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IGUANAS

Desert horned lizard

Phrynosoma platyrhinos

Phrynosoma platyrhinos is a broad, flattened horned lizard from the deserts of the western USA and north-western Mexico. It reaches 7-10 cm from snout to vent, is diurnal and burrows into loose sand. It feeds mostly on ants, and it is precisely this diet that makes it one of the most difficult lizards to keep in an enclosure. There is little knowledge of how it should be cared for.

Family: Phrynosomatidae Former name: *Anota calidiarum; Doliosaurus platyrhinos*

KEY FACTS

THE ANIMAL

Adult size	**7-10 cm** snout-vent length
Lifespan	**7-9 years**
Active	**By day**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Desert and semi-desert**
Difficulty	**Expert**

CARE

Min. enclosure	**100 × 50 × 40 cm** L × W × H for 1 adult
Temperature, day	**27-30 °C**
Basking spot	**38-42 °C**
Temperature, night	**18-22 °C**
Humidity	**20-40%**
Water	**No water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**2-16 eggs**
Clutches per year	**1-2**
Incubation	**40-61 days** at 27-30 °C

PROTECTION AND PAPERWORK

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

About the species

Phrynosoma platyrhinos is a short, broad, flat lizard that looks like a small toad with horns. The scientific species name comes from Greek and means "broad" and "nose". At the back of the head sit several large, pointed horns, which are broad at the base and do not touch each other. Along each side of the body runs a single row of spiny scales, and the back is covered with scattered, pointed scales. The tail is short.

The colour follows the ground: beige, light brown or reddish with wavy, darker blotches. Two large dark blotches on the neck are clearly edged with pale scales at the back. Unlike several other horned lizards, the species has no distinct stripe along the back; it is either faint or entirely absent. Young animals resemble the adults but have shorter and less prominent horns.

From snout to vent the species grows to about 10 cm (95 mm). Weight is not documented.

The species defends itself first and foremost by lying still and blending into the ground. If discovered, it often runs a short distance and stops again, or it takes cover under a bush. It can inflate its body to look larger, and jab with its horns if it is picked up. Unlike several other horned lizards, it almost never squirts blood from its eyes. It can also dig into loose sand with

rapid shakes, so that only the head is visible.

Phrynosoma platyrhinos is a food specialist. Ants make up roughly half to four fifths of what it eats, and the rest is beetles, crickets, grasshoppers, flies and a little plant material. Ants are low in nutrients, so the species has to eat large quantities, and it has an unusually large stomach. This diet cannot be fully replaced in an enclosure, and that is the main reason the species is so difficult to keep.

Read more: Feeder animals: keeping and breeding

Distribution and habitat

Phrynosoma platyrhinos lives in the deserts of western North America. In the USA it is found in south-eastern Oregon, southern Idaho, Nevada, Utah, south-eastern California and western Arizona. In Mexico it is found in north-eastern Baja California. The type locality lies at the Great Salt Lake in Utah.

It is most common in the Mojave and Sonoran Deserts and has spread north into the Great Basin since the last ice age. It is found from almost sea level at the Colorado River up to about 2,000 m. Two subspecies, a northern and a southern, were previously recognised, but they are no longer regarded as distinct.

> **Native range:** United States and Mexico.

HABITAT

Phrynosoma platyrhinos lives in desert scrub on open, flat, hot stretches with loose sand or sandy soil and sparse shrub vegetation, for example creosote bush, and less often on rocky slopes. It prefers places with a little shrub cover and undergrowth, where it can find shade and shelter. It buries itself in the sand or uses burrows dug by other animals. It is diurnal and most active in the morning and late afternoon, while in the midday heat it buries itself or retreats into a burrow.

The species often sits near ant nests, waiting for the ants to walk past. It gets water from its food and from rain: during showers it adopts a special drinking posture with the mouth close to the ground and collects the water.

In winter the species is inactive and buries itself. How long and at what temperatures is not documented.

Care

THE ENCLOSURE

There is little knowledge about the care of *Phrynosoma platyrhinos*. Care is therefore based on the habitat: open, hot sandy flats, loose substrate, strong sun and a diet of ants. The figures are borrowed from *Phrynosoma cornutum*, which is better known in captivity but is also one of the most difficult lizards to keep. The lifespan in captivity, 7-9 years, is also borrowed from *P. cornutum*. *Sceloporus undulatus* and *Sceloporus occidentalis* are far easier to keep, because they eat ordinary feeder insects.

An adult needs an enclosure of at least 100 × 50 × 40 cm (length × width × height). The species does not climb, so floor area is what matters. The substrate should be 8-10 cm of loose, fine sand with a little soil, so that the lizard can bury itself completely. Furnish the enclosure openly and simply: flat stones and a couple of pieces of wood as basking spots and lookout points, and a couple of hides. Fix the stones in place, so that they do not shift when the animal digs. The enclosure needs a tight-fitting lid and good ventilation. Place it somewhere quiet, because the species is stressed by disturbance.

