

Common death adder

Acanthophis antarcticus

Vulnerable (*Nature Conservation Act 1992*) |
Ecological Sciences, Queensland Herbarium



Identification

A short, robust snake with small eyes, broad head and narrow neck, growing up to 1 m in length. Colouration is variable, with both pale grey to reddish-brown animals in most populations. Marked with irregular bands that are sometimes dark-edged, and prominent barring on lips. Tail-tip is segmented and cream or black in colour. Ventral surface is cream or whitish, with brown or grey flecking (Cogger 2000; Wilson and Swan 2010).

May be confused with northern death adder *Acanthophis praelongus*, with the taxonomic status/demarcation of these two species not fully resolved (Borsboom 2009). De Vis' banded snake *Denisonia devisi* may also be confused with *A. antarcticus* by untrained personnel.

Distribution

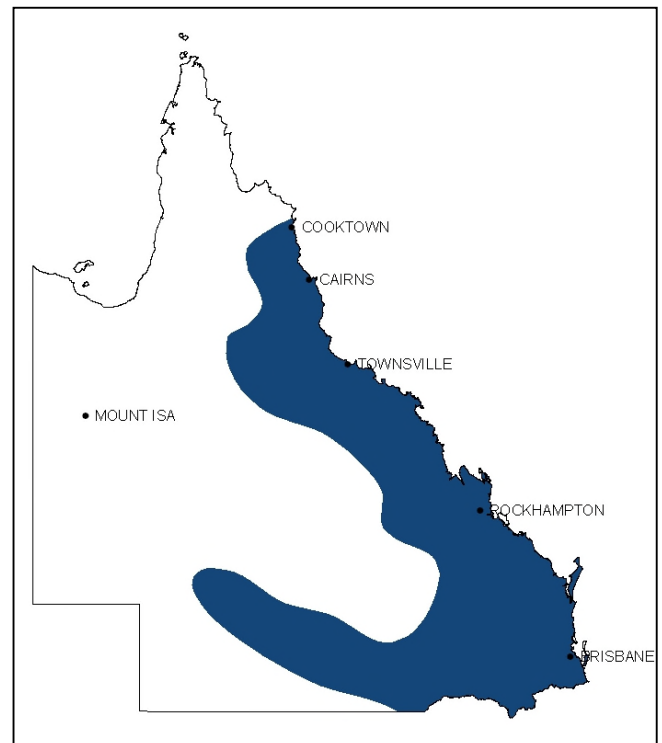
This species has a wide distribution throughout eastern and southern Australia. It extends across the southern parts of Western Australia and South Australia, and parts of the Northern Territory, Queensland, New South Wales and just over the border into northern Victoria (Cogger 2000; Wilson and Swan 2010).

It is found over a large part of Queensland with the majority of records from the south-east, and scattered records from elsewhere across its Queensland range (Covacevich and Couper 1991; Wilson 2005; Borsboom 2009).

Habitat

Acanthophis antarcticus inhabits a broad range of habitat types, including wet and dry forests/woodlands, rainforests, grasslands, shrublands and coastal heaths.

A highly cryptic species that spends most of its time concealed under leaf litter (Cogger 2000; Wilson and Swan 2010).



Seasonal and timing considerations

There is limited information on the optimal conditions for surveying *A. antarcticus*, mainly because detection rates are very low in most areas where they occur.

In general, surveys should be undertaken in the breeding period (September to March) when animals are likely to be most active, particularly at night. The breeding period also corresponds with the warmer months of the year when activity levels are also likely to be higher (Shine 1980).

Recommended survey approach

The following survey techniques are all likely to yield very low detection rates in most areas of their range. Thus, we recommend nocturnal vehicle transects be given priority when targeting *A. antarcticus* as extensive trapping arrays are required in addition to those on the generic survey sites (see Eyre et al. 2012).

