herpy

LACERTIDS

Balearic Lizard

Podarcis lilfordi

Podarcis lilfordi is a robustly built, diurnal lizard from the small islands around Mallorca and Menorca. It reaches 15-20 cm including the tail, varies greatly in colour from black with a blue belly to greenish brown, and eats insects, small invertebrates and a few flowers and a little fruit. The species is shy in the terrarium and rare in the hobby.

Family: Lacertidae

KEY FACTS

THE ANIMAL

Adult size	**15-20 cm** total length incl. tail
Lifespan	**8-12 years**
Active	**By day**
Lifestyle	**Rock-dwelling and terrestrial**
Habitat	**Rocky terrain and temperate woodland and meadow**
Difficulty	**Intermediate**

CARE

Min. enclosure	**100 × 50 × 40 cm** L × W × H for 2 adults
Temperature, day	**22-30 °C**
Basking spot	**40-45 °C**
Temperature, night	**15-20 °C**
Humidity	**40-60%**
Water	**Water dish**
UVB	**Recommended** Ferguson zone 3
Winter rest	**12-15 °C** 8-12 weeks
Diet	**Insects, nectar and small invertebrates (springtails, fruit flies)**
Kept	**In pairs**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**12-24 months**
Clutch size	**1-4 eggs**
Clutches per year	**1-6**
Incubation	**30-43 days** at 29-30 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex A**
IUCN	**Near Threatened (NT)**

About the species

Podarcis lilfordi is a compact, sturdily built lizard with a short, rounded head, a broad neck and smooth, fine dorsal scales. The body (snout to vent) reaches about 8 cm in males and a little less in females, and the tail is almost twice as long as the body, so adults typically measure 15-20 cm in total. Males are larger and heavier than females. Hatchlings measure about 3 cm (snout to vent) and often have a blue-green tail.

The colours are unusually variable and depend on the island. The upper side may be greenish brown, brown, grey or almost entirely black, often with light or dark longitudinal stripes or a reticulated pattern on the flanks. The underside is white, cream, pink or, in the darkest forms, deep blue, especially on the belly and throat. More than 20 subspecies have been described, most of them from a single island each, and animals from different islands should not be mixed.

The species comes from isolated islands with few predators and is therefore less wary in the wild than most lizards, but in the terrarium it is usually shy and easily frightened. Tame animals are rare, and handling is stressful for them. Males are territorial. *Podarcis lilfordi* is closely related to *Podarcis pityusensis* from Ibiza and Formentera, but the two species live on separate island groups. The name honours the British ornithologist Lord Lilford.

Distribution and habitat

Podarcis lilfordi occurs only on the smaller islands and islets around Mallorca and Menorca in the Balearic Islands, Spain. It lives on Cabrera and the many small islands of the Cabrera archipelago south of Mallorca, on Dragonera and the Malgrats off Mallorca's west coast, and on islets along the coast of Menorca, including Aire, Colom, Addaya and Porros. Each island has its own population with its own colours.

The species once lived on Mallorca and Menorca themselves but has disappeared from both. The causes are introduced predators such as cats and loss of habitat. Today it is found only on the small islands, and the total range is under 500 km². It does not occur on Ibiza and Formentera, where *Podarcis pityusensis* is native.

> **Native range:** Spain.

HABITAT

Podarcis lilfordi lives on low, dry and stony islands with Mediterranean scrub, rock faces, sandy soil and coastal cliffs. Many of the islets have little vegetation, and the animals often forage near bird colonies, where there are food scraps, dead animals and many flies. On Cabrera the species also lives in woodland.

The climate is mild and dry, with hot summers and mild winters. The species is diurnal and basks on open rocks. Preferred body temperatures are around 32-36 °C, and sunlit surfaces on the islands can reach about 45 °C. In summer the animals seek shade at midday, and they are active for much of the year. They do not undergo true brumation but become less active in cold periods. The diet is insects, spiders, snails and other arthropods, and the animals also eat flowers, nectar, fruit and pollen, so they help pollinate several plant species on the islands. Cannibalism of young and tails occurs.

Read more: Brumation and the seasons

Care

THE ENCLOSURE

Little is documented about the care of *Podarcis lilfordi*, and most figures are borrowed from closely related island lizards and from captive keeping of the species. The climate in the range is hot and dry with mild winters. *Podarcis muralis* and *Podarcis siculus* have almost the same requirements for sun, heat and rock structure, and the care sheets for them can be used as a supplement.

