

# The care of the Children's Python (*Antaresia childreni*)

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## Abstract

This article describes the care of the Children's python (*Antaresia childreni*; Figure 1). It includes information on housing, feeding, handling, as well as the general health care of these animals. The information presented is derived from Standard Operating Procedures used at the Western Sydney University which have been co-written by the authors. It is hoped that the information presented herewith may assist novice Animal Technologists with responsibilities for caring for these species in an animal research facility or a zoological setting.



**Figure 1.** An adult Children's python coiled up within its enclosure. (Photo: A. Hoskings)

## Background

The Children's python is one of Australia's smallest pythons. Fully grown adults average 0.75m in length but can grow up to 1.5m long. The body is slender and the tail tapers to a thin point. Children's pythons occur across the entire of Northern-central Australia, from

Western Australia through the Northern Territory into Queensland. They inhabit a variety of habitats from arid plains to rocky hills and are agile climbers on rock surfaces, often hanging from stalactites in order to catch microbats mid-flight but do not venture into larger trees. Like other pythons, these nocturnal snakes kill their prey by coiling around and suffocating them before ingesting them whole. They lay eggs in clutches of around 15-25. The incubation period is approximately 55 days. The sex of individuals is determined by probing the inside of the cloaca. When inserting the probe into the cloaca, the depth that the probe can be inserted indicates the presence or absence of hemipenes. If the probe only enters 1-3 scales deep, then there are no hemipenes and the snake is female. If the probe can be inserted much further (9-15 scales deep), then this indicates the presence of hemipenes and the snake is male. The K1 reptile facility specimens are all captive bred and have an expected captive lifespan of approximately 30 years.

## Housing and environmental conditions

For one adult Children's python, a 90 x 45 x 60 cm enclosure is recommended (Figure 2). This is large enough for the animal to uncoil and stretch out while reducing excess open areas in the enclosure which can be a source of stress to Children's pythons. Small pythons generally do better in enclosures where they feel secure. They do not thrive in large enclosures. A small hide box should be provided with a hole large enough for the animal to enter without scratching its scales. The water dish should be heavy to prevent water being tipped over and it should be positioned at the cooler end of the enclosure away from the heat globes. The water container must be large enough for the animal to soak itself in if it chooses. Butcher's paper or washed sand is used as the substrate on the bottom of the enclosures. In the case of Butcher's paper, it is placed 2-3 layers thick, spot cleaned daily, and replaced weekly. In the case of washed sand, it covers the floor 1 inch deep, is spot cleaned daily and replaced fully every 6 months. The reptile rooms are

maintained at constant temperature of 22°C (+/- 2°C and a relative humidity of between 40-60%. The air conditioning system provides positive pressure ventilation and between 10-12 changes/hour.



**Figure 2.** Children's python enclosure showing wide sliding glass panel doors (shown opened), sand substrate, a feed and water dish, a log, an imitation rock platform (back right) on which to bask and a cardboard hide (front left). An infra-red globe to provide heating (in an enclosed case). (Photo: A. Hosking)

## Enclosure lighting

Being a primarily nocturnal species, lighting is not as critical to Children's pythons as it is for other reptiles. A UVB 25-Watt globe provides suitable artificial UVB light and is connected to a timer to create a day and night cycle with 10 hours of UVB light (7am – 5pm). Higher intensity UVB globes should not be used in Children's pythons' enclosures. Lights must be covered with a wire mesh to prevent the pythons from touching or breaking the bulbs and to minimise the spread of glass in the unlikely occurrence of the bulb bursting. Children's pythons also benefit from short periods of unfiltered, natural light and are taken outside 1-2 times a fortnight for supervised sunning.

## Enclosure heating

Providing adequate temperature gradients within Children's pythons' enclosures is essential for their health and wellbeing. They require a temperature gradient so they can move around the enclosure to a temperature that suits them. Children's pythons require a hot basking spot maintained at approximately 34°C. The cool end of the enclosure should be maintained between 24-26°C. The enclosure should not drop below 18-21°C at night. Temperatures should be regulated by a thermostat and checked daily to ensure the thermostat and globes are functioning.

## Room lighting

Room lighting within the separate reptile holding rooms is maintained on an artificial photoperiod set at 12:12

hrs light/dark, provided by individual electronic light timer switches (with manual override features) to each room (Figure 3).



**Figure 3.** Electronic Light Timer Switch as used in each reptile holding room to regulate room lighting.

## Handling

Juvenile Children's pythons are more likely to bite due to their defensive instinct and aggressive feeding response. As they mature in captivity, they can become quite docile snakes especially when handled appropriately. Bites are most likely to occur during feeding and as such handlers need to be aware of this and handle them accordingly to minimise risk. Children's pythons can be difficult to remove while biting. Once the snake has bitten, the sustained injury is not likely to worsen while the animal is attached but improper or hasty attempts to remove the snake may cause a larger laceration. Running cold water over their body or into the mouth can result in the python releasing its hold. Alcohol from an Alco-wipe (located in the first aid kit) is also very effective. Serious injury is unlikely but bites from larger specimens can be very painful.

