, when compared to other Australian elapid groups of equivalent age, the burrowers harbor less variation in diet and morphology.



This might be because, unlike other Australian elapids, the burrowers entered a very specialist niche very early in their history. Subsequent evolution of ecological and morphological variation was then constrained by the needs of burrowing, and competition with elapids in other possible niches.

My Honours research is the first genetic research on an understudied group of Australian elapids. This project has highlighted the need for future research concerning the burrowers, and the nature of ecological specialisation early in the history of the Australian elapids and I hope to tackle some of these questions in my research career.



This photo was taken by **'Geoff, Lushpup Images'** on the weekend of 17/18 December 2011 at Tidbinbilla Nature Reserve.

A pair of Red-bellied Black Snakes, *Pseudechis porphyriacus*, basking placidly in the sun.

"... aren't they beautiful!" Geoff writes.

Most definitely!! Ed.



THE AUSTRALIAN & INTERNATIONAL SCENE

Monaro grasslands reptile survey

Prepared for Groundcover, 23 December 2011

Over 4 days in late September 2011, Margaret Ning and Geoff Robertson's wonderful property, Garuwanga near Nimmitabel, was home to some 25 environmental students and staff from the **University of Canberra. Institute for Applied Ecology Masters student, Tim McGrath** led the students across the travelling stock reserves (TSRs) of the Monaro Tablelands in search of reptiles, in particular the cryptic and endangered Grassland Earless Dragon, *Tympanocryptis pinguicolla*. After a tutorial at Rock Flat TSR just north of Nimmitabel, students, most in their 3rd and final year of an environmental science degree, were given the challenge to design a project that looked at reptile diversity and the TSRs on the Monaro.

Students chose a design that involved active rock rolling across seven TSRs which included Nine Mile, Ravensworth, Avon Lake, Eight Mile Bobundara, Slacks Creek, Top Hut and Four Mile TSRs. The student's project also included the Kuma Nature Reserve as the control site. Students stratified the TSRs by landform (upper slope, plateaux and valley floor) and in conjunction with multiple rock turning surveys they undertook botanical surveys and measured habitat variables to investigate important habitat attributes for threatened grassland reptiles.

The project was a great success and each student presented their results in different and interesting ways. The project resulted in several important findings including the discovery of a new population of Grassland Earless Dragon some 20km north west of Cooma at Top Hut TSR on Dry Plain (also in a new habitat type for the species), a new southerly range extension for the Striped Legless Lizard on the Monaro with a discovery at Ravensworth TSR and healthy numbers of the Little Whip Snake recorded across the Monaro with numerous discoveries made.

The project identified a high diversity of reptiles across TSRs on the Monaro including a suite of threatened species at many of them. Students prescribed various management actions for the TSRs and highlighted the importance of further protecting the values of these important sites. Analysis of results identified Eight Mile Bobundara, Nine Mile, Ravensworth and Top Hut TSR as having standout conservation importance. Overall this project, initiated by Tim McGrath, has played an important role in improving our understanding of reptiles on the Monaro and the distribution of threatened reptiles across the landscape.

Special thanks to the Livestock Health and Pest Authority for permits to access and survey the TSRs and to Margaret Ning and Geoff Robertson for their hospitality.



A frog living beyond its usual range?

Janet Wild, ACTHA member, needs help to ID a new inhabitant in her toilet cistern.

"Here are some photos of my unknown frog. Location is near Mangoplah, about half way between Wagga Wagga and Albury (SW slopes NSW). habitat = grass / shrub understorey (er, actually my garden!) in *Eucalyptus blakelyi* / *E. macrorhyncha* woodland on granite mid-lower slopes. The frog has now taken up residence with the long-term resident Peron's Tree Frog in my toilet cistern. Has not been heard to croak.

Similar to adult Peron's Tree Frog in size, but no cross-shaped iris, nose is more pointy, and has horizontal black stripe through eye. Jumps well but last few days has been very quiet - I think due to the colder weather, though I do note that it's got a black mark on the right knee - might be an injury. Photos are actually of frog on the float inside the toilet cistern (not the easiest of sites to photograph!) as I'm trying to avoid disturbing it too much."

John Wombey replies: "The frog is a Broad-palmed Rocket Frog, *Litoria latopalmata*, the only ground Hylid this far south and inland. Many of the ground Hylids look similar and photographs such as these would not be enough to be sure of ID but in this case it is the only one present."

Will Osborne added: "They are spreading south, in the ACT as well. Frank Lemkert recorded them somewhere east of Wagga Wagga. He has written a note on his finding - I think in Herpetofauna about a decade ago.





ACTHA CHRISTMAS PARTY

13 December 2011

ACTHA members had a very social evening at Peter Child's 'Reptiles Inc.' premises in Kambah. We can't wait to see the finished display centre!



ACTHA News
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