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GECKOS

Persian wonder gecko

Teratoscincus keyserlingii

A large, nocturnal desert gecko with frog-like eyes and a tail covered in large, tile-like plates. It lives in sandy deserts in Iran, Afghanistan and Pakistan, and in a small, threatened population in the United Arab Emirates. It is rarely kept, and little is known about its care.

Family: Sphaerodactylidae Former name: *Teratoscincus scincus keyserlingii; Teratoscincus zarudnyi*

KEY FACTS

THE ANIMAL

Adult size	**16-20 cm** total length incl. tail
Lifespan	**10-20 years**
Active	**At night**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Desert and semi-desert**
Difficulty	**Intermediate**

CARE

Min. enclosure	**90 × 60 × 45 cm** L × W × H for 2 adults
Temperature, day	**24-28 °C**
Basking spot	**30-35 °C**
Temperature, night	**18-22 °C**
Humidity	**30-50%**
UVB	**Optional**
Diet	**Insects**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**2 eggs**
Incubation	**60-110 days** at 28-29 °C

PROTECTION AND PAPERWORK

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

About the species

Teratoscincus keyserlingii is a heavily built desert gecko with large eyes without eyelids, a broad head and large, thin scales that lie like roof tiles over the body and tail. The toes have no adhesive pads, but fringes of small scales that give grip on loose sand. In adults, dark longitudinal bands run along the back, whereas the closely related species usually have crossbands or spots. The scales on the back overlap strongly and reach right up to the back of the head.

The species was described in 1863 and is the type species of the genus. The scientific name honours the Baltic German geologist and zoologist Alexander von Keyserling. For long periods it was regarded as a subspecies of *Teratoscincus scincus*, and a more recent name, *Teratoscincus zarudnyi*, is regarded as a synonym. Older care guides for *T. scincus* may therefore be about this species. Genetic studies show great variation within the species, and it is expected to be revised.

The type specimen measures 16 cm including the tail, which accounts for 6 cm. Other measurements for adults are not documented, and the size of 16-20 cm and the lifespan of 10-20 years are borrowed from *Teratoscincus scincus*. The weight is not documented. The species lays eggs.

The species is rarely kept, and its care is based on the closely related *Teratoscincus scincus*. It is a calm animal with thin skin and a tail that is easily shed. It is better suited to observing than to handling.

Distribution and habitat

The species is found in Iran, in southern Afghanistan and in western Pakistan. The type locality lies in eastern Iran. A small, isolated population lives in the United Arab Emirates; it probably arrived from southern Iran during the Ice Age and is today separated from the main population by the Persian Gulf and the Strait of Hormuz.

In the Emirates the range is smaller than 5,000 km², and the species occupies less than 100 km² of it. It lives mostly within 30-40 km of the Gulf coast and below 200 metres in altitude. The population is heavily fragmented and declining because of development and disturbance of the habitat, and it is classified as critically endangered in the country. Worldwide the species is not threatened. Older records from Qatar are doubtful.

> **Native range:** Iran, Afghanistan, Pakistan and United Arab Emirates.

HABITAT

This gecko is a sand specialist. It lives in sandy desert, among low dunes, on sand plains with sparse vegetation and occasionally on harder ground. It is found from sea level up to about 1,500 metres in altitude. During the day it lies hidden in a burrow, and at night it comes out onto the ground.

The habitat is hot and dry with large differences between day and night. The sand retains moisture at depth, so the burrow gives a cooler and more stable climate than the surface. This is the pattern to imitate in the enclosure: a dry surface, deep diggable sand and a more humid hide.

Care

THE ENCLOSURE

Little is known about the care of *Teratoscincus keyserlingii*. The recommendations are based on the sandy desert it lives in and on the closely related *Teratoscincus scincus* and *Teratoscincus roborowskii*, which have the same way of life and are better known in captivity. The figures are borrowed from them.

A pair needs an enclosure of at least 90 × 60 × 45 cm (length × width × height). A single animal needs the same size, and larger is always better, because the gecko walks around a great deal at night. Floor area matters more than height, as it does not climb. The lid must fit tightly.

Use a 10-15 cm deep layer of washed play sand mixed with clay or desert soil, so that the animal can dig a burrow that holds its shape. Avoid calcium sand and dyed sand, which the animal may swallow. Make at least two hides, for example from cork tubes and flat stones, one at the warm end and one at the cool end, and make one of them a humid hide with slightly moist soil. Place stones and hides directly on the base before the sand goes in, so that they do not collapse when the animal digs.

Read more: Calcium, vitamins and supplements

TEMPERATURE

The species needs a clear temperature gradient. During the day the cool end should be 24-28 °C, and a warm area should reach 30-35 °C at the sand surface, for example under a heat bulb or a ceramic heater controlled by a thermostat. Measure the surface temperature with a digital or infrared thermometer.

