MONITOR - JOURNAL OF THE VICTORIAN HERPETOLOGICAL SOCIETY
10 (2/3) 1999:33-37 Copyright Victorian Herpetological Society

ANT-HILL PYTHONS (*ANTARESIA PERTHENSIS*) IN THE WILD AND CAPTIVITY

RAYMOND T. HOSER
41 Village Avenue, Doncaster, Victoria, 3108, Australia.
Phone:+61 3 9857-4491 Fax: +61 3 9857-4664 E-mail: adder@smuggled.com

INTRODUCTION

Ant-hill Pythons remain one of the least known of Australia's pythons. This shouldn't necessarily be so. You see they are dirt common where they occur. More on this later. Much of the information that follows has previously been published in papers by myself in *Reptiles* (Hoser, 1995) and *Litteratura Serpentium* (Hoser, 1992). However since those articles were printed more has become known about these snakes as they continue to be bred by herpetologists in captivity (more outside Australia than within!).

To the best of my knowledge this has been legally done in recent times in the USA and Germany, and 'illegally'(?) in Western Australia, where it is understood snakes were seized from a collection early in 1998. I recently reviewed a paper detailing a recent breeding in Australia, which is now in press elsewhere at the time of writing this paper.

Of course the Ant-hill Python is the small reddish coloured Python from the Pilbara region of Western Australia. It is not (definitively) known to occur anywhere else although I wouldn't discount the possibility of the species being found elsewhere at a later date. Much of Australia has not been properly surveyed for its herpetofauna, while areas that have been, were looked at in an ad hoc manner with species being overlooked.

THE NAME

The Ant-hill Python is also known under the names of Pygmy Python or Western Children's Python, although I think Ant-hill Python makes a better and more distinctive common name. That is why I use that name. Its scientific name...well that's another story! Although its species name is pretty fixed as *perthensis*, it has been recently placed in the genera *Liasis, Bothrochilus* and most recently *Antaresia.* The latter classification, *Antaresia perthensis* uses a genus name invented and adopted by Wells and Wellington in 1984 and followed on by others including Dr. Hal Cogger of the Australian museum and Barker and Barker in 1994. The name Antaresia seems likely to gain general acceptance.

DISTRIBUTION

The snake is known to occur throughout the Pilbara region of north-west Western Australia, as well as adjacent areas of similar habitat. How far this species extends outside the Pilbara is largely unknown due to the mainly uninhabited nature of possible habitat, coupled with an official discouragement by Australian wildlife authorities of research on much of our wildlife, including snakes. To date the most accurate distribution information was that published by Laurie Smith in his 1985 paper reviewing the "*childreni*" species group. Smith noted and mapped locality information for all specimens of Ant-hill Pythons *Antaresia perthensis*, Stimson's Pythons *A. stimsoni* (*=A. saxacola*), Children's Pythons *A. childreni* and Spotted Pythons *A. maculosus* in Australian museums.

The Pilbara region is found south of the tropical Kimberley in Western Australia. It is essentially arid and includes the hottest parts of Australia, including the towns of Marble Bar (Australia's hottest town), Goldsworthy (unofficially hotter than Marble Bar), Port Hedland and Karratha (main ports) and the Hamersley Ranges.

Typical of the Pilbara are rocky hills covered in spinifex (grass) bushes (*Triodia* spp.). Where trees occur, they are usually stunted eucalypts, except along the relatively uncommon watercourses, where larger varieties occur. Watercourses are most common in hilly areas. Being arid, the Pilbara does not have formal wet and dry seasons, but most rainfall does occur in the so-called summer months, when the occasional tropical lows wander further south than usual.

THE ORIGINAL DESCRIPTION

The Ant-hill Python was first described in February 1932 by Olive Griffith Stull. He was mislead into believing the type specimen came from Perth, the capital of Western Australia, when in fact the snake had been collected elsewhere. This mistake was perpetuated in the literature for many years and worked to confuse many people about the real status of the species. I suppose it was a case of 'inadequate taxonomy' as referred to by Ken Aplin in his article in this journal. Having said that, I am sure that Stull's error in terms of location was a 'human' and not deliberate error, proving that professionals too are human beings and can make mistakes.

