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IGUANAS

Eastern Fence Lizard

Sceloporus undulatus

A small, fast sun-lover from the eastern USA that sits on fence posts, tree trunks and rock piles. The male has blue and black patches on the belly and throat and shows them off with push-ups. The species is robust and insectivorous, but needs a powerful basking spot, UVB and a roomy enclosure with space to run.

Family: Phrynosomatidae English name: Eastern fence lizard Former name: *Sceloporus floridanus; Agama undulata; Lacerta undulata*

KEY FACTS

THE ANIMAL

Adult size	**10-19 cm** total length incl. tail
Lifespan	**4-5 years**
Active	**By day**
Lifestyle	**Arboreal, rock-dwelling and terrestrial**
Habitat	**Temperate woodland and meadow**
Difficulty	**Intermediate**

CARE

Min. enclosure	**80 × 40 × 40 cm** L × W × H for 1 adult
Temperature, day	**27-28 °C**
Basking spot	**38-42 °C**
Temperature, night	**18-22 °C**
Humidity	**40-60%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Winter rest	**8-12 °C** 8-12 weeks
Diet	**Insects**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-24 months**
Clutch size	**3-13 eggs**
Clutches per year	**1-4**
Incubation	**55-70 days** at 27-30 °C

PROTECTION AND PAPERWORK

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

About the species

Sceloporus undulatus is a small to medium-sized, heavily built lizard with keeled scales that give the skin a rough surface. It reaches 10-19 cm including the tail and weighs about 15 g as an adult. The ground colour is grey, brown or rusty brown, and the female has a series of dark, wavy cross-bands across the back. The species name *undulatus* means "wavy" and alludes to the transverse bands. A dark line runs along the back of the thigh.

The sexes are easy to tell apart. The male is more uniformly brown with a reddish tone and has a blue and black patch on each side of the belly and on the throat. The patches are displayed when he marks territory with rapid push-ups and head-bobs. The female is paler on the belly with only weak blue colour or none, and she is slightly larger than the male. The young resemble the female, but are darker and duller. The colours change a little with temperature: the lizard is darkest when cold and palest when warm and active, and the male's blue patches are brightest when he is warm.

Until 2002 ten subspecies were recognised, but genetic studies showed that they did not form natural units. Several of them are now separate species, including *Sceloporus consobrinus*, *Sceloporus tristichus* and *Sceloporus cowlesi*. *S. undulatus* in the narrow sense lives east of the Mississippi. The name is still widely used for the whole species complex, so an animal sold as *S. undulatus* may belong to one of the close species.

The species is fast, wary and well camouflaged and is seldom seen in the trade. Only a few species in the genus *Sceloporus* are commonly kept. On the other hand, *S. undulatus* is robust and a good choice for anyone who wants to keep an active, diurnal lizard from temperate regions.

Distribution and habitat

Sceloporus undulatus is distributed in the eastern USA, from southern New Jersey and Pennsylvania in the north through southern Ohio and Indiana and on south to Georgia and northern Florida. To the west the range extends to the Mississippi River; the populations west of the river belong to *Sceloporus consobrinus*. Animals from the western USA and from Mexico are now assigned to other species in the complex.

The population on Staten Island in New York was introduced in 1942 and is not part of the original range. Size and reproduction vary with latitude: southern animals grow larger, more often lay several clutches and have a longer active season, while northern animals have larger eggs and a shorter development time.

> **Native range:** United States.

HABITAT

The species lives in open woodland and woodland edges, especially pine forest with sandy, loose soil, and in scrub and grassland with scattered trees. It sits on fence posts, tree trunks, fallen trees, stumps, rock piles and house walls in full sun and seeks shelter under firewood, bark and stones when it is too hot, and at night. Both adults and young prefer places with many rocks and dead wood.

The lizard is diurnal from early morning to evening. In summer it spends more time on tree trunks and branches and less on rocks, so that it can keep its temperature down. Each animal has a fixed home range of about 50-60 m², and the males defend theirs against other males.

