

On The Basalt

Herping in Melbourne, Australia

by Raymond Hoser



Raymond Hoser

Water skink *Eulamprus tympanum* (young specimen), from Somerton, Victoria.

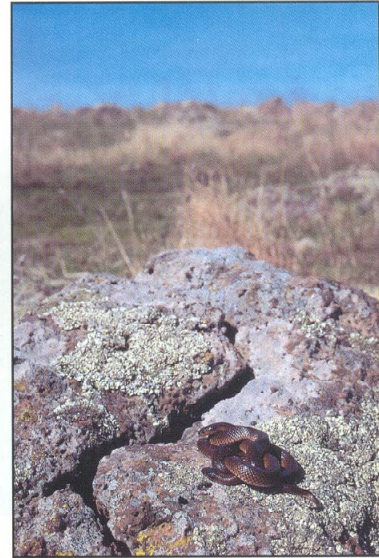
INTRODUCTION.

In another recent article, I said that there's more to herping in Australia than the tropical north and arid interior. While much of southern Australia lacks the diverse herpetofauna of the more northern areas, there are still reptiles to be found in these parts. Often the species encountered are restricted to the southern areas and have many traits not seen in their more northerly relatives. Even within Australia, the herpetofauna of southern areas is often overlooked, even by people who live in these very areas.

While the Victorian Herpetological Society has about 300-500 members residing in Australia's second largest city, Melbourne, relatively few of these people seem to take much interest in local herpetile species. The seven locally occurring snakes are all of common and venomous species, while no Pythons or Monitors are

found in the area. Consequently few locally occurring snakes are kept by Victorian keepers.

The only locally occurring lizards of interest to keepers seem to be the larger skinks in the form of Cunningham's Skinks (*Egernia cunninghami*), Eastern Bluetongue (*Tiliqua nigrolutea*) and Blotched Bluetongue (*T. nigrolutea*). These species are usually kept by so-called beginners, while to more 'serious' herpers tend to keep other species. As it is the 'serious' herpers who tend to keep detailed records on their charges, do most breeding, publishing and so on, here in Victoria we are faced with the paradoxical situation of there being more known and published about rarer species than those that are commonly seen. While Victorian keepers have published many a paper on breeding Pythons of all forms, various Monitors and other highly sought species, to find material on the



Habitat - Somerton, Victoria. The two little whip snakes have been placed adjacent to the rock crevice they were sheltering in.

breeding of common species is not an easy task.

When doing his PhD on the genus *Tiliqua* (Bluetongues) Glen Shea noted the great lack of data on these lizards, even though they were familiar to almost all Australians. He noted that for Blotched Bluetongues (*Tiliqua nigrolutea*) there was virtually nothing published in relation to their breeding, numbers of young and so on, other than generalised reports in mainstream books.

Fortunately here in Melbourne there is one man who has taken upon himself the task of working on these more common and often overlooked species. This is Grant Turner. Having recently gained his PhD (unfortunately in mathematics), he spends most of his spare moments out on the basalt plains of Melbourne doing research on his favourite reptiles. Besides that, he's been breeding quite a few indigenous Victorian species for many years piling up such vast amounts of data that he has trouble digesting it and putting it into a publishable form. I've lost count as to how many times he's bred his Blotched Bluetongues in captivity, although I do know he's working on a major paper on them at the moment.

Before talking about Turner's favourite place, the basalt plains, I'll set the scene for readers as to where Melbourne is and what the local area holds.

Melbourne is Australia's southernmost mainland State Capital city and has a



Gravid female water skink *Eulamprus tympanum* from Somerton, Victoria.

population of between three and four million people. The exact number depends on where you draw the outer boundaries. The population increases by between 10,000 and 60,000 per year, mainly as a result of natural increase and immigration from elsewhere. Melbourne is about 900 km by road south-west of Sydney, Australia's largest city.

According to the 1982 Year book Australia, the average elevation is 35 metres above sea level. The climate is by Australian standards cool, with far more overcast weather than most other parts of Australia. The rainfall is not high in absolute standards (mm) due to the fact that most falls as drizzle and not heavy showers, thunderstorms or cyclonic lows. Average rainfall is 659 mm annually, with a known range of 331-939 mm. Most rainfall seems to fall in late winter and spring, although this trend isn't always consistent. The year round average maximum temperature is 19.7° C, with an average overnight low of 9.9 C. The lowest recorded temperature is -2.8 C while the top known temperature is 45.6 C.

