herpy

CHAMELEONS

Globe-horned Chameleon

Calumma globifer

Calumma globifer is a large, calm and shy chameleon from the last remnants of rainforest in the central highlands of Madagascar. It grows to 30-40 cm, and the male carries two spherical knobs on the snout, which gave the species its name. The species is threatened in the wild, needs cool, humid air with good ventilation and is only for the very experienced keeper.

Family: Chamaeleonidae Former name: *Chamaeleon globifer; Chamaeleo globifer; Calumma globiferum*

KEY FACTS

THE ANIMAL

Adult size	**30-40 cm** total length incl. tail
Lifespan	**4-8 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest and montane forest**
Difficulty	**Expert**

CARE

Min. enclosure	**60 × 60 × 120 cm** L × W × H for 1 adult
Temperature, day	**20-25 °C**
Basking spot	**25-27 °C**
Temperature, night	**15-18 °C**
Humidity	**50-100%**
UVB	**Essential** Ferguson zone 2
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**25 eggs**
Incubation	**540 days** at 20-22 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Endangered (EN)**

About the species

Calumma globifer is a large chameleon of the genus *Calumma*. Adults grow to 30-40 cm long, tail included. The male has two small, spherical knobs on the snout, formed by two ridges at the front of the snout merging. These are what the species name alludes to (Latin *globus*, sphere). In the female the knobs are very small. The male also has a broader tail base than the female and a yellowish-white pattern on the throat.

The casque is large and low, with small lobes at the back, about a millimetre long. There is no crest under the throat or on the belly, and the dorsal crest is at most hinted at by a few slightly enlarged, conical scales. The base colour is green to yellow-green, often with a pale, cream-coloured stripe along the flank, which turns black under stress. Fine red or brown streaks can appear in the skin between the scales.

The name is also spelt *C. globiferum* in some literature from the 2000s; the correct form is *globifer*.

Distribution and habitat

Calumma globifer occurs only in the remaining forests of the central highlands of Madagascar. It lives east of Antananarivo around Mandraka and north of the capital in the forests near Anjozorobe. In both places the forest is threatened by slash-and-burn agriculture, is almost unprotected and shrinks every year. The species is therefore assessed as threatened.

The species apparently has no export quota from Madagascar, so legally exported wild animals are unlikely to be in the trade.

> **Native range:** Madagascar.

HABITAT

The species lives in rainforest and at forest edges at 700-1,300 m. It prefers the last patches of intact forest with old, large trees and heavy branches, and usually sits high in the canopy, on moss-covered branches and lianas, or at least above head height. Only near Mandraka is it found in secondary vegetation, and there it is a result of the surrounding forest being cleared.

The climate is cool and humid all year. The daily maximum is 25-27 °C in the rainy season and falls to around 23 °C in the middle of the dry season from June to August. Nights are 18-20 °C in the rainy season and down to 15 °C in the dry season. It rains at least every other day all year round, and the air stays humid throughout. Nights are always noticeably cool.

Care

THE ENCLOSURE

An adult needs an enclosure of at least 60 × 60 × 120 cm (length × width × height), and taller and larger is better. Height matters, because the animal sits high in the foliage and must be able to choose between warmth at the top and shade and coolness lower down. The figures for the enclosure, temperature, humidity, UVB and feeding are borrowed from *Calumma brevicorne*, which lives in similar highland forest. There are no figures of their own for *C. globifer*.

Choose a mesh or hybrid enclosure with ventilation good enough for all branches and leaves to dry completely before night. Still air in a closed glass enclosure causes mould and respiratory infections. Plant densely in the middle layers so the animal can sit hidden and shielded from the light above, and leave the top basking branch clear. Use horizontal branches the animal's feet can grip well. The lower part can be kept open for easy cleaning. Do not use loose substrate, which the animal may swallow.

Keep the species singly. Males must not be able to see each other.

Read more: Lighting and UVB Read more: Humidity, misting and ventilation

TEMPERATURE

The daytime temperature should be 20-25 °C. On the top basking branch 25-27 °C is acceptable, but no higher, because the species comes from cool highlands and tolerates heat poorly. Nights should be 5-10 °C cooler, around 15-18 °C, a clear drop every night.

