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GECKOS

Turpan wonder gecko

Teratoscincus roborowskii

An orange desert gecko with large frog-like eyes from the Turpan Depression in north-western China. It is nocturnal, digs its own burrows in the sand and has large, roof-tile-like scales that rattle when it waves its tail. It is hardy when conditions are right, but needs to be kept dry and given a cool winter rest.

Family: Sphaerodactylidae Former name: *Teratoscincus toksunicus*

KEY FACTS

THE ANIMAL

Adult size	**8-9 cm** snout-vent length
Lifespan	**8-15 years**
Active	**At night**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Desert and semi-desert**
Difficulty	**Intermediate**

CARE

Min. enclosure	**90 × 45 × 45 cm** L × W × H for 2 adults
Temperature, day	**26-30 °C**
Basking spot	**32-35 °C**
Temperature, night	**17-20 °C**
Humidity	**20-40%**
UVB	**Optional**
Diet	**Insects**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**1-2 eggs**
Clutches per year	**2-4**
Incubation	**70-110 days** at 27-29 °C

PROTECTION AND PAPERWORK

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

About the species

Teratoscincus roborowskii has large eyes without eyelids and with a vertical pupil, which give the animal a frog-like expression. The scales on body and tail are large, thin and overlap like roof tiles. When the gecko feels threatened, it arches its back and swings its tail from side to side, so that the scales rattle.

Jacques von Bedriaga described the species in 1906 and named it after the Russian explorer Vsevolod Roborovsky. At times it has been merged with both *Teratoscincus scincus* and *Teratoscincus przewalskii*, but genetic and morphological studies have shown that it is a separate species. *Teratoscincus toksunicus* is regarded as a synonym. The genus belongs to the family Sphaerodactylidae.

Adults measure 8-9 cm from snout to vent, and the total length is 15-17 cm. The males have a slightly broader head than the females. The adults are mostly orange with irregular dark blotches on the upper side and paler flanks and belly. The young have thin dark crossbands, which fade with age. Young animals can curl the tail forward over the back like a scorpion, and much suggests that they mimic venomous scorpions living in the same place. There are no reliable weight figures.

Of the genus's species, this is the one most often sold, and it is bred regularly. It is nervous and tolerates handling poorly, so it is best observed. The tail can be shed and grows back as a more rounded stump.

Distribution and habitat

The species is found only in China, in the Turpan Depression in the Xinjiang autonomous region. It has been recorded from about 100 m below sea level up to about 470 metres above, and the total area in which it occurs is estimated at just under 7,000 km².

The type specimen was originally reported from the oasis of Ssatschsheu (Dunhuang) in Gansu, but the species does not occur there, and the label was probably mixed up. Records outside the Turpan Depression on the map come from captive animals or misidentifications.

> **Native range:** China.

HABITAT

The gecko lives in dry scrub and sandy desert. The Turpan Depression is one of the driest and hottest places in China, with annual rainfall of only about 16 mm. Dead wood and old bushes are important as shelter, foraging sites and for regulating temperature. By day the animal lies in self-dug burrows, often more than 20 cm deep, and at night it comes out, active at temperatures from about 17 to 41 °C.

From October to the end of March the gecko hibernates in its burrow. In spring it feeds mostly on ants and beetles, but from July, when the fruits of the caper bush ripen, the fruit can make up most of the diet. The gecko disperses the seeds of the caper, which is unusual for a gecko.

Care

THE ENCLOSURE

A pair needs an enclosure of at least 90 × 45 × 45 cm (length × width × height). A single animal can manage in 60 × 40 × 40 cm, but bigger is always better, because the gecko is active and walks around a great deal at night. Floor area matters more than height, as it lives on the ground.

Use a layer of washed play sand mixed with clay or desert soil, 10-15 cm thick, so the animal can dig burrows that hold their shape. The deep sand also protects the fragile eggs. Furnish with several hides made of cork tubes, flat stones and bark, at least one in the warm end and one in the cool end. Stones should sit directly on the floor of the enclosure and not on top of the sand, so that they do not tumble down onto the animal when it digs.

The enclosure should have good ventilation and a dry substrate. Place the water bowl and any feeding dishes on a flat stone so that sand does not get in.

TEMPERATURE

The gecko needs a clear temperature gradient with 26-30 °C by day and a hot area of 32-35 °C under a heat lamp or over a heat plate. At night the temperature may fall to 17-20 °C or ordinary room temperature.

There are few documented figures for this particular species, so the figures are based partly on the closely related *Teratoscincus scincus*. Use a thermostat and a digital thermometer at both ends.

In the wild the species hibernates from October to March. In the enclosure a cool period of about two months at about 15 °C is used, with the heat lamp switched off. Only animals in good condition may go into winter rest.

