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ODATRIA

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Expo 2012 Review

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Odatria

Newsletter of the Victorian Herpetological Society
No. 12, April 2012

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Any articles should be sent to the editor in electronic form and/or in printed paper format. All articles are refereed to person/s in the respective field. Photos, slides and diagrams are encouraged as all can be used and should be sent via registered post or email. Taxonomy usually follows Wilson & Swan, 2003 but authors can cite other references if used. The VHS editorial staff have the right to refuse publishing any articles that are deemed unsuitable, offensive or controversial.

The VHS would like to thank the following individuals for their help & support:
Lani Barnett, Daavid Turnbull, Judy Turnbull, Jennifer Lewin, Marrianne Beatty, Kerrie Alexander, Jo Comber, Andrew McKenzie, Robyn Welsh, Mike Swan, Mimmo Zagarelos

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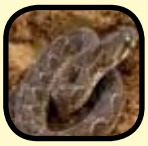
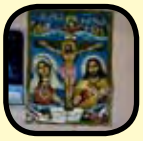




Cover Photograph:
Red Belly Black Snake
Pseudechis porphyriacus
by Shannon Plummer
www.shannonplummer.com

EDITORIAL

by Phil Elliott

Well here we are again, coming up to the first meeting following yet another expo! The expo held in February this year was the most successful event yet financially and by the number of animals sold on the day! I've also heard from a couple of sponsors that there was a fair amount of follow on business at their retail premises both on the day and in the ensuing weeks.

We did, however, experience a reduced number of private vendors and I appeal to everyone who reads this to come forward early in support of the next expo in 2013. It is a difficult job to co-ordinate all the various exhibitors and the more time we have to do so the better the event will be, it is never too early to register your interest so come on guys and gals let us know as soon as possible if you want to hold a stall at the next expo!

Thank you to all our sponsors this year, both the new ones and those that have supported us at previous events.

Sponsorship packages are available now so don't hang about, register your interest now!

Here, for your information is a breakdown of animal sales at our expos, The only year we do not have readily available infomation for is 2008 but this, I am sure, would fall somewhere between the figures for the 2006 and the 2009 events.

Expo	Snakes	Lizards	Frogs	Turtles	TOTAL
2006	62	19	9	0	90
2008					
2009	79	123	103	5	310
2011	107	171	183	5	466
2012	163	260	147	27	597
TOTAL	411	573	442	37	1463

Happy Herping to one and all,

Phil

WANTED

The Odatria editorial team are looking for enthusiastic people to help with all aspects of the production of Odatria. It takes a lot of effort and many 'phone calls to put each edition together. If you feel that you have some skills to offer, are passionate about the hobby and have spare some time to assist us - please contact the team at:- vhs@optusnet.com.au

Good Friday Children's Hospital Appeal

Text by Adam Sapiano
Photos by Paulene Van Trienen and Phil Elliott

What a day!

This year Victorian Reptiles decided to get behind what they believe to be one of the best Fund Raisers of the year. The Royal Children's Hospital Good Friday Appeal.

The idea came about on the way to the 2012 EXPO,

"Let's just get today over with first" was the general response I got when talking to people about it. So the following Monday we set the wheels in motion.

Teaching her bad manners..... Put that tongue back in. Been around too many reptiles!

After getting approval to hold the event we began to contact other small businesses in the area to get their support. Before we knew it we had:-

Mr Balloon Man

Reptile Education Victoria

Face Magic

Art Republic

Just to name a few.

A section of the crowd enjoying themselves inside the shop

We also contacted our suppliers to help donate things that could be auctioned, and we were amazed with the support they all gave us. There are too many of them to thank individually but they all know who they are.

There was just one more task we had to do, find someone to take care of the sausage sizzle. After speaking to some of the committee at the EXPO I knew the VHS would love to get involved and they did. So with the VHS in charge of the BBQ all we had to do was wait for the day to roll around.

As you can see by the photos there was heaps to do,

Air Brush Tattoos

Face Painting

Pop Corn

Balloon art

Reptile Demonstrations

And More.....

The VHS ran the BBQ on the day

Waiting for the face painting

Gladys!

New breed of dragon. Yellow Phase for sure!

You know who this bloke is!

The Rarebit was a hit with the kids!

The day was a huge success with the GRAND TOTAL of **$3442.90** raised on the day.

The response has been overwhelming and everyone who came on the day said they will be back next year. So by popular demand the

VICTORIAN REPTILE GOOD FRIDAY APPEAL FAMILY DAY

Will be back in 2013 BIGGER and Better.

The Expo Overview

Green Tree Python

February 18th, 2012

Photos by C.J. Lim

The ever popular bluey!

The Victorian Herpetological Society's Reptile & Amphibian Expo was back, bigger and better in 2012! The crowds were pretty much the same as last year and it was a wonderful opportunity to keep up to date with all of the latest products on the market and the chance to talk directly to the people bringing them to us was invaluable. The day was also a winner with many families bringing along the kids in great numbers. Speaking to some of the major displayers and breeders both during and after the event confirmed that many more animals found new homes than in previous years and many more have apparently found new hopes since the event! We are sure the future of the hobby is in great hands with all of these energentic and passionate young herpers! The Society is currently in the process of planning the 2013 Expo as you read this. How about contacting us and pledging your involvement and participation in next year's event.

The Crowds

The crowds spilled in as soon as the venue opened!

Before long the venue was buzzing

Lots to see.....

.....and do!!

The Stalls

Seca Marine's had a huge display

The Herp Shop with Brian Barnett and Peter Krauss

Part of the Pails for Scales stall

Mystic and Myth display their wares

Pets Den

Victorian Reptiles

Totally Reptiles

Russell Grant's stall with his Green Tree & Carpet Pythons

The animals

The people

Top Ten Most Venomous Snakes

There are so many different lists of venomous snakes and so many different views on what constitutes the top ten. We have decided to reproduce this offering from Listverse. If you disagree greatly from this list feel free to send us your own top ten (complete with pictures) and we will happily publish it in a later edition of Odatria. This is probably also a good time to point out (as Listverse did) that something is venomous when it injects you with venom, and something is poisonous when it harms you through touch or eating.

10. Rattlesnake (*Crotalus* and *Sistrurus* genera) The only snake from the Americas on the list, the Rattlesnake is easily identifiable by the tell tale rattle on the end of its tail. They are actually a part of the Pit Viper family, and are capable of striking at up to 2/3rd their body length. The Eastern Diamondback in considered the most venomous species in North America. Surprisingly, juveniles are considered more dangerous than adults, due to their inability to control the amount of venom injected. Most species of rattlesnakes have hemotoxic venom, destroying tissue, degenerating organs and causing coagulopathy (disrupted blood clotting). Some degree of permanent scarring is very likely in the event of a venomous bite, even with prompt, effective treatment, and can lead to the loss of a limb or death. Difficulty breathing, paralysis, drooling and massive hemorrhaging are also common symptoms. Thus, a rattlesnake bite is always a potentially fatal injury. Untreated rattlesnake bites, especially from larger species, are very often fatal. However, antivenin, when applied in time, reduces the death rate to less than 4%.

9. Death Adder (*Acanthophis* genus) The appropriately named Death Adder is found in Australia and New Guinea. They actually hunt and kill other snakes, including some others on this list, usually via ambush. Death Adders look quite similar to vipers, in that they have triangular shaped heads and short, squat bodies. They typically inject around 40-100mg of venom with an LD of 0.4mg-0.5mg/kg. An untreated Death Adder bite is one of the most dangerous in the world. The venom is a neurotoxin. A bite causes paralysis and can cause death within 6 hours, due to respiratory failure. Symptoms generally peak within 24-48 hours. Antivenin is very successful in treating a bite from a Death Adder, particularly due to the relatively slow progression of symptoms, but before its development, a Death Adder bite had a fatality rate of 50%. With the quickest strike in the world, a Death Adder can go from strike position to striking and back again within 0.13 of a second.

8. Vipers (*Viperidae* family) Vipers are found throughout most of the world, but arguably the most venomous is the Saw Scaled Viper and the Chain Viper, found primarily in the Middle East and Central Asia, particularly India, China and South East Asia. Vipers are quick tempered and generally nocturnal, often active after rains. They are also very fast. Most of these species have venom that cause symptoms that begin with pain at the site of the bite, immediately followed by swelling of the affected extremity. Bleeding is a common symptom, especially from the gums. There is a drop in blood pressure and the heart rate falls. Blistering occurs at the site of the bite, developing along the affected limb in severe cases. Necrosis is usually superficial and limited to the muscles near the bite, but may be severe in extreme cases. Vomiting and facial swelling occurs in about one-third of all cases. Severe pain may last for 2-4 weeks. Often, local swelling peaks within 48-

72 hours, involving the affected limb. Discoloration may occur throughout the swollen area as red blood cells and plasma leak into muscle tissue. Death from septicaemia, respiratory or cardiac failure may occur 1 to 14 days post-bite, or even later.

7. Philippine Cobra (*Naja philippinensis*) Most species of Cobra would not make this list; however the Philippine Cobra is the exception. Drop for drop, its venom is the most deadly of all the Cobra species, and they are capable of spitting it up to 3 metres. The venom is a neurotoxin which affects cardiac and respiratory function, and can cause neurotoxicity, respiratory paralysis and death in thirty minutes. The bite causes only minimal tissue damage. The neurotoxins interrupt the transmission of nerve signals by binding to the neuro-muscular junctions near the muscles. The symptoms might include headache, nausea, vomiting, abdominal pain, diarrhea, dizziness, collapse and convulsions.

6. Tiger Snake (*Notechis* genus) Found in Australia, the Tiger snake has a very potent neurotoxic venom. Death from a bite can occur within 30 minutes, but usually takes 6-24 hours. Prior to the development of antivenin, the fatality rate from Tiger snakes was 60-70%. Symptoms can include localized pain in the foot and neck region, tingling, numbness and sweating, followed by a fairly rapid onset of breathing difficulties and paralysis. The Tiger snake will generally flee if encountered, but can become aggressive when cornered. It strikes with unerring accuracy.

5. Black Mamba (*Dendroaspis polylepis*) The feared Black Mamba is found throughout many parts of the African continent. They are known to be highly aggressive, and strike with deadly precision. They are also the fastest land snake in the world, capable of reaching speeds of up to 20km/h. These fearsome snakes can strike up to 12 times in a row. A single bite is capable of killing anywhere from 10-25 adults. The venom is a fast acting neurotoxin. Its bite delivers about 100–120 mg of venom, on average; however, it can deliver up to 400 mg. If the venom reaches a vein, 0.25 mg/kg is sufficient to kill a human in 50% of cases. The initial symptom of the bite is local pain in the bite area, although not as severe as snakes with hemotoxins. The victim then experiences a tingling sensation in the mouth and extremities, double vision, tunnel vision, severe confusion, fever, excessive salivation (including foaming of the mouth and nose) and pronounced ataxia (lack of muscle control). If the victim does not receive medical attention, symptoms rapidly progress to severe abdominal pain, nausea and vomiting, pallor, shock, nephrotoxicity, cardio toxicity and paralysis. Eventually, the victim experiences convulsions, respiratory arrest, coma and then death. Without antivenin, the mortality rate is nearly 100%, among the highest of all venomous snakes. Depending on the nature of the bite, death can result at any time between 15 minutes and 3 hours.

4. Coastal Taipan (*Oxyuranus scutellatus*) Another entry from Australia, the venom in a Taipan is strong enough to kill up to 12,000 guinea pigs. The venom clots the victim's blood, blocking arteries or veins. It is also

highly neurotoxic. Before the advent of an antivenin, there are no known survivors of a Taipan bite, and death typically occurs within an hour. Even with successful administration of antivenin, most victims will have an extensive stay in intensive care. It has been likened to the African Black Mamba in morphology, ecology and behavior.

3. Blue Krait (*Bungarus candidus*) The Malayan or Blue Krait is, by far, the most deadly of this species. Found throughout South East Asia and Indonesia, 50% of bites from the deadly Blue Krait are fatal, even with the administration of antivenin. Kraits hunt and kill other snakes, even cannibalizing other Kraits. They are a nocturnal breed, and are more aggressive under the cover of darkness. However, overall they are quite timid and will often attempt to hide rather than fight. The venom is a neurotoxin, 16 times more potent than that of a Cobra. It quickly induces muscle paralysis by preventing the ability of nerve endings to properly release the chemical that sends the message to the next nerve. This is followed by a period of massive over excitation (cramps, tremors, spasms), which finally tails off to paralysis. Fortunately, bites from Kraits are rare due to their nocturnal nature. Before the development of antivenin, the fatality rate was a whopping 85%. Even if antivenin is administered in time, you are far from assured survival. Death usually occurs within 6-12 hours of a Krait bite. Even if patients make it to a hospital, permanent coma and even brain death from hypoxia may occur, given potentially long transport times to get medical care.

2. Eastern Brown Snake (*Pseudonaja textilis*) Don't let the innocuous name of this snake fool you, 1/14,000 of an ounce of its venom is enough to kill an adult human. Coming in a variety of species, the Eastern Brown snake is the most venomous. Unfortunately, its preferred habitat is also along the major population centers of Australia. The Brown snake is fast moving, can be aggressive under certain circumstances and has been known to chase aggressors and repeatedly strike at them. Even juveniles can kill a human. The venom contains both neurotoxins and blood coagulants. Fortunately for humans, less than half of bites contain venom and they prefer not to bite if at all possible. They react only to movement, so stand very still if you ever encounter one in the wild.

