

# WASA



WESTERN AUSTRALIAN SOCIETY of AMATEUR HERPETOLOGISTS (Inc)  
(Member of the Australasian Affiliation of Herpetological Societies)

## NEWSLETTER

31 July, 1996  
(8)

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### MEETING REPORT

Thirty-five members braved the cold to attend our May '96 meeting. The formalities were purposely kept short so we could have more time for the Guest Speaker. About the only thing of note discussed was the Society's T-shirt or lack of one. Shane Heriot, our resident artist, has been asked to put together some ideas. I reckon the following logo by Shane would be great.



**WASA**  
(Old-man Perentie)

Some members will be aware that the above caricature pops up at random everywhere.

John Arlidge gave us an introduction to the Reptile TAG (Taxon Advisory Group) and a proposal currently before them to allow private herpetologists to become involvement in this. A copy of the proposal is at the end of this newsletter.

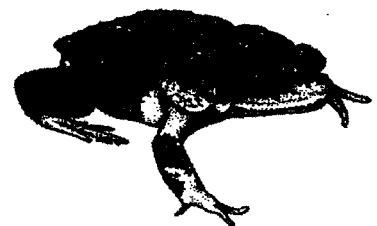
Dr Ken Aplin, Head of Herpetology at the WA Museum, gave us a tremendous insight into the joys, successes, rewards, disappointments and difficulties involving the taxonomic classification of reptiles and frogs. It was great and, although much of it went over our heads, we did grasp the reality of how diverse this group is in Australia and how much work is still required. Thanks Ken!

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### Australian Society of Herpetologists

ASH will be holding their 24th annual meeting from 22-25 September 1996 at Wellington Mills, 2 hours drive south of Perth. They plan registration and drinks late Sunday the 22nd, with papers presented on Monday, Tuesday and, if needed, Wednesday 25th. If you wish to attend this meeting please urgently contact Dale Roberts, Department of Zoology, UWA, Nedlands WA 6907. Phone (09) 380 2224 or fax (09) 380 1029.



# Accidents Happen!

“A violent headache, eyes watering, unable to focus, a loss of bowel control and an extremely itchy scalp, eyebrows and anus.” What, you may ask, is the cause of these symptoms? The answer is a bite from a 54 cm western tiger snake.

I was unfortunate enough to experience the above discomfort seven minutes after the bite from this captive-bred critter. A snake I might add that was usually ‘friendly’. What happened to trigger off this bad behaviour? At the time this tiger snake’s home, along with several others, was an open corrugated iron pit. Over the years several cats (domestic and feral) had succumbed to snakebite they received while attacking the occupants of the pit. The snake that bit me showed signs of being recently chewed on by a cat. No doubt, I touched a tender spot on its body when I was handling it triggering off the bite. It is because the snake was small and the symptoms so severe that I have included this article as a reminder to members (especially the younger ones) that the resultant effect of venomous snakebite is rarely foreseeable. Many of the sideshow snake-handlers of earlier times believed they had developed an immunity to venoms. This was probably due to the lack of symptoms they mostly experienced after a bite. A lack of symptoms resulting from minimal quantities of venom administered during the bite rather than any immunity! By the way, most of the sideshow snake-handlers eventually died of snakebite.

Although partial immunity may occur in some mammals (the production of antivenom is a result of this in horses), it is the exception rather than the rule. We are predisposed to develop a hypersensitivity or allergic reaction to venoms. Hence the exotic honey-bee being responsible for more deaths in Australia than all our native venomous animals combined.

Snake handling requires the right amount of care. Too little and one is a potential snakebite victim. Too much and one’s snakes are subjected to considerable discomfort and possibly injury or death. Handling should be kept to a minimum. It is usually only required when moving animals to alternative housing while cage cleaning, etc or during special circumstances such as ‘milking’ for research, monitoring growth or administering medical treatment.

Returning to my personal experience, most of the symptoms had gone after about 30 minutes. However the itch and a delayed swelling of the adjacent lymph gland persisted for several hours to remind me of the unpleasantness caused by some snakebites. I might add, I was somewhat perplexed during the heat of the moment. How was I going to travel the 70 kilometres to the nearest medical facilities while firmly entrenched on the toilet seat?

