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CHAMELEONS

Usambara Three-Horned Chameleon

Trioceros deremensis

Trioceros deremensis is a large, sturdily built chameleon from the mountain forests of eastern Tanzania. The male bears three long, ringed horns, while the female has none at all. The species is calm towards its keeper, but needs cool temperatures and very high humidity, and breeding is demanding, so it is only for very experienced keepers.

Family: Chamaeleonidae Former name: *Chamaeleo deremensis*

KEY FACTS

THE ANIMAL

Adult size	**30-40 cm** total length incl. tail
Weight	**120-150 g**
Lifespan	**5-8 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Montane forest**
Difficulty	**Expert**

CARE

Min. enclosure	**60 × 60 × 120 cm** L × W × H for 1 adult
Temperature, day	**20-24 °C**
Temperature, night	**18-20 °C**
Humidity	**80-100%**
UVB	**Recommended** Ferguson zone 2
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**9-12 months**
Clutch size	**8-60 eggs**
Incubation	**110-130 days** at 22 °C

PROTECTION AND PAPERWORK

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

About the species

Trioceros deremensis is a large and sturdily built, arboreal chameleon. It reaches 30-40 cm in total length and weighs about 120-150 g. The tail is short in proportion to the body. The male grows about as large as the female or slightly larger. The male has three long, ringed horns on the snout, which are probably used in fights between males. The horns begin to show when the young male is 10-12 cm long. The female has no horns and not even a hint of horn buds. On the back there is a sail-like crest, and under the throat there is a short gular crest.

The casque is smooth, flat and elongated and ends in a point with small, separate occipital lobes. The scales are smooth. Adults are medium to light green with three or four pale yellow diagonal bars in a broken line from the eye halfway down the body. Scattered white, blue, red or brown spots and stripes are common. When excited or stressed, dark green or black spots appear, and the reverse pattern with pale spots on a dark ground also occurs. Hatchlings have the same pattern, but on an aqua-blue ground, and are only 5-7 cm long at hatching.

The species has an unusually complex lung structure. It is calm and sedentary and likes to choose one spot where it stays. Towards its own kind it is aggressive. Lifespan is not documented; 5-8 years is an estimate based on other mountain chameleons of the genus such as *Trioceros jacksonii*.

Distribution and habitat

Trioceros deremensis is found only in the Eastern Arc Mountains of Tanzania: in the East Usambara and in the Uluguru, Nguu, Nguru and Udzungwa Mountains. There is a single old record from the West Usambara, but it is doubtful whether the species lives there. The type locality, after which the species is named, is Derema in the Usambara Mountains.

Each subpopulation is isolated, and the total range is only about 1,400 km². Much of it lies in relatively well-protected forest reserves, and the species is listed as Least Concern (LC) on the IUCN Red List.

> **Native range:** Tanzania.

HABITAT

The species lives in rainforest and cloud forest at 800-2,300 m elevation, both inside the forest and at the forest edge, but also in hedges and plantations nearby. It is common within its range.

The climate is humid and cool with a marked cooling at night.

Care

THE ENCLOSURE

An adult needs a mesh terrarium of at least 60 × 60 × 120 cm (length × width × height). The size is an estimate: it is set slightly larger than for *Trioceros quadricornis*, because *T. deremensis* is larger and heavier. The species is kept alone in a mesh or hybrid terrarium with good ventilation.

Furnish the terrarium densely with live plants and with clean, dry branches of various thicknesses. The species does best in a densely planted terrarium and is most content when it is not visible, so screening at least two sides gives it peace. Place the terrarium away from windows so it does not overheat. A drain in the base removes excess water.

TEMPERATURE

The species is a mountain species and prefers moderate to cool temperatures. The daytime temperature should be 20-24 °C and the night temperature 18-20 °C. Keep the whole terrarium below 25 °C, even at high humidity, because hatchlings and juveniles dry out quickly when it is warm. The night temperature must not be maintained with lamps or heat mats. Better to start too cool than too warm.

Read more: Humidity, misting and ventilation

HUMIDITY AND WATER

The humidity should be at least 80 % and preferably higher. The species does best with an ultrasonic fogger aimed directly at the terrarium and a steady flow of dripping water, preferably directly over the animal. Misting with lukewarm water can also kick-start the appetite.

The animal drinks droplets from the leaves, not from a dish. The air must be moving, even though the humidity is high, and plants and branches must be able to dry out a little between mistings. Sunken eyes and wrinkled skin are signs of dehydration, especially in hatchlings and juveniles.

LIGHTING AND UVB

The species is diurnal and needs plenty of light. Use UVB fluorescent tubes and a weak heat lamp. The UVB zone has not been measured for the species. Zone 2 is borrowed from *Trioceros jacksonii*, which is also an East African mountain chameleon and is counted in zone 2-3. This corresponds to a UV index of at most about 1-3 at the highest point where the animal can sit. Direct sun through windows overheats the animal. Sun without glass is beneficial when the temperature is kept low and there is shade. The day length is about 12 hours.

Read more: Lighting and UVB

FEEDING

Trioceros deremensis is insectivorous and usually has a large appetite. Offer varied food such as crickets, flies, grasshoppers and other feeder insects of suitable size. The feeder insects must have a good diet of vegetables and grain and be dusted with calcium and minerals. Males eat less in the breeding season, but are more active in return.

Young animals in particular shake their whole body just before shooting out the tongue at the prey. Dish feeding is not recommended, because the animal likes to sit over the dish and then moves even less. The amount of food corresponds to other chameleons of the same size.

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

BEHAVIOUR AND HANDLING

The species is kept singly and is calm towards its keeper, but aggressive towards its own kind. It is sedentary, likes to choose one spot where it sits for a long time, and moves mostly to bask or eat. Handling is limited to what is necessary. New animals may eat very little in the first weeks, and during that period water is far more important than food.

Breeding

SEXUAL MATURITY AND SEXING

The male has three large, ringed horns, while the female has no horn buds at all. Sexual maturity is not known with certainty, but is estimated at 9-12 months. Females probably only lay viable, fertilised eggs in their second or third breeding season.

MATING

The breeding season is thought to fall in autumn, but in the terrarium it can fall at any time of year. The mating season can last up to three months with many matings. The male then becomes far more active and eats less.

EGG-LAYING AND CLUTCHES

The species is egg-laying. The female carries the eggs for about four months before she lays them. The clutch is large, 8-60 eggs. Give her a deep, damp laying container with potting soil that she can dig in.

INCUBATION

The eggs are incubated at about 22 °C and hatch after about four months. Once the female has laid and covered them, they are carefully dug up and placed half-buried in a closed container with damp vermiculite, where a squeezed handful gives only a drop or two. Keep the temperature stable, and check the eggs once a week.

REARING THE YOUNG

The hatchlings are 5-7 cm long and aqua blue when they hatch. Hatchlings and juveniles are especially prone to dehydration and tolerate heat badly, so they need plenty of water and cool conditions. Figures for growth are not documented.

Health and common mistakes

Typical problems and care mistakes:

- Dehydration: sunken eyes and wrinkled skin, especially in hatchlings and juveniles in too warm surroundings.
- Heat stress: temperatures above 25 °C cause lethargy and dehydration.
- Weight loss and refusal of food in new animals.
- Respiratory infections in stagnant air.
- Tongue injuries from dish feeding.

Contact a vet experienced with reptiles if the animal stops eating, loses weight or has difficulty breathing.

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.