Children's pythons can often strike out as soon as you open the enclosure, especially in the days immediately preceding scheduled feeding days when the snake is hungrier. It is good practice to remove the snake from its normal enclosure before you feed them. This way they do not associate the enclosure opening with feeding. When opening the unit to handle or remove a python, the handler should first gently tap the snakes head with a gardening style glove. The glove cannot be mistaken for food and the snakes in captivity have been conditioned such that this tap indicates handling rather than feeding. While the python is outside the enclosure (Figure 4), if it begins to coil around an arm



or hand, the handler should keep the snake moving and support the python's whole bodyweight; otherwise the python may adopt feeding behaviours and bite once the arm or hand is restricted. It is *not* recommended to handle pythons if they have been fed in the previous 24 hours. It is also *not* recommended to handle pythons if they are 'blue' and about to commence shedding.



**Figure 4.** One of our Children's pythons on the grassed area outside of the K1 Animal Facility. We try and provide regular periods of 'sunning' for each of our pythons on a weekly basis. (Photo: G. Martinic)

## Hygiene

Infection control is one of the basic principles of good animal care. Staff should wash their hands and change gloves between enclosures. They should use a quality disinfectant cleaner like F10sc Veterinary Disinfectant (F10® Products [Ampholytic surfactants and sequesterants]) to clean cages and furniture regularly. This will reduce the risk of bacterial build up and the risk of *Salmonella* in particular. Staff should remove shed skins, uneaten foods and droppings daily and change water every two days. Food and water dishes should be washed thoroughly, and enclosure substrates changed weekly. Staff should wash their hands thoroughly before and after handling reptiles.

## Skin shedding

Healthy Children's pythons will shed regularly, particularly when they are growing. Pythons should not be handled during the shed, especially larger ones as they can be defensive during this time. For this reason,

the python's shedding is recorded and enclosures of snakes about to shed are labelled 'blue'. Snakes are identified as 'blue' when the *brille* (the scale covering the eye) becomes a milky blue and/or their scales generally become dull indicating they are about to shed. After three to four days, the eyes become clear again and the snake begins seeking out rough surfaces in its enclosure such as branches and rocks (which should be relatively smooth – not pumice) and should be readily accessible, this may include coarse or naturally rock-shaped hides. The shedding will progress from nose to tail and takes anywhere from seven to 14 days.

Children's pythons should not be handled if they are showing signs of an impending shed or are actively shedding. Snakes will generally not eat during a shed. Force-feeding during this time is not necessary, and in fact, can be harmful. Once complete, the shed skin should be removed and the snake checked for a complete shed, including the *brille* (eye scales).

## Incomplete sheds

There are many reasons for the shedding process to be incomplete or improper, referred to as *dysecdysis*. The most common related to poor husbandry and/or nutrition. Dysecdysis is a symptom of another problem and not a primary problem in itself. Persistent or otherwise concerning incomplete sheds should be inspected by an experienced reptile veterinarian or experienced herpetologist. This will help to rule out medically treatable causes such as mites or bacterial infections of the skin. Other causes of dysecdysis include trauma, dermatitis, malnutrition and over-handling. The veterinarian will advise the appropriate treatments once the underlying cause has been determined.

## Husbandry techniques used to assist with incomplete sheds

Humidity is very important for reptiles with requirements varying from species to species. Most snakes require an environment of 50% to 70% humidity. Incomplete sheds can often be managed by increasing humidity. Spraying daily with luke-warm water from head to tail may be beneficial. The butcher's paper in the unit can also be soaked to increase the humidity of a specific enclosure. Snakes which retain their shedding for an extended period of time can be lightly sprayed with "Shed-ezi Spray" or similar product on the residual scale which can then be gently rubbed off.

Sometimes the snake may be placed in a large container with warm water deeper than the girth of the snake to allow submersion but shallow enough such that it can easily keep its head above water while resting on the bottom of the container. Never leave a

soaking snake unattended. After 10-15 minutes soaking in the tub the residual shed should be easily removed with gentle rubbing. Retained eye caps (or *spectacles/brille*) can be very dangerous for snakes. They can harbour dangerous bacteria as well as make it difficult for the snake to see. Removing them is not difficult but can permanently damage the cornea of the snake if not done correctly. Staff must first be properly trained in this procedure before performing it or otherwise contact the supervisor to organise for a consult with an experienced herpetologist or reptile veterinarian, to remedy the complication.

## Feeding

In the wild, Children's pythons' diets consist of small reptiles (small lizards, geckos), frogs, birds and rodents but in captivity they can be fed exclusively on rodents. Newborn Children's pythons are very small but they can effectively be fed neonatal mice. As they grow, they are fed progressively larger feeds starting with neonatal mice, then progressing to finely furred young mice and eventually adult mice. The adult Children's pythons in the K1 Animal Facility are fed primarily adult mice, although they can also be fed medium-sized rats. Adults are generally fed 5% of their bodyweight weekly, or 10% fortnightly, unless they are 'blue'.

