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ODATRIA

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2012 REPTILE EXPO

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Odatria

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The VHS would like to thank the following individuals for their help & support:
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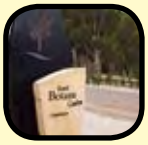

Cover Photograph:
Ridge-tail Monitor hatchling
Varanus acanthurus
by Shannon Plummer
www.shannonplummer.com

"Odatria" - Electronic Journal of the Victorian Herpetological Society
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EDITORIAL

by Brian Barnett

Short and sweet and to the point. When I became involved with the VHS this time around, it was not intended to be long term but for a period in which I believed that certain changes needed to be made to get the society on track again. A few of these changes have been made but the main lacking point is the involvement in the running of the society and implementation of ideas or changes. I made it quite clear over the past year that I could be persuaded to stay on and be involved if the workload could be shared more evenly. Needless to say, I was dreaming. This last year has presented me with several major health issues which now take priority over my involvement with the society.

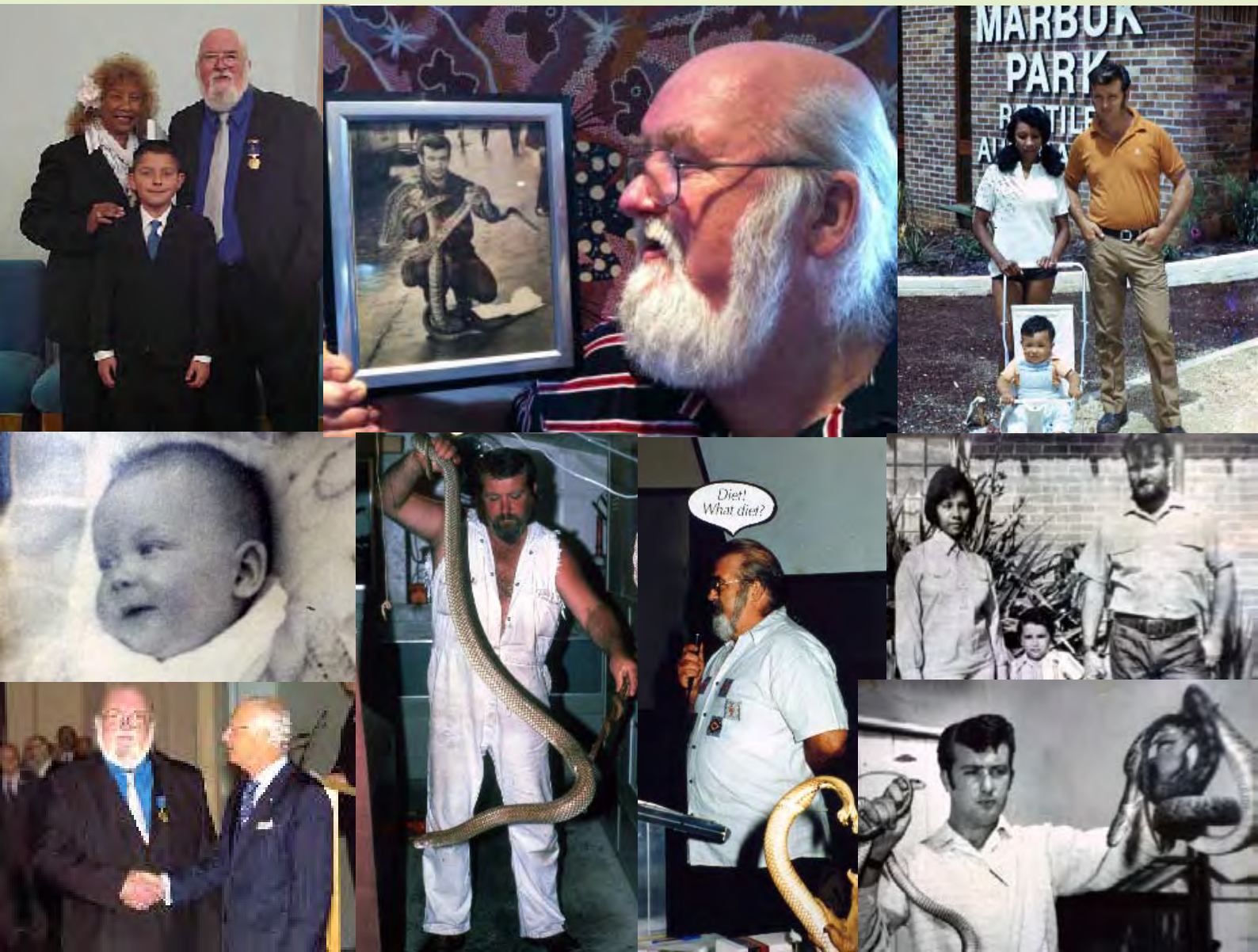
In some ways, it is with regret that I will be terminating my involvement with the society, which also includes any expo after this upcoming 2012 one.

Members need to group together and form a committee that is prepared to work and strive for the aims that the society has in mind. We need workers – not dreamers, regular contact – not time wasting meetings, just for the sake of. Members with self motivation, determination and the willingness to share workloads can breathe new life into this society.

I, naturally, wish you all luck and that the society continues to prosper,

Yours in herp,

Brian Barnett



THE HERPETOFAUNA OF THE ROYAL BOTANIC GARDENS CRANBOURNE

by Ollie Sherlock

The Royal Botanic Gardens Cranbourne (RBGC) is situated approximately 43 km south east of the Melbourne CBD on the South Gippsland Highway. The site is approximately 370 hectares in size and contains 250 ha of remnant native vegetation. This vegetation is a significant, high quality example of that which once covered the northern Mornington Peninsula and Westernport region and six distinct vegetation communities can be found at the site:

- Heathy woodland
- Wet heathland
- Grassy woodland
- Swamp scrub
- Wetland complex
- Grassland

Front entrance to the Royal Botanic Gardens Cranbourne
Photo: Grant Cameron

The site is a popular tourist attraction on the Mornington Peninsula and includes the Australian Garden (an award winning native display garden), the Stringybark Picnic Area, Woodland Picnic Area and assorted walking and cycling tracks.

The site is home to a diverse assemblage of fauna including: 25 species of mammal, 200 birds, 15 reptiles and 12 frogs.

I have worked at the gardens as a Land Management Technician for the past 12 years and during this time have been fortunate to explore the site extensively and study its herpetofauna.

The RBGC is well known amongst naturalists for its healthy populations of Eastern Tiger snakes *Notechis scutatus* and Lowland Copperheads *Austrelaps superbus*. These species are so plentiful that it is not uncommon for me to encounter up to half a dozen of these snakes in a typical summers day at work. The gardens has provided an ideal training ground for me to hone my skills in elapid handling, as I am often called to relocate snakes from the display gardens and buildings where they could potentially come into conflict with our visitors.

Mainland Tiger Snake (*Notechis scutatus)* in the Grassy Woodland
Photo: Ollie Sherlock

The Tiger Snakes feed on the plentiful supply of Swamp Rats *Rattus lutreolus* and Southern Brown Bandicoots *Isoodon obesulus* which occur across the site. We have also observed them on several occasions climbing bushes and trees to raid chicks from bird's nests. I have found that birds can often alert you to the presence of a snake long before you spot it by the alarm calls they send out to one another.

Copperheads would have to be one of my favourite snakes on the site, as they are generally such placid creatures and vary so greatly in colour across the Mornington Peninsula. At the gardens they thrive on the large frog populations around our wetlands and dams, frequently being mistaken

by our visitors for Red-bellied Black Snakes, a species I haven't encountered on the site.

Lowland Copperhead (*Austrelaps superbus)* at the Stringybark Picnic Area Photo: Ollie Sherlock

Two other more cryptic fossorial elapid species occur at the site: The Eastern Small-eyed Snake, *Cryptophis nigrescens,* and the White-lipped snake, *Drysdalia coronoides*. Over the years I have accidentally uncovered a number of Small-eyed Snakes whilst they are brumating in piles of garden mulch during the winter months. The increased temperatures created by the decomposing organic matter in the piles must attract them to these sites to see out the winter months. They are a nocturnal species and 'thigmothermic' meaning they rely on stored heat emitted by objects to maintain their desired body temperature rather than basking like other reptiles. This unfortunately attracts them to warm roads where they are vulnerable to being run over by cars at night. The White lipped Snake is a delightful little elapid with soft velvet like skin. Interestingly, it is Australia's most cold adapted snake (Wilson and Swan, 2003) being found above the snow line in many of our alpine areas and feeds almost exclusively on a diet of small skinks. Being 'fossorial' in nature - sticking to leaf litter and humus they are very rarely seen but can often be found sheltering under bark, rocks and debris during the day.

Jacky Dragon *Amphibolurus muricatus* backfilling a clutch of eggs
Photo: Sarah Turner

Walks through the Heathy Woodland over the summer months will often be rewarded by sightings of Jacky Dragons, *Amphibolurus muricatus*, the only dragon species at the site. They are delightful little dragons to watch as they dash about in the warm summer sun. I have often watched them when we carry out our ecological burns, moving along the edge of the fire cleaning up small insects fleeing the flames. They are masters of camouflage and can change colours quite dramatically to suit their mood at the time. Eggs are deposited in small holes dug in the sand and late last summer I was lucky enough to watch tiny hatchlings digging their way out of the ground - a delightful way to end a day's work in this magical place!

Blotched Blue-tongues, *Tiliqua nigrolutea,* are commonly sighted at the RBGC as they cross roads and tracks and we also have Common Blue-tongues, *Tiliqua scincoides,* on our fauna list. I have never sighted *T.scincoides* at the site and suspect this record may have been a relocated animal or an escaped pet.

Prescribed fire being used to regenerate ageing Wet Heathland at the Royal Botanic Gardens Cranbourne
Photo: Bronwyn Merritt

The wet heathlands and other wetlands onsite are home to populations of Swamp Skinks *Egernia coventryi* and I have been mapping their distribution across the site over the past 5 years to get a picture of preferred habitat. They are a charming skink and being members of the *Egernia* genus are quite robust in build often shimmering in the sun when sighted. I have often seen them out at temperatures as low as 16 deg. C so they are quite a cold tolerant species. The trick to spotting them is to move quietly along the margins of waterbodys, scanning logs, rocks and elevated foliage where they will often lay basking. Often the only indication you will get of their presence is a loud scurrying in the vegetation as they disappear out of sight. They are live bearers and produce 2 – 3 young each year in February / March.

Six other species of skink can be found at the site: White's Skink, *Egernia whitii*, Delicate Skink, *Lampropholis delicata*, Garden Skink, *Lampropholis guichenoti*, Weasel Skink, *Saproscincus mustelinus*, Bouganville Skink, *Lerista*

bougainvillii, and Eastern Three lined Skink, *Acritoscincus duperreyi*.

Sedge swampland the preferred habitat of the Swamp Skink (*Egernia coventryi*) Photo: Warren Worboys

The wetlands and dams are home to breeding populations of Long-necked Turtles, *Chelodenia longicollis*. I have observed several females depositing eggs in the sand next to waterbodys at night time and discovered a number of nests which were unfortunately dug up and destroyed by foxes. One year we had a wildfire burning in a dry peat swamp and whilst working to extinguish the peat we discovered 8 turtles sheltering under the dry peat awaiting the next rains, highlighting a survival strategy utilised by this species.

The RBGC is surrounded by an 8 km long feral proof fence designed to protect wildlife from fox predation. Since the installation of this fence we have discovered that unfortunately it restricts annual movement of turtles between the site and surrounding wetlands. Unfortunately they were walking back and forth along the fence line trying to get through and eventually dehydrating in the summer heat. To address this problem we have designed and installed 'turtle gates' along the perimeter fence to facilitate the annual migration of turtles between RBGC and wetlands on surrounding properties. Hopefully they will provide a solution to this complex issue.

So next time you're looking for a place to go herping close to Melbourne, why not consider spending a day at the Royal Botanic Gardens Cranbourne. I'm sure you won't be disappointed! Remember - take only photographs, leave only footprints and respect this hidden gem!

Happy Herping

REFERENCE

A Complete Guide to Reptiles of Australia, Steve Wilson and Gerry Swan, New Holland Publishers, Australia 2003.

Southern Brown Bandicoot (*Isoodon obesulus*) at the Royal Botanic Gardens Cranbourne Photo: Unknown

ABOUT THE AUTHOR

Ollie Sherlock grew up in the bayside suburb of Sandringham where his father ran a small veterinary practice. He grew up around animals and has memories of his father bringing home injured Blue-tongued Lizards and Long-necked Turtles which were often rehabilitated in a large outdoor pit in the suburban back garden and ultimately released back into the wild. He has been keeping reptiles for as long as he can remember and currently maintains a small collection of dragons, monitors, skinks and geckoes. Ollie works as a Land Management Technician at the Royal Botanic Gardens Cranbourne and runs a private snake relocation service in the south east Melbourne Suburbs and the Mornington Peninsula.

