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ACTHA News

Aug—Sept 2007

*Newsletter of the
ACT Herpetological
Association Inc.*

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The Pig-nosed Turtle - building an enclosure and care in captivity

If you have been to Peter Child's Canberra Exotics shop lately, you will have seen his Pig-nosed Turtles in their specially built tank. Read all about the trials and tribulations of building the tank and how Peter cares for these amazing turtles, page 3.

The Smooth Knob-tailed Gecko, Nephurus laevisissimus, in captivity

Steve Comber is a keeper of live exhibits at the Melbourne Museum. A summary of his talk on this gecko at the May 2007 Care of Australian Reptiles and Amphibians Conference (CARA) is presented on page 6.

Keeping small elapids, with comments on a captive diet

Peter Comber is also a keeper of live exhibits at the Melbourne Museum, and presented his talk on the above at the same Conference. A summary of his presentation is on page 7.

Pink-tailed worm-Lizard is nominated as a vulnerable species

Geoff Robertson, ACTHA, and Paul Cheesman, Friends of Grasslands, have worked hard to help protect this lizard, page 8.

The Reptile Policy in the ACT

This Policy has been in draft form for some time and is now a reality. See page 9 for details.

Your Committee

President:	Dennis Dyer
Vice President:	Ric Longmore
Secretary:	Joe McAuliffe
Treasurer:	Margaret Ning
Newsletter Editor:	Mandy Conway
Public Officer:	John Wombey
Excursion Officer:	Ric Longmore
Committee Members:	Chris Brown Christian Robertson



Diary date

The *bi-monthly* meetings of the Association are held on the *third Tuesday of the month* at 7.30pm, Western Districts Rugby Club, Catchpole Street, Macquarie.

Upcoming meetings

Tuesday 21 August 2007

Geoff Kay is a student at the ANU who is about to start his Honours year in Scott Keogh's lab.

Geoff has just spent several months in South Africa and Madagascar where he was able to do a lot of herping. Geoff will present a talk about his travels with lots of photos of amazing Madagascar chameleons.

Tuesday 16 October 2007

Sarah Ross will be completing her Honour's degree on **the role of frogs in an agricultural ecosystem in NSW**. The research focused on their dietary habitats and potential as a natural pest control. Many interesting herps were also found living in that particular environment and Sarah would like to share her experiences.

Questacon—exhibitions and kids

Robert Bunzli and Gerard Dwyer, Questacon, with this article by Mandy Conway

Robert and Gerard addressed the June 2007 ACTHA meeting.

Robert started off by providing a broad outline of Questacon's goals and achievements, highlighting the fact that hundreds of thousands of visitors, including school groups, had attended theme displays and shows over the past 8 years. Science students and volunteers who have retired from the workforce have given their time freely over the years, and helped foster successful interaction with the public, providing a two way learning experience. Staff are now employed by Questacon, enabling programs to be taken on the road to communities all over Australia and indeed overseas.

Many early displays concentrated on button-pushing exhibits and panels requiring much reading. As Questacon grew, events on more of an interactive platform were developed. These exhibitions were extremely popular with visitors.

Gerard continued, saying that Questacon has tried to have more live creature displays over the years, eg ant and bee colonies with cameras placed in the colonies to enable the public to view the active little creatures. These displays have proven to be an amazing draw card, however problems have been encountered, specifically the logistics and the large number of staff required at any given time.

A butterfly house near the outdoor cafe area was another idea which everyone thought would be really successful, but the costs proved to be prohibitive.

Gerard's personal vision is for even more interactive, hands-on exhibits, especially those with live animals. Puppet shows featuring dinosaurs and fake grasshoppers have been successfully done in the past, however live specimen shows continue to excite young and older visitors alike.

Recently, a spider enthusiast came to Questacon for a dedicated 'spider day' and did a number of talks. He displayed some awesome Huntsmans too: people were excited and captivated by the spiders on show.