BB

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## SNAKES ENJOY THE FOOTY RESULTS

Now that the footy season has started it is important to

maintain a fresh newspaper substrate in your snake cages. Their eyes appear to light up when the Eagles have a win. True!

Proper hygiene is crucial in the husbandry of an animal whose belly contacts the substrate most of the time. A lack of cleanliness can result in a faecal, bacterial or parasite build-up in that part of the cage where your charge spends most of its time. Birds and mammals are constantly grooming themselves. This is a part of their personal hygiene just like you or I having a shower (although some people I know do not). *If our feet smell we buy odour eaters!* My point is this: when did you see a snake lick its lips after eating a mouse? Sure, a snake may look as if it is attempting to lick its lips but their tongue is not suitable for this.

Snakes are generally solitary animals with simple needs for their survival. However, for snakes being housed indoors it is different. Basically for those on or off display you should strive for substrates that can be conveniently replaced or cleaned. This is particularly important during the warmer months when defecation is much more frequent. You see, out in the wild a snake can drop its waste and move away from it, but in captivity they cannot do this. If you are using a porous substrate in large quantities you are not doing your reptiles any favours. During cage cleaning, unless you replace the complete substrate, you only remove the visually obvious faeces. The fluid component seeps down into the substrate to become a breeding place for bacteria and other nasties. It is well known and widely documented that sand substrates can be harmful

to snakes. Do not get me wrong, sand is fine in small quantities such as in small glass vivaria, etc as long as you can replace it regularly. Remember, the magic words in obtaining proper hygiene are **convenience in effective cleaning**.

We are wrong in thinking that sand is natural in a captive environment. In the wild this is usually consolidated through years of compaction and growing vegetation. The sterilising effect of the sun's heat and ultraviolet rays is always present. It is humanly impossible to duplicate these natural substrates in captivity. You can furnish an enclosure with as much sand, rocks and logs as you like, but it may not benefit your captive beasts one iota. In fact, it may be seriously detrimental. It may look pleasant through human eyes but your snakes do not care for your efforts at aesthetic attractiveness.

Most husbandry related illnesses in reptiles, particularly snakes, involve improper hygiene. For convenience keep it simple: a place to hide, access to water, a branch or two for the arboreal species and a rock or some other rough surface to assist sloughing. What other suitable substrates are there apart from newspaper? Woodchips, pea-gravel and leaf litter are all OK as long as your selection is manageable. Pieces of low-pile carpet cut to size are ideal also, especially for carpet pythons. They love it. Ha Ha! Depending on your funds, how adventurous you are and enclosure type, a substrate and walls can be sculptured using mock rock (wire-framed, wafer based, non-toxic fibreglass or cement). This is then painted to appear like rocky overhangs or crevices.

Avoid using newspaper as a substrate for juvenile snakes. They have difficulty obtaining traction and cannot coordinate their movements on it. Soft absorbent paper towels or toilet paper is much better.

So, fold out the sports section of the newspaper for your adult snakes and allow them to have an enjoyable read.

If you are into sand, stick to building castles at the beach and try to keep it out of your shorts!

Happy herping.

BM

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## THE LARGE-EYED SEDFE SNAKE

*Have you heard of it?*

One of the most wonderful things about an interest in herpetology is the fieldwork. Being out there, having fun and learning heaps. You can read all the books in the world and ask as many questions as you like, but the best way to learn is to experience it yourself. A perfect example is the WA endemic Large-eyed Sedfe or Short Nosed Snake (*Elapognathus minor*) from the lower south-west. The main thing I have learned about this snake is that it is very difficult to find. This is exacerbated by its poorly known ecology.

It is a small venomous snake growing to 50 cm. The upper body is dark grey with a pale oblique bar on each side of the neck. The most conspicuous feature is its large eyes and bright red belly, causing it to superficially resemble a juvenile tiger snake. It must be very cryptic indeed: although known to science since 1863 there are

only a handful of specimens in Australian museums. This raises the questions: Is it naturally uncommon or is this due to our poor understanding of its ecology? It is probably a combination of both. The other small elapids that coexist in the same area (bardick, crowned and square nosed snake) are comparatively easy to find.

Have you seen how dense much of the undergrowth is down there. It is not surprising that it is difficult to find. It is amazing that any snake can be found there as you can not even see the ground in many places.

