

Electronic publication of the Victorian Herpetological Society

ODATRIA

Issue 9 April 2011



Expo Review

Odatria

Newsletter of the Victorian Herpetological Society No. 9, November 2011

2011 VHS Committee:

President: Brian Barnett
Secretary: Kevin Welsh
Treasurer: Andrew McKenzie
Exec. Comm. Member: Peter Comber
Exec. Comm. Member: Phil Elliott

Odatria Editors/Producers

Andrew Owen
Kevin Welsh

"Odatria" is published by The Victorian Herpetological Society Inc, Copyright 2010 all rights reserved. Apart from any fair dealing, as permitted under the Copyright Act, no part may be reproduced or stored by any process without written permission. Enquiries should be directed to VHS committee.

Any views or opinions are entirely those of the relevant author and do not necessarily represent the views of the Victorian Herpetological Society Inc.

Correspondence:

PO Box 4208, RINGWOOD VIC 3134
vhs@optusnet.com.au

www.vhs.com.au

Photo credits with photos. Uncredited photos are from VHS archives. Photos published are the property of both the Victorian Herpetological Society Inc. and the respective authors. Subject to full copyright and all rights are reserved.

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, Marianne Beatty, Kerrie Alexander, Jo Comber, Steph McKenzie, Robyn Welsh, Mike Swan, Mimmo Zagarelos



Contents

Editorial

by Brian Barnett
3

2011 Expo Overview

by Andrew Owen
5

WPTAC Update

by Peter Comber
9

Meeting Review

Doody/Scheelings
December 8th, 2010
10

Odatria Survey Results

12

WANTED - Murray Darling Damian Michael

14

10 Unusual and Amazing Snakes

15

DIY Reptile Racks

Andrew Owen
18

Herp Happenings

22

Cover Photograph: Woma

Aspidites ramsayi
by Shannon Plummer
www.shannonplummer.com

EDITORIAL

by Brian Barnett

One of the biggest challenges of late has been to get the VHS expo up to a position where it actually achieved its original aims.

We want to promote the hobby and lift the number of individual hobbyists keeping reptiles to a level that would add growth to the associated industries and stabilise the breeding of animal sales and continue improvement of products associated with herpetoculture.

Herpetoculture has come a long way in recent years but still has a lot of room for growth and improvement.

Looking over this latest expo, it's true that the prices of live animals have taken a nose dive but more customers can only help to pull this situation up. It's a good time for the buyer, but depending on what the seller has in mind, the 'big' prices are certainly short lived.

With this last expo we actually doubled the numbers that went through the gate. Not surprising with the amount spent on advertising. In round figures we spent over \$20,000 on advertising. Some lessons were learnt from this and we can trim the amount on future expos or redirect the spending in a more positive way.

It was the year where we would only have an expo if we could put the organising into the hands of a competent coordinator. Having tried three, we decided to rescue the event and do it ourselves. We decided that in the future, if we couldn't do it ourselves, there wouldn't be an expo, hired coordinators were definitely out.

Although we parted on good terms with all coordinators, apart from one, you may be able to assist us in tracking one of them down, we believe that he has moved address. We wish to contact Gary Cahill, formerly of 35 Jacka Street Preston, 3072. (gary_cahill@theherpclinic.com). Mr Cahill took on the position of coordinator and was paid \$2,000 in advance for work attributed to this position. The coordinator position needed to be terminated when no progress appeared to be achieved and repeated attempts to contact him went unanswered. In our view, he achieved nothing and we requested that our money be returned. This received a negative response and so we took him to VCAT. The judgement was passed in our favour and the amount of \$2,000 was awarded to us. We now have the difficult job of tracking him down. If you can help it will be appreciated. We made a slight loss on the expo and this one amount would have put us into the black.

Whilst we may break even or have moderate losses in the future, we can continue with our support of the hobbyist and associated suppliers/vendors. The VHS is not in it for the big dollar but we do need your support to keep these expos at the standard that is required. Already there have been a few that have indicated that they may not be involved next expo. We have to look at this with a long term view and not only think of one's self but the hobby and industry as a whole. It would be simple for me if no one wanted to 'give', would save me a lot of work and pain that is associated with getting an expo off the ground and to a position that we can say "well, that was worth it".

Whether you are an 'animal seller' or product vendor/sponsor, give it a second thought and try and achieve the highest possible commitment for the next expo. If ever the expos fade from the scene, it won't be the fault of the VHS and others directly involved. What we are aiming for is nothing less than bigger and better each year.

A special thanks to all those involved in the organising of this last one, some were VHS committee members and some were not. No matter how much you contributed, I look at it as a team effort and am not singling anyone out for individual praise or honour, we achieved this success as a team.

One staff member was allocated the job of recording where people heard about the expo. He was positioned between the two people on the entry cash registers and the question was asked of every paying person who entered. If it was

a group of 4 -5 then only the one paying was asked the question and registered as such, we were after percentage figures, not actual head figures.

These are the results:-

23% of people got onto the expo through out website. This could have been through one of many of the other options, T.V, the Leader group, brochures etc.

Network 10 provided 15.6%

Through friends and general chat 18.1%

Through the fliers, could have been in shops, under the windscreens etc 11.5%

Through the Leader newspaper group 7.8%

VHS members 5.3%

ABC Learning 0.8%

Others 18%

Regards

Brian Barnett

FROM THE EDITOR

As mentioned on our website previously - nominated and supported by his peers, the Order of Australia Medal (OAM) was offered to and accepted by Brian Barnett on Australia Day 2011.

It has been designated the position of Conservation & Environment in particular Herpetology. Brian has been recognized by his peers and country for the lifelong dedication and application to helping others in the field of herpetoculture. For over 50 years he has pioneered and implemented many of the facets of herpetoculture that we all take for granted. There are so many 'firsts' that could be attributed to him and as he always states, "I have made every mistake possible – but that is the track of learning, never repeat a mistake".

The actual investiture ceremony and presentation of the medal will take place on Thursday May 12th 2011 at Government House in Melbourne and will be presented by our new Governor, the Honourable Alex Chernov, AO, QC.

We will be running a full article on this prestigious event including photos from the investiture ceremony in the next issue (#10) of *Odatria*.



The Expo Overview



Axanthic Black Headed Python

February 19th, 2011

Text by Andrew Owen

Photos by C.J. Lim
& Andrew Owen
unless otherwise noted



Green Tree Python

The Victorian Herpetological Society's Reptile & Amphibian Expo was back, bigger and better in 2011! The crowds certainly suggested the reptile loving members of the public had missed it last year. It was great to see plenty of the breeders come and support the event by having stalls displaying and selling many of their beautiful animals. It was also a great 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 families bringing along the kids, I saw plenty of ear to ear grins while kids were looking at all the animals, getting a photo with a huge python or showing off the face paint they had just had applied. Hopefully some of these youngsters become the successful keepers of the future!

The Crowds



The crowds queued before opening to get an early look!
Photo - Judy Turnbull



Before long the venue was buzzing



People just kept coming!



And coming!!

The Stalls



Kongs huge display



The Herp Shop with Brian Barnett



Pails for Scales stall, with Roy Pails



Nick Simms with CarpetPython.com display units



Sonnemann's Snakes stall, with Neil & Cathy Sonnemann



Russell Grant's stall with his Green Pythons & carpet pythons



Craig Pender with his Green Python stall



Peter Comber & Gavin Bedford shared a stall
 (Jason Mamet in the background)

The Animals



Jungle Carpet Python displayed by Jason Mamet



Black Headed Python (Calico) displayed by Neil Sonnemann



Gecko Emporium's display of geckos by Chris Kupper
Photo - Chris Worthy



Pails for Scales displaying numerous pythons



"Jerry", Animal Tracks' Lace Monitor



Green Python displayed by Craig Pender



Saltwater or Estuarine Crocodile displayed by Black Snake Productions



Albino Darwin Carpet Pythons



Black Snake Productions' fabulous display by Mike Alexander



Black Snake Productions' venomous snake display



Frill-necked Lizard



Chappell Island Tiger Snake

The Kids



Tyler with a Black Headed Python
Photo - Megan Bramich



Face and arm painting was a hit with the youngsters



Some arm artwork
Photo - Judy Turnbull

Wildlife Possession and Trade Advisory Committee



WPTAC

By Peter Comber



Meeting # 58, (to be held) November, 2010.

Postponed due to the Victorian Government being in caretaker mode.

Rescheduled Meeting # 58, 24 February 2011, Board Room, Melbourne Zoo.

A number of things were discussed at this meeting including information relating to keeping dingoes and a couple of other minor things of no interest to private reptile keepers and keeping.

We had an update regarding the Consolidated Wildlife Regulations Project (first mentioned to VHS members Odatria #5, and again in Odatria #6). All VHS members and all Victorian reptile and amphibian keepers need to be aware (reminded) that any and all submissions for changes to schedules or regulations should be submitted/lodged shortly. This is your chance to be heard. This is your time. Do not miss this opportunity to speak up. Visit DSE's website, download one or both of the templates that you wish to see a change for, fill in the info. and send it to the VHS (vhs@optusnet.com.au) or to me direct (pc-wptac@live.com). Note: Odatrias #5 and #6 give directions to finding the wildlife regulations online, however their listing position has changed – we now need to visit lines 28 and 29. Reviews and follow up discussions on all submissions will take place through until the end of June at which point the first draft will be put together.

As of this coming returns period (April 1-14) some licence holders (most VHS members) will have the option of submitting forms in an electronic format. If you hold a Basic, Advanced or Dealers licence with 9 species or less you will be able to complete and submit your return entirely online. If you hold any of the aforementioned licences but also hold more than 9 species you will be able to download a spreadsheet from DSE's website, fill it in, save a copy and e-mail it through. The old 'fill them in manually with a pen' option is also still available. Unfortunately for those of us thinking 'great a paper free system', no. WaGLS will print out your spread sheet and return, by mail a hard copy to the licence holder. This is your receipt or confirmation that your return was received and also ensures that licence holders are able to keep their own copy. Assuming that all returns submitters are computer literate enough to maintain electronic copies is not something that would be considered thorough, or clever.

VHS MEETING REVIEW

December 8th, 2010

Sean Doody & Franciscus Scheelings

Once again, before we knew it, the last Victorian Herpetological Society meeting of 2010 was upon us. This meeting also included the annual general meeting where the new committee was to be announced. The VHS Committee for 2011 is:-

President - Brian Barnett
Secretary - Kevin Welsh
Treasurer - Andrew McKenzie
Executive - Peter Comber
Executive - Phil Elliott

Before the meeting proper got underway the usual auction was held. Due to the closeness of the 2011 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. Dr J Sean Doody spoke to us on "The Terrible Truth about Toads: Impacts of Cane Toads on Native Predators and Implications for Extinction, Recovery and Control"

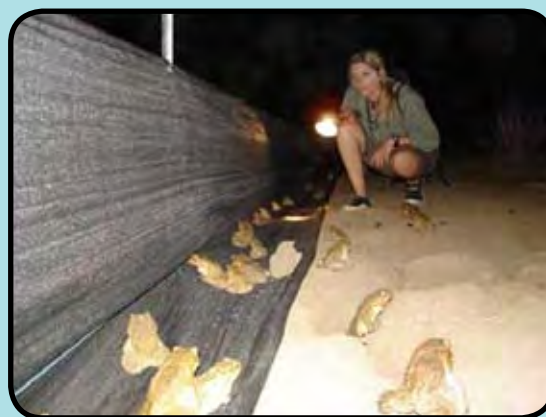


Guest Speaker - Sean Doody

The Terrible Truth about Toads: Impacts of Cane Toads on Native Predators & Implications for Extinction, Recovery and Control



Sean Doody
Monash University



Australian history

- toads introduced to Cairns to control cane beetles in 1935
- became a pest themselves
- biggest impact = lethal toxic ingestion by predators



Our current impact studies

Moved ahead of the toads to the Kimberley



Our second speaker for the night was Dr Franciscus Scheelings. Franciscus presented two talks for the evening - The first one on breeding endangered frogs at Healesville Sanctuary followed by tales of one of his herping trips to Cape Conran.



