herpy

AGAMAS

Reeves' butterfly lizard

Leiolepis reevesii

Leiolepis reevesii is a ground-dwelling, diurnal agamid from southern China and South-East Asia that digs burrows in sandy soil and can spread its flank skin like a butterfly. The back has closely set pale spots whose dark edges form a coarse-meshed net. The species grows to about 50 cm, mostly tail, hibernates in winter and requires a dry enclosure with a deep, diggable substrate, strong heat and UVB.

Family: Agamidae English name: Reeves' Butterfly Lizard Former name: *Uromastyx reveesii*

KEY FACTS

THE ANIMAL

Adult size	**30-50 cm** total length incl. tail
Lifespan	**8-10 years**
Active	**By day**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Savanna**
Difficulty	**Intermediate**

CARE

Min. enclosure	**120 × 60 × 50 cm** L × W × H for 2 adults
Temperature, day	**26-35 °C**
Basking spot	**35-37 °C**
Temperature, night	**20-25 °C**
Humidity	**30-50%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects and plants**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**2-8 eggs**
Incubation	**55-100 days** at 27-33 °C

PROTECTION AND PAPERWORK

CITES	**Not listed**
EU annex	**Not listed**
IUCN	**Least Concern (LC)**

About the species

Leiolepis reevesii is a flattened, slender agamid with a rounded head, a long tail and small, granular dorsal scales. The back has many closely set pale spots whose dark edges form a coarse-meshed net. On the sides there are orange to brick-red and black crossbands that are less pronounced than in *Leiolepis belliana*. There are 13-16 femoral pores on each side.

The snout-vent length is up to 15-17 cm, in a few animals 19 cm. The tail grows up to 34 cm, so large animals measure about 50 cm in total. The males are larger than the females and have a larger head. Newly hatched young measure just under 4 cm from snout to vent.

The species was described in 1831 as *Uromastyx reveesii* and is named after John Reeves, an English naturalist who lived in China from 1812 to 1831. The genus *Leiolepis* is taxonomically complicated. The boundary with *L. belliana* is not entirely sharp, and the species can hybridise with both *L. belliana* and *Leiolepis guttata*. The red-banded form *rubritaeniata* was

formerly regarded as a subspecies of *L. reevesii* and is now treated as a separate species, *Leiolepis rubritaeniata*. *L. reevesii* reproduces sexually, but repeated crosses between it and *L. guttata* have given rise to the genus's four pure all-female species. When buying, it is worth making sure the animal has been identified correctly.

Distribution and habitat

Leiolepis reevesii lives in southern China (Guangdong, Guangxi, Hainan and Macao), Vietnam, Cambodia and Thailand. The type locality is given only as China. The boundary with *Leiolepis belliana* and *Leiolepis rubritaeniata* makes the precise range in South-East Asia uncertain.

> **Native range:** China, Vietnam, Cambodia and Thailand.

HABITAT

The species lives in open, warm areas with sandy soil and scattered vegetation, where it digs burrows that it uses for shelter, for spending the night and for laying eggs. The animals bask close to the entrance of the burrow and flee into it at little disturbance.

Hainan has only two seasons, a rainy season and a dry season. Even so, the animals hibernate from the end of November to the beginning of March, and during that time they lie in their burrows and do not eat. In summer the gut flora is dominated by bacteria that break down plant fibres, while in winter it is adapted to the long fast.

Care

THE ENCLOSURE

There is little knowledge about the care of *Leiolepis reevesii*. The enclosure, temperature, humidity, light and lifespan are therefore based on *Leiolepis belliana*, the best-known species in the genus, which lives in similar conditions.

A pair needs an enclosure of at least 120 × 60 × 50 cm (length × width × height). Floor area is most important, because the species is ground-dwelling, but the height must accommodate a deep substrate. A single animal can manage with 90 × 45 × 45 cm.

The substrate should be at least 20 cm deep and consist of a mix of sand and unfertilised garden soil, so the burrows hold. The bottom layer is slightly damp, the rest dry. Lay flat stones, cork and roots, so the animal has basking spots and hides, and fix them in place so they cannot be undermined and topple over. Ventilation must be good, and the lid must be lockable, because the animals are fast and shy.

Read more: Humidity, misting and ventilation

TEMPERATURE

The basking spot should have a surface temperature of 35-37 °C. The air at the warm end is 30-35 °C, and the cool end is 26-29 °C. At night the temperature falls to 20-25 °C.

The animal must always be able to move away from the heat, down into the substrate or into a hide. Use halogen spots or ceramic heaters with a guard in front and a thermostat. Measure with digital thermometers and an infrared thermometer, and check the basking spot regularly. An animal that constantly seeks shelter from the heat is too hot, and an animal that does not bask is too cold.

