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LACERTIDS

Eyed Lizard

Timon lepidus

Timon lepidus is one of Europe's largest lizards: robust, diurnal and green with blue eye-spots on the flanks, from the Iberian Peninsula, southern France and the far north-west of Italy. It reaches 40-70 cm, is inquisitive and can become tame, but needs a large enclosure, strong heat and UVB, a cool brumation, and ideally an outdoor enclosure in summer.

Family: Lacertidae Former name: *Lacerta lepida*

KEY FACTS

THE ANIMAL

Adult size	**40-70 cm** total length incl. tail
Lifespan	**10-25 years**
Active	**By day**
Lifestyle	**Rock-dwelling, terrestrial and burrowing**
Habitat	**Rocky terrain and temperate woodland and meadow**
Difficulty	**Intermediate**

CARE

Min. enclosure	**120 × 60 × 60 cm** L × W × H for 2 adults
Temperature, day	**22-30 °C**
Basking spot	**35-50 °C**
Temperature, night	**15-20 °C**
Humidity	**35-75%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Winter rest	**8-12 °C** 8-10 weeks
Diet	**Insects, fruit and vertebrates**
Kept	**Singly, in pairs or one male with several females**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-34 months**
Clutch size	**5-24 eggs**
Clutches per year	**1-3**
Incubation	**75-100 days** at 26-30 °C

PROTECTION AND PAPERWORK

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

About the species

Timon lepidus is among the largest lizards in Europe. The body is heavy and deep, the head powerful, the legs strong with long, curved claws, and the collar is serrated. The male has a broader, heavier head and stronger jaws than the female. The ground colour is usually green but can be grey or brownish, especially on the head and tail, and over it lie black dots that can form a pattern of connected rosettes. Along the flanks are blue eye-spots, which are largest and brightest in the male. The underside is yellowish or greenish.

Adults measure 40-70 cm in total, and about two thirds of the length is tail. Males typically reach 55-70 cm and females about 45 cm. A few very large males can reach 80-90 cm, but most animals do not grow much longer than 60 cm. Newly hatched young are 4-5 cm without the tail and 8-9 cm in total, grey to olive-brown with pale, black-edged spots. They acquire the

green and blue colours during the first six months. Reaching full adult size takes at least two years.

Three subspecies are distinguished: *T. l. lepidus*, *T. l. ibericus* in the north-western part of the Iberian Peninsula, and the small island form *T. l. oteroi*. The population in the Sierra Nevada and south-eastern Spain is today regarded as a separate species, *Timon nevadensis*, and the North African forms are the species *Timon tangitanus* and *Timon pater*. The almost black animals in the trade are a colour form of *T. lepidus*. The species was formerly classified as *Lacerta lepida*, and older literature uses that name.

T. lepidus is inquisitive and gets to know its keeper. Animals accustomed to people take food from tweezers and climb onto a hand. In an outdoor enclosure the same animals are often shy and retreat as soon as anyone approaches. Bites can be powerful because the jaws are strong, but aggressive behaviour towards the keeper is rare. Females do not like being picked up during the mating season.

Distribution and habitat

Timon lepidus lives on the Iberian Peninsula, in Spain, Portugal and Gibraltar, and also patchily in Andorra, southern France and the far north-west of Italy. The type locality is Montpellier in southern France. *T. l. ibericus* occurs in north-western Spain and northern Portugal, and *T. l. oteroi* only on the island of Sálvora off the coast of Galicia.

The species lives from sea level up into the mountains, but is scarce at high altitude. The population in the Sierra Nevada and south-eastern Spain now belongs to *Timon nevadensis*.

> **Native range:** Spain, Portugal, Gibraltar, Andorra, France and Italy.

HABITAT

Timon lepidus lives in dry, scrubby regions: open woodland and scrub, old olive groves and vineyards, stony slopes and open, sandy patches. It stays mostly on the ground but climbs well on rocks and in trees. It digs its own burrows and readily uses abandoned rabbit burrows as shelter and nest sites.

The climate is Mediterranean to continental, with hot, dry summers and cool to cold winters, so the lizards brumate from autumn to early spring. In summer they bask for several hours, often on stones or along roads, and hunt among the bushes. Active animals have a body temperature of around 28-30 °C.

The diet is mainly large insects, especially beetles, together with spiders and snails. The species also takes eggs and nestlings from birds' nests and occasionally lizards, small snakes, frogs and small mammals. Especially in dry regions it also eats berries and other plant matter. Mating takes place in late spring, and the female lays her eggs in June and July in loose, moist soil under stones and wood or in leaf litter. Females in dry regions lay fewer, larger eggs.

Care

THE ENCLOSURE

An adult or a pair needs an enclosure of at least 120 × 60 × 60 cm (length × width × height). The species is active and uses the whole floor. A male with several females needs more space. The enclosure is often built of wood, which holds heat better than glass, and it needs good ventilation and front opening.

