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CHAMELEONS

Werner's Chameleon

Trioceros werneri

Trioceros werneri is a medium-sized, live-bearing chameleon from the cool mountains of southern and central Tanzania. The male has three horns, two above the eyes and one on the snout, while the female has only a single nasal horn or none at all. The species requires cool days, a pronounced drop in temperature at night and a long morning mist, and it is rare in captivity.

Family: Chamaeleonidae Former name: *Chamaeleo werneri*

KEY FACTS

THE ANIMAL

Adult size	**25-30 cm** total length incl. tail
Lifespan	**5-6 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Montane forest**
Difficulty	**Experienced**

CARE

Min. enclosure	**60 × 60 × 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	**Recommended** Ferguson zone 2
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Live-bearing**
Sexually mature	**6-12 months**
Litter size	**8-30 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 werneri is a medium-sized, tree-dwelling chameleon that reaches 25-30 cm in length including the tail. The male has three horns: two in front of the eyes and one on the snout. The female has only one large nasal horn or no horn at all. The difference can be seen from an age of about four months. At the back of the head sit large, fused casque flaps, reminiscent of those in *Trioceros fuelleborni* but covered with more and finer plates. The base colour is brown with cream markings, and the reddish skin between the scales often gives the animal a red tinge.

The species is live-bearing. The female carries the young inside her body and gives birth to fully developed young. Males are moderately aggressive towards conspecifics, and adults must be kept separately.

The scientific name honours the Austrian zoologist Franz Werner. The species contains several local forms, and some of them will probably be split off as separate species or subspecies. In captivity a distinction is made between the form from the Udzungwa Mountains near Mufindi, which is the most common, and the rarer, green form from the Nguru Mountains.

Little is known about the care of *Trioceros werneri*. The care is based on the species' mountain climate and on the few experiences from captivity, and figures that are not documented for the species are borrowed from other mountain chameleons of the genus *Trioceros* and mentioned in the text.

Distribution and habitat

Trioceros werneri occurs only in Tanzania: in the Udzungwa and Uluguru Mountains in the Eastern Arc mountain chain and on the Ufipa Plateau in the south-west. Local forms are also known from the Nguru Mountains. The type locality was originally given incorrectly and has since been corrected to the Udzungwa Mountains.

The species lives at 1,700-2,600 metres. Tanzania has an indefinite ban on the export of wild animals, so animals in the trade come from animals exported earlier and their offspring.

> **Native range:** Tanzania.

HABITAT

The species lives in montane forest and adjoining scrub high in the mountains. At 1,700-2,600 metres the air is cool and humid, and the nights are markedly cooler than the days. The animals live in dense, branching vegetation, where they find cover and drink droplets from the leaves.

The exact temperatures at the habitat have not been measured. The climate corresponds to that in which other mountain species of the genus such as *Trioceros jacksonii* and *Trioceros hoehnelii* live.

Care

THE ENCLOSURE

An adult needs an enclosure of at least 60 × 60 × 90 cm (length × width × height). The size is borrowed from other medium-sized mountain chameleons of the genus *Trioceros*, for example *Trioceros quadricornis*, and is a minimum. Height is used more than floor area, and bigger is better.

A hybrid enclosure of glass and mesh provides ventilation and retains the night humidity. Stagnant air causes respiratory infections, so mesh at the top and a small fan are useful. The enclosure should preferably stand somewhere cool, where nights can become cooler than in a heated room, for example in a well-ventilated greenhouse or in a cool room. In summer the species can be kept outdoors in cool weather.

Furnish the enclosure densely with live plants, thin branches and twigs at several heights, so that the animal can climb and withdraw into foliage. A substrate is not necessary. A drain removes excess water.

Read more: Humidity, misting and ventilation

TEMPERATURE

The species is a mountain animal and tolerates heat poorly. The daytime temperature in the enclosure should be 20-22 °C. At night the temperature should fall sharply to 10-15 °C. The clear drop is essential for health, especially in young animals, where the lack of a night-time drop is believed to be behind sudden deaths.

