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MONITOR LIZARDS

Yellow tree monitor

Varanus reisingeri

A slender, yellow and black tree monitor from the island of Misool in Indonesia, with a long prehensile tail and bright yellow spots on the back. The species is rare in vivaria, needs a tall, warm, highly humid enclosure and belongs with the experienced monitor keeper, not the beginner.

Family: Varanidae

KEY FACTS

THE ANIMAL

Adult size	**80-95 cm** total length incl. tail
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest**
Difficulty	**Experienced**

CARE

Min. enclosure	**120 × 60 × 180 cm** L × W × H for 1 adult
Temperature, day	**27-32 °C**
Basking spot	**35-48 °C**
Temperature, night	**24 °C**
Humidity	**60-90%**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects and vertebrates**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-7 eggs**
Incubation	**160-170 days** at 29 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Data Deficient (DD)**

About the species

Varanus reisingeri belongs to the tree monitors in the subgenus *Euprepiosaurus* and is closely related to *Varanus prasinus*. The body is slender, and the long prehensile tail can make up more than two thirds of the animal's total length. It is used actively for climbing.

The colouring is what makes the species unmistakable. The ground colour is black, and bright yellow spots and eye spots sit in transverse rows on the back. The snout is almost white, and the belly is white to yellowish, in some animals with a pinkish tinge. Other species in the same group are green, blue or black with different markings, so colour alone sets this species apart from them. The species was described in 2005, and the name honours the German naturalist and vivarium keeper Manfred Reisinger, who helped establish that it was a new species. Later studies of the scale structure showed great similarity to *V. prasinus*, so some authors treat it as a subspecies. Here the common view is followed, that it is a separate species.

An adult *V. reisingeri* is about 80 cm long including the tail and can reach 95 cm. The weight is not documented. The animals are diurnal and nervous, and most animals in the trade are wild caught.

The species is not a beginner's animal, nor one to choose on looks alone. It lives a long time, needs a large, custom-built enclosure and a warm, humid and well-ventilated environment, and wild-caught animals almost always arrive with parasites and stress. The total demand in space, electricity, food and time is far greater than the animal's size would lead you to believe.

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

Distribution and habitat

Varanus reisingeri is found only on the island of Misool in the Raja Ampat archipelago off the western tip of New Guinea, in the province of West Papua in Indonesia. The type locality is the island itself, and no animals have been found anywhere else. The range is therefore extremely small, and the species is counted among the lizards with one of the smallest known ranges.

On the island the species lives in forest from sea level up to about 535 m.

> **Native range:** Indonesia.

HABITAT

Varanus reisingeri is an arboreal animal that lives in tropical rainforest. Like other members of the group, it stays high up in the trees and uses the long prehensile tail to hold on and balance between the branches.

There are only a few direct observations of the species in the wild, and there are no measurements of temperature and humidity at the habitat. The rainforest on an island at the equator has a warm, humid climate all year round with small fluctuations, and the species is therefore kept in captivity at high temperatures and high humidity with only a small difference between summer and winter. Which figures apply on Misool is not documented.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

An adult needs a tall, home-built terrarium of at least 120 × 60 × 180 cm (length × width × height), and height matters more than floor area. If you want to keep a pair, there must be considerably more space and many separate hides. Young animals can start in a smaller but still tall terrarium where they easily find the food, and are moved up according to size. Growth rate and suitable sizes for young are not documented.

Build the terrarium of solid wooden board, glass or plastic, so that heat and humidity stay in, and fit ventilation at two heights, so that the air moves without drying everything out. Cover the back wall with cork or similar, so that the animal can climb everywhere. Set up a sturdy central branch or a whole tree, and add branches at many angles and heights, so that the animal can walk, leap and climb. Cork tubes provide a hide and a sleeping place, and a box with moist moss helps young animals in particular, and females that are to lay eggs. Live plants seldom survive the sharp claws, so use artificial plants and vines.

For the floor, use a moisture-retaining layer of coconut fibre, moss, soil without fertiliser or finely cut cypress bark, preferably with leaf litter on top. Avoid sand, pebbles and gravel, which the animal can swallow so that the gut becomes blocked. The species is arboreal, so the substrate mainly serves to retain humidity. Closed doors must always be fitted securely, and heat sources must be shielded so that the animal cannot burn itself on them. Keep a small bowl of water high up on a holder so that it gets used.

TEMPERATURE

The daytime temperature in the terrarium must be 27-32 °C, and the night must not get colder than about 24 °C. Over a basking spot that the animal can get right up to, the surface temperature must be 35-48 °C. Start at the low end, and let the animal's behaviour decide what suits. The figures are surface temperatures measured with an IR thermometer, not the air temperature.

The important thing is a large temperature gradient, so that the animal can choose between a warm basking spot and cooler nooks. Use one or more heat lamps over the basking spot, preferably connected to a thermostat, and shield them so that the animal cannot touch the bulb. Measure both at the top and at the bottom of the terrarium. If the animal sits all day in the coldest corner, it is too cold, or something is wrong with its health.

Read more: Heat and temperature

HUMIDITY AND WATER

The humidity should be high, about 60-90 %, and preferably above 70 %. Maintain it by misting the enclosure heavily by hand in the morning and letting the air dry out a little in the afternoon. Mist again in the evening. A fogger that runs for a few hours at a time can help, but if it runs all the time, the substrate becomes too wet and mould appears.

Both extremes are harmful. Excessive, constant humidity causes respiratory infections and mould, and too low humidity causes dehydration, difficult sheds and respiratory problems. If the humidity is right, the animal should not be given a soak. A soak is only necessary if shed skin sticks to the toes or tail tip and begins to cut off the blood supply. The animal seldom drinks from a bowl and prefers to take water from droplets, so mist lightly towards the animal's snout and the surrounding leaves, so that it can lick them.

