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MONITOR LIZARDS

Spotted Tree Monitor

Varanus timorensis

Varanus timorensis is a small, diurnal tree monitor from Timor and the neighbouring islands of the Lesser Sunda Islands, dark with yellow spots and a very long tail. It grows to no more than 61 cm, but needs a tall, warm enclosure, daily feeding with live insects and a keeper with experience of small monitors.

Family: Varanidae Former name: *Varanus auffenbergi*

KEY FACTS

THE ANIMAL

Adult size	**50-61 cm** total length incl. tail
Weight	**100-350 g**
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Dry forest and rainforest**
Difficulty	**Experienced**

CARE

Min. enclosure	**150 × 75 × 150 cm** L × W × H for 1 adult
Temperature, day	**27-32 °C**
Basking spot	**40-50 °C**
Temperature, night	**22-25 °C**
Humidity	**50-70%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 3
Diet	**Insects and vertebrates**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**5-11 eggs**
Clutches per year	**1-2**
Incubation	**90-135 days** at 29-32 °C

PROTECTION AND PAPERWORK

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

About the species

Varanus timorensis is a pygmy monitor in the subgenus *Odatria*. The ground colour is dark greenish grey to almost black with clear golden-yellow, sometimes bluish spots along the back and a paler, straw-coloured belly. The snout is pointed, the teeth are sharp, the claws long and curved, and sight and hearing are good. The tail is prehensile and makes up about two thirds of the total length.

Adults grow up to 61 cm including the tail and weigh 100-350 g. The snout-vent length is not documented. Newly hatched juveniles measure about 13 cm and grow quickly.

The species was described in 1831 as *Monitor timorensis*. Several close relatives were formerly regarded as subspecies, among them *V. similis*, *V. scalaris* and *V. glauerti*, but are now separate species. The population on Roti, which long went under the name *V. auffenbergi*, is now regarded as a subspecies (*V. t. auffenbergi*), and in 2025 a third subspecies, *V. t. subunicolor*, was described from the island of Ndao. Animals from Roti may be sold under the old name.

It is a species for the experienced keeper. Lifespan in captivity is not documented; comparable small monitors reach 10-15 years. That means many years with a tall, warm enclosure, UVB light and live insects several times a week. The species is not a pet to pick up every day, but an active and observant monitor that is most entertaining to watch in a richly planted enclosure.

Read more: Lighting and UVB

Distribution and habitat

Varanus timorensis is native to the island of Timor, which is shared between Indonesia and Timor-Leste, and to some of the nearest islands in the Lesser Sunda Islands: Semau, Sabu and Roti. The subspecies *V. t. subunicolor* is known from the small island of Ndao.

An occurrence in southern New Guinea is not confirmed and is not included on the map, which shows only the native range in Indonesia and Timor-Leste. The subspecies on Roti is known only from the type locality.

> **Native range:** Indonesia and Timor-Leste.

HABITAT

Varanus timorensis is an arboreal, diurnal species that lives in open forest, dry forest and rainforest, where it moves in trees, bushes and other vegetation above the ground. Here it hunts insects and other arthropods such as grasshoppers, mantises, spiders, scorpions, bees and cockroaches, but also small lizards such as geckos and small snakes.

Timor lies near the equator, so day length is almost the same all year, but the climate has a distinct wet and dry season. Temperature and humidity in the species' habitats are not documented in detail, and the figures for the enclosure below are therefore based on related small monitors and on how the animals thrive in captivity. In the wild the species breeds from December to March.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

An adult needs a tall enclosure of at least 150 × 75 × 150 cm (length × width × height). Larger is better, because the species is active and needs space for both a warm and a cool zone. The enclosure should be front-opening, well ventilated and have a lock that prevents escapes, because small monitors find every gap.

Juveniles can start in a smaller box or a small enclosure where they easily find food, and are moved to the adult enclosure once they are stable and eating well. An adult-sized enclosure can also be used from the start if it has many hiding places and dense planting.

Furnish with thick, stable branches at different heights and angles, cork tubes, cork bark and bamboo tubes as hiding places, and a broad, solid basking spot under the heat source. Dense, robust planting (live or artificial) provides cover. For the substrate use a mixture of unfertilised soil, coconut fibre and bark chips at a depth of 10-15 cm, so that part of the substrate can be kept moist. How much the species digs in the wild is not documented, but the females lay eggs in the substrate and in hiding places, so there must be an opportunity for it. Provide a large, stable water bowl and a shallow food bowl.

Heat sources must be shielded with a grille or placed out of the animal's reach so that it cannot burn itself. Doors and lid must be lockable.

Read more: Heat and temperature

TEMPERATURE

Varanus timorensis needs 27-32 °C in the air by day and 22-25 °C at night. The surface temperature of the basking spot (measured with an IR thermometer) should be 40-50 °C, and the enclosure should have a large temperature gradient so that the animal can choose between a warm side and a cool side of 24-28 °C. Measure both the surface and the air at the basking spot.

The heat source must give both heat and strong visible light, for example a halogen spot or a metal halide lamp, because monitors seek out the brightest place to bask. Switch off the heat at night. Choose the basking spot with care: if the animal does not use it, or flees from it, it is too hot. Temperatures that are too low cause poor digestion, loss of appetite, obesity and a weakened immune system. If the animal cannot get away from the heat, it risks heatstroke.

HUMIDITY AND WATER

Humidity in the enclosure should be 50-70 %, and the enclosure should be well ventilated. Keep parts of the substrate moist, preferably in the corner far from the basking spot, so that the animal can choose a more humid microclimate, for example during shedding. Use a watering can with a rose to moisten the substrate, and let it dry out between times so that it does not turn sour or mouldy.

