

THE BARKLY TABLELAND DEATH ADDER *ACANTHOPHIS ANTARCTICUS*

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INTRODUCTION

The Barkly Death Adder was previously unknown until 5th April 1973 when Gow first noticed it in a Queensland collection. When the owner was questioned about its exact original locality, his information was that both specimens were collected by a roadworker on the Carpentaria Highway in the Northern Territory. As Gow was in transit, with his extensive private collection, comparisons were made with the adult & juvenile 'Sydney' *Acanthophis antarcticus* he was transporting.

The Barkly specimens were both about 0.75 metre (both males) and differed markedly in head shape, scalation, colour and pattern from the 'normal' *Acanthophis antarcticus*. This species is a black soil plains dweller ranging through the Barkly Tablelands of the Northern Territory and then possibly extending south-east into Queensland around Mount Isa and Djarra.

DISCUSSION

Three years elapsed before Gow's field work yielded the first specimen which was a 1.0 metre female collected at Anthonys Lagoon in the Northern Territory. Despite frequent field trips to the area, no further live specimens were collected although its presence was substantiated by road-kill specimens. In 1977-78, whilst on annual leave, Gow conducted field work in December and February and collected two adult females and a juvenile male. In 1981 the male had grown to 0.7 metre and was introduced the following year, in October, to all females. Several good matings occurred in each instance.

The three females produced litters in March '82 and numbered 19, 19 and 22 respectively. They were bred again in '83, '85, '86, '88 and '89 by Gow who distributed the highly sought after young to Brian Barnett and Barry Searle in Victoria, Joe Bredl and Chris Harvey in South Australia, Neil Charles, Rob Bredl, Terry Adams and John McLoughlin in Queensland and John Weigel and Grant Husband in New South Wales.

The distribution of these specimens by Gow resulted in the Barkly Death Adder being regarded undoubtedly as the largest, most spectacular member of *Acanthophis* and certainly the hardiest in captivity.

Its colouration ranges through combinations of beige, fawn, grey and occasionally red above, juveniles have striking black-edged bands, these are prominent in mature adults and intermittent in aged specimens. Males attain a maximum length of almost 1 metre and females have been recorded at 1.3 metres and weigh up to 1.5 kg.

HABITS

The Barkly Adder inhabits mainly black soil plains (but also adjacent red soil areas) where it lives down deep earth cracks. Its food consists mainly of lizards, frogs, small mammals and ground birds. Its colouration blends extremely well with the ground stratum and when in repose or laying in ambush, is almost impossible to see.

Its frantic caudal luring is most efficient, the yellow tipped tail contrasts to the soil and is easily seen by potential prey animals. It is nocturnal, being particularly active on warm nights, from dusk until early morning.

Both authors keep them, in captivity, on a fine aquarium gravel substrate and provide a small water bowl for drinking. Gow (living in Darwin) keeps the adults in timber cages/pegboard lids and has no artificial heating. Throughout the year the temperatures would be pretty stable at 30-31°C but may drop to as low as 17°C during the evening over the winter months.

Barnett (living in Melbourne) keeps the adults in glass front chipboard cages with artificial heating (globes & thermostat) and maintains a temperature of 28-30°C from September to April. The adults are flat-cooled between May and August to approximately 23°C.

The young are kept, by both authors, in plastic KlikClak containers with well ventilated (drilled) lids.

Adults, or juveniles, should be housed as individuals as if one specimen is lying in ambush and another comes within strike distance, it usually pays the penalty of either dying from a head bite, or alternatively, is eaten as this species is prone to cannibalism.

This species is a 'dynamite' feeder and is extremely dangerous because of its strike speed, which is best described as faster than the eye can see. Gow once had an American Film Unit attempt to do a slow motion sequence of the Barklys strike but was unable to achieve the desired result because of the incredible striking speed. Potential keepers of this species be warned.

The food offered by Gow is dead mice and rats, occasionally day old chicks and strips of fish. These can be thawed out frozen or fresh. Barnett feeds fresh mice only.

Mating usually occurs in October and a single mating often lasting up to eight hours. Gestation periods recorded by Gow range from 147 days to 161 days. For Barnett, 142 days.

AN INDIVIDUAL BREEDING (GOW)

The male was introduced to the female at 14.30 hours on 20/10/91 and within 5 minutes the male had effected copulation and the mating period was eight hours and five minutes (seperated at 22.05 hours). The anus of the female was enormously distended for some hours later, indicating that the female had conceived. The female weighed just under 1.0 kg prior to mating, she was weighed again at 150 days and weighed 1.2 kg. Gestation period was 161 days and 18 young were born on 29.3.92. One was still born and a further four were 'runts'. Their weights were 1.0 gr, 2.5 gr, 3.0 gr and 3.0 gr. The still born was 10.0 gr and a female. The remaining thirteen were divided at 7 females and 6 males. The females were slightly heavier with an average 13.1 gr compared to the male average of 12.3 gr. All four 'runts' were females. This meant that the litter comprised of 12 females and 6 males, 2:1.



Foto 3: Geboorte van *Acanthophis antarcticus*. Birth of *Acanthophis antarcticus*.

Foto: Brian Barnett.



Foto 4: *Acanthophis antarcticus*. Vlak voor het verlaten van het eivlies.
Prior to emerging from amniotic sac.

Foto: Brian Barnett.