The climate is temperate to subtropical with hot summers and cold to mild winters. The northern populations brumate for several months in hiding, while the southern ones are active most of the year and hide only in rain and cold spells. The diet is small arthropods, especially ants, beetles, grasshoppers and spiders.

Care

THE ENCLOSURE

An adult needs an enclosure of at least 80 × 40 × 40 cm (length × width × height). A pair or a male with two females needs at least 100 × 50 × 50 cm. Bigger is better, because *Sceloporus undulatus* is fast and uses the whole enclosure, and more space means fewer fights. Never keep two males together. The lid must be tight-fitting and made of mesh or grille, because the species jumps well and is quickly out when the enclosure is opened.

The best furnishing imitates a sunny forest clearing. For the substrate use a mix of sand and soil 5-10 cm deep, so the lizard can dig a little and the female can lay eggs. Lay bark, cork, sloping branches and flat stones at different heights for basking spots and hides. The branches must be at least twice as thick as the animal's body. The stones must stand stably directly on the floor, because the lizards retreat into the crevices between them. Place the highest basking spot directly under the heat lamp, and make hides at both the warm and the cool end.

The enclosure must stand on a solid base in a quiet place. Animals that can see out into a busy room quickly become stressed.

Read more: Heat and temperature

TEMPERATURE

By day the background temperature should be 27-28 °C. Directly under a heat lamp there should be a basking spot of 38-42 °C, measured on the surface with an infrared thermometer. The rest of the enclosure should be cooler, so the lizard can choose where to lie. At night the temperature falls to 18-22 °C. The lamp is switched off, and no extra heat is needed when the room stays at least 18 °C.

Both too little and too much heat are harmful. If it is too cold, the animal becomes sluggish, eats poorly and digests poorly. If the whole enclosure is too warm, the animal burrows and does not thrive. Use a thermostat for the lamp and two thermometers, one at the warm and one at the cool end.

If the animals are to be brumated, they are kept at 8-12 °C in darkness for two to three months (see the section on mating).

HUMIDITY AND WATER

Humidity should be moderate, about 40-60 %. The species lives in open, sunlit areas and does not tolerate permanently steamy conditions, but the substrate must not be bone dry either. Mist lightly once a day on a wall, plants and stones, so that droplets form that the lizards can lick, and let it dry out during the day.

In addition provide a shallow, stable dish of fresh water, changed daily, which the lizard can reach easily. Ensure good ventilation, so the air does not stand still. The substrate must not be wet, but a slightly moist hide at the cool end gives the animal a choice.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Sceloporus undulatus is a diurnal, sun-loving species that needs strong light and UVB all year. Use a UVB tube for sun-loving species (Ferguson zone 3) or a combined UVB metal halide lamp over the basking spot. The basking spot should be 20-30 cm from the UVB source, and the light source is replaced according to the manufacturer's instructions. Alongside it a heat lamp should give the basking spot 38-42 °C, and the rest of the enclosure should be well lit.

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

Read more: Lighting and UVB

FEEDING

Sceloporus undulatus is insectivorous, and in the wild ants, beetles and spiders make up a large part of the diet. It eats live insects such as crickets, small cockroaches, grasshoppers, mealworms, silkworms, soft caterpillars and waxworms. Variety is important: give at least three or four different insect species, and avoid mealworms making up the bulk. Insects from a pesticide-free meadow, caught with a net, are a good supplement in the summer half-year. The feeder insects must not be wider than the distance between the lizard's eyes.

Adults are fed every other day with as much as they eat in a few minutes. Subadults are fed every day. Do not give more than the animal eats, because the species easily becomes too fat in captivity. The feeder insects are gut-loaded for a couple of days before they are fed on.

Dust the food with calcium with vitamin D3 every ten to fourteen days for adults and every week for subadults and females in the egg-laying season. At the other feedings use plain calcium without D3.

