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CHAMELEONS

## Brown Leaf Chameleon

# *Brookesia superciliaris*

*Brookesia superciliaris* is one of the largest leaf chameleons and reaches 9-10 cm in total. It lives in the leaf litter of Madagascar's eastern rainforests, is brown like a dead leaf and has large bony knobs above the eyes. The species is kept in a small, humid enclosure with a deep layer of leaf litter and small feeder insects. It has a reputation for being difficult, but is now bred regularly in small numbers.

Family: Chamaeleonidae  Former name: *Chamaeleo superciliaris*

KEY FACTS

### THE ANIMAL

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| Adult size | **9-10 cm**<br>total length incl. tail |
| Lifespan | **2-4 years** |
| Active | **By day** |
| Lifestyle | **Arboreal and terrestrial** |
| Habitat | **Rainforest and montane forest** |
| Difficulty | **Experienced** |

### CARE

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|---|---|
| Min. enclosure | **40 × 30 × 40 cm**<br>L × W × H for 1 adult |
| Temperature, day | **20-25 °C** |
| Temperature, night | **16-20 °C** |
| Humidity | **70-95%** |
| UVB | **Recommended**<br>Ferguson zone 1 |
| Diet | **Insects and small invertebrates (springtails, fruit flies)** |
| Kept | **Singly** |

### BREEDING

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|---|---|
| Reproduction | **Egg-laying** |
| Sexually mature | **4-5 months** |
| Clutch size | **2-5 eggs** |
| Clutches per year | **2-3** |
| Incubation | **45-120 days**<br>at 18-27 °C |

### PROTECTION AND PAPERWORK

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

## About the species

*Brookesia superciliaris* is a small chameleon of 9-10 cm in total and one of the largest leaf chameleons. The body measures at most about 5 cm from snout to vent, and the tail is short. The head is flat and has a spiny helmet at the back. Above each eye there are two triangular plates of large scales, and under the jaw there are 4-6 spines. A row of 10-11 spines runs along each side of the back.

The colour is brown, beige, dirty yellow and black in patches, so the animal resembles a dead leaf. The ability to change colour is weakly developed. The male has a swollen tail base. The species name comes from the Latin *supercilium*, eyebrow, and refers to the large bony knobs above the eyes. The species resembles *Brookesia therezieni*, but lacks its small knobs along the tail.

When in danger the animal may vibrate or stand perfectly still. The species has a large range and varies between populations; some are patterned differently, for example with a row of green spots on the flanks. It is unresolved whether they conceal several species.

## Distribution and habitat

*Brookesia superciliaris* is native to Madagascar and is found along almost the whole east coast, from the dry regions in the south up to Marojejy and Masoala in the north, and on the island of Nosy Boraha. It lives from the lowlands up to about 1,200 m, among other places in Andasibe-Mantadia and Ranomafana.

The species is common in several places in its range.

> **Native range:** Madagascar.

### HABITAT

The species lives in leaf litter, on moss-covered ground and in bushes and scrub in rainforest and humid forest. It is seen at knee height along the paths by day, but also climbs up onto branches and tree trunks to about two metres, higher than most other leaf chameleons. The animals are diurnal and lively, but shy.

In the rainforest at Ranomafana, about 1,000 m above sea level, it averages 23-27 °C by day in the rainy season and 23-25 °C in the dry season. At night the temperature falls to 19-20 °C in the rainy season and about 15 °C in the dry season. It rains for most of the year, and the forest floor never dries out completely. In the lowlands along the coast it is warmer.

## Care

### THE ENCLOSURE

Little consolidated knowledge exists about the care of *Brookesia superciliaris*. The species has long had a reputation for being difficult to keep and almost impossible to breed over several generations, but today it is bred regularly, though in small numbers. The temperatures are based on the climate in the range; the rest of the care is as for other small, ground-dwelling chameleons, for example *Brookesia stumpffi* and *Brookesia thieli*.

A single adult needs an enclosure of at least 40 × 30 × 40 cm (length × width × height). Floor area is more important than height, because the species uses the leaf litter, but there must also be branches to climb on. Use a glass enclosure or a mesh enclosure with moderate ventilation so that the humidity is retained.

The substrate is a deep layer (5-8 cm) of soil and sand without perlite, covered with moss and a thick layer of dry leaves. Provide small plants, thin branches at several angles and hides of bark. Remove uneaten insects and rotting plant parts quickly, because the humid environment encourages fungus. A water bowl is not necessary.