A pair needs at least 100 × 50 × 40 cm. Bigger is better, because the species is active and uses the whole floor area. An outdoor enclosure is well suited in summer, but it must be covered with glass to keep the rain out and to get warm and dry enough. In summer, part of the glass on the south side can be replaced with mesh so that the animals get direct sun. The enclosure must be escape-proof, with fine mesh, a tight lid and a buried edge.

Furnish the enclosure with stacked stones, slate slabs, cork and roots, so that the animals have many hides and basking spots and can disappear quickly. Hides should be easy to reach and able to dry out. The substrate is coarse sand mixed with a little soil. The species is shy, and a quickly accessible hide makes the animals more secure. Keep one pair per enclosure. Two males together risk fighting, and one male with two females can stress one of the females. During the breeding season, provide a shallow container of moist sand for egg-laying.

TEMPERATURE

The gradient is the most important thing. The basking spot should be 40-45 °C at the surface, measured with an infrared thermometer, and the rest of the enclosure 22-30 °C by day. The animals choose a body temperature of around 32-36 °C themselves. Use a spotlight over a flat stone, and heat only part of the enclosure. That way the animals bask in full view and become more visible.

At night the temperature may fall to 15-20 °C. In winter the animals are kept cooler, at 12-15 °C, and the day length is reduced to about 10 hours. The species does not brumate in the wild, but a cool period gives a natural annual rhythm and is probably a prerequisite for good breeding. The length of the rest period is not documented, and the 8-12 weeks is an estimate borrowed from other *Podarcis*. The animals are fed sparingly and kept dry and undisturbed. Avoid frost.

Warning signs are animals gaping with an open mouth or lying flat and hiding all day (too hot), and animals that do not come out until late in the morning (too cold).

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be moderate: 40-60 % by day. The enclosure must be able to dry out completely, and stagnant, damp air causes skin problems and fungus. The figures are borrowed from closely related *Podarcis* species and are not documented for *P. lilfordi*.

Provide a shallow, clean water bowl, and mist lightly with water once a day, early, so that everything is dry by evening. The animals also drink droplets from stones and plants. Keep part of the substrate slightly damp for egg-laying females and juveniles, but without making the whole enclosure damp.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

Podarcis lilfordi is diurnal and lives in full sun, so the enclosure needs strong heat and UVB light. The species probably belongs to Ferguson zone 3, with a UV index of around 3-5 at the basking spot. The figure is borrowed from *Podarcis muralis* and is not documented for the species itself. A T8 or T5 tube with 10 % UVB, positioned according to the manufacturer's instructions, is a good solution. Supplement with a daylight tube or an LED lamp for the rest of the enclosure.

Day length should follow the season: about 10 hours in winter and up to 14 hours in midsummer. Change it gradually with a timer so that the change is not too abrupt. Outdoors, the sun provides natural UV light, but glass and acrylic block UVB, so sunbathing must take place through mesh. Replace UVB tubes according to the manufacturer's instructions, typically every year.

Read more: Lighting and UVB

FEEDING

Podarcis lilfordi is omnivorous, with the main emphasis on insects and other arthropods. Feeder insects can be crickets, grasshoppers, flies, fruit flies, mealworms in small amounts, waxworms (in small amounts), spiders and woodlice. In the wild the animals also take nectar, flowers and a little fruit and pollen, so a small amount of fruit purée or nectar-based food now and then is a good variation. Food must be small, at most the size of the distance between the animal's eyes.

Adults are fed every other day with as much as they eat in 10-15 minutes. Juveniles are fed daily with very small prey such as fruit flies, springtails and small crickets. Dust the food lightly with calcium at most feeds and with a D3 supplement once every 1-2 weeks. Females that lay many eggs have a large calcium requirement, so a dish of cuttlebone or crushed eggshell should be available. Water-soluble vitamins can be added to the drinking water in small amounts.

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

BEHAVIOUR AND HANDLING

Podarcis lilfordi is shy and easily frightened in the terrarium, but also curious and active when it feels secure. The animals have a reputation for being aggressive towards conspecifics, but two females usually get on well. Two males together are not recommended, and a pair is the safest way to keep them. Juveniles can be kept together in small groups.