Use a gentle heat lamp mounted high up and check the temperature on the branch with an IR thermometer. Overheating is more dangerous than too little warmth.

It is a good idea to imitate the cool dry season from April to October with slightly lower temperatures, especially at night, when 15 °C is suitable.

HUMIDITY AND WATER

Humidity should be high, up to 80-100 % at night and around 50 % by day. It is essential that humidity is combined with good air movement, so that branches and leaf surfaces dry out during the day.

Provide drip or rain several times a day in short periods of 1-2 minutes, so that droplets stand on the leaves. The animal drinks the droplets from the leaves and will not drink from a bowl. A short shower in the late afternoon imitates the daily rainfall. Do not keep the air permanently wet; that is an important cause of illness.

LIGHTING AND UVB

The species is diurnal and needs bright daylight for 12 hours a day from a strong T5 HO tube or a powerful LED lamp along the length of the enclosure.

UVB is necessary. The species is placed in Ferguson zone 2, where animals mostly stay in shade and only occasionally bask briefly. Aim for a UV index of around 3 on the basking branch and lower in the rest of the enclosure, so the animal can retreat into shade. Check with a UV meter, and replace the tube according to the manufacturer's instructions, because output falls with age.

FEEDING

C. globifer eats insects: crickets, cockroaches, grasshoppers and stick insects, and fruit flies for the smallest. Feeder insects should be of suitable size.

Juveniles and females before and after egg laying are fed every day as much as they will eat. Adults get 3-4 medium-sized crickets or an equivalent amount every other day. Many chameleons do not take food from a bowl; offer it with tongs, or let the animal hunt live feeders in the enclosure.

The feeder insects should themselves be fed on greens and grain. Dust the food with calcium, and give calcium with D3 and a multivitamin sparingly according to a fixed schedule.

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

BEHAVIOUR AND HANDLING

The species is shy and quiet and relatively peaceful towards its own kind. Even so, males must not be kept together or be able to see each other.

Avoid handling. Give a new animal two weeks in peace. Stress shows as dark colours and a black stripe along the flank.

Breeding

SEXUAL MATURITY AND SEXING

The male is recognised by the two knobs on the snout, the broader tail base and the yellowish-white pattern on the throat. The female has almost no knobs. Age at sexual maturity is not documented.

MATING

Mating in captivity is poorly documented. Bring the female to the male's enclosure under supervision, and separate the animals if the female refuses or the male becomes aggressive. Separate them again once mating is over.

EGG-LAYING AND CLUTCHES

The female lays about 25 eggs, as in *Calumma brevicorne*, which lays 20-30. The time from mating to laying and the number of clutches a year are not documented. Give the female a deep laying container with moist soil and sand so she can dig. She is exhausted afterwards and needs nutritious food and calcium.

INCUBATION

Incubation is barely described, and the figures here rest on very few data. The incubation period is very long, about 540 days. The eggs are incubated at 20-22 °C, interrupted by two cool resting phases at about 16 °C, so the sequence is: warm phase, cool phase, warm phase, cool phase and a final warm phase. How long the cool phases should last is not documented. Use an incubator with strict humidity control.

Read more: Incubating eggs

REARING THE YOUNG

Experience of rearing juveniles is not documented. As a starting point, each juvenile should be kept separately in a densely planted mesh enclosure with the same climate as the adults and be given small feeders, such as fruit flies and small crickets, every day.

Health and common mistakes

Typical problems and husbandry errors:

- Dehydration in dry air or without enough drip.
- Respiratory infections and mould in still, wet air.
- Overheating from an over-strong heat source.

- Metabolic bone disease (MBD) from too little UVB or calcium.
- Parasites and poor condition in animals of uncertain origin.
- Burns from the heat lamp.

Lifespan is not documented; the 4-8 years in the fact box is an estimate.

Weigh the animal regularly. Contact a vet experienced with reptiles if the animal stops eating, or if it is limp, dark in colour 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.