Always provide a large, stable water bowl with fresh water, changed daily. The bowl must be so large and stable that the animal can drink without tipping it over. A hygrometer in the middle of the enclosure shows whether the humidity stays stable.

LIGHTING AND UVB

As a diurnal sun-lover, *Varanus timorensis* needs strong light and UVB all day. Use a T5 HO UVB tube (10-12 %) or a quality lamp mounted above the mesh so that the UV index at the basking spot is about 3-6 (Ferguson zone 3), and let the animal have shade in the rest of the enclosure. Replace the UVB tube according to the manufacturer's instructions, typically after 6-12 months, even if it still lights up.

Timor lies close to the equator, so 12 hours of light a day all year round is a good starting point. Use a timer for light and heat. At night it must be dark.

FEEDING

In the wild *Varanus timorensis* feeds mostly on arthropods, but also takes lizards and small snakes. In captivity the diet should consist mainly of varied live insects: crickets, dubia roaches, locusts and silkworms, with waxworms as an occasional treat. Prey should be no larger than the animal's head. The feeder animals should be fed well and dusted regularly with calcium with vitamin D3.

Juveniles are fed daily and adults every other day with as much as the animal eats in 5-10 minutes. Juveniles start on small crickets. Mice can be used as a supplement now and then, but the animal easily becomes too fat if vertebrates become the main food, so keep them to a small part of the diet.

Weigh the animal regularly. A plump, but not round, tail is a good sign, and an animal that is getting fat should have fewer and smaller meals.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Varanus timorensis is a small, quick animal that flees into hiding when startled. Bites from an animal of up to 61 cm are rarely life-threatening, but the teeth are sharp, and the claws can tear the skin. Wounds must be washed thoroughly and disinfected, because bacteria from the mouth and claws can cause infection. Monitors can also carry salmonella. Wash your hands after all contact with the animal, enclosure and food, and do not use kitchen utensils for the enclosure.

Juveniles are nervous and stress easily. Let new animals settle in for a couple of weeks before you begin taming them. Taming works best by being present in the room, moving slowly, resting your hand in the enclosure and letting the animal come to you. Avoid grabbing the animal from behind or by the tail. Keep sessions short, and handle only a calm animal.

The species is best kept alone or as a pair in a large enclosure. It is not documented how several animals fare together over time, and the species may eat its own young, so juveniles should not be kept with adults. Watch for bites and stress, and separate the animals if there are signs of unrest.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

Sex differences and age at sexual maturity are not documented for *Varanus timorensis*. In small monitors, sex can be determined reliably by a vet, often by probing or X-ray. For breeding the animals should be fully grown and in good condition; the female must have good calcium reserves. 60-95 % of adult females lay eggs in a season.

MATING

The breeding season varies. Mating most often takes place in May-August, and the females may lay eggs from February to September. Animals in captivity in the northern hemisphere probably take a pause around autumn and winter. In the wild the species breeds from December to March. A cool winter rest is not documented.

Put together a deliberately chosen pair rather than letting a group mate at random. Introduce the animals in a large enclosure, and watch for stress in the female.

EGG-LAYING AND CLUTCHES

A clutch typically consists of 5-11 eggs, but can be 3-14 eggs. The female lays 1-2 clutches a year, and laying takes 3-4 weeks. The females readily lay their eggs in dry bark and bark chips or in hiding places such as bamboo tubes and boxes with sand. Offer a laying box with moist sand, soil or vermiculite and a hiding place so that the female does not lay in the corners of the enclosure. Give the female plenty of food throughout the season so that she does not lack calcium and strength.

INCUBATION

The eggs are moved to an incubator with moist vermiculite, without turning them. At 29-32 °C the eggs hatch after 90-135 days. The lower the temperature, the longer it takes, up to about 186 days. The moisture of the substrate and any temperature-dependent sex determination are not documented. Eggs that collapse or turn mouldy must be checked and removed carefully.

Read more: Incubating eggs

REARING THE YOUNG

Newly hatched juveniles are about 13 cm long and grow quickly. The juveniles begin to eat small crickets after about two weeks, and with good care 80-90 % of them survive. Juveniles in the trade are typically 2 weeks to 3 months old.

Keep the juveniles singly or in small groups of the same size, in a small box or a smaller enclosure with many hiding places, and give small insects every day. Separate the animals if there is a difference in size or signs of biting.

Health and common mistakes

Varanus timorensis is not a beginner species, and most problems are due to errors in care. The typical ones are:

- Temperatures that are too low, which cause poor digestion, loss of appetite, obesity, gout and a weakened immune system.
- Too much heat with no chance of escape, which causes heatstroke.
- Obesity when vertebrates (mice) become the staple food, and a fat monitor lives shorter.
- Metabolic bone disease from a lack of UVB and calcium. The signs are soft jaws, bent limbs and tremors.
- Intestinal blockage from loose, fine substrate or prey that is too large.
- Respiratory infection from cold and persistent damp, and egg-laying problems in females without good laying conditions.

Animals in the trade mostly come from breeding farms in Indonesia. The species is protected there. At several farms breeding records are lacking, so generations cannot be established, and doubt has been raised about whether all animals sold as captive bred really are. Therefore expect parasites and stress in newly bought animals, quarantine them for weeks, and have a faecal sample examined.

A healthy animal has clear eyes, a strong body, a plump tail, straight limbs, firm dark droppings and eats regularly. Keep an eye on the animal and weigh it regularly. See a vet with experience in reptiles if the animal loses weight, does not eat for several days, breathes with its mouth open or looks listless.

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.