1. Fierce Snake or Inland Taipan (*Oxyuranus microlepidotus*) While I did say that I would not include multiple sub-species in this list, the incredible Inland Taipan deserves a spot of its own. It has the most toxic venom of any land snake in the world. The maximum yield recorded for one bite is 110mg, enough to kill about 100 humans, or 250,000 mice! With an LD/50 of 0.03mg/kg, it is 10 times as venomous as the Mojave Rattlesnake, and 50 times more than the common Cobra. Fortunately, the Inland Taipan is not particularly aggressive and is rarely encountered by humans in the wild. No fatalities have ever been recorded, though it could potentially kill an adult human within 45 minutes.

+ Belcher's Sea Snake (*Hydrophis belcheri*) The most venomous snake known in the world, a few milligrams is strong enough to kill 1000 people! Less than 1/4 of bites will contain venom, and they are relatively docile. Fisherman are usually the victims of these bites, as they encounter the species when they pull nets from the ocean. Found throughout waters off South East Asia and Northern Australia.

VHS MEETING REVIEW

December 7th, 2011

Ollie Sherlock, Russell Grant & Brian Barnett

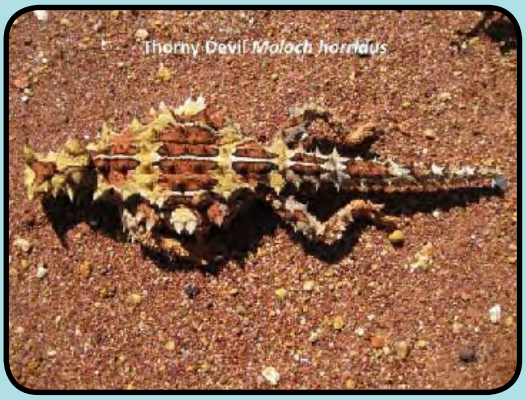
Once again, before we knew it, the last Victorian Herpetological Society meeting of 2011 was upon us. This meeting also included the annual general meeting where the new committee was to be announced. The VHS Committee for 2012 is:-

President - Phil Elliott
Secretary - Kevin Welsh
Treasurer - Steph McKenzie
Executive - Peter Comber
Executive - Adam Sapiano

Before the meeting proper got underway the usual auction was held. Due to the closeness of the 2012 Reptile and Amphibian Expo and the planned mega-auction there the amount of auction material was a bit light on. As usual though, the highest bidding of the evening was reserved for the animals.

It was then time to call on our first guest speaker to take the stage. Ollie Sherlock spoke to us on a couple of projects he was involved in at Shark Bay in Western Australia and Roxby Downs in South Australia.

Guest Speaker - Ollie Sherlock



Our second talk for the evening was Presented by Brian Barnett and Russell Grant. They regaled us with tales of the early days of reptile breeding and explained to us a number of different husbandry methods - the evolution of which has served them and the many that continue ro come after well.

Guest Speakers - Brian Barnett and Russell Grant

NEXT VHS MEETING

Wednesday 30th May 2012
7:15pm - 10:30pm

SHANE SIMPSON

After The Serpent's Sting

EDITORS NOTE: We came upon this article by Suhit Kelkar in Open Magazine whilst researching for this editions Herp Happenings. We thought it warranted a place on it's own. Read about this horrifying account of snakebite in India where Maria Benedict, almost 11, was one of the 50,000 odd Indians who died of snakebite last year, but it was not the venom alone that killed her. How lucky are we here in Australia.

On the evening of 19 September 2011, Maria Benedict made the fatal mistake of turning around midway and going back home for her Catholicism Studies textbook. An orderly student, Maria did not like to be late for her after-school tuitions. At the convent across the village of Kodathi on the outskirts of Bangalore, Sister Mary Thomas would not be cross at Maria, but she would be saddened, which was worse. So, instead of keeping to the main road of the village, Maria took a shortcut through a ragi field, one that lay behind her two-room cottage where her parents Sagairaj and Annie and her three siblings lived. The ragi crop was calf-high as Maria walked with her errant textbook clutched in one hand.

Around 5:30 pm, the evening was overcast. Maria, 10 years and 11 months old, was probably wearing her usual pigtails and attired in a comfortable top with a knee-length skirt; two months after her fateful detour, her mother and father do not remember the colour of her dress.

Just minutes after entering the field of ragi (there is maize growing there now, and no one but the farmer goes that way anymore), Maria presented herself at her neighbour's house, a one-room cottage next to the field. She is said to have hugged her matronly neighbour, Renuka, though Maria's family and Renuka were by no means close. "Aunty," Maria said, according to her mother Annie, "I've been bitten by a snake. I don't know if I'll live or die."

Making her way through the ragi crop, Maria had passed a patch of bare earth in a tearing hurry. The textbook had slipped from her hands, landing on the bare patch. Maria never saw the snake. It was either warming its curls in what sunlight there was, or hunting rodents. Perhaps the textbook had fallen on its twists, obscuring all peril from view. Perhaps it had startled the reptile. However it happened, Maria was bitten. The strike must have taken a second or two.

This was not a venomless 'dry bite' or a partial dose of venom. She must have felt the punctures on her left foot, on the outer side, just below the knob of her ankle-bone. Forty-eight hours after the snakebite, Maria Benedict met her end in Bangalore. Her death was not inevitable. It came of organ failure: her kidneys shut down. One of the hospitals she had the misfortune of going to did not have a dialysis machine that was suitable for use on children, though it had a well-equipped ICU for patients with disorders brought on by wealthier pursuits. Also, the Anti-Snake Venom (ASV) serum she was given did not prove effective enough as an antidote.

In a country where an estimated 49,500 people die of snakebite annually, most of them adults, what chance did Maria's small little body have?

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Maria Benedict's father Sagairaj, a water tanker driver who does not use a second name, tells Open how he and his neighbours rushed Maria in a borrowed car to the government-run Public Health Centre in Domsandra, a neighbouring village. The doctor on duty flatly refused to believe Maria's account of events. Sagairaj describes how the doctor asked him, "Who is the doctor, you or me?" before giving Maria a tetanus shot and sending the party away. Maria insisted that she had been bitten. The doctor attributed the stab on her leg to a twig or rusty nail.

This, after the party was made to wait nearly an hour—the 'Golden Hour' as doctors call it—for medical attention. And this, in a place where the country's 'Big Four' venomous snakes—the Spectacled Cobra, Common Krait, Saw-Scaled Viper and Russell's Viper—are known to be scarily common, according to snake expert Gerry Martin, who is also a local resident. It was a Russell's Viper that bit Maria.

WHO KILLED HER? Maria Benedict (photo on wall) was bitten by a snake and taken to several hospitals before she died. She lived in Kodathi village, 40 km from Bangalore

The government clinic was a tragedy in waiting, but where else would Maria have gone? Not to Sister Mary Thomas at the convent outside the village, certainly, Sister Mary Thomas with her prayers and belief in the healing powers of snake charms called Snake Stones. But she was taken next to Sister Thomas because there was no other option nearby. Surprisingly, Sister Thomas recommended taking the girl to Bangalore, nearly 40 km away, to an expensive

hospital called St John's, this being the nearest and among the best in the city.

Here, the doctors in the Emergency Room refused the girl admission. Speaking to Open later, a spokesperson at St John's has this to offer: "There were no beds [available that day]." The spokesperson does not feel the need to refer to his medical records for that particular day. Doing so would breach patient-doctor confidentiality, it seems, which would violate medical ethics. Turning away a patient, though, didn't strike anyone as unethical. "Anti-Snake Venom serum can be administered on a stretcher," says Martin, a herpetologist who has been bitten in the past and seen many snakebite cases, "There is no need for a room. The doctors should have known that."

Also, St John's did not have a free dialysis machine at hand, which Maria was in urgent need of now. The venom had crippled her kidneys, which were no longer cleansing her body of waste products. In effect, Maria was facing two poisons—viper venom and her own unpurified blood. She was in a critical state, but could still be rescued, as the herpetologist vouches.

Refused admission at St John's, the party went to Venkateshwara Hospital at Madiwala, a Bangalore suburb around 2 km away. It was evening by now, recount her parents, nearly three hours after the bite.

At this hospital, Dr N Vijay Kumar, its managing director and owner, does what St John's ought to have: he admits Maria Benedict, who is still conscious but bleeding at the bite's wound and in severe pain, and he injects her with ASV serum. For the next 48 hours, Maria will receive 22 vials of it (15 vials is the usual dose.) But Maria needs more to fight the venom, it is decided, because she has gone critical. An overdose might cause a reaction, a dangerous complication in an already critical patient. But the increased dose may just save her—an outcome that has been reduced to a probability, and a swiftly declining one at that.

"It was a matter of saving her life first," says Dr Kumar.

Venkateshwara hospital has a dialysis machine available. By now, Maria's bitten leg has swollen up. So her leg muscles are punctured to relieve the internal pressure in an operation known as fasciotomy. At last, sigh the parents, Maria is under medical care. But 48 hours later, Venkateshwara hospital estimates that the girl's treatment and room rent have already run up a bill of Rs 80,000, which Sagairaj cannot afford. So, against medical advice, the party—Sagairaj, his wife Annie, Sister Mary Thomas and a few village residents—decides to transfer Maria to another hospital, a private but charitable one. There is no free or cheap government hospital in reachable range.

Her other organs failing now, perhaps a little girl would sense that she is dying. Like a bad penny, wading through Bangalore's workday traffic, the party reaches St Martha's Hospital, known for its charitable treatment of the poor. In a last-ditch attempt, St Martha's injects Maria with 11 vials of ASV serum. But it is too late for treatment.

Maria Benedict's final words to her mother are a request to see her siblings. "You get well and come home first," Annie tells her.

It won't happen. Maria is declared dead on the picturesque premises of St Martha's. This hospital does have a dialysis machine suitable for children, and it did admit Maria, unlike St. John's and the tetanus-shot-happy government doctor. At the end, none of it mattered.

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Isn't it common sense to keep life-saving equipment handy? Shouldn't ASV serum be effective, especially 33 vials—that's 3,300 mg—of it?

These are two questions that deserve to grow louder in a country that treats snakebites as less important than communicable diseases. Non-government doctors tell Open that the Union Ministry of Health has yet to publicise guidelines on the treatment of snakebite victims. 'Guidelines' is a fancy name for a checklist of time-bound dos for any doctor handling a snakebite patient. If India has such guidelines at all, it isn't doing enough to educate its doctors. This leaves enterprising doctors to devise their own action plans to save their patients. One of them is Dr Nagaraj, who also does not use a second name and has documented over 6,000 cases of snakebite, venomous and non, at his hospital in Hoskote, Karnataka, over the past 20 years. "Since we get a snakebite case almost daily," says Dr Nagaraj, "we keep a dialysis machine and respirator and pump in the emergency room." This way, there is no scramble for such machines, and the case gets the urgency it deserves.

What would help is a clear set of standardised procedures, something doctors are demanding that the Health Ministry issue. Says Dr Dilip Punde, a maverick doctor in rural Nanded, Maharashtra, whose work on snakebite treatment was once chronicled by Discovery channel: "Doctors simply do not know of guidelines on handling snakebite cases here, not even the recommended dosage of ASV serum."

Also sorely needed is a proper research effort to develop more effective ASV serums. But few at the Centre seem to care. Dr Punde relates an incident to illustrate the mindset of the Government vis-à-vis the menace. In 2005, he was publicly felicitated for his work by Agriculture Minister Sharad Pawar. At the ceremony, Dr Punde suggested that Pawar spearhead a nationwide campaign against snakebite fatalities, since farmers are most vulnerable to it. The doctor demanded that certain Public Health Centres across the country be made snakebite specialists and supplied with Anti-Snake and Anti-Scorpion Venom serums. He also raised the point about the need for better serums, and asked the Centre to develop venom detection kits (as Australia has), so that even inexperienced doctors can tell a venomous snakebite apart. Fourth, he demanded that snakebite deaths be made 'notifiable', which means that every such death would need to be reported to the state government by doctors handling such cases. And lastly, Dr Punde suggested that even urban medical colleges familiarise their students with snakebite cases; after all, rural patients often have to rush to urban hospitals for

treatment.

Pawar went through the paces of the ceremony, and went away. Dr Punde kept at it, forwarding his demands to the Maharashtra state government; also, he convinced the area's local MLA to raise the issue of snakebite neglect in the Maharashtra Legislative Assembly. Six years later, he is still awaiting a response.

Disappointed, last year Dr Punde and other snake experts and doctors across India set up the Toxinological Society of India, a conference forum and pressure group.

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India's government runs national-level campaigns against malaria, filaria, polio and other such diseases, but has no action plan for snakebite treatment. Could it be because it is mainly a killer of the rural poor?

The apathy is systemic. As recently as April 2011, the Government had no precise figure of the toll taken by unnatural causes such as snakebite. In any case, its official records feature not all deaths, only reported deaths, namely those that occurred in government hospitals. And even these numbers are suspect. Doubt has been cast on the Centre's official figure of 1,359 deaths in 2007, for example, by a 2010 World Health Organization booklet published in India titled Guidelines for the Management of Snake Bites (author: David A Warrell).