Melbourne's weather is highly changeable and erratic, not just on a seasonal basis, but even on a daily basis. A local saying is, that if you don't like the weather, wait five minutes and it will change. The saying is often true. The main problem is that usually you still won't like it.

The topography of the city is mainly flat with hills to the east. These, the Dandenong Ranges are heavily forested and contain a reasonable amount of pristine bushland. Further hills and forested areas lie east of here. The Dandenong Ranges are made up of granite and mudstone. Most of the eastern half of Melbourne has clayish soil on mudstone.

To the north, west and south-west of Melbourne are relatively flat basalt plains, created by lava flows in recent geologic history, believed to have originated from volcanoes in Western Victoria. South of Melbourne is the Port Phillip bay, which forms an approximate north/south dividing line to where the basalt plains end.

The first (European) settlers to Victoria found the Melbourne area very suitable for grazing and agriculture and so virtually all the land was used. Consequently there is very little remnant bushland in the Melbourne metropolitan area. Parks within this area tend to be areas planted out with European style vegetation and not native species. This contrasts with Sydney, much of which was built in rugged hills with poor soils, much of which was left untouched until this centu-

ry, when it became designated as National Parks. Thus, while it is possible to find pristine natural bushland very close to the heart of Sydney city, it is not possible to do the same in Melbourne (except in very isolated pockets). Furthermore the areas outside of Melbourne that can be described as bushland or untouched, tend to be heavily degraded compared to what the first settlers saw.

While there is some uncertainty as to what vegetation was originally found in the Melbourne area, it is assumed that the eastern half of the city was covered in forest, while the northwest, west and southwest tended to be covered in grassy vegetation with scattered trees only. Most native grasses in these areas (the basalt plains) have long been superseded by introduced species which seem better able to cope with the grazing activities of the last two centuries.

A detailed discussion of Melbourne's snakes, as well as a detailed bibliography can be found in my paper 'Melbourne's Snakes' (Hoser, 1990), cited at the rear of this article. Detailed coverage of other species found on Melbourne's basalt plains is beyond the scope of this article, but can be found in some of the references cited at the rear of the article.

THE BASALT PLAINS HABITAT.

Occurring roughly to the west of Plenty River Gorge, the basalt plains tend to cover virtually all the country to the west of Melbourne and extend through Western Victoria. Isolated granite ranges such as the You Yangs (near Geelong) and other hills break up the otherwise all encompassing basalt plains.

Habitat - Somerton, Victoria. Note encroaching factories at edge of habitat.



Basalt is a relatively unusual type of rock. It doesn't tend to readily exfoliate like sandstones and granites, is usually brownish-black in colour and although it is common on the ground surface where it occurs, presents a totally different habitat to those of sandstone and granite areas. The major outcrops tend to be adjacent to or near watercourses, where erosion has cut into the underlying bedrock. It is in these areas that most reptiles tend to be seen.

To an untrained eye such as mine, whether the grasses are native or feral seems to make little apparent difference to the appearance of the habitat. With a few notable exceptions, locally occurring reptile species also don't seem to have any major problems surviving in these altered habitats, although absolute numbers may decline.

Due to the relatively flat and open nature of these areas, there always seems to be a wind blowing. The reptiles found in these areas clearly have to be adapted to survive long cold periods as well as occasional hot spells in summer.

During winter, consistent rainfall, a low evaporation rate and a soil with a consistency like hard sponge all combine to make the ground waterlogged. This tends to bring most reptiles to the surface. Whether or not these species hibernate or not varies from species to species and also depends on how the term hibernation is defined. However it is clear that many reptiles shelter near to the ground surface due their inability to get any deeper without getting waterlogged.

In the warmer months (usually from approximately late November through to about April), the ground dries up and forms large deep cracks. At this time of year the reptiles are able to shelter in these cracks, usually deep underground. This is also the most difficult time of year to locate and capture these species.

A DAY ON THE BASALT.

In Melbourne's herping fraternity, the kings of the basalt are without doubt Grant Turner and Rob Valentic. Both men are Victorian herpers who have spent the best part of twenty years each in the field looking at reptiles found in Melbourne's basalt plains. While they both have reptile collections at home, they are relatively unusual in the sheer amount of time they spend in the field studying the local reptiles.

