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CHAMELEONS

Canopy Chameleon

Furcifer willsii

Furcifer willsii is a small, green chameleon from the humid montane forests of central eastern Madagascar. The male carries two parallel, upturned nose projections, which the female lacks. The species is sensitive, needs cool, humid air, shade and plenty of water, and is only rarely kept.

Family: Chamaeleonidae

KEY FACTS

THE ANIMAL

Adult size	**15-17 cm** total length incl. tail
Lifespan	**2-3 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest and montane forest**
Difficulty	**Expert**

CARE

Min. enclosure	**45 × 45 × 90 cm** L × W × H for 1 adult
Temperature, day	**20-25 °C**
Basking spot	**26-28 °C**
Temperature, night	**12-18 °C**
Humidity	**65-100%**
Water	**No water dish**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**6-23 eggs**
Incubation	**150-400 days** at 20-25 °C

PROTECTION AND PAPERWORK

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

About the species

With a total length of 15-17 cm, *Furcifer willsii* is one of the small chameleons. The male has two distinct, parallel and upturned nose projections, which are entirely absent in the female. The male is green with a thin white stripe along the flank and white lips. The female's colours change more, from yellowish green to dark brown, and gravid females develop bright yellow or white spots. Both sexes have a white line along the ventral crest.

The genus name *Furcifer* means fork-bearer in Latin. The species was described in 1890 by Albert Günther as *Chamaeleon willsii* and is named after the missionary James A. Wills, who lived in the highlands of Madagascar and from whose collection the first animals came. The northern *F. petteri* was formerly regarded as a subspecies, but is now a separate species.

Although the species is small, it is sensitive and readily bites at a finger. Less aggressive animals often run quickly up and down a branch that is offered to them. Captive breeding is hardly described.

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

Distribution and habitat

Furcifer willsii is found only in Madagascar, mainly in the montane forests of the central eastern part of the island. Known localities include Andasibe with Analamazaotra and Mantadia, the Anjozorobe-Angavo corridor and Ranomafana, and to the south the species has been found in the Andringitra massif. It lives up to about 1,200 m elevation.

> **Native range:** Madagascar.

HABITAT

The species lives in humid, dense primary forest and is almost never seen in secondary vegetation. It prefers the dense parts of the forest with slender trees, where the understorey is covered in ferns and moss, and it often sits high up in the tree crowns.

The climate around Andasibe, 900-1,250 m above sea level, is cool and very humid. In the rainy season (November-April) the monthly mean is 22-24 °C, and days reach 26-27 °C. In the cool dry season from May to October the mean is 19-22 °C, and days reach 23-25 °C. The temperature rarely exceeds 30 °C and then only in patches of sun. Nights are cool, especially in the dry season, when 10-15 °C is normal. Humidity is high all year: in the rainy season it rains almost daily, and in the dry season at least every other day.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Little is known about the care of *Furcifer willsii*. The climate in the species' range is cool and humid: days of 23-27 °C, nights of 10-20 °C and rain most of the year. *Furcifer lateralis* lives in the same part of Madagascar, is far better known in the terrarium and has similar requirements, but tolerates more heat. Figures that are not known for *F. willsii* are borrowed from it.

An adult needs an enclosure of at least 45 × 45 × 90 cm (length × width × height). The size is an estimate based on the species' size and its life in the tree canopy, and height is the most important. The animal is kept alone.

The species is shy and needs dense cover. A glass enclosure with a mesh lid retains humidity better than a pure mesh enclosure, but the air must not stand still, so there must be ventilation both at the top and at the bottom. Furnish with many thin branches, vines and dense, leafy plants so that the animal can withdraw completely into shade. Use non-toxic plants such as ficus, pothos and ferns. A drain in the bottom makes it easy to get rid of large quantities of water.

TEMPERATURE

The species comes from cool mountain forests and tolerates heat poorly. The daytime temperature should be 20-25 °C with a mild basking spot of 26-28 °C on a branch just under the lamp, measured with an IR thermometer. No part of the enclosure may exceed 28 °C. At night the temperature should fall to 12-18 °C. A clear drop between day and night is important.

