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CHAMELEONS

Von Hoehnel's Chameleon

Trioceros hoehnelii

Trioceros hoehnelii is a small, live-bearing chameleon from the cool highlands of Kenya and Uganda, where nights can approach freezing. The male has a tall casque and a single horn on the snout. The species is robust against cold, but tolerates heat badly, so it needs a cool terrarium with a clear drop in temperature at night and high night-time humidity.

Family: Chamaeleonidae Former name: *Chamaeleo hoehnelii; Chamaeleo bergeri; Chamaeleo leikipiensis*

KEY FACTS

THE ANIMAL

Adult size	**18-25 cm** total length incl. tail
Weight	**15-70 g**
Lifespan	**5-6 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Montane forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**60 × 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**
Sexually mature	**12 months**
Litter size	**4-22 young**
Clutches per year	**1-2**
Gestation	**120-180 days**

PROTECTION AND PAPERWORK

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

About the species

Trioceros hoehnelii is a small, arboreal chameleon. Adults measure 18-25 cm in total, including the tail, and weigh 15-70 g. The male has a taller casque, a larger horn and a thicker tail base than the female. Both sexes have a single horn on the snout, a serrated dorsal crest and a crest of pointed scales under the throat. Colours vary greatly between populations and with mood and temperature.

In the morning the animals often sit in the sun and are almost black. The dark colour absorbs heat efficiently, and once the body is warm, the animal switches to its normal green, brown or yellowish pattern. When two males meet, they puff themselves up, hiss and turn black.

The species is live-bearing. The female carries the eggs inside her body, and the young are born in a thin membrane. The population on Mount Elgon is often called 'altaeelgonis', but whether it is a separate subspecies is disputed. The scientific name honours the Austrian officer and explorer Ludwig von Höhnel.

The species is less well known in terrarium keeping than *Trioceros jacksonii*, and care data are sparse. Enclosure size, UVB and feeding amounts are therefore borrowed from *T. jacksonii* and other small mountain chameleons of the genus *Trioceros*.

Read more: Lighting and UVB

Distribution and habitat

Trioceros hoehnelii is found in Kenya and in eastern Uganda. In Kenya it is widespread in the highlands, including on the Laikipia Plateau at about 1,800 m elevation, and in Uganda it lives on Mount Elgon. The species occurs up to 4,000 m elevation, and on Mount Elgon it lives above 3,000 m.

Local variation in colours and markings is great, and the populations on the different mountains and slopes do not always resemble each other.

> **Native range:** Kenya and Uganda.

HABITAT

The species lives in humid highland areas where the night temperature often falls to about freezing. The animals tolerate nights down towards 0 °C and seek shelter from frost. The daytime temperature is moderate, and the morning sun is used to warm up.

The species is common in cultivated landscape: hedges, scrub and thickets along paths and fields and in coffee and banana plantations, often close to villages. It is therefore not dependent on undisturbed forest, but on dense, branching vegetation in humid, cool air. Humidity is high at night and during periods of mist.

Read more: Humidity, misting and ventilation

Care

THE ENCLOSURE

An adult needs a terrarium of at least 60 × 45 × 90 cm (length × width × height). The size is borrowed from similar small mountain chameleons of the genus *Trioceros* and is a minimum. Bigger is better, and the height is used more than the floor.

A hybrid terrarium of glass and mesh gives the ventilation it needs and at the same time retains the night-time humidity. Stagnant air causes respiratory infections, so mesh at the top and a small fan are useful. The terrarium can with advantage be placed somewhere cool, for example in a well-ventilated greenhouse, a garage or a cool room, where the nights become cooler than in the living room.

Furnish the terrarium densely with live plants, thin branches and twigs crossing each other at several heights. The animals use the thin branches to climb on and the dense leaves as cover. A substrate is not necessary; a drain in the base removes excess water.

TEMPERATURE

The species comes from cool highlands and tolerates heat badly. The daytime temperature in the terrarium should be 20-22 °C with a basking spot of 24-25 °C. Young animals can die if the temperature goes higher. Adults tolerate more heat for short periods, but even for them the basking spot must not be warmer than 25 °C.

At night the temperature must fall to 8-14 °C. A clear drop at night is important for the animal's health. In the wild the temperature can fall right down to about freezing, but such low values are not recommended in captivity.

The animal must be able to warm up in the morning at a basking spot where the heat comes from a bulb or a spot and not from the whole terrarium. If the whole terrarium is above 24 °C, it is too hot. In a warm flat in summer it may be necessary to move the terrarium to a cool room or use cooling.

