herpy

CHAMELEONS

Parson's Chameleon

Calumma parsonii

Calumma parsonii is regarded as the heaviest chameleon in the world. The male grows to 65 cm, weighs 500-700 g and carries two wart-like horns on the snout. The species lives in the rainforest of eastern and northern Madagascar, can reach almost 20 years of age and is slow and calm. It needs a large, humid and cool enclosure and is only for the experienced keeper.

Family: Chamaeleonidae Former name: *Chamaeleo parsonii; Chamaeleo madecassus*

KEY FACTS

THE ANIMAL

Adult size	**45-65 cm** total length incl. tail
Weight	**500-700 g**
Lifespan	**10-20 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Rainforest**
Difficulty	**Expert**

CARE

Min. enclosure	**120 × 60 × 120 cm** L × W × H for 1 adult
Temperature, day	**22-27 °C**
Basking spot	**27-30 °C**
Temperature, night	**18-20 °C**
Humidity	**50-100%**
UVB	**Essential** Ferguson zone 3
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Sexually mature	**24-60 months**
Clutch size	**20-60 eggs**
Clutches per year	**1**
Incubation	**400-780 days** at 22-24 °C

PROTECTION AND PAPERWORK

CITES	**Appendix II**
EU annex	**Annex B**
IUCN	**Near Threatened (NT)**

About the species

Calumma parsonii is regarded as the world's largest chameleon by weight; only *Furcifer oustaleti* grows longer. Adult males weigh 500-700 g and grow up to 65 cm long, tail included. Animals over 80 cm are not confirmed. The female is clearly smaller, typically 45-50 cm, and has a smaller casque and no or only small outgrowths on the snout. The male has a heavy casque and two wart-like horns on the snout, which are the species' most characteristic feature.

The species is divided into two subspecies. *C. p. parsonii* is the large, widespread form without a dorsal crest. *C. p. cristifer* is smaller, usually up to about 50 cm, has a low crest of small spines along the back, and the male typically has a yellow-orange or rust-red patch on the side. It is rare in captivity.

The males of *C. p. parsonii* occur in four colour forms, each belonging to its own area: 'orange eye', 'yellow lip', 'yellow giant' and 'green giant'. Whether they are forms or should be regarded as separate subspecies is unresolved. Variation within each form is large, so colour is a pointer and not a rule. The females are green or brown and cannot be told apart from form to form. Care is the same for all. The young are brown, orange or green, and sex and pattern only show after about half a year.

Georges Cuvier named the species after the British physician James Parsons (1705-1770), who had already described it under the name *Cameleonis rarissima*.

C. parsonii is slow, calm and often good-natured, but also a fussy eater. The hind feet have such a strong grip that the animal holds on in a cyclone; when handling, the feet must have something to grip. The species is one of the longest-lived chameleons.

Distribution and habitat

Calumma parsonii occurs only in eastern and northern Madagascar, where the range covers almost 40,000 km². The colour forms of *C. p. parsonii* each have their own area: 'orange eye' lives in the lowlands below 500 m from Toamasina to Mananara and on the island of Nosy Boraha (Sainte-Marie), 'yellow lip' at mid elevations around Ranomafana, 'yellow giant' in the southern part of the Alaotra-Mangoro region and 'green giant' on the Masoala peninsula.

C. p. cristifer occurs at mid elevations around Andasibe (Analamazaotra) in central eastern Madagascar, only a few kilometres from the nominate subspecies.

> **Native range:** Madagascar.

HABITAT

The species lives in humid rainforest from the lowlands up to about 1,200 m. It prefers undisturbed forest, but is also found in disturbed forest, coffee plantations and tall trees in villages. It sits high up in the canopy, is slow and fairly inactive, and hunts by sitting still and waiting for prey. During the breeding season it is more active.

The climate is humid all year. The mean temperature in eastern Madagascar is around 20-28 °C, and rainfall can reach about 3,800 mm a year. At night it gets cooler, especially at altitude. The female climbs down from the trees to bury the eggs in the soil.

Care

THE ENCLOSURE

An adult needs an enclosure of at least 120 × 60 × 120 cm (length × width × height), and larger is better; a whole room or a large aviary is not too much. The species is not active, but needs the space to find both open and hidden spots, and it weighs three to four times as much as *Furcifer pardalis*. Height is important, because the animal uses the uppermost branches. Keep one animal per enclosure.

Choose a mesh or hybrid enclosure with good ventilation, because high humidity in a closed box leads to mould and bacteria. A large bird cage does not hold humidity, and a greenhouse can become too hot.

Furnish with sturdy branches that can carry a heavy animal, several layers of foliage and both open and hidden spots. Live plants provide cover and humidity. Do not use loose substrate, because the animal may swallow it. A solid base with a drain and a bucket underneath removes excess water.

Read more: Humidity, misting and ventilation

TEMPERATURE

The daytime temperature should be 22-27 °C. At the basking spot 27-30 °C is acceptable. The night should be cool, 18-20 °C. The species does best cool and tolerates heat poorly; temperatures that are too high are more dangerous than temperatures that are too low.