Over the past months several members have been searching for it with no success. This lack of success only increases our determination. The secretary of WASAH, Robert Browne-Cooper has a licence to keep a pair for captive breeding, etc. Great stuff but, as we have learnt with the south-western woma, you have to first find it. Rob has been very busy examining all the available data on the [mainly museum] specimens recorded. He has also been communicating with those people familiar with this snake. On the information available most individuals are seen active during the day in spring and summer. The habitat usually consists of low-lying swamps with a dense undergrowth of sedges. Most important is all previous people finding it had not been looking for it at the time. They stumbled on it accidentally while pursuing something else. No worries! We take up binoculars and bird field guides, walk around in search of grey and brown-feathered snake-tucker and eventually we will stumble on it. No way! I am a herp and proud of it. I prefer to bash my way through the bush with rake in hand urging myself

on in some relentless, frenzied obsession to find this elusive reptile.

Only joking! We will get it shortly.

BM

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## THE TUATARA

(*Sphenodon punctatus* &  
*S. guntheri*)  
....an odd reptile!

The lizard-like **tuatara** occurs on 30 or so small **islands** off **New Zealand**. It is the only member of the **order, Rhynchocephalia**. The other three reptile orders are **Crocodylia** (crocodiles, alligators, caimans and gavials), **Testudines** (turtles, tortoises and terrapins) and **Squamata** (lizards and snakes). It shares some characteristics with the Crocodylia, others with the Testudines and still others with the Squamata. It is quite distinct amongst the existing reptiles in lacking copulatory organs.

This unique reptile grows to 70 cm in total length, mainly moves about at night and feeds on invertebrates (insects, spiders, worms, etc) and to a lesser degree bird's eggs, chicks and small seabirds. It shares the islands where it occurs with burrow-nesting seabirds, particularly the medium-sized fairy prion (*Pachyptila turtur*) and diving petrel (*Pelecanoides urinatrix*). The tuatara obtains many of life's requirements from its association with these birds. Although the tuatara digs the occasional burrow for its home, it more often shares one constructed by a nesting bird. These burrows are also rich in invertebrates, its favourite food. It has a long life-span with sexual maturity not reached for

twenty or so years. On many of the islands the population consists almost wholly of old adults. Coincidentally, these islands have large numbers of introduced rats (*rattus* spp). Maybe on these islands the tuatara's eggs and young are being eaten by the rats. Much research is ongoing to understand the tuatara's life-history and to eradicate the rats so that this reptile does not go the same way as the dinosaurs. This would be sad if it happened, particularly if was found to be a direct result of predation by rats. Rats introduced to the islands accidentally by humans.

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## ANTIVENOM!

I note that a couple of obsolete words keep popping up in the literature. What obsolete words?

I hear you ask! These ones:

'antivenene'

'antivenin'

Regarding snakebite serum these words are not formally recognised today. It is all

**antivenom!**

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## A Prowling Bardick

(*Echiopsis curta*)

WASAH member Mark True made the following observation at Hopetoun WA during June 1996.

I was attracted to this prickly *Daviesia* bush by the alarm calls of several New Holland

Honeyeaters. Inside the bush was a honeyeaters' nest, with a red colour phase bardick looking inside it. The snake had a sniff around the rim, then entered the nest. The birds outside were going crazy. There were no eggs or hatchlings present, but the nest was new.

The snake noticed me when I returned with my camera (typical!) and rapidly negotiated the prickly leaves and fled, dropping to the ground about a metre from where the nest was.

Although it was noon and sunny, the air temperature would have been approximately 13-14°C with a bitterly cold south-westerly blowing.

The bardick is a relatively small, robust elapid found throughout south-western Australia, extending east to Eyre Peninsula, SA with a disjunct population east of Adelaide in the mallee areas of south-eastern SA, western Victoria and south-western NSW around Balranald. In WA it can be locally abundant in some areas, particularly on the southern coast.

Arboreal behaviour in small Australian elapids is not common. The pale-headed snake (*Hoplocephalus bitorquatus*) broad-headed snake (*H. bungaroides*) and possibly Stephen's banded snake (*H. stephensii*), all from eastern Australia are semi-arboreal. Harry Ehmann (1995) has commented that Lake Cronin snake (*Echiopsis atriceps*) may be semi-arboreal.

Dr Richard Shine (1982) examined the gut contents of 187 bardicks in Australian museums and recorded only a single bird as a prey item.

