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SNAKES

Carpet Python

Morelia spilota

Morelia spilota is a powerful, semi-arboreal python with a very wide distribution in Australia and southern New Guinea. The pattern varies from bands and blotches to black and yellow markings, and the size from about 120 to 300 cm depending on the subspecies. It becomes calm with age and thrives in a large, tall enclosure, but it grows large and lives for 20-30 years.

Family: Pythonidae

KEY FACTS

THE ANIMAL

Adult size	**120-300 cm** total length incl. tail
Lifespan	**20-30 years**
Active	**At dusk and at night**
Lifestyle	**Arboreal and terrestrial**
Habitat	**Savanna, dry forest and rainforest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**150 × 75 × 90 cm** L × W × H for 1 adult
Temperature, day	**24-28 °C**
Basking spot	**32-38 °C**
Temperature, night	**22-25 °C**
Humidity	**40-60%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Vertebrates**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**10-50 eggs**
Clutches per year	**1**
Incubation	**50-55 days** at 31-32 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Least Concern (LC)**

About the species

Morelia spilota is a medium-sized to large python with a broad head, a distinct neck, a vertical pupil and heat-sensitive pits along the lips. The pattern and colours vary greatly: dark bands, blotches or diamonds on a background of brown, grey, olive green or black with lighter markings in cream, yellow or gold. The young are often drably marked and only gain their colours over the first few years, and in some forms the pale areas become less distinct with age.

The average length is about 200 cm, but there is great variation between the subspecies: *M. s. variegata* is the smallest and typically reaches 120-180 cm, *M. s. harrisoni* about 150 cm, *M. s. cheynei* 150-210 cm, while *M. s. mcdowelli* is the largest and reaches 270-300 cm. Females are often larger than males, and in some subspecies they are much heavier. The weight can reach 15 kg.

Six subspecies are generally recognised (*M. s. cheynei*, *M. s. harrisoni*, *M. s. mcdowelli*, *M. s. metcalfei*, *M. s. spilota* and *M. s. variegata*), and some authors list more. Some former subspecies have been raised to separate species: *Morelia imbricata* in south-western Australia and *Morelia bredli* in central Australia. Most animals in the trade are captive-bred and belong to

cheynei, *mcdowelli*, *spilota*, *variegata* and *harrisoni*. There are also a number of selectively bred colour forms. Care is the same for all of them; only the size and the requirements for space and cooling in the winter period vary.

Read more: Buying animals: captive-bred, wild-caught and transport

Distribution and habitat

Morelia spilota has one of the widest distributions among Australia's pythons. The species is found almost everywhere in Australia except the arid interior and the southernmost part of Victoria, and also on the southern coast of New Guinea from Papua New Guinea to Merauke in the Indonesian part of the island. The subspecies each have their own area: *M. s. cheynei* in the rainforest of north-eastern Queensland, *M. s. mcdowelli* along the east coast from Cape York to northern New South Wales, *M. s. spilota* in the coastal areas of New South Wales, *M. s. metcalfei* in the interior of south-eastern Australia from southern Queensland to Victoria and South Australia, *M. s. variegata* in northern Australia and *M. s. harrisoni* on New Guinea.

The IUCN regards the species as Least Concern.

> **Native range:** Australia, Indonesia and Papua New Guinea.

HABITAT

Morelia spilota is highly adaptable and is found in tropical rainforest, dry forest, savanna woodland, rocky areas and in and around towns. Although the species is semi-arboreal, it is most often seen on the ground, and it can use burrows made by other animals. It is mainly nocturnal, but can be active during the day and often basks in the open. Prey is caught by constriction and consists of small mammals, birds and lizards.

The climate varies from tropical in the north to temperate in the south, where winters are cold. *M. s. spilota* from the cool coastal areas of New South Wales has partly its own requirements.

Care

THE ENCLOSURE

An adult *Morelia spilota* needs an enclosure of at least 150 × 75 × 90 cm. This suits the smaller subspecies of 1.5-2 m. For the larger ones, up to 3 m, the enclosure must be at least 200 × 100 × 90 cm. The rule of thumb is that the length of the enclosure equals the length of the snake, and the width half of it. The species is semi-arboreal, so there must be at least 90 cm of height with climbing branches, and larger is better.

The enclosure should have front opening and be opaque enough that the snake feels secure. Opening from above, as in an ordinary glass terrarium, stresses the animal, because predators in the wild come from above. A young snake thrives in a small, closed box enclosure with hides rather than a large, open enclosure, but an established young snake can also be housed in an adult enclosure if there are many hides.

There must be at least two hides where the snake can sit completely hidden and snug, a sturdy climbing branch or a shelf and dense cover of plants or cork. All branches are fixed firmly to the walls. As substrate use 5-10 cm of moisture-retaining substrate, for example topsoil mixed with sand or coconut fibre, with a layer of leaves on top. Remove droppings immediately, and replace the substrate completely every 3-4 months. Newspaper and kitchen paper must be removed if they become wet, because they cause skin infections.

TEMPERATURE

The enclosure must have a clear gradient. The surface under the heat lamp should be 32-38 °C, the cool end 24-26 °C and the night 22-25 °C. The smaller *M. s. cheynei* from the rainforest manages with 29-33 °C under the lamp. Use several halogen bulbs or a radiant heat panel, preferably on a thermostat, and protect all bulbs with mesh. Measure the surface with an IR thermometer and the hide with a digital probe.

