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CHAMELEONS

Poroto Three-horned Chameleon

Trioceros fuelleborni

Trioceros fuelleborni is a small, compact, live-bearing chameleon from the montane forests of south-western Tanzania. Both sexes have three short, ringed horns, and the male's are the largest; the base colour is green with brown markings and broken pale stripes along the flanks. The species needs a cool climate with a clear night-time drop and fog, and it is very rare in captivity.

Family: Chamaeleonidae Former name: *Chamaeleo fuelleborni*

KEY FACTS

THE ANIMAL

Adult size	**15-25 cm** total length incl. tail
Lifespan	**5-6 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Montane forest**
Difficulty	**Expert**

CARE

Min. enclosure	**60 × 45 × 90 cm** L × W × H for 1 adult
Temperature, day	**20-22 °C**
Basking spot	**24-26 °C**
Temperature, night	**10-15 °C**
Humidity	**50-100%**
UVB	**Essential** Ferguson zone 2
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Live-bearing**
Sexually mature	**6-12 months**
Litter size	**4-20 young**
Clutches per year	**1**
Gestation	**210-300 days**

PROTECTION AND PAPERWORK

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

About the species

Trioceros fuelleborni is a small, sturdy, arboreal chameleon. Adults are about 20 cm in total length, including the tail, and a few males reach 25 cm. The species resembles *T. jacksonii*, but is smaller and plumper, and the horns are clearly shorter. The male has three well-developed, ringed horns, two in front of the eyes and one on the snout. The female has three small horns, but in some females only the rostral horn is prominent. The difference between the sexes shows when the animals are about four months old.

The body is medium to light green with brown patterning. Scales on the casque lobes, the eye turrets and at the base of the horns are often brownish-red, and broken, almost white stripes run down the flanks. The front part of the parietal crest is forked, and there are crests on the throat and belly as well as a prominent dorsal crest of cones of varying size.

The species can be confused with *T. werneri*. The difference shows on the casque lobes: in *T. fuelleborni* each lobe is covered by no more than 15 large, plate-like scales, in *T. werneri* by up to 30, so the lobes look finer and more elongated.

The species is live-bearing. The scientific name honours the German physician Friedrich Fülleborn, who worked in what was then Tanganyika. There are only a few animals in European collections, and new animals are unlikely to come from Tanzania.

Distribution and habitat

Trioceros fuelleborni is endemic to south-western Tanzania and occurs only in the Poroto Mountains and on the volcanoes of the Rungwe area, including Ngosi, at about 2,000-2,500 m altitude. The type locality is Nkonde-Nyika in the Poroto Mountains.

The range is small and may hold a few separate populations.

> **Native range:** Tanzania.

HABITAT

The species lives in humid montane forest, but has also been found in trees and bushes in built-up areas near the forest. It occurs at 2,000-2,500 m, where the climate is cool: about 20-21 °C by day and 10-15 °C at night. Humidity and rainfall are not documented for the species' habitat, but montane forests at that altitude have fog and rain for most of the year.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Little is known about the husbandry of *Trioceros fuelleborni*. The climate in its range is cool and humid: about 20-22 °C by day and 10-15 °C at night. The enclosure size, basking spot, humidity and UVB level are borrowed from the closely related montane chameleons *Trioceros hoehnelii* and *Trioceros werneri*, which live at roughly the same altitude and in a similar climate.

A single adult needs an enclosure of at least 60 × 45 × 90 cm (length × width × height). A hybrid enclosure of glass and mesh holds night humidity and gives ventilation at the same time. Stagnant air causes respiratory infections, so a small fan must keep the air moving. The enclosure must stand in a cool place, where nights are cooler than in a heated living room.

Furnish the enclosure densely with live plants, thin branches and twigs at several heights, so the animal can climb and withdraw into foliage. The animals are kept singly.

Read more: Lighting and UVB Read more: Heat and temperature

TEMPERATURE

By day the temperature should be 20-22 °C, with a basking spot of 24-26 °C, which the animal can use in the morning. The temperature must not stay above 26 °C for long. Mount the heat lamp above the enclosure and at a good distance, so the heat is gentle and without risk of burns.

