

Observations on Three Species of *Varanus* in Ilfracombe, Queensland

ROD SHANNON

Rodney Downs

Ilfracombe, Queensland. 4727 Australia

Rodney_downs@bigpond.com

Introduction

Here, I report on observations of three varanid species at Rodney Downs station, in Ilfracombe, Queensland, Australia. Rodney Downs is a 75,000 acre sheep and cattle property. The main homestead, Rodney Downs (23°11'10.7"S, 144°51'3.4"E, datum: WGS84), is located ca. 53 km north of Ilfracombe by road, and the Daunton homestead (S 23 15 56.2, E 144 49 04.7, datum: WGS84) is ca. 43 km north of Ilfracombe. Both stations are located within the Mitchell Grass Downs country of inland Australia.

The property consists predominantly of black soil ca. 1-4 m deep, over sandstone shale with some areas of red sandy loam and sandstone outcrops. The Rodney Downs homestead is located ca. 350 m from the edge of a series of creek channels which run the length of the eastern side of the property. The creeks remain dry for all but 3 to 4 weeks each year during the wet season, usually around February to March. The property ranges from very open rolling downs country in the western part with loose, high-clay black soil (Figure 2), to tighter and more timbered black soil country along the creek system in the eastern part. Vegetation is dominated by Mitchell grass (*Astrelba sp.*), although creeks are lined with assorted *Eucalyptus* trees. Several species of *Acacia* including Gidyea (*A. cambagei*) and Boree (*A. tephрина*) are also common along the creek systems. The area around the main homestead is lightly timbered with *Eucalyptus* (mostly *E. coolabah* and *E. terminalis*), *Acacia* (mostly *A. cambagei* and *A. sutherlandii*), and

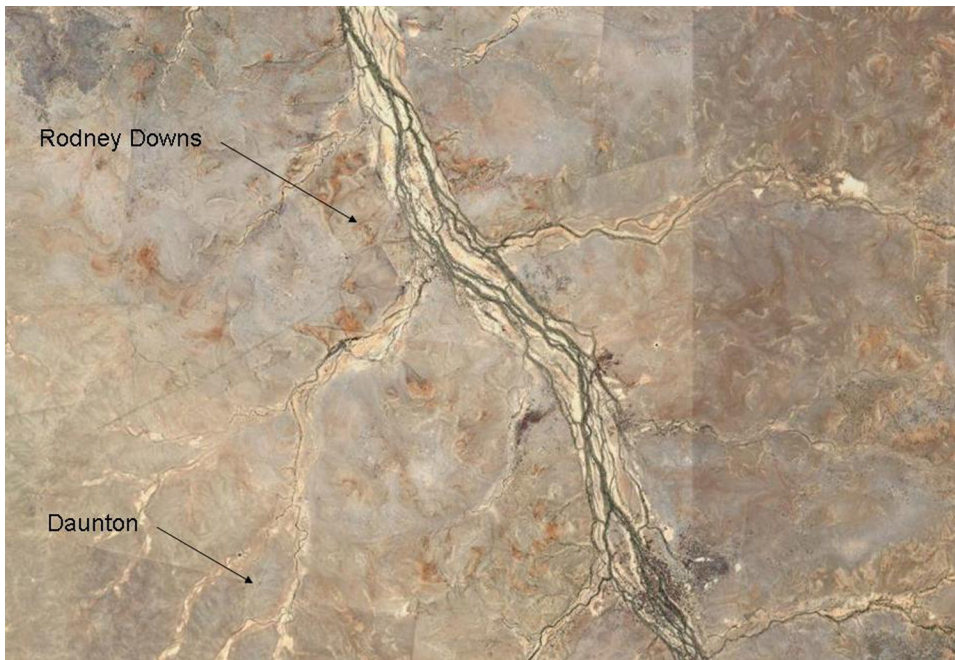


Figure 1. Map of study area



Figure 2. Typical landscape where *Varanus tristis* is sighted. Tree in foreground is a Bloodwood (*Eucalyptus terminalis*), and background shows a creek lined with mostly Coolabah (*Eucalyptus coolabah*). These trees are frequented by nesting birds, and often have hollow limbs, which makes for great opportunities for *V. tristis*.