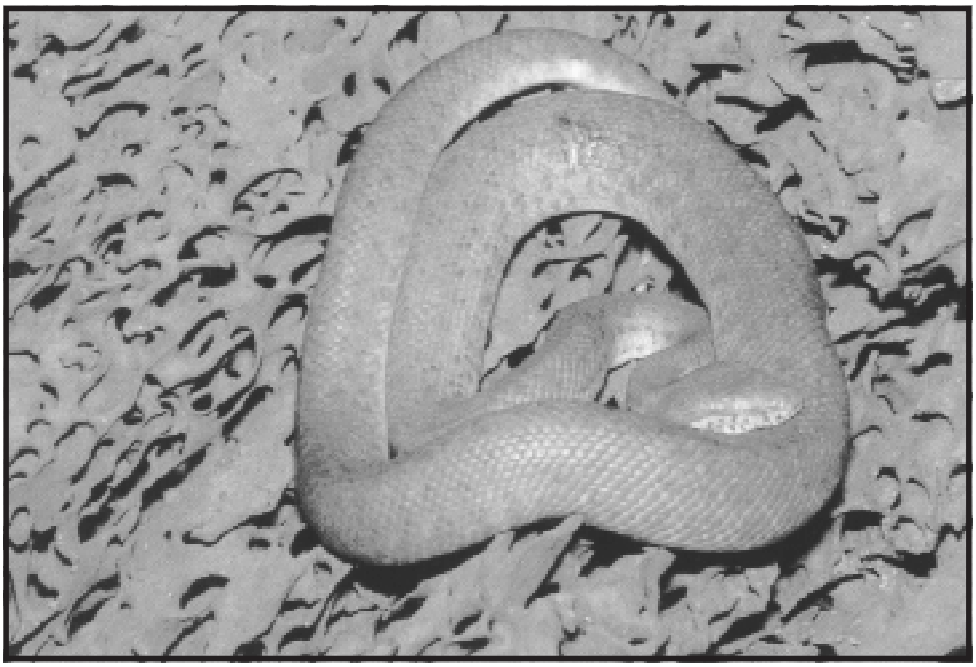
The original description was based on a 297 mm sub-adult female. Up to 1981 little was heard or seen of this snake in herpetological circles with a number of authors including Cogger (1979) and Glauert (1967) erroneously regarding Ant-hill Pythons as possibly being a sub-species of the Children's Python, (See *The Reptilian* 1(7) pp. 10-15, 20-21 for my article about the three species of snake all formerly known as "Children's Pythons" and the paper in this journal).

WHAT THE SPECIES LOOKS LIKE

Ant-hill Pythons average about 60 cm in adult length (Hoser, 1981). For a view of the snake refer to the photos published here. Dorsally the colour is usually brick red, with or without pattern. Pattern usually, but not always, fades in captive specimens. The reason for this is not known. The pattern is most pronounced in young specimens. It is usually in the form of a series

of darker spots arranged in four more or less regular series, giving the general impression of a series of irregular crossbars.

Ventrally the snake is creamish white. The head is distinctly shorter and proportionately smaller than those of Stimson's Pythons found in the same areas. Also Ant-hill Python's heads are more triangular in shape. Stimson's Pythons are the only species likely to be confused with Ant-hill Pythons, but anyone familiar with both species would not misidentify them. Besides usually being more thick-set than Stimson's Pythons, Ant-hill Pythons are of reddish base colour whereas Stimson's are usually a yellowish or brownish base colour. Besides the differences already noted, the scalation of both species differs, (See the book *Australian Reptiles and Frogs* (Hoser, 1989) for scalation differences between Australian pythons and photos of Ant-hill and Stimsons Pythons from the same part of Australia). If misidentification were to take place, it would probably occur with younger specimens of either species, both of which may have similar patterns.



Ant-hill Python (*Antaresia perthensis*) adult male, from Shay Gap W.A.

FINDING SPECIMENS

Ant-hill Pythons are common in the wild where they occur. Herpetologists usually locate specimens crossing roads in warm weather. At other times specimens are found under rocks, in spinifex (usually when torched with fire) and inside termite mounds. To catch substantial numbers within a short time, opening up termite mounds usually represents the easiest, most expedient method, although there are often logistical difficulties in getting a bulldozer or grading machine into an area of suitable habitat with large termite mounds present.