The author with pet Lace Monitor 'Bodie'

2012 VHS-Seca Reptile Expo

Royal Melbourne Showgrounds
18 February 2012

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Top Ten Most Exotic Frogs

So many different types of frogs around the world – there are few places on earth that don't have frogs. Technically speaking, the distribution of frogs ranges from tropic to subarctic regions, but most species are found in tropical rainforests. Consisting of more than 5,000 species described, they are among the most diverse groups of vertebrates. This list, from Lists O Plenty (plus a couple of extras), presents ten cool species of exotic frogs.

10. Chile Darwin's Frog (*Rhinoderma rufum*) The Chile Darwin's Frog is one of only two members of the family Rhinodermatidae. It is endemic to Chile. This species of frog exhibits a highly unusual form of parental care in that the tadpoles spend part of their life developing in the vocal sac of their father, where they 'hitch a ride' to a pool of water in their father's vocal sac where they complete their development from the tadpole to the frog form.

Very little is known about this species, but its natural habitats are probably temperate forests, rivers, and swamps. It is currently considered critically endangered, but as there have been no confirmed records since around 1980, it may already be extinct.

9. Pipa or Surinam Toad (*Pipa pipa*) The Surinam toad is the world's flattest amphibian—in fact, it looks like the victim of an unfortunate road accident. Yet this frog's unusual shape helps hide it among the leaves and plant debris in the streams they inhabit in the Amazon River Basin of South America. Like some of the other frogs above they have an amazing reproductive strategy: after the female lays eggs the male attaches them to the female's back. They stick to her skin, which grows to form pockets over them, giving her a honeycomb appearance. The tadpoles grow within these pockets and emerge as toadlets after 20 weeks.

8. Wallace's Flying Frog (*Rhacophorus nigropalmatus*) These frogs leap and glide from tree to tree by spreading out their huge webbed feet, like parachutes. They are rarely found on the ground except to mate and lay eggs. Their oversized toe pads help them stick to tree trunks and to land softly. Flying frogs inhabit the dense tropical jungles of Malaysia and Borneo.

7. Hip Pocket Frog (*Assa darlingtoni*) This is called a Male Marsupial Frog because like a kangaroo it carries

its young in pouches. It has two openings, one on each hip, where tadpoles develop. First the female lays eggs in damp sand, then they are guarded by the male, and finally they hatch into finless white tadpoles, which wriggle their way into the pouches. Only about half make it. They emerge 7 to 10 weeks later as froglets. Hip-pocket Frogs are terrestrial and live among leaf litter in the forest (and like a few of our other unusual frogs, they are only found in Australia).

6. Southern Gastric-brooding Frog (*Rheobatrachus silus*) This species was discovered in 1972 living in rocky creeks and ponds in the rainforest of Queensland, Australia. They have an amazing way of "bringing up baby." First the female swallows her eggs, then her digestion slows down and she stops feeding and the tadpole develops in her stomach. After six to eight weeks, she opens her mouth, dilates her esophagus and the babies crawl out. Sadly, this extraordinary frog is most probably extinct. The last wild Southern Gastric-brooding Frog was seen in 1981—the last known frog in captivity died in 1983. In this photo you can see a tiny froglet emerging from its mother's mouth.

5. Pinocchio Nosed Frog (*Litoria sp. nov.*) The Pinocchio-nosed Frog was discovered recently during a wildlife expedition to Indonesia's remote Foja Mountains in 2010. This long-nosed frog, a tree frog, has a spike on its nose that points upward when the male is calling but deflates and points downward when he is less active.

4. Amazon Horned Frog (*Ceratophrys cornuta*) This frog has the most eminent and elegant face of all amphibians. They are found in Amazon Basin and can grow up to 20 centimetres. They live on land and their unusual facial espression gives you the feeling that they don't like you!

3. The Turtle Frog (*Myobatrachus gouldi*) This unusual-looking frog looks like a turtle that has lost its shell. It has a short, blunt snout, little beady eyes, and short, fat limbs. It lives underground in burrows in sandy soil and chambers in termite colonies, upon which it feeds. During a few rainy nights in summer they emerge, mate, then burrow underground where the eggs are laid. Four to six months later the eggs hatch as fully formed froglets. The Turtle Frog only lives in the coastal plains and woodlands of extreme south-western Western Australia.

2. Ghost Glass Frog (*Centrolene ilex*) Glass frogs are nocturnal tree frogs that live in the humid forests of Central and South America. Their name comes from the translucent skin on the underside of their bodies. In many species the glass frogs' internal organs, even a beating heart, can be seen. This see-through skin helps them blend into the forest.

1. Ornate Horned Frog (*Ceratophrys ornata*) This frog is nicknamed the Pac-Man frog because of its enormous mouth and insatiable appetite. They are a sit-and-wait ambush predator and hide well-disguised on the ground or in leaf litter. Ornate Horned Frogs can swallow birds, insects, mice, or even other frogs whole. This species can be found in Uruguay, Argentina, and Brazil. We've thrown in another photo of this unusual frog.

These two frogs were not in the List O Plenty top ten, but we thought they were well and truly worthy of a special mention!

Tomato frog (*Dyscophus antongilii*) This frog is definitely NOT green! Colored as red a ketchup, the Tomato Frog's bright colour is meant to warn predators that it is not safe to eat. The frogs secrete a gummy substance that gets in a predator's eyes so it will drop the frog, which can then make a quick escape. The Tomato Frog is found only in Madagascar.

Water-holding Frog (*Cyclorana platycephala*) Unusual among frogs, water-holding frogs can catch prey—aquatic insects and small fish—underwater, lunging at the animals and stuffing them in their mouths with their arms. During the dry season they become inactive and burrow underground, secreting a mucous to line their burrows. This hardens around the body and enables the frog to retain water that might otherwise be lost due to evaporation. These frogs were traditionally used by indigenous people in Australia as a source of water. They would dig up the frogs, gently squeeze the water from them, and release them unharmed. Water-holding Frogs live in grasslands, temporary swamps, and clay pans in arid areas of southern Australia.

VHS MEETING REVIEW

by Andrew Owen

September 21 2011
David Kirshner

Another Wednesday night at Prahran RSL, it has now become the comfortable venue for our regular Victorian Herpetological Society meetings.

Heading off to the VHS meeting as a 'python only' herp keeper, I was thinking this meeting would be more about catching up with herp mates. A couple of minutes into David Kirshner's talk I was wide eyed and hanging on every word - how wrong can you be! When someone as enthusiastic and passionate as David speaks about something they are devoted to, you cannot help but become engrossed in their talk.

David comes across as a seasoned public speaker and was very thorough with his coverage of the first talk 'Captive Care of Monitors'. He did well to cater for people who have never kept a monitor while still giving some new ideas to those that do own monitors.

The photographs used to explain all aspects of the captive care of monitors were first class, but the real highlight of David's talk were his videos demonstrating the extraordinary activities and behaviours of his monitors.

Adult Lace Monitor

The feeding routine of David's adult Lace Monitors was shown on video; the male and female are required to be on separate vertical branches before getting their food. This minimises the chance of the lizards interfering with each others' food. David's Lacies have quickly picked up this routine due to their eager feeding response. David spoke of housing numerous juveniles in one enclosure, but due to the shyness of young Lace Monitors he would rarely see them feed. To be sure all of the monitors were eating and getting their fair share David set up his video camera on 'time lapse' and filmed their enclosure after placing a ramekin of fresh food into the enclosure.

Guest speaker - David Kirshner and a Komodo Dragon

The 'time lapse' sequence was filmed during the day while David was at work. He then watches the video when he returns home and by recognising each monitor's unique patterns, he can be sure all individuals are eating.

David's adult Lace Monitors are housed in a spectacular enclosure inside his home, in his living room to be exact. However, when he is home he often chooses to let the monitors out of their enclosure to roam the house or get comfy on the couch. David's attitude towards handling monitors, particularly Lace Monitors, is to let it happen gradually and by their choice. Juvenile Lacies are very nervous and forcing them to be handled to 'tame them' seems to have the opposite effect. David begins by gently touching/stroking the young monitors during feeding time while they are occupied with food. He then progresses to having them run onto his hand or arm while eagerly chasing food held on forceps. Slowly over time, the monitors can be lifted up when they have chosen to run onto the keeper's hand. This routine led to David being able to open his enclosure and place his hand inside. If the Monitor chooses to come out it simply walks onto David's hand to be lifted out. David showed this handling progression brilliantly through his videos. His final video showed his adult Lace Monitors at the front of their enclosure with an arm raised ready to be picked up and come out of their enclosure for a roam around. This video footage is without doubt the cutest adapted captive behaviour of a reptile I have ever seen!

After a break in which everyone got to have a good chin wag and catch up on all herp goss and breedings of the season David got into his second talk. The audience tucked into the pizzas supplied by the VHS as David talked about 'Captive Breeding of Monitors'.

Adult Lace Monitors lounging around

Once again David was extremely thorough with his coverage of the subject and presented his information excellently.

David is a big advocate of thorough record keeping. Witnessing and recording matings, ovulation & egg laying over the years has enabled him to fine tune his breeding techniques. He is now able to use this information to accurately predict dates for egg deposition.

David showed a photo of his adult Lace Monitors mating inside their enclosure and explained it was the first time he noticed copulation and the first year he bred his Lacies. However it would be the only time he would photograph copulation inside their enclosure. That's right, all subsequent matings have taken place outside their enclosure, inside David's home. Most notably on David's notorious floor 'rug', but occasionally on the couch, in the kitchen, even trying out the bedroom before being removed! Again David showed great footage of his Lacies mating and a 'time lapse' video of his pair 'working the rug' for several hours and numerous copulations.

Lace Monitors copulating on the rug

David explained how he sets up a lay box for his female to deposit her eggs and stressed the importance of temperature in the egg box. He uses a heat mat on a thermostat to hold the required temperature to encourage the female to use the box. Video footage showed his female laying eggs. At first she started with just her head out of the box, a shudder would signal an egg had been laid and she would slowly come further out of the box as each egg was deposited.

Incubation was well covered, including the long incubation time of Lacie eggs - 260 days. Most people in herp know that with breeding, patience is required, but monitor breeders are taking this to a new level!

Lace Monitor hatching

I thoroughly enjoyed David's talk and he certainly turned my interest towards these beautiful and inquisitive reptiles. His public speaking was as good as I've heard, and he did a great job of answering audience questions.

Adult and hatchling Lace Monitors

Guest speakers of this quality are why VHS meetings are a must for anyone interested in herp. The quality and quantity of knowledge taken away from that one night was fantastic. It would take much longer to gather this information from other mediums such as online forums.

David has posted many of his brilliant videos on 'YouTube', I strongly suggest you look up his user name- crocdoc2 and watch these great pieces of footage.

David Kirshner and a wild Lace Monitor

My Story

by Cherie Campbell

I would like to talk about my babies' growth and how I keep records and they all have their own colour coding so everything is easily kept separate. For example Jeremiah, Faith and Elijah all have their own rulers. Elijah has two as he is my Central Bearded Dragon (*Pogona vitticeps)* one is for his SVL and the other for his tail. He has turned 3 months old so he is now a juvenile and I measure and weigh my reptiles every month. Elijah was approx. 5.5cm SVL last month and this month he is 11cm so he has grown a lot and is also starting his third shed. I started with reptiles as I was at a place in my life 5 years after the death of my fiancé from a car accident. I have recovered a lot but never will be completely well again. But I was at a place where I didn't know what to do with myself so I decided I was going to fulfil my childhood dreams.

I grew up in Queensland and when I was a kid I used to chase around skinks. I have been in Victoria for about 6 years now, the skink I used to catch is actually called the Arcane Skink, *Ctenotus arcanus,* which I found out by reading my field guide to Australian reptiles. I also caught a bearded dragon from the wild when I was about 7. I didn't know that it was wrong back then, but he was fully grown. He must have been an Eastern Bearded Dragon, *Pogona barbata,* and I just took him off a tree and put him in my school bag; as I had seen on TV snakes going into bags. I called him Spike and we became the best of friends. He used to always lay on my chest and I would kiss his head.