Figure 3. Ilfracombe-Aramac Road; Typical landscape where *V. spenceri* is sighted. The high-expansion black soil develops wide cracks in dry times, and provides havens for many ground-dwelling animals.

Whitewood (*Atalaya hemiglauca*). Except for some occasional Mimosa bushes (*A. farnesiana*), there are few shrubs or bushes around the homestead.

My interest in the local wildlife and ecology of the region began back in 1973, after a 6 week visit by Geoff Witten, then a graduate student from the University of Armidale who was collecting and identifying fauna from the region. Witten primarily focused on reptiles and amphibians, but was also interested in all other fauna of the region. Witten awakened a deep appreciation of the wildlife present on the property, and our family has been carefully observing the local wildlife ever since.

Numerous reptile and amphibian species occur at Rodney Downs. The restrooms of the station are regularly inhabited by Green tree frogs (*Litoria caerulea*) and Desert tree frogs (*L. rubella*) seeking cool refuge during the day, and rainy nights are deafening with the calls of Rough frogs (*Cyclorana verrucosa*), Broad-palmed frogs (*L. latopalmata*), Spotted Grass frogs (*Limnodynastes tasmaniensis*) and Desert toadlets (*Crinia deserticola*). King Brown snakes (*Pseudechis australis*) are common on the property and occasionally find their way into the homestead, and Carpet pythons (*Morelia spilotes mcdowelli*) have taken residence in the storeroom of the homestead for several years. Three dragons, *Lophognathus gilberti*, *Tympanocryptis tetraporophora* and *Pogona barbata* are common, and extremely active during the warmer months. Three species of goanna are present on the property: the Black-headed goanna (*Varanus tristis tristis*), Yellow-spotted goanna (*V. panoptes panoptes*), and Spencer's goanna (*V. spenceri*).

Varanus tristis

Several *Varanus tristis* reside around the main homestead. *Varanus tristis* seem to be predominantly tree-based, and are frequently seen investigating birds' nests in many of the trees surrounding the homestead. *Varanus tristis* are more often noticed by the commotion caused by agitated birds rather than the lizards themselves. They are notorious nest-raiders and have caused a family of sparrows to move out from the



Figures 4 & 5. *Varanus tristis* inhabiting the Rodney Downs homestead roof



Figure 6. Dorsal patterning of local *Varanus tristis*

rafters of the homestead when one took up residence in the roof.

The homestead roof seems to be a much-preferred venue for *V. tristis* (Figures 4 & 5), offering many of the same features as a tree, using the roof gutters to move about while remaining unseen. Neighbors confirm that *V. tristis* commonly inhabits other roofs in the region. At the homestead, several individuals have worked out the benefits of leaf-guards on the roof gutters which allow them highway access around the perimeter of the homestead roof, where they can often be heard traveling through the piping. There are several large down-pipes which meet at a single junction, which the *V. tristis* use to scope out potential meals around the roof. Goannas often encounter *L. caerulea* in these down-pipes, resulting in loud screams from the frogs. The *V. tristis* are more than likely too small to eat a grown frog, however *L. caerulea* are often found injured by goannas, suggesting possible predation attempts.

Excluding the colder months (June through September), *V. tristis* are usually very active and can be seen from sunrise to near-dusk. Adult *V. tristis* at Rodney Downs reach a maximum total length of ca. 60 cm. Although adults are common around the homestead, juveniles are rarely seen. One juvenile, measuring ca. 10 cm SVL, was discovered in August 2006 living beneath a rain-gauge atop a 1.5 m tall post located away from any buildings and trees (Figure 7). The juvenile was hiding in a 5 cm gap under the base of the rain gauge. This was the first juvenile *V. tristis* ever seen on the property, and was also the first time anything other than a gecko or frog was found living under the rain-gauge. Recently-hatched neonates, presumably only a few days old, have been found in the outdoor lavatory of the station on two



Figure 7. Juvenile *V. tristis* found beneath a rain-gauge.

separate occasions, 27 January 2007 and 18 March 2008.