On Saturday August 31st 1996 the two men took me to one of their research sites in search of Little Whip Snakes (*Unechis flagellum*). This is the only

species of snake originally described from Melbourne (Rawlinson, 1965). We went to an area adjacent to Merri Creek at Somerton, on the northern edge of Melbourne. The site is exactly 20 km due north of the central business district and on the immediate edge of Melbourne's urban sprawl. The weather that day was unusually fine and mainly sunny with a steady south wind. The maximum air temperature was 15°C. All the reptiles seen were observed, some were photographed and all were left where found.

Grant Turner was busily recording everything he saw in his field notebook, while Rob and I pointed our cameras at everything that moved and some things that didn't. The highlight of the day were the

many Little Whip Snakes that we found. Turner recorded the details of all specimens found as a number were known to him from previous inspections of the area. There are a number of scale anomalies common to these snakes, particularly with regards to their subcaudals that Grant is investigating to see if there is any general trends.

Little Whip Snakes (see photo) have been placed in a number of genera including *Denisonia*, *Rhinoplocephalus*, *Unechis* and *Suta*. I don't profess to know which is the correct one and have simply used *Unechis* here as a matter of habit. They are a small elapid (front-fanged venomous land snake) believed to feed almost exclusively on small skinks in the

Two Female spotted grass frogs *Limnodynastes tasmaniensis*, from Somerton, Vic.



Raymond Hoser

wild. Certainly that's what captive specimens held by Turner fed on. There are several species of small skinks found in the same area.

At birth they are about 13 cm long, while adults seem to average little over 30 cm. Turner has noted that these snakes seem to be larger south-west of Melbourne, a fact he attributes to better habitat and more feed skinks (particularly *Leiopisma entracasteauxii*). Like most elapids they can be readily sexed by looking at the tail. Males have a bulging tail as opposed to a female's more tapering tail. According to Rawlinson (1965), females have 20-29 subcaudals, while males have 29-40. Certainly we had no trouble sexing the snakes we found.

As a rule these snakes were found sheltering under exfoliating rocks and rocks on the ground surface, not under well embedded rocks. They were often found between cracks formed in larger boulders. It is evident that in the cooler months these snakes effectively bask by sheltering under rocks exposed to maximum sunlight. Turner has noted that while some seem to stay put over winter months, others move from rock to rock.

A pair located by us early in our day's search were later found to have moved elsewhere (were not found again) when the rock was lifted later the same day. Other snakes found early in the day, did not move.

Some days earlier in another area Valentis and Turner observed a single specimen diurnally basking or active. Such an observation is believed to be relatively rare for this species and may not have been previously documented.

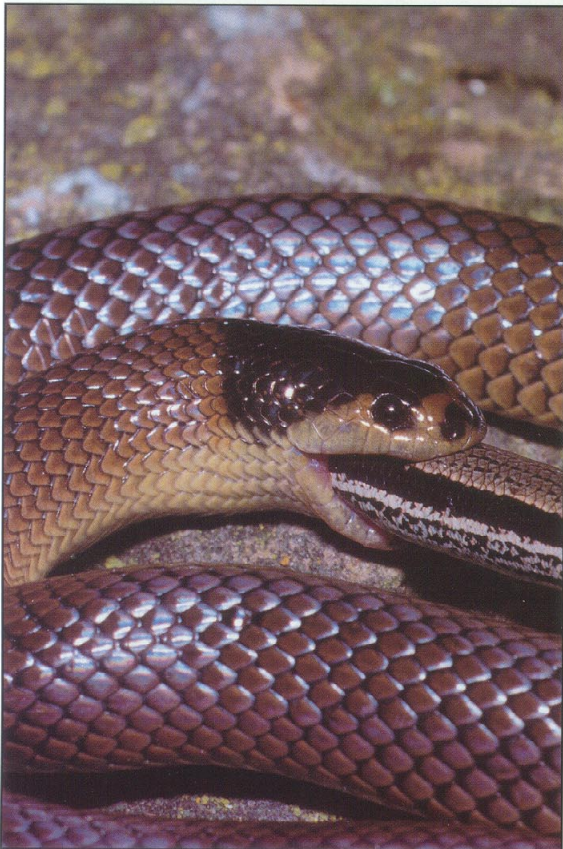
Specimens found tended to be coolish (in line with the weather) and made little if any attempts to flee. Most could be picked up without the snakes showing any offensive behaviour. A few specimens became mildly pugnacious after repeated handling and adopted defensive postures and actions, usually in the form of thrashing about like a whip (hence their name!). One particular snake repeatedly bit at my leg, but it's fangs failed to penetrate my trousers. In the event that a bite penetrates the skin, the effect is relatively mild due to the relatively small amount of weak venom injected.

