herpy

MONITOR LIZARDS

Peach-throated monitor

Varanus jobiensis

Varanus jobiensis is a medium-sized, diurnal monitor from the rainforest of New Guinea and the nearby islands, known for its whitish-yellow to red throat. The species grows to about 120 cm, likes to dig, and needs a spacious, humid and warm enclosure. It belongs with the experienced keeper, and only a few animals in the trade are captive bred.

Family: Varanidae Former name: *Varanus karlschmidti; Varanus indicus jobiensis*

KEY FACTS

THE ANIMAL

Adult size	**100-120 cm** total length incl. tail
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Rainforest**
Difficulty	**Experienced**

CARE

Min. enclosure	**240 × 90 × 200 cm** L × W × H for 1 adult
Temperature, day	**26-29 °C**
Basking spot	**35-54 °C**
Temperature, night	**23-25 °C**
Humidity	**60-80%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 3
Diet	**Insects and vertebrates**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**3-5 eggs**
Incubation	**179-181 days** at 29-32 °C

PROTECTION AND PAPERWORK

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

About the species

Varanus jobiensis is a slender, medium-sized monitor in the subgenus *Euprepiosaurus*. It grows to about 120 cm including the tail. The tail is round in the first third and lacks the double keel seen in many of its relatives. The throat is whitish-yellow to red. The male has a distinct bulge at the base of the tail and a high keel in the middle of the tail, which the female lacks. This is the simplest way to sex animals without a vet.

The species was described in 1932 from the island of Jobi (Yapen) as a subspecies of *Varanus indicus*. In 1951 it was described again as *V. karlschmidti*, but that name turned out to be a junior synonym, and since 1991 the species has been called *V. jobiensis* as a separate species. It lives side by side with *V. indicus* and *V. doreanus*, and the three keep out of each other's way a little by using different parts of the forest. Genetic studies suggest that *V. jobiensis* is probably a species complex with several hidden species, so animals from different islands may turn out to belong to separate species.

In the enclosure *V. jobiensis* is an active species with a strong feeding response. It has been kept in Europe and North America for several decades, but captive breeding is rare. It is not a monitor for beginners.

The species is a lifelong commitment. An adult needs an enclosure about 2.4 m long, strong lighting and heat, ongoing food costs and time for daily care. The lifespan in captivity is not known; the range in the box is borrowed from related monitors of the same size. Keeping the species requires a long-term plan for the space.

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

Distribution and habitat

Varanus jobiensis is found on New Guinea, where it has been recorded in both the Indonesian part (Papua) and in Papua New Guinea, and on several of the surrounding islands, including Yapen, Biak, Waigeo, Salawati and Normanby. The type locality is Yapen, and animals from the Sepik River in Papua New Guinea were previously described as a separate species. It has also been found near Port Moresby and on the southern slope of Mount Victory in the northern part of the country.

The inhabitants of New Guinea hunt the species for food. Among hunters in West Papua it is estimated that close to a thousand animals are killed per year for their own consumption. The species is not assessed as threatened.

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

HABITAT

Varanus jobiensis lives in rainforest and forest edges in the lowlands, from sea level up to about 900-1,500 m. It is diurnal and lives on the ground in the forest. The lowland climate is warm and humid.

In the wild the species lives mostly on insects, but also takes frogs, other invertebrates and reptile eggs and occasionally fish and small mammals.

Care

THE ENCLOSURE

An adult needs a very large enclosure of at least 240 × 90 × 200 cm (length × width × height), preferably 240 cm high, and a pair needs more. The bigger the better, because the species is active and uses the whole area. Juveniles of 19-27 cm start in a small enclosure of about 40 litres and are moved up as they grow.

The substrate is the most important part of the setup. *V. jobiensis* digs when laying eggs and tests moisture and warmth by digging small holes. The substrate must therefore be deep, about 45 cm, and consist of about 75 % sand, 20 % topsoil and 5 % fine bark mulch. A substrate that holds moisture is essential for a rainforest species. Furnish with many hiding places on the ground and higher up, as well as thick branches to climb on. Use cork or rough branches with good grip, never smooth branches.