The *V. tristis* population appears to have grown considerably since eradication efforts of the feral fox & cat populations were enacted at the station in 2001. Best estimates suggest that there are about five adult *V. tristis* living within a 500 m radius of the homestead. Foxes on the property have become a rarity, although cats have proven to be more difficult to eradicate. Efforts are still underway to further reduce the feral cat population.

Varanus panoptes

Varanus panoptes is extremely common at Rodney Downs and can be encountered throughout much of the property, with several individuals visiting the homestead on a daily basis. Although *V. panoptes* are usually a common sight whenever driving around the property, it is difficult to estimate the total number of individuals residing on the property.

During the hottest summer months (November through March), *V. panoptes* have been known to seek out and submerge in bore-drains and dams scattered throughout the property. Interestingly, *V. panoptes* have also been seen diving for freshwater mussels on several occasions at one of the same dams.

Varanus panoptes are serious scavengers, and are often seen feeding on road-kill. The local *V. panoptes* are also known to rummage through the food scraps from the homestead. One individual learned how to open the lid of the rubbish bin, and now repeatedly gets into what was once thought to be a secure bin. Another individual, the largest resident *V. panoptes* around the homestead at present, was seen sampling expired yogurt left out for the chickens (Figure 10). Chicken eggs are relished, and many *V. panoptes* have raided homestead chicken runs over the years. On one occasion, a large *V. panoptes* was encountered inside the chicken-run, where it had caught two small Bar-Shouldered doves (*Geopelia humeralis*). The goanna kept one dove pinned down with one of its front claws while it devoured the first bird whole, then proceeded to consume the second dove. *Varanus panoptes* have been observed digging up lizard eggs, primarily those of *L. gilberti*, and have also been seen chasing younger *V. panoptes*.



Figure 8. Profile of local *V. panoptes*



Figure 9. Dorsal coloration and patterning of local *V. panoptes*



Figure 10. *Varanus panoptes* after sampling expired yogurt



Figures 11 & 12. A *V. panoptes* feeds on a Bar-shouldered dove (*Geopelia humeralis*) it captured inside a chicken-run

An adult *V. panoptes* was seen active alongside a road at night in December 2005. The weather was quite warm during the day (daytime high was ca. 41 °C), and warmer nighttime temperatures (ca. 34 °C) may explain this unusual nocturnal behavior.

Varanus spenceri

Varanus spenceri is the least-encountered goanna on the property, and is usually seen in areas where there are few or no trees. The soil in these areas is comprised of very high-expansion clays, where cracks form during dry periods. This high expansion makes it difficult for trees to grow in this soil type. *Varanus spenceri* has only been seen out in the open Mitchell grass Downs country on the western side of the property. During his visit, Geoff Witten reported that *V. spenceri* was quite common in this area of the property, having seen several individuals during the 6 weeks he was here collecting specimens (*pers. comm.*). A neighbor has also reported seeing this species regularly on their property, which is identical in soil-type to the areas in which it has been seen at Rodney Downs. Although the *V. spenceri* encountered



Figure 13. Detail of *V. spenceri*



Figure 14. Death-feigning behavior in *V. spenceri*

on the property have appeared to have been out foraging for food, given their reclusive nature, we have yet to observe any feeding behavior or prey items taken by this species.

Varanus spenceri is markedly different than the other goanna species which occur on the property in its primary defense technique. While *V. panoptes* will either flee or take up a defensive position if approached too closely, *V. spenceri* feigns death, a behavior which appears to be common for this species in the area (G. Witten, *pers. comm.*). Usually when approached from within 10 to 13 m, *V. spenceri* will flatten its body against the ground, extend one hind limb while keeping all other limbs close to the body, and curve its tail into a series of S-bends (Figure 14). The head is kept up to keep an eye on the threat. Unless the animal is nudged several times, it will stay in this position until the threat has left the area. When passing a goanna on the road by car, this behavior is usually reliable for distinguishing *V. spenceri* from *V. panoptes* before having the chance to sight it properly.

Discussion

Depending on seasonal weather conditions and prey availability, all three goanna species are seen throughout the year at Rodney Downs station, although they become less active between the months of May and August. While *V. tristis* and *V. panoptes* seem to tolerate human presence and activity well and occur in and around the main homestead, *V. spenceri* appears to be much more timid and occurs only in open areas away from the homestead.