Guest Speaker - Franciscus Scheelings



NEXT VHS MEETING

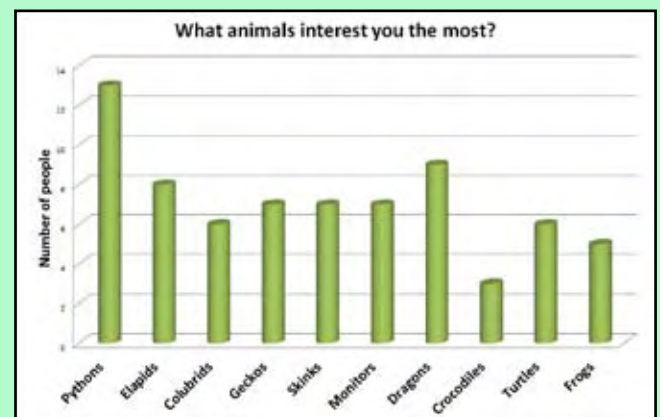
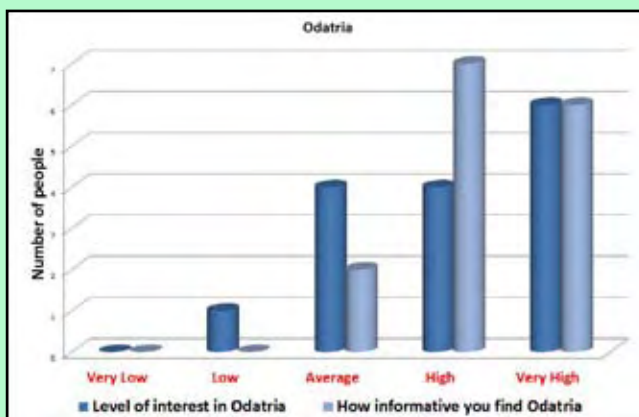
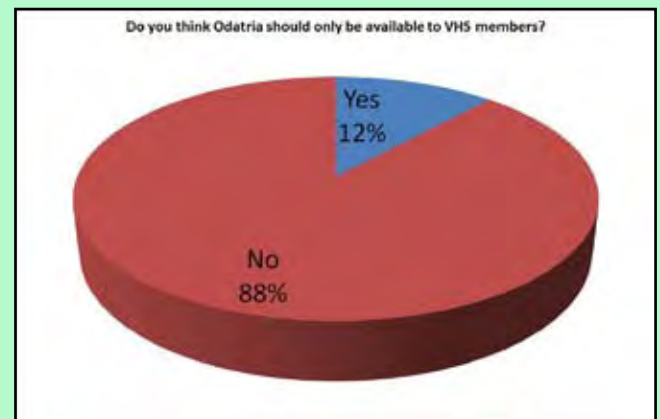
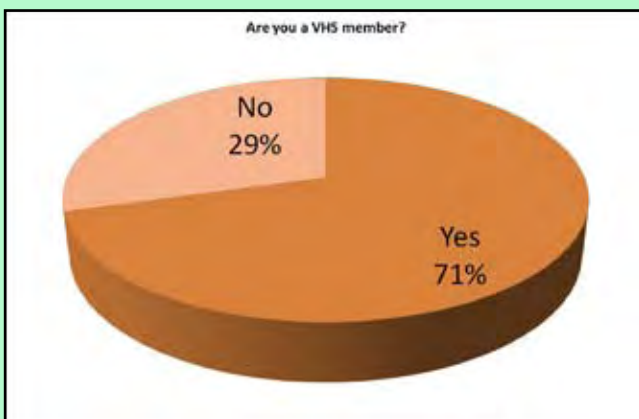
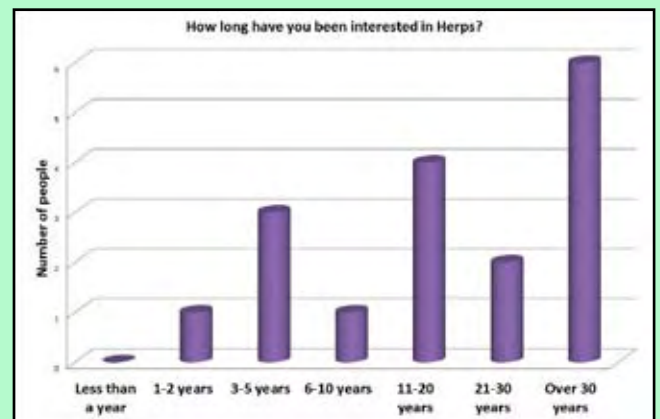
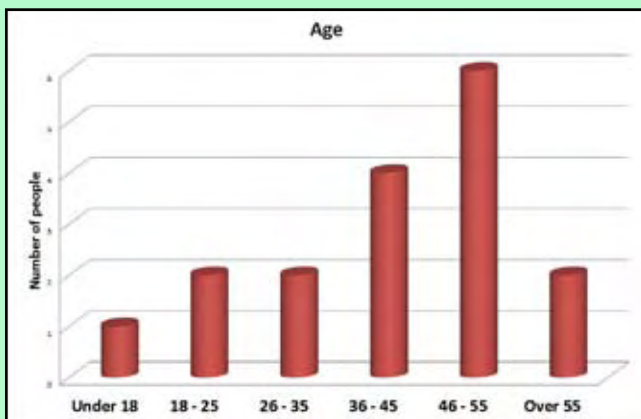
Wednesday 25th May 2011

7:15pm - 10:30pm

Survey Results

From Odatria issue 7 article "Odatria So Far"

In Odatria 7 we had a small review on the journey of our newsletter after a dozen issues. We had a small survey for people to fill out to help us produce the most appropriate newsletter for our members. The following is the underwhelmingly few responses we had to some of the questions. In total, only 17 people completed the survey and I believe 4 of them were members of the committee. Thank you to the few that did take the time to complete the survey. It's a good example of how few people we have prepared to help with this newsletter.



Survey Results

From Odatria issue 7 article "Odatria So Far"

What age bracket are you in?

Under 18	1
18-25	2
26-35	2
36-45	4
46-55	6
Over 55	2

How many years have you been interested in herps?

Less than a year	0
1-2 years	1
3-5 years	3
6-10 years	1
11-20 years	4
21-30 years	2
Over 30 years	6

Are you a VHS member?

Yes	12
No	5

Do you think Odatria should only be available to VHS members?

Yes	2
No	15

What herp interests you the most?

Pythons	13	Monitors	7
Dragons	9	Colubrids	6
Elapids	8	Turtles	6
Geckos	7	Frogs	5
Skinks	7	Crcodiles	3

	Very Low	Low	Average	High	Very High
Your level of interest in Odatria?	0	1	4	4	6
How informative do you find Odatria?	0	0	2	7	6



WANTED

INFORMATION ON CARPET PYTHON SIGHTINGS IN NORTH - EAST VICTORIA



The Inland Carpet Python (*Morelia spilota mectcalfei*) is listed as endangered in Victoria and has reportedly declined in many parts of its range.

To address issues in conserving extant populations and managing critical habitat, Dr. Damian Michael (landscape ecologist and conservation herpetologist) in conjunction with the Victorian Department of Sustainability and Environment and the North East Catchment Management Authority are seeking in-

formation from the general public and reptile enthusiasts on carpet python sightings in north eastern Victoria, specifically within the north east catchment area, a region bounded by the NSW border in the north and east, the Victorian Alps in the south and the Warby ranges in the west.

Historically, pythons once occurred in areas such as Rosewhite, Mudgegonga, Lurg, Eldorado, Strathbogie and Corryong. Currently, python populations are only known from Glenrowen, the Warby Ranges, Mount Pilot, Mount Granya, Mount Lawson and Pine Mountain in the upper Murray region.

Typical python habitat includes granite woodland and riparian forest, two vegetation types that commonly occur in NE Victoria. The widespread distribution of suitable habitat suggests undocumented python populations may still exist in the region. Anyone with valuable information on python sightings in the study area, or other parts of Victoria should contact Damian directly.

Mobile: 0427 770 595,

Email: damian.michael@anu.edu.au (Title of message 'carpet python sightings')

Your assistance in helping conserve one of Victoria's most iconic snakes is greatly appreciated.

Damian Michael.

10 Unusual and Amazing Snakes

There are about 3,000 species of snakes in the world; since their appearance during the age of dinosaurs they have adapted to many different lifestyles and evolved into many different and often bizarre appearances. This selection from Science and Nature gives ten of the most amazing and unusual snakes in the world.



10. Elephant trunk snake (*Acrochordus javanicus*) This weird snake is found mostly in Indonesia, although some close relatives are also found in Australia. It gets its name from its unusual skin, which is wrinkled and baggy, and gives the impression of being several sizes too large for the snake. The scales are also unusual; they are large and knobby, hence the snake's alternate common name, "warty snake". They can grow up to 2.5 metres long. Elephant trunk snakes are completely aquatic, and are practically helpless on land; they can't slither because they lack the broad scales in the belly that are common to most snakes, and an important aid when moving on land. Elephant trunk snakes feed on fish, including catfish and eels; they lack venom, so they use constriction to kill prey; their big knobby scales are an adaptation to hold slippery fish and constrict them underwater.



9. Tentacled snake (*Erpeton tentaculatum*) Another aquatic snake from southeastern Asia, this is a quite

unique species, the last surviving member of its genus. Its most notable feature are the strange fleshy tentacles on its snout. These tentacles are actually highly sensitive mechanosensors, which allow the snake to detect movement in the water and strike at any unfortunate fish that swims nearby. Another interesting trait is the tentacled snake's incredible attack speed; it takes only 15 milliseconds for the snake to capture its prey. But fish have incredible reflexes and a fast strike is not enough sometimes, so the tentacled snake uses a clever trick to make fish swim towards danger. When the fish approaches, the snake slightly ripples its body towards it. The fish immediately darts in the opposite direction... but this is what the tentacled snake expected, so it angles its head so that the fish swims directly into its waiting jaws. Of all snakes, this is the only one known to anticipate the reaction of its prey and act accordingly. Although the tentacled snake is venomous, it poses no threat to humans. It is rather small, at only 90 cms long. Just like the Elephant trunk snake, it is fully aquatic and can barely move on land.