Water must be available in a large and safe bowl or a shallow pool that the animal can get into and out of. Place the bowl at the cooler end so that it does not stand under the heat lamps. The animal must not be able to come into contact with the lamps, and they must always be shielded. Doors and mesh lids must be securely fastened, as monitors are strong and look for exits. Ventilation must be good so that the air does not become stagnant. Live plants rarely survive monitors, so use sturdy artificial plants instead, which the animal cannot tear apart and swallow.

TEMPERATURE

Varanus jobiensis needs a large temperature gradient. By day the air temperature should be 26-29 °C, and there should be several basking spots with surface temperatures of 35-54 °C, heated with 65-90 W outdoor spotlights. The temperatures at the basking spots are surface temperatures measured with an IR thermometer, not air temperatures. At night the temperature may drop to about 23-25 °C, as in related lowland rainforest species.

The gradient must be arranged so that the animal can choose between warm and cool and is not forced to stand in the heat. Heat only one half of the enclosure. Avoid ceramic heaters as a basking spot: they give no light, and a monitor that does not see the heat source can easily burn itself on it. Point the lamp at a flat stone about 40 cm away, and shield all heat sources so that the animal cannot touch them. Burns from lamps are common in monitors and can be fatal. A heating cable must lie under the half of the enclosure that is to be heated and be protected against digging animals.

Read more: Heat and temperature

HUMIDITY AND WATER

The species comes from rainforest, and the enclosure should reflect that. Spray the whole enclosure heavily for several minutes every day, for example with a garden hose, so that the substrate stays moist. Aim for 60-80 % humidity, which suits the rainforest climate and related species. Make sure the humidity can fluctuate and the substrate does not stay constantly wet, so that fungus does not develop.

Bark mulch holds moisture better than sand and is well suited to tropical species. Do not use sterile mulch, because the natural microorganisms keep fungal growth down. The animal drinks from the water bowl and from drops after spraying. Change the water daily, because the bowl is also used as a bath. The female can lay eggs in the water bowl and eat them, so keep an eye on the bowl when she is gravid.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is diurnal and needs strong light and UVB. Use a high-intensity UVB source as for other monitors, for example mercury vapour lamps, which give both heat and UV, or powerful high-quality UVB tubes. Aim for Ferguson zone 3. The UV light must reach the animal directly with no glass in between, because glass blocks the rays.

Give 14 hours of light and 10 hours of darkness all year round. Ordinary fluorescent tubes are not enough, because they do not give sufficient brightness, and low light causes health problems for the animal in the long run. Keep it dark at night.

Read more: Lighting and UVB

FEEDING

In the wild insects are the staple food, supplemented with frogs, other invertebrates and reptile eggs. In captivity the animals take young mice and cockroaches (*Blaptica dubia*). Give a varied selection of insects such as grasshoppers, crickets and cockroaches, supplemented with frogs if they can be obtained, and with a few mice or chicks. Rodents should not be the staple food, because the species otherwise becomes fat, and obesity is a real problem in monitors with a good appetite.

Juveniles accept food after two days and can be fed daily with small cockroach nymphs and chopped newborn mice. An adult is fed at most once a day and preferably less often, and it benefits from chasing its food from tweezers, so that it gets exercise. Males can be very greedy, so the female must be fed separately. Dust insects regularly with calcium and vitamin D3 and add a vitamin and mineral supplement, because farmed insects lack nutrients.

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

BEHAVIOUR AND HANDLING

Safety and handling: *Varanus jobiensis* is fast and strong and has powerful claws and teeth. Bites and claw scratches from an animal of about a metre can be deep and must be cleaned thoroughly. The tail is long, and large animals should not be grabbed hastily. Serious injuries to people are not known. Like all reptiles, monitors can carry salmonella, so wash your hands after every visit to the enclosure and after handling food, and do not let the animal roam on kitchen counters.

The animal gets used to people best when you approach calmly from the side and never reach down from above. Keep handling short, and let the animal come to you instead of picking it up. It is a species for observation more than for daily handling.