There was a funny incident as Spike lived free range in my Dad's home as we knew little about how to care for a bearded dragon. All I knew was how to love him. My sister was walking down the stairs one day and Spike suddenly ran so fast between her legs to eat a cockroach that was on the other side of her, it scared her half to death - it was quite funny. Spike wouldn't eat anything I offered him so I decided, with the help of my dad, that we had to let him go back into the wild. I loved him so much and it was so hard for me but even as a little girl I wanted what was best for Spike. I remember when we let him go it was only 5 mins later and I picked him back up again for one last cuddle and kiss goodbye and off he went. Also I was about 17 when I first met my late fiancé Nigel living in Queensland.

We were in a rental home that backed on to a bush and I remember I caught another adult Eastern Bearded dragon. I kept him for a couple of days and observed him, and then I let him go. This reminds me of another experience I had with a juvenile Eastern Bearded dragon. I could see from out through the back sliding glass door a juvenile on a tree branch and I was so determined to check it out (this is when I was fit and Nigel and I used to bodyboard every Sunday on the Gold Coast). I remember I climbed a paper bark tree and while I was in the tree focusing on the dragon I also noticed the neighbours in their kitchen watching me, and I thought, "Great, they are going think their neighbour is like the crocodile hunter or something. But I was like - meh! I am determined to get hold of this juvenile". When I did oh! the reward was so good 'cos first thing I did with him (not knowing what sex it was) was took him over to Nigel's mother's home to show his Mum (basically my mother-in-law) and sisters an awesome bearded dragon in person. I figured because this one's small it should be fine, and I just was casual about it and had him on my arm and walked in the door. Of course you know I'm going say they freaked, so I put him on the kitchen table to walk around a bit (keeping in mind the health and well being of the animal with my watchful eyes). They started to gain interest and came closer so it was pretty cool sharing one of our native reptiles with family. They just didn't want to touch "it" or it to touch them.

Elijah my Central Bearded Dragon (*Pogona vitticeps)* when he first came home from Totally Reptiles.

I thought this juvenile was beautiful and was an effort to catch. I released him soon after in the same bush behind our house where I found him. Now I don't agree with illegally taking animals from the wild and keeping them as pets because I now know and understand the system..... let's just say I was very enthusiastic, and, man, I lived in Queensland a place where you don't have to go herping to see reptiles as they live in your back yard. I find it amazing however how these bearded dragons I took from the wild were so passive and friendly, and did not display once or show any aggressive or frightened behaviour. If that had been the case I would have left the lizard alone as I am fully aware when they are saying back off and I fully respect that as this is a wild animal that I am talking about.

I moved to Victoria in 2007 and was basically recovering from the accident and it wasn't until I got to that place when I bought my first turtle at age 26. I had always wanted a pet turtle and when I was a teenager I did have one for a while. I called him Coby (named after Kurt Cobain). He was rescued from the side of the road in north Queensland and was given to me from a friend at my mum's work. So Coby and I also became great friends. I remember specifically I hated sewing class at school and we had to make a stupid sewing pillow and to my surprise I did it well. I thought I

could try this with Coby as he slept under my bed, and sure enough, I couldn't believe my eyes one night as I looked under my bed and there was my full grown long necked turtle's neck stretched out with his head on the pin pillow. I was amazed and was so happy I had the coolest turtle in the world. He also lived in our salt water pool until one day he disappeared - I was really upset.

So back to the point where I was in my life when I didn't know what to do with myself so I decided to fulfil my childhood dreams and correctly raise a turtle and eventually a bearded dragon, then move on to geckos and a Lace Monitor one day, as I gain more experience with reptiles.

I started with Ezekiel – who was a Macquarie River Turtle. He was tiny when I brought him home, but he was sick and was only with me for about a month. I was devastated and got a tattoo of him on my arm in tribute. But this led to me being blessed with Jeremiah and Faith. Who are also Macquarie River Turtles (*Emydura macquarii macquarii)* as Mum said next time buy two turtles so they won't be lonely. So this time I read lots of books before hand and I found a reptile vet and have a close relationship with her and the pet store I bought my babies from who I can call on at any time for help and advice.

Jeremiah and Faith were 3cm long in shell length when I brought them home. Now they are both one year old and Jeremiah is a big boy 11.5cm in shell length and Faith is smaller but she is still 10.5cm in shell length. Jeremiah had always been bigger and my reptile vet Karen was so surprised how fast he grew. I feed my turtles baby turtle food blocks at 4:30pm every day and the amount of food changed as they grew. I also now put pellets into the cubes so they eat them too and lots of plants. Jeremiah and Faith love *Elodea*, Dragon Flame, Purple Waffle and *Vallisneria*.

Jeremiah (front) Male, and Faith (back) Female - My Macquarie River Turtles (*Emydura macquarii macquarii*)

Now I will tell you a bit about Elijah my Central Bearded Dragon (*Pogona vitticeps)*. I said to myself when the turtles turn one year old I am getting a bearded dragon as that was such a dream for me. But I couldn't wait. So I applied for a basic licence and recived it within a week, I was totally stoked about that as it enabled me to buy Elijah, with a full set up and enclosure from Totally Reptiles which is my favourite reptile store. Jodie is great and I am also currently paying off another enclosure that I am going to use for my female who is still to be born. I know who her parents will be however and the female is gravid. I'm going to call her Grace. My Elijah is a very well behaved great friend, I feed him small crickets and woodies with forceps. I use Rep-Cal calcium and vitamin D insect dust 5 days a week for breakfast and non dusted meals for dinner. The other two days a week I use Vetafarm calcium multi vitamin and mineral supplement for breakfast.

Elijah also eats fruit in the mornings and veges at night mixed with Vetafarm crushed lizard pellets. My boy is a good eater and he has maintained a great weight. He only just turned three months old, and as I mentioned before I keep records for all my reptiles but with Elijah I also keep a journal which I am going to finish after the first clutch of eggs have hatched and all babies have gone to good homes at the appropriate age after Elijah has first bred with Grace, who is the female I'm waiting on to be born. I know with babies it's only a fifty/fifty guess by the head, shape, size and structure, also of the tail. But this is where my faith comes in. I am a strong believer in The Lord and am very blessed. With Jeremiah and Faith I prayed for a boy and a girl and that's what I got, and more.

Elijah, my male Central Bearded Dragon (*Pogona vitticeps*) at three months of age

I am a fairly open person and I do have some aliments but my pets make me so much better, they bring joy into my life, I love to love them and I can see they love it too. I always make sure they have everything they need and Karen Davies, my reptile vet, has been a big help. Thank you Karen so much and the girls at direct vet services, I would also like to thank Adam from Victorian Reptiles for taking all my calls on advice for my reptiles, Jodie for supplying my baby's homes and everything for them to live comfortably and I would surely love to thank Kevin for the opportunity to write this article and such a warm welcome into the VHS.

I also Love Scales and Tails magazine and was so blessed to have a photo I took of my two turtles, Jeremiah and Faith, printed in the current issue as a favourite in the S.H.A.R.P. photo competition. Now Australia can see how beautiful my babies are. I feel very blessed indeed. I joined the VHS because I would like to learn as much as possible

and get to know other people who love reptiles as much as I do. I'm quite shy and have a touch of anxiety. I don't really know how to meet people but if you say hi to me that will surely help me blend in. I hope to get to know all of you very well.

Photo of Jeremiah (left) and Faith (right), entered into Scales and Tails S.H.A.R.P. Competition and was printed as a favourite in issue 19

In the near future I'm looking at welcoming some geckos into my family. The species I want to start with is a Smooth Knob-tailed Gecko, *Nephrurus levis,* breeding pair, as well as Centralian Prickly Knob-tailed Gecko, *Nephrurus amyae,* and also a pair of Northern Dtellas, *Gehyra australis,* so if any of you are breeding any of these species please give me a shout as we may be able to work together.

Peace

CHERIE CAMPBELL

As mentioned I keep growth charts of all my reptiles this is Elijah's, my Central Bearded Dragon, it covers a visual size reference, his age, weight, SVL and tail in cm, it also documents his diet. Elijah was brought home on the 27-06-2011. So I update his chart on the 27th of each month.

These are Jeremiah and Faith's growth charts, my male and female Macquarie River fresh water Turtles, Jeremiah my boy grew big fast, Faith is still tagging along behind, they are both very beautiful and if you look at the very first photo you can see how small Jeremiah and Faith were when I first brought them home, their charts are similar to Elijah's, recording shell length, weight and age. They are now one year old and I actually had a first birthday party for them.

EDITORS NOTE: Many thanks Cherie for sharing with us your journey and the love that you have for your herp companions. We look forward to catching up with you at the AGM in December and next year's Expo. We also look forward to hearing from any others out there who wish to share some aspect of their journey into herp. Please contact us at vhs@optusnet.com.au

NEXT VHS MEETING

Wednesday 7 December 2011
7:15pm - 10:30pm

PRAHRAN RSL - 301 HIGH STREET - PRAHRAN

OLLIE SHERLOCK

RUSSELL GRANT

BRIAN BARNETT

VICTORIAN HERPETOLOGICAL SOCIETY
Bringing together Victoria's reptile enthusiasts for over 30 years...

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SNAKE BITE

Managing a snake bite

Signs & symptoms

- puncture marks or scratches
- nausea, vomiting and diarrhoea
- headache
- double or blurred vision
- drooping eyelids
- bleeding from the site
- breathing difficulties
- drowsiness, giddiness or faintness
- problems speaking or swallowing
- pain in the throat, chest or abdomen
- respiratory weakness or arrest
- dark urine

WARNING

DO NOT wash venom off the skin

DO NOT cut the bitten area

DO NOT try to suck venom out of wound

DO NOT use a tourniquet

DO NOT try to catch the snake

Management

1. **Follow DRSABCD**
2. **Rest and reassure the patient**
3. **Apply a pressure immobilisation bandage**
   - if on a limb, apply a broad pressure bandage over the bite site as soon as possible
   - apply a firm heavy crepe or elasticised roller bandage starting just above the fingers or toes, and moving upwards on the limb as far as can be reached (include the snake bite)
   - apply tightly without stopping blood supply to the limb
4. **Splint the bandaged limb**
5. **Ensure the patient does not move**
6. **Write down the time of the bite and when the bandage was applied**
   - stay with the patient
   - check circulation in fingers or toes

In an emergency, call triple zero (000) for an ambulance

For more information on St John first aid training and kits, visit www.stjohn.org.au or freecall 1300 360 455

HERP HAPPENINGS

Rapid Venom Evolution in Pit Vipers May Be Defensive; Marsupials That Prey On Venomous Snakes Also Evolve Rapidly

Research published recently in PLoS ONE delivers new insight about rapid toxin evolution in venomous snakes: pitvipers such as rattlesnakes may be engaged in an arms race with opossums, a group of snake-eating American marsupials.

Although some mammals have long been known to eat venomous snakes, this fact has not been factored into previous explanations for the rapid evolution of snake venom. Instead, snake venom is usually seen as a feeding, or trophic, adaptation. But new molecular research on snake-eating opossums by researchers affiliated with the American Museum of Natural History suggests that predators factor into the rapid evolution of snake venom.

"Snake venom toxins evolve incredibly rapidly," says Robert Voss, curator in the Department of Mammalogy at the American Museum of Natural History. "Most herpetologists interpret this as evidence that venom in snakes evolves because of interactions with their prey, but if that were true you would see equally rapid evolution in toxin-targeted molecules of prey species, which has not yet been seen. What we've found is that a venom-targeted protein is evolving rapidly in mammals that eat snakes. That suggests that venom has a defensive as well as a trophic role."

Several groups of mammals are known for their ability to eat venomous snakes, including hedgehogs, mongooses, and some opossums. Opossums, which belong to the marsupial family Didelphidae, consist of about one hundred known and several dozen undescribed species. Most of these opossums live in Central and South America, although there is one representative in the north that is familiar to those who spend time outside at night: the Virginia opossum.

Some didelphids, including the Virginia opossum, are known to eat rattlesnakes, copperheads, and some species of tropical pitvipers known as lanceheads. All of these pitvipers have venom containing dozens of highly toxic compounds, including many that attack blood proteins, causing massive internal hemorrhaging in nonresistant warm-blooded prey species, mainly rodents and birds.

The new research came out of a previous phylogenetic study of marsupials, published as a Bulletin of the American Museum of Natural History, that suggested unusually rapid evolution in one gene among a group of snake-eating opossums. The rapidly evolving gene codes for von Willebrand's factor, an important blood-clotting protein that is known to be the target of several snake-venom toxins. The association of rapid evolution in a venom-targeted gene among just those opossums known to eat pitvipers was the essential clue that prompted further study.

Virginia Opossum (*Didelphis virginiana*)

"This finding took us by surprise," says Sharon Jansa, associate professor in the Department of Ecology, Evolution and Behavior at the University of Minnesota and a Museum research associate. "We sequenced several genes -- including the one that codes for von Willebrand Factor (vWF) -- to use in a study of opossum phylogeny. Once we started to analyze the data, vWF was a real outlier. It was evolving much more rapidly than expected in a group of opossums that also, as it turns out, are resistant to pitviper venom."