In the wild a warmer wet season alternates with a cooler dry season. It is therefore a good idea to give a couple of months with cooler days of about 19-22 °C and cold nights. A true winter rest is not documented. Hang the lamps high and use a thermostat, so the enclosure never overheats. If the animal is dark, gapes or sits at the bottom of the enclosure, it is too hot.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity should be high all year: about 65-80 % by day and 90-100 % at night. The species drinks droplets from leaves and branches, not from a bowl. Mist the enclosure thoroughly morning and evening, and let a drip system run for several hours a day. A fogger can keep the air humid at night.

Leaves and branches must be able to dry between mistings, otherwise mould appears. Keep the air moving. New animals are often dehydrated and need plenty of water in the first weeks.

LIGHTING AND UVB

The species is diurnal, but lives in dense forest with shade and partial shade. Provide 12 hours of light a day with a T5 tube over the whole length of the enclosure.

UVB is recommended. The UV requirement has not been measured for the species, and zone 2 is an estimate based on the habitat in dense forest. This corresponds to a UV index of at most about 1-2 at the highest branch and shade further down so that the animal can choose. A weak T5 HO UVB tube over the mesh is suitable, and the index is measured with a UV meter.

Replace the tube according to the manufacturer's instructions.

Read more: Lighting and UVB

FEEDING

Furcifer willsii is an insectivore. Offer small, varied insects: small crickets, small cockroaches, fruit flies and moths. Flying insects are a good supplement.

Young animals are fed every day, adults every other day. Dust the feeder insects with calcium with a little D3 and vitamins, and give the insects a nutritious diet a day or two before feeding. Females must not be overfed, because it produces large clutches that drain them.

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

BEHAVIOUR AND HANDLING

The species is shy, sensitive and nervous. It should not be handled and readily bites at a finger. Keep the animal alone, and arrange the enclosures so that males cannot see one another.

Stress shows as dark, rapidly changing colours, gaping and attempts to flee. Provide peace, dense cover and fixed routines, and leave a new animal in peace for the first weeks.

Breeding

SEXUAL MATURITY AND SEXING

The male is recognised by the two parallel nose projections, which the female does not have. Females' colours change more, from yellowish green to dark brown. Age and size at sexual maturity are not documented.

MATING

Captive breeding is hardly described. Mating probably follows the pattern in other *Furcifer*: put a receptive female in with the male, and take her out again if she rejects him. Gravid females develop distinct yellow or white spots. The breeding season in the wild is not documented.

EGG-LAYING AND CLUTCHES

Clutch size is not documented. The figures in the box apply to *F. lateralis*, which is slightly larger, so the clutches are probably smaller. Provide the female with a deep container of moist soil where she can dig a tunnel and lay the eggs at the bottom.

INCUBATION

The incubation period is likewise not documented; the figures in the box (20-25 °C and 5-13 months) apply to *F. lateralis*. Many *Furcifer* have eggs with a resting period in embryonic development, so the incubation period can be long, and the eggs must be monitored closely. Use moist vermiculite.

Read more: Incubating eggs

REARING THE YOUNG

Rearing is not documented. The young are independent from hatching and are cared for like the adults, only on a smaller scale: in a tall, densely planted enclosure with cool, humid air and small insects every day.

Health and common mistakes

Typical problems and husbandry errors:

- Dehydration, especially in new animals in the first weeks.
- Heat stress, if the enclosure is too hot. The species does not tolerate high temperatures.
- Intestinal worms and other parasites in wild-caught animals. Let the animal settle in, and then have a faecal sample examined by a vet with reptile experience.
- Respiratory infections from stagnant air.
- Metabolic bone disease (MBD) from too little UVB and calcium.
- Mould, when leaves and branches are wet around the clock.

A healthy animal has open, clear eyes, holds the branch firmly and eats. Contact a vet with reptile experience if the animal does not eat, loses weight, sits dark and listless 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.