Furnish it with rock formations and stones that the lizards can climb and bask on, and with crevices for hiding. All heavy stones must be completely secure, because the lizards dig and topple anything that is not fixed. Thick branches provide extra climbing surface. The substrate is a mixture of sand and soil, at least 10 cm deep, so the lizards can dig. Remove droppings and uneaten food daily, and replace the whole substrate every 3-4 months.

Place a closed plastic container of about 30 × 15 × 10 cm with moist soil in the enclosure, and cut a hole in the side. It serves as a cool, humid retreat, and the females lay their eggs in it. Keep the soil moist but not wet.

The species is suitable for an outdoor enclosure in northern Europe in summer, which gives the lizards sun, exercise and a natural annual rhythm. An outdoor enclosure must be secured against escape and predators: use heavy-gauge wire mesh with a mesh size of no more than 12 mm on all sides, including the floor, and bury the edge at least 15 cm deep. There must be a covered, dry shelter against rain and cold, a sunny part with stones, and shade elsewhere. The lizards can stay outside from April-May to September-October and are brought indoors when autumn turns cold and wet. Check the mesh for holes and loose corners before the lizards are put out.

TEMPERATURE

The basking spot should have a surface temperature of 35-50 °C, measured with an infrared thermometer. The air in the rest of the enclosure is kept at 22-30 °C by day, coolest at the opposite end. Use a halogen spotlight or a mercury vapour lamp, which provides both heat and UVB, and place the basking spot at one end so that the lizard can choose. The heat is switched off at night, and the temperature falls to 15-20 °C.

T. lepidus comes from an area with cold winters, and brumation is natural. It is not strictly necessary but is recommended, especially if the lizards are to breed. Only healthy animals in good condition should brumate; sick, underweight and newly acquired animals are kept awake and fed (see the theme on brumation).

The process begins in mid-October to mid-November. Feeding stops 2-3 weeks before the rest period, and the temperature is kept above 13 °C for at least two weeks after the last meal so that the gut empties. Meanwhile the light is shortened to about 8 hours, and finally heat and UVB are switched off. The lizards then rest in a ventilated plastic container with a few centimetres of soil, placed somewhere cool and frost-free at 8-12 °C, or in a cool room that is up to 15 °C by day and 8-10 °C at night. Brumation lasts 8-10 weeks, typically December and January. The lizards do not eat but must have access to water. Weigh them and check on them every second week, and end brumation if an animal clearly loses weight.

After brumation the lizards are returned to the enclosure with light, but for the first week without the heat lamp. Then the heat is switched on, and after a few days food is offered. Longer days and misting in the morning start the mating season.

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

HUMIDITY AND WATER

The air in the enclosure should be relatively dry, 35-75 % from the warm to the humid end, but the lizards must always have access to a humid retreat. Keep the substrate dry on top and damp lower down, and water it when it dries out. The closed container with moist soil is the lizards' humid hide. Measure with two hygrometers, one of them inside the retreat.

In spring the enclosure is misted every morning, which helps to start the mating season. Provide a shallow bowl of fresh water. The lizards do not drink often, but the bowl must always be full, and frightened animals tend to flee into the water. Change the water often, and clean the bowl regularly.

LIGHTING AND UVB

Timon lepidus is diurnal and basks for several hours a day, so it needs plenty of light and strong UVB. Use a T5 HO tube of 10-12 % in a fixture with a reflector over the basking spot, or a mercury vapour lamp, which provides both heat and UVB. With a T5 HO tube inside the enclosure the distance to the basking spot is 43-46 cm, and through mesh 33-38 cm. The species belongs to Ferguson zone 3. Replace the tubes according to the manufacturer's instructions, typically every year. Glass and plastic block UVB, so sun through a window pane gives no UVB.

Strong daylight of about 6,500 K, for example LED strips, gives a bright enclosure, and plenty of light and UVB is necessary to bring out the green and blue colours.

The light period follows the season: about 14-15 hours in summer, 10 hours in spring and autumn, and 8-10 hours in winter and up to brumation. Use a timer.

FEEDING

Timon lepidus lives mostly on insects but also eats fruit and other plant matter. Offer a varied diet of crickets, locusts, cockroaches, mealworms, Zophobas and other large insects. Gut-load the insects with greens, vegetables and fruit for at least a day before they are fed. Occasionally fruit such as berries, figs or grapes can be given. A newborn mouse can be given now and then, and gravid females benefit from a small mouse once a week, because it covers their large calcium requirement.

Adults are fed 3-4 times a week, and juveniles every day or every other day. Give as much as they will eat. The lizards readily take food from tweezers. Obesity is rare in the species, but avoid fattening the lizards up with a lot of protein-rich food.

Dust the insects with calcium at every feeding (with D3 if the lizards do not get UVB), and give a multivitamin supplement once a week. Feeding is stopped before brumation.

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

BEHAVIOUR AND HANDLING

Timon lepidus is intelligent and inquisitive. It quickly gets to know its keeper, begs for food and takes it from a hand or tweezers. Give a new lizard a couple of weeks in peace, then offer food from the hand without grabbing at it. Let the lizard climb onto the hand of its own accord, because an animal that is held down becomes stressed and may bite. A tame animal is most easily obtained by buying a captive-bred juvenile.