For more reliable data, observers need to turn to the Million Deaths Survey (1998–2014), an ongoing sample survey that has covered 2.4 million households round the country and recorded 1.4 million deaths. The largest of its kind, the Survey has the help of government employees working under the Registrar General of India, and was launched by The Centre for Global Health Research, a Canadian NGO funded by the Canadian Institutes of Health Research, the US National Institutes of Health (USA), the Bill and Melinda Gates Foundation (USA), St Michael's Hospital (Canada), and University of Toronto (Canada). In April 2011, by examining data on snakebite deaths over 2001–03, the Survey arrived at an estimate of 49,500 such deaths across the country in 2003 alone. According to the Survey's authors, this figure is half that of AIDS deaths in India.

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The typical ASV serum administered in India—the only one in common use—is formulated as a mixture of antibodies for the Big Four: the Spectacled Cobra, Common Krait, Russell's Viper and Saw-Scaled Viper. The Government is content with a four-in-one serum because it is cheaper and more convenient to store than sets of individual serums, and because it works on a few other species related to the Big Four as well. But the problem is, being a four-in-one, it is also that much more dilute in tackling the venom of a particular bite.

Not just that, non-governmental experts are finding that the Big Four are not evenly common across India, that there are other venomous species specific to assorted regions. The Hump-Nosed Viper, for example, is common in Kerala (in addition to the Big Four). "The ASV does not work on the venom of the Hump-Nosed Viper," says Dr Punde, going by his field experience.

What would work better, suggest doctors who have dealt with a wide range of cases, are a set of region-specific ASV serums. And to add to the complexity, says Martin, even the Big Four show significant differences in venom, depending on region. "The potency of a Russell's Viper in a northern state is likely to differ from that of one from a southern state," he says. The potency and chemical make-up of snake venom may depend on the snake's diet, the local climate, or even other factors that await further research, he explains.

Thankfully, a group of researchers has taken it upon itself to make up for the Government's neglect of this field. Led by Romulus Whitaker, a reptile expert, the team is busy collecting venom samples from around the country. "It will take us three years at least," says Martin, who is part of the joint effort. The team will test the 'Big Four' ASV serum on each venom sample collected to pinpoint particular snake venoms that still have no antidote. They will also analyse samples of venom from within the same species across the country to spot potency variations by region. If all goes by plan, this should pave the way for region-specific treatment guidelines and ASV serums.

For now, African countries are ahead of India in their efforts to contain snakebite fatalities. The government of Nigeria, for instance, has not only put out snakebite dos and don'ts for its medical students and field doctors, it has also got its labs actively looking out for better serums. It's a cue India had better take, and take promptly. That's the least we owe Maria Benedict.

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NEXT VHS MEETING

Wednesday 30 May 2012
7:15pm - 10:30pm

PRAHRAN RSL - 301 HIGH STREET - PRAHRAN

DR SHANE SIMPSON

Custom Reptile Enclosures

An interview by Cherie Campbell

For this month's edition of Odatria I am interviewing new upcoming artist Nicole Shane who specialises in custom making rock walls for Reptile owners. Nicole is lovely to work with and has a very friendly personality and totally blew me away with her work. As I myself had Nicole build a rock wall in an enclosure for me and to my amazement it turned out more incredible then I could imagine. I discovered Nicole advertising her work on ebay and thought to myself, Nicole's art needs to be seen in the Reptile world specifically so I asked Kevin what we could do to show others at the VHS this work and he suggested this interview.

Hi Nicole, My name is Cherie as you know I will be interviewing you on behalf of V.H.S. for this month's magazine. Is there anything you would like to begin with telling us?

Hi Cherie. Working part time as a nurse and raising two young children my hobby is what keeps me balanced. I enjoy making my 3D backgrounds for people and seeing the excitement on their face when they pick up their finished product! Getting my art out in people's homes is amazing!!

Before

What inspired you to become an artist, and to branch off into custom building rock walls?

I have always had a love of art and craft, my grandmother was an artist so I guess you could say it's in the blood The decision to get into the rock walls came about after purchasing my first python. The enclosure was nice but I wanted it to stand out in my home and for the space to be better utilised. I fiddled around with different materials and came up with the ancient theme design. My python was able to climb the walls and it created a masterpiece in my own home, after many people commenting on my work and how amazing it looked I decided to put it out there in the reptile world. the interest was outstanding and it inspired me to get as much exposure on my work as possible.

After

Have you always been interested in reptiles? What was your first experience?

To be honest I used to be terrified of snakes in particular! The thought of ever owning one never entered my mind until a family trip to Bali. Myself and my family were exposed to a number of pythons on our holiday, the biggest one I remember was 13ft. They were so graceful and gentle and I just couldn't get enough! When we returned home I researched all I could on carpet pythons and applied for my reptile license. Once this came in I purchased my cape York carpet python "Pandora" such a graceful and docile python. A few months later I brought home my albino Darwin python hatchling "Tangles" and he keeps me on my toes. Having my pythons out with me I find is very relaxing after a busy day at work.

Where are you from? Did you grow up here in Vic?

I Grew up in Wantirna with 3 younger brothers, I was and still am the only one with the creative flair!

How do you make your custom built rock walls?

My backgrounds are all hand made and painted by hand in UV and heat resistant paint. I can add some plants into the piece if requested.

I can make custom rock walls with any design people may

have in mind. Matching food/water bowls can be made also. Most of the pieces I have made have a built in hide or basking ledge. They can also be made as a separate piece.

Unlike other products on the market my backgrounds are all made to the customers specifications. They tell me what they want and what thwie reptile needs! I like to think that my work creates a natural and versatile home for the reptiles to enjoy.

Cool End

So you can do custom rock walls built into an enclosure, how do you go about that? I know you're based in Narre Waren South. Do you get people to drop off their enclosures to you, or do you offer a pick up service as well?

Most of my customers have dropped their enclosures off to me so I can build in within the enclosure and cover all three walls and paint the roof to match. To do this I need them for a week at most.

I can make the backgrounds in separate pieces also for the customer to install themselves. Smaller pieces may be able to be posted or courier arranged for bigger items.

Warm End

How would you like people to go about contacting you, do you have an email address or website?

I would love to get my artwork out there in people's homes, I plan to work at bit more on getting more exposure and building up on what I have began. I really enjoy making these for people and making a difference for the reptiles as well.

For any further information regarding Nicole's custom made backgrounds contact her via email at:- nshane1@bigpond.com

Snake in enclosure

Aussie Theme

NEXT VHS MEETING

Wednesday 30th May 2012
7:15pm - 10:30pm

PRAHRAN RSL - 301 HIGH STREET - PRAHRAN

DR SHANE SIMPSON

HERP HAPPENINGS

Snake Spills Venomous Secrets

Examining venom from a variety of poisonous snakes, a group of researchers at the University of California, San Francisco has discovered why the bite of one small black, yellow and red serpent called the Texas coral snake can be so painful.

The finding offers insights into chronic and acute pain -- and provides new research tools that may help pharmaceutical companies design drugs to combat pain.

The venom contains a toxic mixture of chemicals that includes two special proteins that join together, glom tightly onto tiny detectors on human nerve endings and don't let go. These detectors normally sense acid burns, and after the snake bites, the victim's brain receives unrelenting signals of an acid-like burn.

"Bites from this snake are associated with really intense, unremitting pain," said David Julius, PhD, the Morris Herzstein Chair in Molecular Biology & Medicine at UCSF, who led the research. "This work helps to explains why and gives us new tools for examining how our brains perceive pain."

Described this week in the journal Nature, the work teases apart the components of the Texas coral snake's venom and shows how they work in the human body.

While common in Texas and Louisiana, the snake is not considered a major threat to humans. It does not bite people often -- doing so only defensively when trapped. When it does, however, its neurotoxic venom is so potent that those bitten often have to be hospitalized and given large doses of morphine and other drugs to dampen the intense pain, which can last for weeks.

Texas Coral Snake (*Micrurus tener*)

Venom, Pain, and the Brain

Many of the venoms and toxins in the natural world work by triggering normal mechanisms in the human body designed to detect things like temperature, pressure, and other physical and chemical factors in our environment.

All the information the brain receives about sights, smells, textures and tastes comes through molecular detectors. Found at the ends of nerve fibers, these detectors are simply tiny protein channels that can alternatively open or close if they perceive the proper stimulus from a chemical, heat, cold or the pressure of touch.

When they do, and when the right balance of openings and closings occurs all over a nerve ending, that nerve will fire, ultimately passing a signal along the nerve fibers that connect the brain with our eyes, noses, fingers, tongues and other surfaces on our bodies.

Those various signals say to the brain "hot," "cold," "hard," "soft" or "bitter" -- cues that give life to our perception of the world around us. This basic physiology both enables us to experience all the soft, warm, pleasant things in life but also warns our brains about dangers.
Pain is one of the most important alerts for our brain that we are at risk of injury, causing us to wince, squint, gasp or otherwise pull away to protect ourselves.

At the same time, pain often outlives its usefulness as a warning system. In many people with disease or injuries, the pain can become chronic and debilitating. Moreover, not all pain is accurately perceived by the brain. Numerous plants, insects, reptiles and other creatures have evolved the ability to produce toxins or venoms for hunting or to protect themselves against predation. These venoms co-opt the human sensory systems and can trigger severe pain.

The venom of the Texas coral snake may be an example of this, said Julius.

"Presumably these toxins have evolved as anti-predatory mechanisms to protect the animal," he said. The work follows up on earlier discoveries Julius and his colleagues have made involving the spice of chili peppers, wasabi and mint, and how their chemicals work in the body.

How the Venom Works

In the study, Julius' graduate student Christopher J. Bohlen screened venom taken from numerous snakes and provided by collaborator Elda E. Sánchez of the National Natural Toxins Research Center at Texas A&M University.

By exposing neurons cultured in Petri dishes to the various venoms, Bohlen found that the venom from the Texas coral snake targets a receptor protein found on nerve endings all over the body that is sensitive to acid.

Our nerves are very sensitive to acid -- think lemon juice on a paper cut -- and for good reason: acid is often an early warning sign for injury.

The researchers found that the snake venom contains two proteins that bind to each other and attach themselves to the human acid receptors much tighter than acid itself does. The proteins also resist being degraded, which may account for their ability to remain on the channels for a long period of time -- much longer than acid would.

According to Julius, this accounts for the prolonged, intense pain suffered by people bitten by the coral viper.

The toxin provides a tool for looking at the physiological effects of pain receptors, he said. It also suggests that naturally produced components of the human body might be able to mimic the effect of the toxin as part of the normal physiology of modulating pain through these receptors.

Having an activator for this channel, like the snake venom, will help researchers search for such natural products and use them in the design of new compounds to block pain.

Moreover the snake venom was found to target a human protein known as the acid-sensing ion channel 1 (ASIC1). For years work in the field has focused on a similar receptor called ASIC3. The work on the Texas coral snake has suggested for the first time that ASIC1 may be a viable target for painkillers.

The article, "A heteromeric Texas coral snake toxin targets acid-sensing ion channels to produce pain," is authored by Christopher J. Bohlen, Alexander T. Chesler, Reza Sharif-Naeini, Katalin F. Medzihradszky, Sharleen Zhou, David King, Elda E. Sánchez, Alma L. Burlingame, Allan I. Basbaum and David Julius and appears in the journal Nature on November 17, 2011.

This work was supported by funding from the National Institutes of Health and the Howard Hughes Medical Institute. Additional support was provided by a Ruth L. Kirschstein National Research Service Award, a postdoctoral fellowship from the Canadian Institutes of Health Research and an NIH postdoctoral training grant from the UCSF Cardiovascular Research Institute. David Julius is on the advisory board of Hydra Biosciences, Inc., which is investigating potential new approaches for developing pain drugs.

Science Daily
November 2011

Predators Drive the Evolution of Poison Dart Frogs' Skin Patterns

Natural selection has played a role in the development of the many skins patterns of the tiny *Ranitomeya imitator* poison dart frog, according to a study that will be published in an upcoming edition of American Naturalist by University of Montreal biologist Mathieu Chouteau.

The researcher's methodology was rather unusual: on three occasions over three days, at two different sites, Chouteau investigated the number of attacks that had been made on fake frogs, by counting how many times that had been pecked. Those that were attacked the least looked like local frogs, while those that came from another area had obviously been targeted.

Natural selection has played a role in the development of the many skins patterns of the tiny *Ranitomeya imitator* poison dart frog. Photo: **Copyright Mathieu Chouteau**

The brightly coloured frogs that we find in tropical forests are in fact sending a clear message to predators: "don't come near me, I'm poisonous!" But why would a single species need multiple patterns when one would do? It appears that when predators do not recognize a poisonous frog as being a member of the local group, it attacks in the hope that it has chanced upon edible prey. "When predators see that their targets are of a different species, they attack. Over the long term, that explains how patterns and colours become uniform in an area," said Bernard Angers, who directed Chouteau's doctoral research.

