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CHAMELEONS

Crater Highlands Side-striped Chameleon

Trioceros sternfeldi

Trioceros sternfeldi is a small, live-bearing chameleon from the high mountains of northern Tanzania, Mount Meru and Kilimanjaro. It was described as a subspecies of *Trioceros rudis*. Very little is known about its care. The species needs a cool enclosure with a clear night-time drop and high night humidity.

Family: Chamaeleonidae Former name: *Chamaeleo sternfeldi*

KEY FACTS

THE ANIMAL

Adult size	**15-18 cm** total length incl. tail
Lifespan	**3-5 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Montane forest**
Difficulty	**Experienced**

CARE

Min. enclosure	**45 × 45 × 90 cm** L × W × H for 1 adult
Temperature, day	**20-22 °C**
Basking spot	**24-25 °C**
Temperature, night	**8-14 °C**
Humidity	**50-100%**
UVB	**Essential** Ferguson zone 3
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Live-bearing**
Litter size	**2-18 young**
Gestation	**90-160 days**

PROTECTION AND PAPERWORK

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

About the species

Trioceros sternfeldi is a small, arboreal chameleon in the group of small montane chameleons with a row of larger scales along the flank, which also includes *Trioceros rudis* and *Trioceros ellioti*. Adults measure 6-8 cm from snout to vent. The total length has not been measured for the species; the 15-18 cm in the fact box is the length of *T. rudis*.

The body is stocky and the head short and broad. The clearest feature is the parietal crest, which widens towards the back and in many animals ends in a small knob. The snout has no rostral process. The gular and ventral crests are short and weak, and the dorsal crest is low. The scales on the flanks are small and irregular with scattered larger scales; the largest form a row from the nape to the base of the tail, and some animals have a fainter row below it. The colour of live animals has not been described in detail; *T. rudis* is green to reddish brown.

T. sternfeldi was described in 1963 as a subspecies of *T. rudis*, was treated as a synonym of it in 1997, and is today regarded as a separate species. *T. rudis* occurs in Burundi, Rwanda, western Uganda, Kenya and eastern Congo, whereas *T. sternfeldi* is known only from Tanzania. Older hobbyist literature on *T. rudis* may therefore include this species.

The species is live-bearing. The name honours the German zoologist Richard Sternfeld (1884-1943).

Distribution and habitat

Trioceros sternfeldi is known only from northern Tanzania: Mount Meru and Kilimanjaro. The type locality is Laikinae on Mount Meru at about 2,300 m, and on Mount Meru the species has been found up to about 2,750 m. Montane chameleons from the highlands around the Ngorongoro Crater are often included in the species, but their placement has not been resolved. The range is confined to a few mountain massifs, but the species is assessed as Least Concern (LC).

> **Native range:** Tanzania.

HABITAT

The habitat is cool highland at 2,300-2,750 m. At that altitude the days are mild and the nights markedly cooler. Vegetation, temperatures and humidity at the sites have not been documented for the species. The closely related montane chameleons *Trioceros hoehnelii* and *Trioceros werneri* live in dense, branching vegetation in a cool, humid climate with cold nights, where they find cover and drink droplets from the leaves.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

Little is known about the care of *Trioceros sternfeldi*, and the species is rarely seen in captivity. The figures in this guide are borrowed from closely related montane chameleons: the climate from *Trioceros hoehnelii*, UVB from *T. hoehnelii* and *Trioceros ellioti*, and the enclosure, young and gestation from *T. ellioti*.

A single adult needs an enclosure of at least 45 × 45 × 90 cm (length × width × height). Height is used more than floor space, and larger is better: a larger enclosure makes it easier to build an even gradient without the light and heat becoming too strong.

Choose a hybrid enclosure of glass and mesh, or a screen enclosure, and make sure the air moves, because stagnant air causes respiratory infections. The enclosure should preferably stand somewhere cool, where nights get cooler than in a heated living room. Furnish it densely with live plants and thin branches at several heights, so the animal can climb and withdraw into foliage. A substrate is not necessary.