Large Pilbara termite mounds are used as resting sites by many species of reptile and mammal due to their numerous nooks and crannies and relatively even temperature. The even temperature in termite mounds is particularly important where Ant-hill Pythons occur, with daytime temperatures frequently exceeding 38° Celsius (100° Farenheight). Greer (1997) compares termite mounds with caves, saying that they are essentially miniature caves, when comparing the habits of *A. perthensis* with its cogeners.

Ant-hill Pythons may be found in the same termite mounds as Stimson's Pythons, Black-headed Pythons (*Aspidites melanocephalus*), King Brown Snakes (*Pseudechis (=Cannia) australis*), Moon Snakes (*Furina ornata*), Broad-banded Sand Swimmers (*Eremiascincus richardsoni*), Pilbara Geckoes (*Gehyra pilbara*), Depressed Spiny Skinks (*Egernia depressa*) and other reptiles. Dunnarts (genus *Antechinus*), a kind of 'marsupial mouse' are the most common mammal seen in Pilbara 'ant-hills'. I must stress that Ant-hill Pythons (and other Pilbara reptiles) are not dependent on termite mounds for their survival, also being found in other areas without mounds, However these mounds are often utilized as preferred habitat where they occur. (A similar scenario can be seen when snakes are found sheltering under man-made cover such as sheets of tin).

DIET

Diet in wild specimens is presumed to alter with age. It is assumed that young specimens feed primarily on reptiles such as geckos and small skinks with larger snakes tending to eat more small mammals when available. Cannibalism and snake feeding is unknown for Ant-hill Pythons.

Details of the first five Ant-hill Pythons caught by myself can be found in *Litteratura Serpentium*, 12 (1), 1992. These snakes came from Shay Gap and Whim Creek in WA, and one allegedly came from near Katherine in the Northern Territory. Besides the five snakes documented in that paper, large numbers of other specimens have been caught by herpetologists at Shay Gap, places near Goldsworthy and Whim Creek. The two former towns were mining settlements and have now been dismantled. Whim Creek is a small township along the main coastal North-South highway between Port Hedland and Roebourne/Karratha. Although the local habitat has been severely disturbed by overgrazing with stock, Ant-hill Pythons are, according to herpetologists, still common in the area, with large numbers being caught.

The opportunistic nature of this species when it comes to feeding was demonstrated in January 1997, when Robert Browne-Cooper found a road-killed specimen that had ingested a Ridge-tailed Monitor (*Varanus acanthurus*). See Browne-Copper (1998) for details. This author has found both species cohabiting large

termitaria in the Shay Gap area of the Pilbara region . It is probable that both prey on one another when size and circumstance permits.

MATING

In line with other small Australian pythons, males and females are commonly found in close proximity (pairing behaviour). It is presumed that this pairing behaviour relates to males seeking females to mate and following them to do so. Male combat hasn't been recorded in this species, but may occur. The fact that so few of these snakes have been kept to date may well explain why such behavior hasn't been observed. In my own case, I only had two males for three months before one of them was stolen (on 8th May 1981), not allowing me time to attempt to observe male/male interactions.

Melbourne snake breeder Simon Kortlang, has observed male combat in his captive Stimson's Pythons and Spotted Pythons which are closely related species.

CAPTIVITY

Although these are the smallest Pythons in the world, Ant-hill Pythons are as Barker and Barker say, '100% Python'. They are a tough and durable snake. They are usually docile, easy to handle and rarely bite. Like snakes in the *childreni* complex they are about as easy to keep as a snake keeper could ever expect. They are not known to be especially prone to any diseases or ailments.

A few (but not all) West Australian keepers I spoke to indicated difficulty in getting Ant-hill Pythons to feed, but such wasn't confirmed by myself, Brian Barnett, Chris Banks, Charles Acheson, Jurgen Holzell, Casey Lazik and others who kept the species. It is probable that as a rule only a highly inexperienced snake keeper would have such troubles with these snakes. If/when there is difficulty in getting snakes to feed, 'creative methods' will usually solve the problem. These 'creative methods' include feeding at night and/or altering food offered, (e.g. mice to lizards or vice-versa).

Without describing in detail how I kept my own Ant-hill Pythons (See *Litteratura Serpentium* 12 (1) for this), it appears they will survive without problems in the same sort of facilities any other small python would require. In other words, what Kend and Kend (1992) called "standard Terrestrial husbandry'.