EHMANN, H. & Tyler, M. 1995. *Australian Reptiles & Frogs*. Webster Multimedia, Sydney.  
 SHINE, R. 1982. Ecology of the Australian elapid snake *Echiopsis curta*. *J. Herp.* 16(4): 388-93.

**Footnote:** Keep those observations coming. You may not consider it significant, but it all helps to complete the bigger ecological picture.

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## On Snake Fangs: grooved or hollow?

Considering the general public's perception of a groove as an open furrow, gouge or trench, no front-fanged snakes have grooved fangs. Front-fanged snakes include pit vipers such as rattlesnakes (Crotalidae); rigid-fanged snakes such as brownsnakes, cobras, taipans, etc (Elapidae); seasnakes (Hydrophiidae); and true vipers (Viperidae). All have hollow, tubular fangs.

An examination of a fang from any of the above families will show a non-functional anterior groove, which is no more than an enamel-sealed seam. Shine (1991: 15) labels this external groove as such.

The continual reference to grooved front fangs, and the incorrect inference that the venom flows down this groove, probably originated by mistake as a typo error, but has persisted through the years. Imagine a

scientist presenting a paper on the evolutionary development of snake fangs. He explains how the ancestral state was an open anterior canal, or groove, and illustrates this with a several drawings of an open canal, an elapid or hydrophid fang (the more primitive state in front-fanged snakes) and a viper's fang. As he points to the most obvious closed seam in an elapid or hydrophid fang he says, "See how **it was** grooved." The possible typo error was the transposing of *it was* with *it's*.

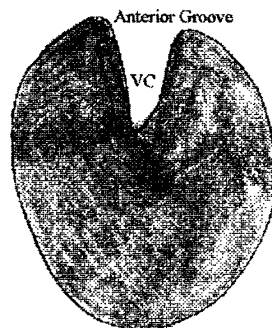


Figure 1. Cross section of a rear-fang of a colubrid. Note functional groove. VC = venom canal..

I believe 'groove' is another word that is best consigned to the scrap heap when describing the fangs in front-fanged snakes. The only fangs with a functional groove (ectoglyphous) for envenomation are those (Figure 1) in back-fanged snakes (opisthoglyphous). All others have an enclosed venom canal (Figure 2) and are effectively hollow (endoglyphous).

Have a look at the following figure after Limpus (1987) showing the cross section of a seasnake fang. This is almost identical to the fang in elapids and vipers. Limpus states, "The outer enamel layer of the tooth is continuous across the front face of this tubular fang."

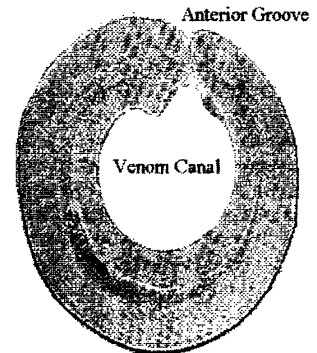


Figure 2. Cross section of a reserve fang of a seasnake. Note the venom canal is an enclosed hollow. It is not a groove!

Compare the following drawing of a fang from a viper, the puff adder (*Bitis arietans*), taken from Parker & Grandison's (1977) work, *Snakes - a Natural History* page 41, with the illustration on page 15 in Shine (1991). They are all but identical!

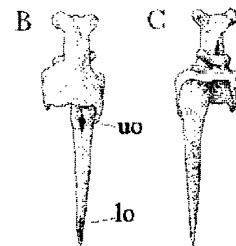


Figure 3. Anterior (B) and posterior (C) views of maxilla. uo upper orifice; lo lower orifice.

An article in the July edition of the *Hawkesbury Herpetologist* prompted me to include this piece in our newsletter. In that article it said,

*"Australian snake fangs are not hollow like many overseas species, but rather a fang with a grooved edge at the rear."*

### **How the myth persists!**

Considering his statement I can only assume the author has never had the opportunity to examine an Australian snake's fang. Do not make the same mistake. Those writers not exercising enough care

exercising enough care perpetuate many a myth. I should know. I have made mistakes previously. I just hope, as the years slip by, I make fewer than I did in my younger days.