During a three week science exhibition, involving RMIT, the ANU, and Adelaide

University, to name a few, Questacon was inundated with visitors, especially from interstate. Staff observed a close interaction between parents and their children whilst they moved between activity stations. Questacon staff wearing outfits to enhance a particular display delighted kids even more. The odd cute statement from children included "Can lasers cut you in half?" and "Why don't robots eat?". Even better, "Will this thermometer work in Adelaide?". This exhibition included an interactive area where children made models of molecules from different materials eg making bouncing balls from polymers.

Gerard went on to say that in good weather there were steady streams of people over a weekend exhibit. In bad weather such exhibits were "out of control!". He described his delight in entertaining and educating thousands of kids about the environment.

Following on from the success of events in the past, Questacon is keen to have a reptile weekend which would include live specimens from ACTHA members. Members would also be asked to be present with their animals to provide information and answer questions from the public. Gerard and his colleagues are keen to trial a reptile weekend in August 2007. The event would be carefully scrutinised to help gauge the main interests and questions of the public and to help in the development of a dedicated reptile section within the 'Eaten alive predators' Exhibition to be held in early 2008.

Gerard finished with some choice memories of some of the things kids have said when they were at Questacon.

Children are immediately investigating every nook and cranny on entry:

"What's that?" to a non-exhibit power point on a wall. Answer: "a power point". "Wow!" before running off and asking "How does this garbage bin work?" Excitement just takes over.

Children were once warned before entering a simulated rollercoaster exhibit that they may feel sick. "My Tamagochie is asleep so it won't get sick" was one response.

"A snake bit me once and killed me but I'm ok now." was one memorable statement.

Dads have been observed lining up their children and getting them to ask the question "how do snakes mate?"

The Pig-nosed Turtle—building an enclosure and care in captivity

Peter Child, Canberra Exotic Pets,
with this article by Mandy Conway

If you have been to Peter Child's Canberra Exotics shop lately, you will have seen his Pig-nosed Turtles in their specially built tank.



The Long-necked Turtle swimming with the Pig-nosed Turtles gives an idea of how large these animals are.

Peter admitted to not previously having a particular interest in Pig-nosed Turtles (*Carettochelys insculpta*) - that is until he was given the opportunity to own an adult pair. The more he researched this animal, the more his interest was piqued and the more spectacular the turtle became to him.

This turtle has several other common names: Fly River Turtle, Pitted-shell Turtle and the New Guinea Plate-less Turtle.

The Pig-nosed Turtle is a very large freshwater turtle that, like the sea turtle, has 2 broad flippers, each with 2 claws: the only freshwater turtle to do so. Their carapace colour is grey to olive-grey, while the plastron is creamy white. The bony carapace is covered with a soft,

rippley, pitted skin, which is vulnerable to damage. The loose scutes can flex as they are not joined, unlike most other turtles. Their unique head has a large fleshy nose which has a really good sense of smell and enables the turtle to extract oxygen from the water like a fish using its gills. They have powerful jaws and a plate in their mouth which can crush the Pandanus fruit (related to a pineapple) they eat in the wild. Their retracted head pulls back, unlike other Australian turtles which pull their head in sideways.

In Australia, the distribution of this turtle is confined to the Daly, Victoria, Alligator and possibly Roper River systems of the Northern Territory. It also occurs along the Strickland, Morehead, Kikori and Fly Rivers of Southern New Guinea. Aboriginal rock paintings that date back 7000 years suggest that this turtle, or a species very much like it, has lived in Australia for thousands of years.

As with many turtles in remote locations, the Pig-nosed Turtle was once believed to be extremely rare. Although exact population numbers are not currently available, it is known to be very common in its range. Acquiring a turtle such as the Pig-nose in Australia is difficult. Because of its native fauna protection and the relatively new availability of this animal in keeping circles, captive breeding is rare. Expect to pay around \$2,000 for a hatchling should one appear on a dealer list.