8. Long nosed vine snake (*Ahaetulla nasuta*) Once again native to southeastern Asia, the long nosed vine snake is a highly advanced arboreal predator; unlike other snakes, it has excellent binocular vision, which allows it to strike at prey with great accuracy. Its eyes are also unusual in having horizontal, keyhole-shaped pupils. Its vine-like body hides the snake from both predators and prey (even the tongue is bright green!) and its light weight allows it to move quickly through the foliage and even reach from one branch to another with half of its body on the air! They feed mostly on lizards and frogs, and although they are venomous, they pose no serious threat to humans; pain and swelling are usually the only symptoms after being bitten by a vine snake, and the symptoms disappear within a few days.



7. Leaf-nosed Snake (*Langaha nasuta*) This is easily one of the weirdest reptiles in the world. Just like the Asian vine snake, the Langaha snake (also known as the leaf-nosed snake) is adapted to an arboreal lifestyle and feeds mostly on lizards. Its most interesting trait is, of course, the weird "horn" or projection on its snout. Both genders have this weird ornament, but males and females look very different from each other; males are yellowish and have smooth skin and a sharp, pointed "horn", while females have rough-looking brown scales and a flat, leaf-shaped and serrated horn. This is one of the few cases in which a snake's gender can be determined easily at first sight. *Langaha nasuta* snakes are found only in Madagascar's endangered rain forests. It is venomous and its bite can be extremely painful to humans but not life-threatening.



6. Rough-scaled bush viper (*Atheris hispida*) Found in the rain forests of Central Africa, this small but highly venomous viper is noted for its huge eyes and keeled, bristle-like scales which give it an almost feathered appearance (hence one of its common names, "feathered tree viper"). *Atheris* vipers grow up to 75 cms long, with males being longer than females (unusual among snakes). Like all vipers, *Atheris* has long, retractable fangs in the front of its upper jaw; there is no known antidote to its venom, which causes blood clotting difficulties, pain and swelling, and often, death. These vipers usually live far away from human settlements, and therefore bites are exceedingly rare.



5. Desert horned viper (*Cerastes cerastes*) Found in the deserts of Northern Africa and the Middle East, horned vipers are small, usually under 50 cms long. They often have a pair of horns over the eyes, but there are also some individuals that lack them completely, and, therefore, can be easily mistaken for other vipers. They are venomous, but their bite is usually non fatal to humans. When threatened they rub their coils together to produce a warning sound before they strike. The horned viper was formally named "*Cerastes cerastes*" in 1768, by Austrian naturalist Nicolaus Laurenti. *Cerastes* was a mythical Greek monster, a serpent that hid under the sand in the desert and ambushed any passing creature, using its horns as a lure. Ironically, the horned viper itself may have been the real life inspiration for the mythical *Cerastes*! Indeed, the horned viper hunts by hiding under the sand (leaving only its horns, eyes and nose exposed) and striking at any small animal (mostly rodents and lizards) that comes close. Ancient observers may have exaggerated the snake's size and dangerousness, giving origin to the *Cerastes* myth, which Laurenti remembered when naming the horned viper centuries later. The horned viper's horns, however, are not used as a lure; to date, no one really knows what the horns are used for, or why some horned vipers have them and some don't.



4. Burrowing asp (*Atractaspis microlepidota*) This snake was previously introduced in the Sabertoothed Creature list. However, no list on Unusual Snakes would be complete without this one. The Burrowing asp is a smallish snake from Africa that spends most of its time under-

ground. It feeds on rodents, and has enlarged fangs that function basically as venomous saberteeth, protruding out of the mouth when in use. This means that the Burrowing asp can bite without even opening its mouth- which is very useful, since it prevents dirt from entering the snake's mouth during the struggle. The fangs are also flexible and can be moved independently from each other, meaning that the snake can stab its prey sideways with one fang, and once it has killed its victim, it can use the movable fangs to actively manipulate the prey's body for easier swallowing. Burrowing asps are venomous and there are cases of children dying after a bite; however, in adult humans the venom is usually not lethal. However, due to the cardiotoxic and necrotic properties of the snake's venom, and its ability to inject it deeper than other snakes (due to the long "saberteeth"), harassing or manipulating a Burrowing asp should always be avoided.



3. Tiger keelback (*Rhabdophis tigrinus*) Also known as yamakagashi, or Japanese water snake, this species is found mostly in Eastern Asia. It is small, rarely exceeding one metre in length, and very shy, so much in fact that they were considered to be harmless for a long time, until someone died of a yamakagashi bite in the 80s. Fortunately, due to their docile temperament, these snakes are very unlikely to bite and fatalities remain exceedingly uncommon. Also, since their venomous fangs are located in the rear of the jaws, they can't inject their venom as easily as other snakes. They feed mostly on frogs and toads. Other than their bright colours, tiger keelbacks look kind of normal; however, they have a very interesting defense mechanism. Recently, it was discovered that these snakes feed on poisonous toads; not only are they immune to the toad's poison, but they can actually "sequester" this poison and store it in a couple glands they have in the neck. When threatened, the snake releases the toad's poison from its neck glands. This amazing adaptation not only protects the snake from most predators, but also allows it to save its own venom for hunting instead of wasting it on something too big to eat!



2. Ornate flying snake (*Chrysopelia ornata*) Flying snakes are found in the rainforests of India and southeastern Asia, and, despite their rather alarming name, they can't actually fly. They are, however, accomplished gliders. When a flying snake wants to go from one tree to another, it launches itself into the air while flaring out its ribs and sucking in its stomach, thus flattening and widening its body and turning into a pseudo-concave wing. As amazing as it may sound, flying snakes are even better gliders than flying squirrels. While squirrels can glide up to 60 metres from one tree to another, flying snakes can glide up to 100 meters or more, and they actually "slither" in mid air, which gives them better stability and some degree of control over their "flight". Flying snakes are venomous, but not dangerous to humans. They feed mostly on lizards and other small animals, and spend most of their time up trees.



1. Sea Snake Sea snakes are easily the most unusual of all snakes. They belong to the same family as cobras and coral snakes (Elapidae), but they have adapted to a completely marine lifestyle; in some species, the adaptations are simply incredible. There are 62 species recognised to date, and they are found in the Pacific and Indian Oceans; they are all extremely venomous, with some species, such as the beaked sea snake, having venom up to ten times more powerful than a cobra's. Fortunately, sea snakes are usually docile and human fatalities are exceedingly rare.

Do It Yourself

Reptile Racks

by Andrew Owen



It was that time of year again and so far everything has gone to plan. The animals that were paired up mated successfully and the eggs are in the incubator. Now, where to house the hatchies?

This is the situation I found myself in this past season, and I dare say many other keepers have been in the same position with their ever increasing collections. So what path to go down? We are lucky that our hobby has grown to the point where we have various reptile related companies offering such a wide range of products. 'Slitherin' and 'Reptile Racks Australia' are two companies where you could simply order your new baby snakes' homes online and have them set up in no time. But if you have a specific space or size you want to fit your racks, don't mind working with your hands and perhaps want to save a few dollars, why not have a go and 'do it yourself'?

Now let me start by saying although I am a tradesman, I'm a welder and have never been particularly good at working with wood. So if I can do it, you can.

What you will need

Melamine Coated Wood (more on this later)
Tubs to house hatchlings
Circular Saw
Drill and Drill Bits (4mm & 10mm)
Chipboard Screws (8G x 30mm long)
Ventura Heat Tape/Foil Tape
Heat cord
Thermostat



Firstly you need to decide where you want to put your new rack and measure the area. Then you can look for the appropriate tubs to house your snakes in. Bunnings, Mitre 10, The Reject Shop and Spotlight are all great places to look for cheap but solid tubs to house your hatchlings. Once you know your tub sizes, the area you have to fit your new rack and how many hatchlings your expecting you can work out how many shelves you need and get a cut list together to purchase your material to make your rack (don't forget to allow for wood thicknesses). I decided to make my rack with the standard 16mm white melamine wood that has been used to make enclosures for some years now. It deals well with a bit of moisture, is easy to wipe clean and is good value for money. Bunnings have many pre-cut options at reasonable prices.

I placed my tubs on my pre-cut shelf and decided where it would be best to have my heat cord. I want to keep the majority of the heat towards the back of my rack with the aim of having a heat gradient of around 31 degrees at the rear to around 26 degrees at the front. I decided to have the heat cord run underneath my tubs three times, you will need to double check the length of the heat cord you are using to be sure you have enough length to achieve this.



With a tape measure and pencil, mark from the front (ensuring to keep the side of the wood with edging on it at the front) where you want your heat cord to run.



Do this on both sides, then with a straight edge (like another shelf) rule a pencil line all the way through. This will be your cutting guide line.



Now that you have your cutting guide line you need to set up your circular saw. The aim here is to make a groove for your heat cord to sit in so your tubs can slide over the top of it. You do not want to cut all the way through, so you need to set the depth of your blade so it only cuts in the depth of your heat cord.



You will need to do several cuts side by side or slowly move the blade sideways to get the width of the heat cord. Be sure to take your time and move slowly to help minimise chipping of the melamine, protect the blade of the saw and to protect yourself!



Once you have slotted all of your shelves it is time to assemble your rack. I chose to assemble mine upside down, placing the top on your workbench and fixing the two sides to it. I pre drilled 4mm holes into the side wood only and screwed the 8G chipboard screws into the top.



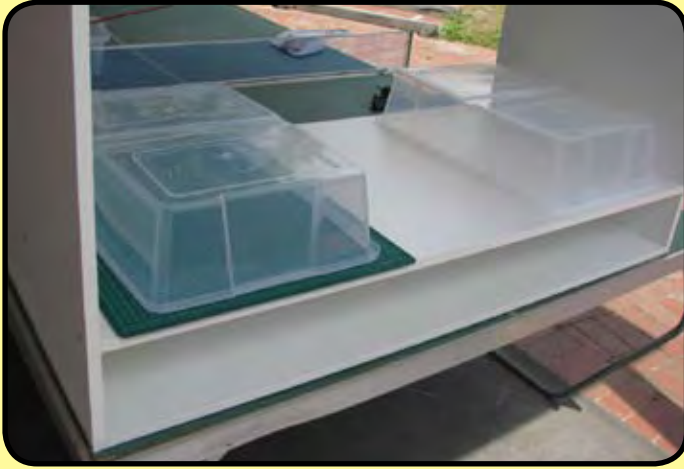
Put in as many screws as you feel necessary to hold it. It would also be beneficial, especially if building a larger reptile rack, to put some liquid nails between the joints before fixing for extra strength.



After both sides are fixed to the top you can begin fitting in your shelves. I placed my plastic tubs in between the shelves with a thin piece of material (I used a 3mm piece of plastic) while fixing them to the sides. The idea of the thin piece of material is that you don't want your shelves to be so tight that they are difficult to slide in and out.



Continue adding in all of your shelves this way, checking as you go that the tubs slide in and out comfortably.



Once all the shelves are in and before you attempt to move your rack, fix the back on. Remember to allow for wood thickness, in this instance as I have screwed the sides onto the shelves the back will be 32mm wider. You can either trim the shelves down 32mm before assembling or purchase a larger piece of wood and cut it to size. Again, pre drill the 4mm holes in the back, then screw in your screws.