A total of 3,600 life-size plasticine models, each less than one centimetre long, were used in the study. The menagerie was divided between two carefully identified sites in the Amazon forest. "The trickiest part was transporting my models without arousing suspicion at the airport and customs controls," Chouteau said. He chose plasticine following a review of scientific literature. "Many scientists have successfully used plasticine to create models of snakes, salamanders and poison dart frogs." The Peruvian part of the forest proved to be ideal for this study, as two radically different looking groups of frogs are found there: one, living on a plain, has yellow stripes, and the other, living on a mountain, has green patches. The two colonies are ten kilometers apart. 900 fake frogs were placed in each area in carefully targeted positions. Various combinations of colours and patterns were used.

Chouteau was particularly surprised by the "very small spatial scale at which the evolutionary process has taken place." Ten kilometers of separation sufficed for a clearly different adaptation to take place. "A second surprise was the learning abilities of the predator community, especially the speed at which the learning process takes place when a new and exotic defensive signal is introduced on a massive scale," Chouteau said.

This process could be at origin of the wide range of colour patterns that are observed not only in frogs but also many species of butterflies, bees, and other animals. Mathieu Chouteau is in fact currently undertaking post-doctoral research into the Heliconius genus of butterfly. "Considering that this kind of project requires regular field work, I have

taken up residence in the small town of Tarapoto, where I am responsible for the opening of a research centre that will facilitate the study of neotropical butterfly mimicry," he said.

Science Daily
November 2011

Staff Rescue Mower From Croc

Billy Collett likes crocodiles. Just not when they're charging at him.

Mr Collett was one of two men attacked by a five-metre croc named Elvis at a reptile park north of Sydney after they went into its enclosure about 8am (AEST) today to cut the grass.

The men - who used their lawnmowers as a barrier when the hulking beast lunged - escaped unharmed, before later executing a daring rescue mission to retrieve the mower.

"It happened that fast, it was that scary. I'm just glad to be alive,'' Mr Collett told reporters in Gosford.
"We'd just started mowing, the croc's sitting about five foot away from me in the water, then next second he's attached to the end of the mower, dragging it in, and almost taking me into the drink with him.

"My heart almost jumped out of my chest.''

Tim Faulkner, who was also inside the enclosure at the time of the attack, said his co-worker was lucky to be alive.

"I had to scream at Billy to let the mower go, because he was thinking about the mower preservation more than his own self-preservation,'' Mr Faulkner said.

"The croc obviously had a hold of it and both of them would have gone in the water.

"When a croc's got something like that you let him have it ... it's 500 kilos of muscle.''

Tim Faulkner retrieves the mower and Elvis's teeth, lost when he attacked the mower. Elvis keeps guard (above) over his new best friend.

Despite the close call, Mr Faulkner said the pair were determined to rescue the stricken mower from Elvis's custom-made lagoon.

Initially, he said the plan was to lasso the mower with rope from outside the enclosure, while one of them distracted the 50-year-old saltie with bits of roo meat.

That didn't work, so he took a more direct approach.

"Billy distracted him with roo meat and I just dove in and grabbed the mower,'' Mr Faulkner said.

"I didn't mind jumping in the water once the croc has fixed on a bit of food.''

Elvis - who lost two teeth in the encounter with the mower - was acquired by the park in 2008 after causing grief in Darwin harbour by climbing onto fishing boats.

Some of the croc's teeth measure up to 9cm in length.

Mr Faulkner suspected it wouldn't be the last time the huge croc made a nuisance of himself.

"He's just won a big game, so when we get in there to feed him later in the day he's going to be a different crocodile, he's going to be the king.''

news.com.au
December 2011

Bye, Bye Bitey - Kye Dalton Farewells Snake That Tried To Kill Him As He Played In Port Douglas

Queensland toddler Kye Dalton marvelled as the python that tried to kill him was released by a local snake catcher.

With child-like innocence the Port Douglas boy waved at the 4m giant and yelled "bye, bye Bitey" on Thursday.

Just two days earlier, the snake had latched on to the brave two-year-old's left leg and coiled around his little body, attempting to squeeze the life out of him before turning him into a late Christmas dinner.

Kye's mum, Rachael Sullivan, 20, had watched in horror as the python tried to eat her son.

The family's terrifying ordeal with the amethystine python happened just before 8pm on Boxing Day outside their suburban home.

Ms Sullivan was cuddling her eldest son Tyiese, 3, and playing with Kye in the partially enclosed carport adjoining their single-storey unit.

Mum and son were throwing a ball back and forth when it rolled behind her chair and the energetic toddler ran to retrieve it.

"It was like any other night, half an hour of playtime before bed," Ms Sullivan told The Sunday Mail.

"We were throwing a ball to each other and it rolled behind me, so Kye went to pick it up.

"He then let out that horrible scream where you know something is very, very wrong.

"By the time I got to him, and we are talking a second or two, the snake had latched on to his foot."

Ms Sullivan's neighbours, Scott Tunnie and his fiance Xena Reeves heard the screams and came to help.

"Apparently I just chucked Kye at Scott," Ms Sullivan said. "I said a snake had got him and Scott asked where had he been bitten and I yelled 'he's still being bitten'."

Mr Tunnie grabbed the snake's head and squeezed as hard as he could. He then began unwinding the massive creature from the child's body.

Ms Reeves, a police officer, began first aid as they waited for the paramedic, who fortunately lived in the same street, while Mr Tunnie grappled with the highly agitated snake.

It then turned on him, constricting his left arm and cutting off circulation.

Rachael Sullivan, 20, with son Kye, 2, who narrowly escaped being seriously hurt by the python (left).

Overcoming her own intense phobia of snakes, Ms Reeves tried to pull the snake off Mr Tunnie's arm while speaking with paramedics on the phone. It took the help of two more neighbours to finally get the snake under control.

Paramedics wrapped Kye's leg and transported the family to Mossman Hospital. But his ordeal wasn't over.

During the trip, Kye passed out, prompting fears the snake may have been venomous.

Ms Sullivan said she asked staff to swab for venom, but was told they didn't have the authority to do that.

"They told me they didn't have the authority to do any swab tests any more, which is strange because we get a lot of snakes up here," she said.

Mossman Hospital medical services director Dr Patrick O'Neill said Kye received appropriate treatment based on the clinicians' knowledge and following a full assessment. Dr O'Neill said an anti-venom kit was available but was not used because a description of the snake was given to doctors and Kye showed no signs of envenomation.

"This patient received the right care, at the right time," Dr O'Neill said.

Kye was then transported to Cairns Base Hospital but he began throwing up, his heart rate dropped and he stopped breathing during the one-hour trip. He was revived using oxygen and was wrapped in a heat blanket.

Cairns doctors took swabs of Kye's wounds and did X-rays to ensure the python's vice-like grip hadn't broken any ribs. Both tests came back negative. Kye was discharged the next day, nursing four bite marks and bruising on his lower left leg.

"We didn't spend that first night at home," Ms Sullivan said. "We stopped in to get clothes but the kids wouldn't get out of the car, so we stayed at my mum's."

On Thursday, the family confronted their fear, coming face to face with the massive creature during a meeting with Port Douglas snake catcher Dean O'Donohue.

Mr O'Donohue had removed the python, now dubbed 'Bitey' - the biggest and most aggressive he's seen this season.

"At 3.5m to 4m, it is long but not a particularly thick snake, so it was probably looking for food," Mr O'Donohue said.

Bitey has now been released into rainforest

SAMANTHA HEALY
Sunday Mail (QLD)
January 2012

Stinky Frogs Are A Treasure Trove Of Antibiotic Substances

Some of the nastiest smelling creatures on Earth have skin that produces the greatest known variety of anti-bacterial substances that hold promise for becoming new weapons in the battle against antibiotic-resistant infections, scientists are reporting. Their research on amphibians so smelly (like

rotten fish, for instance) that scientists term them "odorous frogs" appears in ACS' Journal of Proteome Research.

Yun Zhang, Wen-Hui Lee and Xinwang Yang explain that scientists long have recognized frogs' skin as a rich potential source of new antibiotics. Frogs live in warm, wet places where bacteria thrive and have adapted skin that secretes chemicals, known as peptides, to protect themselves from infections. Zhang's group wanted to identify the specific antimicrobial peptides (AMPs), and the most potent to give scientists clues for developing new antibiotics.

They identified more than 700 of these substances from nine species of odorous frogs and concluded that the AMPs account for almost one-third of all AMPs found in the world, the greatest known diversity of these germ-killing chemicals. Interestingly, some of the AMPs have a dual action, killing bacteria directly and also activating the immune system to assist in the battle.

The authors acknowledge funding from the National Basic Research Program of China and The National Natural Science Foundation of China.

Science Daily
December 2011

Python Atomic Betty Faces The Scales

When Betty hit 135kg it was a sign she needed to start watching her weight, and she was put on a strict diet of only a few goats a year.

So keepers at the Australian Reptile Park in Gosford were pleased to see the reticulated python weighing in at a svelte 137kg today.

Atomic Betty, the longest species of snake in the world and believed to be the biggest in Australia, had staff in hiss-terics as they tried to bag her for her annual weigh in.

Zookeepers wrestle with reticulated python Atomic Betty for her annual weigh-in at Australian Reptile Park

It took six reptile keepers half an hour to bag the park's biggest catch and potential man-eater.
python

When they finally got the 6.5m snake to the scales, it was revealed she had put only 2kg since the previous year.

Tim Faulkner, the park's operations manager, said it was no mean feat to get Betty, who has the ability to crush a person to death and swallow them whole, out of her glassed enclosure.

"The scary thing is that she has the ability to crush us," Mr Faulkner said at the park in Gosford, on the New South Wales Central Coast.

"You've got about a second to grab (her head) because as we go down they've got extremely good vision and she is going to strike."

Mr Faulkner said Betty's favourite food was goat.

"She didn't grow by a lot and that's because we actually stopped her from consuming as much food," he said.

"This year she only had about three or four goats as opposed to maybe 10 because she was getting a little bit too round rather than getting longer."

Betty usually swallows a goat in about an hour though it takes up to a week to digest.

She was imported from the US in 2001 and is expected to grow another metre in the next seven years.

The reticulated python is usually found in southeast Asia.

The constrictor is non-venomous but is a man-eater and strong enough to swallow a human whole.

LEMA SAMANDAR
Herald Sun
January 2012

Pythons And People Take Turns As Predators And Prey

People and giant snakes not only target each other for food -- they also compete for the same prey, according to a study co-authored by a Cornell University researcher.

More than a quarter of the men in a modern Filipino hunter-gatherer group have been attacked by giant pythons -- yet those same hunter-gatherers often target the pythons as their next meal. The study also finds that both the hunters and the pythons routinely eat local deer, wild pigs and monkeys. "Hunter-gatherers and other primates as prey, predators, and competitors of snakes," is published online in the Proceedings of the National Academy of Sciences.

"People have speculated for a long time that serpents have had a significant relationship with primates throughout their shared evolutionary history," said Cornell herpetologist Harry Greene, who conducted the study with Thomas Headland, an anthropologist at the SIL International in Dallas. "At least 26 species of non-human primates are eaten by snakes -- and there are many primates that eat snakes. This pattern of complex relationships is broader

than those hunter-gatherers, and our paper provides the strongest evidence yet for those relationships." Greene is also a Cornell professor of ecology and evolutionary biology.

In the 1960s, Headland recorded ethnographic observations of the Agta Negritos, a modern hunter-gatherer group in the Philippines. An average Agta adult male weighs about 90 pounds, small enough to be eaten by the huge, native reticulated pythons that can grow to 28 feet. In one such attack, a father entered his dwelling to find a python had killed two of his children and was swallowing one of them headfirst. The father killed the snake with his bolo knife and found his third child, a six-month-old daughter, who was unharmed.

The study was funded by the Louis S.B. Leakey Foundation and the Lichen Foundation.

Science Daily
December 2011

Surgery Saves Myrtle The Turtle From Hooks In The Tummy

Operation Save Myrtle the Turtle swung into full gear yesterday when she was found in the soup with two fish hooks stuck in her gut.

The female adult amphibian was extraordinarily lucky to have been found, shellshocked and comprehensively snared.

Ironically, she was only rescued because a woman trying to detangle her dog, who was also caught on the same length of line, saw the Eastern long neck on the bed of Kororoit Creek where her dog swims.

Myrtle enjoyed a second miracle when she was then rushed to St Albans Vet Clinic veterinarian Jason Buttigieg who performed several hours' of intricate surgery to "fish" two barbed hooks out of Myrtle's gut.

The rescuer said the turtle was a victim of illegal anglers leaving a row of home-made and baited rods dangling in Kororoit Creek at Cairnlea.

Dr Buttigieg called a reptile specialist before preparing Myrtle for her big operation.

He cut through her hind leg under the shell after X-rays revealed two hooks, one floating in her stomach, the other embedded on the abdomen wall.

"I fished around until I found them and then pulled them out. They still had the bait attached to them that had probably attracted her to them in the first place."

Eastern long neck turtles are one of the scores of species that enjoy Kororoit Creek above and below the water.

Wildlife Victoria development manager Amy Amato said Myrtle's incident was the 189th involving a fishing line in the past year.

"Discarded fishing line and hooks can be a real danger, often fatal," Ms Amato said.

"It's a huge problem for turtles and other marine creatures. It's shocking to see them go through such pain and trauma because of someone's irresponsible fishing.

"If you accidentally catch a native animal, don't just cut the fishing line and leave the animal, call Wildlife Victoria on 1300 094 535 because we understand accidents happen."

