herpy

LACERTIDS

Yellow Tegu

Salvator duseni

Salvator duseni is a diurnal, ground-dwelling tegu from the savannas of central Brazil and Paraguay. It is smaller than the two well-known tegus *Salvator merianae* and *Salvator rufescens*, has a dark head and dark legs and is yellow and black on the body. Almost nothing is known about its care in captivity, and the species is not available in the trade.

Family: Teiidae Former name: *Tupinambis duseni*

KEY FACTS

THE ANIMAL

Adult size	**41 cm** snout-vent length
Lifespan	**15-20 years**
Active	**By day**
Lifestyle	**Terrestrial and burrowing**
Habitat	**Savanna**
Difficulty	**Expert**

CARE

Min. enclosure	**250 × 125 × 125 cm** L × W × H for 1 adult
Temperature, day	**24-35 °C**
Basking spot	**52-57 °C**
Temperature, night	**20-23 °C**
Humidity	**70-80%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects, fruit, plants, vertebrates and worms/snails**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**36 eggs**
Incubation	**40-75 days** at 29-30 °C

PROTECTION AND PAPERWORK

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

About the species

Salvator duseni is a medium-sized tegu, a powerful, diurnal lizard with a triangular head, muscular legs and a long tail. It measures up to 41 cm from snout to vent; the total length including the tail is not documented. The head and legs are dark, darkest at the tip of the snout, and the body is patterned in yellow and black. The species was described in 1910 as *Tupinambis duseni* and is named after the Swedish botanist Per Dusén, who collected the type specimen. In 2012 *Salvator* was separated from *Tupinambis* as a genus of its own, and since then the species has been called *Salvator duseni*.

The taxonomy has been disputed. In 1973 the species was merged with *Salvator rufescens*, and only in 2004 were the two again recognised as separate species. They are genetically very similar, but differ in build and scale pattern. In parts of Goiás in Brazil it lives side by side with *Tupinambis teguixin* and *Salvator merianae*.

The species is not found in the trade, and its care is practically undescribed. The figures for keeping it in captivity are therefore borrowed from the two closely related, larger tegus *Salvator merianae* and *Salvator rufescens*.

Distribution and habitat

Salvator duseni is found in central and south-eastern Brazil and in Paraguay. In Brazil it is known from the states of Goiás, Mato Grosso, Mato Grosso do Sul, Minas Gerais, southern Bahia, southern Tocantins, Paraná and the Distrito Federal. The type locality is Paraná. The species probably also occurs in Bolivia, but this has not been confirmed.

> **Native range:** Brazil and Paraguay.

HABITAT

The species lives in savanna, in Brazil especially in the cerrado: open country with grass, bushes and scattered trees, where the year is divided into a wet and a dry season. It is diurnal and lives on the ground. Whether it hibernates is not documented.

S. duseni is omnivorous and feeds on plants, invertebrates and small vertebrates; how large a share each food item makes up has not been studied. The female lays eggs, about 36 in a clutch.

Care

THE ENCLOSURE

Almost nothing is known about the care of *Salvator duseni*, and the species is not found in the trade. Care is based on its being a ground-dwelling, diurnal tegu from savanna, and all figures for keeping it in captivity are borrowed from the closely related *Salvator merianae* and *Salvator rufescens*.

A rule of thumb for tegus is an enclosure of at least 6 × 3 × 3 times the animal's snout-to-vent length. For an adult *S. duseni* that gives an enclosure of at least 250 × 125 × 125 cm (length × width × height). Enclosures this large must be built or ordered specially. Bigger is better.

The animal digs, so the substrate is the most important part of the set-up. Provide a layer of 30-60 cm, at least at one end. A mixture of about 40 % fertiliser-free garden soil, 40 % coconut fibre and 20 % play sand with a layer of leaves on top holds moisture and is good to dig in. Avoid pure sand, potting compost with additives and pine and spruce shavings. Replace the whole substrate at least every quarter.

The enclosure should have doors at the front and mesh in the top, and all lamps must be firmly fixed and shielded, because tegus knock them over. Provide a hide box with damp sphagnum and several dry hides. The animal is kept singly. Two animals of the same sex can share an enclosure that is twice as large, but this does not always go well. A male and a female are not kept together, and small animals are not kept with large ones.

TEMPERATURE

The basking spot should have a surface temperature of 52-57 °C, measured with an infrared thermometer. The warm side is 32-35 °C and the cool side 24-29 °C. At night the light and heat are switched off, so that the temperature falls to 20-23 °C. Use halogen spotlights or incandescent bulbs, preferably several close together, so that an adult is warmed evenly over its whole body. Ceramic heaters and heat mats are too weak for the basking spot.

The basking spot should be at one end, so that the animal can choose between warm and cool. If the animal sits dark and sluggish under the lamp all day, or does not eat, the basking spot is too cold. Whether the species hibernates in the wild is not documented. The animal is kept active, fed and heated all year round. The closely related tegus hibernate, and in them mating follows the rest period.

