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SNAKES

Reticulated Python

Malayopython reticulatus

Malayopython reticulatus is the world's longest snake: a smooth, powerful python from the rainforests and wetlands of South-East Asia with a pattern of black, yellow and white diamonds. Adults of the standard form reach 450-600 cm, and the species needs a very large enclosure with a deep pool, 31-34 °C at the basking spot and a keeper with great experience. There are smaller locality forms of 150-490 cm.

Family: Pythonidae Former name: *Python reticulatus; Broghammerus reticulatus; Morelia reticulatus*

KEY FACTS

THE ANIMAL

Adult size	**450-600 cm** total length incl. tail
Lifespan	**20-25 years**
Active	**At dusk and at night**
Lifestyle	**Arboreal, terrestrial and semi-aquatic**
Habitat	**Rainforest and wetland**
Difficulty	**Expert**

CARE

Min. enclosure	**450 × 225 × 150 cm** L × W × H for 1 adult
Temperature, day	**24-26 °C**
Basking spot	**31-34 °C**
Temperature, night	**23-25 °C**
Humidity	**65-90%**
Water	**Water section**
UVB	**Recommended** Ferguson zone 2
Diet	**Vertebrates**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**18-36 months**
Clutch size	**25-50 eggs**
Clutches per year	**1**
Incubation	**80-90 days** at 30-32 °C

PROTECTION AND PAPERWORK

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

About the species

Malayopython reticulatus is a smooth, muscular python with a head that is clearly distinct from the neck, vertical pupils and heat-sensitive pits along the lips. The ground colour is greyish brown to yellow, and along the back runs a pattern of irregular black, yellow and white diamonds, which in the dappled shade of the forest makes the snake surprisingly hard to spot. The eyes are often bright orange, and a black stripe runs from the eye obliquely down towards the mouth. The name refers to the net-like pattern.

The species is the world's longest snake. Females become far larger and heavier than males. The standard form normally reaches 450-600 cm. Animals over 600 cm are rare, the largest reliably measured animals are about 700 cm, and lengths of 9-10 m are not documented. Newly hatched young are 40-50 cm and can reach about 300 cm in a year with plentiful feeding.

There are subspecies and locality forms that are markedly smaller. The two described subspecies *M. r. saputrai* from Selayar and south-western Sulawesi and *M. r. jampeanus* from Tanahjampea are among them. In the trade a rough distinction is made between the standard form (450-600 cm), dwarf forms (240-490 cm) and super dwarf forms (150-300 cm). The dwarf forms are geographic variants from small islands, and their size is hereditary. A large number of colour and pattern morphs have also been bred. This guide is about the species.

The species was formerly called *Python reticulatus*, and the names *Broghammerus reticulatus* and *Morelia reticulatus* appear in older texts. The genus name *Malayopython* has been used since 2014.

Large wild animals have in several confirmed cases killed and eaten people, especially on Sulawesi. The size and strength make the species potentially dangerous, and this must be taken seriously in keeping. Almost all animals in the trade today are captive-bred and used to handling, so the temperament is usually calm, but that does not change the strength.

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

Distribution and habitat

Malayopython reticulatus has the largest range of all pythons. It is found across large parts of South-East Asia: in Bangladesh, Myanmar, Thailand, Cambodia, Laos and Vietnam, on the Malay Peninsula and in Singapore, in Indonesia, Brunei, Timor-Leste and in the Philippines. In India it is found on the Nicobar Islands and in Mizoram.

Indonesia is the core area. Here the species lives on Sumatra, Java, Borneo, Sulawesi and most of the smaller islands from Nias and Mentawai in the west to Seram, Buru, Halmahera and Tanimbar in the east and south to Lombok, Sumbawa, Flores, Sumba and Timor. The dwarf forms live on small islands south of Sulawesi, including Selayar and Tanahjampea. The species is good at crossing the sea and is found on many small islands.

Animals in the trade are mainly captive-bred. At the same time the species is a major trade item in the wild, because the skin is used in fashion: in the years 2000-2007 Malaysia and Indonesia each exported more than a million wild-caught pythons to the fashion industry.

> **Native range:** Bangladesh, Myanmar (Burma), Thailand, Cambodia, Laos, Vietnam, Malaysia, Singapore, Brunei, Indonesia, Timor-Leste, Philippines and India.

HABITAT

Malayopython reticulatus is adapted to many habitats. It is found in rainforest and other humid forest, in wetlands, mangrove and swamps, in grassland and in cultivated landscape such as plantations and villages, where it follows rodents and livestock. There is almost always water nearby. The species is a good swimmer and uses the water both as cover and as an ambush site, and it spends a lot of time in water, because the water supports the heavy body.