KELLY RYAN
Herald Sun
January 2012

Leaping Lizards and Dinosaurs Inspire Robot Design

— Leaping lizards have a message for robots: Get a tail! University of California, Berkeley, biologists and engineers -- including undergraduate and graduate students -- studied how lizards manage to leap successfully even when they slip and stumble. They found that lizards swing their tails upward to prevent them from pitching head-over-heels into a rock.

But after the team added a tail to a robotic car named Tailbot, they discovered that counteracting the effect of a slip is not as simple as throwing your tail in the air. Instead, robots and lizards must actively adjust the angle of their tails just right to remain upright.

“We showed for the first time that lizards swing their tail up or down to counteract the rotation of their body, keeping them stable,” said team leader Robert J. Full, UC Berkeley professor of integrative biology. “Inspiration from lizard tails will likely lead to far more agile search-and-rescue robots, as well as ones having greater capability to more rapidly detect chemical, biological or nuclear hazards.”

Agile therapod dinosaurs like the velociraptor depicted in the movie Jurassic Park may also have used their tails as stabilizers to prevent forward pitch, Full said. Their tail movement is illustrated in a prescient chase sequence from the 1993 movie in which the animated animal leaps from a balcony onto a T. rex skeleton.

“Muscles willing, the dinosaur could be even more effective with a swing of its tail in controlling body attitude than the lizards,” Full said.

Student Involvement Crucial To Research

Full and his laboratory colleagues, including both engineering and biology students, will report their discoveries online on Jan. 5 in advance of publication in the Jan. 12 print edition of the journal Nature. The paper’s first author, mechanical engineering graduate student Thomas Libby, also will report the results on Jan. 7 at the annual meeting of the Society for Integrative and Comparative Biology in Charleston, S.C.

Full is enthusiastic about the interplay fostered at UC Berkeley between biologists and engineers in the Center for Interdisciplinary Bio-inspiration in Education and Research (CiBER) lab, within which he offers a research-based teaching lab that provides dozens of undergraduate students with an opportunity to conduct cutting-edge research in teams with graduate students. Each team experiences the benefits of how biologists and engineers approach a problem.

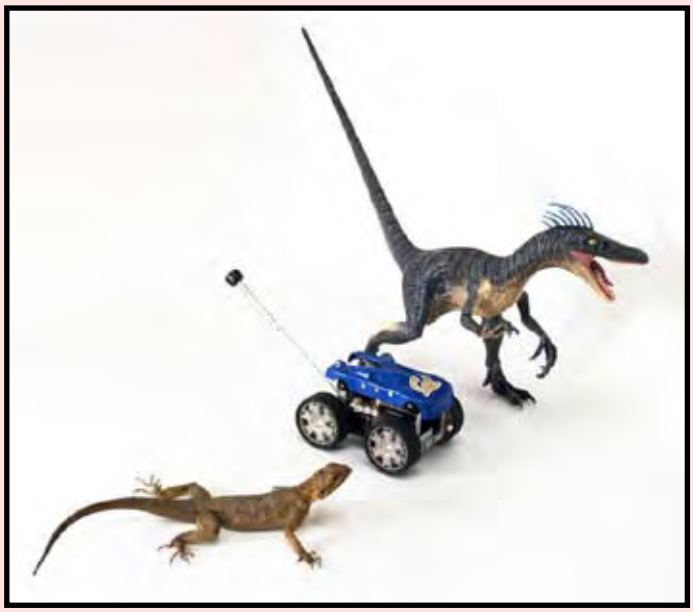
“Learning in the context of original discovery, finding out something that no one has ever know before, really motivated me,” said former UC Berkeley integrative biology undergraduate Talia Moore, now a graduate student in the Department of Organismic and Evolutionary Biology at Harvard University. “This research-based lab course … showed me how biologists and engineers can work together to benefit both fields.”

“This paper shows that research-based teaching leads to better learning and simultaneously can lead to cutting-edge research,” added Full, who last year briefed the U.S. House of Representative’s Science, Technology, Engineering and Mathematics (STEM) Education Caucus on this topic. “It also shows the competitive advantage of interdisciplinary approaches and how involvement of undergraduates in research can lead to innovation.”

From Gecko Toe Hairs To Tails

Full’s research over the past 20 years has revealed how the toe hairs of geckos assist them in climbing smooth vertical surfaces and, more recently, how their tails help to keep them from falling when they slip and to right themselves in mid-air.

The new research tested a 40-year-old hypothesis that the two-legged theropod dinosaurs the ancestors of birds used their tails as stabilizers while running or dodging obstacles or predators. In Full’s teaching laboratory, students noticed a lizard’s recovery after slipping during a leap and thought a study of stumbling would be a perfect way to test the value of a tail.



An Agama lizard next to Tailbot, a toy car with an attached tail and a toy figure. Sensors detect Tailbot’s orientation and swing the tail upward to keep the robot from pitching forward, similar to the way the lizard uses its tail.

In the CiBER lab, Full and six of his students used high-speed videography and motion capture to record how a red-headed African Agama lizard handled leaps from a platform with different degrees of traction, from slippery to easily-gripped.

They coaxed the lizards to run down a track, vault off a low platform and land on a vertical surface with a shelter on top. When the friction on the platform was reduced, lizards slipped, causing their bodies to potentially spin out of control.

When the researchers saw how the lizard used its tail

to counteract the spin, they created a mathematical model as well as Tailbot -- a toy car equipped with a tail and small gyroscope to sense body position to better understand the animal's skills. With a tail but no feedback from sensors about body position, Tailbot took a nose dive when driven off a ramp, mimicking a lizard's take-off. When body position was sensed and fed back to the tail motor, however, Tailbot was able to stabilize its body in midair. The actively controlled tail effectively redirected the angular momentum of the body into the tail's swing, as happens with leaping lizards, Full said.

Inertial Assisted Robotics

Tailbot's design pushed the boundaries of control in robotics in an area researchers call inertial assisted robotics, an attention-grabber at last October's meeting of the International Conference on Intelligent Robots and Systems. The UC Berkeley researchers' paper, presented by Libby and fellow mechanical engineering graduate student Evan Chang-Siu, was one of five finalists there among more than 2,000 robot studies.

"Engineers quickly understood the value of a tail," Libby said, noting that when he dropped Tailbot nose-down, it was able to right itself before it had dropped a foot. "Robots are not nearly as agile as animals, so anything that can make a robot more stable is an advancement, which is why this work is so exciting."

Full and his students are now investigating the role of the tail in controlling pitch, roll and yaw while running.

UC Berkeley coauthors include Full and students Moore, Libby and Chang-Siu, along with Department of Integrative Biology undergraduate Deborah Li and graduate students Ardian Jusufi in the Department of Integrative Biology and Daniel Cohen in the Department of Bioengineering.

The work was funded by the National Science Foundation, including the NSF's Integrative Graduate Education and Research Traineeship (IGERT) program, and the Micro Autonomous Systems Technologies (MAST) consortium, a large group of researchers funded in part by the U.S. Army Research Laboratory that is focused on creating autonomous sensing robots.

Science Daily
January 2012

Snakes Slithering Into The Suburbs

Reptile experts are warning that snakes are reaching pest proportions in Adelaide suburbs.

Snake catcher Ian Renton, who has more than 30 years' experience, says the common brown snake, the world's second deadliest, is being found throughout Adelaide, including the city.

"Twenty-odd years ago, you could name the suburbs that you might visit every day and then over the years we have seen that change, and the No.1 reason is people allowing mice to breed on their property," Mr Renton said.

"They are nature's live mouse trap, particularly in suburbia, and over the years that is probably how they have managed to infiltrate every suburb in Adelaide ... anywhere a mouse can go a snake can go."

"Like a police dog, the snake just follows the mouse scent trail and makes a beeline for it."

Speaking to the Sunday Mail this week while fielding a flurry of calls reporting snakes at homes in Glenelg, Salisbury, Taperoo and Beaumont, Mr Renton said his team at Snake-Away Services reacted to about 4500 calls each season.

He urged anyone who found a snake on their property to immediately call a professional snake catcher, saying most of the 80 people bitten in South Australia each year on average were trying to catch or kill the snake.

Snake catcher Ian Renton with a recently caught brown snake

Mr Renton said a panicked woman north of Adelaide this week had used a kitchen knife to chop up what turned out to be a harmless legless lizard.

"If this had of been a brown snake she would have been bitten, well and truly, trying to chop it up," he said.

Women's and Children's Hospital toxicology professor Julian White said SA's last fatal snake bite was inflicted by a baby brown snake less than 30cm long. He urged anyone bitten to seek immediate help.

"If you use correct first aid and get yourself immediately to hospital, the chances are that you will survive the snake bite. The majority of people who die don't realise that they have been bitten or think it is minor and don't use first aid," Prof White said.

Environment and Natural Resources Department animal welfare manager Dr Deb Kelly said residents should stand still if confronted by an aggressive snake and never try to interfere with the animal.

"An adult brown snake has far more venom than it needs to kill one person, they have enough to kill 50 adults," Dr Kelly said.

Mr Renton said snakes were nature's "great escape

artists" and could travel at incredible speeds across land and water and over fences.

"If he's fully charged, the brown snake can easily outrun or outmanoeuvre anyone, so over 50 or 100m, if he's fully charged, forget it, he can outswim you," he said.

"They would outswim Ian Thorpe, they are absolutely unbelievable."

Mr Renton said contrary to popular belief, snakes did not like extreme heat and began "cooking" from the inside once their temperature reached 32C.

He recalled a recent case in which he was called to a Mexican stand-off in an eastern suburbs backyard between a brown snake and a cat. "When I got there 10 minutes later, the snake was still in the striking stance on the lawn but it was dead, rigor mortis had set in and it was standing up.

"Obviously it had absorbed so much sun and the cat had kept it in that position so long that it cooked."

ANDREW DOWDELL
Sunday Mail (SA)
January 2012

Darwin Family Wakes Up To Find Crocodile In Their Lounge Room

A Darwin dad armed himself with his guitar to fend off a crocodile that walked into his family's lounge room.

The plump, smooth-scaled saltie was a suspected escapee from the nearby Darwin Crocodile Farm.

The croc wandered into the Bees Creek Rd home in the early hours of Saturday morning.

Micko Srbinovska and Jo Dodd (inset) fended off the crocodile they found in their house

Neighbours say 15 crocodiles suspected of escaping from the Darwin Crocodile Farm had turned up on their properties over the past five years.

Micko Srbinovska, 42, was woken by his wife Jo Dodd who found the 1.7m saltie in the lounge room just 3m from their bedroom door about 5.30 on Saturday morning.

"Our dog was outside the bedroom door barking loudly," said Ms Dodd, 42.

"I opened the sliding door and saw the crocodile right outside the door.

"It is pretty full-on when there is a crocodile in your lounge room -- I nearly died."

Mr Srbinovska pulled on some trousers, grabbed the closest item of defence - his guitar - and edged out of the bedroom across the lounge room towards the phone.

He then called the Crocodile Management Unit.
Female crocodile catcher Dani Best showed up and wrestled the crocodile into submission.

Ms Dodd said the crocodile made eerie sounds during the struggle with Ms Best.

"It was prehistoric. The hissing sounded like a vampire. Then it went into its death rolls - the power of this thing was just phenomenal," Ms Dodd said.

Ms Dodd described Ms Best as "awesome."

"She just jumped on top of it, taped up its snout, back and front legs."

After the crocodile was secured they noticed some of the ridges on the crocodile's back - called scoots - had been cut off.

Farmed crocodiles have certain scoots cut off as part of a numbering system to identify them.

Ms Best told the NT News the crocodile was taken back to its farm straight away.

Ms Dodd, who moved to Bees Creek from Ludmilla in September, said croc escapees were an ongoing joke in the area.

SARAH CRAWFORD
Northern Territory News
January 2012

Salt Water Alone Unlikely To Halt Burmese Python Invasion

Invasive Burmese python hatchlings from the Florida Everglades can withstand exposure to salt water long enough to potentially expand their range through ocean and estuarine environments, according to research in the latest issue of the Journal of Experimental Marine Biology and Ecology.

This recent study, based on lab experiments conducted by researchers from the U.S. Geological Survey, provides initial evidence that pythons may be able to survive in marine and estuarine environments such as bays, inlets

and open seas. The results raise concerns that the invasive constrictor may invade nearby islands, such as the Florida Keys, said Kristen Hart, a USGS research ecologist and lead author of the study.

"Because reptiles, in general, have poor salinity tolerance, it was hoped that salt water would naturally hinder pythons' ability to expand their range beyond the Everglades," Hart said." Unfortunately, our results suggest salt water alone cannot act as a reliable barrier to the Everglades python population."

A Burmese python (*Python molurus*) peeks over the head of an alligator that holds the python's body in its mouth in Everglades National Park

Before the study, Burmese pythons had been found in brackish margins of the Everglades, the expansive and predominantly freshwater wetland that is home to the only known wild-breeding population of Burmese pythons in the United States. Yet, no information was available to indicate how long the snakes could persist in saline environments.

The issue of salinity tolerance is critical for understanding the risks of the giant constrictors spreading beyond the Everglades, given the Everglades location on the southernmost end of the South Florida peninsula.