In the wild the species hibernates in winter. Whether a cool rest period is necessary or beneficial in the enclosure is not documented. An animal that withdraws into its burrow in winter and stops eating should not be forced to eat, but should be weighed regularly.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be 30-50 %, and the enclosure should be dry. The bottom layer of the substrate is kept slightly damp, so the burrows do not collapse, but the surface must not be wet, because that causes mould. The animal needs a bowl of fresh water, which is filled daily.

LIGHTING AND UVB

The species is diurnal and basks in open country, so it needs strong light and UVB. Use a tube or LED of 6,500 K over the whole enclosure and a T5 HO UVB tube of 10-12 % over the basking spot. The Ferguson zone has not been established for the genus; zone 3 suits a lizard that basks in open country. Check the distance with a UV meter, and replace the tubes according to the manufacturer's instructions. The light must be on for 10-12 hours a day.

Read more: Lighting and UVB

FEEDING

Leiolepis reevesii is omnivorous and eats both insects and plants, and plant food is an important part of the diet. Give crickets, roaches, grasshoppers and mealworms, and offer dark green leaves such as dandelion, cabbage leaves and mustard greens as well as flowers every day. Fruit is given only sparingly. Lettuce has almost no nutritional value and is avoided.

Juveniles and adults are fed every day with what the animal eats in about 10 minutes. Dust the insects with calcium at every feed and with a multivitamin with D3 once a week. Vary the food.

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

BEHAVIOUR AND HANDLING

The animal is shy and fast and flees into a burrow when anything moves. It tolerates handling poorly and suits a keeper who wants to watch an animal that digs and basks.

The animals can be kept singly or in pairs. Two males must not be put together, because they fight. Provide plenty of basking spots and hides, and quarantine new animals.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

Males are larger than females and have a larger head, both in absolute terms and relative to the body. Both sexes have femoral pores. Females are sexually mature from a body length of about 9 cm from snout to vent; the age at sexual maturity is not documented. A female must be fully grown and in good condition before mating, because egg-laying drains her of calcium and strength.

MATING

The species reproduces sexually. In the wild the animals emerge from hibernation at the beginning of March, and eggs are laid from April to July. How mating takes place in the enclosure, and whether a cool rest period promotes breeding, is not documented. Keep the pair together for as long as it goes peacefully.

Read more: Brumation and the seasons

EGG-LAYING AND CLUTCHES

The female lays 2-8 eggs per clutch, on average 3-4, in a burrow. In the wild she lays one clutch a year between April and July; in captivity she may lay several clutches in the same season. The number of eggs does not depend on the size of the female, and small females lay relatively heavier clutches than large ones. Give the female the chance to dig a burrow in a deep, slightly damp substrate at the warm end of the enclosure. A female without a suitable site may retain the eggs, and that is life-threatening.

INCUBATION

The eggs hatch after about 70 days at 30 °C, after 55 days at 33 °C and only after about 100 days at 27 °C. Most eggs hatch at 30 °C, and hatchlings from 27 °C run less well than hatchlings from warmer eggs. In natural nests the temperature is mostly 28-32 °C, so 30 °C is the best choice. Temperature does not determine the sex. Carefully dig up the eggs without turning them, and place them in damp vermiculite in a closed box in an incubator with a thermostat.

Read more: Incubating eggs

REARING THE YOUNG

The hatchlings measure just under 4 cm from snout to vent when they hatch. They need an enclosure of their own with a deep substrate and many hides. Feed them daily with small insects and finely chopped greens, dust with calcium, and provide UVB. Juveniles grow fast, and too little calcium and UVB causes metabolic bone disease.

Read more: Common diseases and signs of illness

Health and common mistakes

Most problems are caused by mistakes in the set-up. Watch in particular for:

- Metabolic bone disease when UVB or calcium is lacking. Soft jaws, trembling legs and crooked limbs are signs; provide strong UVB and calcium on the insects.
- Weight loss during hibernation. It is normal for the animal to fast in winter, but weigh it every other week, and end the rest if it loses noticeable weight.
- Egg-laying difficulties in females without a deep, damp digging substrate. A female with visible eggs that does not lay them should see a vet.
- Parasites and gastrointestinal problems in newly bought animals. Have a faecal sample examined during quarantine.
- Intestinal blockage if the animal swallows large amounts of loose sand. A substrate with soil that holds the burrows reduces the risk.
- Mould and skin problems from a substrate that is too wet.

Contact a vet if the animal is lethargic, stops eating outside hibernation or has difficulty shedding.

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.