Brian Barnett has successfully kept an Ant-hill Python for 18 years in a shoe-box style of cage for 18 years without incident. His cage is a small plastic container known as a 'Click-Clack' with clear lid, with washed gravel as a substrate, a small water bowl and single cover (hiding spot), housed in a large temperature controlled snake room with hundreds of other similarly housed snakes. Kortlang keeps pythons in similar conditions, often minus hiding spot/s (cover) as he finds it doesn't affect their health and the snakes are not aggressive when he takes them out of cages and handles them. However Kortlang does not have Ant-hill Pythons.

My own cage was a large tank with compacted dirt as substrate, rocks as cover and generally a more "natural-style" of setting. I am unable to state which is the superior way to keep this species, as both methods seemed to keep the snakes 100% healthy. The common thread in all Ant-hill Python cages/keepers appears to have been the relatively dry conditions, which probably is essential. Bear in mind the arid areas these snakes come from. (Water in a bowl should always be available however).

It would be prudent for a study to be made as to the exact moisture requirements of this and other species of Australian Python. However this would probably require input and funding from a wildlife authority, and at the present time their mindsets seem to be more into prohibiting snakes than studying them.

CAPTIVE BREEDING

These snakes have only been bred in captivity a small number of times. Both the first two breedings (Hoser, Australia and Holzell, Germany) were apparently fairly standard python breedings. That there are only a small number of captive breedings recorded to date is no doubt a reflection on how few there are in captivity rather than any particular difficulty in breeding these snakes.

I failed to breed my snakes the first summer season (1981-2), due to my not cooling the snakes prior to when they were expected to mate. The following year (1982-3), I succeeded after I cooled the snakes during the winter period (mid 1982 in Australia). I did not separate the sexes prior to mating, although doing so may be advantageous in initiating successful mating. In other words it appears that this species is little different in husbandry and breeding requirements to others in the same genus.

This species lays unusually large eggs (between 2 and 5 eggs per clutch according to Shine 1991), although I can't accurately give an average clutch size due to the paucity of records. Shine's figures for the species were based on a very small sample size. Incubation is standard for pythons and the recommended temperature is between 29 and 30.5° Celsius.

Hoser (1995) cites my own case of two eggs being produced by a single female. Maryan and George (1998) cite two more captive breeding cases where six and five eggs were produced (in successive years). While this is the top of the known range of the species, it is probable that higher clutch sizes may ultimately be recorded.

It is uncertain how often Ant-hill Pythons breed in the wild. Some Australian snakes only breed every second year (a few every third year). This is dependent in some cases on a genetic predetermination, while in other cases on the health and condition of the female at breeding time.

In Australia, there are very few specimens in captivity and it isn't likely that there will be any change in this picture in the foreseeable future. West Australian wildlife authorities (CALM) seem to be making sure of this. Outside of Australia, the scenario is similar

although slightly better. Specimens are smuggled out of the country with some degree of regularity, although not all attempts to do so have been successful. Specimens are usually posted out of the country and most busts have been a result of data-matching, tip off's and plain old good luck. Customs and wildlife officials have huge data-bases of those who they think are likely to smuggle wildlife and devote vast resources to prevent such activities (except by themselves!), through surveillance methods. People caught smuggling wildlife from Australia are often fined and/or jailed.

Some successful smugglers usually are known to get away with it by paying bribes to the right officials or looking after them in some other way (Hoser, 1993b).

Of the relatively few specimens outside of Australia, I am aware of at least one collector in Germany (Holzel Jurgen) and another in the USA (Casey Lazik) who have bred these snakes. So although they are likely to remain rare captives for the foreseeable future numbers will increase slightly. It is also understood that Frank Retes of *The Goanna Ranch* in the USA has also bred the species and was in late 1998 advertising for sale captive hatched young.

My guess is that within 20 years they will be a reasonably common captive outside of Australia. Following publication by myself of an article similar in content to this in *Reptiles* magazine in 1995, (Hoser, 1995) there was an apparent increase in numbers of Ant-hill pythons being smuggled out of Australia. This was demonstrated by the greater number that suddenly appeared in American and European herpetoculture..