"The fact that this study has ruled out one of the most hoped-for forms of physical barriers, salt water, as preventing the spread of invasive pythons in Florida puts even more onus on human action to prevent the spread of these damaging reptiles," explained USGS director Marcia McNutt. "This study demonstrates the distinct possibility that pythons could spread to new suitable habitats one estuary at a time."

In the lab, researchers tested how long hatchling pythons could survive with only salt water to drink. They found that, when given access only to water with salinity levels equivalent to full marine water, hatchling pythons straight out of their eggs lived about a month. At salinity levels comparable with estuaries, the hatchlings survived about five months.

The USGS research demonstrated, however, that varying salinity levels did affect the snakes, as reflected in significant survival differences between pythons exposed to freshwater, marine, and estuarine salinities in the lab. However, because hatchlings are considered the most vulnerable stage of the python's life, it's likely that adult snakes could persist even longer in saltwater environments, Hart and her colleagues noted.

By comparison, pythons in the study displayed a saltwater tolerance level near that of the native mangrove snake, a salinity-tolerant native snake found in high-salinity environments in and around the Everglades.

Although the study didn't account for the effect that access to food in saltwater environments would have on survival, lab conditions were designed to provide a conservative estimate of snake tolerance to salinity, by not allowing for the possibility that snakes could access freshwater from rain

Science Daily
January 2012

New Sea Snake Discovered In Qld

Scientists have discovered a new species of sea snake in the Gulf of Carpentaria off far north Queensland.

The species has been dubbed the rough-scaled sea snake because of its unique raised scales.

The newfound sea snake *Hydrophis donaldi*

University of Queensland Associate Professor Bryan Fry (who supplied photo above) says it was discovered in waters off Weipa, where fishing trawlers do not operate.

He says it is one of three new sea snakes discovered in waters which are closed to trawlers.

He says the discovery could result in important medical breakthroughs.

"It's a good illustration of the fact that there are so many more of these animals out there than we realise," he said. "These things are not just to be conserved, because all nature is precious, but the venomous animals in particular

are a bio-resource and you might find the next wonder drug from something as unlikely as a sea snake."

He says venom from the creatures could potentially provide sources of life-saving medications.

"For example pain killers from cone snails, you have a diabetes treatment from the endangered gila monster," he said.

"There are a lot of different compounds that have been shown to be medically useful from these animals.

"It just illustrates why we need to preserve all of nature, because you just can't predict where the next little piece of beautiful magic like that is going to come from."

KIM LYELL
abc.net.au
February 2012

British Tourist Bitten 'Down Under' By Deadly Snake While Answering Call Of Nature

A British tourist is lucky to be alive after a painful and embarrassing encounter with one of the deadliest snakes in Australia, while answering the call of nature outside.

As Jackson Scott crouched in the dark at a remote Tasmanian farm, a highly venomous tiger snake bit his testicle, The Sun reported Thursday.

A tourist is lucky to be alive after a deadly tiger snake bit his testicles in Tasmania

"I went into the garden at four in the morning after a night in the pub to save flushing the toilet, because water is precious in the outback," said Jackson, 29, from Glasgow in Scotland. "Just as I finished ... it bit me."

In a panic, he stumbled to his best friend's room for help and was driven to a hospital in Hobart, where medics gave him antivenom.

While Scott later joked about his brush with death, he praised the doctors and nurses for not teasing him, saying they were "very professional."

A similar incident made headlines across Australia in 2008 when a deadly brown snake bit a tourist's penis while he made a roadside restroom stop in a remote area northwest of Cairns, Queensland. He also survived after being rushed to hospital.

Newscore
February 2012

Invasive Plant Protects Australian Lizards From Invasive Toad

An invasive plant may have saved an iconic Australian lizard species from death at the hands of toxic cane toads, according to research published in the March issue of The American Naturalist. It's an interesting case of one invasive species preparing local predators for the arrival of another, says Richard Shine, a biologist at the University of Sydney who led the research.

Cane toads were introduced in Australia in the 1930s to control beetles that destroy sugar cane crops, but the toads quickly became an ecological disaster of their own. They produce toxins called bufadienolides, which have proven deadly to many native Australian species that feed on frogs and toads.

Bluetongue lizards from tropical Australia like the Darwin specimen to the left die if they eat an invasive cane toad, whereas members of the same lizard species from southern Australia like the Sydney specimen to the right are very resistant to the toad's poison. That tolerance seems to be due to rapid evolution brought about by the presence of a toxic garden plant that has almost identical poisons to cane toads. (Photo: Right: Travis Child Left: Sylvan Dubey)

Bluetongue lizards are one of the vulnerable species, and their numbers began to shrink significantly after the toads arrived in northern Australia. But there's reason to believe that bluetongue populations elsewhere Australia will fare better as the toads spread across the continent.

"Our study was stimulated by a puzzling observation that arose during research on the ecological impacts of invasive cane toads … in Australia," Shine and his colleagues write. "Some lizard populations were vulnerable to bufotoxins whereas others were not -- and the populations with high tolerance to bufotoxins included some that had never been exposed to toads."

Why would these populations have evolved a tolerance to the toad toxin when no toads were present?

The answer, according to Shine and his colleagues, is likely an invasive plant species known as mother-of-millions, which happens to produce a toxin that's virtually

identical to that of the cane toad. After it was imported from Madagascar as a decorative plant some 70 years ago, mother-of-millions has since run amok in parts of Queensland and New South Whales and become part of the diet for local bluetongues.

Shine and his colleagues collected bluetongues from places with and without mother-of-millions, and injected each of them with a tiny amount of cane toad toxin. They found that toads from places where mother-of-millions is common had less of a reaction than those from places where it was absent. The results suggest that the plant drove strong selection for lizards that could tolerate bufotoxins -- a remarkable example of evolution over a relatively short period of some 20 to 40 generations of lizards.

“Now it appears we have a population of eastern bluetongue lizards that are able to defend themselves well against cane toads -- even though they’ve never actually met one -- whereas the devastation of the cane toads on the northwestern lizard population continues,” Shine said. “Eating this plant has pre-adapted the eastern blueys against cane toad poisons.”

The Australian government has spent millions trying to deal with the toads and mitigate their ecological impact, but Shine’s work suggests the eastern bluetongues might not need much help.

“We’re now able to focus our conservation dollars on those populations that can’t care for themselves,” he said.

Science Daily
February 2012

Scales Of Justice - Snake Trade Done And Dusted With Fingerprints

Fingerprints have been lifted off exotic snakes and lizards for the first time by NSW Police, after a two-year operation uncovered almost 200 reptiles in suburban homes in Sydney.

Dawn raids by police and officers of the Environment and Heritage Office were carried out last week on three addresses across the city.

The houses had been converted specifically to keep the reptiles and were likened to hydroponic drugs houses - they looked like normal homes from the outside but were set up for alleged illegal trade.

Forensic experts fingerprinted the reptiles at the site of one of the homes.

“It is the first time prints have been taken off reptiles in an operation,” said Sergeant Cameron Forsyth of the Fingerprint Unit.

“The procedure is fairly delicate and groundbreaking research was done before we knew it was possible.”

The snakes are dusted, like in normal fingerprinting, and the prints then photographed from the reptile.

“We first had to establish it could be done without harming the subjects.”

Sgt Forsyth said only certain species were able to be printed.

The Daily Telegraph understands at least four snakes and lizards were dusted from the 194 reptiles seized.

Some of the species seized had never been seen in Australia before and the haul is estimated to be worth in excess of $500,000.

Many of the animals were in poor health and were sent to various wildlife centres, Environment and Heritage Office acting CEO Sally Barnes said.

“Exotic species found ... included two emerald tree monitors from Papua New Guinea, a boa constrictor, a crested gecko (native to New Caledonia) and four leopard geckoes,” Ms Barnes said.

“Other animals including hatching geckoes, pythons and turtles were found frozen. Inquiries continue and charges are expected to be laid once the investigation is complete.”

Frozen rats kept as food were also found.

Ms Barnes said some of the animals were in poor health and in some instances the condition of their housing could only be described as “below average”.

“All reptiles are protected in NSW and it is against the law to remove (them) from the wild,” she said. “Illegal trade of wildlife is a serious conservation problem often resulting in mistreatment of animals and grave impacts on the ecosystems they are taken from.”

MARK MORRI
Daily Telegraph
February 2012

Scaly Pets All The Rage

WA reptile breeders, and the agency that regulates them, say the enormous growth in the sector is being driven by a desire for pets with a ‘wow-factor’.

The Department of Environment and Conservation says WA families are turning away from conventional pets and welcoming snakes and lizards into their homes in record numbers.

The Department grants licences allowing people to capture, breed and keep snakes.

There are 17 licensed reptile breeders across the state and seven people licensed to take animals from the wild for breeding.

Snakes and lizards are all the go for pets!

Bill Stewart is the biggest reptile breeder in the Kimberley and says people are realising the animals are both exotic and safe to keep as pets.

"I think people find it a lot more fascinating having a snake instead of a standard cat or dog," he said.

"I suppose for the younger generation it's a lot cooler.

"It's just a matter of trying to get parents to come to the party and let their kids have a snake."

Wildlife officer Matthew Swan says there are now 4,500 people allowed to keep reptiles in their homes as pets.

"We've seen significant growth in the last three to four years," he said.

"We've probably gone up by five to six hundred licences a year in the past few years.

"The industry will plateau somewhere, I mean at some point there will only be so many licences, but at this stage it shows no sign of slowing down, so it's full steam ahead."

ABC NEWS
March 2012

Corn Snake, Pythons Seized In Property Raids

Officers from the Department of Environment and Conservation (DEC) and Customs and Border Protection have seized three snakes in two separate raids in Kambalda in the Goldfields region of Western Australia, including an exotic corn snake that is native to North America.

Government authorities were alerted to the illegally kept snakes and executed search warrants on the two properties yesterday.

A juvenile corn snake and a black-headed python, which is native to WA but was being held illegally, were seized at one address, while a native south west carpet python was discovered being illegally held at another residence. The two seizures were not related.

The Seized Corn Snake

Customs and Border Protection Acting National Manager Investigations Ross Viles said the illegal importation of exotic species posed a serious biosecurity risk as they could introduce diseases and compete with native animals for food and habitat.

"Customs and Border Protection works closely with other Commonwealth and state agencies such as DEC to combat the unlawful importation and exportation of wildlife," Mr Viles said.

DEC wildlife officer Matt Swan said black-headed and south west carpet pythons were protected fauna under the Wildlife Conservation Act 1950. The south west carpet pythons are listed as a threatened species.

"It is an offence to take these species from the wild or be in possession of them unlawfully, and it is also illegal to buy reptiles from anyone other than a licensed reptile dealer and to keep reptiles without a licence," he said.

"Wildlife smuggling is a serious problem and DEC takes the unlawful possession of protected reptiles and reptile trafficking very seriously. My advice to anyone tempted to capture reptiles they encounter in the wild is to leave them alone."

Investigations are continuing and charges are yet to be laid. The snakes are now in the possession of DEC.

The maximum penalties for import or export related offences under the Commonwealth's Environment Protection and Biodiversity Conservation Act 1999 are 10 years imprisonment or a fine of $110,000, or both.

Under WA's Wildlife Conservation Act the maximum penalty for taking or possessing protected fauna is $4000, for taking or possessing threatened species is $10,000 and for keeping fauna in captivity is $2000.

People with information about the illegal removal of

reptiles or notices any suspicious activity suggesting that reptiles are being illegally moved or kept should call DEC's Wildcare hotline 9474 9055.

The Seized South Western Carpet Python

CUSTOMS MEDIA RELEASE
March 2012

Common North American Frog Identified as Carrier of Deadly Amphibian Disease

Known for its distinctive "ribbit" call, the noisy Pacific chorus frog is a potent carrier of a deadly amphibian disease, according to new research published this week in the journal PLoS ONE. Just how this common North American frog survives chytridiomycosis may hold clues to protect more vulnerable species from the disease.

Chytrid has wiped out more than 200 frog species across the world and poses the greatest threat to vertebrate biodiversity of any known disease.

In California's Sierra Nevada, SF State biologist Vance Vredenburg has studied the impact of chytrid since 2003. His team's latest findings suggest the disease is widespread among Pacific chorus frogs but the species rarely shows symptoms, making it a highly effective carrier.

"We found that the vast majority of Pacific chorus frogs don't die or show symptoms even with surprisingly high levels of infection," said Natalie Reeder (M.S. '10), who conducted the research for her master's thesis at SF State. "They are able to go about life as normal, moving over land and carrying the disease to new locations."

Pacific chorus frogs (*Pseudoacris regilla*) are one of the most common frogs on the west coast of North America and are found along the Pacific coast from Baja California to British Columbia. These small frogs range in color from bright green to gold or brown and are common in urban yards and parks as well as remote habitats.

Their abundance and mobility make them dangerously effective at spreading the chytrid fungus. The frogs have sticky toe-pads that help them climb and can survive longer periods out of water compared to other species.

"The Pacific chorus frog is a perfect host for chytrid, allowing the disease to leap frog to the next pond over," said Vredenburg, assistant professor of biology. "The findings help explain the pattern and speed of the chytrid epidemic in the Sierras."

Chytridiomycosis is a deadly disease caused by an aquatic fungus called *Batrachochytrium dendrobatidis* (Bd).