The recently published research demonstrates that the rate of replacement substitutions (nucleotide changes that result in amino-acid changes) is much higher than the rate of silent substitutions (nucleotide changes that have no effect on the protein) in the von Willebrand Factor gene among pitviper-eating opossums. Typically, high rates of replacement substitutions means that the gene is under strong, sustained natural selection. That only happens in a few evolutionary circumstances.

"Most nucleotide substitutions have little or no effect on protein function, but that doesn't seem to be the case with vWF in these venom-resistant opossums," says Jansa.

"The specific amino acids in vWF that interact with toxin proteins show unexpectedly high rates of replacement substitutions. These substitutions undoubtedly affect protein function, suggesting that the vWF protein can no longer be attacked by these snake toxins."

"It is so uncommon to find genes under strong positive selection, that the exceptions are really interesting and often conform to one evolutionary circumstance when two organisms are coevolving with each other," says Voss. "We've known for years that venom genes evolve rapidly in snakes, but the partner in this arms race was unknown until now. Opossums eat snakes because they can."

Science Daily
July 2011

Twenty Endangered Siamese Crocodiles Hatch In Laos

VIENTIANE, Laos (AP) -- One of the world's rarest crocodile species has moved a little bit further from extinction with the hatching of 20 wild eggs plucked from a nest found in southern Laos.

Experts believe there could be as few as 300 Siamese crocodiles remaining in the world's swamps, forests and rivers, so the discovery of the nest - the first found in the mountainous, jungle-clad country since 2008 - is a significant step in the rehabilitation of a species that was declared extinct in the wild in 1992.

Since then, tiny populations have been discovered in remote corners of its range, which used to include most of Southeast Asia. Still, the crocs remain critically endangered, according to the International Union for Conservation of Nature's Red List, the acknowledged authority on the status of global biodiversity.

Under the soft red light of an incubator, the 20 baby crocodiles tapped and cracked their way into the world last week. Their nest was found in the southern province of Savannakhet in June by a team of villagers trained by the New York-based Wildlife Conservation Society, which is working to save the species in landlocked Laos.

"The feeling was one of elation," Chris Hallam, who coordinates the organization's crocodile project in Laos, told The Associated Press about the hatching.

"When you look at the global population and the population in Laos it represents quite a significant number of individual crocodiles," he said.

The crocs were hatched at the Lao Zoo, just outside Vientiane, where they were moved to protect them from predators such as snakes and monitor lizards.

Hallam said the crocodiles will be raised in captivity for 18 months before being released back into the wild.

And it seems they won't be alone. Villagers recently found another nest in Savannakhet with 20 eggs inside. Because those crocs are so near to hatching, conservationists decided to leave them where they are with village teams keeping an eye on them.

A baby Siamese crocodile hatches from an egg at the Lao Zoo outside Vientiane, Laos. Photo: Wildlife Conservation Society

The Siamese crocodile grows up to 10 feet (3 meters) in length but is generally docile. Their passive nature made them all the easier to hunt. In recent decades thousands were captured and sold to crocodile farms that sprung up across Southeast Asia, feeding a vogue for its renowned soft skin and a taste for its meat.

Several thousand of the crocodiles remain in farms and in zoos, though many have been crossbred with bigger species, reducing still further the numbers of pure Siamese crocodiles.

JERRY HARMER
Associated Press
August 2011

Man Suspected Of Stealing Snakes Stuffed In His Pants

A Mesa man was arrested on theft charges after police said he was caught on video trying to steal an Albino Boa Constrictor and other exotic reptiles by stuffing them down his pants.

Eric Fiegel, 22, was arrested at 3:40 p.m. Tuesday after police reviewed surveillance footage from a pet shop that shows a man stealing baby albino boa constrictors July 30 from Predator's Reptile Center in Mesa by placing them in his pants and exiting the store, according to Mesa police.

Police said he reportedly entered the store, removed several baby snakes from their cage, and exited without paying. He allegedly returned later in the evening and left with several more snakes hidden in his pants, police reported.

According to police, Fiegel then traveled to another pet store and traded several of the snakes for $175 and a large reptile tank valued at $175.

A witness obtained a license plate number which police used to locate Fiegel.

Fiegel was later positively identified from a police lineup by two witnesses and also from the surveillance footage that showed him placing the snakes in his pants, according to a police

ALEX FERRI
The Arizona Republic
August 2011

Aussie Snake Smuggler Snared

German customs officers have found 36 live snakes in the hand luggage of a young Australian traveller.

The officials had no idea of the shock they were about to get when they asked a 22-year-old to open his bag on arrival at Munich airport.

"This was the biggest seizure of live snakes at the airport in 10 years," customs spokesman Thomas Meister said.

Fangs for nothing! An animal handler displays some of the young pythons found in a young Australian's hand luggage at Munich

The Australian, a fitness trainer whose named was not released, was going through the "green" nothing-to-declare exit when he was pulled over after flying in from Sydney on August 29, the spokesman added.

The snakes, all of them young pythons about 30cm in length, included a rare "very valuable" white specimen, he added.

The smuggler was remanded in jail.

AFP
September 2011

Tropical Frogs Shedding Light On Human Hearing and Attention Disorders

A study conducted by Hamilton Farris, PhD, Research Assistant Professor of Neuroscience and Otorhinolaryngology at LSU Health Sciences Center New Orleans, reveals new information about the way tungara frogs in the tropical rain forest hear, sort, and process sounds which is very similar to the way humans do. The knowledge could be applicable to communication disorders associated with hearing loss and attention deficits or difficulties.

Dr. Michael Ryan at the University of Texas, Austin, collaborated on the study, published online in Nature Communications on August 2, 2011.

"An important component of successful communication is being able to tell which sender among many is sending the signal," explains Dr. Farris. "In auditory neuroscience it's called the 'cocktail party problem.' A good example of a mistake in source assignment is when a ventriloquist performs."

To understand how the brain solves the cocktail party problem -- assigning sounds to their correct source in a noisy or multi-source environment -- the researchers chose to study the tungara frog because, unlike other subject species, it easily performs this complex behavior. The way it communicates is also a research asset. Male tungara frogs produce complex calls (not just repeated notes) consisting of two components that are speech-like: the vowel-like "whine" and the consonant-like "chuck."

For female tungara frogs, assigning the distinct components of male calls to the correct source is particularly challenging because males sing in aggregations, producing overlapping calls that lead to perceptual errors just like at a cocktail party. But, it's particularly important to the mate-searching female that she can accurately distinguish the male whose call she prefers from all of the others.

Using the labs at the Smithsonian Tropical Research Institute in Panama, Drs. Farris and Ryan investigated two types of cues/parameters of the call -- spatial separation and call syntax -- as potential cues for proper source assignment. Interestingly, they found that the frogs, like humans, use relative comparisons to form auditory groups that are assigned to the same source. This means that they take the available sounds and then group those that are most similar. And they are more likely to group the two components with the smallest relative differences in call parameters. This is a flexible strategy that humans use in some conditions as well.

"Thus, in noisy, complicated environments, the cognitive solution is not based on absolute stimulus rules, but one which compares all the sounds and then deduces their sources," concludes Dr. Farris. "Based on our research, we now have a better understanding of how the acoustic cues are used to solve the problem, an understanding that will guide research advances to solve communication problems associated with hearing deficits and disorders of attention."

Science Daily
August 2011

First Lizard Genome Sequenced: Green Anole Lizard's Genome Sheds Light On Vertebrate Evolution

The green anole lizard is an agile and active creature, and so are elements of its genome. This genomic agility and other new clues have emerged from the full sequencing of the lizard's genome and may offer insights into how the genomes of humans, mammals, and their reptilian counterparts have evolved since mammals and reptiles parted ways 320 million years ago. The researchers who completed this sequencing project reported their findings August 31 online in the journal Nature.

The green anole lizard (*Anolis carolinensis*) -- a native of the Southeastern United States -- is the first non-bird species of reptile to have its genome sequenced and assembled. Broad researchers have assembled and analyzed more than 20 mammalian genomes -- including those of some of our closest relatives -- but the genetic landscape of reptiles remains relatively unexplored.

"Sometimes you need to be at a certain distance in order to learn about how the human genome evolved," said Jessica Alföldi, co-first author of the paper and a research scientist in the vertebrate genome biology group at the Broad Institute. "You have to look out further than you were looking previously."

Lizards are more closely related to birds -- which are also reptiles -- than to any of the other organisms whose genomes have been sequenced in full. Like mammals, birds and lizards are amniotes, meaning that they are not restricted to laying eggs in water. "People have been sequencing animals from different parts of the vertebrate tree, but lizards had not been previously sampled," said Kerstin Lindblad-Toh, scientific director of vertebrate genome biology at the Broad and senior author of the Nature paper. "This was an important branch to look at."

The green anole lizard (*Anolis carolinensis*) -- a native of the Southeastern United States -- is the first non-bird species of reptile to have its genome sequenced and assembled

Four hundred species of anole lizards have fanned out across the islands of the Caribbean, North America, Central America, and South America, making them an appealing model for studying evolution. Although much is known about their biology and behavior, genomic information may be a critical missing piece for understanding how the lizards have become so diverse. "Anoles are rich in ecology and morphology and have just the right amount of diversity to make them interesting yet tractable to study," said Jonathan Losos, an author of the paper, professor at Harvard University, and author of the book Lizards in an Evolutionary Tree: Ecology and Adaptive Radiation of Anoles. "But a big stumbling block in studying them has been that they have not been great organisms for classical genetic study. The genome is going to revolutionize our ability to study that aspect of their evolutionary diversification."

One of the questions this newly sequenced genome may help resolve has to do with the origin of conserved, non-coding elements in the human genome. These regions do not contain protein-coding genes but are thought to have critical roles since they have remained unchanged for millennia.

Scientists wondered where these mysterious elements came from and hypothesized that they may be the relics of transposons -- jumping stretches of DNA that were at one time able to copy and paste themselves throughout the genome. In humans, many of these so called "jumping genes" have lost their jumping ability, but in anole lizards, they continue to hop.

"Anoles have a living library of transposable elements," said Alföldi. The researchers aligned these mobile elements to the human genome, and found that close to 100 of the human genome's non-coding elements are derived from these jumping genes. "In anoles, these transposons are still hopping around, but evolution has used them for its own purposes, turning them into something functional in humans."

In addition to insights into human and mammalian genomes, the anole lizard's genome also offers up clues about how lizard species evolved to populate islands in the Greater Antilles. Much like Darwin's finches, anoles adapted to fill all of the ecological niches the islands have to offer. Some lizards have short legs and can walk along narrow twigs; others are green in color with big toe pads suited for living high up in trees; others are yellow and brown and live in the grass. But unlike the finches, lizards on different islands have independently evolved diverse communities of these twig, canopy, and grass dwelling species -- almost identical lizard species have evolved in parallel on the islands of Hispaniola, Puerto Rico, Cuba, and Jamaica.

"These lizards have been compared to Darwin's finches and in many respects they are similar," said Losos. "They show the workings of natural selection as species adapted to different habitats. But the difference is in the case of the lizards, this evolution has happened four times, once on each of the different islands."

By sampling the genomes of more than 90 species, the researchers were able to make a preliminary map of how these species evolved to colonize the islands.

“This is setting the stage for the research community to be able to look for signatures of adaptation in a very informative and well thought through way,” said Lindblad-Toh.

The researchers were also able to create a parts list of proteins found in green anole eggs, which they compared with those found in eggs from chickens and found that both bird and lizard egg genes are evolving rapidly. They also found many genes in the anoles genome associated with color vision, which anoles rely on to identify choice mates (males and females of some species display vividly colored flaps of skin beneath their necks called dewlaps).

“Anoles have extremely good color vision -- some species can even see in the ultraviolet range,” said Losos. Other studies have shown that anoles can distinguish between similar colors and patterns. “It’s pretty clear that one function of the dewlap is to distinguish one species from others and that they use the dewlap to determine whether another individual is in another species or not.”

The researchers performed the first analysis of several other unusual features in the anole genome, including microchromosomes -- tiny chromosomes sometimes found in reptiles, amphibians, and fish but never in mammals. They also found a complete lack of isochores, regions of the genome with high or low concentrations of the nucleotides “G” (guanine) and “C” (cytosine) which give human chromosomes a distinct banding pattern.

Additionally, the team found the sex chromosomes of the lizard -- something that researchers had only been able to hypothesize about before. Like mammals, green anoles appear to have XX and XY chromosomes (unlike birds, in which males have two identical sex chromosomes called ZZ and females have two different ones known as ZW). The lizard’s X chromosome turned out to be one of its many microchromosomes.