When Turner had captives of this species

(he currently has none), he found them hardy and trouble free pets. However due their small size, secretive nature and relative abundance (very common), few people seem to want to keep these snakes and even fewer do. In recent years (since 1984) Turner has published a number of major papers on these snakes in *Herpetofauna*, (some cited by Hoser, 1990 *), noting a number of 'discoveries' for the species. He was also the first to record male combat (Turner, 1992), which it turns out is fairly routine in this species and most likely for all snakes in the genus. Mating behaviour in Little Whip Snakes appears to follow a similar pattern to that documented for most other elapid snakes, including Death Adders (Turner 1992, Hoser 1983 *).

Getting back to our day on the basalt, it took just a few hours of searching, by lifting up loose rocks, to find a total of 23 Little Whip Snakes. This time frame also included long stops for Rob and I to take photos, while Grant had to meticulously record details. This makes the total even more striking. Furthermore, while the number was marginally higher than to be expected, it wasn't all that extraordinary. How many British readers could find 23

Little whip snake *Unechis flagellum* from Somerton, Victoria - feeding on a skink.



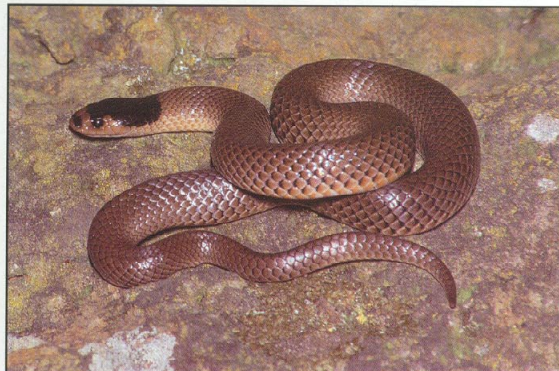
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Spider from Somerton, Victoria. This specimen was found under basalt rock.



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Little whip snake *Unechis flagellum* adult from Somerton.



Raymond Hoser

snakes in just a few hours searching such a short distance from home. My own house is about 20-30 minutes drive from where we were. Turner was only about 15 minutes from the area, while Valentic lived somewhere in between.

Of the snakes we found, 5 were juveniles, 3, males, 2 females. Of the adults, 10 were male, 8 were female. We found some under rocks in pairs (same sex and opposite sex) and in one instance a trio. All these finds are typical for the species. It is believed that Little Whip Snakes mate in the cooler months, a fact which partly explains the pairing behaviour of these snakes. Some of the pairing/aggregating behaviour may simply arise from more than one snake utilising an optimal site. When caught, these snakes are known to release a fluid with a pungent odour, but on this day, I don't recall this happening, but perhaps I should also note that my sense of smell is somewhat deficient (a result of having had my nose broken several times). The relative coolness/inactivity of the snakes may have also had something to do with the relative lack of defensive behaviour.

In a large outcrop adjacent to a creek we found two adult Cunningham's Skinks (*Egernia cunninghami*). The local specimens are of the typical highland form seen from about Mudgee in the north, throughout southeast NSW and most of Victoria. I presume those from South Australia are similar, but haven't actually seen them. Other forms of Cunningham's Skinks from the New England Tableland and Sydney region are pictured in my book *Australian Reptiles and Frogs* (Hoser, 1989). Most people recognise them as different subspecies.

Some *Crinia signifera* were heard calling in swampy ground adjacent to a creek. These small frogs are common throughout south-east Australia and breed almost anywhere. They can sometimes be found breeding in the smallest of puddles. We also located four adult Spotted Marsh Frogs (*Limnodynastes tasmaniensis*). This common frog occurs throughout the south-east of Australia. Some specimens have a distinct vertebral stripe, while others seem to lack it. There are some which appear intermediate in colour. We found specimens with distinct stripes and others without. In some places only one or other form occurs. When driving home (to Melbourne) from Geelong some months earlier we saw huge numbers of these frogs crossing the main Princes Highway near Little River (Lara). Many were squashed by traffic. All the specimens we found had a distinct vertebral stripe.