The jaws are strong, and a bite can cause bleeding wounds, but the lizard seldom bites without reason. The male is territorial. Never keep two males together, because they fight seriously. A male can be kept with one or more females, but watch for bullying, and separate the animals if necessary. During mating the male holds on to the female with his mouth, which can cause scrapes and a lost tail, which grows back.

Some animals remain shy and are easily stressed by disturbance and by being picked up. Keep to regular routines, and handle them no more than necessary. Wash your hands after contact with the animals and enclosure, because reptiles can carry *Salmonella*. In an outdoor enclosure the lizards are shy, and that is normal.

Read more: Quarantine and hygiene Read more: Buying animals: captive-bred, wild-caught and transport

Breeding

SEXUAL MATURITY AND SEXING

The male is larger and heavier and has a broader head, stronger jaws and larger, brighter blue flank spots. Adult males have distinct hemipenial bulges at the vent and larger femoral pores; the female also has femoral pores, but they are smaller. In juveniles the sex can only be determined reasonably reliably after 8 months or more.

The lizards can reach sexual maturity after 1-2 years, in the wild typically after 19-34 months. Females often do not lay eggs until after their second winter. Young females should not be bred too early, because early breeding takes a toll on them.

MATING

Mating is linked to brumation. A few weeks after brumation, when the days are getting longer, the enclosure is misted in the morning and the heat is on again, the male begins to chase the female, and repeated matings follow, typically from the end of March to the beginning of May. The male bites onto the female's flank or neck, and the female often gets scrapes and scars. This is usually harmless. If the male chases the female constantly and she clearly tries to get away, she must be separated from him for a time.

About 3-6 weeks pass from mating to egg-laying. Keep the enclosure quiet, and give the female plenty of food and calcium.

EGG-LAYING AND CLUTCHES

The female digs down into moist soil, often a tunnel of about 30 cm, and lays the eggs at night under stones or bark or in the closed soil container. A clutch is typically 5-24 eggs, and large, old females can lay 26-30. Young females lay fewer eggs. In the wild the female usually lays one clutch a year. In captivity she usually lays two clutches 4-6 weeks apart, and a few females lay three or more. More than two clutches take a toll on the female. The male often stays nearby while the female lays.

A female that is about to lay digs trial holes and eats less. Keep the soil moist and diggable throughout the season. If she digs for more than a week without laying, and loses weight at the hips and the base of the tail, it is a sign of egg-laying difficulty (dystocia), and she must go to a vet.

INCUBATION

The eggs often stick together and must not be forced apart. Lay them half buried in moist vermiculite or perlite (mixed 1:1 by weight with water) in a closed container with a few small ventilation holes. Leave them undisturbed throughout incubation. The eggs must be moist but not wet, and they grow to more than double their size because they absorb water.

The incubation temperature is 26-30 °C, ideally with a slight drop at night. The young hatch after 75-100 days. A slightly lower temperature gives longer incubation and is thought to give stronger hatchlings. When the hatchling has slit the shell and put its head out, it often rests for a day in the egg while the yolk sac is absorbed. Let the hatchlings come out at their own pace.

Read more: Incubating eggs

REARING THE YOUNG

Newly hatched young are 4-5 cm without the tail and 8-9 cm in total. They are grey to olive-brown with pale spots and do not eat until after a few days. Keep them like the adults, but in smaller enclosures with hides, a humid corner, UVB and heat.

Young from the same clutch can be kept together for the first year but must be separated when they become territorial. Feed daily with small crickets, cockroach nymphs and other small insects dusted with calcium. They grow quickly and turn green and blue after about six months. Full adult size is reached after at least two years.

Health and common mistakes

Most problems are caused by mistakes in husbandry: too little UVB, too little calcium, too little heat and too little exercise.

- Metabolic bone disease from too little UVB and calcium. It is seen especially in juveniles, including the young of parents that have not had enough UVB or D3. Typical signs are inward-turned forelimbs, weak legs and soft jaws.
- Watery eyes, which can be caused by vitamin A deficiency.
- Overheating in outdoor enclosures without shade. The lizards must always be able to find a cool spot.
- Stress and disturbance. Frightened animals can run into the glass and injure the snout.
- Parasites and mites in new animals. Quarantine them, and have a faecal sample examined.
- Egg-laying difficulty (dystocia) if there is no suitable place to lay, the soil is too dry, or the female lacks calcium. It is life-threatening and requires a vet.
- Weight loss and frost damage during brumation if the temperature is wrong or the animal was weak. End brumation if the animal loses weight.
- Bite wounds after mating and fights, and a lost tail. The tail grows back but is shorter and often darker.

A healthy animal has clear eyes, a plump tail base and smooth skin, and is active and inquisitive. Weigh the lizards regularly. Reptiles hide illness, so consult a vet experienced with reptiles if the animal loses weight, does not eat, breathes with its mouth open or seems lethargic.

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.