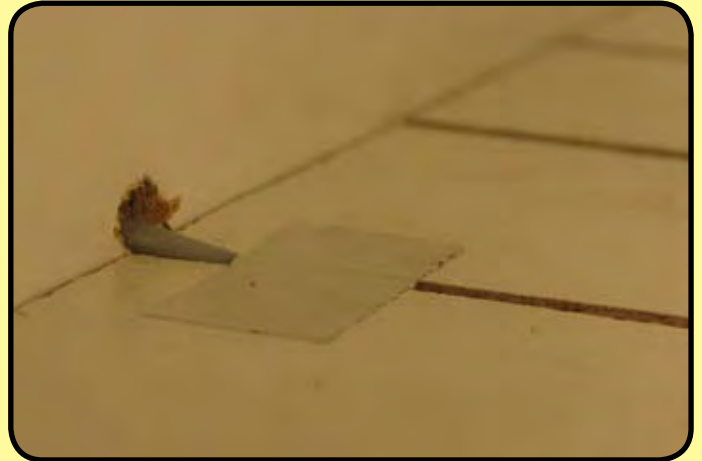
At this stage you can turn your reptile rack upright and start working on installing the heat cord.



Choose the side of your rack that will be more hidden or viewed less often and drill a hole in line with the slot for the heat cord that is furthest to the front of the rack. Measure this accurately and mark it on the outside, use your smaller 4mm drill bit first to be sure you are accurate enough. The hole needs to be big enough to fit the heat cord through, remembering that the end is thicker than the rest of the cord - I used a 10mm drill bit. You can begin feeding your heat cord into the shelf. Once it's all in, start putting the heat cord into the slot at the end where you drilled the hole.



Once all the heat cord is in place you can hold it on the tracks by adding the foil tape (I use Ventura tape). You will need to add strips of the tape roughly every 200mm.



When you get to the end of a slot, simply loop the heat cord up the wall, add a strip of tape, and place it back into the next slot. Any excess cord after all the slots are filled should be taped along the back wall.



I used one 50 watt heat cord per shelf, continuing on this process in each shelf. Any area where the heat cord seems to be lifting out of the track should have a strip of tape over it. The tubs will slide over the tape easily.

The next step is to attach the thermostat. I chose to use a Habistat Pulse thermostat, they are a great product and don't need any additional electrical work to install them. Simply plug your heat cord directly into the thermostat. Mount your thermostat on the side of your rack with the sticky adhesive provided, or purchase some velcro strips with adhesive from Bunnings. Drill another 10mm hole in a discrete area on the side of your rack for the thermostat probe. Again, use the foil tape to secure the probe in place. I chose to put my probe in the middle shelf & positioned it between my tubs towards the back and above the heat source.



Even though there is a small gap at the top of your tub between the shelves it is necessary to drill some holes into the tubs for ventilation. I used my 4mm drill bit and chose to do them all the way around my tubs rather than just at the cool end. I had approximately 50mm between my holes. This could be different for everyone depending on the animals you are keeping and the humidity they require.

Always test that the temperatures in your container are right before putting any animals in. Set your thermostat at an appropriate temperature and double check the actual tub temperatures with an infrared heat gun. You can adjust the thermostat temperature as required. Alternatively, you could purchase a thermometer with external probes and place them into a couple of tubs.



Once you are happy with your temperatures inside your tubs (and your eggs hatch) your new hatchlings will be right to go into their homes.



NEXT VHS MEETING

Wednesday 25th May 2011

7:15pm - 10:30pm

PRAHRAN RSL - 301 HIGH STREET - PRAHRAN

John McGrath

***"The Holden Ute vs. the Elfin –
Road testing Australian Geckos"***

HERP HAPPENINGS

Rare Western Desert Taipans Housed At Adelaide Zoo

Two extremely rare, deadly snakes are being housed at Adelaide Zoo, following their discovery in Western Australia's Great Victoria Desert.

The western desert taipans (*Oxyuranus temporalis*) were found in October by the WA Department of Environment and Conservation and the Spinifex People, in partnership with the WA Museum, the Adelaide Zoo, and Museum Victoria.

Worldwide, just five individuals of this type of snake have ever been found. Prior to a biological survey in May, only a single individual of the western desert taipan was known to science.



One of the Taipans sent to Adelaide Zoo. Photo Dr Karl Brennan

The venom toxicity of the western desert taipan is as yet unknown but likely to be extremely dangerous. The inland taipan has the most toxic venom worldwide, and the coastal taipan is the third most toxic.

The adult male and female snakes, measuring more than one metre, are being housed at the Adelaide Zoo to allow the venom of the snakes to be assessed, and determine whether a species-specific antivenom is needed.

Adelaide Zoo herpetologist Terry Morley, who participated in the survey and will be caring for the snakes, said both animals had settled in to their new environment well.

"To ensure the snakes don't bring any diseases into the zoo, they will be in quarantine for 12 months and then will be put on public display," he said.

"Having these snakes housed at Adelaide Zoo is a critical step in enabling medical researchers to develop a better understanding of how patients should be treated when bitten."

DNA research by Professor Steve Donellan and Dr Mark Hutchinson of the South Australian Museum confirmed the

snakes were the same species as the first individual which was collected 400km to the north near the WA/Northern Territory border.

Museum Victoria reptile geneticist Dr Joanna Sumner said DNA research showed while western desert taipans were known from just two localities, they had the potential to be distributed across much of the western desert.

CLARE PEDDIE
Adelaide Now
November 2010

Man Dies After Bite From Venomous Tiger Snake

Michael Thorpe was bitten by a small tiger snake inside his house while working on his computer.

Authorities are reminding people of the dangers of snakes after the state's first recorded death from a snake bite this year.

43 year-old Michael Thorpe died on Friday after being bitten on the toe by a tiger snake at his Gingin property.

Mr Thorpe is believed to have been working on his computer inside his house when he was bitten.

The Health Department says 77 people have been treated for snake bites this year.



Gingin Sergeant Scott Gillis says deaths from snake bite are extremely rare and the tragedy has left the small community in shock.

"It's been confirmed as a tiger snake, it was a very small one, about a foot in length so it just goes to show that even baby snakes or juvenile snakes are just as dangerous as

the large ones," he said.

He says as the weather is warming up, snakes become more active, particularly in country towns, surrounded by bush area.

"Obviously as the weather is warming up snakes become more active, especially in country towns, surrounded by bush area," he said.

"Gingin's also in a brook so there's a water source there and as it warms up snakes do tend to come out more and they can also be more prone to coming around housing areas where it's a bit cooler.

"In this case, the snake's actually gone inside the house and that's where it's bit the man."

ABC News
December 2010

Snake On A Bus

A Brisbane bus driver got the shock of her life when she found an unexpected passenger - a one metre carpet python.

Snake catcher Geoffrey Jacobs from Queensland Wildlife Solutions was called to Grey Street at South Brisbane this afternoon after the driver found the python on the back seat.



A carpet python like the one found on a council bus

He said the python, which was probably about three years old, was likely left there by a human passenger.

"The bus driver had done a few runs around the city and went up to check that nobody had left anything sitting on the bus and there was a carpet snake sitting on the back seat," Mr Jacobs said.

"There's no way of knowing 100 per cent [how the snake got there], but I would suspect if she [the bus driver] had done three runs somebody would have spotted it.

"I suspect somebody's lost it, or deliberately left it there." Mr Jacobs said the driver was a little shaken by her experience, but otherwise OK.

"She was fine - she was a little bit dubious about it, a little bit worried. It's not something she'd run into every day," he said.

"It's a passenger with a difference, mate."

After catching the snake, Mr Jacobs released it back into bushland.

It had been just one call on a very busy day for Mr Jacobs.

"Absolutley everything's moving at the moment with all the weather we've been having," he said.

"They're getting swamped out at the moment and they move to higher ground. And higher ground is inside a house."

CAMERON ATFIELD
Brisbane Times
December 2010

Mum's Lucky Escape As Deadly 'Toy' Snake Turned And Bit Her On The Ankle

It looked like her son's rubber snake had been left lying in the hallway - until it latched on to her ankle.

Nicole Haynes, 38, had just tucked her son Maison into bed at her home in Winmalee in the Blue Mountains when she stepped on the reptile.



Recovering ... mum Nicole Haynes in Nepean Hospital

The snake, believed to be an eastern brown, bit Ms Haynes once on her left foot, then latched on to her ankle.

"I was screaming and swinging my leg around, and then it flung off across the loungeroom," Ms Hayes said yesterday.

The mother of two, who is recovering in Nepean Hospital, said she thought she had stepped on 10-year-old Maison's toy until she felt it slither under her foot.

"It was surreal, I thought it was a toy with something sharp in it, like a pin, but then it wriggled," Ms Haynes said.

Realising she had been bitten by a snake, Ms Haynes screamed to her son and daughter Tahlia, 17, to come and help her.

"I was screaming and screaming but the portable phone was in the loungeroom, and that's where the snake had ended up when I flung it off my foot," Ms Haynes said yesterday.

Ms Haynes stumbled in to the room and grabbed the phone, and gave it to her daughter, who called paramedics for help.

As she recuperated in hospital, WIRES volunteers scoured Ms Haynes' home looking for the snake.

"We leave the back door ajar for the dog, so I guess that's how it got in," Ms Haynes said.

She has no idea how long it had been in the family's house, and said she "shudders" when she thinks where it could have ended up if the snake hadn't been stepped on in the hallway.

"The kids' bedrooms come off the hallway," she said.

"I don't want to even think about it."

A WIRES spokesman said it was a timely reminder for people to be vigilant about snakes throughout summer.

"Keep doors closed around the house ... and wear appropriate clothing when outside in snake-prone areas," the spokesman said.

**Clementine Cuneo
Daily Telegraph
December 2010**

Time To Hightail It Out Of Town As Snakes Search For High Ground

AS IF flooded Queenslanders didn't have enough to worry about, snakes are also on the move to escape the rising waters - bringing them into closer contact with people.

Kylie Alexander who was bitten by an eastern brown snake last week told The Courier-Mail she was lucky to survive a 12-hour ordeal and 400km mercy dash from her cattle station west of Clermont, which is totally cut-off and isolated by floods.

"Snakes are everywhere out there," said the 32-year-old mother-of-one, speaking from her bed in Mackay Base Hospital.

"They come out of the floods in their thousands looking for high ground, some end up in the house."

She said her arm was burning and her lymph nodes had swollen within an hour of the bite despite a compression bandage and splint.

"It was a smaller snake and I think it only got one fang into me, luckily for me," she said.

"I tried my best not to panic. Time was ticking by and I thought I might not make it. My little girl was terrified I might die."



A huge brown snake rests on a garden fence in Depot Hill, as the Fitzroy River slowly rises towards its projected peak

Her dash to safety involved crossing two branches of flood-swollen Mistake Creek on a tractor after heavy weather grounded the Mackay-based rescue chopper.

Husband Richard Alexander, a cattle stockman at Epping Forest Station, said it took a huge effort in the dark to get her the 140km to Clermont Hospital and a shot of antivenom after authorities called off an aerial rescue.

"This was a life and death situation," an angry Mr Alexander said.

"They took hours to decide they couldn't send a chopper and then told us to make a dash for it through the floods.

I understand the chopper crews are busy with evacuations, but we were not some stupid mugs stuck up a tree.

"If it was not for my mate with a 10-tonne loader to get us through the floods she might be dead."

Mrs Alexander was then flown to Mackay, 280km from Clermont, where she was in a stable condition.

Snake expert Michael O'Brien, from Cairns Tropical Zoo, said many species of snakes and spiders would be on the move.