LIGHTING AND UVB

Varanus reisingeri is diurnal and needs 12 hours of light a day from fluorescent tubes or LED. UVB is not strictly necessary but is recommended as a safeguard, because it can soften the effects of an imperfect diet, particularly in juveniles and females. Use a UVB tube for Ferguson zone 2 over one side of the enclosure, so that the animal can choose to go in and out of the light. The zone is an estimate based on a diurnal forest-dwelling arboreal animal and is not documented for the species itself.

Mount the tube so close to the basking spot that the animal can bask in light and heat at the same time, but without the tube being within reach of the claws. Replace the tube according to the manufacturer's instructions, because the UVB output falls long before the light looks weaker.

Read more: Lighting and UVB

FEEDING

Varanus reisingeri is a versatile hunter that eats insects and other invertebrates as well as smaller vertebrates. The staple diet should be insects such as cockroaches and crickets, supplemented with moths, butterflies, silkworms, waxworms, hornworms and mealworms. Give a wide selection and change often so that the animal does not become fussy.

Meaty items such as mice, small birds, prawns, minced turkey, boiled eggs and pieces of chicken and fish are given less often, e.g. a couple of times a month. Rodents and other meaty items are not a staple for the species, and too many of them can cause obesity.

The insects are fed up well before use and dusted with calcium and D3 once a week. Once a month they are dusted with a multivitamin instead. The supplement can also be mixed into minced meat. Feed daily with varied food; the exact feeding frequency is not documented for the species. Whether the species eats fruit is uncertain.

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

BEHAVIOUR AND HANDLING

Wild-caught animals are shy, hide and become stressed easily. It can take several months before a wild-caught animal trusts you. Put your hand calmly into the enclosure every day, and let the animal come over curiously. Grabbing, force and hasty movements destroy trust. Captive-bred animals are less fearful and often become tame quickly, as long as you never grab, squeeze or frighten them.

The species is small compared with the large monitors, but has sharp claws and teeth. A bite or scratch can cause bleeding wounds, which should be washed and disinfected. Never hold the animal by the tail, and avoid gripping the body. During care and cleaning, open the enclosure calmly, so that the animal does not jump out or fall.

Reptiles often carry salmonella. Always wash your hands thoroughly after contact with the animal, furnishings and substrate, keep the enclosure away from the kitchen, and keep small children and people with weak immune systems away from the animal. The animals are best kept singly. Pairs can be kept together in a very large enclosure with several hides, but only if you are able to separate them.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

Sexing of the species is not described in detail, and the sex cannot be determined reliably by the naked eye in small animals. Have a vet experienced with reptiles assess the sex. Age and weight at sexual maturity are not documented.

Females should be fully grown and in good condition before they are bred, because egg laying costs calcium and strength.

MATING

The animals can be kept as a pair if the enclosure is very large and has many hides. Keep a pair together only if you are able to separate them when one of the animals becomes stressed or chased. The mating season is not documented. The eggs are laid about four to five weeks after a successful mating.

Captive breeding has succeeded but is rare, and there are few detailed descriptions. Breeding requires experience and a well-furnished enclosure, and it is wise to start with captive-bred animals that are used to human contact.

EGG-LAYING AND CLUTCHES

The female lays 1-7 eggs per clutch, and there may be several clutches during the year. The eggs are laid on the floor or in a lay box. A tall box, about 90 cm deep and filled to the brim with damp moss, coconut fibre or a mixture, gives the female the chance to dig and choose her spot. If the female has no suitable place, she may retain the eggs or lay them in the wrong place, which is dangerous for her.

A box for a pair must be much larger than a box for a single animal. Drill small holes in the bottom for drainage, so that moisture does not collect.

INCUBATION

The eggs are incubated at about 29 °C for 160-170 days. It is a long period during which the temperature must be kept very stable. The eggs must not be incubated too wet, and it may be best with no substrate at all. Whether the sex depends on the incubation temperature is not documented.

Use a well-calibrated incubator, take the temperature with two thermometers, and check the eggs regularly for mould. Touch them as little as possible, and do not turn them.

Read more: Incubating eggs

REARING THE YOUNG

Captive-bred hatchlings are curious and have no fear of humans and often become tame quickly if handled calmly. Keep them in a tall enclosure with many branches and hides and the same heat and humidity as adult animals. The food is insects of a suitable size. Growth, age at first egg laying and mortality in hatchlings are not documented.

Move the hatchlings to separate enclosures if they begin to chase each other or show signs of stress.

Health and common mistakes

Wild-caught tree monitors are seldom healthy when they arrive, and many have both parasites and respiratory infections from transport and storage at the supplier. Have a vet experienced with reptiles examine a faecal sample and the animal's health in the first few weeks. The typical problems are:

- Intestinal worms and protozoa, which require different medicines. A faecal sample must therefore determine what the animal should be treated with.
- Respiratory infections from stress, wrong climate, or air that is too dry or too wet. They cause mucus, open-mouth breathing and lethargy and are treated with antibiotics from the vet.
- Fungal infections of the skin, which at first look like a grey area that needs to shed, a bruise or a burn, and which spread. They do not heal on their own and are contagious, so the animal should be isolated in another room.
- Shed skin stuck on the toes and tail tip when the humidity is too low. Loosen it gently with lukewarm water, otherwise the toes and tail tip may die.
- Digestive blockage after swallowing sand, small stones or gravel.
- Calcium deficiency and the effects of a one-sided diet, especially in juveniles and females.

See a vet if the animal stops eating, if it sits with its mouth open, if the skin changes, or if the droppings are bloody or very runny.

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.