However as far back as early 1991, Lazik was busted and fined $10,000 for attempting to smuggle an Ant-hill Python and other reptiles out of Australia. This was attempted by sending the animals to himself in the post. Noting his recent successes breeding the species, it may well be prudent for the Australian government to look at allowing him to take more out of the country (legally) in order to breed up numbers for herpetoculture in the USA! Likewise for others who have demonstrated ability at breeding these animals.

A bibliography of papers relating to husbandry of *childreni* complex snakes has been provided by myself in the paper about those snakes in this journal. That is essentially similar (but not as up-to-date as one published by myself in the *Reptilian* 1(7) 1993 (Hoser, 1993a). Among two of the best books available on the subject are Barker and Barker's*, Pythons of the World, Volume 1, Australia* and Ross and Marzec's, *The Reproductive Husbandry of Pythons and Boas*.

CONSERVATION

Forget it!

Wildlife bureaucrats in Australia have no concern about the animals. The survival of the species is in spite of the local bureaucracy, not because of it. The local authorities are, as already noted mad keen on ensuring none ever get into captivity here either. For the few

Ant-hill Python (*Antaresia perthensis*) adult male, from Shay Gap W.A.

that have somehow got through the legislative minefield and into captive hands, bureaucrats are resolutely refusing to allow anyone to capture further wild specimens with which to commence a captive breeding program.

Fortunately Ant-hill Pythons appear to be widespread and common where they occur, occupying a range of many thousands of square kilometers (see map in Hoser (1989)). There are large conservation parks in their range and most of the area they occur in is little used by humans and likely to remain so for the foreseeable future. The main human activities in the Pilbara are mining and tourism, both of which only have minimal and highly localized impact.

However although this species appears secure in the wild, I need not remind readers of other Australian species, such as gastric brooding frogs of the genus *Rheobatrachus*, also formerly thought to be common and secure in their natural habitat and for reasons unknown are now extinct (See my book *Endangered Animals of Australia* (Hoser, 1991) for details about *Rheobatrachus* and other similarly fated species). Such a fate could conceivably happen to any reptile or frog.

It is for this reason that it is imperative that captive populations be established. Thus any unforseen calamity affecting wild populations need not spell the end of the species. Current government (CALM) policy is to ban taking specimens from the wild and a ban on keeping and breeding this and most other snakes/wildlife. The stupidity of the policy is highlighted when it is realised that hundreds of Ant-hill Pythons are killed on the state's roads without any apparent ill effects on local populations. Within Western Australia alone there are dozens of willing and capable people who would keep and breed this and other reptiles AT NO EXPENSE TO THE TAXPAYER. However to date (early 1999) CALM have licensed just ten (up from four, four years earlier) private snake keepers and severely restricted what they may hold. Breeding is actively discouraged. Three of those ten were recently raided (in late 1998) and had reptiles taken from them.

It is also understood that the snakes used as study specimens for a paper published by Maryan and George (1998) were among those specimens seized by CALM officials. This means that the first two lots of Ant-hill Pythons bred in captivity in Australia were ultimately seized by bureaucrats.

Because Ant-hill Pythons are small, relatively secretive and essentially nocturnal in habit, they do not lend themselves to exhibitions such as seen at most public zoos. However these same features pose no difficulty to private keepers. Furthermore because Ant-hill Pythons are a tough, durable and docile snake, they are perfect for relatively large numbers to be held in captivity by large numbers of people. Such should be actively encouraged by Australian wildlife officials even though it would require a complete reversal of current policies.

Regardless of policies pursued by Australian state and federal governments and how many of these snakes are collected for captivity now or in future, the relatively slow reproductive rate (max. five eggs per female per year), these snakes are unlikely to ever be as commonly seen in captivity as other small Australian Pythons such as Children's, Stimson's or Spotted. However if enough are brought into captivity, there is little if any doubt that numbers could become self-sustaining and sufficient to cater to ongoing demands and mortality (refer to Hoser (1996)). Furthermore if the snakes could be obtained for a reasonable price through herpetoculture, few if any people would bother with the prohibitive expense of hiking out to the Pilbara to capture wild specimens.

REFERENCES CITED

Barker, D. G. and Barker, T. M. 1994, *Pythons of the World, Volume 1, Australia*, Advanced Vivarium Systems Inc, California, USA:189 pp.