Read more: Lighting and UVB

TEMPERATURE

The species comes from cool highland and tolerates heat poorly. By day the temperature should be 20-22 °C, with a basking spot of 24-25 °C, so the animal can warm up in the morning. The rest of the enclosure must not be warmer than 24 °C. The heat comes from a bulb or spot mounted at a good distance, so there is no risk of burns.

At night the temperature must fall to 8-14 °C. The clear drop is important for health, especially in young animals. In a warm flat in summer, the enclosure must be moved to a cool room or cooled.

Read more: Heat and temperature

HUMIDITY AND WATER

Night is the humid time. Humidity should rise towards 100 % at night, with fog from an ultrasonic fogger for 3-4 hours late at night and early in the morning. By day it may fall to about 50-70 %. Mist the enclosure for 5-10 minutes both in the morning and in the late afternoon, so the animal can drink droplets from the leaves. The species does not drink from a bowl, but readily accepts a drip system.

Branches and leaves must dry during the day: surfaces that are constantly wet cause sores on the feet and mould. Use distilled water in the fogger, and place two hygrometers at opposite ends of the enclosure.

LIGHTING AND UVB

The species is diurnal and needs strong light for 12 hours a day all year, from a T5 HO tube of 6500 K or a powerful LED lamp across the width of the enclosure. The enclosure must be completely dark at night.

UVB is essential. Aim for Ferguson zone 3, that is a UV index of 3-4 at the basking spot, and let the animal find shade. Check with a UV meter, and replace the tube according to the manufacturer's instructions, because output declines with age. Direct sun through glass provides no UVB and can overheat a small enclosure.

FEEDING

T. sternfeldi eats insects: crickets, grasshoppers, flies, cockroaches and silkworms. Small montane chameleons readily take small prey, even as adults, so try different sizes. Fruit and vegetables are not necessary.

Young are fed daily, adults every other day, so they stay lean. Amounts for the species have not been documented. The feeder insects must themselves have a rich diet of greens and grain. Dust them with plain calcium without D3 at every feeding and with a vitamin supplement once a month. D3 is produced in the skin under the UVB light.

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

BEHAVIOUR AND HANDLING

The species is kept singly. Small montane chameleons can be mild, but they react suddenly and violently when two animals meet and can seriously injure each other. Young are separated as early as possible.

The species is an animal to watch, 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

Age at sexual maturity has not been documented. The male is recognised by the thicker tail base; the species has no rostral process. A female that has been with a male can give birth without warning, even long after she was last with a male, because females can store sperm.

MATING

Mating in captivity has not been documented for the species. Place the female with the male under supervision, and separate the animals at once if the female rejects the male or the male becomes aggressive. The animals should meet only for mating.

EGG-LAYING AND CLUTCHES

The species is live-bearing, so no eggs are laid and no laying box is needed. The number of young per litter and the number of litters per year have not been documented for the species; the 2-18 young in the fact box is the figure for *T. ellioti*. Pregnant females need plenty of food and extra calcium.

INCUBATION

There is no incubation. The length of gestation has not been documented for the species; the 90-160 days in the fact box is the figure for *T. ellioti*. Throughout gestation the female needs the night-time drop and the night fog. If she does not give birth on time, or turns dark, limp and stops eating, she must see a veterinarian experienced with reptiles.

Read more: Incubating eggs

REARING THE YOUNG

Rearing of young has not been documented for the species. As a starting point, each young animal should be kept on its own in a densely planted enclosure with the same climate as the adults and be given fruit flies, small crickets and springtails every day. Mist the young gently in a fine fog so the eyes are not harmed. A clear night-time drop is especially important for young.

Health and common mistakes

Typical problems and care mistakes:

- Overheating and burns from a basking spot that is too hot or sits too close to the bulb. Chameleons can get burnt without moving away from the heat.
- Respiratory infections and infections of the mouth and sinuses in stagnant air or on surfaces that are too wet. Signs are mucus, gaping and open-mouth breathing.
- 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 constantly wet.
- Poor sleep and a weakened immune system when nights are too warm or too bright.
- Dehydration when there are no droplets to drink.

Lifespan has not been documented; the 3-5 years in the box is an estimate. Contact a veterinarian 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.