At night the temperature must fall to 10-15 °C. The clear night-time drop matches the habitat and is a prerequisite for a healthy animal.

HUMIDITY AND WATER

Night is the humid time for the species. Humidity should be 80-100 % at night and fall to 50-70 % by day. An ultrasonic fogger in the second half of the night and misting just before the lights come on give fog and dew. The species drinks droplets, not from a bowl, and a drip system in the late afternoon is an extra safeguard.

More important than the figures is that the air moves when it is humid and that all surfaces are dry during the day. Branches that are constantly wet cause sores on the feet and mould.

LIGHTING AND UVB

The species is diurnal and needs strong light. Four T5 HO tubes of 6500 K across the width of the enclosure light a 90 cm tall enclosure well. Give 12 hours of light and 12 hours of darkness all year; the enclosure must be completely dark at night.

UVB is essential. Aim for a UV index of 2-3 at the basking spot, with a T5 HO UVB tube in a single reflector. The animal must be able to find shade. A UV meter is a great help, because the index depends on distance and mesh. Sunlight through a window can overheat the animal and provides no UVB.

FEEDING

T. fuelleborni is insectivorous and eats anything that fits in the mouth: crickets, silkworms, grasshoppers and flies. The insects themselves must have a rich diet of greens, fruit and pollen.

Young are fed daily. Adults get a couple of suitable insects every other day, so they stay lean. Dust the insects lightly with plain calcium without D3 at every feeding, and let the animal's own D3 production under UVB light cover the rest. The species' need for supplements has not been measured. As with other montane chameleons, vitamin supplements are given only rarely, because an excess of the fat-soluble vitamins A and D3 harms the animal.

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

BEHAVIOUR AND HANDLING

The species is kept singly. It is moderately aggressive towards conspecifics and shy towards the keeper. It is a display animal, not a pet, and handling must be brief and rare. Dark colour is a sign of stress, cold or illness, but is normal in the morning while the animal warms up.

Breeding

SEXUAL MATURITY AND SEXING

Males are recognised by the large horns, and the difference shows when the animals are about four months old. The animals can be sexually mature after 6-12 months. The female must be fully grown and in good condition before she is mated.

MATING

The species is very rare in captivity, so experience is limited. The female is put in with the male for mating. Separate them when mating is over or the female rejects the male. The female normally has one litter a year.

EGG-LAYING AND CLUTCHES

The species is live-bearing, so no eggs are laid and no egg-laying box is needed. The female gives birth to 4-20 young in one litter; young females have fewer, and fully grown females can have about 20. Gravid females are kept alone with plenty of food, extra calcium and the same cool conditions as usual.

INCUBATION

There is no incubation. Gestation is unusually long, 7-10 months (210-300 days). Throughout gestation the female must have the night-time drop and the fog. If she does not give birth on time, or turns dark, limp and stops eating, she must see a vet experienced with reptiles.

Read more: Incubating eggs

REARING THE YOUNG

The young are small and delicate. Rear them in a small hybrid enclosure with the same climate as the adults: cool, fog at night and many thin branches. Feed them small insects such as fruit flies and newly hatched crickets, and keep them singly as soon as the sex can be seen. Rearing of the species has been described only to a very limited extent; most of it is borrowed from other montane chameleons.

Health and common mistakes

Typical problems and mistakes in husbandry:

- Heat stress at temperatures above 26 °C and from a basking spot that is too hot or sits close to the lamp. Burns show as grey areas or melted dorsal spines.
- Respiratory infections from stagnant air or surfaces that are too wet. Signs are gaping, open-mouth breathing and mucus.
- Metabolic bone disease (MBD) from too little UVB or calcium: soft jaws and crooked limbs.
- Sores and mould on the feet from branches that are wet all the time.
- Poor sleep and a weakened immune system when nights are too warm or too bright.
- Overdosing of fat-soluble vitamins (A and D3), as in other montane chameleons.

Lifespan in captivity is not documented; 5-6 years in the specification box is borrowed from the closely related *Trioceros hoehnelii* and *Trioceros werneri*. Contact a vet experienced with reptiles if the animal stops eating, turns dark, becomes limp or has difficulty breathing.

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.