Their preferred habitat is warm tropical rivers, streams, lakes and lagoons with slow currents and soft, sandy bottoms on which they can rest. These turtles need underwater cover such as submerged fallen trees and branches, tree roots and reeds to feel comfortable.

On the few occasions Peter has seen them on land they have been cautious and skittish. Their skin also goes red when they are out of the water and stressed. Peter commented that there are no real foreseeable predators and queries why this animal appears so scared of everything.



Pig-nosed Turtle size

Length: adult male and female:	46 - 51cm
Weight at birth:	730g
Weight as an adult:	13-20kg

Pig-nosed Turtles generally breed one year on and one year off. In the dry season, between July and early November, they lay 7-19 eggs on sandy banks well above the low waterline. Fully developed young remain within the eggs until torrential downpours in the wet season inundate the nests, triggering them to emerge explosively from their shells. More than one female may lay her clutch in a single nest. To date, very little captive breeding has occurred with this species. Those keepers who have artificially incubated eggs have found them to exhibit temperature-dependent sex determination: males were produced when eggs were incubated at a constant temperature range of 27.7 - 30°C. Incubation periods varied from 60 - 70 days and growth of captive hatchlings has proven to be very slow.

Pig-nosed turtles are omnivorous, with a preference for plant matter. Their natural diet centers around the fruit and leaves of the wild fig, bush apples, Pandanus fruit, ribbonweed, and also crustaceans, insects, molluscs and carrion. Captives thrive on a diet of figs, apples, kiwi fruit and bananas, as well as occasional pieces of fish and shrimp. Some keepers of this turtle have successfully started hatchlings on a diet of commercial pelleted food, pinky mice and insects like mealworms and crickets. Older turtles are fed three times per week.

Peter hand feeds these turtles to ensure each gets enough food: he worries that the male, having a quieter disposition than the female, may miss out on food. He does occasionally give them kangaroo meat and says he is genuinely afraid and cautious at feeding time: the turtles shoot out from the bottom of the tank to snivel this food and their bite can be dangerous. Apparently fur-balls have been found in some wild turtles, which indicates that some carrion is consumed.

The Pig-nosed Turtle predominantly exists as a juvenile specimen in the world of the collector. They are completely at home in the water and one of the only species of fresh water turtles that has no need for a land area. A 3 or 4 foot aquarium will house small individuals. Because of their large adult size, a large pool or pond will eventually be required: these two adults were previously housed in a swimming pool in the garage of their former owner.

So, a BIG tank needed to be built for this pair of turtles. Peter also needed to create an enclosure that could be 'moved'. The centre floor area of the shop was cleared and the tank started to take shape with pine sleepers.



The start...



Sophie praying it will hold water

All the sleepers were bolted together and gaps were filled with Styrofoam. A pond liner was installed and the universal rock product was placed over this - the turtle's fins are quite sharp so the universal rock would help protect the liner and look good too. The timber was varnished and corrugated steel panels were added for effect.

A window to view the swimming turtles was needed, but a 4ft high and long piece of 10mm thick glass could explode under the pressure of the water. The decision was made to keep the bottom 2ft in wood and create a 2ft high window.



Everyone waited a week for the siliconed glass on the top sections of the tank to dry. Peter couldn't wait so he filled the bottom half of the tank with water and spent nearly a week lifting the turtles in and out. The only nuisance problem so far is a persistent small water leak. Oh, and the turtles insist on smacking their noses against the glass in the area where the water from the filter flows back into the tank: some nose skin is being lost. And most of the live plants in the enclosure have been eaten.

