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SNAKES

Green Tree Python

Morelia viridis

Morelia viridis is a bright green, arboreal python from the rainforests of southern New Guinea and Cape York. It rests in tight coils over a branch and strikes at prey from a fixed ambush perch. The young are yellow and turn green during the first year of life. The species is beautiful and long-lived, but makes demands on humidity, peace and handling.

Family: Pythonidae Former name: *Chondropython viridis; Python viridis*

KEY FACTS

THE ANIMAL

Adult size	**100-160 cm** total length incl. tail
Lifespan	**15-20 years**
Active	**At dusk and at night**
Lifestyle	**Arboreal**
Habitat	**Rainforest and montane forest**
Difficulty	**Experienced**

CARE

Min. enclosure	**90 × 60 × 60 cm** L × W × H for 1 adult
Temperature, day	**24-28 °C**
Basking spot	**27-31 °C**
Temperature, night	**20-22 °C**
Humidity	**40-70%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Vertebrates**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**29-43 months**
Clutch size	**6-32 eggs**
Clutches per year	**1**
Incubation	**39-65 days** at 29-31 °C

PROTECTION AND PAPERWORK

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

About the species

Morelia viridis is a medium-sized python with smooth scales, a prehensile tail and a clearly defined neck. Adults are a clear green, darkest along the spine, where a dense row of white scales runs; on the Aru Islands the white markings are broken up into small rosettes. The belly is yellow, and some animals have a blue sheen. The head is broad, the eyes have vertical pupils, and heat-sensitive pits sit in the scales of the upper lip. The species name *viridis* is Latin for green.

The young are not green. They hatch as pale yellow animals with white spots edged in black or brown and a light stripe through the eye. The colour change typically happens between six and twelve months, when the snake is about 55-60 cm long, and it can take a single night or several months. In some populations adults never become fully green and keep some of the yellow juvenile colour. Colour morphs have been bred in captivity; this guide deals with the species.

Adults typically reach 100-160 cm in length, rarely up to 2 m. Females usually grow longer and heavier than males. The northern sister species *Morelia azurea*, which lives north of New Guinea's central mountain range and has red young, among other things, was formerly regarded as part of the species. The two are easily confused in the trade, where animals are often sold under locality names.

Most animals on the market are captive-bred, but imported animals from farms in Indonesia may carry parasites. Buy captive-bred animals that are feeding and used to frozen prey.

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

Distribution and habitat

Morelia viridis lives on New Guinea south of the central mountain range, in both the Indonesian part and Papua New Guinea, as well as on the Aru Islands and the island of Gag. In south-eastern Papua New Guinea it also reaches the north coast, from Milne Bay through Oro Province to the area around Lae. To the south it is found on the Cape York Peninsula in north-eastern Queensland, Australia, including at Iron Range.

The populations north of the mountain range, including on Biak, belong to *Morelia azurea*.

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

HABITAT

M. viridis is a rainforest species that lives from sea level up to an altitude of about 2,000 m, mostly in lowland forest and lower montane forest. It is also found in secondary forest and in forest regrowing after clearance.

Young animals live in clearings and at the forest edge, where light reaches the ground, and hunt small lizards and invertebrates, among other things, during the day. Adults live in closed canopy and are most active at dusk and at night. The animal rests in coils over a horizontal branch or liana and waits for prey, often at the same ambush perch for up to two weeks. When hunting, the forebody hangs down from the branch in loops, ready to strike. Only the females have a fixed home range; the males roam around looking for females.

The climate is hot and humid with daily rain. The temperature rarely falls below 20 °C, and day length is almost the same all year round.

Care

THE ENCLOSURE

An adult needs an enclosure of at least 90 × 60 × 60 cm (length × width × height). Larger is better, and 120 × 60 × 60 cm is a good size for an adult female. The enclosure should have front doors so that the animal is not disturbed from above, and be open enough for ventilation: a mesh over all or part of the top, partly covered to retain humidity.

Horizontal space is more important than height. The animal moves horizontally along branches and lianas, and an enclosure that is too tall makes it choose the highest spot and stay there, far from the water bowl. From the highest perch it should be possible to reach the floor. Furnish with at least two sturdy perches of different thickness and height, at least one of which sits within 30 cm of the bottom as a hunting perch. The branches must be fixed firmly to the walls so that they cannot fall down, but preferably be removable. Add foliage, thick lianas and large, robust plants such as ficus, dracaena and pothos, and if desired a closed box up under the ceiling as a hide.

Use 5-10 cm of coconut fibre, loose soil without fertiliser and a layer of dry leaves on top as substrate, so that the humidity lasts a long time. Clean up droppings at once, and replace the substrate completely every three to four months. Young animals can be kept in a smaller enclosure, but move into the adult enclosure without trouble once there is plenty of cover.

Read more: Humidity, misting and ventilation

TEMPERATURE

There must be a clear gradient. The basking spot on the uppermost branch should be 27-31 °C and the cooler part of the enclosure 24-26 °C. At night the heat is switched off, and the temperature may fall to 20-22 °C, but not below 20 °C.

Use halogen or incandescent bulbs, preferably several weak ones instead of one strong one, and fit them in a fixture that cannot be touched. The animal rests close to the bulb, so provide good distance or a guard so that it does not burn itself. Measure with a digital probe thermometer at the basking spot and one in the shade in the middle of the enclosure. If the room gets too cold at night, a thermostat-controlled ceramic heater without light can supplement. Heat rocks do not belong in the enclosure.

An animal that hides in a shelter without going out into the heat may fall ill. Remove surplus hides so that it still regulates its temperature.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be 40-70 % and fluctuate: higher just after misting and then falling to about 40 % before misting again. Constantly wet conditions cause skin problems and fungal infections, but conditions that are too dry cause dehydration, especially in young animals.