Foto 1: *Acanthophis antarcticus*. Volwassen vrouwtje. Adult female.
Foto: Brian Barnett

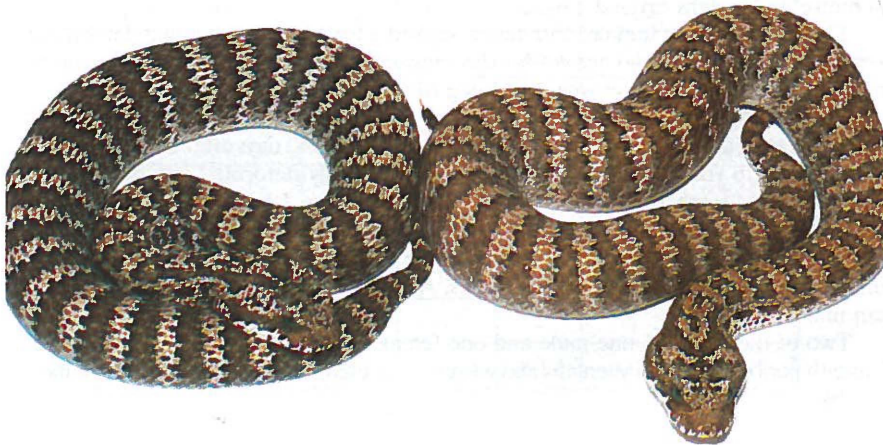


Foto 2: *Acanthophis antarcticus*. 3 maanden oud. Three months old.
Foto: Brian Barnett.

The thirteen surviving neonates have been kept separately since birth, have shed their skins twice (as at start of June) and although continually luring, are fed weekly on 'pinkies' which, after being placed in their mouths, are consumed voluntarily.

AN INDIVIDUAL BREEDING (BARNETT)

The pair used for this breeding were siblings and were ex-Gow stock born in March '85 which made them 6.5 years old at the time of mating. No attempt had been made to breed them in their earlier years as I was conducting growth rates on the pair at this time. An attempt to breed them in 1990 was not successful.

On 4.5.91 their thermostatically controlled cage temperature was changed from the regular 30°C to approx 22°C flat-cooled. This temperature would have been slightly higher during daylight hours.

On 9.8.91, after just over 3 months of cooling, the temperature was raised back to approx 30°C. Both Adders had not been fed during the cooling period although from past experience they would have accepted it. From this time normal feeding was commenced on a three feeds per month routine. One feed usually being two large mice.

On 11.10.91 the male was introduced to the female who had just sloughed that day. No interest was shown by the male. As is my practice, they are never left together overnight, the male was returned to his own cage after approx 6 hours.

On 21.10.91, 10 days after the last introduction, the male was reintroduced into the female's cage. Copulation occurred in just under 30 minutes and continued for almost 4 hours. Although not planned and with no prior intent or discussion, the Barnett mating and the Gow mating were 1 day apart. A point we have just picked up whilst preparing this paper.

Both of the breeders are very large specimens, particularly the female, and although not weighed or measured prior to the mating, the female has a total body length in excess of 1.1 metres and normally weighs around 1.3 kg. The smaller male measures just over 1.0 metre and weighs around 1 kg.

The male, like the female, had never refused a feed but after mating did not eat for over 5 weeks. I still have no answer for this unusual occurrence. The female ate normally and right up to and into the week of giving birth.

The only sloughing of the female, prior to the birth, was on 2.1.92. This was 73 days after the mating and 69 days before the birth. On 11.3.92, 142 days after mating, the female gave birth to 16 young. One was stillborn and one badly deformed one did not survive the first day. 14 were healthy specimens. Similar to Gow, I had an almost similar ratio of 2:1 females to males with, including the two dead specimens, 10 females and 6 males. Also, the same finding as Gow, the females were slightly heavier. 11.56 gr average for the females compared to 11.12 gr for the males. All over, Gow's young were slightly heavier than mine.

Two of these young, one male and one female, were followed more closely over an 37 month period. Their body lengths and weights, and their number of feeds, are summarized in Table 1.

CONCLUSION

The Barkley Adder shares with the Northern Death Adder, the title of the largest *Acanthophis*. Both are mostly confined to black soils areas. The giant form of *Acanthophis praelongus*

(?) has, so far, only been collected from black soil plains (Gow and Barnett, in press). The Barkly Death Adder was lumped under *Acanthophis antarcticus* until Gow's research on differences in morphological characters was completed, but this kept breaking down. Frustrated by this, he drew scientific attention to it by supplying numerous specimens to Mengden (A.N.U.) for chromosomal studies. Mengden finally published the results in his Ph. D. thesis which concluded that the Barkly Death Adder was chromosomally distinct.

In 1985 Wells and Wellington, in their Australian Journal of Herpetology (Supp. Series 1, p. 43), described it as a new species naming it *Aconthophis hawkei* after the then prime Minister, Bob Hawke. However, debatable taxonomy and politics aside, you've never kept a Death Adder that is so spectacular, hardy and rewarding, until you've owned a 'Barkly'.

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period (months)	number of feeds per period		bodyweight (gms)		total body length (mm)	
	♀ #1	♂ #1	♀ #1	♂ #1	♀ #1	♂ #1
birth	-	-	9.3	7.99	240	251
0-2	14	14	15.8	13.7	282	274
2-4	13	16	26.5	25.3	339	344
4-6	7	7	52.7	52.3	404	416
6-8	10	10	95.3	91.8	519	517
8-10	14	12	180.5	166.8	627	609
10-12	11	9	267.8	237.4	723	671
12-16	16	15	450.0	408.7	831	769
16-20	15	11	664.4	491.2	908	844
20-24	13	12	805.3	658.2	989	922
24-28	14	10	979.1	748.2	1040	963
28-32	13	12	-	-	-	-
32-37	9	8	1180.1	891.5	1103	1031