Each of these insights is the fruit of collaborative efforts among scientists with expertise in the study of proteins, gene family evolution, green anole behavior and biology, computational analysis, and more. “This work represents a partnership between biologists and computational biologists,” said Federica Di Palma, a co-first author of the paper and assistant director of the Broad’s vertebrate genome biology group. “We were able to leverage all of these views to gain insight into genome evolution in general.”

Other researchers who contributed to this work include Manfred Grabherr, Christina Williams, Lesheng Kong, Evan Mauceli, Pamela Russell, Craig B. Lowe, Richard Glor, Jacob D. Jaffe, David A. Ray, StephaneBoissinot, Andrew M. Shedlock, Christopher Botka, Todd A. Castoe, John K. Colbourne, Matthew K. Fujita, Ricardo Godinez Moreno, Boudewijn F. ten Hallers, David Haussler, Andreas Heger, David Heiman, Daniel E. Janes, Jeremy Johnson, Pieter J. de Jong, Maxim Y. Koriabine, Peter Novick, Marcia Lara, Chris L. Organ, Sally E. Peach, Steven Poe, David D. Pollock Kevin de Queiroz, Thomas Sanger, Steve Searle, Jeremy D. Smith, Zachary Smith, Ross Swofford, Jason Turner-Maier, Juli Wade, Sarah Young, AmonidaZadissa, Scott V. Edwards, Travis C. Glenn, Christopher J. Schneider, Eric S. Lander, Matthew Breen, and Chris P. Ponting.

Funding for this work was provided by the National Human Genome Research Institute (NHGRI) with early support for anole genomics from the David and Lucile Packard Foundation. All sequence data was produced by the Genome Sequencing Platform of the Broad Institute

Science Daily
August 2011

New Zealand Man Jailed For Snake Smuggling

A python illegally smuggled into New Zealand has earned a Feilding man four months in prison.

The jungle carpet python was put down after Agriculture and Forestry Ministry officials seized it from a Feilding property in March.

Nathan Bush, 38, was sentenced to four months in prison yesterday, after he pleaded guilty in the Palmerston North District Court to acquiring a snake.

SNAKES ALIVE! The jungle python is not wanted in a snake-free New Zealand

Judge Russell Callander condemned Bush’s behaviour, saying it was vital New Zealand be kept snake-free. He hoped the sentence would act as a deterrent to other would-be snake handlers.

The sentence has been welcomed by MAF.

There are no native snakes in New Zealand, and snakes are prohibited.

It is believed the snake, which was less than a year old, was illegally imported from Australia. The jungle carpet python is a non-poisonous subtropical species found in Queensland Australia.

A snake-care website describes the species as "a medium sized python which is slender and graceful in appearance. It has a thin neck and a head that is said to resemble that of a dragon".

Adults can reach up to 2 metres in length.

By law anyone who becomes aware of a snake in New Zealand is required to notify MAF.

Dominion Post
August 2011

Snakebites a Public Health Problem in Africa

One and a half million people per year are poisoned by snake venom in Sub-Saharan Africa. An IRD researcher recently analysed around 100 surveys and medical reports published over the past 40 years. No large-scale study of the situation had hitherto been conducted and public health authorities had underestimated the size of the problem. This means that currently only 10% of victims are treated, owing to a shortage of antivenoms* and lack of awareness among health care practitioners. Yet the clinical complications can be very serious, even fatal. A bite from a cobra or mamba can bring on death by asphyxia -- due to respiratory paralysis -- within 6 hours of the incident. Venom injected by the ocellated carpet viper, common in the African savannah, can cause hemorrhages leading to the victim's death in a few days.

This new study provides authorities with more detailed and reliable figures which should enable them to readjust their health-care services in better tune with needs.

For snakes the best form of defence is attack. Some show complete ruthlessness when they sense they are under threat. They all have their methods. The Gaboon viper, for example, injects its venom very deep into the muscles with its 5 cm long fangs. The spitting cobra blinds its victims with its venom. And although only one out of two snake bites is venomous, these reptiles are still a real danger for humans. The number of incidents is considerable, especially in Sub-Saharan Africa where they represent a sizeable public health hazard, though neglected by the health authorities.

ONE AND A HALF MILLION ENVENOMINGS

Every year over 300 000 people living South of the Sahara have to be treated after a snakebite, as the IRD researcher has shown. However, many cases are not reported, given the difficulty of access to health centres and the frequent reliance on traditional medicine. That figure therefore does not reflect the complete number of envenomings and specialists consider it to represent only between one-third and one-fifth of the real amount. This new study thus indicates up to one and a half million victims per year. Mortality resulting from a bite -probably also underestimated- can reach 7 000 and limb amputations range from 6 000 to over 14 000 per year.

Although many one-off studies have improved estimates, no large-scale survey had hitherto been conducted. Aiming to make up for the gaps, the IRD specialist performed a meta-analysis, a critical review of existing scientific works, taking the representativeness1 and heterogeneity of their results into account. He therefore studied in fine detail 100 or so scientific articles, conference proceedings and clinical reports published between 1970 and 2010. This thorough survey yielded much more reliable figures for the number of patients who were victims of snake bites.

King cobra. A bite from a cobra or mamba can bring on death by asphyxia -- due to respiratory paralysis -- within 6 hours of the incident

WORKING IN THE FIELDS: A HIGH-RISK ACTIVITY

These studies also highlighted the situations most likely to favour biting incidents: 95% of bites occur in rural areas, particularly in plantations. The people most at risk are therefore agricultural workers. And in Africa, agriculture is the main economic activity.

Urban areas are not spared from such incidents either, even if the incidence of bites is from 10 to 20 times lower than in rural settings. In some regions therefore, in the

rainy season, envenomings represent over 10% of hospital admissions.

DEVASTATING BITES

In the most dangerous African snake species, two types of venom can be distinguished: the neurotoxic venom of the cobras and mambas, and the hemorrhagic and necrotic type of the vipers -including the ocellated carpet viper, the most widespread in the savannah. In other words, the first type causes respiratory paralysis, which can kill the victim by asphyxia between 1 and 6h after the bite. The second induces oedema and necroses in the limbs plus hemorrhage which can prove fatal in just a few days. The effective treatment remains intravenous injection of antivenom as swiftly as possible after the bite, in order to neutralize the toxic substance.

A VICIOUS CIRCLE

The availability of these antidotes is currently restricted and only 10% of venomous snake bites are treated. Shortage of data has meant that up to now the problem remained underestimated by the health authorities. Moreover, these remedies are costly and the duration of their effect is short -3 to 5 years- which discourages people from keeping up stock supplies. In such situations, it is difficult to define the budgets and allocate funds for snakebite management and for setting up the necessary schemes for awareness-building among health-care professionals. Without training for such medical personnel in the use of antivenoms, treatment can give disappointing results, subsequently deterring people from using them. These chain reactions reduce demand. Manufacturers then hesitate before producing antivenoms they cannot be sure of selling. In the end this process diminishes their accessibility. The number of doses sold has been divided by ten in Africa since the 1980s, falling from 200 000 per year to less than 20 000 in the early 2000s.

This survey presents some realistic figures for needs in antivenom. The researcher's results indicate the need for an estimated 500 000 doses each year. The health authorities of these countries can now use these data as a basis for improving the quality of health care provided for victims and for organizing a counting and surveillance system.

Science Daily
August 2011

Snake Used In Attack: Police

AA MAN is facing a string of charges after allegedly threatening police with a large snake during a bizarre stand-off in Maroochydore yesterday.

The man was arrested after police claimed he threatened them with the 1.5 metre-long snake at the scene of a motor vehicle accident on Sugar Road.

Stunned passersby and staff from nearby businesses watched in amazement as the three-vehicle crash took an unexpected twist and reached bizarre heights shortly after 9.45am.

Police said a heavyset 178cm New Zealander who was not involved in the crash, walked straight into the action of emergency services with a Murray Darling carpet python draped across his shoulders.

They said the 29-year-old then attempted to throw the 50mm-wide snake through the window of a police car and on to a male officer sitting in the vehicle.

Witnesses said the man was verbally abusive throughout the incident, shouting expletives at police officers before leaving on foot with the mellow snake still draped around his shoulders.

Witnesses said the barefoot man also waved the snake in the faces of several onlookers.

A second police crew called to the crash ran after the reptile-wielding man and a scuffle broke out before he was subdued.

"Police attempted to grab the man who was verbally abusive, but the snake got in the way," a police spokesman said.

"One of the police officers grabbed the snake and lobbed it about 10 metres away."

Both officers were able to detain the suspect without the use of a Taser or capsicum spray.

The police spokesman said a male friend of the man, who was close by, collected the snake and was able to confirm the man in custody had a permit for the reptile.

The Murray Darling carpet python is non-venemous and can grow to about 2.5 metres long.

They are a popular choice for people wanting to keep a snake as a pet, because of their placid nature.
Police said the snake was not harmed in the incident and was recovering well.

The New Zealander was charged with assaulting police, obstructing police and being a public nuisance.

He was released on bail and will appear in Maroochydore Magistrates Court on September 18.

NIKKII JOYCE
Sunshine Coast Daily
September 2011

Fake Snake Causes Crash On SC 55

A Clover man was arrested this week after the rubber snake he tossed on S.C. 55 just outside town caused a crash, according to a York County Sheriff's Office report.

At the scene of an accident on Sept. 13, a 17-year-old woman driving a Honda told a Sheriff's deputy that when she saw people beside the highway throw a rubber snake in the road then drag it back with a string, she slammed on her brakes to avoid the snake.

She said she then heard tires screech as a white Dodge truck crashed into the back of her car.

The man driving the truck told authorities that he also saw people throw the snake.

Although the accident caused roughly $8,000 in damage, no one was injured.

Stafford Farris, 20, was later arrested and charged with "putting a foreign substance on highway with malice."

The report says Farris confirmed what the drivers told authorities and admitted to throwing the snake.

"Farris was highly cooperative and showed remorse for what he had done," the report says. He "was concerned that someone was hurt."

SHAWN CETRONE
Heraldonline.com
September 2011

Invasive Amphibians, Reptiles in Florida Outnumber World, Study Finds

The Florida has the world's worst invasive amphibian and reptile problem, and a new 20-year study led by a University of Florida researcher verifies the pet trade as the No. 1 cause of the species' introductions.

From 1863 through 2010, 137 non-native amphibian and reptile species were introduced to Florida, with about 25 percent of those traced to one animal importer. The findings appear online September 15 inZootaxa.

"Most people in Florida don't realize when they see an animal if it's native or non-native and unfortunately, quite a few of them don't belong here and can cause harm," said lead author Kenneth Krysko, herpetology collection manager at the Florida Museum of Natural History on the UF campus. "No other area in the world has a problem like we do, and today's laws simply cannot be enforced to stop current trends."

Florida law prohibits the release of non-native species without a state permit, but offenders cannot be prosecuted unless they are caught in the act. To date, no one in Florida has been prosecuted for the establishment of a non-indigenous animal. Researchers urge lawmakers to create enforceable policies before more species reproduce and become established. The study names 56 established species: 43 lizards, five snakes, four turtles, three frogs and a caiman, a close relative of the American alligator.

"The invasion of lizards is pretty drastic considering we only have 16 native species," Krysko said.

"Lizards can cause just as much damage as a python. They are quicker than snakes, can travel far, and are always moving around looking for the next meal."

Defined by the U.S. Department of Agriculture as organisms "whose introduction causes or is likely to cause economic or environmental harm or harm to human health," invasive species are a growing concern for residents and policymakers. Only three species were intercepted before reaching the wild and researchers documented 137 introductions. The study also shows no established, non-native amphibian or reptile species has been eradicated.

University of Florida researcher Kenneth Krysko displays non-native Jackson's chameleons caught in Hawaii, where populations have become abundant. A pet that became popular in Florida during the 1970s and 1980s, Jackson's chameleons were shipped from Kenya by the thousands. In Florida, their numbers continue growing as unenforceable laws allow non-native amphibian and reptile introductions to remain unchecked.

Floridians have experienced some of the damage these animals can cause, from iguanas that destroy cement walls to Burmese pythons released in the Everglades that eat protected species. While the impact of many of the introduced species has not been determined, the study provides new information about how, why and when they entered the state.

The first introduction in 1863 was of the greenhouse frog, native to the West Indies. One of the most easily recognized species is the brown anole, the first introduced lizard, which reached Florida from Cuba via cargo ships in 1887. Until about 1940, nearly all non-native species arrived through this accidental cargo pathway, but the boom in popularity of exotic terrarium animals in the 1970s and 1980s led to the pet trade being accountable for 84 percent of the introductions, Krysko said.