In elapids and seasnakes these teeth generally have an **enclosed hollow**. This may have been an open groove in its ancestral state, but not today. (For illustrations of elapid fangs see Shine 1991: *Australian Snakes a Natural History*. Pg 15 & 189 and Mirtschin & Davis (revised) 1991: *Dangerous Snakes of Australia* page 39. For seasnake fangs see Limpus 1987: pages 194-95 *In Toxic Plants and Animals a Guide for Australia*).

In rear-fanged colubrids several conditions occur in the following order of frequency. 1) Enlarged teeth with an **open anterior groove** (proectoglyphous); 2) enlarged teeth with an **open lateral groove** (pleuroglyphous); and 3) no fangs *per se*, only slightly enlarged teeth almost indistinguishable from the adjacent teeth.

I am unaware of any Australian elapid with the condition described in the *Hawkesbury Herpetologist*.

The primary difference between the fangs in elapids/hydrophids and those in vipers is the length and the degree of movability. The latter are generally much longer and more movable (solenoglyphous), whereas the former are small and fixed (proteroglyphous). To describe any endoglyph as having a grooved venom canal is pedantic in the extreme.

Remember though! In the fangs of all front-fanged snakes there

is the non-functional, enamel-sealed, anterior seam. This is an irrelevant groove.

**Note:** In Australia there are 115 known species of front-fanged and 6 rear-fanged venomous snakes. In WA, 72 and 4 respectively. This follows those listed in Cogger (1992) *Reptiles & Frogs of Australia* (revised) plus *Boiga fusca*, *Acanthophis armstrongi*, *Austrelaps labialis*, *A. ramsayi*, *Demansia calodera* & *D. rufescens*.

BB

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## FOR SALE

WASAH received a price list for the purchase of reptiles from Ultimate Reptile Suppliers. They must not be aware of the strict prohibition on keeping and dealing in WA. The following prices are solely an example of the going rates in the other states, where it is legal.

Carpet Python Hatchlings \$180  
 Carpet Pythons Adults \$420  
 Jungle Pythons \$400  
 Children's Pythons \$150  
 Water Pythons Hatchlings \$175  
 Brown Tree Snakes Hatchlings \$150  
 Diamond Python Hatchlings \$500  
 Bearded Dragons Hatchlings \$22  
 Water Dragons Hatchlings \$40  
 Pink-tongue Skinks \$110  
 Gidgee Skinks \$80

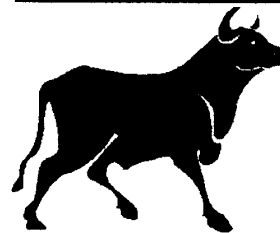
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For the treatment  
 of canker try the  
 antibiotic  
 Enrofloxilian.  
 Available  
 commercially as  
 Ciproxin™

Information on the above  
 medication provided by Neil  
 Davie, President, VAAH

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## HERPTALES



In this section we include all the information about particular people and goings on that most of us would prefer no one knew. Also, if you wish to submit something to be included here go ahead. It's 'tongue in cheek' and all in good fun.

Nothing much to report here. Everyone is behaving themselves, or no one is dobbing in their mates. Speaking of mates! Have a look at the wild-man in the following photo. He was our guest speaker recently, but you will be hard pressed to identify him. Members of WASAH have tremendous powers of regeneration. Ken paid his membership and immediately shed twenty years off his age.

Dr Ken Aplin



Ken was at the University of NSW studying diprotodontan phylogeny and evolution. His interests included New Guinea's mammals and early placental radiations. What happened to cars, fishing, drinking, pot and woman?

# WASAH GENERAL MEETING

Friday 6 September 1996

7.30pm

Perth Zoo Ed Centre

Entry off Labouchere Road

## Guest Speaker:

**Professor John Dell**

(World renown naturalist & rescuer of maidens)

(from the Department Herpetology & Other Vertebrates at the WA  
Museum)

On Survey techniques and how to find reptiles

Note: John Dell has a small ctenotus named after him. Most good herps, however, consider it a synonym of *Ctenotus catenifer* and damn good snake-tucker!

- At the forthcoming meeting the WASAH/CALM Communications Subcommittee (Simon Ball, Mike Lynch & Jamie Stuart) will give a brief report on their recent meeting (17 July 1996) with CALM's Gordon Wyre, Dave Mell and Peter Mawson.
- Graham Thompson will also be addressing the meeting regarding assistance in his work with reptiles.