Water quality is vital to successfully keeping this species and a high-quality filtration



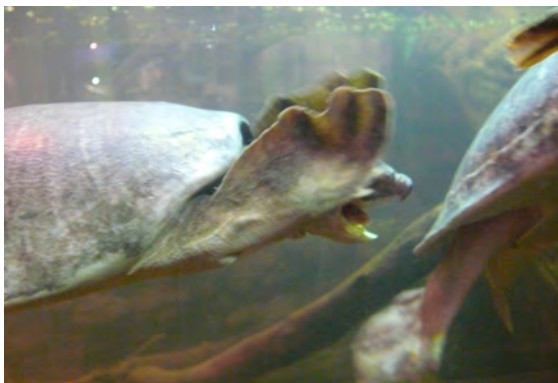
system, such as a UV and/or biological system, must be provided. Failure to maintain excellent water quality will inevitably lead to fungal or bacterial skin disorders. Water temperature must be maintained between 26 and 30°C - aquarium water heaters are used by

Peter. Whilst an internal filter may be used for smaller aquariums, an external filter (above) for a large tank is a must. The tank Peter and his friends built holds 4,500 litres of water and utilises a sump filtration system, involving mechanical, chemical and biological filtration. Shell grit is used to raise the pH of the water.



Pig-nosed turtles are renowned for being aggressive, so it is very important to keep a low population density in a single enclosure as well as providing ample hiding spots.

Because of their aggressive tendencies, it would normally be unwise to house other turtle species in the same enclosure.



Peter is proud of the fact he has been able to keep these 2 turtles with a crocodile, some Long-necked turtles and a Northern Long-necked Turtle, who sits on bottom. The crocodile has been chased by the Pig-noses and generally keeps his distance.



Shared living

Peter ended his talk saying many challenges were dealt with when the enclosure was being built, and then showed live footage of the turtles swimming serenely in their new home. He commented that they are always on the go



during the day, and that they sleep on the bottom of the enclosure at night with the lights out (*please!*).

**The Smooth Knob-tailed Gecko,
Nephrurus laevissimus, in captivity**
Talk presented at the May 2007 CARA Conference
by Steve Comber, Keeper, Live Exhibits,
Melbourne Museum.

This article by Mandy Conway

The Smooth Knob-tailed Gecko is a small ground dwelling gecko that inhabits the dry interior of Australia, and is restricted to dunes of fine sand.

Steve Comber described his field observations of this gecko's habitat, noting that they rarely venture out into the dune troughs, which has been invaluable with his husbandry techniques.

The most important husbandry aspect is the inclusion of a deep sand substrate, at least 220mm. The Smooth Knob-tailed Gecko has a very thin skin, unlike other species in its genus. Steve believes that the fine grain sand, with smaller voids within, has better water retention properties. The females also need this depth to lay their eggs, any less than this and they will hold onto their eggs and die.

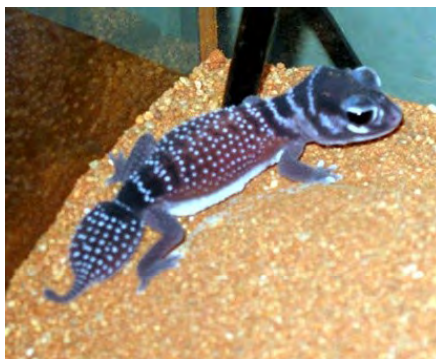
Steve then went on to describe his husbandry regimes.

Housing

The males and reproductive females are housed individually in custom made glass tanks. Substrate is sand collected from dunes within their natural range. With the aid of the fineness and depth of the sand the lower portion stays moist once soaked through and the upper surface stays dry, creating a suitable surface to forage on.

No standing water is supplied in the enclosure. Steve sprays warm water under their upturned terracotta saucer hide every five days during their active period and less often during the cooler months.

Throughout the year the ambient day time temperature does not vary much, staying around 30°C, with only a 2-3 degree drop over the cooler months. The night time temperature, however, varies from 30 - 12°C from summer to winter. A thin strip of heat tape runs along the rear of the tanks just below the substrate surface. This increases the sand temperature by 10°C. The geckos can thermoregulate during their active time by laying on the sand at the rear of the tank. Steve has observed this after large meals and, more commonly, heavily gravid animals spending time laying on the warmer sand.



