

# BLACK SWAN AND WESTERN TIGER SNAKE: A CONFLICT AVOIDANCE ENCOUNTER

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On 1 April 2002, we observed a close encounter between a Western Tiger Snake *Notechis scutatus* and a Black Swan *Cygnus atratus* in the water at Herdsman Lake, Perth, Western Australia. Both species responded aggressively during the brief encounter. First, we surmise that the aggression displayed by both species was deliberate posturing rather than actual physical attacks. Second, we suggest that their mutual intention was to avoid combat because neither could be confident of winning.

## INTRODUCTION

Snakes are known to be predators of bird nests (Skutch 1966; Thompson *et al.* 1999) and adult birds (Rodda 1997; Stake 2001), with adults sometimes killed during nest defence (King 1999). Birds may respond in different ways to different snakes. Quinn (1985), reported that colonial nesting Caspian Terns *Sterna caspia* hovered two metres over a venomous rattlesnake to avoid contact and Blem (1979) described group mobbing of non-venomous rat snakes by colonial nesting Bank Swallows *Riparia riparia*. Tiger snakes *Notechis* spp., are responsible for a significant proportion of snake-bite deaths recorded in Australia (Cogger 1996). They have a reputation for aggressiveness, although this may be a misinterpretation of their defensive posture. They may sometimes stand their ground with forebody raised and neck flattened but this is considered a defensive behaviour, an intimidation or bluff. They are unlikely to bite unless touched (Bush *et al.* 1995). Most recorded human snake-bite deaths are the result of contact, generally from accidentally stepping on them. The Western Tiger Snake has been documented as a significant predator of the chicks of Silver Gulls *Larus novaehollandiae* on Carnac Island, near Perth (Bonnett *et al.* 1999; Bonnett *et al.* 2002) and dead adults have also been detected at nests on the island (D. Pearson and M. Ladyman, pers. comm.).

## METHODS AND DISCUSSION

A Western Tiger Snake was observed swimming in open fresh-water for 15 metres; it then rested on a bank for approximately one minute, before recommencing swimming. The swan was upturned in the water and was unaware of the approaching snake. The snake was approximately 40 centimetres from the swan when the swan returned upright. It detected the snake immediately and moved quickly backwards in the water with propulsion from its feet and body, simultaneously snapping toward the snake (about 10–20 cm head and neck movement) and making a clapping noise with its bill. The startled swan definitely recognized the snake as a threat. The snake raised its head and forebody about 25 centimetres out of

the water and struck towards the swan with open gape. Neither snake nor swan actually made contact, or looked as if they were trying to. Both appeared to be demonstrating a serious potential to do harm. Following this display, the snake dramatically increased its speed in the general direction it had been travelling, apparently alarmed by the close encounter. The swan appeared to settle about 30 seconds after the encounter. The snake maintained its increased speed and bearing across 20 metres of open water and disappeared into a reed bed.

The snake-swan encounter appeared much the same as a human and snake encounter with both 'combatants' distressed and hastily retreating. In this instance, it appears that both the swan and the snake mutually perceived the danger of entering a situation where conflict was unnecessary and of no value. No food source or territory was in dispute. They simply found themselves in a situation requiring an emergency reaction. They displayed to frighten off the other individual and then retreated. In this case, conflict avoidance behaviour was the appropriate response to minimize danger.

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## REFERENCES

- Blem, C. R. (1979). Predation of black rat snakes on a Bank Swallow colony. *Wilson Bull.* **91**: 135–137.
- Bonnett, X., Bradshaw, S. D., Shine, R. and Pearson, D. (1999). Why do snakes have eyes? The (non-) effect of blindness in island tiger snakes. *Behav., Ecol. Sociobiol.* **46**: 267–272.
- Bonnett, X., Pearson, D., Ladyman, M., Lourdais, M. and Bradshaw, D. (2002). 'Heaven' for serpents? A mark-recapture study of tiger snakes (*Notechis scutatus*) on Carnac Island, Western Australia. *Austral Ecol.* **27**: 442–450.
- Bush, B., Maryan, B., Browne-Cooper, R. and Robinson, D. (1995). 'A Guide to the Reptiles and Frogs of the Perth Region.' (University of Western Australia Press: Nedlands.)
- Cogger, H. C. (1996). 'Reptiles and Amphibians of Australia.' (Reed: Melbourne.)

- King, D. I. (1999). Mortality of an adult Veery incurred during defence of nestlings. *Wilson Bull.* **111**: 576–577.
- Quinn, J. S. (1985). Caspian Terns respond to rattlesnake predation in a colony. *Wilson Bull.* **97**: 233–234.
- Rodda, G. H., Fritts, T. H. and Chiszar, D. (1997). The disappearance of Guam's wildlife: new insights for herpetology, evolutionary ecology, and conservation. *BioSci.* **47**: 565–574.
- Skutch, A. F. (1966). A breeding bird census and nesting success in Central America. *The Ibis* **108**: 1–16.
- Stake, M. M. (2001). Predation by a Great Plains Rat Snake on an adult female Golden-cheeked Warbler. *Wilson Bull.* **113**: 460–461.
- Thompson, F. R. III., Dijak, W. and Burhans, D. E. (1999). Video identification of predators at songbird nests in old fields. *Auk* **116**: 254–259.