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SKINKS

Bobtail

Tiliqua rugosa

A slow, heavily armoured Australian skink that looks like a pine cone with a short, broad tail. *Tiliqua rugosa* has a cobalt-blue tongue that it displays when threatened, lives mostly on plants and forms pairs that stay together year after year. It needs a basking spot, UVB and dry conditions.

Family: Scincidae Former name: *Trachydosaurus rugosus*

KEY FACTS

THE ANIMAL

Adult size	**30-45 cm** total length incl. tail
Weight	**600-900 g**
Lifespan	**10-20 years**
Active	**By day**
Lifestyle	**Terrestrial**
Habitat	**Semi-desert and savanna**
Difficulty	**Intermediate**

CARE

Min. enclosure	**120 × 60 × 45 cm** L × W × H for 2 adults
Temperature, day	**15-29 °C**
Basking spot	**35-40 °C**
Temperature, night	**10-20 °C**
Humidity	**20-40%**
Water	**Water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects, fruit, plants and worms/snails**
Kept	**Singly or in pairs**

BREEDING

Reproduction	**Live-bearing**
Litter size	**1-4 young**
Clutches per year	**1**
Gestation	**140-170 days**

PROTECTION AND PAPERWORK

CITES	**Appendix III**
EU annex	**Annex C**
IUCN	**Least Concern (LC)**

About the species

Tiliqua rugosa is a sturdy, slow skink with a low, broad body and short legs. The scales are large, rough and hard, especially on the back, so the animal looks like a pine cone, and the species name *rugosa* means precisely rough. The head is large and triangular, and the jaws are strong. The tongue is cobalt blue and contrasts with the pink mouth. It is displayed together with a loud hiss when the animal feels threatened. The tongue is also used constantly as a sense organ together with Jacobson's organ.

The tail is short, broad and rounded and resembles the head, which can confuse a predator. It also holds a fat store that the animal draws on in lean times and during hibernation. Unlike many other skinks, *T. rugosa* cannot shed its tail. Adults are 30-45 cm long and weigh 600-900 g. The male's tail is perhaps slightly slimmer and longer, but that is not a reliable characteristic.

There are four subspecies. *T. r. aspera* from eastern Australia has the shortest and broadest tail and is often uniformly brown. *T. r. rugosa* from Western Australia is reddish brown with yellow spots or white bands. *T. r. konowi* from Rottnest Island is small and dark with fine white dots, and *T. r. palarra* lives at Shark Bay. Colour and pattern vary greatly, so the subspecies are

not always easy to tell apart. The animals are calm and get used to gentle handling, but a bite from the strong jaws hurts.

Read more: Brumation and the seasons

Distribution and habitat

Tiliqua rugosa lives in the drier parts of southern Australia: southern Western Australia, southern South Australia, Victoria, inland New South Wales and southern and central Queensland. The species is not found on the coast and in the mountains of eastern and south-eastern Australia and not in northern Australia.

Three of the four subspecies live only in Western Australia: *T. r. rugosa*, *T. r. palarra* at Shark Bay and *T. r. konowi* on Rottnest Island. *T. r. aspera* is the eastern form with its type locality near Adelaide. The species is common and is often seen on the roads, where many are run over.

> **Native range:** Australia.

HABITAT

The species lives in dry to semi-arid regions: scrub, eucalyptus forest, grass-covered desert areas, spinifex and coastal heath. It basks in open patches and seeks shelter under low vegetation, logs and leaf litter or in burrows. The animal is diurnal: it warms up in the sun in the morning, eats and basks on, and seeks cover when the temperature falls towards evening.

The climate has hot, dry summers and autumns and cool, wetter winters and springs. Food is richest after the winter rains and scarce in summer, and this is where the fat store in the tail comes in useful. In winter the animals hibernate. The home range is a few hectares and is used for many years, and neighbours that are related share both area and hides without fighting.

Care

THE ENCLOSURE

The species does not climb, so floor area is what matters most. A pair needs at least 120 × 60 × 45 cm (length × width × height), and larger is better. Smaller enclosures of 90-100 × 50-60 cm are only enough for one animal. The enclosure must be ventilated at the top and have a lid, so that it is escape-proof.

The substrate must be dry, for example a mixture of sand and gravel or dry leaves. Avoid newspaper. A damp substrate over a longer period causes fungal infections on the belly and feet. Add a low, flat hide with room for two animals and curved pieces of bark or wood, and lay out dry leaves or grass. The air must be able to move, but without draughts.

In summer the animals can be kept outdoors in an enclosure that is dig-proof and has at least 8 hours of sun a day, but also shade and a dry, covered shelter. In a cool northern European climate that is only possible in the warm part of the year.

TEMPERATURE

The enclosure must have a clear gradient. The warm end must be 27-29 °C, and under a spotlight the basking spot must reach 35-40 °C for several hours a day. The cool end must be 15-21 °C. At night the lamp is switched off, and the temperature may fall gradually to 10-20 °C; ordinary room temperature is fine.

