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ANGUIDS

Eastern Glass Lizard

Ophisaurus ventralis

Ophisaurus ventralis is a long, legless glass lizard from the coastal plains of the south-eastern USA. It grows to about 108 cm, more than two thirds of which is tail, and lives hidden in damp, sandy woodland and meadows. It resembles a snake. It needs a roomy enclosure with deep, diggable substrate, a warm spot and a varied diet of insects, snails and earthworms.

Family: Anguidae

KEY FACTS

THE ANIMAL

Adult size	**45-108 cm** total length incl. tail
Lifespan	**4-15 years**
Active	**By day and at dusk**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Savanna and wetland**
Difficulty	**Experienced**

CARE

Min. enclosure	**120 × 60 × 60 cm** L × W × H for 1 adult
Temperature, day	**22-29 °C**
Basking spot	**30-32 °C**
Temperature, night	**18-22 °C**
Humidity	**60-75%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 2
Winter rest	**12-16 °C** 6-10 weeks
Diet	**Insects, vertebrates and worms/snails**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**24 months**
Clutch size	**5-17 eggs**
Clutches per year	**1**
Incubation	**50-65 days** at 26-29 °C

PROTECTION AND PAPERWORK

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

About the species

Ophisaurus ventralis is an elongated, legless lizard in the family Anguidae and the largest of the North American glass lizards. Adults are 45-108 cm long, but the snout-vent length is at most about 30 cm: the tail makes up more than two thirds of the total length. The weight has not been reliably documented. The body is stiff and has a deep, longitudinal fold on each side, which gives room when the body expands with breathing, after a meal and in females carrying eggs.

The young are light brown and have two dark stripes down the back; they keep the juvenile colouring until they are at least 12 cm from snout to vent. Older animals turn green with a yellow underside. They have many dark streaks along the sides, vertical white streaks on the sides of the head and neck and white spots on the rear edge of the scales, but no dark stripe

down the middle of the back and no dark stripes below the lateral fold. This distinguishes the species from *Ophisaurus attenuatus*, with which it can otherwise be confused. The females are greener, the males yellowish green with broader stripes and golden or brown spots.

The species is often mistaken for a snake, but it has eyelids, a visible ear opening, a firm body and a fold along the side. The jaws are not flexible as in snakes, so the size of the prey sets a limit. The tail breaks off easily, goes on writhing for several minutes and distracts the attacker. The genus name comes from the Greek words for snake and lizard. Longevity in captivity is 4-15 years.

Distribution and habitat

Ophisaurus ventralis lives on the coastal plains of the south-eastern USA, from south-eastern Virginia through eastern North Carolina, South Carolina, Georgia and Florida and along the Gulf of Mexico through Alabama and southern Mississippi to south-eastern Louisiana. There are also records from Oklahoma. The species has been introduced to Grand Cayman, but is apparently not established there. The type locality is the area around Charleston in South Carolina.

> **Native range:** United States.

HABITAT

Ophisaurus ventralis lives in pine woodland on flat, sandy ground, in damp deciduous woodland, in coastal woodland, on wet meadows and in damp, grassy areas near swamps and marsh. The soil is sandy or loamy and loose, so the animals can dig. They hide under dead branches, bark and other debris and in burrows in the ground.

The species is most active early in the morning and at dusk and basks in open places. The animal hunts both underground and in the grass. The food is grasshoppers, crickets, cockroaches, beetles, caterpillars, termites, woodlice, millipedes, centipedes, spiders, earthworms, snails, crayfish, small snakes and mammals and the eggs of reptiles and birds. Larger animals may eat smaller animals of the same species. In winter the animals lie dormant in the ground.

Read more: Feeder animals: keeping and breeding

Care

THE ENCLOSURE

Little is known about the care of *Ophisaurus ventralis*, and the species is rarely kept. The figures are based on the species' habitat and on the other glass lizards in the genus, and the text states where they are estimates.

A single adult needs an enclosure of at least 120 × 60 × 60 cm (length × width × height), so that it can stretch out fully. Floor area matters more than height. The substrate must be at least 15 cm deep and loose, so that the animal can bury itself, for example a mixture of fertiliser-free garden soil, sand and coconut fibre, and the top is covered with leaf litter, bark and flat stones. Provide hides of bark and cork at both ends, a moist hide with moss at the cool end, and leave part of the substrate slightly moist while the rest is dry.

The lid must be tight and lockable, because a strong, legless lizard pushes and finds gaps. Ventilation must be good. The animals are kept singly: they are solitary, and larger animals may eat smaller ones.

TEMPERATURE

The daytime temperature must be 22-29 °C, with a basking spot of 30-32 °C measured on the surface with an IR thermometer and about 24 °C at the cool end. At night the temperature falls by 3-6 degrees to 18-22 °C, and the heat is switched off. The figures are estimates and have not been measured for the species. Use a spotlight over a flat stone or a hide, so that the animal can warm itself from below and from above.

The species comes from an area with mild but distinct winters and lies dormant in the ground. A cool brumation is probably an advantage, especially if the animal is to be bred. The animal must be healthy and weighed, feeding is stopped about 2 weeks beforehand, and the temperature is lowered gradually. The animal is then kept at 12-16 °C for 6-10 weeks in deep, slightly moist soil with a water dish and a hide. The figures are estimates and have not been documented for the species. On waking the temperature is raised gradually, and the animal is offered water before food. Sick and underweight animals must not be brumated.