"They head to homes, trees, any respite from the water, and that is where they come into contact with humans and accidents do happen."

**PETER MICHAEL
The Courier-Mail
January 2011**

Scientists Give Flying Frog A Bad Name

It can't fly and it doesn't suck blood, but that hasn't stopped researchers dubbing a newly discovered species the vampire flying frog.

Australian Museum biologist Jodi Rowley found the mysterious frog while exploring an uncharted mountainous region of southern Vietnam.



Vampire Flying Frog (*Rhacophorus vampyrus*)

The distinctive moniker comes from the fact that the tadpole of the species carries unique, Dracula-like fangs. No one knows yet what the fangs are for. "As far as I know, a tadpole like this hasn't been seen before anywhere," Dr Rowley said. "I didn't notice anything strange about the tadpoles at all, until I looked at them under the microscope and saw these hard, black fangs."

The fangs, described as "keratinised hooks", may possibly be used for hunting or eating. They could also be used as anchor points to help the tadpoles grip the sides of the small ponds in the holes of tree trunks where the frogs breed and live.

Surviving tadpoles grow into adult vampire flying frogs, which seem to spend most of their lives in trees. They sport unusual amounts of webbing between their digits, allowing them to glide from branch to branch in search of food.

Several adult frogs were found in the forests of the Langbian Plateau by Dr Rowley and a team of students between 2008 and 2010.

BEN CUBBY
Melbourne Age
January 2011

Frog Funding Vital For Species' Survival

A JAMES Cook University scientist will continue her fight against a deadly world-wide frog disease after being granted almost three-quarters of a million dollars.

JCU's School of Public Health, Tropical Medicine and Rehabilitation Sciences' Dr Lee Burger was recently awarded more than \$705,000 over four years for her project to continue working on mitigating frog species' declines due to the disease chytridiomycosis.

Chytridiomycosis, caused by the fungus *batrachochytrium dendrobatidis*, has caused the decline or extinction of hundreds of frog species worldwide since its emergence in the 1970s.

It has proven impossible to eradicate the fungus, so other methods of prevention and control are essential to save amphibian species from extinction.



Dr Lee Burger has received funding to research disease in frogs

Dr Berger said her project would examine ways to manage the disease and prevent new diseases emerging.

"Emerging infectious diseases are contributing to the sixth mass extinction," Dr Berger said.

"This study will focus on the most important disease, chytridiomycosis, which has caused the extinction of hundreds of amphibian species.

"It will examine how it is evolving this will improve management of it and other emerging diseases."

Dr Berger said the project includes a collaborative study with Taronga Zoo and the NSW Department of Environment and Climate Change.

Townsville Bulletin
December 2010

Woman Who Knows No Fear Could Offer Brain Clues For Scientists

US scientists have discovered a woman with a rare brain disease that makes her afraid of nothing - not a huge snake lurking near her children, not a knife to her throat, and certainly not a horror movie.

The woman cannot experience fear because of a condition that has destroyed the part of her brain - the amygdala - where researchers say they believe the feeling of fear is made.

Over the past two decades researchers have been analysing the woman, known as SM, for clues about her condition which they say could help them treat post-traumatic stress disorder, particularly in soldiers returning from war.

"It is quite remarkable that she is still alive," said lead author Justin Feinstein whose study appears in the journal *Current Biology*.

"The nature of fear is survival and the amygdala helps us stay alive by avoiding situations, people, or objects that put our life in danger," he said.

"Because SM is missing her amygdala, she is also missing the ability to detect and avoid danger in the world."



I ain't scared of no snakes!

Photo The Daily Telegraph

Instead of fear, SM, whose rare condition is known as Urbach-Wiethe disease, describes "an overwhelming feeling of curiosity."

To test her reaction, researchers led her into an exotic pet store filled with spiders and snakes, animals she repeatedly said she "hates" and tries to avoid.

"Upon entering the store, SM was spontaneously drawn to the snake terrariums and appeared visually captivated by the large collection of snakes," the study said.

Asked by a store employee if she would like to hold one, SM agreed and then played with one for about three minutes.

"She rubbed its leathery scales, touched its flicking tongue, and closely watched its movements as it slithered through her hands," it said.

"Her verbal behavior revealed a comparable degree of fascination and inquisitiveness: she repeatedly commented, 'This is so cool!'"

When she reached for a tarantula, however, she had to be stopped because there was a high risk she could be bitten.

"When asked why she would want to touch something that she knows is dangerous and that she claims to hate, SM replied that she was overcome with 'curiosity,'" the study said.

AFP Washington
December 2010

Hungry Pet Python Kills Two-year-old

The pet python that strangled a two-year-old girl in Sumter County, Florida, 18 months ago hadn't been fed in about a month and had escaped from its tank 10 times since its last meal - a road-kill squirrel, according to newly released documents.

Gypsy, the 2.6m albino Burmese python, was most likely hungry when it escaped its terrarium and attacked Shai-anna Hare in a crib, according to investigation documents examined by The Orlando Sentinel.

A review of reports regarding the tragedy on July 1, 2009, show that the child's mother and the mother's boyfriend had kept the snake in violation of wildlife rules and apparently could not afford to feed it.

The death spurred a statewide hunt of exotic reptiles and fuelled a crackdown on the imported constrictors.



Burmese Python (*Python molurus bivittatus*)

But nature may have accomplished what outraged members of the state congress had aimed to do: thin the snakes' numbers as below-freezing temperatures killed pythons in South Florida wildlife areas, where the powerful constrictors have established breeding populations and threatened to tilt the balance of the fragile ecosystem, preying on birds, mammals and other native species that take refuge in swamplands.

Permitted python-hunters captured and euthanised 13 constrictors in Florida in 2010, down from 39 in 2009.

The snake attack in the rural community of Oxford, about 100km northwest of Orlando, was believed to be Florida's first instance of a non-venomous constrictor killing a child.

The criminal case, likely to be tried this year, revolves around reckless behaviour of the child's care-givers, Assistant State Attorney Pete Magrino said.

"It was a tragic loss of a young life as a result of the criminal negligence and child abuse on the part of two adults - it's that simple," he said.

Shaianna's mother, Jaren Hare, 21, and Hare's boyfriend, Jason Darnell, 33, face up to 15 years in prison if convicted of manslaughter or third-degree murder. They also are charged with child abuse and have pleaded not guilty.

Associated Press
January 2011

Huge Turnout For Python Wedding

Hundreds of Cambodians celebrated an unusual wedding ceremony - for a pair of pythons - who they believe will bring good luck to their villages.

The marriage of serpent bride Chamreun to groom, Krong Pich, was held in Village One in Kandal province, about 20 kilometres south of the capital Phnom Penh, and attracted nearly 1,000 people, according to witnesses.



Snake wedding - Chamreun and Krong Pich

"We organised the wedding ceremony for the pythons in order to oust bad things and bring good luck and happiness for our villages," said 41-year-old Neth Vy, Chamreun's owner.

Neth Vy said his family had raised Chamreun in their home since 1994, after the then finger-sized snake got caught in his fishing net in a lake.

He said Chamreun had gone missing for over a month

but was found a week ago, at the same time people in his neighbouring village caught a male python, which they named Krong Pich.

Old villagers decided to wed the two pythons after a boy, who was believed to be spirit-possessed, said Krong Pich wanted to marry Chamreun, or "people in the villages will suffer illnesses and bad luck," Neth Vy said.

He said some fortune tellers had also appealed for the marriage between the pythons in order to bring "good luck and harmony for the people in the villages".

"So we held the wedding ceremony for the pythons with blessings from Buddhist monks, in accordance with our tradition," he said.

Many people offered money and prayed after the pythons were placed in the same cage following the religious ceremony.

"It surprised me. Since I was born I have never seen snakes get married," said Penh Kong, a 56-year-old vendor.

Many Cambodians are highly superstitious, particularly in the countryside, where people continue to merge animist practices with Buddhism.

ABC News
January 2011

Orange Alligator Turns Heads In Venice Neighborhood

Venice, Florida - One Venice neighborhood had quite a shock Wednesday when they met their newest neighbor.

Resident's at Sorrento Woods say it's usually pretty quiet there, but a new neighbor has people talking.

"When I was coming back from work this morning I passed by, and I thought I saw what I thought I saw, but I had to back up and come and look again." Sylvia Mythen says she barely believed her eyes. "It was indeed an orange alligator."

And Sylvia wasn't the only one who saw it. "He was just sun basking right here on this cement pier minding his own business," says Phillip Crosby.

Most people would be afraid; but not Sylvia. "I thought this is great...I'm going to snap a picture and send it to my grandkids so they think I'm one of the coolest grandmas in Florida."

In the picture she took, seen first on mysuncoast.com and ABC 7, you can clearly see that the reptile is orange.

Some neighbors say they were a little skeptical, thinking it was dirt or mud. But at closer glance..."I see him as I was passing by in my car, and he was definitely orange...his whole body was orange," says Crosby.

"I was from him to you away from him, and he was orange. So if it was mud, he did a good job of covering himself... every nook and cranny," says Mythen.

She not only contacted ABC 7, but she also contacted a biologist. "His findings were that it's probably almost an albino...in between. It's an albino, only a little more color, so he wasn't a full-fledged albino."



Photo: Sylvia Mythen

For now, residents say the orange gator is more than welcome to call Sorrento Woods home.

Mythen says the biologist told her that the orange gator is extremely rare. So rare in fact that he's never even seen one.

Gary Morse from Florida Fish and Wildlife says, "The official opinion from our alligator experts is that this is alligator is not naturally orange. We believe it's orange from paint, stain, iron oxide or some other element in the environment that has left a coating on the animal, making it appear orange."

**FALLON SILCOX
ABC 7 Florida
January 2011**

Frog Hitches Ride With Snake To Flee Floods

Of all the support for the devastating Queensland floods, this has to be the most unusual — a green frog hitching a ride on the back of a brown snake.

Computer technician Armin Gerlach was visiting friends in the flood-hit town of Dalby, located in the state's south-east, last week when he spotted the unlikely pair.

"I felt amazement, I just couldn't believe it," Mr Gerlach told ninemsn.



The frog on the back of the snake

Photo:Armin Gerlach

Mr Gerlach said a friend who had been affected by many floods told him animals often helped each other out during disasters.

"It's quite common when you have animals in floods or fires or disasters, they actually get together and don't do anything," he said.

"[My friend] has seen foxes and rabbits forget their hunting instincts during natural disasters," he said.

Mr Gerlach said he and his friends were inspecting flood damage on the property, where waters had risen to about 47cm.

**ANNE LIN
ninemsn
January 2011**

Israeli Air Force Sonic Booms Ignite Crocodiles' Sex Drives

Sonic booms created by Israeli air force planes breaking the sound barrier have stimulated the sex drive of a group of crocodiles on a local farm.

The males have already begun their mating calls, described by the newspaper as "the sound a vehicle breaking," normally reserved for the crocodiles' spring mating season, Israeli newspaper Maariv reported.

David Golan of the Hamat Gadar crocodile farm in the Golan Heights, believes the reptiles were responding to the sonic booms, wrongly believing they were the calls of rival males encroaching on their territory.

The farm is home to around 100 crocodiles and stands beneath airspace used to train Israeli air force pilots.

But despite the crocodiles' high-pitched warbling, Golan told Maariv there had been no increase in sexual activity among the group.