Because it is a water-borne fungus, scientists assumed it would spread downstream through rivers and lakes. But in the Sierra Nevada, the epidemic moved uphill.

"Our findings explain the steady march of chytrid up the mountain," Reeder said. "These frogs can climb mountains and go places that are pretty dry."

Surveys in Sixty Lakes Basin in the Sierra Nevada revealed that between 2003 and 2010, Pacific chorus frog populations remained stable in 26 lakes and ponds and even colonized one new lake. During the same time period, a chytrid epidemic swept through the basin, causing mass die-offs among other species, such as the mountain yellow-legged frog, which was reduced to 5 percent of its historic habitat range.

Pacific chorus frogs survived the outbreak but did not escape infection. Skin swabs collected from the species in Sixty Lakes Basin in 2009 confirmed that two-thirds of the animals tested were infected with the Bd fungus.

A Pacific chorus frog in Sixty Lakes Basin, where Vredenburg and colleagues conducted fieldwork

Similarly in lab studies, 35 out of 39 frogs collected from the San Francisco Bay Area tested positive for the fungus. After four months of monitoring in the lab, 38 out of the 39 showed no symptoms of chytridiomycosis. Typical symptoms include weight loss, excessive skin shedding and a frog's inability to right itself when turned on its back.

"Pacific chorus frogs are not completely immune to the disease but under the right circumstances they seem to be able to cope with high levels of infection," Vredenburg

said. Lab tests revealed the species tend to carry greater loads of the fungus, making it more infectious compared to other documented carriers of chytrid, such as the African clawed frog and the American bullfrog.

The study also identified an important survival mechanism that could help Pacific chorus frogs survive infection. The typical pattern of infection with chytrid involves the fungus attacking frogs' skin, causing it to become up to 40 times thicker than usual -- a deadly change given that frogs use their skin to absorb water and vital salts, such sodium and potassium. But in highly infected Pacific chorus frogs, the researchers found a mosaic of infected, thicker skin adjacent to normal skin.

"It looks like this patchy infection allows the healthy skin to continue functioning normally," Vredenburg said, whose research for this study was supported by the National Science Foundation.

It is still unknown what keeps the infection from covering a frog's entire skin, but Vredenburg's next step is to investigate whether beneficial skin bacteria plays a role. If that is the case, the findings could inform the development of treatments to help more endangered amphibian species survive this global fungal epidemic.

Science Daily
February 2012

Darwin Pilot Finds Snake In Cockpit

A Darwin pilot was forced to make an emergency landing after discovering a large snake slithering around his feet just moments after takeoff.

Air Frontier pilot Braden Blennerhassett had been in the air 10 minutes after taking off from Darwin Airport when he realised he had company in the cabin.

"My blood pressure and heart rate was a bit elevated — it was an interesting experience," Mr Blennerhassett told Nine News.

The 26-year-old quickly diverted the small plane back to Darwin and warned air traffic control about his situation.

"As the plane was landing the snake was crawling down my leg, which was frightening," he said.

Mr Blennerhassett parked the plane off the runway and a firefighter from the airport went to inspect it, finding the snake and a green tree frog.

Both animals had disappeared by the time a Parks and Wildlife ranger arrived to capture them.

Ranger Sally Heaton said the snake, believed to be a golden tree snake, may have been enticed onto the plane by the frog.

But with the snake's whereabouts unknown, the plane remains grounded.

"The airplane is in for maintenance at the moment, so it will be pulled apart and the snake will be found," Mr Blennerhassett said.

Golden tree snakes are a non-venomous species that can grow up to 1.5 metres long.

A Golden tree snake (*Dendrelaphis punctulata*)

National Nine News
April 2012

Snakes Alive! You're Nipped, Sunshine

Policing can be a dangerous business, just ask members at the Swan Hill police station whose quarters recently became overrun with one of Australia's most dangerous reptiles.

The relatively new, two-storey building, which sits close to the Little Murray River in north west Victoria recently became a breeding ground for Eastern Brown snakes.

Their bite, even from a juvenile, can be fatal.

Inspector of Police at Swan Hill, Jamie Templeton, said the snake infestation began with "one or two coming into areas we didn't want them to be".

"There was one occasion when we were all gathered in a room having a meeting and one came out of the light fitting and that did put the wind up a couple of members," Mr Templeton told ABC Mildura Swan Hill breakfast presenter Anthony Gerace.

"I've been accused of using it as a tactic to keep everyone on their toes. In some ways people are moving about the station fairly quick now," Inspector Templeton said.

Snake experts were called into the station to assist; a chemical deterrent - not harmful, but repugnant to the Eastern Brown - was sprayed into the cavity between the first and second floors of the police station where the snakes were breeding.

Senior wildlife officer with the Department of Sustainability

and the Envrionment, Murray Rhode, said Eastern Brown snakes coming into buildings wasn't that unusual.

"It's a little unusual for them to be dropping out of light fittings," Mr Rhode told the program.

"One thing that juvenile Brown snakes want to do just after hatching is go and find somewhere safe and warm to live before something eats them. Unfortunately they found [Inspector Templeton's] police station," he said.

Eastern Brown snakes like this one recently infested the Swan Hill Police Station

With the current high river, and more flood waters coming down the Murray, can we expect more brushes with snakes?

"Snakes will be pushed out as the water comes in, but I think in Jamie's situation, previously the police station was an old derelict site (next to the Little Murray River)...it's an area that Eastern Browns would frequent fairly regularly," Mr Rhode said.

He said only experts should handle snakes found in buildings.

"Leave them alone, don't try and deal with them yourself, contact either DSE's information line to get a licenced snake controller in."

"I think the best deterrent is to make sure the area around your home is snake unfriendly. Clean up and be hygienic in respect to cat and dog food, budgie cages and other domestic animal enclosures where snake food like mice and other attractants will draw the snakes in," he said.

"The other thing with juvenile brown snakes - they love to eat...skinks. We put bark chip gardens, and sleepers and rockeries and everything landscaped around (our homes) which attracts the little skinks and juvenile brown snakes just love to eat skinks."

Asked if his members were afraid of snakes, Inspector Templeton said: "We're a pretty tough breed down in Swan Hill and they don't frighten us too much."

DEB BANKS
ABC News
March 2012

Hospital Hero? This Frog Has The Makings Of A Lifesaver

Nuclear scientists are using native frogs to thwart hospital superbugs in work that sounds more like the plot of a sci-fi thriller than legitimate research.

Sydney and Melbourne scientists are studying several species of Australian frogs - including the green-eyed tree frog and the green and golden bell frog - whose skin secretions are toxic to a range of bacteria, including multi-drug-resistant golden staph know as MRSA.

Antibiotic-resistant bacteria can occasionally be fatal and have become a global public health problem. Antimicrobial compounds known as peptides found in the milky secretions of some frogs may be a wonder drug.

A living germ killer ... a green and golden bell frog at Taronga Zoo. It belongs to a species which secretes chemicals that can kill bacterial strains resistant to antibiotic drugs

The research leader, Frances Separovic, a biophysical biologist, said most antimicrobial peptides killed bacteria by puncturing or lysing (causing them to disintegrate) their membranes. This made it hard for bacteria to develop resistance to them, Professor Separovic, chemistry head at Melbourne University, said.

''On the other hand, most antibiotics inhibit protein synthesis in a bacteria and, over time, mutations in the bacteria lead to resistance to the antibiotics,'' she said.

To understand where and how the frog's anti-microbial peptides destroy a bacteria's membrane, the team use a specialised instrument called a neutron reflectometer at the Australian Nuclear Science and Technology Organisation (ANSTO) to fire a narrow beam of subatomic particles, called neutrons, onto the membrane.

Anton Le Brun, a post-doctoral research fellow at ANSTO, said the technique allowed scientists to see through the membrane and watch how the peptides worked.

''When you look at a brick wall you can see the surface, but the neutron reflectometer lets us look through it and see what is underneath,'' Dr Le Brun said.

They found the positively charged antimicrobial peptides were attracted to bacteria because they were negatively charged. ''Specificity is really important. You don't want the peptides attacking a red blood cell,'' Professor Separovic said.

''By understanding the peptides' 3D structure and mechanism of action at a molecular level, we may be able to increase their antibiotic potency,'' she said.

Dr Le Brun said the team studied synthetic chemical versions. ''I can assure you no frogs were harmed in these experiments.'

NICKY PHILLIPS
Sydney Morning Herald
March 2012

Crocodile Skull Found On Jurassic Coast Is From A Previously Unknown Species

The fossilised skull of an ancient beast that snapped at dinosaurs from the swamps of Swanage belongs to a previously unknown species of crocodile.

A passing expert chanced upon the well-preserved skull – somewhat flattened from 130m years in limestone – when it was exposed by a rock fall on the Dorset coast in 2007.

In the five years since, researchers at Bristol University have pored over the specimen and compared it with other fossils, before finally declaring the creature a species new to science.

The fossil skull, which is about a metre long, was exposed by a rock fall on the Dorset coast

The metre-long skull was the dangerous front end of a forerunner of modern saltwater crocodiles, measuring 3.5 metres from nose to tail. The reptile fed on fish, turtles and other creatures in the warm swamps and lagoons that dotted tropical forests stalked by dinosaurs.

"It was an incredible piece of luck. The rock fall must have happened less than a week from my being there," said Richard Edmonds, earth science manager at the Jurassic Coast world heritage site, who made the discovery during a routine check of coastal erosion. "Sticking out of the rock was this cross-section through the skull." Half of the skull was recovered from a block of rock that crashed on to the beach near Swanage, with the rest excavated from the cliff face in a three-person, six-hour operation, after landowners granted the team permission.

Once the specimen had been cleaned up, Edmonds passed the remains to palaeontologist Mike Benton at Bristol University and his former PhD student, Marco Brandalise de Andrade, who measured and scanned the skull and checked it against previous discoveries.

"This is a pretty remarkable specimen. It's not crushed, it's in good condition and it's a new species," Benton told the Guardian. "This just goes to show the benefits of eternal vigilance even in these well-picked-over areas."

Researchers named the creature *Goniopholis kiplingi*, with *Goniopholis* meaning "angled scale" in Greek, and *kiplingi* in honour of Rudyard Kipling, author of The Jungle Book.

Fossil hunters uncovered other specimens of *Goniopholis* in England more than a century ago. The latest creature is distinguished by longer bones in parts of the skull and subtle differences in the upper jawbone. Details of the discovery are reported in the Zoological Journal of the Linnean Society.

"The exciting thing is that the fossil record is far from complete. We know lots about the more common fossils, but so few of the animals that ever lived became fossilised, there's always the prospect of finding new species," said Edmonds, who has a small, extinct lobster named after him.

"Clambering up the cliffs is never a good idea, and hammering randomly into the cliff is pointless, but the beaches are the safest and best places to search for fossils," he said. "The cliffs are incredibly soft and landslides get eroded away at a very rapid rate, so you can pick up beautiful fossils lying on the beach. Even in 200 years' time, people will still be making new discoveries, probably at the same rate we are today."

IAN SAMPLE
guardian.co.uk
March 2012

Hiding In Plain Sight, A New Frog Species With A 'Weird' Croak Is Identified In New York City

In the wilds of New York City -- or as wild as you can get so close to skyscrapers -- scientists have found a new leopard frog species that for years biologists mistook for a more widespread variety of leopard frog.

While biologists regularly discover new species in remote rain forests, finding this one in the ponds and marshes of Staten Island, mainland New York and New Jersey --

sometimes within view of the Statue of Liberty -- is a big surprise, said the scientists from Rutgers,UCLA,,UC Davis, and The University of Alabama who worked together to make the unexpected discovery.

"For a new species to go unrecognized for all this time in this area is amazing," said UCLA Professor Brad Shaffer, from UCLA's Institute of the Environment and Sustainability and UCLA's Department of Ecology and Evolutionary Biology. Shaffer is one of the authors on the paper announcing the discovery.

"Many amphibians are secretive and can be very hard to find, but these frogs are pretty obvious, out-there animals," said Shaffer, who is also the director of the UCLA La Kretz Center for California Conservation Science. "This shows that even in the largest city in the U.S. there are still new and important species waiting to be discovered that could be lost without conservation."

In newly released research available online in the journal Molecular Phylogenetics and Evolution, scientists used DNA data to compare the new frog to all other leopard frog species in the region and determined that it is an entirely new species, soon to be named by the researchers. The unnamed frog joins a crowd of more than a dozen distinct leopard frog species. The newly identified wetland species likely once lived on Manhattan, and though it's now only known to live in a few nearby locations, Yankee Stadium in the Bronx would be the bull's-eye of a target drawn around its current range.

Lead author and evolutionary biologist Cathy Newman was completing her master's at The University of Alabama while working with Leslie Rissler, associate professor of biological sciences at Alabama, on an unrelated study of the southern leopard frog species when Newman first contacted doctoral candidate and co-author Jeremy Feinberg at Rutgers in New Jersey. Newman asked for help on her project, and in return, Feinberg, an ecologist, asked the geneticists if they could help him investigate some "unusual frogs" whose weird-sounding calls were different from other leopard frogs.

"There were northern and southern leopard frogs species in that general area, so I was expecting to find one of those that for some reason had atypical behaviors or that were hybrids of both," Newman added. "I was really surprised and excited once I started getting data back strongly suggesting it was a new species. It's fascinating in such a heavily urbanized area."