Read more: Humidity, misting and ventilation

### TEMPERATURE

The daytime temperature should be 20-25 °C and the night temperature 16-20 °C, as in the rainforest of the highlands. The drop at night comes by itself when the lamps are switched off. The species does not need a basking spot; a weak spotlight is optional, but the surface under it must reach no more than 28 °C, measured with an IR thermometer.

Use a thermostat for any spotlight, and measure the temperature both at the bottom and at the top. Above 30 °C is dangerous for such small animals.

Read more: Heat and temperature

### HUMIDITY AND WATER

Humidity should be 70-95 %, highest just after misting and at night. Mist the enclosure thoroughly at least twice a day with lukewarm water. The animals drink droplets from the leaves and do not use a bowl.

The droplets should be gone after 2-3 hours, and the surface of the soil should be able to dry out a little between mistings, while the soil underneath stays damp. Moderate ventilation helps so that the humidity does not become stagnant.

### LIGHTING AND UVB

The species is diurnal and lives in shade. Use a weak T5 tube with UVB over about half of the lid (Ferguson zone 1), so that the UV index at the uppermost branches is about 1 and the rest of the enclosure is in shade, and a daylight-coloured LED light for the plants. Switch the lights on for 10-12 hours a day.

UVB tubes are replaced according to the manufacturer's instructions. Plants and hides ensure that the animal can always choose shade.

Read more: Lighting and UVB

### FEEDING

The species eats small insects: fruit flies, springtails, small crickets, bean beetles and small cockroaches. The prey must be no more than about 20 % of the animal's body length. The feeder insects must themselves be well fed, and uneaten insects are removed before night so that they do not bother the animal while it sleeps.

Adults are fed 3-4 times a week and young every other day. Dust the insects with calcium and vitamins 1-2 times a week, and give varied food. Wild-caught animals are often weakened and dehydrated and have intestinal parasites, so a faecal sample at the vet is recommended.

Read more: Feeder animals: keeping and breeding Read more: Calcium, vitamins and supplements Read more: Buying animals: captive-bred, wild-caught and transport

### BEHAVIOUR AND HANDLING

The species is kept singly. It is shy but lively and is easily stressed by disturbance and touch, so it should not be picked up. When in danger it may vibrate.

Dense vegetation and a deep layer of leaf litter with hiding places reduce stress. The enclosure should be placed in a quiet spot.

## Breeding

### SEXUAL MATURITY AND SEXING

The male has a swollen tail base, and the female is rounder and becomes spherical when carrying eggs. The species is sexually mature after 4-5 months.

### MATING

Put the male in with the female. If the female is receptive, she remains pale and still; otherwise she turns dark and threatening. Break off the attempt if the female rejects him, and try again later. Mating behaviour has not been described for the species and is based on other small chameleons. Pair only animals from the same region, because the delimitation of the species is uncertain.

### EGG-LAYING AND CLUTCHES

The female lays 2-5 eggs per clutch and has 2-3 clutches a year. The eggs are laid about 45 days after mating. Like other leaf chameleons she does not bury them, but hides them under leaves, moss or bark on the ground, so she needs a damp layer of leaf litter and a couple of pieces of bark to lay under. Give her peace while she lays.

### INCUBATION

The eggs hatch after about 68 days at 27 °C by day and 15 °C at night, so keep a clear drop in temperature at night. At lower temperatures, 18-23 °C, it takes longer; in the genus incubation lasts 45-120 days. The eggs can lie in moist vermiculite in a closed box with small air holes.

Read more: Incubating eggs

### REARING THE YOUNG

The young are very small. Move them to a small container, furnished like the adults', with thin branches, leaves and hides. Give fruit flies and springtails every other day. Once the sexes can be told apart, each animal should live alone.

## Health and common mistakes

Typical problems and mistakes in care:

- Dehydration from misting too seldom.
- Heat stress at temperatures above 30 °C.
- Intestinal worms in wild-caught animals; have a faecal sample examined at the vet.
- Bone loss (MBD) from too little UVB or calcium.
- Fungus and skin problems from stagnant damp.
- Stress from touch and disturbance.

Lifespan in captivity is not documented; 2-4 years is an estimate based on other small chameleons. Contact a vet with reptile experience if the animal stops eating, is limp or breathes with its mouth open.

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.