### WASAH EXECUTIVE COMMITTEE

**President/Editor:** Brian Bush (09) 295 3007  
**Vice-President:** Brad Maryan (09) 444 6412  
**Secretary:** Robert Browne-Cooper (09) 443 2409  
**Treasurer:** Russell Brown (09) 496 1732

### RESULTS FROM WASAH QUESTIONNAIRE

(as at 18 July '96)

Based on 46 respondents (53% of members): **Newsletters** 4/year and **meetings** 4/year. **Members interests:** *Pythons* 35, *keeping* 33, *field work* 31, *photography* 26, *snakes* 24, *lizards* 22, *geckos* 22, *monitors* 22, *elapids* 21, *dragons* 19, *frogs* 16, *taxonomy* 16, *skinks* 15, *colubrids* 14, *pygopods* 11, *seasnakes* 11, *blind snakes* 10, *turtles* 5 and single respondents for the following: *diseases*, *husbandry*, *handling*, *terrarium construction*, *veterinary work* and *snakebite treatment and prevention*. **Suggestions:** auctions, advertising, guest speakers and demonstrations at meetings, create a national standard list of common names and organise field trips. Ten respondents expressed their concern at the current CALM keeping policy.

Address all correspondence related to this newsletter to: **The Editor 9 Birch Place STONEVILLE 6081**

WASAH is a group of people with similar interests - all wishing to keep for private study and "love", frogs, turtles, lizards or snakes! WASAH joined the Affiliation of Australasian Herpetological Societies in 1994. The views expressed in this newsletter may not be those of the Society.

## TO FEED OR NOT TO FEED?

by

Brad Maryan, 169 Egina Street, Mount Hawthorn, WA 6016

With about 2,500 species of snake world-wide it is obvious that their diets will be many and varied. Generally speaking, most of Australia's wonderful serpents are opportunistic feeders on mammals, birds, frogs, other reptiles, or a combination of these. In Australia adult elapids, such as the taipans and brown snakes, feed on nasty, ferocious fur-balls like rats and mice. In order to kill them very quickly without being bitten themselves, they have evolved very toxic, fast acting venoms. Some pythons and boas grow very large so that they can restrain and consume big mammals weighing as much as 65 kilograms. The infamous Anaconda from South America has been reported gulping down caimans (a type of crocodile), tapirs and even jaguars. These big snakes are the lions and tigers of the snake world. Sometimes, very rarely, the odd human is taken by one of these huge serpents. No doubt, when this happens it is a mistake. Fancy eating one of us! Any snake in its right mind would spit us out quick. Anyway, being a mammal too, we are also part of the food chain.

We could call these snakes general feeders as they use a variety of prey available to them. What are specialised feeders then? These are a minority of species that exclusively feed on a particular prey item and nothing else. The well known African and Indian egg-eating snakes are good examples. In Australia we have our own specialised egg-eating beast. An examination of the stomachs of the little shovel-nosed or half girdled snake (*Simoselaps semifasciatus*) revealed lizard eggs as its only food. The dentition (teeth) of this fellow is entirely different to similar sized burrowers that feed on lizards. Only an ectotherm could flourish on a sole diet of lizard eggs. Long periods of abstinence would be enforced because feeding can only occur during the egg-laying season. It is probably by smell that the little devils are able to locate the eggs hidden in the soil under rocks or leaf-litter. Snakes that feed specifically on insects and other invertebrates are very few. This is surprising, considering how abundant this food

source is. Maybe they just don't fill the stomach like a nice plump rat. In Australia, the only true insectivorous snakes are the blind or worm snakes. These smelly (well-developed anal glands) little fellows feed on the eggs, pupae and larvae of ants. Many people believe, including myself, that the species diversity of Australian blind snakes is probably similar to ants. On this continent the majority of our snakes feed on lizards. This is simply because most of our snakes attain less than a metre in length and lizards are incredibly abundant.