Feinberg, on the other hand, who is also a regional expert on amphibians and reptiles and a guest researcher at Brookhaven National Laboratory, suspected that the leopard-frog lookalike with the peculiar croak was a new creature hiding in plain sight. Instead of the "long snore" or "rapid chuckle" he heard from other leopard frogs, this frog had a short, repetitive croak. As far back as the late 1800s, scientists have speculated about the "odd" frogs, but until the advent of molecular genetics, it was difficult to prove anything, he said.

"When I first heard these frogs calling, it was so different, I knew something was very off," Feinberg said. "It's what we call a cryptic species: one species hidden within another because we can't tell them apart on sight. Thanks to molecular genetics, people are really picking out species more and more that would otherwise be ignored."

A yet, unnamed frog species that for the last century scientists thought was a more common leopard frog

The bulk of Newman's work took place at UC Davis, where UCLA's Shaffer previously worked. When he found out about Newman's project, Shaffer was immediately taken with it and encouraged her to pursue it. He offered guidance during Newman's preliminary analysis of the frog's mitochondrial DNA, taken from the samples Feinberg and other regional biologists sent of the northern, southern and "weird" frogs. The results were clear-cut: the DNA was distinct, no matter how much the frogs looked alike.

"If I had one of those three leopard frogs in my hands, unless I knew what area it was from, I wouldn't know which kind I was holding because they all look so similar," Newman said. "But all of our results showed this one lineage is very clearly genetically distinct."

Mitochondrial DNA represents only a fraction of the amphibian's total DNA though, so Newman knew she needed to do broader nuclear DNA tests to see the whole picture and confirm she had a new species. Shaffer helped her develop strategies for collecting data to compare the new frog to closely related leopard frog species. They shared the data in teleconferencing meetings with Feinberg; Feinberg's adviser, ecology Professor Joanna Burger at Rutgers; and Rissler, Newman's master's adviser at Alabama. Together, the five researchers authored the paper announcing the new species.

"I remember in our lab meetings we were all so excited," Shaffer recalled. "We were trying to be good scientists and not jump to conclusions, but we're looking at the data going, 'It's got to be a new species.' You feel like you've uncovered something unique about the world that's never been known before."

Habitat destruction, disease, invasive species, pesticides and parasites have all taken a heavy toll on frogs and other amphibians world-wide, said Rissler, program

director in the National Science Foundation's division of environmental biology while on sabbatical from Alabama. Even if you don't particularly care about amphibians, she said, they are great indicators of problems in our own environment -- problems that could potentially impact our own health.

"They are a good model to examine environmental threats or degradation because part of their life history is spent in the water and part spent on land," Rissler said. "They are subject to all of the problems that happen to both of these environments."

The findings show that even in densely-populated, well-studied areas, there are still new discoveries to be made, said Shaffer, the conservation ecologist. The newly identified frogs appear to have a startlingly limited range, and as the director of UCLA's La Kretz Center for California Conservation Science, Shaffer sees an immediate link to conservation.

"One of the real mantras of conservation biology is that you cannot protect what you don't recognize," Shaffer said. "If you don't know two species are different, you can't know whether either needs protection."

The newly identified frogs have so far been found in scattered populations in northern New Jersey, southeastern mainland New York, and on Staten Island. Although they may even extend into parts of Connecticut and extreme northeastern Pennsylvania, evidence suggests they were once common on Long Island and other nearby regions but went extinct there in just the last few decades, Feinberg and Burger said.

"The extensive extinctions over the last few decades raise added conservation concerns that must be addressed," Burger said, adding "It is amazing to discover a new frog in Rutgers backyard and the metropolitan area of New York and New Jersey."
"This frog was probably once more widely distributed," Rissler agreed. "They are still able to hang on. They are still here, and that is amazing."

Until the scientists settle on a new name, they refer to the frog as "Rana sp. nov.," meaning "new frog species" -- though more often they're apt to call it "the weird Rana," one researcher confessed.

Science Daily
March 2012

World First Python Breeding Plan

One of the world's rarest snakes is being trapped legally in the Territory for the first time.

The Oenpelli pythons will be used for a world-first breeding program.

Darwin-based herpetologist Gavin Bedford is working with traditional owners in western Arnhem Land to catch the snakes.

The babies are expected to fetch $7500 each.

NT Environment Department manager Keith Saalfeld said the program - given approval by Minister Karl Hampton - was a giant step forward in the sustainable use of wildlife. "This is a great start to the project, hopefully more can be found soon so that a breeding population can be established. Those who are against this project don't seem to understand that if Gavin hadn't done something about bringing them into captivity, nothing would have been done. Unless they are established in captivity they may not be around for long. Good work Gavin & Andy as well as the National parks & wildlife, NT Gov for allowing this to happen. Best of luck with the project."

He said other animals might be trapped and bred if the python program was successful.

Gavin Bedford with the rare Oenpelli python, which is to be the subject of a world-first breeding program

Supporters of sustainable use argue giving a dollar value to wildlife encourages local people to become conservationists. They point to saltwater crocodiles, which were almost wiped out by the early 1970s but now are worth tens of millions of dollars a year to tourist operators, farmers and traditional owners.

Oenpelli pythons and other restricted-range Territory animals, such as the Princess Parrot and lizards, are highly sought after by collectors.

Some are captured illegally and often smuggled overseas

in cruel ways.

Mr Saalfeld said the snake program would be controlled tightly. All offspring would have their DNA kept on a register. “We will be able to identify whether a snake has been harvested or bred legally,” he said.

Dr Bedford pays traditional owners to allow him to catch snakes on their land and will give them a cut of the sale price.

Mr Saalfeld said the key principles of the new policy were that harvesting of wild animals did not damage the environment and benefited traditional owners.

NIGEL ADLAM
NT News
March 2012

Python In The Post Discovered At Stansted Aiport

Stansted Airport workers were given a shock when they found an eight-foot snake in a cardboard box.

The albino reticulated python was spotted by workers using an X-Ray machine at the airport on March 23.

The live snake had been sent from Harlow, in Essex, to Exeter by post and was due to be put on a plane to be sent to its new owner, who had bought it online.

The 8ft python discovered at Stansted Airport

The snake had already spent eight hours in the postal system when it was found and then recovered by RSPCA inspector Steve Reeves.

He said: “It may sound strange, but it would have been easy to miss the fact that there was such a large snake in this parcel.

“It was just curled up and was very still - so the mailmen picking up the parcel would have had no reason to know what was inside.

“All the machine picked up was that there was something organic in the shape of a snake - so they must have got quite a shock when they opened up the package. It makes you wonder what could go undetected.”

The python was taken to a wildlife centre in Essex while its owner was traced and the new owner organised for a special courier to collect the snake.

Sophie Adwick, exotics and trade officer for the RSPCA, said: “This shocking case shows just how easy it is to order an exotic animal via the internet. If you are thinking about getting an animal, visit a reputable seller or rescue centre, not a website.”

Cambridge News
March 2012

Woman Bitten By Croc In WA’s Kimberley

A crocodile has bitten a woman on the leg while she was swimming in a remote area of Western Australia’s Kimberley region.

Tara Hawkes, 23, was swimming near the tourist vessel True North at Dugong Bay on Sunday when a two-metre crocodile bit her upper leg as she was leaving the water.
Ms Hawkes, who is a crew member on the boat, was taken to Derby Hospital where she was in a stable condition on Monday night being treated for lacerations and puncture wounds.

A Department of Environment and Conservation spokesman said the department had put out a warning to tourist operators not to let people swim in the area because it was believed the crocodile was still there.

“She was getting out of the water and a two-metre long croc grabbed her,” he said.”

The spokesman said it was not known if the animal was a freshwater or a saltwater crocodile but the attack took place in fresh water.

He said freshwater crocodiles would usually attack only if people seriously disturbed them.

A wildlife officer was on the way to the scene of the attack and the department says it is assessing options to deal with the crocodile.

AAP
April 2012

Neurotoxin Resistance In Snakes Around The World

A new study by University of Notre Dame biologist Michael Pfrender and a team of researchers from the University of Nevada, Reno; Utah State University; and the University of Virginia suggests that snakes from different regions of

the world have evolved a similar, remarkable resistance to a deadly neurotoxin.

The finding, which appeared in the Proceedings of the National Academy of Sciences, greatly increases scientists' understanding of the genetic basis of adaptation and is a model for understanding the limits to adaptation and the degree to which evolutionary responses are predictable.

Snakes from different regions of the world have evolved a similar, remarkable resistance to a deadly neurotoxin

Pfrender and colleagues found species of snakes in North, Central and South Americas and Asia that are able to feed on amphibians that secrete a deadly neurotoxic poison, tetrodotoxin or TTX. These snakes have similar mutations in a key sodium-channel gene that makes them highly resistant to TTX. These mutations prevent TTX from blocking the sodium channels in muscle, which would otherwise immobilize the snakes by paralyzing nervous and muscle tissue.

"The key finding is that adaptive evolution is constrained by the functional properties of the genes involved in these evolutionary responses," Pfrender said. "While there are many possible mutations that can improve fitness, in this case resistance to the neurotoxin TTX, many of these mutations have a cost because they change the normal function of the genes. So, when we look at multiple species that have independently adapted to TTX, we see a very similar, and limited, set of mutations involved. The story is one of repeated evolutionary change that occurs through a limited set of changes at the molecular level."

The study stems from Pfrender's interest in understanding how organisms deal with environmental change through adaptive evolution.

"We would like to know what the underlying genetic mechanisms are, and what the limits are to these adaptive responses," he said. "Ultimately, we would like to develop a predictive framework to gauge when natural populations will be able to evolve rapidly enough to persist in a changing environment and when the environmental change is too fast or too strong, leading to local extinction."

An understanding of how organisms deal with environmental change is relevant to the major themes of Notre Dame's Environmental Change Initiative and to the Eck Institute for Global Health, which examines disease resistance coupled with human health.

"Many organisms are exposed to toxic chemicals in their environment, and this system is a model for understanding how they cope with this challenge through evolutionary change," Pfrender said. "A good example of the application of this knowledge is when we are trying to understand how parasites acquire drug resistance. How do they do it and what are the limits to this response? Can we create more effective drug strategies that capitalize on these functional constraints, making it more difficult for parasites to evolve resistance?"

Pfrender and the Utah State researchers plan to study more snake species and to expand their research to a number of other species, including insects that prey on the toxic eggs of salamanders. They also are examining other genes closely related to the sodium channel genes that are the focus of the PNAS study to expand their understanding of how adaptation occurs.

Science Daily
March 2012

Snake Fright For Ocean Grove Mum

An unwelcome hitchhiker has given an Ocean Grove mum the fright of her life.

Jan Smith was travelling along Barwon Heads Road on Saturday when a snake reared its head and bit her leg.

The reptile had somehow managed to climb aboard Ms Smith's Toyota Corolla and was hiding on the floor at her feet.

"It was really quick, but I couldn't say I started to feel really panicked," she told 7News.

"I grabbed the snake just below his head and threw him out."

Experts believe the snake was probably a dangerous baby brown or tiger snake.

Thinking she was doing the right thing, Ms Smith tied a tourniquet around her leg and began driving home.

However, paramedics recommend applying pressure to a snake bite and keeping the limb as immobile as possible.

Ms Smith soon developed a severe headache and her leg began to throb.

She spent a night at Geelong Hospital where she had a series of blood and heart tests, and was also monitored by doctors every two hours.

Snake catcher Darren Rhook told 7News it is likely the reptile managed to sneak a ride by slithering into the vehicle through an open window or door.

He said it was highly unusual for a snake to be inside a vehicle, but warned other motorists to check who is riding in their vehicle.

"It's heading into winter so they're looking for places to hibernate," he explained

Yahoo 7 News
March 2012

Teen's Python Terror As Pet Becomes Very Attached

Paramedics were greeted by a 1.5 metre python wrapped around a teenager's arm when they arrived at a home in Melbourne's south-east this afternoon.

A 15-year-old answered the door of his Dingley Village home at 1.10pm with the large pet snake clinging to his arm, which was turning black from a lack of circulation.

The boy told paramedics he had been cleaning the snake's tank when it attached itself to his body.

"He was quite distressed and had small puncture marks to his arm," student paramedic Elizabeth said.

Fortunately the snake had started to relax its grip when the ambulance crew arrived, and the boy and his mother were able to return it to its tank.

The paramedics, who have described the experience as harrowing, cleaned and wrapped the boys wound. The python was not venomous.

The boy did not require any hospital treatment but has visited his doctor.

HENRIETTA COOK
The Age
April 2012

Big Crocs Caught By Rangers

Two large saltwater crocodiles have been caught by Parks and Wildlife in the Top End.

Rangers took three hours to pull a 4.83m male saltie into their boat at Corroboree Billabong last night.

Rangers with the Katherine croc

Senior ranger Tommy Nichols said Parks and Wildlife had two complaints form the public about the croc which had attacked the back of a boat.

Rangers also removed a 4.08m male saltie for a crocodile trap in the Katherine River yesterday, about 1km down from the low level crossing.

Senior ranger John Burke said it was a "very fat and dark looking saltie" and was not too far from a popular swimming hole.

The 4.8m croc was pulled from Corroboree Billabong

DAVID WOOD
NT News
April 2012