Mist the enclosure heavily every evening, and preferably again in the morning, so that leaves and branches are covered in droplets. The animal drinks the droplets and is more active after rain. An automatic rain system with at least four nozzles can take over the work. In addition, provide a large bowl of fresh water, preferably raised near the perch, and change the water daily. Measure the humidity with a hygrometer in the middle of the enclosure.

LIGHTING AND UVB

Young animals are diurnal, and adults are most active at dusk and at night, but both benefit from clear daylight. The light should be on for 12 hours a day and switched off completely at night.

The species can manage without UVB, but a weak UVB light is recommended because it provides vitamin D3, better appetite and more activity. The species belongs to Ferguson zone 2. Place the UVB tube over the warm side, so that the UV index on the basking branch is around 2-3 and lower in the rest of the enclosure. A T5 HO tube with 5-6 % UVB should sit 23-28 cm above the snake's back over mesh and 30-38 cm without mesh; the distance depends on the lamp type and mesh, so measure with a UV meter if possible. Supplement with a clear 6,500 K LED lamp covering most of the length of the enclosure if the plants are to grow.

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

FEEDING

M. viridis eats whole prey. Adults are fed mice, small rats, hamsters, gerbils and quail, preferably varied, and young are fed small mice. Prey must be thawed from frozen and warmed to about 38 °C. Use long tweezers, and offer it when the animal is sitting on the hunting perch.

To avoid obesity, which the species gets easily because of its sedentary life, the prey must be small and feeding infrequent. Young are given a small mouse every 5-7 days. Older young and young adults are given a hopper mouse or a medium mouse every 7-10 days. Adults are given one or two adult mice or a small rat every 10-14 days. The total weight of the prey is about 15 % of the snake's weight in animals under two years, 5-10 % in two- to five-year-olds and about 5 % thereafter. Weigh the snake in a bowl on a kitchen scale.

When hungry, it becomes more restless and moves to the lower hunting perch. Vitamin and mineral supplements are not necessary, but a light dusting with a balanced supplement can be given occasionally.

BEHAVIOUR AND HANDLING

Morelia viridis is shy and sedentary. It rarely becomes as tame as many colubrids and should not be handled every day. It has a reputation for biting, but this is most often a result of rough treatment. Calm and predictable handling makes many adults tolerable.

Take the animal from the perch while it is resting. Approach from below with the free hand, support the lowest coils, and let the snake move onto the hand by itself. Never pull it off the branch, never grab the tail, and offer a new secure perch. Use both hands for an adult. New animals need a couple of weeks in peace, followed by short sessions of no more than 5 minutes, which can be gradually extended. Wash your hands first so that the scent does not resemble prey, and tap the snake lightly on the head with a paper roll or a snake hook so that it knows this is not feeding.

The animals must live alone. Several together lead to competition and stress. Children must not handle the snake without supervision.

Breeding

SEXUAL MATURITY AND SEXING

The sexes are alike in colour, and the female is usually a little longer and heavier. The male has cloacal spurs (remnants of hind legs), which he uses to stimulate the female during mating. Sex is most reliably determined by probing, which only a vet or an experienced keeper should carry out. Males become sexually mature after about 2.5 years and females after about 3.5 years, often long after they have turned green. The female must be well developed and in good condition before being put to breed.

MATING

The species has a marked breeding season. Mating takes place from August to January and is often triggered by low pressure and bad weather. The male stops eating when he is looking for a female, and stimulates her with the cloacal spurs. Females do not breed every year.

Put the male in with the female in her enclosure, and keep an eye on them for the first few days. How much the nights must be cooled and the days shortened to set mating in motion is not documented.

EGG-LAYING AND CLUTCHES

The female lays 6-32 eggs, a couple of months after mating; in the wild the eggs are laid in October. She lays them in a hide, for example a laying box with moist substrate or a hollow branch, and then broods them by lying in a tight coil around them.

She needs a dark, quiet place and must not be disturbed while brooding.

INCUBATION

The female broods the eggs for about 50 days, with a range of 39-65 days, and keeps them at 29-31 °C. The eggs can also be moved to an incubator at the same temperature, where they lie in moist perlite or vermiculite and must not be turned. In the wild they hatch in November, when the rainy season begins.

The young are about 30 cm long at hatching. Move them from the brooding box once they have shed their skin for the first time.

Read more: Incubating eggs

REARING THE YOUNG

The young are yellow and must be kept individually in a small enclosure with branches, foliage and a hide. Keep the humidity at 40-70 %, and mist daily, because young are more vulnerable to dehydration than adults.

The first meals are small, thawed pinkies or small mice, offered with tweezers. They grow quickly and change colour after 6-12 months, but only become sexually mature after several years.

Health and common mistakes

The species is robust when husbandry is right, but several problems recur:

- Dehydration, especially in young that do not find the water. Mist daily so that there are drinking droplets on leaves and branches.
- Fungal and skin infections in enclosures that never dry out. Let the enclosure dry out between mistings, and ensure ventilation.
- Obesity and fatty liver from feeding too often or too much. Weigh the animal regularly.
- Mouth rot and respiratory infections in conditions that are too cold or with poor hygiene: saliva, bubbles at the nose and an open mouth.
- Parasites in imported animals. Have a faecal sample examined, especially in the case of weight loss despite a good appetite.
- Burns from bulbs without a guard.
- Retained shed when humidity is too low.

Contact a vet experienced with reptiles if the animal loses weight, refuses to eat for several weeks, sits with its mouth open or holds its head raised with heavy breathing.

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.