It is a master of camouflage and lies in wait on the forest floor, among roots and in scrub, and it also climbs in trees. It is most active at night, but is also seen during the day, especially near water.

The climate is tropical, and the humidity in the native range is typically between 65 and 90%. The breeding season often falls at the end of the dry season, before the rains set in. Males travel far to find females.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Malayopython reticulatus is so large that an adult belongs in a purpose-built room rather than in an ordinary enclosure. The floor area must be at least as long as the snake and half as wide: 450 × 225 cm for a snake of 450 cm and 600 × 300 cm for a female of 600 cm, and preferably more. Height is important, because the species climbs: 150 cm or more gives room for stout branches. If the animal is over 450 cm, it is in practice better to fit out a whole room or a small outbuilding than to build a cage.

An enclosure of 240 × 120 × 120 cm, which is often used for adults, is too small for such an active species. In cages that are too small the snakes become restless: they rub their noses, push at the walls and glide back and forth along the glass. The rule of length and half the width also applies to dwarf and super dwarf forms, so an animal of 250 cm needs about 250 × 125 cm.

Young start in a smaller plastic box with many hides, because small snakes in large cages often feel exposed and may stop eating. They are moved up as they grow, and animals that reach more than 300 cm quickly outgrow the first cages.

Furnish with a large, deep water pool, a couple of stout, firmly fixed branches, plants in sturdy pots and at least two hides at each end. The snakes thrive when the body touches a surface above, below and beside it. For substrate use coconut fibre, a mixture of topsoil, coconut and sand, or wood chips in a layer of at least 10 cm, with a layer of leaves on top. Newspaper works well for rearing and quarantine. Remove faeces immediately, because the species is very messy. The cage and lid must be solid and locked, because a large python can easily push up a loose lid. Ventilation should be good enough that the substrate can dry out a little between mistings, but not so strong that the heat and humidity disappear.

Read more: Quarantine and hygiene

TEMPERATURE

Provide a clear gradient. The hot spot (the surface under the heat lamp) should be 31-34 °C, the cool end 24-26 °C and the night 23-25 °C. The temperature must not go below 22 °C or above 38 °C. A good heat source is a group of halogen bulbs or heat spots over the hot spot, combined with a heat panel or a heat mat at one end. In a large cage a radiant heat panel is best for the night, because it gives no light.

Measure the surface temperature at the basking spot with an infrared thermometer and the air temperature with a digital thermometer. Use a thermostat on all heat. Put bulbs in protective cages when they hang inside the cage, so that the snake does not burn itself. If the basking spot is too hot, choose a lower wattage. The snake chooses its own temperature if the gradient is large enough.

Read more: Heat and temperature

HUMIDITY AND WATER

The humidity should be 65-90%, at the same level as in the native range, and small fluctuations are fine. The substrate must not be wet all the time, because that is just as bad as air that is too dry. Mist at least 2-3 times a day with a pressurised garden sprayer, or use an automatic misting system linked to a humidity controller with the sensor down at the base at the cool end. Measure the humidity with a digital hygrometer in the middle of the cage.

The pool is the most important water source. It must be large enough for the snake to lie fully submerged with room to spare, and preferably so large that it can swim a little. A large plastic tub or pond liner works, and a pool with a drain makes cleaning easier. Change the water every week and immediately if it becomes dirty, and scrub the pool with a disinfectant made for animals. The species drinks a great deal and bathes often.

LIGHTING AND UVB

The species is active both day and night. Captive-bred generations manage without UVB, but daylight and UVB probably benefit the daily rhythm, appetite and immune system, and they are recommended. Use a T5 HO UVB tube (6% or 12%) over half of the cage on the warm side, and position the basking spot so that the UV index is 2-3 (Ferguson zone 2). The distance depends on the tube and on whether it sits over mesh or inside the cage, so measure with a UV index meter.

The distance from the snake's back to the tube is typically 25-50 cm. Halogen and UVB lamps do not give enough light to create daylight in a large cage, so supplement with powerful fluorescent tubes of about 6500 K over most of the cage's length; if there are to be live plants, LED bars are better. The light should be on for 12 hours a day and completely off at night. With a seasonal rhythm use 13 hours in summer and 11 in winter.

Read more: Lighting and UVB

FEEDING

M. reticulatus is a carnivore and needs whole prey of mammals and birds. Rats are the standard, but variety is important. In the wild the prey ranges from bats and rodents to birds, wild boar, deer and sun bears. In captivity you can use African soft-furred rats, rats, guinea pigs, rabbits, quail, pigeons, chickens, ducks, piglets and kid goats. Large animals need large prey from meat producers or butchers.