Use a gentle, high-mounted heat lamp instead of a sharp, low bulb. Chameleons sense burns poorly, so it is better to start too cold than too warm. Check the basking spot with an IR thermometer.

The species may enter a cool period in which it eats very little for up to six months. This is a natural rhythm and not an illness, but the animal should be kept under observation and weighed.

Read more: Heat and temperature

HUMIDITY AND WATER

Humidity must be highest at night: 90-100 % at night and about 50 % by day. The species drinks a lot and dehydrates quickly in dry air; with the right humidity and enough drips it drinks less.

Provide a drip system or sprinkler system that gives water droplets on the leaves several times a day. Mist at least twice daily so that the droplets stand visibly on the foliage, but not directly on the animal. A water bowl is not used. The surfaces must be able to dry between mistings, and the air must move. Use the ultrasonic fogger at night, not while the heat lamp is on.

LIGHTING AND UVB

The species is diurnal and needs strong light 12 hours a day. A T5 HO tube at 6,500 K or a powerful LED lamp over the whole length of the enclosure provides the light.

UVB is essential. The species is placed in Ferguson zone 3, where the animals bask in full or partial sun. Use a T5 HO UVB tube in a single reflector and aim for a UV index of around 3 at the basking branch; lower down in the enclosure it should be lower, so the animal can retreat into shade. Check with a UV meter, and replace the tube according to the manufacturer's instructions, because output declines with age.

Read more: Lighting and UVB

FEEDING

C. parsonii is an insectivore and eats large insects: adult crickets, cockroaches, locusts, stick insects, silkworms and beetles. Small vertebrates are taken in the wild, but are not necessary in captivity and are at most an occasional treat.

The species is fussy, and many animals will not eat from a bowl. Offer the food with long tweezers or from the hand, and give the animal time to react. The food is more expensive than for most chameleons, because the feeder insects must be large. Young grow slowly and are fed every day with small feeders; adults eat fewer, larger meals and can go several days without.

The feeder insects must themselves be fed on greens and grain. Dust the meal with calcium, and give calcium with D3 and a multivitamin sparingly according to a fixed schedule. Overdosing of vitamins A and D3 causes oedema.

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

BEHAVIOUR AND HANDLING

The species is kept singly for life. Males are territorial and must not be able to see each other. A pair is put together only briefly for mating, and the animals are separated again at signs of unrest.

The animal is slow and calm. Give a new animal two weeks in peace. Let it climb onto the hand and forearm by itself, and avoid handling unless necessary. Stress shows as darker colours and stronger markings.

Breeding

SEXUAL MATURITY AND SEXING

The male is larger than the female, has horns and a heavy casque and shows the colours of his form. The female is smaller and green or brown. Sex can only be determined at 6-9 months. Sexual maturity is reached after 2-5 years, most often at around 3 years.

The females cannot be told apart from form to form, so a female of known origin is important for pure breeding.

MATING

Breeding is very difficult and requires specialist knowledge. Mating takes place at the beginning of the rainy season. Take the female to the male's enclosure under supervision, and separate the animals if the female rejects him or the male is aggressive. Separate them as well once mating is over.

A female can store sperm and lay clutches several years in a row after a single mating. She uses a great deal of energy on the eggs and often skips a year. Provide extra food and calcium before and after laying.

EGG-LAYING AND CLUTCHES

The female lays at most one clutch a year, 3-5 months after mating, and the clutch is 20-60 eggs. She buries the eggs about 30 cm deep in moist soil. Provide a deep laying container with a soft, moist mix of coconut fibre and sand, so that she can dig.

The female is weakened afterwards and needs nourishing food and calcium.

INCUBATION

The eggs are moved to an incubator at about 22-24 °C with strict control of humidity. The incubation period is the longest known in reptiles: usually 400-660 days and up to about 780 days. Warmth shortens it, and cold lengthens it. Incubation often includes a cool phase. Even small mistakes can ruin the whole clutch, so breeding requires patience and experience.

Read more: Incubating eggs

REARING THE YOUNG

Newly hatched young are 7-11 cm long and weigh 1-4 g. They need small feeders every day and are kept individually in a hybrid enclosure with the same climate as the adults. Dust the food with calcium. The young grow slowly and are fussy, so patience is necessary. One clutch produces many young, and each needs its own enclosure.

Health and common mistakes

Typical problems and husbandry errors:

- Dehydration in dry air or without dripping water.
- Respiratory infections and mould in stagnant, persistently wet air.
- Parasites and poor condition in wild-caught animals, which often arrive weakened. Choose captive-bred animals.
- Metabolic bone disease (MBD) with too little UVB or calcium.
- Oedema from overdosing of vitamins.
- Burns from the heat lamp.
- Exhaustion after laying in females that do not get enough food and calcium.

Weigh the animal regularly. Contact a vet experienced with reptiles if the animal stops eating outside the cool period, or in the case of lethargy, dark colour or breathing difficulty.

Read more: Common diseases and signs of illness Read more: Buying animals: captive-bred, wild-caught and transport

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.