Spotted Marsh Frogs are also a major food item for other snakes known from the basalt areas. Local frog-eating species include Red-bellied black (*Pseudechis porphyriacus*), Tiger (*Notechis scutatus*) and Copperhead (*Austrelaps superbus*). All are large highly venomous elapids. All are of widespread species and all are believed to have declined in numbers in many areas in recent years for reasons that are not entirely certain. The Red-bellied black snake has probably always been the least common large elapid in the basalt areas north of Melbourne. None have (to my knowledge) been sighted in recent years, although local herp Craig Stephenson saw one in the area many years ago. There are a few other reliable records. Tiger Snakes have also declined in the area although they remain common in Melbourne's south-west. Copperhead numbers, while reduced, are still large

enough to be regularly encountered. Although we never saw large elapids, Rob and Grant found a Copperhead a few days earlier at another location a few km away.

Eastern Brown Snakes (*Pseudonaja textilis*) are another species common to the basalt plains habitat. Their numbers are probably on the increase in many areas. Although we never saw any on this occasion, they are common in similar habitats to the west of Melbourne and no doubt occurred in the area. Previous excursions to basalt habitats have yielded this species, including small aggregations.

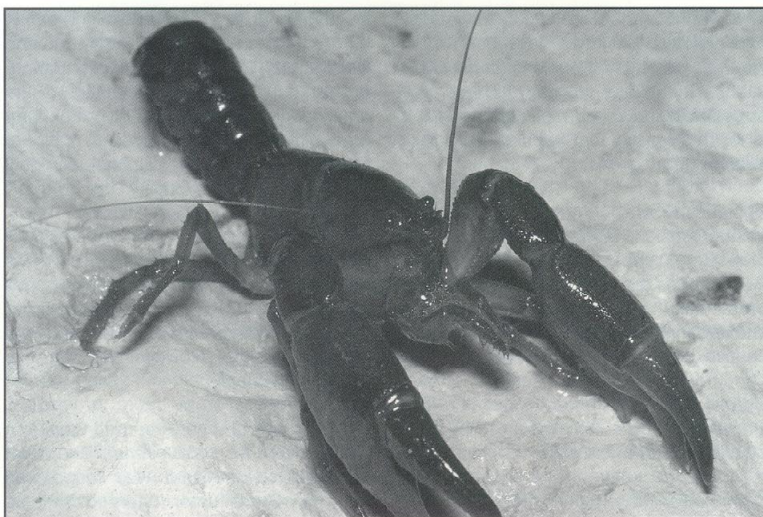
Brown Snakes feed largely on rodents and therefore thrive near areas of human habitation and agriculture, where rodent numbers are high. Human rubbish such as tin (that habitat made for reptiles), is also red-hot for Brown Snakes and they take to it with a vengeance. Besides feeding on rodents, Brown Snakes also feed on other reptiles. To what extent is not really known. Rob Valentic published a paper (Valentic 1996), detailing a case where an Eastern Brown Snake fed on a Bluetongue Lizard. This paper appears to be the first published report of such an event. However recently I spoke to a man who had a property in Western Victoria where he claimed he routinely saw Eastern Brown snakes feeding on Bluetongues or gorged from having fed on such lizards. The man had been in the area for over 40 years. He also claimed to have seen an adult Brown Snake feeding on young specimens of the same species adjacent to a hole on a river bank. Captive juveniles that I kept were always fed skinks, which they took readily.

Some years ago I had a sub-adult Bluetongue feed on a young Eastern Brown Snake in the same cage (Hoser, 1996). In other words the feeding of one reptile species on another doesn't always go one way.

Blotched Bluetongues (*Tiliqua nigrolutea*) generally are not found on Basalt plains, but there are a few isolated records. There is little doubt also that specimens have been released in these areas over the last 50 years by various people, potentially confusing things for those who may later find them. Blotched Bluetongues are more common in the hills east of Melbourne and parts of the Mornington Peninsula to Melbourne's south-east.

Two other species of snakes known from Melbourne, the Small-eyed snake (*Cryptophis nigrescens*) and the White-lipped Snake (*Drysdalia coronoides*) seem to be rare in the basalt plains habitats, but are occasionally found here.

Yabbie - Somerton, Victoria.



Raymond Hoser

White-lipped Snakes are common to Melbourne's east, north-east and south-east.