Browne-Cooper, R. 1998, 'Predation on a Ridge-tailed Monitor (*Varanus acanthurus*) by a Pygmy Python (*Antaresia perthensis*)', *Herpetofauna* 28(2):49.

Cogger, H. G. 1979, *Reptiles and Amphibians of Australia*, A. H. and A. W. Reed, Sydney, Australia:688pp.

Glauert, L. 1967, *A handbook of the snakes of Western Australia*, Western Australian Naturalist's Club, Perth, Western Australia.

Greer, A. E. 1997. *The Biology and Evolution of Australian Snakes*, Surrey Beatty and Sons, Chipping Norton, NSW:370 pp.

Hoser, R. T. 1981. Australian Pythons (Part 2):The smaller *Liasis*, *Herptile* 6(3):13-19

Hoser, R. T. 1989, *Australian Reptiles and Frogs*, Pierson and Co., Sydney, NSW:238 pp.

Hoser, R. T. 1991, *Endangered Animals of Australia*, Pierson and Co., Sydney, NSW:240 pp.

Hoser, R. T. 1992, 'Search for the Ant-hill Python *Bothrochilus perthensis* (Stull, 1932)', *Litteratura Serpentium* (English Edition), 12 (1):13-19.

Hoser, R. T. 1993a, 'Children's Pythons and Lookalikes (the *childreni* complex).' *Reptilian* 1 (7):10-15, 20-21.

Hoser, 1993b. *Smuggled:The Underground Trade in Australia's Wildlife*, Apollo Books, Mosman, NSW:160 pp.

Hoser, R. T. 1995. 'Ant-hill Pythons', *Reptiles*, 3(5):10-16.

Hoser, R. T. 1996. *Smuggled-2: Wildlife Trafficking, Crime and Corruption in Australia*, Kotabi Publishing, Doncaster, Victoria:280 pp.

Kend, B. and Kend, S. 1992, 'Care and Husbandry of Some Australian, New Guinean and Indonesian Pythons', *Reptile and Amphibian Magazine*, Mar/Apr, 1992, runs 10 pp.

Maryan, B. and George, B. 1998. 'Notes on captive reproduction in the Pygmy Python *Antaresia perthensis'*, *Herpetofauna* 28(2):45-46.

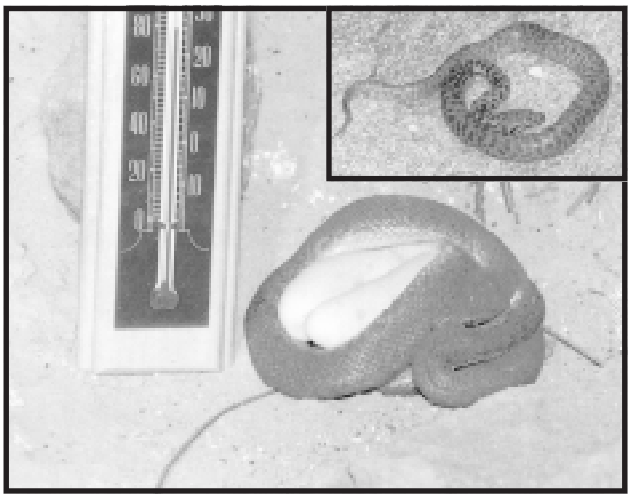
Ross, R. A. and Marzec, G. 1990, *The Reproductive Husbandry of Pythons and Boas*, Institute for Herpetological Research, Stanford, California, USA:270 pp.

Shine, R. 1991, *Australian Snakes - A Natural History*, Reed Books Pty Ltd, Sydney, Australia.

Smith, L. A. 1985, 'A revision of the *Liasis childreni* species group (Serpentes: Boidae)', *Records of the Western Australian Museum*, 2 (3):257-276.

Stull, O. G. 1932, 'Five new subspecies of the family Boidae.', *Occasional Papers of the Boston Society of Natural History*, 8:25-30, pl. 1-2.

Wells, R. W. and Wellington C. R. 1984, 'A Synopsis of the Class Reptilia in Australia.', *Australian Journal of Herpetology*, 1 (3-4):73-129.



Female Ant-hill Python and two newly laid eggs. Inset: A hatchling.

RAYMOND HOSER was the first person in the world to keep and breed Ant-hill Pythons, after he rediscovered them in the early 1980's. He believes more should be held in captivity.