Offer frozen and thawed prey, not live animals. This is safer for the snake and more humane. Thaw in a bag in warm water to about 38 °C, and use long feeding tongs. The prey should weigh 10-30% of the snake's weight. Feeding frequency: - Newly hatched, under 1 year: every week. - Young, 1-2 years: every 1-2 weeks. - Subadults, 2-4 years: every 2-3 weeks. - Adults, over 4 years: every 4-6 weeks.

Leave a longer interval after large meals and a shorter one after small meals. The snakes grow fast and can be fed up to a

larger size, but this strains the body and causes obesity, organ damage and a shorter life. Feeding governs growth and thus the final size, and breeding animals can go without food for several months a year. There must be another person in the room during feeding, and the snake must be taught to distinguish between food and husbandry. For example, tap on the cage door with your nails before each feeding, and never during ordinary husbandry. A light dusting of the prey with a combined calcium and vitamin supplement at every third or fourth feeding can make up for deficiencies. Fresh water must always be available.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Malayopython reticulatus is an intelligent and very active snake. It lives alone in the wild, and in captivity the animals are kept singly. Group housing causes stress and competition for heat, hides, bathing and food, and males fight hard against each other.

Captive-bred animals are usually calm and can be accustomed to handling, but this requires daily contact and a fixed routine. Handling makes care and vet visits easier and provides exercise and enrichment, but an adult standard snake is stronger than its keeper. If the animal is over 300 cm, there must always be at least one other person in the room. Wash your hands so that they do not smell of food. As a signal for handling, tap the snake lightly on the head with a roll of kitchen paper fitted on a snake hook. Take hold with both hands, one behind the head and one under the body, and never grab the tail, because this can damage the spine. Do not let the snake coil around your neck, and do not let children handle it alone.

New animals are quarantined for at least 3 months and are only handled once they eat regularly. Wild-caught animals are often stressed, refuse food and may carry parasites. They should not be kept together with others. Enrichment is necessary: rearrange the furnishings, hide food, put scents such as grass cuttings or clean leaves in the cage and let the animal move freely under supervision.

Breeding

SEXUAL MATURITY AND SEXING

Females are far larger than males, and this is the most obvious sexual characteristic. Males have longer and stouter spurs, the two rudimentary hind limbs at the vent. Reliable sexing requires an experienced keeper or a vet. Males are sexually mature after about 18 months and about 300 cm, while females only mature after 2-3 years and must be at least 400 cm. Sexual maturity depends on size and thus on feeding. A male of about 300 cm can breed, and a large female lays more eggs.

MATING

Mating is triggered by shorter days and lower night temperatures, in the wild at the end of the dry season. A female that is ready consistently refuses food. The male signals with vibrations, rubs along the female and uses the spurs. The female lifts her tail when she is ready. Several males may fight over the same female, and the fights can be violent, so males are kept apart. The female can store sperm for a long time. Breeding requires careful consideration: there is no conservation need, and a clutch of 60 young must all be given good homes.

EGG-LAYING AND CLUTCHES

The female typically lays 25-50 eggs per clutch, and large females can lay 60 or more. She incubates by coiling around the eggs. Provide a large, clean laying box or a dark, humid hide with leaves or damp sphagnum. The female does not eat during incubation. The eggs are white and leathery and stick together in a mass.

Read more: Incubating eggs

INCUBATION

The eggs can be incubated by the female or moved to an incubator at 30-32 °C. At 32 °C they hatch after 80-90 days, typically about 84 days, and at 30 °C after about 90 days. Use damp perlite or vermiculite in a closed box with a few air holes, and do not turn the eggs. Eggs that collapse or become mouldy are removed only when it is clear that they are dead. The young cut their way out with the egg tooth and shed after hatching.

REARING THE YOUNG

The young are 40-50 cm at hatching. They shed during the first few days and then begin to eat. Keep them singly in plastic boxes with hides and a small water pool. Offer thawed mice and small rats every week, and increase the size of the prey as they grow. Weigh and measure every two weeks. Young grow fast and can reach about 300 cm in a year, depending on

feeding. Dwarf forms stay smaller.

Health and common mistakes

Malayopython reticulatus is hardy, and most problems are caused by husbandry. The typical mistakes are:

- Too little space. The animals become restless, rub their noses and can become both overweight and apathetic.
- Overfeeding. Feeding that is too frequent causes obesity, organ damage and a shorter lifespan. Keep the animal lean.
- Humidity that is too low or too high and a persistently wet substrate.
- Burns from heat lamps that are mounted without a protective cage, or heat panels that are too hot.
- Injuries from lifting by the tail, which can damage the spine.
- Wild-caught animals: stress, refusal of food and parasites.

A healthy animal is well-fleshed without being fat, has clear eyes and sheds evenly. See a vet with reptile experience if the snake loses weight, refuses to eat for a long time or is limp.

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.