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

HUMIDITY AND WATER

The humidity must be 60-75 %. The species lives on damp, sandy ground, so part of the substrate must be slightly moist while the rest dries out, so that the animal can choose. Spray the substrate and the moss at one end daily, and check that no mould grows.

Provide a large, stable, shallow dish of fresh water in the enclosure. It must be large enough for the animal to lie in and shallow enough for it to climb out easily. Change the water daily, because the animal drags substrate into the dish, and scrub the dish once a week.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

In the wild the species basks and prefers partial shade. Provide a UVB tube in Ferguson zone 2 over the basking spot, so that the animal can choose to move into the light itself, and a UV index of 2-3 at the basking spot. This is an estimate. The distance between tube and animal depends on the tube and fixture and is checked with a UV meter. The tubes are replaced according to the manufacturer's instructions.

Switch the light on for 11-13 hours a day, longest in summer and shortest in winter. Natural, unfiltered sunlight is an advantage, but the enclosure must never stand in direct sun behind glass, because it quickly overheats.

Read more: Lighting and UVB

FEEDING

Ophisaurus ventralis is an opportunistic carnivore that mainly takes insects and other small animals, but also snails, earthworms, small snakes and eggs. The jaws are not flexible, so the prey must be small enough to be swallowed whole.

Give a varied diet: snails, earthworms, crickets, grasshoppers, cockroaches, mealworms and superworms and occasionally a killed newborn mouse. Dust the insects with calcium at most feedings and with a multivitamin once a week. Mice easily cause obesity and should be only a small part of the diet. Use captive-bred feeder animals, not wild-caught ones, so that you avoid parasites and pesticides.

Adults are fed 2-3 times a week with as much as they eat in 10-15 minutes, and young daily or every other day. Use a shallow dish or tweezers, so that the animal does not swallow substrate. If the animal does not eat outside brumation, or if it loses weight, it must see a vet.

Read more: Calcium, vitamins and supplements Read more: Buying animals: captive-bred, wild-caught and transport

BEHAVIOUR AND HANDLING

Ophisaurus ventralis is calm but does not like being handled. When it is grabbed, it twists, may bite and sheds its tail easily, so never lift the animal by the tail. Support the whole body, and let new animals settle for a couple of weeks before they are handled. The animal is not venomous. The tail regrows slowly and becomes shorter and darker.

The species is solitary. The animals meet only to mate, and in captivity they are kept apart. Like all reptiles the species can carry salmonella, so wash your hands after contact with the animal, the enclosure and the food.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

The sexes differ in colour in adults: the males are yellowish green with broader stripes and golden or brown spots, while the females are greener. The difference becomes more distinct as the animals approach sexual maturity, which occurs at about 2 years of age. Reliable sexing of young animals requires a vet with reptile experience. Do not breed an animal until it is fully grown and in good condition.

MATING

Mating takes place in spring, and the female lays once a year. The mating itself has not been described in detail. Put the male in with the female in her enclosure, and separate them immediately if the female is wounded. The female must have plenty of food before and after mating, so that she can build up reserves for the eggs. Keep the animals apart for the rest of the year.

EGG-LAYING AND CLUTCHES

The species lays eggs. The female lays 5-15 eggs, up to 17, in summer, from June to early autumn. The eggs measure about 21 × 13 mm. They are laid in a shallow hollow under logs or grass tussocks in loose, sandy or loamy soil, and the female lies coiled around them. She does not defend them, but gathers them again with her snout if they are scattered.

Give her a laying box with moist, loose soil or sand and a hide over it, so that she can dig and lay in peace.

INCUBATION

Carefully move the eggs to the incubator without turning them, and place them on slightly moist vermiculite in a closed container with small air holes. Incubation takes 50-65 days, and the young hatch in August and September. The incubation temperature has not been documented for the species; 26-29 °C is an estimate based on related, egg-laying lizards. Keep the temperature stable.

Read more: Incubating eggs

REARING THE YOUNG

The young are 12-20 cm long and light brown with two dark stripes at hatching. They are independent from the start. Give each young animal its own enclosure with deep, slightly moist substrate, hides and a warm spot. Feed them daily or every other day with small crickets, small earthworms and small snails, dusted with calcium. Growth has not been documented.

Health and common mistakes

The species is rarely kept, and there is little reliable information on diseases in captivity. The typical problems are:

- Obesity from fatty food such as mice and too little movement. Weigh the animal regularly.
- Metabolic bone disease and calcium deficiency from a one-sided diet and too little light.
- Skin problems and mould in a substrate that is constantly wet, and dehydration in a substrate that is completely dry.
- Internal parasites and mites, especially in newly purchased and wild-caught animals. Quarantine new animals.
- Injuries to the tail when the animal is grabbed by it.
- Egg-laying difficulties if the female has no suitable place to lay.

A healthy animal is glossy and firm with a full tail and eats willingly. Reptiles hide illness, so contact a vet with reptile experience if the animal loses weight, does not eat outside brumation or breathes with its mouth open.

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.