herpy

AGAMAS

Moroccan Spiny-tailed Lizard

Uromastyx nigriventris

Uromastyx nigriventris is a robust and colourful spiny-tailed lizard from the stony deserts east and south of the Atlas Mountains in Morocco and in western Algeria. Adults usually have a black ground colour with yellow, green and orange markings. It reaches up to 42 cm, feeds almost exclusively on plants and digs deep burrows. It needs a large, hot, dry enclosure with a deep substrate and strong UVB, and it is kept alone.

Family: Agamidae

KEY FACTS

THE ANIMAL

Adult size	**30-42 cm** total length incl. tail
Lifespan	**15-25 years**
Active	**By day**
Lifestyle	**Rock-dwelling, terrestrial and burrowing**
Habitat	**Desert, semi-desert and rocky terrain**
Difficulty	**Intermediate**

CARE

Min. enclosure	**120 × 60 × 60 cm** L × W × H for 1 adult
Temperature, day	**27-32 °C**
Basking spot	**50-55 °C**
Temperature, night	**18-22 °C**
Humidity	**20-30%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Winter rest	**16-22 °C** 8-12 weeks
Diet	**Plants**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**48 months**
Clutch size	**10-15 eggs**
Incubation	**56-84 days** at 33-34 °C

PROTECTION AND PAPERWORK

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

About the species

Uromastyx nigriventris is a compact, heavily built agamid with a short, broad body, short, strong legs and a flat, thick tail covered in whorls of spiny scales. The name means "black belly" and comes from the Latin niger, black, and venter, belly.

The animal reaches up to 42 cm including the tail, of which up to 25 cm is from snout to vent, and is one of the medium-sized species in the genus. The colours vary greatly. Adults usually have a black ground colour with yellow, green and orange markings, which are strongest in the breeding season, and the flanks can shimmer bluish or reddish. Old males often have a black head and a black belly, which gave the species its name. Juveniles and subadults are uniformly brown with faint, darker brown spots. The colours are strongest when the animal is warm after the morning basking.

The species was described in 1912 as a subspecies of *Uromastyx acanthinura* and was treated as such for most of the 20th century. Only in the 2000s, on the basis of genetic studies, was it regarded as a species in its own right. The name *U. a. werneri* belongs to the same species. Older information on *U. acanthinura* from Morocco, including on care, therefore concerns *U. nigriventris*.

Adults are shy and disappear quickly into the burrow if disturbed. If pursued, they inflate themselves so that they wedge fast in the burrow, and outside the burrow they can inflate, open the mouth, hiss and bite. *U. nigriventris* rarely becomes truly tame and is best kept as an animal to watch. Care is fairly simple once heat, UVB and diet are right, but it requires a large enclosure and experience with herbivorous reptiles.

Read more: Lighting and UVB

Distribution and habitat

Uromastyx nigriventris is distributed east and south of the Atlas Mountains in Morocco and in western Algeria, where it lives in the Saharan Atlas and around the great sand desert Grand Erg Occidental. To the north it almost reaches the Mediterranean through the Moulouya Valley, and to the south the limit is not known, because the species has also been found south of the Draa Valley and Djebel Ouarkziz. It lives at altitudes of 200-1,800 metres. The type locality lies in Algeria between Laghouat and Ghardaïa.

Older records from Morocco and western Algeria have often been assigned to *U. acanthinura*. Globally the species is not regarded as threatened.

> **Native range:** Morocco and Algeria.

HABITAT

Uromastyx nigriventris prefers stony plains such as hamada (rocky desert) and reg (gravel desert) with scattered shrubs and is rare in pure sand desert. Adults live in crevices between large rocks, in deep burrows and in rock piles that are difficult to reach, and usually only one adult is seen at each rock pile. The burrows are often dug in dry riverbanks in full sun, preferably at the foot of a shrub such as *Ziziphus lotus*, and one shrub can conceal several entrances. Juveniles and subadults hide under stones and in shallow depressions.