Read more: Heat and temperature

HUMIDITY AND WATER

Air humidity should be 70-80 %. Keep the substrate damp, but not muddy, by watering it weekly, and mist the enclosure daily. The warm end should be dry and airy, while the hide box with damp sphagnum and the deep substrate provide the humid places. Measure with two hygrometers, one at each end. The animal must always have fresh drinking water in a large, low bowl, changed daily.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Salvator duseni is diurnal and needs strong light and UVB for 12-14 hours a day. In addition to the heat bulbs, the enclosure needs strong daylight, and direct sun in a secured outdoor cage is a good supplement when the weather allows.

Tegus belong to Ferguson zone 3. Use a T5 HO tube of 10-14 % in a fitting with a reflector over the basking spot, so that the tube covers about half the length of the enclosure. The aim is a UV index of 3-4 at the basking spot and lower elsewhere. Without mesh, the distance between tube and back is typically 43-55 cm depending on the tube; mesh absorbs some of the UVB radiation, and then the distance must be shorter. Tubes lose output and are replaced according to the manufacturer's instructions. Without UVB the animal develops vitamin D deficiency and bone disease.

Read more: Lighting and UVB

FEEDING

Tegus are omnivorous, and the diet of *Salvator duseni* consists of plants, invertebrates and small vertebrates. Feeding follows the rules for the closely related tegus. Adults get about 60 % animal food, 30 % vegetables and 10 % fruit. Juveniles in the first year get about 90 % animal food, mostly insects, and 10 % greens. Fruit is given sparingly, because the animal easily becomes fat.

Feed juveniles up to 6 months 5 times a week, those of 7-12 months 4 times, those of 1-2 years 3 times and adults 2 times a week. The portion is roughly the size of the animal's skull, and whole prey must be a little smaller than the skull, because the animal does not chew its food.

Offer cockroaches, crickets, grasshoppers, mealworms, earthworms and snails, chicks, quail, mice, rats, whole fish and prawns. Whole prey is better than meat because it contains calcium. Minced meat and insects are dusted with calcium and multivitamin. Eggs and fish are given cooked: raw egg white contains avidin, which prevents the uptake of biotin, and some fish contain thiaminase, which breaks down vitamin B1. Greens are dandelion, kale and other cabbages, carrot, courgette and pumpkin. Never give avocado, onion, spinach, lettuce, broccoli or aubergine.

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

BEHAVIOUR AND HANDLING

Tegus are intelligent and curious and can become tame, but *Salvator duseni* is a wild animal, and its temperament in captivity is not described. Untamed animals defend themselves with bites and tail slaps, and an adult has a powerful bite and sharp claws. The animal is tamed with calm, regular handling from a young age. Approach from the side and not from above, and never touch the animal while it is in its hide.

When tegus are one and a half to two years old, they go through a period of some months when they are defensive and irritable, even if they were tame before. Give them peace and space. Wash your hands after contact with the animal and the enclosure, because *Salmonella* is common in reptiles.

Read more: Quarantine and hygiene

Breeding

SEXUAL MATURITY AND SEXING

Sex differences, sexual maturity and the age or size at first breeding are not documented for the species. In the closely related *Salvator merianae* and *Salvator rufescens* the males are considerably larger than the females and develop large cheeks, and the animals are sexually mature at around 3 years of age.

MATING

Mating is not described for the species. In the closely related tegus it takes place in spring after hibernation. The male and female are kept apart outside the breeding season and are put together under supervision once they are awake and eating again.

Read more: Brumation and the seasons

EGG-LAYING AND CLUTCHES

The female lays eggs; a clutch is about 36. The number of clutches per year is not documented for the species. In *Salvator merianae* the eggs are laid in a nest of dry grass, twigs and leaves in the ground, so a female needs a deep, damp digging layer, dry nesting material and peace.

INCUBATION

Incubation time and temperature are not documented for the species, so the figures are borrowed from *Salvator merianae*. The eggs hatch after 40-75 days, and a stable temperature of about 29 °C gives the most hatched eggs and the largest young.

Read more: Incubating eggs

REARING THE YOUNG

Rearing of the species is not described. The young of the related tegus grow quickly and need insects and small prey, calcium, UVB and plenty of heat. Keep them apart by size, because large animals can eat small ones.

Health and common mistakes

Health problems are not described for the species. In tegus most problems are caused by faults in care:

- Metabolic bone disease from too little calcium, vitamin D or UVB.
- Obesity from too much fatty meat and fruit and too little exercise. Weigh the animal regularly.
- Respiratory infections from temperatures that are too low or a substrate that is constantly wet.
- Burns if the animal can reach the heat bulbs. Shield them.
- Intestinal worms and other parasites, especially in wild-caught animals. New animals should be quarantined and have a faecal sample examined.
- Egg-laying difficulties in females without a suitable place to dig.

The animal must see a vet with experience in reptiles if it loses weight, stops eating, breathes with an open mouth or seems lethargic.

Read more: Common diseases and signs of illness Read more: Buying animals: captive-bred, wild-caught and transport

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.