The feed is always frozen for at least 48 hours before use and thawed freshly in hot water. Ensure the prey is fully thawed before feeding. Dry the prey with paper towel and allow it to cool for 5-10 minutes before offering it to ensure the food is not too hot. The prey should be presented to the snake using tongs or a gloved hand. They will generally strike at it very quickly and coil around it. If the snake does not strike, the food item can be left in the enclosure while the other snakes are feeding. If the snake does not constrict or consume the food within 30 minutes the food should be removed and disposed of in a biological waste bag. Feeds and refusals are to be recorded on the room activity log.

## Healthcare

Even with proper care Children's pythons may become sick. It is important to seek specialist reptile veterinarian care before an illness progresses too far. Observation is the key to recognise if the animal is sick. Watch for changes in behaviour, weight loss, loss of appetite, changes in colour, changes in faeces and changes in muscle tone or coordination, incomplete or absence of ecdysis (shedding) and persistent aggression. A range of conditions and illnesses that can afflict Children's pythons are presented below for the benefit of the Animal Technologist.

### Infections

**Salmonellosis.** Salmonella bacteria are readily found in the environment and can cause disease when present in large volumes in food. It is often associated with

poultry. Although most pythons asymptotically carry and shed some serotypes of salmonella, large gut loads of serotypes that they do not usually harbour, can cause disease which is often fatal. Salmonella causes gastrointestinal infections. Signs of gastrointestinal infection are weight loss, lack of appetite and foul-smelling diarrhoea and *vomiting*. This illness must be treated by a veterinarian.

**Stomatitis.** Commonly referred to as Mouth Rot or Canker, usually results from poor husbandry and sanitation practices. It may appear when a snake's immune system has been weakened by a concurrent disease (e.g. pneumonia), low temperatures or excessive humidity. Symptoms of stomatitis include: accumulation of cheesy material along the gums and around the tongue sheath, blood spots and bruising in the gums, an inability to shed skin, dribbling saliva, in severe cases swelling of the gums and subcutaneous tissue along the jaw may be seen, possibly spreading to much of the head and neck. Specialist veterinary advice should be sought if stomatitis is suspected.

**Necrotising Dermatitis.** Often referred to as Scale Rot and Blister Disease, often results from unhygienic conditions and excessive dampness, most commonly affecting reptiles that come from dry, arid regions of Australia. Occasionally, a deficiency of vitamins A and C can be a contributing factor. Symptoms of scale rot include: yellow, red or greenish-black discolouration of the scales, particularly along the underside, softening or swelling of the skin surface caused by serum seeping through, sloughing of affected skin exposing subcutaneous tissue, fluid-filled blisters in the scales, again primarily on the ventral surfaces, and bruising due to blood in the tissue beneath the scales in advanced cases. Seek veterinary advice if dermatitis is suspected.

### Respiratory Infections

**Pneumonia.** Respiratory disease or pneumonia is quite common when conditions are too cold or damp for reptiles. While the condition is normally the result of bacterial infection, lungworms, fungal disease and tumours can also cause similar signs. Diagnosis may require a lung wash or radiology. Symptoms of pneumonia include open-mouthed breathing, resting of the head in elevated positions, tongue tips stick together, or snake is unable to flick its tongue, gurgling sound while breathing, accumulation of frothy mucus at the back of the throat. Specialist veterinary advice should be sought if pneumonia is suspected.

**Fungal infections** can be exacerbated by a warm and damp environment. These infections can occur in a cut or scrape and should be treated with an antifungal ointment under the direction of a veterinarian.

**Helminthic (internal parasite) Infestations.** Children's pythons can become infected with internal parasites

notably nematodes (roundworms) and cestodes (tapeworms). These infections can be treated with Panacur (fenbendazole) for the nematodes and Drontal (praziquantel, pyrantel pamoate, and febantel.) dog worming tablets for the tapeworms. These medications can be inserted into food and fed to the adults. This should only be done under veterinary instruction.

*Ectoparasitic (external parasite) Infestations.* Children's pythons can become infested with mites although this is unlikely in the K1 facility unless new animals are introduced. However, mites could be inadvertently introduced by personnel if proper hygiene controls are not followed. Symptoms of ectoparasite infestation include lying in the water bowl, excessive rubbing against terrarium furnishings, skin shedding, which is slow, uneven or does not occur, the presence of very small red-brown insects on the skin. In the case of mites, when a white pillowcase is placed in terrarium overnight, mites will be visible moving slowly on the bottom the following morning. Mites are extremely difficult to eliminate and require a two-stage response which is to treat the animal, as well as the habitat under veterinary direction.

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