**Newscore
December 2010**

Boa Constrictors Can Have Babies Without Mating - New Evidence Shows

In a finding that upends decades of scientific theory on reptile reproduction, researchers at North Carolina State University have discovered that female boa constrictors can squeeze out babies without mating.

More strikingly, the finding shows that the babies produced from this asexual reproduction have attributes previously believed to be impossible.

Large litters of all-female babies produced by the "super mom" boa constrictor show absolutely no male influence -- no genetic fingerprint that a male was involved in the reproductive process. All the female babies also retained their mother's rare recessive color mutation.

This is the first time asexual reproduction, known in the scientific world as parthenogenesis, has been attributed to boa constrictors, says Dr. Warren Booth, an NC State postdoctoral researcher in entomology and the lead author of a paper describing the study. He adds that the results may force scientists to re-examine reptile reproduction, especially among more primitive snake species like boa constrictors.

The study is published online in *Biology Letters*, a Royal Society journal.



New evidence shows that boa constrictors can reproduce without sex. But one boa constrictor had babies asexually and the old-fashioned way. Her sexually produced snake (left) is shown beside one of the asexually produced females (right).

Snake sex chromosomes are a bit different from those in mammals -- male snakes' cells have two Z chromosomes, while female snakes' cells have a Z and a W chromosome. Yet in the study, all the female babies produced by asexual reproduction had WW chromosomes, a phenomenon Booth says had not been seen before and was believed to be impossible. Only through complex manipulation in lab settings could such WW females be produced -- and even then only in fish and amphibians, Booth says.

Adding to the oddity is the fact that within two years, the same boa mother produced not one, but two different snake broods of all-female, WW-chromosome babies that had the mother's rare color mutation. One brood contained 12 babies and the second contained 10 babies. And it wasn't because she lacked options: Male snakes were present and courted the female before she gave birth to the rare babies. And the versatile super-mom had previously had babies the "old-fashioned way" by mating with a male well before her two asexual reproduction experiences.

Booth doubts that the rare births were caused by environmental changes. He notes that while environmental stresses have been associated with asexual reproduction in some fish and other animals, no changes occurred in the mother boa's environment or routine.

It's possible that this one snake is some sort of genetic freak of nature, but Booth says that asexual reproduction in snakes could be more common than people think.

"Reproducing both ways could be an evolutionary 'get-out-of-jail-free card' for snakes," Booth says. "If suitable males are absent, why waste those expensive eggs when you have the potential to put out some half-clones of yourself? Then, when a suitable mate is available, revert back to sexual reproduction."

A reptile keeper and snake breeder, Booth now owns one of the young females from the study. When the all-female snake babies reach sexual maturity in a few years, Booth will be interested to see if they mate with a male, produce babies without a mate, or -- like their mother -- do both. In any case, these WW-chromosomed females will continue their version of "girl power," as any baby they produce will also be female.

Drs. Coby Schal and Ed Vargo co-authored the paper. Co-author Sharon Moore raised the snakes in the study. Co-author and veterinarian Daniel Johnson provided surgical sex testing on the snakes. NC State's Department of Entomology is part of the university's College of Agriculture and Life Sciences.

Science Daily
November 2010

Six Species Of Haiti's 'Lost Frogs' Found

Conservationists say they have found six rare frog species that are unique to the Caribbean nation of Haiti and have not been seen in about two decades.



Scientists report the surprising re-discovery of six species of globally unique frogs in the Haiti's severely degraded tropical forests

The discovery, which came despite heavy deforestation and widespread damage from a deadly quake last year, was made during an expedition in October to search for frogs that are rarely seen and could be on the verge of extinction.

Among the unusual frogs researchers found were a whistling frog named after composer Wolfgang Amadeus Mozart and a "ventriloquist" frog that can throw its voice to send predators in the wrong direction.

They also found in the mountains of southwest Haiti a burrowing, black-eyed frog with orange hind legs and a speckled frog with dazzling sapphire eyes.

The team, led by Conservation International scientist Robin Moore and Blair Hedges of Pennsylvania State University, embarked on the search in order to find the elusive La Selle Grass frog (*E. glanduliferoides*), unseen in over 25 years.

They didn't find that frog, but uncovered tantalising glimpses of a handful of Haiti's other 48 native species of amphibians.

"We went in looking for one missing species and found a treasure trove of others," said Moore.

"That, to me, represents a welcome dose of resilience and hope for the people and wildlife of Haiti."

Washington Correspondents
January 2011

How Diving Leatherback Turtles Regulate Buoyancy

Leatherback turtles are remarkably versatile divers. Routinely diving to depths of several hundred meters, leatherbacks are occasionally known to plunge as deep as 1250 meters. The animals probably plumb the depths to avoid predators, search for prey and avoid heat in the tropics. However it wasn't clear how these mammoth reptiles regulate their buoyancy as they plunge down.

Sabrina Fossette from Swansea University explains that no one knew how the turtles descended so far: do they swim down or become negatively buoyant and plummet like a stone? Curious to find out how nesting leatherbacks plumb the depths, Rory Wilson and his long time collaborator, Molly Lutcavage, decided to deploy data loggers containing triaxial accelerometers on leatherback females as they nested on beaches on St Croix in the US Virgin Islands. They found that leatherbacks probably regulate their buoyancy by varying the amount of air they inhale just before submersion.

Their finding was published Nov. 12, 2010 in the Journal of Experimental Biology.

"When you first see a leatherback turtle coming out of the water it's like a dinosaur it's really impressive," says Fossette, having just returned from collecting data in the Indian Ocean. According to Fossette, Andy Myers, Nikolai Liebsch and Steve Garner attached accelerometers to five females as they laid their eggs, and then waited 8-12 days

for the reptiles to return to the beach to lay more eggs having headed out to sea. Retrieving the accelerometers, the team found that only two of the five had collected usable data, but the data loggers that functioned showed 81 dives that the team could analyze ranging from 64 meters down to 462 meters.



Large leatherback turtle swimming

Back in Swansea, Fossette, Adrian Gleiss, Graeme Hays and Rory Wilson analysed the temperature, pressure and acceleration data collected by the loggers. Describing the accelerometer data Fossette says, "You can almost see the animal swimming. It's the first time we could see the locomotor activity during those deep dives."

Extracting the acceleration data that showed the leatherbacks' movements, the team could see that the turtles dived deeply at an average angle of 41 degrees as they began their descent. Initially the turtles swam with each flipper stroke lasting 3 seconds, but as they descended further they swam less hard until they stopped swimming all together, became negatively buoyant and began gliding down. At the bottom of the dive, the turtles began swimming as they heading to the surface and continued swimming until they regained buoyancy near the surface and began gliding again.

Fossette explains that many diving animals exhale before they leave the surface to minimise the risk of decompression sickness, however, leatherbacks do not. They dive carrying a lung full of air. Curious to find whether leatherbacks vary the amount of air that they inhale to regulate their buoyancy, Fossette and Gleiss compared the depths at which the turtles became negatively buoyant with the maximum depth that they reached. The team found that the deepest divers remained buoyant the longest and started gliding at deeper depths. So the turtles probably regulate their buoyancy before diving by varying the amount of air they inhale. Fossette also says, "The nesting turtles may glide for 80 percent of the dive's descent to optimize their energetic reserves, which is crucial for the production of eggs."

The team is now keen to look at the diving patterns of leatherbacks in their foraging grounds in the North Atlantic. Fossette explains that nesting turtles lose weight while foraging turtles are gaining weight and this could affect their

buoyancy and diving behaviour. However, tagging a 400-kilogram turtle in the ocean is a much bigger problem than tagging them on a beach.

Science Daily
November 2010

Boy Bitten By Snake In Bed

A young boy's terrifying encounter with a snake that bit him three times in his own bed has prompted a call for other families to secure their homes.

On January 5 about 6.30am, a dugite entered Mason Saunders' bedroom, most likely through a small hole in the wall, and bit him on his toe, then a second time on his foot.



Snake-bite victim Mason Saunders

The seven-year-old woke screaming, to find the snake wrapped three times around his left arm. He saw the snake bite the top of his finger.

The screams woke his mother Chris, who flung open the door to see the snake still tight around her little boy's arm despite his frenzied attempts to shake it free.

"I held him and told him to hold his arm still and it slithered off the end of the bed, and as its head went over he waved his arm a bit and it unwound," Ms Saunders said.

"At that time I didn't know he was also bitten on his foot."

Ms Saunders said it was a terrifying experience.

"I have five kids but that took the cake," she said. "You think your kids are safe when you put them to bed. You don't expect them to wake with a snake around their arm."

Mason is too scared to sleep in his room and the family is keen to move out of the rental despite trying to plug small holes throughout the old house.

The snake, which was spied by ambulance officers, disappeared before a snake wrangler could respond later in the day.

Mason also endured an unusual reaction to the venom, paralysed by the time he reached hospital by ambulance.

"Normally, people have clotting issues but he didn't have that, he vomited in the ambulance as we arrived and said he felt sleepy; then he was suddenly paralysed," Chris said.

Mason was treated with four doses of antivenene and, despite his nerves, he says he can't wait to tell his friends his remarkable survival story.

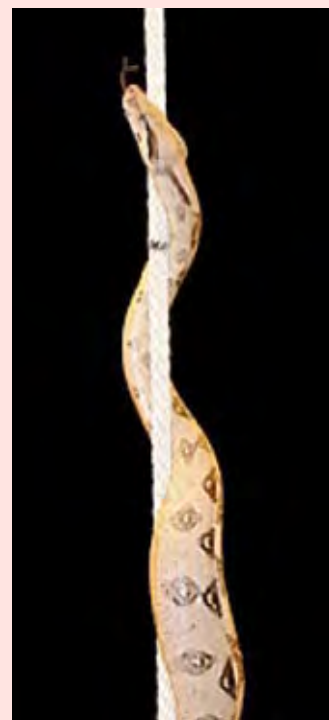
Ms Saunders urged other families to secure their homes where possible and be aware that snakes can enter suburban homes in search of food.

JAIME SHURMER
Comment News
January 2011

Snakes On A Rope: Researchers Take A Unique Look At The Climbing Abilities Of Boa Constrictors

In a unique study involving young boa constrictors, University of Cincinnati researchers put snakes to work on varying diameters and flexibility of vertical rope to examine how they might move around on branches and vines to gather food and escape enemies in their natural habitat.

The findings by Greg Byrnes, a University of Cincinnati postdoctoral fellow in the department of biological sciences, and Bruce C. Jayne, a UC professor of biology, are published in the December issue of The Journal of Experimental Biology.



Boa constrictor climbing up a rope. How does a snake climb a vertical surface without slipping?

For many Americans, it was the most dreaded moment in gym class: the challenge to wrap oneself around a vertical rope and climb as high as possible. Some of us couldn't even get off the floor. But for other animals -- even with no arms, no hands, no legs and no feet -- that climbing ability is a necessity to survive.

The UC researchers sent the snakes climbing up varying widths and tensions of ropes as they explored snake movement in relation to their musculoskeletal design and variation in their environment.

They found that regardless of diameter or flexibility of the rope, the snakes alternated curving between left and right as they climbed the ropes. On the thicker ropes, they were able to move greater portions of their bodies forward as they climbed. As the ropes became thinner and more flimsy, the snakes used more of their bodies -- including their back, sides and belly -- to manipulate the rope for climbing.