Four species of small skink were encountered during our outing, although more species are known from the area. We found seven *Lerista bouganvilli*. These small fossorial skinks are possibly a dominant food source for the Little Whip Snakes as they are the right size and live in the same places. Six of the seven seen were adults, while one was about 2/3 grown. Like most, if not all of the reptiles seen on this day, they were found sheltering underneath basalt rocks.

We saw three Grass Skinks (*Lampropholis guichenoti*), all of which were adults. This tiny lizard is perhaps the best able to adapt to human habitation and urbanisation. Around Melbourne it lives in all suburbs, provided there is sufficient ground cover in the form of rocks, logs and so on. Houses with overgrown and rocky gardens or with heaps of rubbish tend to be the best places to find these lizards. Little Whip Snakes readily feed on these in captivity.

Water Skinks (*Eulamprus tympanum*) are common in the area and we found four adults and a juvenile. While the adults are too large for Little Whip Snakes to eat, the juveniles are a distinct possibility. Likewise for Striped Skinks (*Ctenotus robustus*). We saw three adults and a juvenile.

There also appears to be a seasonal shift in the movements/locations chosen by the Water Skinks in the area. In winter (including on the day of our outing) we found these lizards sheltering under rocks on relatively high ground and some distance from the main creek and/or other water bodies. A return trip to the area by myself in mid November when the weather was somewhat warmer (by an average max. of about 6 degrees), the Water Skinks tended to be seen active immediately adjacent to the Merri Creek, with none being seen on the higher ground where they'd previously been. This was a movement of about 100 metres, and from some of the highest to lowest ground in the area. Shine (1991) notes similar seasonal movements by Diamond Pythons (*Morelia spilota*) in gorges near Sydney, over much greater distances.

While small skinks are common and frequently overlooked by reptile people here in Australia, this in many ways is a tragedy. You see we really know next to nothing about most species. There remains much work for the budding herpetologist in this country. And you don't have to travel to the tropics to do it!

Besides herp' we saw other wildlife in the

form of birds (none of which I identified) and a feral goat. These along with other feral animals such as rabbits, hares, foxes and cats have all done their bit to wipe out Australian fauna. Besides the usual collection of insects, centipedes and so on found under rocks and other cover, we located a number of interesting spiders, including one that looked like a Funnel Web (*Atrax* sp.). Centipedes were particularly common in this area. Although they may look fearsome to some, they are actually very innocuous and I have never heard of anyone being attacked by one. Using a snake bag I was able to pick these animals up without being bitten. However I should warn that they can pack quite a bite. Three were placed inside a cloth snake bag. Within short time, they were able to chew a hole in the bag and escape. Fortunately this had been anticipated and the bag itself had been placed in a glass jar.

habitat weren't seen on our trip. These were an Earless Dragon (*Tympanocryptis lineata pinguicolla*) and the Striped Legless Lizard (*Delma impar*). We didn't expect to see either, but Rob and Grant always had their eyes open for them. Both were never as widespread and common as other basalt plain species. Both have declined sharply in recent years, from a low (known) population base for reasons that are not entirely clear.

The cause of decline in Earless Dragons is particularly hard to pinpoint. While a number of known localities such as Keilor in Melbourne's north-west have been urbanised, other historical localities still seem to have decent habitat. It is thought feral animals, particularly foxes and cats, in combination with rock removal by graziers could be the major causes of decline (Cogger et al. 1993). A known locality for this species (Merri Creek, at

Small skink *Lerista bouganvilli* from Somerton, Victoria.



The water in the creeks looked muddy and polluted, but must have been fairly clean as we had no trouble finding a small yabbie (freshwater crayfish). These only appear to survive in unpolluted waters. It is for this reason that yabbies are rarely seen in urban areas.

Besides the feral animals being predators for the reptiles, reptiles would of course prey on one another. Eastern Bluetongues are common in the area and presumably feed occasionally on smaller snakes, including Little Whip Snakes. A captive held by myself some years ago consumed a juvenile Eastern Brown Snake without ill effect (Hoser, 1996). Copperheads are also known to be cannibalistic of other snakes.

Two relatively rare reptiles from the basalt

Bald Hill, north of Donnybrook) was not far from where we were. Brereton and Backhouse (1993) presented a summary of the status and known localities of the species and painted a fairly poor long term picture for the species in Victoria. Osborne, et al. (1993) painted a similarly bleak picture for the lizard in the northern parts of it's range, near Canberra.

For the legless Lizard *Delma impar*, it is thought that a general reduction in native grasslands through urbanisation and introduced weeds has been the principal cause of decline. However this theory is not yet a certainty.

