

## REPTILES - LIZARDS

Family - Varanidae

C.Lane 2006

*Varanus tristis* - Black-tailed monitor, mournful goanna, black-headed goanna, freckled goanna, racehorse goanna

### **Introduction**

Best known by most Australians as Goannas, Varanids overseas are referred to as Monitors or Monitor Lizards. The huge Komodo Dragon - *Varanus komodoensis* is a Varanid and it can reach a snout to vent length (SVL) of up to 13400 mm with a weight of 54,000 grams.

The family Varanidae contains only one genus, *Varanus*, but several sub-groups are recognised. There are about 58 extant species of Varanid and they are not world-wide, occurring only in Africa, Southern Asia, Australia and the southern Pacific regions.

Varanid species are the most numerous in Australia and yet they are only found in the mainland states. Magnetic Island has two species. The other species is *Varanus semiremex*. They are considered one of the most intelligent of lizards and have been on earth a long time.

### **Identification**

*Varanus tristis* is known to be extremely variable in colour and distribution of patterning throughout its range. In Western Australia this species can be almost entirely black. The specimens found on Magnetic Island are from subspecies *V. tristis orientalis* which is the subspecies from northern and eastern Australia and are of a more uniform pattern

and paler than those elsewhere. Considered a medium sized monitor *V. tristis* can reach a snout-vent length of about 280 mm and a total length of 750mm. *V. tristis* orientalis, found here, is recorded to 600mm. Males and females are similar in size. The specimen pictured here is from Magnetic Island and displays distinct ocelli (eye-like markings) on its dorsal (upper) side, which, typical, in this species in north-eastern Australia are white to cream with dark centres on a brown to black field. This specimen also had a distinct black stripe (or absent of pale dots) behind the eye. Ocelli may become indistinct in older specimens. Head, limbs and tail are dark coloured to black with small creamy flecks or dots. The tail is banded with these for about half its length, fusing to black for the remainder. Any goanna seen on the hill areas of Magnetic Island is likely to be this species as the second species *V. semiremex* is a mangrove dweller. Patterns in hatchlings are often more ornate for better camouflage when small.

### **Distribution and Habitat**

Found over most of mid to northern Australia its range in the west extends north from Perth, in the east north from Bundaberg and from coast to coast. It is a diurnally (daytime) active species.

Its habitat varies from open woodland to rocky areas. In the former it maybe primarily arboreal (in trees) and in the latter may utilize ground areas to a larger extent. It seems to be completely at ease in either and on Magnetic Island most likely utilizes both. *V. tristis* was once more common on the island, especially on the lowland areas. Development in the bay areas has probably altered this to an extent and along with Cane toads have also probably contributed to the disappearance of lowland specimens. It is most likely to be seen on the walking tracks between the bays. When frightened by humans this species is most likely to head up the closest large tree.

### **Behaviour and Diet**

Goannas in general eat a variety of invertebrates and vertebrates. Invertebrate prey such as beetles, grasshoppers and spiders. Vertebrates

prey can include frogs, nestling birds and eggs, lizards including eggs and also small mammals. This goanna is believed to engage in active pursuit.

One of the reasons for its disappearance from lowlands here is that goannas are known to die from eating cane toads which they cannot differentiate from frogs and which are toxic. In some lowland, mainland areas whole populations of goannas have been decimated from ingesting cane toads.

When their body temperature is at optimum they are believed to be one of the fastest of the monitors. This species drags its tail base along the ground when walking, producing a distinctive trail on sand or soft earth. They may have an individual range of over 2 sq. km. but would not range this far in a single day, usually having several well used shelter sites which may include rock crevices hollow logs and tree branches where they will remain at night. They will also regularly search the same prey shelter sites. They are also known to dig burrows. In captivity they tolerate the presence of others reasonably well. Foraging areas may overlap. *V. tristis* may associate in clans or small groups.

## **Reproduction**

Studies have shown that home ranges of males are generally larger than those of females during the breeding season which will vary according to geographic location. Studies of the breeding season in the Great Western Desert in Victoria puts mating between September and October, eggs laid between October and November and hatchlings emerging in February and March. In the Northern Territory eggs are laid in late winter (mid-September) which would place mating a month or so earlier and hatching 108-111 days later. The Northern Territory example is probably more relative to Magnetic Island and would place most clutches as hatched just before or early at the start of the wet season.

Clutch size ranges between 5-17 with known averages of 9 or 10. Eggs are laid of a size range of apx. 30-35mm. Females may dig burrows especially and then back fill them or they may lay in regular shelter spots such as hollow logs. Females are known to defend "egg sites". Hatchlings will emerge in a size range of 168-216mm apx. and may take up to a day or longer to leave the egg shell itself. Females may lay more than one clutch in a season with apx 31-36 days between clutches. Hatchlings

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grow quickly from apx 70mm SVL to juveniles and adulthood and sexual maturity of apx. 200mm within one year.

If they are hatched here in about mid-October, by February/March when the cane toad tadpoles are emerging as toadlets they would be big enough to eat them and in the lowland areas where this occurs would mostly die. Cane toads, here on Magnetic Island, are luckily only found on roads and roadsides in the hills area.

## **Predators**

On Magnetic Island predators could probably include feral cats, kookaburras, snakes, raptors and (if present in numbers) quolls. Many of these predators, because of size, would apply mainly to hatchlings and juveniles.

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enquiries: [info@magneticisland.s4space.com.au](mailto:info@magneticisland.s4space.com.au)  
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