Use a thermostat on the heat bulb, and measure with digital thermometers at both ends and with an infrared thermometer at the basking spot. In the wild the species hibernates, and a cooler period with shorter days in winter matches its rhythm, but temperature and duration for a hibernation in the enclosure are not known.

Read more: Heat and temperature

HUMIDITY AND WATER

The species comes from dry regions and needs a humidity of 20-40 %. Keep the substrate dry, and do not let water stand.

Offer fresh water in a very shallow dish that cannot tip over and that the animal can easily climb out of. Empty and wash the dish regularly. Water can also be given once a week in a separate enclosure, so the substrate does not become wet; then dry the belly and feet. The animal sheds 4-5 times a year, often in one piece, including the eye cap.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is diurnal and needs a UVB tube switched on for 8-12 hours a day. The tube must be measured regularly or replaced at least every six months, because the UVB output declines. Ferguson zone 3 is an estimate for a species that basks in open terrain. Combine with a spotlight that gives the basking spot its heat.

Let the light follow the day length of the season, and switch off at night. There must be no glass or plastic between the tube and the animal, and the animal must be able to seek shade and cover.

Read more: Lighting and UVB

FEEDING

Tiliqua rugosa is omnivorous with an emphasis on plants. Adults need 70-80 % plant food and only 20-30 % animal food. Provide a broad mixture of greens, soft and hard fruits, flowers such as hibiscus and marguerites, larger insects and snails, which the animal crushes with its jaws. Small pieces of raw meat are accepted, while pinkie mice are only a rare treat. Iceberg lettuce has little nutritional value.

Dust the food with a calcium and vitamin supplement. Adults are fed 2 times a week. Juveniles are fed every 3rd-4th day. Follow the animal's weight and body shape, and cut down if it becomes fat. Snails from the wild must come from places without slug pellets.

Read more: Calcium, vitamins and supplements

BEHAVIOUR AND HANDLING

The species is calm and gets used to gentle handling. New animals can be shy, and some revert to hissing and gaping after a few days without contact. Never hold the animal on its back, and always give the feet something to stand on. A bite hurts and can cause bleeding wounds, so use gloves if in doubt.

In the wild the animals are sedentary and form pairs that find each other again year after year. Therefore keep a pair or a single animal. Two males can be kept together, but must be watched closely, because they may fight, and strange males are attacked. The animal is sluggish and rests a lot, especially in winter.

Breeding

SEXUAL MATURITY AND SEXING

The sexes are hard to tell apart. The male's tail may be slightly slimmer and longer, but that is not a reliable characteristic. The most reliable method is X-ray with contrast fluid in the hemipenal pockets at the vet. Everting the hemipenes can injure the animal and should be left to the vet. Age and weight at sexual maturity are not known.

MATING

In the wild pairs find each other in September and October, and mating itself takes place in late October or in November, the southern spring. The male follows the female closely for a couple of weeks before mating. The species is monogamous, and the same animals often mate year after year. If the pair has hibernated together, there are no problems. If the animals have been apart during hibernation, the female is put in with the male afterwards, not the other way round. A pair does not always produce young.

EGG-LAYING AND CLUTCHES

The species gives birth to live young. The female has a well-developed placenta, which nourishes the embryos. Gestation lasts about five months, and the young are born late in summer or early in autumn, in the wild in March-April. The litter is usually two young, sometimes one, more rarely three or four. The litter weighs over a quarter of the female's weight, so she needs plenty of food and calcium throughout gestation.

INCUBATION

There are no eggs to incubate. Gestation lasts about five months, corresponding to the figure in the box. The female needs a basking spot, UVB and varied food, and the enclosure must be kept dry and quiet. The young eat the foetal membranes and manage on their own from birth, but in the wild they stay near the parents for several months.

REARING THE YOUNG

The young are large at birth: they weigh 60-140 g and are about half as long as the female. They can live in an enclosure like the adults' with a dry substrate, a basking spot and UVB. Give chopped greens, finely chopped fruit and small insects, dusted with calcium and vitamins, every 3rd-4th day. Weigh them regularly. The large size at birth gives the young time to put on fat

before the first winter.

Health and common mistakes

Tiliqua rugosa is hardy when it gets sun, UVB and dry conditions. The typical problems are:

- Fungal infection on the belly and feet with a substrate that is too damp.
- Bobtail flu, a contagious respiratory disease caused by a virus (Shingleback nidovirus 1) and detected in animals in Western Australia. Signs are runny eyes and nose, mucus in the mouth, sneezing, lethargy and weight loss. Some animals carry the infection without symptoms. There is no specific treatment, but supportive treatment at the vet saves most, and a PCR test can detect the virus.
- Ticks and mites.
- Obesity with too much food and too little movement.
- A lack of calcium and D3 with too little UVB and a one-sided diet.

Quarantine new animals for at least a month before they come together with others. The animals hide illness well, so contact a vet with experience in reptiles if there is a change in appetite, weight loss or discharge.

Read more: Quarantine and hygiene

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.