In the area where we searched there is a single record for *Delma impar*. The exact rock where the lizard was found was shown by Grant Turner. It turned out to be

a wholly uninspiring piece of basalt rubble on a terribly degraded hillside. The find was some years earlier, but the habitat was apparently the same then.

Studies on *Delma impar* near Melbourne have found these lizards to be most common in the south-western suburbs near Laverton and Deer Park. The preferred habitat seems to be basalt plains with native grasses. Some of the best habitat for this species has recently been built on as part of an industrial development and adjoining residential estate. In another promising site near Ardeer, Grant Turner found three specimens a few years ago. The area is now covered in suburban houses. Of the known localities for the species, only one is within a reserve. Other reserves in Victoria are thought unlikely to have this species due to apparently unsuitable habitat (Cogger, et. al. 1993).

done. In fact it isn't even known if these mites are natural to Australia or have been inadvertently introduced by humans at some time in the past. In most other parts of Australia, snake mites are rarely seen on reptiles.

THE FUTURE.

While we were searching on the open wind blown plains we remained in constant sight of large factories to the south and west. According to Grant Turner, those to the south at Campbellfield were all new and had only been built within the least six years. Before they were built, Turner had caught snakes and other reptiles on the same land. They would now be gone. While there were no immediate development plans for the site we inspected, Turner expected it to suffer a similar fate sometime in the future. As Melbourne continues to grow and urbanise

be threatened in the foreseeable future (except for possible local extinctions caused by urbanisation, local intensive agriculture, etc.).

While none of the reptiles and frogs seen on our day on the basalt were earth shattering by herpetology standards, the day on the basalt was an invigorating excursion to see wild reptiles in their natural habitat. Had we journeyed 70 kilometres towards Melbourne's south-east near Tootgarook, we would have probably found a fairly different suite of reptiles, most likely including Coventry's Skinks (*Egernia coventryi*), Metallic Skinks (*Pseudemoia metallica*), Blotched Bluetongues (*Tiliqua nigrolutea*), Delicate Skinks (*Leiopisma delicata*), White-lipped Snakes (*Drysdalia coronoides*) and other species, all of which inhabited a radically different habitat, (see Hoser and Valentic 1996 *).

Striped skink *Ctenotus robustus* - adult, from Somerton, Victoria.



Although Melbourne zoo holds a few *Delma impar*, these lizards are not really suited for public displays due to their small size and secretive nature. There is in practical terms, no realistic long term plan for the conservation of this lizard. The Victorian Wildlife Department have however commissioned some useful studies into this lizard, including ones by Coulson and Moro, (Coulson 1989, Moro 1990). Ideally these lizards should be held in private hands in captivity and legally traded. That way their long term survival can be probably guaranteed.

On the basalt plains to the south-west of Melbourne, most reptiles seem to carry mites of the same form that plagues some reptile collections. Although these mites don't seem to adversely impact on the wild reptiles, no studies have yet been

done. In fact it isn't even known if these mites are natural to Australia or have been inadvertently introduced by humans at some time in the past. In most other parts of Australia, snake mites are rarely seen on reptiles. While we were searching on the open wind blown plains we remained in constant sight of large factories to the south and west. According to Grant Turner, those to the south at Campbellfield were all new and had only been built within the least six years. Before they were built, Turner had caught snakes and other reptiles on the same land. They would now be gone. While there were no immediate development plans for the site we inspected, Turner expected it to suffer a similar fate sometime in the future. As Melbourne continues to grow and urbanise

satiation expands in every direction, further habitat on the basalt plains will become subjugated by the suburban sprawl. At this stage, the wildlife authorities have no plans to allow large scale collection of reptiles from the areas being desecrated. A further problem (not of the wildlife department's making) is that there would probably only be limited demand for the snakes and other reptiles in these areas anyway, with potential supply far exceeding demand. In other words the prognosis for individual reptiles in areas of new development on Melbourne's fringes is bleak and likely to remain so.

Although having reptiles in captivity and keeping them successfully is an educational experience I'd recommend to everyone, so too is seeing these animals in their natural state. I believe that in doing both, one's respect for reptiles (and other wildlife) and desire to conserve them and their habitats is maximised.

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- * These papers can be downloaded from the internet in their entirety. To access them, look up the Victorian Herpetological Society home page and follow the relevant links.