Nephrurus laevissimus, photo by
Simon Grainger, Everything Reptile

Feeding

Steve feeds his geckos exclusively on Repti-Cal dusted Speckled Feeder Roaches, which in turn are fed rat and mouse pellets and various vegetable scraps. The Gecko's are fed one or two immature (wingless) roaches most nights during their active period.

Sexing and breeding

The most obvious difference between the sexes is the slight swelling at the base of the males' tail (hemipenes), whilst females are heavier set and larger overall. They are sexually mature at 1 year of age, although Steve waits until they're a little older before mating them. Surprisingly, some of his 15 year old females are still breeding.

During the month of August, as the night temperatures start to increase, the geckos become more active and start to eat more. It is from late August that Steve introduces the male into the females enclosure: the introduction can be later in the year if he is not satisfied with the females condition.

Courtship behaviour starts almost straight away with the female moving in a very deliberate jerky way and waving her tail from side to side. After 5-

10 mins the male will seize the

female by biting onto her neck and, without releasing his hold, mates her for up to an hour. The male is left in the tank overnight and then returned to his own tank. Steve does not do any more introductions for that female until next season. From that one mating the females will lay up to 5 clutches, the last in March/April.

Eggs in gravid females are quite obvious through the thin skin of these geckos. Two eggs are usually laid in a deep chamber at the base of a plant: there is always an oxygen chamber around the eggs and the tunnel is filled back in. Steve has noted that sand covers the eggs' entire surface and suggests females may roll them in sand soon after laying to harden them up and inhibit moisture loss.

The eggs are incubated in large grade vermiculite, 55:45 ratio, at 29°C, and hatch after 60-64 days. Juveniles are placed in small plastic containers in similar conditions to their parents, minus the heat tape and deep substrate. They usually shed in about 5 days and are then ready to feed, daily for 2 months. They can quickly lose condition if their hide dries out or they are slow to eat.

Keeping small elapids, with comments on a captive diet

Talk presented at the May 2007 CARA Conference by Peter Comber, Keeper, Live Exhibits, Melbourne Museum.

This article by Mandy Conway

Peter Comber started his presentation with a brief explanation of small elapids and explained why these snakes are not commonly kept in private collections.

Australia has around 60 species of elapid that may be loosely termed 'small'. Peter suggested a number of reasons for the lack of these snakes in collections:

- most of them are frog or skink feeders, some favouring reptile eggs
- some can be quite difficult to display compared to say a Carpet Python or a Tiger Snake
- the obvious handling difficulties.

Over the years, Peter has been fortunate enough to keep a selection of some of these snakes and found that most could be persuaded to take dead rodents regularly. Some of his snakes could be set up quite attractively as they were diurnal and confident, whilst others he needed to search through coco peat to feed.

Housing design

Most of the elapids he has kept have been of a secretive and nocturnal nature, and plastic tubs on heated shelves have served well. Peter explained he had used many configurations of tubs before finding the right ones. Heat tape or cable along the back of such tubs supply the required heat gradient. Substrate included fine gravel, sand, coco peat, paper pellets or paper toweling.

A hide, constructed from a dish for the base and another over the top, enabled the snake to be moved for cleaning of the enclosure without Peter getting bitten.

Feeding

Feeding is a serious issue with respect to maintaining elapids. Scenting a mouse by rubbing its nose on the preferred food item works well, especially using frog or skink urine. Another method described was the 'follow through' method, where you offer the snake a food item you know it will eat with what you want it to eat. This can be difficult and take some time, so patience is required. Peter's "placental surprise" was developed to avoid over-handling whilst getting a good sized meal into the snake. He gets a heavily pregnant mouse, euthanases it, cuts it open and removes the fallopian tube containing the nearly fully developed foetus's and their placentas, then assist or 'follow through' feeds. Mother mouse gets fed to something else.