An adult pair can be kept together all year round without aggression, and the animals often bask together. The male pursues the female in the mating season. The species is kept singly or in pairs; group keeping is not known. Two males should not be kept together. New animals must be quarantined for at least six weeks, with faecal samples checked by a vet.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

The sex can be seen on the tail: the male has a distinct bulge at the base of the tail where the hemipenis pockets are and a high keel in the middle of the tail, while the female lacks both. Probing, which is used in snakes, is not reliable in monitors, because the female has a corresponding pocket (hemiclitoris). Reliable sexing requires a vet with an endoscope.

The age at sexual maturity is not known. An adult pair can be kept together all year round. Use only animals of good weight for breeding, and allow for the male possibly being greedy and stealing the female's food.

MATING

Mating in *Varanus jobiensis* can begin in August, after the pair has been together for about a year. The male approaches the female, flicks his tongue rapidly over her head and hind legs and shakes his head from side to side, and he pursues her until she gives in. The pair mates several times a day for 12 days, and each mating lasts from 10 minutes to an hour. There is no winter rest, and the temperature is kept unchanged all year.

After mating the male loses interest. The female becomes visibly fatter, seeks warmer basking spots than usual and lies in odd positions, lifting her belly off the ground. These are reliable signs that she is gravid.

EGG-LAYING AND CLUTCHES

The female *Varanus jobiensis* lays 3-5 eggs, and she may eat some of them; remains of eaten eggs can lie in the water bowl. The eggs are laid at night, a good three weeks after mating. Beforehand the female test-digs small holes and pushes her snout into the substrate. Even with a laying box she may lay the eggs in the floor of the enclosure, about 10 cm down at about 30 °C. The eggs are about 6 cm long and 3 cm wide and weigh about 24-25 g. A female can lay several clutches, but the interval between them is not known. Provide a digging or laying box with moist soil, and expect the female to dig wherever she likes.

INCUBATION

The eggs are incubated in a closed plastic box of about 3 litres with moist vermiculite (water and vermiculite mixed by soaking and wrung out by hand). A converted mini-fridge incubator with a water container in the bottom can be used at 29-32 °C, and the box is aired regularly. The eggs hatch after 179-181 days. That is a long incubation period, so it takes patience.

Do not let water drip onto the eggs, and do not turn them. Small dents in the shell are not a problem. Do not open the eggs too early if hatching is delayed. The effect of temperature on development and hatching time is not known for the species.

Read more: Incubating eggs

REARING THE YOUNG

Hatchlings of *Varanus jobiensis* measure 8-12 cm from snout to vent and 19-27 cm in total. After two days in the incubator they are placed individually in terrariums of about 40 litres with sphagnum as substrate, bark on the back wall, a basking branch, some bark on the floor and a bowl of water with a silk plant in it. Cover the mesh lids with plastic with three small air holes, so that the humidity is kept up. The basking spot should be about 32 °C, for example heated by a 50 W incandescent bulb.

The juveniles accept food after two days and get cockroach nymphs and chopped newborn mice every day. They grow quickly. In many monitors juveniles can be kept together in small groups, but this is not known for this species, so keep them apart.

Health and common mistakes

Varanus jobiensis suffers from the same typical husbandry errors as monitors in general:

- Too little light and UVB, which causes bone disease and lethargy. Fluorescent tubes alone are not enough.
- Burns from heat lamps, especially in large animals lying directly under the lamp. Shield all heat sources, and use a spotlight at a distance.
- Obesity when the animal is fed rodents every day. Greedy males should be exercised by hunting their food.
- Parasites and stress in wild-caught animals. A faecal sample at a vet and at least six weeks of quarantine are advisable.
- Substrate that is too dry, or too wet without air, which causes skin problems and fungus.
- Swallowed bits of artificial plants and substrate.

Animals in the trade: adult, wild-caught animals are often sold. That is a reason to set aside time for quarantine and examination. Import restrictions may apply to wild-caught animals from a few countries, so wild-caught adults in the trade require extra attention to the papers. Always ask for documentation and the animal's origin. Captive breeding is rare, and animals bred in captivity are far preferable. See a vet with experience in reptiles if the animal loses weight, does not eat or seems listless.

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.