"Despite the likely physical and energetic challenges, the benefits of the ability to move on narrow and compliant substrates might have large ecological implications for animals," write the authors. "Arboreal organisms must often feed or hunt in the terminal branch niche, which requires the ability to move safely on narrow and compliant substrates."

Jayne points out that although the large muscles of boa constrictors make them fairly stocky and heavy compared to other snakes, this anatomy probably increases their strength. All of the snakes gripped the ropes using a concertina mode of locomotion, which is defined by some regions of the body periodically stopping while other regions of the body extend forward. "It turns out boa constrictors are strong enough so that they can support their weight with a modest number of gripping regions," adds Jayne.

The researchers say their findings are the first study that has explicitly examined the combined effects of diameter and compliance on how an animal gets around. Future research is underway to compare differing muscular anatomies in snakes and relate it to their function in terms of their behavior and their environment.

The research was supported by a grant from the National Science Foundation.

**Science Daily
November 2010**

Croc Swallows Phone And Starts Ringing!

Workers at a Ukrainian aquarium did not believe it when a visitor said a crocodile swallowed her phone. Then the reptile started ringing.

The accident in the eastern city of Dnipropetrovsk sounds a bit like Peter Pan, in which a crocodile happily went "tick-

tock" after gulping down an alarm clock.

But Gena, the 14-year-old croc who swallowed the phone, has hardly been living a fairy tale: he hasn't eaten or had a bowel movement in four weeks and appears depressed and in pain.

Gena noshed on the Nokia phone after Rimma Golovko dropped it in the water. She had stretched out her arm, trying to snap a photo of Gena opening his mouth when the phone slipped.

"This should have been a very dramatic shot, but things didn't work out," she said.



Gena, who swallowed a mobile phone!

Employees were sceptical when Ms Golovko, a mother in her 20s, told them what happened.

"But then the phone started ringing and the sound was coming from inside our Gena's stomach and we understood she wasn't lying," said an employee who declined to give her name.

Since then, Gena has been refusing food and has been listless. He also won't play with three fellow African crocodiles, despite being the leader of the group.

"His behaviour has changed," the employee said. "He moves very little and swims much less than he used to."

Doctors tried to whet the crocodile's appetite this week by feeding him live quail rather than the pork or beef he usually gets once a week. The quail were injected with vitamins and a laxative, but, while Gena smothered one bird, he did not eat it.

Dnipropetrovsk chief veterinarian Oleksandr Shushlenko said the crocodile would be taken for an X-ray this week if he continued to refuse food. Surgically removing the phone would be a last resort, he said, since incisions and stitches usually take at least three weeks to heal in reptiles and the procedure is dangerous for the animal and the vets.

"Everything will depend on where the foreign body is located," Dr Shushlenko said. "We don't have much experience

working with such large animals."

The crocodile with the ticking stomach in Peter Pan was on the hunt for Captain Hook after getting a taste for the pirate's flesh by eating one of his hands. But luckily for Hook, he could always hear the crocodile coming.

Ms Golovko has about as much hope of retrieving her phone as Hook did of retrieving his hand. But she does want to get back the phone's SIM card, which holds her precious photos and contacts.

Associated Press
The Age
January 2011

Turtle, Dugongs 'At Risk Under Climate Change'

The "turtle and dugong capital of the world," the northern Great Barrier Reef (GBR) and Torres Strait region, faces increased pressure under climate change from human actions such as fishing, hunting, onshore development and pollution.

"Depletion of turtle and dugong numbers increases their vulnerability to other threats and lowers their ability to cope with climate change," Dr Mariana Fuentes of the ARC Centre of Excellence for Coral Reef Studies and James Cook University will tell the Coral Reef Symposium in Canberra October 8.

Dr Fuentes says that turtles in particular are vulnerable to the effects of climate change, which include decreases in hatching success, loss of nesting areas and overheated beaches, which will decrease the turtles' reproductive output and may significantly alter the sex ratio of their offspring.

Dr. Fuentes' research into the green, hawksbill and flat-back turtles and well as dugongs in the northern GBR and Torres Strait is seeking to establish priorities for the management of marine megafauna to increase their resilience to climate change.

"Managers face the challenge of addressing the direct effects of climate change, as well as ongoing threats that dugongs and sea turtles face throughout their geographic range," she explains. "For logistical, financial and political reasons, managers cannot address all threats simultaneously, and so need to prioritize their actions."

Of particular concern is the effect of climate change on the gender balance of turtle population, Dr Fuentes says: "The temperature of the beach sand determines the gender of the hatchlings -- warmer sand produces more females while cooler sand produces more males."

"Under current conditions the nesting grounds are already producing more females. With an increasing temperature, these turtles are at risk of stretching out the ratio, though

we can't yet predict exactly when it will cause an unbalanced population."

"While sea turtles have survived large climatic fluctuations during their evolutionary history, modern rates of climate change are much faster, and are coupled with additional human pressures," says Dr Fuentes. "We still do not know whether turtles can adapt to modern rates of climate change."



The "turtle and dugong capital of the world", the northern Great Barrier Reef (GBR) and Torres Strait region, faces increased pressure under climate change from human actions such as fishing, hunting, onshore development and pollution.

Dugongs may experience indirect effects of climate change and human activity through impacts on their main food source, seagrass. Seagrass diebacks are linked to lower reproduction, increased mortality and emigration of dugongs.

Dr Fuentes has been working closely with indigenous communities in the Torres Strait region and northern GBR to monitor turtle numbers and condition and to track the movements of dugongs.

She says it will be important to take a range of short-term and long-term measures to protect turtles and dugongs from climate change, including:-

Reducing the negative stresses that they are currently subject to.

Actively trying to change the habitat they use (e.g. by shading nests, re-vegetating beaches, and replacing lost sand).

Protecting areas that seem to offer the best conditions as refuges in the future.

"Turtles and dugongs have numerous roles -- apart from their cultural and spiritual significance to the indigenous community, they are important for the tourism industry. Being at the top of the food chain also means that they have high ecological significance."

The loss of these species would have a huge impact on the northern Australian marine environment and on indig-

enous communities, she warns.

"There are still many uncertainties over how turtles and dugongs will be impacted by climate change. For the time being the best prospects for their survival are to mitigate climate change (by reducing carbon emissions) and to reduce negative pressure on turtles and dugongs from activities such as hunting and coastal development."

"However, as the impacts of climate change become more extreme, more 'active' adaptation strategies may be necessary. The success of each adaptation option will depend on climatic impact and local social, economic and cultural conditions, and therefore needs to be considered on a case by case basis, and at a local scale," Dr Fuentes explains.

Dr Fuentes will be presenting the results of her research on the 8th of October at "Coral reefs in a changing environment," at the Academy of Science's Shine Dome.

Science Daily
October 2010

Rare Find Could Halt High-country Cattle Grazing

Pressure is mounting on Canberra to intervene to remove cattle from the Alpine National Park after scientists found evidence of protected wetlands being trampled in the Bailieu government's grazing sites.

The Age was this week shown alpine sphagnum bogs, protected dwarf sedge plants and alpine tree frogs - all listed as endangered or vulnerable under the federal Environment Protection and Biodiversity Conservation Act - in cattle-grazing areas.

About 400 cattle were controversially returned to the heritage-listed park last month under the banner of scientific research (into whether grazing reduces fire risk). Federal law requires state governments to seek approval before actions that could have a significant impact on a matter of national environmental significance.

Henrik Wahren, an alpine ecologist with La Trobe University, said his initial observations at two of the six areas designated for cattle grazing showed protected wetlands were trampled and potted with hoof marks and cow dung.

"We're seeing this process of degradation occurring before our eyes - I didn't expect so much to occur in such a brief period," Dr Wahren said.

The Federal Environment Department lists trampling, browsing and grazing by hard-hoofed animals including cattle as a key threat to alpine sphagnum bogs.

Felicity Millner, principal solicitor with the Environment Defenders Office, said it was highly possible a legal challenge would find cattle grazing had a significant impact on endangered ecological communities.

State Environment Minister Ryan Smith declined to be interviewed, but has previously said the cattle would not cause a significant impact.



Shifting ground: Cattle in the Alpine National Park

The cattle's return came without the knowledge of Mark Adams, the University of Sydney professor leading the research. It further fuelled accusations that it was a political decision made to win the support of the Mountain Cattle-men's Association of Victoria at last November's election. Cattle in the park photographed by The Age were grazing without supervision and not wearing electronic collars to track their movement.

Staff at Parks Victoria, the agency responsible for managing the park, have been told not to comment publicly, but privately some expressed dismay at the decision. Normally, a research plan is submitted to the agency's scientific advisory group before a trial starts. That did not happen in this case.

"The political overlay is like nothing I've seen before," one Parks Victoria officer said. "It's so blatant it just leaves you gasping."

Grazing in the national park was banned by the Labor government in 2005 after a taskforce found cattle damaged the environment and had no influence on fire behaviour. Federal Environment Minister Tony Burke said his department was gathering information to determine whether the trial was illegal.

ADAM MORTON
The Age
February 2011

Fangin' On A Freeway - Snake Gets A Lift Then Strikes

As he drove along the F3, Troy Vella was troubled by a banging noise from beneath his car.

When he arrived at work at Mascot, he got out to inspect what he thought would be a tree branch.

Instead, he was confronted by a 2m red-bellied black

snake - which bit him on the leg.

"I heard this banging noise coming from under the car as I drove down," Mr Vella, 44, said from his bed at the Prince of Wales Hospital, where his condition is satisfactory.

"When I opened the door to get out, I saw this huge snake rear up from just outside the car and strike my lower leg." Mr Vella slammed the door shut and jumped out of the passenger side of the vehicle.

"When I came round the other side, I saw this massive snake half stuck in the door of the car, still trying to get at me," he said.



Ouch ... the Red-bellied black snake that bit Mr Vella

Mr Vella's colleague Anthony Gennusa was nearby when he got the call from his stricken mate.

"I didn't believe it when he first told me, to be honest. I had to see it for myself and even then it was a bit surreal," Mr Gennusa said.

Despite being bitten, Mr Vella said he was more worried about the damage the snake had done to his new Holden Senator.

"I'd like the snake to have a chat with my insurer and pay the excess for all the scratches he's caused to my new car," he said.

Wires Ambulance Rescuer Barry Alexander captured the snake at the scene. He said while red-bellied black snakes were uncommon in Sydney, people should still be wary that hot weather will bring them out.

"We do have red bellies, not so much in Mascot, but certainly up north. It's the heat that brings them out and we've had a lot of hot days of late," Mr Alexander said.

The snake was taken to the reptile vet and given a clean bill of health.

PHIL JACOB
The Daily Telegraph
February 2011



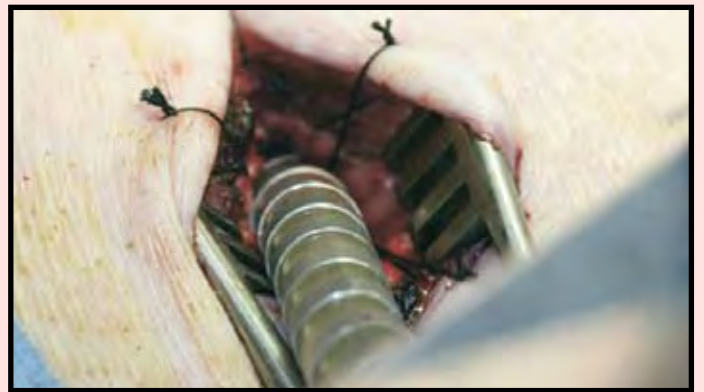
Snakebot Gets Under Your Skin - Literally, Mends Your Broken Heart

American Engineers have built a robotic snake that could change the way heart surgery is performed.

