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ANGUIDS

Texas Alligator Lizard

Gerrhonotus infernalis

Gerrhonotus infernalis is a robust, brownish alligator lizard with pale crossbands from limestone canyons and oak woodland in central Texas and northern and central Mexico. It grows to 30-60 cm, is diurnal, climbs well and lays many eggs. It is hardy and forgiving to keep, but is rarely seen in the trade.

Family: Anguidae Former name: *Gerrhonotus liocephalus infernalis; Gerrhonotus taylori*

KEY FACTS

THE ANIMAL

Adult size	**30-60 cm** total length incl. tail
Lifespan	**10-15 years**
Active	**By day**
Lifestyle	**Arboreal and terrestrial**
Habitat	**Rocky terrain and temperate woodland and meadow**
Difficulty	**Intermediate**

CARE

Min. enclosure	**90 × 60 × 60 cm** L × W × H for 2 adults
Temperature, day	**25-29 °C**
Basking spot	**38-42 °C**
Temperature, night	**15-21 °C**
Humidity	**40-70%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects and worms/snails**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**18-48 months**
Clutch size	**5-31 eggs**
Clutches per year	**1**
Incubation	**48-70 days** at 24-26 °C

PROTECTION AND PAPERWORK

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

About the species

Gerrhonotus infernalis is a robust alligator lizard with a broad head, short limbs, keeled, armour-like dorsal scales and a long, partly prehensile tail. The back is tan to reddish brown with eight to ten paler crossbands, faintly edged with brown. The young are a deep metallic brown with sharp, white bands, and the pattern becomes more blurred with age. The head and belly are usually unmarked.

The species is regarded as the largest of the North American alligator lizards and grows to about 60 cm including the tail, of which at most about 20 cm is body and head. Newly hatched young are about 10 cm. The males grow larger and develop a much broader head than the females, and the females have a longer and stouter hind body. At the base of the tail the male has a distinct bulge from the hemipenes.

The species was described by Spencer Fullerton Baird in 1859. Older literature treats it as a subspecies of *Gerrhonotus liocephalus*. Since a revision of the genus in 1994, *G. infernalis* is regarded as a separate species, ranging from Texas to Hidalgo, while *Gerrhonotus liocephalus* lives further south, from Guerrero and Puebla to Chiapas. Husbandry knowledge from

Texas and north-eastern Mexico under the old name therefore applies to this species. In 2018 the lowland population in the Cuatro Ciénegas basin in Coahuila was described as a separate species, *Gerrhonotus mccoyi*. The species name means "underground" and refers to the animal's hidden way of life.

The animal is shy, but bites hard if it is grabbed. It can drop its tail as a distraction, and the tail regrows only partially. Lifespan in captivity is not documented; 10-15 years is an estimate.

Distribution and habitat

Gerrhonotus infernalis is found from central and western Texas, especially the Edwards Plateau and the Balcones Escarpment, south through Coahuila, Nuevo León, Tamaulipas, San Luis Potosí, Querétaro and Guanajuato to central Hidalgo. There are also isolated populations in southern Chihuahua, Durango and Zacatecas. The type locality is the Devils River in Texas.

Further to the south-east, from south-eastern San Luis Potosí and Tamaulipas to Veracruz, *Gerrhonotus ophiurus* lives, and *Gerrhonotus liocephalus* lives even further south. They are not included on the map.

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

HABITAT

Gerrhonotus infernalis lives in limestone canyons, oak woodland and scrub, on rocky slopes and along streams and springs, from the lowlands up into the mountains. Around Cuatro Ciénegas in Coahuila it lives only on the mountain slopes in oak and pine-oak woodland above 1,300 m. It is predominantly diurnal, but can be out at night in early summer, and lives both on the ground and in trees, bushes and rock crevices, where it climbs using the semi-prehensile tail as support. It seeks cover in crevices, under stones and in leaf litter and hunts actively in the leaf litter.

The climate has a hot, rainy summer and a dry, cooler winter. The day length varies from about 14 hours in June to about 10 hours in December. The average daytime temperature is 34-36 °C in late summer and 16-21 °C in winter, and the night temperature can fall to about 5 °C. The diet is insects, spiders, snails, scorpions and other arthropods and occasionally small vertebrates and birds' eggs. The female lays the eggs in May or thereabouts in moist soil under logs or flat stones and lies coiled around them.

The species is assessed as not threatened (LC) by the IUCN. Many habitats are, however, affected by building and development.

Care

THE ENCLOSURE

Gerrhonotus infernalis is relatively calm and needs less space than more active lizards of the same size. It is hardy and tolerates a fair amount of deviation in care. A pair needs an enclosure of at least 90 × 60 × 60 cm (length × width × height). Larger is better, because the animals use the whole space and climb a lot.

The substrate is a deep mixture of granite grit, sand and garden soil or peat, covered with a thick layer of leaf litter, so that the animals dig and forage. Furnish with branches at several heights, bark or slate as hides and live plants such as agaves, grasses, tillandsias and ferns. A back wall of artificial rock provides extra climbing surface. A shallow water bowl with a damp substrate underneath provides a humid hide.

The enclosure can be made of PVC, glass, wood or mesh, depending on the climate in the room. PVC with glass or acrylic doors holds heat and humidity best. The males are territorial, so they must be kept separately. A pair can be kept together all year round if there is room to avoid each other.