"It's like some mad scientist has thrown these species together from all around the world and said, 'hey let's put them all together and see what happens,' " Krysko said. "It could take decades before we actually know the long-term effects these species will have."

Other pathways include biological control, in which an animal is intentionally released to control a pest species, and accidental introduction through the zoo or plant trade. The study will serve as a baseline for establishing effective policies for control or eradication, said Fred Kraus, a vertebrate biologist at the Bishop Museum in Honolulu who helped establish policies for invasive amphibians and reptiles in Hawaii.

"This paper by Kenney and company I think is a good example of the approach that needs to be taken, providing the detail and being rather cautious in making immediate claims that things are established until there is evidence for it," Kraus said. "There is a lot more work going on now, but for years it was just ignored. For years, climate change was ignored, too. You know, humans just tend to ignore bad news until you can't ignore it anymore."

One of the greatest obstacles pet owners face is how to feed and house an exotic animal that has become too large or difficult to handle, Krysko said.

"The biggest example is the Burmese python," Krysko said. "It's a large constrictor and has definitely shown impact on native species, some you just can't even find anymore."

The study uses fieldwork data from 12 co-authors throughout the state and research primarily using specimens in the Florida Museum of Natural History collections.

"This is a global problem and to think Florida is an exception to the rule is silly," Krysko said. "The Fish and Wildlife Commission can't do it alone -- they need help and we have to have partners in this with every agency and the general public. Everyone has to be on board; it's a very serious issue."

Science Daily
September 2011

Ancient Crocodile Competed With Titanoboa, World's Largest Snake, for Food, Paleontologists Discover

In a new study appearing Sept. 15 in the journal Palaeontology, University of Florida researchers describe a new 20-foot extinct species discovered in the same Colombian coal mine with Titanoboa, the world's largest snake. The findings help scientists better understand the diversity of animals that occupied the oldest known rainforest ecosystem, which had higher temperatures than today, and could be useful for understanding the impacts of a warmer climate in the future.

The 60-million-year-old freshwater relative to modern crocodiles is the first known land animal from the Paleocene New World tropics specialized for eating fish, meaning it competed with Titanoboa for food. But the giant snake could have consumed its competition, too, researchers say.

"The younger individuals were definitely not safe from Titanoboa, but the biggest of these species would have been a bit much for the 42-foot snake to handle," said lead author Alex Hastings, a graduate student at the Florida Museum of Natural History and UF's department of geological sciences.

The new species is a dyrosaurid, commonly believed to be primarily ocean-dwelling, coastal reptiles. The new adult specimens challenge previous theories the animals only would have entered freshwater environments as babies before returning to sea.

Top left: University of Florida researchers Jonathan Bloch, left, and Alex Hastings unearth fossils from the 60-million-year-old Cerrejon formation in northeastern Colombia, one of the world's largest open-pit coal mines. Top right: Hastings displays a pelvic bone of Acherontisuchusguajiraensis, a 60-million-year-old ancestor of crocodiles discovered at the same site in northeastern Colombia as Titanoboa, the world's largest snake. Other fossils pictured include portions of the lower and upper jaw, as well as teeth, a rib and toe. Bottom: This illustration shows how Acherontisuchusguajiraensis would have looked in its natural setting. Titanoboa, the world's largest snake, is pictured in the background.

Fossils of a partial skeleton of the species, Acherontisuchusguajiraensis, show dyrosaurids were key players in northeastern Colombia and that diversity within the family evolved with environmental changes, such as an asteroid impact or the appearance of competitors from other groups, said Christopher Brochu, an associate professor of vertebrate paleontology in the department of geoscience at the University of Iowa, who was not involved in the study.

"We're facing some serious ecological changes now," Brochu said. "A lot of them have to do with climate and

if we want to understand how living things are going to respond to changes in climate, we need to understand how they responded in the past. This really is a wonderful group for that because they managed to survive some catastrophes, but they seemed not to survive others and their diversity does seem to change along with these ecological signals."

The species is the second ancient crocodyliform found in the Cerrejon mine of northern Colombia, one of the world's largest open-pit coal mines. The excavations were led by study co-authors Jonathan Bloch, Florida Museum associate curator of vertebrate paleontology, and paleobotanist Carlos Jaramillo of the Smithsonian Tropical Research Institute.

"This one is related to a group that typically had these long snouts" Hastings said. "It would have had a relatively similar diet to the other (coastal) species, but surprisingly it lived in a more freshwater environment."

The genus is named for the river Acheron from Greek mythology, "the river of woe," since the animal lived in a wide river that emptied into the Caribbean. Unlike the first crocodile relative found in the area, which had a more generalized diet, the snout of the new species was long, narrow and full of pointed teeth, showing a specialization for hunting the lungfish and relatives of bonefish that inhabited the water.

"The general common wisdom was that ancestrally all crocodyliforms looked like a modern alligator, that all of these strange forms descended from a more generalized ancestor, but these guys are showing that sometimes one kind of specialized animal evolved from a very different specialized animal, not a generalized one," Brochu said. "It's really showing us a level of complexity to the history that 10 years ago was not anticipated."

During the Paleocene in South America, the environment was dominated by reptiles, including giant snakes, turtles and crocodiles. The dyrosaurid family originated in Africa about 75 million years ago, toward the end of the age of dinosaurs, and arrived in South America by swimming across the Atlantic Ocean.

"The same thing that snuffed out the dinosaurs killed off most of the crocodiles alive at the time," Hastings said. "The dyrosaurids are one of the few groups to survive the extinction and later become more successful."

Science Daily
September 2011

Top Cane Toad Fighter Is Told To Hop It

The man charged with stopping the march of poisonous cane toads through NSW has been given his own marching orders.

Frank Lemckert, who has 20 years of experience in amphibian research, is one of 11 state government scientists to lose their jobs this week following budget cuts in the Department of Primary Industries.

The decision to sack the senior researcher comes as NSW faces a growing problem with the introduced pest - including the discovery of the state's first cane toad breeding ground at Taren Point in Sydney's south.

Other scientists to be shown the door in the shake-up include Hendra virus scientists at the Forest Science Centre in West Pennant Hills and the government's only expert in termite research, Martin Horwood.

Dr Lemckert told The Sunday Telegraph he was surprised his position had been axed after the government pledged not to cut frontline workers in its public service budget cuts and to only dump backroom bureaucrats.

Adding insult to injury, he said the redundancies followed the appointment of another top bureaucrat, Mark Paterson, to oversee the department, while retaining the former Director-General, Richard Sheldrake.

He said there had been no consultation process before his position was terminated. The 11 scientists have been given the option of applying for two available positions elsewhere in the department,

Arthur White with a cane toad he caught Friday morning in Taren Point, South Sydney. Taren Point has an established Cane toad population which needs constant monitoring and culling of the population

Ecological consultant Arthur White - who is battling the Taren Point infestation as part of the Frog and Tadpole Study Group - said the decision to terminate Dr Lemckert's position was "madness".

"You don't take out your frontline in the battle against cane toads," he said.

"Without Frank, cane toads can spread anywhere without anyone realising. We will be relying on volunteer organisations to monitor their spread - this has devastating implications.

"Toad populations will become so entrenched, we won't be able to do anything about them."

Primary Industries minister Katrina Hodgkinson said $1.5 million would continue to be spent on forestry research, employing 22 staff.

Shane O'Brien, Assistant General Secretary of the Public Service Association of NSW, said there was no justification for cutting frontline researchers from the field.

BARCLAY CRAWFORD
Sunday Telegraph
September 2011

Snappy The Croc Turns Bright Orange

CRIKEY, an orange croc!

At first glance, it looks like "Snappy" has tanned up for the Brownlow.

But the cranky chameleon has no one to blame but himself for changing colour - after apparently biting off more than he could chew.

Tracey Sandstrom from Roaming Reptiles with her crocodile "Snappy".

Owner Tracey Sandstrom, who runs Roaming Reptiles, said Snappy made a meal out of the filter in his water tank.

"I think it caused the pH levels in his water to soar which has led to the change in colour."

She was stunned when her prized pet turned bright orange.

"Snappy's pretty territorial and he attacked the filter one day and a few weeks after that, I noticed he was orange," she said.

The 2.5m croc stays warm at night in his heated indoor tank before moving outside through his "croc flap" to bask in sunshine by day.

"It doesn't seem to have affected him at all. He's still got a healthy appetite, is normally aggro and doing everything he always does," Ms Sandstrom said.

Darwin croc expert Grahame Webb examined the Herald Sun photos and confirmed Snappy was a picture of health.

Professor Webb said he had seen crocs with stained skin and teeth before, usually caused by tannins in their water. "Our guess is that it is something in the water such as iron or tannins from leaves or some red algae that oxidises when it dries," Professor Webb said.

"It seemed significant to us that the tongue was not coloured, or the inside of the angle of the jaw, which are more likely not to dry, whereas the skin would dry when they bask."

Professor Webb some some foods could possibly also cause an animal to go a reddish color.

"That happens evidently if they have high concentrations of beta carotene, but it would be unusual to use such foods. Snappy certainly seems OK."

KELLY RYAN
Herald Sun
September 2011

Bumper Snake Season

THE big browns are on the move, beginning what should be a bumper snake season, according to a local expert.

George "**Deleted**" Ellis was called out 25 times in three

days this week to help householders petrified by the presence of the highly venomous reptiles in their yards and homes.

This year George predicts snakes will be seen on a "cyclonic" scale, because their favourite tucker - rats and other rodents - had surged in numbers.

"If it doesn't rain too much in the next two or three months it's going to be one of the legendary seasons," he said. "Batten down the hatches and wait for the tsunami of snakes."

In November George will mark his 14th year as the region's busiest snake-catcher. Up to March this year he had caught 2821 eastern browns, one of the world's most venomous reptiles, and plenty of other species.

It's a non-stop service: contrary to popular belief, snakes do not hibernate, according to a WIRES spokeswoman. They are always there, though much slowed up by the cold weather.

The recent high temperatures have brought them out in great numbers, with an unusually high incidence of sightings by members of the public.

George 'Deleted' Ellis is busy this time of year as brown snakes become more active

But few people would have had such an up-close-and-personal experience as one of George's recent clients who was sitting on the toilet when he felt something between his legs.

"When he looked down he saw it was a brown snake's tongue flickering at him," George said.

"Instant constipation!"

But while a quarter of the snakes he had caught had been inside people's houses, all of those bitten had been outdoors, George said.

Snakes are an asset to the community, he reckons.

"A big brown would eat one rat a week, at least. Can you imagine how many there would be if snakes weren't eating them?"

George believes visitors to Byron should be informed about their presence in the town, especially in Jonson St, where there are many food outlets.

SNAKE SENSE

In your house:

- Keep pets and children away
- Open doors and windows so the snake can leave
- Close all exits to other parts of the house

In your yard:

- Leave it alone and it will most likely move away
- Make sure pets do not disturb the snake
- Keep children away

DIGBY HILDRETH
Northern Star
September 2011

Editiors Note: Words deleted from the original document on the demand of Mr Raymond T Hoser - removed due to trademark infringement.

Haunted House Python In World Record Bid

Medusa, a giant python that recently joined a popular haunted house in Missouri, may slither into the record books as the largest snake living in captivity.

The 136kg, 8m-long snake requires 15 people to hold and is part of the horror show at Kansas City's The Edge of Hell, local media report.

Next month officials from the Guinness Book of World Records will determine if the seven-year-old Medusa — named after the monster from Greek mythology who turns unwary onlookers to stone — has earned a place in their books.

The previous current record was set by Fluffy, a 7.3m-long reticulated python at the Columbus Zoo and Aquarium in Ohio who died last year due to a tumour.

Medusa's trainer Larry Elgar told local TV news station KSDK 5 the snake could live into her 50s and grow as heavy as 220kg.

"They've actually cut people out of them, they are man eaters," Mr Elgar said.

But he insists he is not afraid.

"Fear is just a lack of understanding. I have no fear. I understand that she can kill me."

NuneNewa
September 2011

Komodo Dragon Hatchling: Big Pic

Komodo dragons, called "dragon" for their forked tongue which resembles what the mythical beast might have, are notoriously fierce carnivores, made for devouring prey. With a bacteria-filled mouth (or venom, as some scientist speculate) that will eventually poison any animal it bites, the Komodo dragon simply has to stick around long enough for its prey to succumb to septicemia. Then it can use its 60 teeth to chomp into the carcass, or devour it whole. In one meal, a Komodo dragon can consume up to 80 percent of its own body weight, according to the San Diego Zoo.