At night the temperature should fall to 18-22 °C, and extra heat is rarely needed. A cool winter rest is not documented for the species, but is borrowed from *Teratoscincus scincus*: about two months at 15-18 °C if you want the animals to breed. Feed the animals well in the weeks beforehand, and stop feeding two weeks before the temperature is lowered.

Read more: Heat and temperature

HUMIDITY AND WATER

This is a desert species, and the enclosure should be dry with a humidity of 30-50%. Do not mist the whole enclosure. Instead, moisten the sand lightly in the humid hide a couple of times a week, so that the animal has somewhere to go when it sheds.

The skin is shed in pieces, and remnants may stay on the toes and tail tip if the air is too dry. If so, make the hide a little more humid. Place a shallow dish of fresh water at the cool end, and change the water often. Good ventilation keeps the substrate dry.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

As a nocturnal animal, the gecko has no great lighting needs, and it can manage without UVB when the food is dusted with vitamin D3. A weak UVB tube for shade-dwelling animals (Ferguson zone 1-2), for example a 5-7% T5 tube at the warm end, can be used, provided the UV index reaches no more than 1-2 where the animal can get to it. There must always be shade and cover in the rest of the enclosure. UVB is therefore listed as optional.

Keep a regular day-night rhythm with about 12 hours of light in summer and 10 hours in winter. The night must be dark.

Read more: Lighting and UVB

FEEDING

The gecko is an insectivore. Offer varied live food such as crickets, locusts and dubia roaches, and mealworms or waxworms as an occasional treat. The insects should be smaller than the distance between the animal's eyes and ideally be gut-loaded with greens. Adults are fed 2-3 times a week, young animals every other day. The feeding frequency is borrowed from *Teratoscincus scincus*.

Dust the insects with calcium at most meals and with a vitamin powder containing D3 once a week. Feed in the evening, and remove insects that are not eaten. Keep an eye on the weight, because desert geckos easily become too fat in captivity.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Teratoscincus keyserlingii is calm and watchful, but fragile. The thin skin can tear if you take too firm a hold, and the tail is easily shed, so the animal should be handled as little as possible and never by the tail. Threatened animals of the genus rise up on stretched legs, arch the back and wave the tail so that the scales rattle, and they may squeak and bite. It is mostly bluff.

Males must never be kept together, because they fight. A pair can usually live together, but watch whether the animals tolerate each other, and have a spare enclosure ready. The animals sleep in the burrow during the day, so you see them mostly in the evening.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by the two bulges at the base of the tail, where the hemipenes sit, and by a row of pores in front of the vent. There are no documented figures for when the species becomes sexually mature. Females should be fully grown, in good condition and of stable weight before they are put to breeding, because young females are easily drained of calcium.

MATING

Breeding of the species is not documented in detail. In the closely related *Teratoscincus scincus*, breeding activity depends on a cool winter rest of about two months at 15-18 °C, and it is reasonable to try the same. Once the temperature has been raised again and the animals are eating normally, the male is placed with the female in her enclosure. Separate them if the female is chased without rest or gets bite wounds.

EGG-LAYING AND CLUTCHES

The genus typically lays two hard-shelled, fragile eggs at a time, and the figure is borrowed from *Teratoscincus scincus*. The number of clutches per year is not documented for the species. Give the female a laying site with deep, loose sand, for example 15 cm of sand at one end, and check regularly for new eggs, because the female may dig them up. Give her plenty of calcium and food, and stop breeding if she loses weight.

INCUBATION

The eggs should lie dry or with very little moisture. Too much moisture kills the embryos. Place them, without turning them, half-buried in dry sand or another dry substrate in a closed box with a small water dish that does not touch the eggs. The temperature is borrowed from *Teratoscincus scincus*: 28-29 °C, and hatching takes 60-110 days. It is not documented whether temperature determines sex.

REARING THE YOUNG

Keep the young singly in a small box or enclosure of 20-40 litres with sand, a dry and a humid hide, and moisten a small part of the base lightly. Adults may attack the young. Offer small live insects dusted with calcium every other day, and weigh the young regularly. There are no documented figures for growth and weight.

Health and common mistakes

There is no documented information about diseases in the species. The typical problems in closely related desert geckos are:

- A damp base and poor ventilation, which cause fungal infections, skin problems and respiratory infections. Keep the enclosure dry with only one small humid hide.
- Skin remnants on the toes and tail tip if the air is too dry.
- Damage to the thin skin after rough handling, and lost tails.
- Constipation after swallowing calcium sand or other unsuitable substrate.
- Lack of calcium and vitamin D3, especially in young animals and breeding females. Dust the food.
- Obesity from overfeeding.

See a vet with reptile experience if the animal loses weight, does not eat for several weeks, has swollen eyes, wheezy breathing or is lethargic.

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.