A weak basking spot of 24-26 °C lets the animal warm up in the morning. The figure is borrowed from *Trioceros hoehnelii*, and the rest of the enclosure must not exceed 24 °C. In a warm flat in summer the enclosure can be moved to a cool room or cooled.

Read more: Heat and temperature

HUMIDITY AND WATER

The species requires high humidity, and the enclosure must dry out during the day. Mist from an ultrasonic fogger for 3-4 hours in the morning keeps humidity high, and the enclosure is misted for 5-10 minutes both in the morning and in the afternoon. The animals drink droplets from the leaves and readily accept a drip system during the day. The species does not drink from a dish.

At night humidity should be high, and by day it may fall to about 50-60 %. Surfaces that are wet all the time cause sores and mould. Use distilled water in the fogger, and put two hygrometers at opposite ends of the enclosure.

LIGHTING AND UVB

The species is diurnal. Provide 12 hours of light a day all year round with a T5 HO tube of 6500 K or a powerful LED lamp across the width of the enclosure.

UVB is recommended. The need is not documented for the species, but Ferguson zone 2 is a safe starting point for a mountain chameleon that lives in dense vegetation. Aim for a UV index of 2-3 at the basking spot and give the animal the chance to seek shade. UVB tubes are replaced according to the manufacturer's instructions, because the output falls with age.

Direct sun through glass gives no UVB and can overheat a small enclosure.

Read more: Lighting and UVB

FEEDING

T. werneri is an insectivore and eats most things that are small enough. Give crickets, silkworms, grasshoppers, flies and other small insects of suitable size. The insects themselves must have a good, vitamin-rich diet, so that they are nutritious when eaten.

The species is sensitive to synthetic supplements and easily develops oedema. Therefore dust the insects with pure calcium without D3 and do not use multivitamins without good reason. This applies especially to gravid females, who receive extra calcium. The amount is not documented for the species and is borrowed from *Trioceros jacksonii*: young animals are fed daily, and adults get a couple of meals a week, so that they stay slim.

Do not use insects from the wild.

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

BEHAVIOUR AND HANDLING

The species is kept singly. Adults bully each other and must not be kept together, and males must not be able to see each other. Gravid females are kept alone.

The species is a display animal, not a pet. Handling must be brief and infrequent, because stress weakens the animal. Dark colour can be a sign of cold, stress or illness.

Breeding

SEXUAL MATURITY AND SEXING

The male is recognised by the three horns, while the female has one nasal horn or no horn, and the difference is seen from about four months of age. The animals can be sexually mature after about six months, but females should not be mated until they are fully grown and in good condition, at the earliest about one year old.

MATING

The species is rare in captivity and is bred only on a small scale, so experience is limited. Take the female to the male's enclosure, and 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 there is no need for a laying box. Young females have about 8 young, and large, fully grown females can have 24-30. Gravid females are kept alone with extra calcium in the food and the same cool conditions as otherwise.

INCUBATION

There is no incubation. Gestation lasts 7-10 months. Throughout gestation the female must have the night-time drop and the mist. If she does not give birth on time, or becomes dark, limp and stops eating, she must go to a vet with reptile experience.

Read more: Incubating eggs

REARING THE YOUNG

The young readily take small crickets and silkworms. The night-time drop and the morning mist are particularly important for young animals. Keep them cool, in an enclosure with the same climate as the adults, with many thin branches and plenty of foliage. Young animals must not be kept together once the sex can be seen.

Health and common mistakes

Typical problems and husbandry errors:

- Sudden deaths in young animals, especially without a clear drop in temperature at night.
- Oedema and tissue fluid after synthetic supplements and vitamin overdosing.
- 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 from branches that are wet all the time.
- Exhausted females and difficult births.

Lifespan is not documented for the species; 5-6 years corresponds to other small mountain chameleons such as *Trioceros hoehnelii*. Contact a vet with reptile experience 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.