Read more: Heat and temperature

HUMIDITY AND WATER

Night is the species' humid time. The humidity should rise towards 100 % at night, with mist from an ultrasonic fogger for about three hours late at night and early in the morning. By day the humidity may fall to about 50-80 %. Surfaces that are wet all the time cause sores and mould.

In the morning and late in the afternoon, mist for about 15 minutes, so the animal can drink droplets from the leaves. The species does not drink from a dish, but some animals willingly drink from a dripper. Use distilled water in the fogger, and place two hygrometers, one at each end of the terrarium.

LIGHTING AND UVB

The species is diurnal and uses a lot of light. Give 12 hours of light a day all year. A T5 HO tube of 6500 K or a powerful LED lamp across the width of the terrarium provides the general light.

UVB is necessary. The species lives high up and in strong sunlight, and it has a large UVB requirement; natural sunlight benefits it. The Ferguson zone is borrowed from *Trioceros jacksonii*, which is counted in zone 2-3. Aim for zone 3, that is, a UV index of 3-4 at the basking spot, and give the animal the chance to seek shade.

UVB tubes are replaced according to the manufacturer's instructions, because output falls with age. Direct sun through glass gives no UVB and can overheat a small terrarium.

FEEDING

T. hoehnelii is insectivorous and takes most insects of suitable size. Offer crickets, small grasshoppers, flies, cockroach nymphs and other small insects, and keep the prey to no more than the distance between the animal's eyes. The insects must themselves have a good diet. They are dusted with calcium without D3 at most feedings and less often with vitamins, because chameleons are sensitive to overdosing of vitamins A and D3.

The amounts are borrowed from *Trioceros jacksonii*: young animals get food daily, and adults get 3-8 insects every other day. Adjust the amount so the animal keeps a slim weight; obesity is a problem in females. Weigh the animal every month.

Do not use insects from the wild. Let the insects roam freely in the terrarium, or offer them with tweezers.

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

BEHAVIOUR AND HANDLING

The species is kept singly. Males are very aggressive towards each other and towards similar species: they hiss, puff themselves up and turn black, so males must not be able to see each other. Groups with one male and several females can work in very large terrariums, but the females are then almost always gravid, and this wears them down. One chameleon per terrarium is the safe solution, and gravid females must always be alone.

Towards its keeper the species is calm. It is a display animal, not a pet, and handling must be brief and infrequent. Dark, black colouring is a sign of cold, stress or illness, but in the morning it is normal when the animal is warming up.

Breeding

SEXUAL MATURITY AND SEXING

The male is recognised by the taller casque, the larger horn and the thicker tail base, where the hemipenes lie. Females are usually smaller, but a few females grow as large as the males. The animals are sexually mature after about one year. The female must be in good condition and not overweight.

MATING

The species breeds all year. To keep the number of young manageable, the animals can be kept separately and only put together in summer. Take the female to the male's terrarium, and separate them when mating is over or the female rejects the male.

The female is receptive again 40-50 days after giving birth and can therefore have two litters a year. Let her rest between litters, so she does not become exhausted.

EGG-LAYING AND CLUTCHES

The species is live-bearing, and gestation lasts 4-6 months. Litters are 4-22 young: young females have about 6, while older females can give birth to 20 or more. A female can have two litters a year.

No eggs are laid; the young are born in a thin membrane. A laying box is not needed.

INCUBATION

There is no incubation, because the eggs develop inside the female's body. Gestation lasts 4-6 months, most often about 150 days. During gestation the female must have the same cool conditions as usual, with a clear drop in temperature at night and high night-time humidity, and slightly more food. If the female does not give birth on time, or becomes dark and limp and stops eating, she must see a vet.

Read more: Incubating eggs

REARING THE YOUNG

The young must be kept cool, at most 22 °C, because high temperatures can kill them. Keep them in a hybrid terrarium with the same climate as the adults, with plenty of foliage and many thin branches. Feed with small insects such as flies and small crickets, dusted with calcium. Young animals are separated from each other when the sex can be seen, and males must not be able to see each other.

Health and common mistakes

Typical problems and care mistakes:

- Heat stress and deaths in young when the temperature is too high. Keep the daytime temperature below 22 °C and the basking spot below 25 °C.
- Respiratory infections in stagnant air or surfaces that are too wet. Signs are yawning, open-mouth breathing and mucus.
- Metabolic bone disease (MBD) from too little UVB or calcium: soft jaws and crooked limbs.
- Overdosing of vitamins, especially A and D3, which causes oedema.
- Sores and mould from branches that are wet all the time.
- Exhausted and overweight females and difficult births, especially with two litters a year in a row.

Mortality in captivity is high: average lifespan from birth is under a year, while well-adapted animals can reach 5-6 years. Weigh the animal every month. 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.