The animals are diurnal and emerge only when it is above about 20 °C. On warm days they bask on top of the rock piles, and they are active even above 40 °C without going into summer dormancy. In the coldest months they are hard to find, and in areas with cold winters they probably hibernate; how long this lasts is not documented.

The food is mostly plants, to a large extent thorny, drought-tolerant shrubs and salt-tolerant plants such as *Atriplex*, and after rain the short-lived spring plants. Beetles and ants are also eaten, and the young take more insects than the adults. The plants cover most of the water requirement.

Read more: Brumation and the seasons

Care

THE ENCLOSURE

An adult needs an enclosure of at least 120 × 60 × 60 cm (length × width × height), and bigger is better. That is larger than ordinary glass terrariums, so choose an enclosure made of wood, PVC or plastic with a glass front and preferably a mesh lid. Three solid sides give a sense of security, especially for newly acquired animals. Juveniles need the same temperature gradient as adults and can live in the same size of enclosure.

The animal digs, so the substrate must be deep: at least 10 cm, preferably more, of fine sand or sandy soil. A mix of half sand, 30% soil without fertiliser and 20% clay keeps the burrows from collapsing. Keep the top few centimetres dry and moisten only a little at depth. Avoid calcium sand and crushed walnut shells, which can cause impaction. Remove faeces and urates daily, and replace the substrate completely every 3-4 months. Sick or injured animals are temporarily moved onto kitchen paper.

Build the basking spot from flat stones or slate under the heat lamp, preferably as a stack with gaps, so the animal can crawl in and choose its temperature. Fix the stones in place so they do not topple when the animal digs underneath them. Provide at least three hides, spread between the hot and the cool side. Shield heat lamps so the animal cannot touch them. Keep one

animal per enclosure, and never keep different species of *Uromastyx* together.

Read more: Heat and temperature Read more: Calcium, vitamins and supplements

TEMPERATURE

The basking spot should have a surface temperature of 50-55 °C, measured with an infrared thermometer directly under the lamp. The cool side sits at 27-32 °C. The heat must come from above, for example from a halogen spotlight, never from a heat mat under the substrate: the animal does not move away from an overly hot floor in time and can be burned. Adjust the basking spot with a dimmer or by raising or lowering the stones.

At night the heat is switched off, and the temperature may fall to 18-22 °C. The animal must always be able to retreat from the heat.

In winter the animal can be given a cool rest of 8-12 weeks: the day length is cut to 6-8 hours, the room temperature is lowered to 16-22 °C, and the basking spot is kept at about 30 °C, so the animal can warm itself and empty its gut. Give a winter rest only to healthy, well-nourished animals, and weigh them before and during the rest. The temperatures and the winter rest are borrowed from other species of *Uromastyx*.

HUMIDITY AND WATER

Humidity should be low, 20-30%, measured at substrate level on the cool side. Persistently high humidity makes the animal ill, so do not mist the enclosure. The substrate is moistened only a little at depth, so the burrows hold and the burrows get a more humid microclimate, while the top few centimetres stay dry.

The animal gets most of its water through its food. A small dish of fresh water does no harm in a well-ventilated enclosure and can help thin or newly acquired animals. Change the water daily.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is diurnal and needs strong light. Use an LED lamp or a fluorescent tube of about 6500 K as daylight, separate from the heat. UVB is essential: the species belongs to Ferguson zone 3, and a 12-14% T5 HO tube over roughly half the length of the enclosure on the hot side should give a UV index of 4.5-6 at the basking spot. Check with a UV meter, and replace the tubes after 6-12 months or according to the manufacturer's instructions. The day is 12 hours in summer and shorter in winter.

FEEDING

Uromastyx nigriventris is herbivorous. About 90% of the diet should be leafy greens and flowers, about 5% hard vegetables and about 5% dry food. Vary between salad mixes, rocket, dandelion leaves, endive, pak choi, turnip greens and a little kale, and offer edible flowers such as dandelion, hibiscus, rose petals and marigold, preferably from your own garden and always free of pesticides. Hay and grass are also eaten. Hard vegetables such as courgette and carrot are finely grated.

