



Exhibit message

Death adders wriggle the tip of their tail (caudal lure) to entice prey closer before striking and biting the curious prey.

Quick fact

The extremely quick strike action of death adders is similar to the strike action of the rattlesnake. Rattlesnakes only take one fifth to half of a second to strike their prey.

A snake's strike consists of rapidly approaching prey with their mouth open and fangs ready, sinking their fangs into the prey's flesh, injecting venom and withdrawing their fangs to avoid being injured by the struggling prey.

Graphic panel text

Death adders stay very still as they wriggle the worm-like tip of their tail (a caudal lure).

Curious prey move closer to the death adder to investigate, possibly thinking that the wriggling lure is food.

Once prey is close enough...**STRIKE!** The death adder quickly bites the prey and injects venom in less than half a second, then waits for the prey to die before swallowing it whole.

Caudal lures are different to rattles used by rattlesnakes. These rattles are used to warn off attackers, not to attract prey.

Want to know more about the death adder's caudal lure?

There are many different species of death adder in Australia, such as the common death adder (*Acanthophis antarcticus*) and northern death adder (*Acanthophis praelongus*).

The common death adder mostly feeds on lizards and small mammals. Large death adders tend to eat more mammalian (endothermic) prey than smaller adders.

Like other snakes, death adders use vision, their sense of smell and detection of vibrations along the ground to find prey. Death adders prefer to sit and wait for prey to approach them, so the caudal lure is useful for attracting unsuspecting prey that may be passing by.

Scientists are reasonably confident that death adders use their caudal lure to attract prey. Death adders seem to wriggle their caudal lure when they can see prey nearby and when the adder cannot seem to see any prey.

In six experiments on captive death adders, caudal luring increased in frequency when lizard prey could be seen by the snake and the lizards were attracted to the adder's moving tail.

When there was no visible prey within the adder's range, the adder still moved their lures. The theory is that the adders may have been 'probing' for prey that may have been hidden away from the snake's view. If hidden prey sees the caudal lure, the prey may be attracted to the lure and into the snake's view.

Small lizards, which are more mobile than large lizards, are more likely to come across sedentary death adders. Small skinks are also more effectively lured by the sit-and-wait adder and are less likely to escape capture.

Death adders are deadly to humans, although humans are rarely ever bitten. Over a ten year period (1981–1991), 18 human deaths from snake bite were reported to the Commonwealth Serum Laboratory (CSL).

One of these deaths was attributed to the common death adder. The remaining deaths were attributed to brown snakes (11 deaths), tiger snakes (4 deaths) and taipans (2 deaths). Eleven of the victims were males and four of these were bitten after either picking up the snake or playing with it.



Extra for experts

Australian death adders vary greatly in their colouring. Adders in northern and eastern Australia are more reddish in colour, while southern populations are mostly grey.

Individual adders can change the reflectiveness of their skin, according to the season. This may help adders to hide in leaf litter better, so they can ambush prey effectively. Red and grey adders have a similar level of reflectiveness in winter, while in summer, red adders become less reflective and grey adders become more reflective.

For geneticists reading these notes, the inheritance of these morphs appears to be controlled by two alleles at a single autosomal locus, with red dominant to grey.

Scientists are also debating how to classify different types of death adder, such as the northern and common death adder. Some scientists classify the northern and common death adders based on the number of scales on their back, but it would be extremely difficult for a non-scientist to pick the difference.

Further information

Western Australian Museum, Queensland Museum and Museum & Art Gallery of NT Reptiles Database
<http://203.30.234.168/>

Queensland Museum Common Death Adder
<http://www.qm.qld.gov.au/features/snakes/snakedetail.asp?TaxName=Acanthophis+antarcticus>

Queensland Museum Northern Death Adder
<http://www.qm.qld.gov.au/features/snakes/snakedetail.asp?TaxName=Acanthophis+praelongus>

Size-dependent predation by snakes: selective foraging or differential prey vulnerability?
Behavioral Ecology. Sharon J. Downes. 2002.
Vol 13 (4): 551–560.

Genetic and seasonal variation in body colour of the Australian death adder, *Acanthophis antarcticus* (Squamata: Elapidae). *Journal of Zoology (London)*. Johnston Greg. Vol 239 (1). 1996. 187–196.

Deaths from snake bite in Australia, 1981–1991. *Medical Journal of Australia*. Sutherland Struan K. 1992. Vol 157 (11–12): 740–746.

Caudal Luring in the Southern death adder *Acanthophis antarcticus*. *Journal of Herpetology*. Chiszar, D., Boyer, D., Lee, R., Radcliffe, C.W. 1990. Vol 24 (3): 253–260.

Ecology of the Australian death adder *Acanthophis antarcticus* Elapidae. Evidence for Convergence with the Viperidae. *Herpetologica*. Shine, R. 1980. Vol 36 (4): 281–289.

Rattlesnake Strike Behavior: Kinematics. *The Journal of Experimental Biology*. K. Kardong, Bels, V.L. 1998. Vol 281: 837–850.