Nocturnal vehicle transect

Nocturnal vehicle transects should be conducted on roads and well maintained tracks with limited vegetation and debris, and on warm humid nights where roads/tracks bisect suitable habitat. Transects should be repeated multiple times over the same section(s) of road, where possible.

Drive at a constant speed (~10 km/hr) with the driver and front passenger scanning the road for any animals crossing or basking (reptiles will often take advantage of the warmth from the road surface). When an animal is detected stop the vehicle and identify the species.

Transect width, visibility (e.g. rain, road conditions), constant speed and time taken to drive the transect should be recorded (see datasheet for further variables, Eyre et al. 2012).

Pitfall and funnel trapping

Pitfall and funnel trapping could be used in addition to nocturnal vehicle transects. Trapping arrays targeting *A. antarcticus* should be established in areas with thick leaf litter and/or low dense shrub cover, within suitable habitat where possible.

For this technique large amounts of effort, in terms of total trap nights (e.g. > 100 pitfall and 100 funnel trap nights per ha), will need to be invested. This requires either high numbers of traps or extended trapping periods to detect this species.

Survey effort guide

There is currently limited information on detection rates for *A. antarcticus*. A small number of records from nocturnal vehicle transects in the southern Brigalow Belt bioregion indicate that greater than 500 km of surveys is required to detect this species during optimal conditions in suitable habitat (M. Bruton unpub. data).

The recommended level of effort outlined below is based on experience and limited information to provide reasonable opportunities to detect or capture *A. antarcticus*. The suggested effort is considerable given the highly cryptic nature of the species and possible genuine rarity over much of their distribution. Therefore, based on the precautionary principle, if it is not feasible to invest this quantity of survey effort, with suitable habitat present in the survey area, then *A. antarcticus* should be assumed to be present.

Minimum effort within suitable habitat during optimal conditions			
Survey technique	Effort per survey period	Effort per survey	Number of survey periods
Nocturnal vehicle transect	~500 km (or all suitable roads surveyed multiple times)	Spread over at least 2 nights	2 surveys

Ethical and handling considerations

General

- Handle only if absolutely necessary. *A. antarcticus* is a dangerously venomous elapid, and as such, should be handled only by personnel trained and competent in snake handling.
- Holding animals should be avoided, but if necessary, place snake into a dry calico bag inside another dry, clearly labelled calico bag and make sure that the ends of both bags are tied and secure. One snake per double-bagging (i.e. bag inside another bag). Keep bagged snakes cool and out of direct sunlight (e.g. placed inside an esky or bucket with lid firmly on).
- Any captured animals should be released at the site of capture as soon as possible after identification.

Trapping

- Traps must be thoroughly checked early in the morning before temperatures become too hot.
- Provide shelter in the bottom of the buckets and over the top of funnel traps to reduce predation and exposure (heat, cold and dehydration) of trapped animals. For funnel traps, we recommend at least 70 % shade-cloth however silver roof insulation or dense vegetation are alternatives. Dehydration can be a problem, especially for amphibians, when humidity is low. Using vegetation cover or moistening the soil under the funnel/moistening the soil in the bucket can reduce this risk.
- Floats should be added to the bottom of buckets (e.g. piece of closed cell foam or cork) to reduce the risk of drowning from unexpected rain or storms. Buckets must be closed if they begin to fill with water and should not be reopened until the risk of drowning has passed.
- Ants preying trapped animals can be a problem so locate traps away from obvious ant nests and be vigilant for ant activity. If they become a problem (e.g. they are attacking captured animals) and can not be controlled the traps should be immediately closed.
- Take care when checking funnel traps as they may trap venomous animals; personnel should be trained in the removal of venomous snakes.
- Consider weed and pathogen spread when using equipment in multiple locations as these can be transported via dirty equipment.

Acknowledgements

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Citation

Rowland, J. and Ferguson, D. 2012. Common death adder, *Acanthophis antarcticus*. Targeted species survey guidelines. Queensland Herbarium, Department of Environment and Science, Brisbane.

Key references

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