Many subspecies tolerate and thrive with a cooler winter, in which the temperature is lowered by 3-5 °C and the day length is shortened from about 14 to 10 hours. This supports the natural annual cycle and is a prerequisite for breeding.

Read more: Heat and temperature

HUMIDITY AND WATER

The species is not fussy about humidity and copes with a wide range. Keep it at 40-60 % with a large bowl of fresh water. A hide with damp sphagnum helps during shedding. Mist the enclosure 2-3 times a day if the air is very dry, and provide ventilation so that it can dry between mistings. During shedding extra misting helps, but a damp substrate that never dries causes skin infections. Change the water daily, and scrub the bowl every week.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is mainly nocturnal, but can be active by day. UVB is not necessary to keep it alive, but it is recommended, because it supports D3 absorption and the daily rhythm. Use a T5 tube for forest species, covering half the length of the enclosure over the heated area, and position the climbing branch so that the distance from the back to the tube is 25-35 cm. The UV index should be 2-3 at the highest point. Keep the light on 14 hours in summer and 10 hours in winter.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

Morelia spilota eats whole prey animals. Use frozen and thawed mice and rats, not live, and warm them to about 38 °C. Hamsters, gerbils, quail and chicks can be used for variety. Offer the prey with a long pair of tweezers with a soft tip.

Juveniles are fed every 1-2 weeks and adults every 2-4 weeks. The weight of the prey should be about 10 % of the snake's, and it must be no more than one and a half times as wide as the snake at its thickest point. Weigh the snake regularly to avoid obesity.

Juveniles that have been fed only mice may refuse anything else. Therefore offer them rats and other prey early, and switch gradually from mice to small rats. Supplements are not necessary, but a light dusting with calcium and D3 now and then can be used.

BEHAVIOUR AND HANDLING

Morelia spilota is inquisitive and active and usually gets used to handling well. Juveniles under 1-2 years are often nervous and bite; they calm down with age. Leave a new snake in peace for two weeks, and then start with short sessions of no more than 5 minutes every few days. First touch the head with a paper roll, so that the snake knows it is not feeding time.

Lift it with both hands, one under the body and one forward, and never grab the tail. The snake wraps itself around your arms as if they were branches. Do not let it coil around your neck, and do not let children handle a large snake alone. The snake is kept singly. Several animals together cause stress and competition for resources, and males fight in the mating season.

Breeding

SEXUAL MATURITY AND SEXING

Females often grow larger than males, and in some subspecies they are much heavier. Age and size at sexual maturity vary between the subspecies and are not documented overall for the species. The sex is most reliably determined with a probe, which only an experienced person or a vet should use. Before breeding the female must be in good condition, while the male is kept lean and muscular.

MATING

Most animals breed once a year. Breeding is triggered in autumn by gradually lowering the night temperature to 18-21 °C and shortening the day length to 10-12 hours, while the temperature under the lamp remains at least 32 °C. The female must have extra meals before the season, and the male must be lean. The male is placed in the female's enclosure, and mating takes place at night and can last 12 hours or more. Males fight each other in the season and can be injured, so they are kept apart.

After fertilisation the female gets a distinct swelling in the middle of the body. She is kept alone with a temperature of at least 35 °C under the lamp and a nest box with a damp substrate, and she usually stops eating.

EGG-LAYING AND CLUTCHES

About three weeks after ovulation the female sheds her skin, and about 25 days after the shed she lays the eggs. The number is normally 10-25, but can reach 50. The female coils around the eggs, keeps them warm with muscle shivers and defends them. The nest box must be large enough for her to lie coiled around all the eggs, and the substrate must be damp.

INCUBATION

The eggs can be incubated by the female herself or in an incubator. For artificial incubation the humidity must be 95-100 %, without the eggs having direct contact with water, and the temperature 31-32 °C. Then the eggs hatch after 50-55 days.

Read more: Incubating eggs

REARING THE YOUNG

The young are pencil-thin at hatching. They need small boxes with opaque sides, hides, a water bowl and a climbing stick and are fed a small mouse every 1-2 weeks. The young are defensive and nervous, and you should not expect the colours to be fully developed until after 2-3 years.

Health and common mistakes

Morelia spilota is hardy when care is right. The typical problems are:

- Shedding problems and skin infections with air that is too dry or with a damp substrate that never dries. Keep the humidity at 40-60 %, offer a damp hide and replace substrate that is wet.
- Obesity from feeding too often or too much. Weigh the snake regularly.
- Feeding refusal in juveniles that have been fed only mice and later reject other prey.
- Respiratory infections with wheezing breathing, mucus or an open mouth. They require a vet.
- Burns from unprotected bulbs. Cover all bulbs with mesh.

Snakes hide illness, so weight checks and notes on feeding, shedding and behaviour are the best early warning. Contact a vet with reptile experience if the snake loses weight, has breathing problems or does not eat for several months.

Read more: Common diseases and signs of illness

Always ask someone who knows

This guide is a good place to start, but it cannot replace experience. Animals differ, and much of what matters most is learned from people who have kept the species for years. Talk to a breeder, an experienced keeper or a vet who knows reptiles and amphibians before you get the animal - and again if anything looks wrong.