Handling

These snakes are difficult to handle because they are small, whippy, agile and can not be 'tailed' like their larger friends. The following methods were described:

- A hook can be used to move them short distances.
- Clear flexible PVC tubing can be used as restraint tubes once you have overcome the trickiness of getting the snake in.
- Pinning with a perspex sheet at the end of a handle, careful manoeuvring where the head is exposed and the body kept flat, and then you can quickly pick up the snake behind the head.

Size doesn't matter when it comes to venomous snakes. Extreme care whilst handling can not be emphasised enough.

Pink-tailed Worm-lizard nominated as a vulnerable species

Republished from the Friends of Grasslands (FOG) Newsletter, July-Aug, 2007

Paul Cheesman on behalf of FOG and Geoff Robertson on behalf of the ACT Herpetological Association nominated the Pink-tailed Worm-lizard (*Aprasia parapulchella*) as a vulnerable species under the Nature Conservation Act, 1980.

This small grassland legless lizard is a grassland icon and only found where grasslands have remained relatively well intact, especially where rocks and other structures have remained undisturbed.

Canberra is a stronghold of this reptile, although its habitat has been severely fragmented. The most imminent threat is the

proposed urban development of the Molonglo Valley. There has been discussion of damming much of the habitat, without much thought of environmental and aesthetic values. Even if the dam is knocked on the head, close proximity by humans is a multifaceted threat.

The Pink-tailed Worm-lizard is already regarded as threatened (special protection status) under ACT legislation which allows the Conservator to declare a species threatened, thus bypassing the Flora and fauna Committee. However, the nominators considered that if the Minister declared the Pink-tailed Worm-lizard vulnerable, on the recommendation of the Flora and Fauna Committee, its protection would most likely be enhanced.



Pink-tailed Worm-lizard, Photo by Ross Bennett



Reptile Policy in the ACT

The Reptile Policy has been in draft form for some time and is now a reality. It was produced by the Wildlife Research and Resource Protection Units of the Department of Environment and Recreation. The Department acknowledged the assistance of members of the ACT Herpetological Association, Mr Richard Longmore, Councillor with the Australian Society of Herpetologists Incorporated, Mr Robert Jenkins, Australian National Parks and Wildlife Service and the encouragement from Dr Rick Shine, Zoology Department, University of Sydney.

The document incorporates the Department of Environment and Recreation's Policy on collecting, keeping and trading in snakes - Ref: 88/11741. The purpose of the document is to establish a policy against which licence applications for activities involving reptiles in the ACT may be assessed.

Contents include:

Introduction

Policy

Conservation Officers

Categories of Reptiles

Hobbyist Species

Category A

Category B

Category C

Education Species

Scientific Species

Special Protection Status

Hybridisation

Conclusion

Anyone interested in reading the details should visit the following web site:

http://www.tams.act.gov.au/live/environment/native_plants_and_animals/licensing_of_plants_and_animals/reptile_policy

Other avenues of contact include:

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13 2281

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PO Box 158

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Macarthur House

12 Wattle Street

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Some Web sites worth looking at:

<http://frogs.org.au/>

www.aussiereptilekeeper.com

www.mark.org.au

www.canberraexotics.com.au

http://www3.environment.nsw.gov.au/pdfs/hygiene_protocol_snakes.pdf

<http://www.cdc.gov/healthypets/animals/reptiles.htm>

http://www.tams.act.gov.au/live/environment/native_plants_and_animals/licensing_of_plants_and_animals/reptile_policy

Editor's Note

The Editor takes full responsibility for summaries of presentations by Guest Speakers at ACTHA Meetings and any editing of other contributions. The views expressed by contributors and authors are not necessarily those of ACTHA. Please feel free to contact the Editor with regard to any queries.

**ACT Herpetological Association
2007-2008 Membership Renewal now due**

Membership renewal runs from 1 July 2007 to 30 June 2008 and costs \$10 per individual or family, or \$50 for corporate membership. Payment at our next meeting would be appreciated. If you are unable to attend would you please fill in your details below and post to ACTHA, including your cheque.

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ACTHA News

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