Seeds and pulses are a natural part of the diet: dried, crushed lentils and white millet provide protein and fat, but lead to obesity if given too often. A small portion at most once a week is enough. Juveniles under six months get no seeds. Fruit is a rare treat. Insects are not necessary; a single mealworm or superworm can be given now and then.

Juveniles are fed every day with as much as they can eat, and adults are fed 4-5 times a week. Dust the food with calcium and a vitamin supplement a couple of times a week.

BEHAVIOUR AND HANDLING

Adults are territorial, and in the wild only one adult occupies each rock pile. Keep the animal alone. Juveniles from the same clutch become aggressive towards each other and must be separated before they approach sexual maturity.

A new animal needs peace for the first few weeks. Do not handle the animal during settling in, apart from weighing. If the animal has not eaten after two weeks, a vet should see it. Afterwards you can offer food from your hand. Approach slowly and always from below, never from above, as that looks like a bird of prey. Keep the animal out of the enclosure for no more than an hour at a time. Weigh the animal once a month, and see a vet if there is significant weight loss. Wash your hands after contact, as reptiles can carry salmonella.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

The sex cannot always be determined from the outside. The male usually has a broader vent and tail base, a relatively larger head and stronger colours, and old males often get a black head and a black belly. If the tail is gently bent upwards, hemipenal bulges at the base of the tail may point to a male. The female is pear-shaped as an adult.

The species becomes sexually mature at around four years old, and mature males mark their territory with secretions from the femoral and cloacal glands. Breed only fully grown, well-nourished animals.

MATING

The male begins courtship by shaking his head from side to side and doing push-ups in front of the female. He then grips her by the neck or flank with his jaws and holds on during mating. Females can become very aggressive in the breeding season, also towards the male, so keep an eye on the animals and be ready to separate them.

In the enclosure, breeding follows a cool winter rest. Afterwards the day length and temperature are increased in stages, and only then are the female and male put together, both in good condition.

EGG-LAYING AND CLUTCHES

In Morocco the eggs are laid in June and July. The clutch is typically 10-12 eggs and in large females up to 15. The eggs have a leathery shell and are about 35 mm long and 20 mm wide.

The female needs a deep laying box with a damp mix of sand and soil, so the tunnel holds and she can dig herself in. If she finds no suitable site, she may retain the eggs. Give her peace and plenty of food after laying.

INCUBATION

Carefully dig up the eggs and place them in the same position as they lay, in a closed container with damp perlite that clumps when squeezed. Weigh the container once a week to follow evaporation.

At 33-34 °C the eggs hatch after 8-12 weeks, as in other *Uromastyx* species; a higher temperature gives a shorter incubation.

Read more: Incubating eggs

REARING THE YOUNG

Newly hatched young are small and need many hides. Keep them in terrariums or large plastic boxes with the same basking spot and temperature gradient as the adults, on kitchen paper or tiles until they are one year old. Give them finely chopped green plants and flowers every day. Seeds and dried pulses are given only from six months of age. Separate the young well before they become sexually mature.

Health and common mistakes

Most problems are caused by too little heat or UVB, too high humidity and the wrong diet:

- Metabolic bone disease (secondary nutritional hyperparathyroidism) from too little UVB, calcium and D3.
- Respiratory infection and mucus in constantly high humidity.
- Obesity from too many seeds and too much protein.
- Impaction from calcium sand, walnut shells and too low a temperature.
- Burns from heat mats and unprotected lamps.
- Parasites in newly imported, often wild-caught animals. Quarantine new animals for 3-6 months.
- Crusty sores on the lips and skin, which may be caused by the bacterium *Devriesea agamarum*. It spreads between agamids and requires veterinary treatment and thorough disinfection of the enclosure.
- Egg-laying difficulties (dystocia) in females without a suitable laying site.

A healthy animal is plump and firm, has clear eyes and eats regularly. Weight loss, loss of appetite and lethargy call for a vet with experience of reptiles.

Read more: Common diseases and signs of illness Read more: Buying animals: captive-bred, wild-caught and transport

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.