This baby may look small and harmless, but one day it'll be one of the largest -- and most dangerous -- lizards on the planet. The Los Angeles Zoo recently welcomed 21 of these Komodo dragon hatchlings into the world

Before it becomes one of the world's greatest predators, Komodo dragons spend four years living in trees, avoiding becoming someone else's dinner. Baby Komodo dragons are notoriously easy prey for larger Komodo dragons and other predators. Fully grown, the male Komodo dragon can reach up to 10-feet long and 200 pounds, while females can reach up to 8-feet long.

This is only the second breeding success of Komodo dragons at the Los Angeles Zoo, and there have been less than 10 recorded successful breeding programs in North America, according to the zoo's press release.

Despite their enormous size and ferocious reputation, Komodo dragons are an endangered species in their native Indonesia due to habitat loss and competition with humans.

This is only the second breeding success of Komodo dragons at the Los Angeles Zoo, and there have been less than 10 recorded successful breeding programs in North America, according to the zoo's press release.

But despite their lack of breeding in captivity, Komodo dragons have the unique ability to reproduce asexually via parthenogenesis, without fertilization by a male. This is often referred to as "virgin birth," and has been observed in just a handful of cases -- perhaps adding to the creature's mythical appeal.

Discovery News
September 2011

'Heat-Proof' Eggs Help Turtles Cope With Hot Beaches

Sea turtles face an uncertain future as a warming climate threatens to red e their reproductive viability. However, new research led by the University of Exeter and published this week in Proceedings of the Royal Society B shows that some turtles are naturally heat-tolerant.

The study focused on green turtles nesting on Ascension Island, a UK overseas territory in the South Atlantic Ocean. Scientists from the Universities of Exeter and Groningen found that eggs laid by turtles nesting on a naturally hot beach withstand high temperatures better than eggs from turtles nesting on a cooler beach just a few kilometres away.

The warmer beach has dark sand, whereas the neighbouring beach is two to three degrees Celsius cooler because it has white sand. Green turtles travel from the coast of South America to the tiny island to nest. Most female turtles nest on the beaches where they themselves hatched, so populations can become adapted to specific nesting locations.

This is a green turtle hatchling on Ascension Island

The researchers placed some of the eggs laid on each beach into incubators of either 32.5 degrees Celsius or 29 degrees Celsius and monitored their progress. They found

that the eggs from the warmer beach were better able to thrive in the hot incubator than those from the cooler beach.

Dr Jonathan Blount, who led the research, said: "We believe this is the first time that adaptation to local environmental conditions has been demonstrated in sea turtles, which is all the more remarkable because the beaches in question are just six kilometres apart."

Heat-tolerant populations may be crucial in allowing species to adapt to a warming world, highlighting the need for conservation strategies which protect diversity in animal populations.

University of Exeter PhD student Dr Sam Weber, lead author of the study, said: "Such adaptations probably evolve over many generations, so whether turtle evolution can keep pace with the rapid climate change that scientists have predicted remains to be seen. However, occasional movements of heat-adapted turtles to other nesting sites could help to spread their favourable genes."

This research was funded by the Natural Environment Research Council, the Royal Society, the European Social Fund, Defra's Darwin Initiative and the Overseas Territories Environment Programme.

Science Daily
September 2011

Tree Frogs Chill Out To Collect Precious Water

Research published in the October issue of The American Naturalist shows that Australian green tree frogs survive the dry season with the help of the same phenomenon that fogs up eyeglasses in the winter.

According to researchers from Charles Darwin University in Australia, tree frogs often plop themselves down outside on cool nights during the dry season in tropical Australia. When they return to their dens, condensation forms on their cold skin -- just like it does on a pair of glasses when we come in from the cold. The researchers found that frogs absorb this moisture through their skin, which helps to keep them hydrated during periods of little or no rain.

Before this study, the frogs' dry-season excursions were a bit mysterious.

"Every once in a while, we would find frogs sitting on a stick under the open sky, on nights when it was so cold they could barely move," said Dr. Chris Tracy, who led the research. "It was a real puzzle."

Tracy and his colleagues thought this behavior might enable the frogs collect condensation, but the hypothesis had never been tested.

The researchers designed a series of experiments using real frog dens in eucalyptus trees and artificial ones made from PVC pipe. They wanted to see if the frogs could collect enough moisture through condensation to compensate for what they lost being in the cold. They found that a cold night out cost a frog as much as .07 grams of water. However, a frog could gain nearly .4 grams, or nearly 1 percent of its total body weight, in water upon returning to the warm den.

Tree frogs often plop themselves down outside on cool nights during the dry season in tropical Australia. When they return to their dens, condensation forms on their cold skin -- just like it does on a pair of glasses when we come in from the cold.

The researchers also tested how well a frog's skin could absorb water, and found that as much as 60 percent of each water drop could be absorbed.

The results show that frogs can use condensation to hydrate themselves. And in a place as arid as the Australian savannahs during the dry season, where there is essentially no rain from June through August, every little bit counts.

"When there's no water available, even a small amount can mean the difference between surviving the dry season or not," Tracy said.

Science Daily
September 2011

Croc 'Cage Of Death' Breaks With Two Inside

Prosec Repairs are being made to a cage at a Darwin crocodile park after it broke yesterday afternoon with two people inside.

Onlookers say they heard a bang when a cable broke in

the 'Cage of Death' and hit the bottom of the tank, all while a large saltwater crocodile was swimming nearby.
Staff had to use a ladder to get the people out of the cage.

Crocosaurus Cove general manager Mike Scott says it was not a major incident, and staff responded quickly to get the people out of the cage.

He said the system had a back-up cable and the people were removed within two minutes.

"There was never really any risk to the people inside, because it's no different to undertaking the attraction in itself," he said.

"There was no more access to the people by the crocodile than as is normal with the cage ... so they were in no more danger from the crocodile whatsoever."

The park says the cage will be fixed quickly so the attraction can be re-opened.

The park stayed open after the incident.

ABC News
October 2011

New Antivenom Could Save PNG Lives

Australian researchers are hoping to save lives in Papua New Guinea with a new snakebite antivenom.

University of Melbourne researchers say up to 200 people die from snakebites in PNG every year, in part because they cannot afford the expensive antivenom produced in Australia.

The researchers have teamed up with a not-for-profit group in Costa Rica to produce an antivenom more cheaply and distribute it in PNG.

University of Melbourne AustralianVenom Research Unit (AVRU) director Ken Winkel said the taipan was a common and potentially deadly snake in both Australia and PNG, but Australians were generally able to access the antivenom required.

"That snake is very dangerous because it has very toxic venom, very long fangs and a very accurate bite, so it's one of the most dangerous snakes in the world," Dr Winkel told AAP.

"It can cause paralysis, bleeding problems, kidney failure and destroy muscle tissue."

Australian hospitals were stocked with the antivenom, produced by Melbourne biopharmaceutical company CSL, but in PNG its cost was often prohibitive, both for the government and residents.

At about $A1500 a vial, a shot of the lifesaving venom would cost more than the average PNG worker's annual salary and the government also could not afford all the antivenom needed.

Dr Winkel said AVRU researchers teamed up with the Clodomiro Picado Institute in Costa Rica five years ago, to develop and trial an antivenom for PNG that costs one tenth of the CSL antivenom.

Having made it successfully through laboratory and animal testing, the antivenom will now be trialled on patients at Port Moresby General Hospital over the next three years, with a $1.4 million Australian government grant.

"We're very confident that this will be a similar quality product to the CSL product, so in that sense we think it will save lives," Dr Winkel said.

"The ultimate point is to see if we can improve the availability in PNG."

He said the Costa Rica group was a non-profit organisation and had lower salary costs, enabling it to make the antivenom at lower cost.

CSL spokeswoman Sharon McHale said the company welcomed the trial and would support it by ensuring adequate supplies of its own antivenom were provided as a comparison point.

"We are very aware that the affordability of antivenom in PNG is one of the factors affecting access to this life saving medicine and earlier this year we took the decision to commence direct supply of antivenom to PNG at a developing world price, from 2012," Ms McHale told AAP.

She said CSL was working with the AVRU, the Nossal Institute of Health and the PNG Department of Health on a program to address shipping, refrigerated distribution and monitoring of antivenoms, as well as medical and community education in their use.

The joint program is hoped to be operating early next year.

KELLEE NOLAN
Nine MSN
October 2011

Experts Warn To Let Snakes Be

Just leave them alone.

That's the No.1 piece of advice from professional snake handler and catcher William Pledger, as the warmer weather brings the reptiles out from hibernation in increasing numbers.

And while hinterland residents are used to watching where they step once summer arrives, Mr Pledger said people were just as likely to come across a snake down on the Coast as they loved the beach just as much as humans.

"I actually had a call from Kawana Surf Lifesaving Club yesterday morning to come and pick up an eastern brown snake in the dunes," he said.

"They don't just stick to one place. They are found in the hinterland, the beaches, in houses and even inside shopping centres.

"Basically snakes can be found anywhere we inhabit because they are attracted to food sources such as frogs, rats and mice and humans leave trails of crumbs which attracts the snakes' food sources.

"The carpet snake even sees domestic pets as a food source, which makes them one of the most commonly found snake on the Coast."

Cooroy reptile handler William Pledger with a carpet snake

Mr Pledger has been in the reptile business for 15 years and says there is no shortage of work on the Coast.

"I used to work for a wildlife care centre in NSW and found no one really cared about the reptiles. They all wanted to help the cute and cuddly animals so I decided to do my bit for the snakes," he said.

"And there are a lot of snakes around. I will get about 150 calls over a six-month snake season, and there are about 15 snake handlers on the Coast."

Mr Pledger said he received calls to retrieve snakes from all sorts of places, not just the average snaky hangout.
"The strangest places I've been called to retrieve snakes is in toilets, down drains, in between the petrol tank and the boot of a car.

"Also the front of the car where the windscreen wipers are. They will literally get in anywhere."

Kawana Surf Lifesaving club captain Dan Donahue said members usually saw snakes more often in the sand dunes over summer.

"We haven't seen too many yet but when the weather warms up they are very prevalent in the sand dunes," he said.

"We see them all the time on patrol. They are very active this time of year so I have no doubt we will get more sightings over coming months.

"Luckily we have never had anyone bitten but all our lifesavers are trained in snake bite treatment and we are all very aware they are out there."

Mr Pledger suggests anyone who comes face-to-face with a snake should leave it alone and call someone to assist.

"All main services on the Coast such as the council, police, they all have direct contact to reptile handlers," he said.

Mr Pledger's number for callouts is 0414 075 314.

LAHNEE THOMAS
Sunshine Coast Daily
October 2011

Pythons' Big Hearts Hold Clues For Human Health

You don't think of pythons as big-hearted toward their fellow creatures. They're better known for the bulge in their bodies after swallowing one of those critters whole.

But the snakes' hearts balloon in size, too, as they're digesting — and now scientists are studying them for clues about human heart health.

The expanded python heart appears remarkably similar to the larger-than-normal hearts of Olympic-caliber athletes. Colorado researchers report they've figured out how the snakes make it happen.

"It's this amazing biology," said Leslie Leinwand, a molecular biologist at the University of Colorado Boulder, whose team reports the findings in Friday's edition of the journal Science. "They're not swelling up. They're building (heart) muscle."

Reptile biologists have long studied the weird digestion of these snakes, especially the huge Burmese pythons that can go nearly a year between meals with no apparent ill effects. When they swallow that next rat or bird — or in some cases deer — something extraordinary happens. Their metabolism ratchets up more than 40-fold, and their organs immediately start growing in size to get the digesting done. The heart alone grows a startling 40 percent or more within three days.

Leinwand, who studies human heart disease, stumbled across that description and saw implications for people. An enlarged human heart usually is caused by chronic high blood pressure or other ailments that leave it flabby and unable to pump well. But months and years of vigorous

.pythons and began testing what happens to their hearts.

The first surprise: A digesting python's blood gets so full of fat it looks milky. A type of fat called triglycerides increased 50-fold within a day. In people, high triglyceride levels are very dangerous. But the python heart was burning those fats so rapidly for fuel that they didn't have time to clog anything up, Leinwand said.

Handout photo provided by the journal Science shows an adult Burmese Python

The second surprise: A key enzyme that protects the heart from damage increased in python blood right after it ate, while a heart-damaging compound was repressed.

Then the team found that a specific combination of three fatty acids in the blood helped promote the healthy heart growth. If they injected fasting pythons with that mixture, those snakes' hearts grew the same way that a fed python's does.

But did it only work for snakes? Lead researcher Cecilia Riquelme dropped some plasma from a fed python into a lab dish containing the heart cells of rats — and they grew bigger, too. Sure enough, injecting living mice made their hearts grow in an apparently healthy way as well.