Read more: Humidity, misting and ventilation

TEMPERATURE

The air in the enclosure should be 25-29 °C by day, with a basking spot of 38-42 °C under halogen spotlights, where the animal can warm up. At night it should be cooler, about 15-21 °C. Measure with digital thermometers.

Temperature and day length should follow the season: warmest in summer, cooler and with a shorter day in winter, so that the animal is less active and eats less. The cold period must be mild, and frost is never acceptable.

Replace the bulbs when they lose output, and make sure that the animal can always move away from the heat.

Read more: Heat and temperature

HUMIDITY AND WATER

The humidity should be moderate, about 40-70 %, with higher humidity in the hides. Mist the enclosure three to four times a week in summer, so that the rainy season is imitated, and less often in the dry season. Always keep a shallow bowl of fresh water in the enclosure, and let it overflow now and then, so that the substrate around it becomes moist. The animal rarely drinks from the bowl and covers a large part of its water needs through its food and humid hides.

The enclosure must dry out between mistings, so that mould does not develop.

LIGHTING AND UVB

The species is diurnal and needs strong light and UVB. Use a T5 HO tube for UVB, so that the UV index runs from 0 to 3 through the enclosure, corresponding to Ferguson zone 2, and so that the animal can move out of the UV light. The distance between the tube and the basking spot depends on the strength of the tube and on any mesh and should be checked with a UV meter. Halogen bulbs provide heat and near-infrared light, and LED lighting of about 6,000 K provides enough light for live plants.

The lighting is connected to a timer that follows the season: about 14 hours in summer and about 10 hours in winter.

Read more: Lighting and UVB

FEEDING

Gerrhonotus infernalis lives on insects and other small animals and hunts actively. Give a varied diet of crickets, cockroaches, grasshoppers, katydids, mantises, stick insects, caterpillars, spiders, flies, fly larvae and beetle grubs. The feeder animals must be no larger than the animal's head.

The animal readily takes food from tongs, and this provides good exercise. Adults are fed 2-3 times a week, young every other day. Dust the food according to a fixed schedule: two or three feedings with multivitamin followed by one with calcium. If UVB is used, calcium and vitamins without D3 can be chosen. Females that are about to lay eggs need extra calcium.

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

BEHAVIOUR AND HANDLING

The species is shy but curious and can become very calm and trusting towards its keeper. It basks on branches and stones and hunts by sneaking up on the prey, bending the forebody into an S shape and striking. Just before the attack it sometimes twitches its tail like a cat.

A wild or frightened animal bites hard, and a bite can hurt, so handle the animal only when necessary. The males are territorial and may fight, so they must be kept separately. The female lies coiled around her eggs and often defends them by opening her mouth, puffing herself up, hissing and lunging at a hand that comes too close. Wash your hands after contact with the animals and the enclosure, because reptiles can carry salmonella.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

The males have a larger and broader head and a distinct bulge at the base of the tail. The females are slimmer with a longer hind body. In the wild the species becomes sexually mature after 2-4 years, but with plentiful, regular feeding the animals can be fully grown and sexually mature after only about 18 months.

MATING

Mating normally takes place in autumn and happens on the ground: the male grips the female's nape with his mouth, and mating can last many hours. Plentiful misting in late summer, slightly cooler weather and more frequent feeding (3-4 times a week) trigger mating. Separate the animals if the female gets wounds.

EGG-LAYING AND CLUTCHES

The female lays once a year in a place where the substrate is cool and moist, for example in a cave or under the water bowl. In the wild this happens around May, in captivity also in the winter half of the year. A clutch is 5-31 eggs, typically 10-20. The female loses more than half of her weight at egg-laying. She lies coiled around the eggs and usually defends them, but not all

females do.

Give her a moist cave or a box of soil to lay in, and disturb her as little as possible. She needs extra calcium and food both before and after egg-laying.

INCUBATION

The eggs are carefully lifted out and placed on a grid over a damp substrate, for example fired clay, in a ventilated container with a layer of wrung-out sphagnum on top. Incubate them at 24-26 °C (an estimate). At 26 °C the eggs hatch after 48-50 days, but many eggs die at that temperature, so stay at the low end, where the incubation time becomes longer, up to 70 days. Keep the humidity high, but avoid the eggs becoming wet.

Read more: Incubating eggs

REARING THE YOUNG

The young are beautifully patterned, high in contrast and about 10 cm long. Their requirements are the same as the adults'. After a few days they take small insects such as flightless fruit flies, small beetles, small larvae and small crickets. They can be kept in groups of 5-7 in an enclosure of about 60 × 45 × 45 cm with many leafy branches as hides. Feed every other day. They grow quickly, and the males become territorial at sexual maturity and must then be separated.

Health and common mistakes

The species is hardy and tolerates a lot when the basic requirements are met. The typical problems are:

- Metabolic bone disease from too little UVB and calcium, especially in young animals and females that lay eggs.
- Obesity from fatty feeder animals and too little exercise.
- Mites and internal parasites. New animals should be quarantined for at least three months.
- Mould and respiratory infection from air that is too wet and stagnant.
- Bite and tail injuries between males kept together.
- Egg-laying difficulties in females without a suitable place to lay eggs.

A healthy animal has clear eyes, a plump tail and eats regularly. If the animal loses weight, does not eat or breathes with its mouth open, it must see a vet with reptile experience.

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.