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

BEHAVIOUR AND HANDLING

S. undulatus is wary, fast and territorial. Males display with push-ups, head-bobs and an inflated body and defend their place against other males. The species does not become tame and is not suited to handling. It is easily stressed and may drop its tail if grabbed. Brief handling for health checks and moving is fine, but never grab the tail. Animals from the wild need several weeks in peace to settle in.

A single animal, a pair or a male with two females can be kept together in a large enclosure with many visual barriers. Two males are never kept together, not even in a large enclosure, and females can squabble too. If the animals chase each other, bite, or one animal hides all the time, they must be separated. The lizards are fast and jump well, so open the lid carefully.

Breeding

SEXUAL MATURITY AND SEXING

The sex is seen by a distinct blue and black patch on each side of the belly and on the throat in the male, a thicker tail base and larger pores on the underside of the thighs. The female is slightly larger, grey with dark cross-bands and has only weak blue colour or none. All signs are clearest in the mating season. The species is sexually mature after one to two years, but

females should be at least two years old and in good condition before being used for breeding.

MATING

The mating season is from April to August. The northern populations brumate naturally, and a brumation is the surest way to get the animals to breed regularly. Give only healthy, well-nourished animals a brumation: switch off light and heat and keep them at 8-12 °C in complete darkness and 60-70 % humidity, without anything getting wet, for two to three months. Provide water, but no food during that period. After the rest, light and heat are increased gradually over a couple of weeks.

The male is put in with the female, or they live together in a large enclosure. He shows his blue patches, bobs and pursues her. After mating the sexes have nothing to do with each other, and the female looks after neither eggs nor young. Give the female extra insects and calcium throughout the season, and remove the male if he pursues her relentlessly.

Read more: Brumation and the seasons

EGG-LAYING AND CLUTCHES

Young females lay one clutch of 3-13 eggs a year, larger females 2-4 clutches over the season. The female buries the eggs 3-7 cm deep in the soil, where moisture and temperature are stable. Provide a laying box with a moist sand-soil mix, at least 10 cm deep, in the enclosure, and keep the substrate evenly moist, but not wet. A female without a suitable site may retain the eggs. If she digs without laying, or is clearly gravid for several weeks, she must see a vet.

INCUBATION

The eggs are carefully moved to a box with slightly moist vermiculite or perlite without turning them. The eggs are incubated at 27-30 °C; in trials with the species a constant temperature of 28-30 °C is used. The eggs roughly double in size during development. They hatch after 55-70 days, fastest at the warm end of the range. Keep the moisture even, so the eggs neither dry out nor take up too much water. In the wild the young hatch from June to September.

REARING THE YOUNG

The hatchlings are about half the size of the adults when they hatch, and they grow quickly, especially in the first two months. They are sexually mature after about a year. Put them singly or in small groups of the same size in a smaller enclosure with the same temperature, UVB and furnishing as the adults. Give small insects daily such as springtails, fruit flies, newly hatched crickets and small mealworms, dusted with calcium and D3 every week. Mist daily, and separate the animals if there are fights. Young animals can be aggressive towards each other, especially towards smaller ones.

Health and common mistakes

Sceloporus undulatus is hardy when temperature, light and food are right. The typical problems are:

- Calcium deficiency and brittle bones (metabolic bone disease) from too little UVB and calcium. This causes soft jaws, bent legs and tremors.
- Stunted growth and emaciation from too low a temperature or a one-sided diet, especially in newly imported animals.
- Intestinal worms and mites, especially in animals from the wild. Have a faecal sample examined, and check the skin.
- Stress and injuries from too few hides, too small enclosures or several males together, with bites and shed tails.
- Egg-laying problems if the female does not have a suitable laying site.
- Shedding problems from air that is too dry, where scales remain on toes and tail.

A healthy animal is alert, has clear eyes, a plump tail and a firm grip. Consult a vet with experience of reptiles if the lizard 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.

The full guide with map and updates: herpy.org/en/iguanas/sceloporus-undulatus