The animals should not be picked up. They flee and shed the tail when stressed or caught, and the tail regrows, but altered. If an animal has to be moved, catch it in a transparent container. Quick movements near the enclosure make them more frightened, while calm movements and fixed routines gradually make them more secure. Many animals never become fully tame. The species can be kept with other lizards of the same size, for example *Podarcis siculus*, but mixed groups are not necessary and require plenty of space and many hides.

Breeding

SEXUAL MATURITY AND SEXING

Males are larger and more robust, with a broader head, stronger colours and more distinct femoral pores than females. Females are slimmer and more subdued, and the tail base is thicker in males. Juveniles cannot be sexed reliably.

Podarcis lilfordi becomes sexually mature at around 1 year of age, and females often lay already in their first year. The best results come when females are fully grown and in good condition. The animals breed for many years, and fertility only declines at around 10 years of age. Animals in captivity therefore live at least 10 years; the upper limit is not documented, and 12 years is an estimate. Many eggs are infertile, often more than half. The cause is not established, but low genetic variation in the island populations is a possible explanation.

MATING

The mating season is in spring and early summer. The male chases the female, bites her tail or flank and holds on during mating. A cool period followed by increasing day length starts breeding, and as long as day length increases, the females keep laying eggs. Keep the female well fed and give her the chance to withdraw from the male so that she does not become stressed.

Females can be receptive throughout the egg-laying period. One pair per enclosure is the safest way to keep them, and one male with two females requires a large enclosure.

EGG-LAYING AND CLUTCHES

The clutch is normally 1-4 eggs, and up to 6 in captivity. The eggs are large in proportion to the animal's size and weigh about 0.6 g on average. In the wild, females lay up to 3 clutches a year. In captivity it is 1-6 clutches, typically 2-3, about 3 weeks apart. Most eggs are laid in April, but laying can begin as early as February and last until early June.

The female digs a hole in moist sand and covers the eggs. The enclosure must have a shallow container with at least 10 cm of slightly moist sand. Females that do not find a suitable spot may become egg-bound. Signs are a clearly swollen, lethargic female that does not eat. She must then be taken to a vet. Eggs that are not found dry out easily, so the enclosure should be checked daily during the season.

INCUBATION

Carefully dig up the eggs and place them in a closed container with slightly moist vermiculite, perlite or coconut fibre, with a lid with small holes. Mark the top of the eggs and do not turn them. The eggs must not lie in water, and they must not dry out.

At 29-30 °C most eggs hatch after 30-43 days, but the spread is large, from 26 to 65 days. An incubator with a thermostat keeps the temperature even, and the temperature should not exceed 30 °C. If the temperature fluctuates between day and night, the incubation period becomes much longer, up to 65 days. Infertile eggs collapse and go mouldy, while fertile eggs stay white and firm.

Read more: Incubating eggs

REARING THE YOUNG

Hatchlings measure about 3 cm (snout to vent) and must be moved straight into their own enclosure, because the adults eat both young and tails. A small enclosure of about 50 × 30 × 30 cm with hides, a basking spot and UVB suits a clutch for the first months. Juveniles of the same age can be kept together in small groups, and aggression is rare at that age.

First foods are fruit flies, springtails and very small crickets, later small grasshoppers and woodlice. Feed daily, dust with calcium, and provide strong UVB light so that metabolic bone disease does not develop. Divide the enclosure into a slightly damper end and a dry end. Small and weak juveniles are kept awake and fed through their first winter.

Read more: Common diseases and signs of illness

Health and common mistakes

Little is documented about diseases in *Podarcis lilfordi*. The typical problems are the same as in other *Podarcis*:

- Metabolic bone disease from too little UVB and calcium. The animals become lethargic and have soft jaws and deformed limbs.
- Mouth rot (infection of the mouth), especially with stress and too low a temperature.
- Mites on the skin and in the corners of the eyes. All new animals must be quarantined.

- Intestinal worms and other parasites, especially in wild-caught animals.
- Egg-binding in females without a suitable laying site.
- Shedding problems and fungal infections from persistent damp.
- Bite wounds and lost tails from stress and fighting between males.

If an animal does not eat for more than a week outside the cool period, is lethargic, swollen or has difficulty using its limbs, it must see a vet with experience in reptiles.

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.