TEMPERATURE

The species is a sun lover and needs a basking spot where the surface reaches 38-42 °C, measured with an infrared thermometer. The rest of the enclosure should be cooler, 27-30 °C by day, so that the lizard can choose how long to lie in the heat. The heat lamp must be controlled by a thermostat, and the animal must not be able to touch the bulb.

At night the temperature falls to 18-22 °C. No heat is needed at night if the room stays at least 18 °C. The figures are borrowed from *P. cornutum*.

Both too little and too much heat are harmful. If it is too cold, the lizard digests poorly. If the whole enclosure is too hot, it buries itself and does not come out.

Hibernation in an enclosure is not documented. Do not give a winter rest without advice from a vet with reptile experience.

Read more: Heat and temperature Read more: Brumation and the seasons

HUMIDITY AND WATER

Humidity should be low, 20-40%, and the enclosure should dry out completely during the day. The substrate must not be wet.

The species hardly ever drinks from a dish, but licks droplets from stones and plants. Mist lightly once or twice a day, so that droplets form, and let it dry off again.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is diurnal and spends the day in open sunlight, so it needs strong light and UVB all year. Use a UVB tube (Ferguson zone 3, T5 HO 10-14%) or a combined UVB metal halide lamp over the basking spot. The zone is set from the habitat. Measure the UV index at the height of the animal's back, and replace the light source according to the manufacturer's instructions.

Keep the light on for about 12 hours a day, preferably 14 hours in summer and 10 hours in winter, controlled by a timer. There must be a cooler, shadier place to retreat to. At night it must be dark.

Read more: Lighting and UVB

FEEDING

Food is the decisive limitation. In the wild, ants make up roughly half to four fifths of the diet, and the species eats large quantities. The rest is beetles, crickets, grasshoppers and flies. The diet cannot be fully reproduced in an enclosure, and there is no documented diet that keeps the species healthy over time.

In an enclosure it is fed fruit flies, small crickets and small mealworms, dusted with a calcium supplement, once a day. Give as many different small feeder insects as possible, and offer live ants when they can be obtained. Wild ants can carry intestinal worms, and they must be collected only from pesticide-free places. The feeder insects must be small.

Feed the feeder insects a nutritious diet for a day before they are given. Weigh the animal regularly: an animal that loses weight is not getting enough of the right food.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

Phrynosoma platyrhinos is calm and lives alone. It does not make much fuss and is easy to overlook, because it blends into the ground. It moves in short bursts and stops again. It is more inclined to run away than most other horned lizards. A raised forebody, head bobbing, tail movements and standing on three legs are used as signals to others of its kind.

The species is not an animal for handling. It is easily stressed, and an animal that is picked up may try to jab with its horns. Let new animals settle in peace, and handle them only when necessary. Keep one animal per enclosure.

Breeding

SEXUAL MATURITY AND SEXING

The age at sexual maturity and the external distinguishing features of the sexes are not documented for *Phrynosoma platyrhinos*. Use only fully grown animals in good condition for breeding, and keep an eye on the female's weight when she is carrying eggs.

MATING

Mating is not documented in an enclosure. The species is egg-laying. In the wild, mating follows the inactive period in winter, and the male nods his head to the female. In *P. cornutum* the male lies on top of the female for a couple of hours, and the female afterwards rejects other males. Remove the male again after mating. How mating is triggered in an enclosure is not documented.

EGG-LAYING AND CLUTCHES

The female lays one or two clutches a year in spring and summer, each of 2-16 eggs, in a burrow that she digs in the sand. For egg laying a female needs a box or a corner with at least 25 cm of deep, slightly damp sandy soil. The depth is borrowed from *P. cornutum*. Without a suitable site the female may retain the eggs, and this can become life-threatening.

INCUBATION

Incubation time and temperature are not documented for the species. The 40-61 days and 27-30 °C in captivity are borrowed from *P. cornutum*, where the eggs are incubated in slightly damp vermiculite and moved carefully without being turned. Keep the moisture even, so that the eggs neither dry out nor become wet.

Read more: Incubating eggs

REARING THE YOUNG

Rearing of the species is not documented. In *P. cornutum* the young are small and shy and eat only small ants, and rearing is the most difficult stage. They must be fed daily with fruit flies and small crickets, dusted with calcium, and given peace and many hiding places.

Health and common mistakes

Most illnesses are caused by errors in the diet or in the set-up. The typical problems are:

- Emaciation and starvation. If the diet is not right, the lizard slowly loses weight and dies. This is the most frequent cause of loss, especially in animals from the wild.
- Calcium deficiency and brittle bones (metabolic bone disease) from too little UVB and calcium. This causes soft jaws, bowed legs and tremors.
- Stress from too few hiding places, too little peace or several animals together.
- Intestinal worms and mites, especially in animals from the wild. Have a faecal sample tested, and check the skin.
- Shedding problems in air that is too dry.
- Burns from unguarded heat lamps.

A healthy animal is alert and has a plump body. Weigh the animal regularly, because sudden weight loss is often the first sign of illness. See a vet with reptile experience if the animal loses weight, does not eat, is limp or has swellings in the jaw.

Read more: Common diseases and signs of illness

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.