Now the question is whether that kind of growth could be spurred in a mammal with heart disease, something Leinwand's team is starting to test in mice with human-like heart trouble. They also want to know how the python heart quickly shrinks back to its original size when digestion's done.

The experiments are "very, very cool indeed," said James Hicks, a biologist at the University of California, Irvine, who has long studied pythons' extreme metabolism and wants to see more such comparisons.

If the same underlying heart signals work in animals as divergent as snakes and mice, "this may reveal a common universal mechanism that can be used for improving cardiac function in all vertebrates, including humans," Hicks wrote in an email. "Only further studies and time will tell, but this paper is very exciting."

The study was funded by the National Institutes of Health and a Boulder biotechnology company that Leinwand co-founded, Hiberna Corp., that aims to develop drugs based on extreme animal biology.

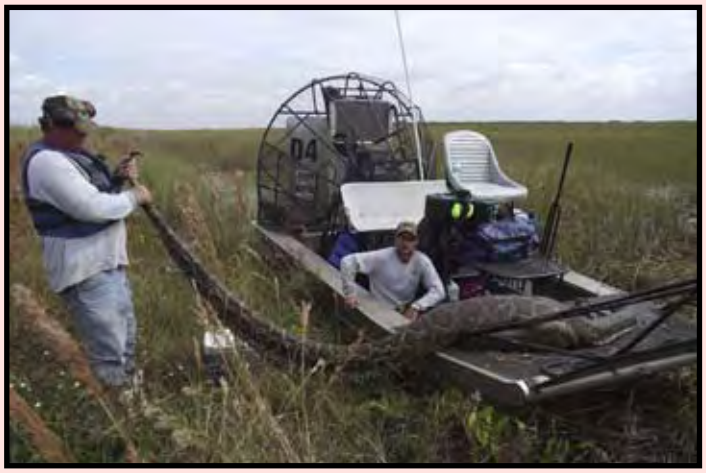
LAURAN NEERGAARD
Associated Press Medical Writer
October 2011

16-Foot-Python Killed In Florida; Deer Found In Stomach

Officials in south Florida were in for a surprise last week when they cut open the belly of a 16-foot Burmese python they had captured and killed in the Everglades.

Inside the reptile they found a 76-pound, fully intact deer, the Sun-Sentinel reports.

According to the South Florida Water Management District, the snake, which was a female, weighed 215.4 pounds with the deer, and 139.1 pounds without it. The girth of the snake's stomach, stretched to accommodate the carcass, measured a whopping 44.1-inches. From head to tail, the reptile measured 15.65 feet.



CBS Miami reports it's one of the largest reptiles ever found in South Florida.

The Sun-Sentinel spoke to Skip Snow, a biologist and python specialist at Everglades National Park, who explained how the snake may have killed the deer:

The python, an ambush predator, had staked out a known

deer trail, he said. When the deer walked by, the snake presumably seized the animal in its sharp, backward-pointing teeth, crushed the deer under its weight and coiled around it, killing the deer before consuming it, he said.

Officials from the Florida Fish and Wildlife Commission used a shotgun to kill the snake in an effort to prevent the species from spreading north, according to LiveScience.

Burmese pythons are native to Southeast Asia but are popular pets in the United States. According to the University of Florida, a 20-inch Burmese python can become eight feet within a year of captivity. This rapid growth leads inexperienced pet-owners to release the snakes into the wild when they become too big for their containers, where they reproduce and threaten the fragile ecosystem.

Between 2006 and 2007, 418 Burmese pythons were found dead or killed in Everglades National Park, reports the University of Florida.

In July, Jaren Hare and Charles "Jason" Darnell, a Florida couple, were found guilty in the death of Hare's 2-year-old daughter, Shaianna, The toddler was strangled in 2009 by a pet Burmese python that had escaped from its aquarium.

TIMOTHY STENOVEC
The Huffington Post
October 2011

Mum Dead Within Hours Of Snake Bite

Narelle Pails loved life and her kids.

The 42-year-old Queensland nurse died after being bitten by a snake, reportedly while at home gardening, on Wednesday.

An ambulance was called to the family property at Wheatvale, 16km west of Warwick, at 4.50pm. Ms Pails was treated at the scene and was later transported to Warwick Hospital, where she worked, in a critical condition.

Staff treated her with antivenom but she died at 7.05pm.

Queensland Health have refused to confirm what type of snake bit Mrs Pails or where she was bitten.

Family friend Paul Morris said it was a sad and shocking loss for the family and the rest of the community.

Mr Morris said he knew Mrs Pails, husband Paul, son Nick, 15, and daughter Emma, 18, through their long association with the Wattles Rugby League Club.

"They are a great family and she was great a person and she will be sadly missed, I'll tell you that," Mr Morris said.

Narelle Pails and her daughter Emma

Mr Morris said Mrs Pails was a hands-on parent and attended her son's football games and regularly helped out within the club.

Yesterday, Queensland Health's director-general denied there were inadequate supplies of antivenom at Warwick hospital, where Mrs Pails died.

A police spokesman said officers had been asked to transport a vial of antivenom from Stanthorpe Hospital to Warwick Hospital on Wednesday afternoon, in a move that Queensland Health director-general Tony O'Connell said was a precaution.

''There are 14 vials of antivenom kept at Warwick and there was not an issue with the adequacy of antivenom supplies in that case,'' he told reporters in Brisbane.

''We always try to keep the number of vials at the maximum so we're ready for the next case that comes along.''
Snake bites can be deadly even when antivenom was available, he said.

''If a snake venom gets into the bloodstream straight away rather than just being deposited into the muscles then it's a much more difficult challenge to maintain the patient,'' he said.

Snake catchers and the government have warned residents in the state's south east to be wary of snake activity heading into the summer months.

Matt Harley of Queensland Snake Relocation said snakes had been very active so far this wet season.
The snake catcher, who mainly works in south Brisbane, has already caught more snakes this Spring than he did for all of last year's snake season.

He said he was catching approximately two to three snakes a week, an increase in activity that Department of Environment and Resource Management senior ranger Greg O'Neil put down to an increase in available food due to the last two wet seasons.

"It's not that there has been more snakes, it's more likely that we are seeing an increase in the visibility of snakes who are out searching for more plentiful food sources," he said.

To avoid attracting snakes to their yards Mr O'Neil suggested residents keep their yards clear of rubbish and tin which might harbour the animals.

"People should also get rid of their food sources - rats or mice - that's what they are looking for," he said.

He recommended people speak to their children about what to do when they see a snake and make them aware of the appropriate first aid.

Mr Harley said if a snake was inside a house, the residents should attempt to seal the room, by closing doors and windows and putting a towel under a crack in the door, before calling a snake catcher.

If the animal is in their yard, he recommends leaving the animal alone unless it returns.

The Department of Environment and Resource Management hotline provides contact details for snake catchers by calling 1300 130 372.

SHANNON NEWLEY
Sydney Morning Herald
November 2011

'Shieldcroc' May Be Father of All Crocodiles

An enormous prehistoric crocodile-like creature called "Shieldcroc," so named because of a shield-like bony plate on its head, could be the last common ancestor of animals related to crocodiles and alligators.

Shieldcroc lived during the Late Cretaceous approximately 93 to 99 million years ago. Its skull was discovered in continental freshwater deposits from what is now Morocco, and researchers think that modern crocs may have first evolved near the Mediterranean Sea.

But Shieldcroc then and now is capturing greater interest due to its hard-to-miss "shield," a raised mound of tissue packed with blood vessels and likely covered by a thick sheath, similar to what is seen in the frill of horned dinosaurs. It might have helped to regulate body temperature, but probably served a flashier purpose.

"There is anecdotal evidence that modern horned crocs will raise the back of their heads to show off their horns during courtship and territorial disputes," Casey Holliday told Discovery News. "We think this shield served a similar purpose, as a means to show off."
Holliday and co-author Nick Gardner analyzed the remains of Shieldcroc, which have been housed at the Royal Ontario Museum of Canada since the early 2000's. The researchers examined the skull in detail, and also compared it to other crocodyliformes from the same time period in Africa.

They determined a sister taxon to Shieldcroc is Aegyptosuchus, but this animal possessed a poorly defined "shield."

"Shieldcroc," is named after its shield-like bony plate on its head

Given its impressive shield and size, Shieldcroc would have been hard to miss back in its day. Holliday and Gardner estimate that the ancient croc measured over 33 feet long and potentially had a 6.5-foot-long head. Shieldcroc appears to have had a very long, flat face, a rounded nose, small teeth and surprisingly weak jaws.

"Like most of today's crocs, it was likely opportunistic, feeding on whatever it could, however, it was likely not capable of wrestling large vertebrate prey given the slenderness of its jaws," Holliday said.

The Mediterranean Sea at this time was part of the Tethyan Sea that opened into both the Atlantic and Indian Oceans. The Middle East, he explained, hadn't fully formed, "nor had India rammed into Asia yet." Europe then was a cluster of islands.

The area seems to have been ground zero for crocs, leading some researchers to even rename this Age of Dinosaurs time to the Age of Crocs.

"The Cretaceous is full of giant crocs including Sarcosuchus, Dyrosaurus, Deinosuchus, Shieldcroc and others," Holliday said. "There was likely ample food and a warm climate facilitating their ability to reach large sizes. There are fossils of very large fish from the region, so there were certainly large prey to catch as well."

Huge fish called coelacanths were probably front and center on Shieldcroc's menu, the researchers suspect. They presented their work today at the Society of Vertebrate Paleontology's 71st Annual Meeting in Las Vegas.

Christopher Brochu, an associate professor in the University of Iowa's Department of Geoscience, told Discovery News that Shieldcroc "really is a cool crocodyliform" and he admires the authors' "careful comparative work," but he doesn't "buy the taxonomic conclusions." Brochu thinks "the origins of Crocodylia are almost certainly Laurasian in origin and probably not Mediterranean."

Brochu, however, added that Shieldcroc is a significant fossil, with its importance lying "in revealing the diversity and flat-out bizarreness of crocodyliformes during the Cretaceous, especially in the Southern Hemisphere. There was something different about that region at that time -- many of the roles played by dinosaurs in the Northern Hemisphere were played by crocodyliformes in the south."

Hans Larsson, chair of Vertebrate Paleontology at McGill University, told Discovery News, "This specimen sheds more light and shadow on the origins of living crocodiles." "There is just enough information in the specimen to help clarify some issues, such as the possible Mediterranean origin of living crocs," Larsson continued. "But the species adds another bizarre piece of anatomy, the strange bony plate on its skull, to an already wildly diverse group of Cretaceous crocodyliformes."

SHANNON NEWLEY
Sydney Morning Herald
November 2011

Gecko At Risk Over Claims It Can Cure Aids

Claims that a nocturnal Asian lizard can be used to help treat the HIV virus have led to a sharp boom in smuggling of the reptile, putting it at risk, a conservation group has said.

Demand for the Tokay Gecko has skyrocketed in recent years after online blogs, newspaper articles and wildlife traders extolled the consumption of the lizard's tongue and internal organs as a miracle cure for HIV, TRAFFIC Southeast Asia said in a report.

TRAFFIC said such claims were unfounded and "indicative of an elaborate hoax." The Philippines' government in July also warned that using geckos to treat AIDS and impotence may put patients at risk.

"TRAFFIC is alarmed at the massive increase in trade of these geckos. If the trade continues to mushroom, it could take years to repair the damage currently being inflicted on gecko populations," said Chris R.Shepherd, TRAFFIC's regional deputy director.

The geckos, popular as pets in Asia, have long been used as traditional medicine for illnesses such as diabetes, asthma, skin disease and cancer, the report said. Their carcasses are dried up and ground into powder for consumption. In some parts of Asia, Tokay wine or whisky is consumed to boost energy.

The Tokay Gecko, which has distinct orange-spotted, blue-grey skin, can grow up to 15.7 inches (40 centimeters) in length. The reptiles feed on insects and worms, helping to regulate pests and maintain the ecosystem.

TRAFFIC said more than eight and a half tons of dried geckos were legally imported into the United States between 1998 and 2002 for use in traditional medicine. Huge numbers are traded within Asia and it said Malaysia has emerged as a key hub to meet demand, especially in China.

It said 1,000 geckos believed headed for Malaysia were recently seized in Cambodia, while a couple have been detained for trying to smuggle nearly a $1 million worth of lizards from Thailand to Malaysia. Customs officers in Indonesia's Java island also recently foiled a bid to smuggle dried Tokay Geckos bound for Hong Kong and China using expired permits.

Shepherd said the Tokay Gecko remained poorly protected by national legislation and called for the lizard to be protected under CITES, the international convention on endangered species, before it becomes extinct.

Associated Press
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