CardioArm can assist surgeon's procedures, slithering into places in the body too tight or dangerous for ordinary medical tools to enter.

Though it's hardly comfortable, Snakebot is revolutionising the way heart surgery is performed, mitigating the need for open heart surgery.

Rather than having to crack open patients' ribcage during heart surgery, this slippery little sucker buries itself deep inside your chest via a 2cm hole in your solar plexus and slithers around your organs.



Slithering through a hole in the solar plexus, Snakebot gets into those hard-to-reach places

The inventors of CardioArm say this technology has the potential to minimise the time it takes for patients to recover from heart surgery.

Dr Howie Chosets from the University of Carnegie Mellon in Pennsylvania told Discover magazine: "Instead of cracking open a person's chest we can do a surgery and send patients home the next day."

With a camera attached to the head, a surgeon controls the movement of the robot using a joystick allowing it to visually map the parts of the body requiring surgery.

Snakebot has already passed its test on its first human subject - doctors from the Czech Republic used CardioArm to successfully performed a diagnostic heart mapping procedure in February last year, but its inventor has even bigger plans for the 30cm-long serpent.

The roboticist plans to test the device in other surgeries such as ablation, which involves using lasers to burn away small amounts of heart tissue to correct an abnormal beat.

Surgery isn't the only thing on Dr Chosets' agenda however, the robotics believes Snakebot could assist in archaeology fields as well.

Dr Chosets told IEEE's Spectrum: "We're hoping to use a remote-controlled robot to go through small caves in Egypt and find remains of ancient Egyptian tombs."

news.com.au
February 2011

Weipa Fisherman Lucky To Be Alive After Battling With Four Metre Crocodile

Weipa fisherman fought for 15 minutes to free himself from the jaws of a 4m crocodile by holding on to mangroves and punching the monster with his bare fists.

Todd Bairstow, 28, a Rio Tinto bauxite mine worker, was fishing on the banks of Trunding Creek near the Albatross Hotel when the huge crocodile lunged out of the water about 4pm yesterday, the Courier-Mail reported.

The croc attack victim reportedly told Weipa Hospital staff he fought for his life with the 4m monster "for about 15 minutes" before locals heard his cries and ran to his aid to help drag him to safety.

He told medical staff how he desperately clung onto mangroves to prevent the big croc dragging him underwater for the deadly death roll.



Fisherman Todd Bairstow, arrives at Cairns Base Hospital late last night after surviving a 15-minute attack by a 4m crocodile in Weipa

Last night Mr Bairstow was flown to Cairns by the Royal Flying Doctor Service suffering extensive lower limb lacerations, cuts to his hands, a broken leg and dislocated joints.

He was taken to Cairns Base Hospital about 11.15pm where he is reportedly in a stable condition with the injuries described as non-life threatening.

Mr Bairstow, an avid fisherman, pig hunter and outdoor-smán, told friends on Facebook how he was "living the dream" in the wilderness of Cape York where big crocodiles are a familiar sight in creeks and waterways.

"Off to mow down some pigs after shift," he noted in his latest Facebook entry.

Another earlier entry he said he was off to a popular fishing

spot known as Jurassic park to "slay some barra".

He only got full-time work with Rio Tinto in Weipa in January after previously working and completing high school at Port Pirie in South Australia.

PETER MICHAEL
The Courier Mail
March 2011

X-Rays Reveal Hidden Leg of an Ancient Snake: New Hints on How Snakes Were Getting Legless

A novel X-ray imaging technology is helping scientists better understand how in the course of evolution snakes have lost their legs. The researchers hope the new data will help resolve a heated debate about the origin of snakes: whether they evolved from a terrestrial lizard or from one that lived in the oceans. New, detailed 3-D images reveal that the internal architecture of an ancient snake's leg bones strongly resembles that of modern terrestrial lizard legs.

The results are published in the Feb. 8, 2011 issue of the Journal of Vertebrate Paleontology.

The team of researchers was led by Alexandra Houssaye from the Museum National d'Histoire Naturelle (MNHN) in Paris, France, and included scientists from the European Synchrotron Radiation Facility (ESRF) in Grenoble, France, where the X-ray imaging was performed, and the Karlsruhe Institute of Technology (KIT), Germany, where a sophisticated technique and a dedicated instrument to take the images were developed.

Only three specimens exist of fossilised snakes with preserved leg bones. *Eupodophis descouensi*, the ancient snake studied in this experiment, was discovered ten years ago in 95-million-year-old rocks in Lebanon. About 50 cm long overall, it exhibits a small leg, about 2 cm long, attached to the animal's pelvis. This fossil is key to understanding the evolution of snakes, as it represents an intermediate evolutionary stage when ancient snakes had not yet completely lost the legs they inherited from earlier lizards. Although the fossil exhibits just one leg on its surface, a second leg was thought to be concealed in the stone, and indeed this leg was revealed in full detail thanks to synchrotron X-rays.

The high-resolution 3-D images, in particular the fine detail of the buried small leg, suggest that this species lost its legs because they grew more slowly, or for a shorter period of time. The data also reveal that the hidden leg is bent at the knee and has four ankle bones but no foot or toe bones.

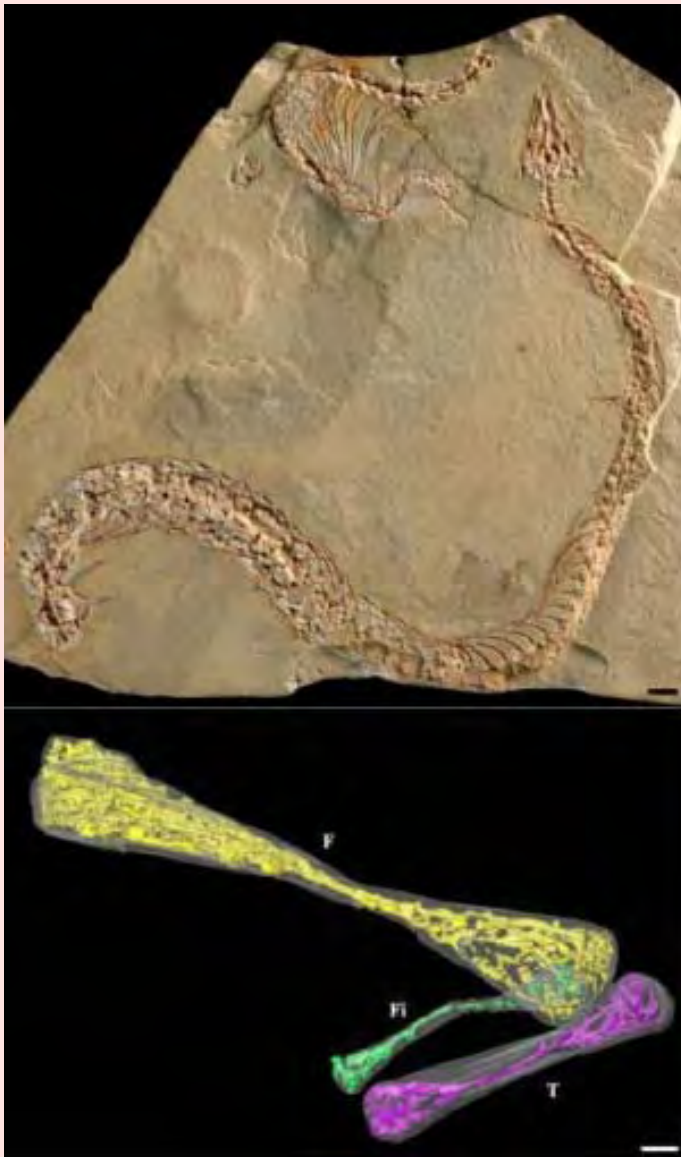
"The revelation of the inner structure of *Eupodophis* hind limbs enables us to investigate the process of limb regression in snake evolution," says Alexandra Houssaye.

The scientists used synchrotron laminography, a recent

imaging technique specially developed for studying large, flat samples. It is similar to the computed tomography (CT) technique used in many hospitals, but uses a coherent synchrotron X-ray beam to resolve details a few micrometers in size--some 1000 times smaller than a hospital CT scanner. For the new technique, the fossil is rotated at a tilted angle in a brilliant high-energy X-ray beam, with thousands of two-dimensional images recorded as it makes a full 360-degree turn. From these individual images, a high-resolution, 3-D representation is reconstructed, which shows hidden details like the internal structures of the legs.

"Synchrotrons, these enormous machines, allow us to see microscopic details in fossils invisible to any other techniques without damage to these invaluable specimens," says Paul Tafforeau of the ESRF, a co-author of the study.

Science Daily
February 2011



Top: Photograph of *Eupodophis descouensi*, a fossil snake from the Cretaceous Period (95 million years ago) of Lebanon. The black scale bar at the bottom right equals 1 cm.

Bottom: 3-D reconstruction from synchrotron X-ray images of the previously hidden second leg of *Eupodophis*. The bones are artificially colored to highlight the internal structure of the bone and show how the snake's leg grew.

Sterility in Frogs Caused by Environmental Pharmaceutical Progestogens, Study Finds

Frogs appear to be very sensitive to progestogens, a kind of pharmaceutical that is released into the environment. Female tadpoles that swim in water containing a specific progestogen, levonorgestrel, are subject to abnormal ovarian and oviduct development, resulting in adult sterility. This is shown by a new study conducted at Uppsala University and published in the journal *Aquatic Toxicology*.

Many of the medicines that people consume are released into the environment via sewage systems. Progestogens are hormone preparations used in contraceptives, cancer treatment and hormone replacement therapy for menopausal discomfort. Different kinds of progestogens have been identified in waterways in a number of countries. Associate professor Cecilia Berg and doctoral student Moa Kvarnryd at the Department of Environmental Toxicology at Uppsala University have shown that levonorgestrel can cause sterility in female frogs at concentrations not much higher than those measured in the environment. The research group is part of MistraPharma, one of the world's largest research networks focusing on pharmaceuticals and the environment.

"The findings represent important initial evidence that an environmental progestogen can adversely affect frogs," says Cecilia Berg.

Female tadpoles that swam in water containing low concentrations of levonorgestrel exhibited a greater proportion of immature ovarian egg cells and lacked oviducts, entailing sterility. The African clawed frog (*Xenopus tropicalis*) served as the model organism. It is during the tadpole stage that development of frog reproductive organs begins. The process is governed by the hormone system. The findings underscore the importance of studying how pharmaceuticals affect animals in our environment, which is one objective of MistraPharma.

"Our findings show that pharmaceuticals other than estrogen can cause permanent damage to aquatic animals exposed during early life stages," says Cecilia Berg.

Science Daily
February 2011

NEXT VHS MEETING

Wednesday 25th May 2011
7:15pm - 10:30pm

PRAHRAN RSL - 301 HIGH STREET - PRAHRAN