Read more: Heat and temperature

HUMIDITY AND WATER

The species comes from one of the driest parts of China and should be kept dry, at 20-40 % humidity. Do not mist the whole enclosure. A small damp hide with slightly moist sphagnum helps the animal to shed and gives it somewhere to seek moisture.

Always provide a shallow bowl of fresh water, changed regularly. Constantly damp sand causes skin problems and fungal infections, so the sand should be dry most of the time. The eggs must also be kept dry; see the section on incubation.

Read more: Humidity, misting and ventilation Read more: Incubating eggs

LIGHTING AND UVB

The species is nocturnal and does well without UVB as long as the food is dusted with vitamin D3. A weak UVB tube can nevertheless be provided in the warm end, so that the UV index is at most about 1-2 where the animal can reach, with hides and shade alongside. This has not been studied for the species, and UVB is therefore listed as optional.

Use a day length of about 12 hours in summer and 10 hours in winter, controlled by a timer. At night the enclosure should be dark. If night-time heat is needed, use a ceramic heater or a heat mat, not coloured light.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

In the enclosure the gecko feeds on insects. Offer a varied diet of live food: crickets, locusts, dubia roaches and the occasional mealworm. Waxworms are treats and should make up only a small part of the diet. The insects should be smaller than the distance between the animal's eyes.

Adults are fed every second or third day, juveniles daily. The species easily becomes overweight, so keep an eye on its weight and the girth of the tail base. Dust the insects with calcium at most feeds and with a vitamin powder containing D3 once a week. If the animal has UVB, less D3 can be given.

In the wild the species also eats fruit, especially capers. It has not been shown that fruit is necessary in captivity, but you can try offering a little ripe fruit or fruit puree to the geckos for variety.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

The gecko is shy and nervous and lies hidden in its burrow by day. Many animals never become truly tame, and handling stresses them and can make them shed the tail. Pick them up only when necessary, and then low over a soft surface. Never grab the tail.

In the wild the animals live mostly alone, but a male and a female are occasionally found in the same burrow. In the enclosure they are kept singly or in pairs. Never keep two males together. Adults may eat juveniles, so the young need their own tub. Watch for bites and injuries, and separate the pair if unrest arises or one animal loses weight.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by the broader head and by the two bulges at the base of the tail, where the hemipenes sit. There are no reliable figures for when the species reaches sexual maturity. Do not start breeding the animals until they are fully grown and in good condition. Females that are too small or thin easily lose calcium and can be harmed by egg-laying.

MATING

The winter rest is the key to breeding, and animals without a cool period rarely breed. It typically lasts about two months at around 15 °C with shorter days, and the animals are not fed during that period. Afterwards raise the temperature and day length over a couple of weeks, and feed generously.

Pairs and small groups can work, and a pair that gets on well can stay together. The species has been bred only to a limited extent, so be prepared to experiment.

EGG-LAYING AND CLUTCHES

The female lays one or two hard-shelled but very fragile eggs at a time, and up to four clutches a year. She buries the eggs in dry sand, preferably under bushes in the wild. Give her an area of loose sand 10-15 cm deep in the warm end, so that the eggs are not crushed when she moves about.

Give the female plenty of calcium and insects during the season, and stop breeding if she loses weight.

INCUBATION

The eggs must be incubated on dry substrate. Damp substrate kills the embryos. Place them in dry sand in a ventilated box without turning them. A small cup of water can stand in the box, but outside the substrate and without contact with the eggs, so that the air does not become completely dry.

At 28 °C the eggs hatch after about 90 days, and depending on temperature it takes 70-110 days. It is not known whether temperature determines the sex. Wait a long time before discarding an egg.

REARING THE YOUNG

The young are small and nervous. Keep them singly in a small faunarium with dry sand, a hide, a small damp hide and a shallow water bowl, at the same temperatures as the adults. Give them small crickets or other small insects dusted with calcium daily, and keep an eye on their weight.

Some juveniles are difficult to get started feeding. There are no reliable figures for growth, so watch the body shape. Move them to a larger enclosure with deep sand as they grow.

Health and common mistakes

There is almost no veterinary literature on this particular species, so the advice is based on experience with the genus and other desert geckos. The typical problems are:

- Too much moisture, which causes fungal and skin infections and poor sheds. Keep the sand dry with only one small damp hide.
- Obesity from too many fatty insects such as mealworms and waxworms. Vary the diet, and keep an eye on the girth of the tail base.
- Lack of calcium and vitamin D3, especially in breeding females and young animals. This causes soft bones and tremors. Dust the food.
- Sand swallowed along with the food. Preferably offer the insects in a smooth dish.
- Tail lost after handling or fights. It regrows, but becomes more rounded.
- Winter rest for animals that are thin or ill. Only healthy animals in good condition should be allowed to brumate.

Seek a vet with experience in reptiles if the animal loses weight, does not eat for several weeks, or has swellings, skin sores or laboured breathing.

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.