Snakes kept in captivity are generally fed chickens, mice, rats, and rabbits. It is hardly surprising then that the species with the most captive data on are those that feed on these. From a husbandry/captive breeding point of view it is convenient. Imagine running around in the bush like some 'headless lunatic' digging up ant nests to feed your captive population of blind snakes. If you can do it great, but have you the time, resources and more importantly the motivation to keep it up? It generally is the lack of time that drags you back. Most of the work done on these types of snakes, both privately and professionally, is done on a small scale. I must admit, keeping lizard eating snakes is a pain but, unfortunately, there are a lot of them out there. This includes the juveniles of many large elapids and pythons also. One popular trick is to scent another food item, maybe a pinkie mouse, with lizard. This involves smearing the pinkie with lizard faeces or rolling it in a lizard slough to trick the snake into feeding. Of course, the success or otherwise is variable and may depend on the species, or even the individual snake involved. It may start feeding immediately or take more time. I suppose a problem could arise in snakes that are lizard-specific feeders if they are fed nothing but pinkies, i.e. is the nutritional value of pinkies (jelly-babies for snakes) satisfactory for these snakes? We don't know! Until someone maintains a lizard-eating snake solely on pinkies for several years, we won't know.



After being with your captive snakes for a while they become your family. You even get to know them very well. I cannot live without my charges. You have to be a dag! I remember seeing Harry Butler, during an *In the Wild* program on television, saying of a carpet python he had found, "You can really have a love affair with a python." For most people this statement wouldn't make sense, but for us herps it hits home. Hey! I am getting off the track a bit here. Sorry, the old heart strings gave me a tug there for a moment.

Back to feeding. Hopefully, the end result is a lizard feeding snake that is eating pinkie mice voluntarily. In most cases this method works, but what happens when you have a snake that, no matter what, will not feed on anything but lizards. Obviously you do not want it starving to death. In my opinion you have these options:

- i) If it is a snake removed from the wild release it back where you found it, or nearby.
- ii) If it is captive-bred you can either pass it onto someone else who might have more success. The issue of releasing captive-bred animals into the wild is a contentious one and should only be considered as a last resort.
- iii) Donate it to a museum as a specimen.
- iv) Assist or force feed your problem snake with substitute meals. The 'pinkie pump' is very popular for feeding neonatal snakes. Personally, I do not like force feeding any snake. However, with large reptile keeping establishments I understand the necessity of this. At my level of keeping, if a snake will not feed of its own accord then why force it? There is an easier way depending again on time, responsibility and knowing where to look.
- v) If all else fails with your lizard feeding snake just feed lizards to it. It happens out in the bush so what is the difference? No difference, however as you are the harvester you have to be responsible. Don't demolish the area you are working in. Don't grab everything that moves. Be selective and leave the gravid females. Don't always harvest from the same site, spread yourself around. As far as I am concerned you can take all the lizards you like from areas marked for development - they are dead anyway. Even fresh roadkills, including the bits and pieces of lizards will do.

There are literally hundreds of species of snake in the world that feed on lizards. Lizard eaters are no more specialised than meat pie and beer consuming humans. The juveniles of most of our larger varieties start off as lizard eaters. Ask yourself the question: What do we feed the dolphins at Monkey Mia? I bet you London to a brick that it is not cabbages! Of

course, we feed them fish because this is what they eat. The same applies here. It has been demonstrated by Ehmann and Cogger (1985) that approximately 16,000 lizards and frogs are used annually in Australia by private reptile keepers as snake tucker. Compare this to the conservative annual Australia-wide estimate for road-killed reptiles and frogs of over 5 million. The combined numbers taken by amateurs for captive specimens or food pales into insignificance. Habitat destruction is the killer, not a small bunch of people familiar with the beast bagging up a few common lizards in the bush to feed to other reptiles. If your snake is a juvenile of a larger species remember to treat it for parasites once it starts taking mammals.

One important thing I have not mentioned yet is the LAW. As all frogs and reptiles are 'protected' in WA, technically you require a licence to collect them for snake-tucker. In order to do this you usually have to acquire the necessary Regulation 16 licence to keep the snakes in the first place for your bona fide study projects. You then receive a separate licence to harvest the food and also, you have to inform the authorities of the localities of your harvesting and the amounts and species being harvested. What's that you ask, how much are the pinkie pumps? Yeah, I don't blame you. Get pumping!

#### Reference

Ehmann, H. and Cogger, H. M (1985) Australia's endangered Herpetofauna - A review of criteria and policies. *In*, The Biology of Australasian Frogs and Reptiles. Eds' G, Grigg, R. Shine and H. Ehmann. Surrey Beatty & Sons Pty, Ltd. Pp435-47.