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CHAMELEONS

Indian Chameleon

Chamaeleo zeylanicus

Chamaeleo zeylanicus is a large, slow-moving chameleon from India, Sri Lanka and south-eastern Pakistan, the only chameleon on the Indian subcontinent. It reaches 35-40 cm in length and turns deep green with dark spots when threatening. Little is known about its care, and the species is difficult to keep in the long term. It must live alone in a tall mesh enclosure with UVB.

Family: Chamaeleonidae Former name: *Chamaeleo coromandelicus; Chamaeleo zebra; Chamaeleo zeylonicus*

KEY FACTS

THE ANIMAL

Adult size	**35-40 cm** total length incl. tail
Lifespan	**3-5 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Dry forest**
Difficulty	**Expert**

CARE

Min. enclosure	**60 × 60 × 120 cm** L × W × H for 1 adult
Temperature, day	**25-30 °C**
Basking spot	**32-35 °C**
Temperature, night	**18-22 °C**
Humidity	**50-70%**
Water	**No water dish**
UVB	**Essential** Ferguson zone 3
Diet	**Insects**
Kept	**Singly**

BREEDING

Reproduction	**Egg-laying**
Clutch size	**22-40 eggs**
Incubation	**240 days** at 22-27 °C

PROTECTION AND PAPERWORK

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

About the species

Chamaeleo zeylanicus reaches about 35-40 cm including the tail, and the tail is longer than the head and body together. Males are larger than females. Females are 17-20 cm from snout to vent and 37-38 cm in total. A female without eggs weighs about 70 g, a female with eggs 105-155 g. The body is compressed from the sides. The head has a raised, bony casque at the back with a strong curved crest and two weak lobes on the sides. There are no horns and no large tubercles on the body. The back has a slightly serrated crest, and a row of cone-shaped knobs runs along the throat and belly. The gular crest and the corners of the mouth are white. The male has a small tarsal spur on the hind leg and a slightly thickened tail base, where the hemipenes lie.

The base colour is green to greyish brown. Threatened or competing animals turn deep green with black spots, flatten the body from the sides and hiss with the mouth open. There is no clear difference between the sexes, except that gravid females develop yellowish red spots on the lower part of the body. The colour change depends on temperature and mood, not on the background. The young are green and have no casque at hatching.

The species appears under the names *Chamaeleo coromandelicus*, *Chamaeleo zebra* and *Chamaeleo zeylonicus* in older literature. There are no recognised subspecies.

Distribution and habitat

Chamaeleo zeylanicus lives in most of India south of the Gangetic Plain, from Gujarat and Maharashtra to Odisha and West Bengal, including Kerala, Tamil Nadu, Telangana and Madhya Pradesh. It is also found in south-eastern Sindh in Pakistan and in Sri Lanka, where it lives along the west coast north of Colombo to Wilpattu and in small, scattered areas in the rest of the country. The type locality is Sri Lanka.

The species is separated by thousands of kilometres from all other chameleons. Phylogenetic research indicates that it reached India by dispersal across the sea from Arabia in the mid-Miocene. It is not threatened.

> **Native range:** India, Sri Lanka and Pakistan.

HABITAT

The species lives in forests and scrub and prefers to stay high up in plants. It sits still among the twigs and moves slowly with a rocking gait that imitates branches swaying in the wind. It lives mostly in the lowlands, but has been found up to about 1,840 m above sea level. Each animal lives alone, and the females move around little, while the males wander more and are therefore seen more often.

The climate in the range is marked by the monsoon. In Odisha in eastern India the air temperature in shade varies between about 5 °C in winter and 46 °C in summer. The rain comes in June, and this is when the young hatch, so they find plenty of small insects. The food is insects, which the animal catches with its tongue from several metres away. The females dig a nest in loose sand, for example on sandbanks by streams.

Care

THE ENCLOSURE

Little is known about the care of *Chamaeleo zeylanicus*. The species is kept only in small numbers, captive breeding has not been documented, and it is difficult to keep in the long term without a large, densely planted setup. The figures in this guide are therefore estimates based on habitat and climate and borrowed from related chameleons such as *Chamaeleo calyptratus*, *Chamaeleo dilepis* and *Chamaeleo senegalensis*, which are better known in captivity.

An adult needs a mesh enclosure of at least 60 × 60 × 120 cm (length × width × height). Bigger is always better, because the species grows large and the tail is long. Only one chameleon should live in each enclosure, because the animals are territorial and do not tolerate another of their kind nearby. Mesh on the top and two sides provides fresh air.

Furnish the enclosure with dense growth of live plants and branches of many thicknesses, so the animal can climb and hide. The floor should be flat and without loose substrate: artificial grass, newspaper or a tray, because the animal may otherwise swallow loose material when it shoots its tongue at prey. All lamps hang outside the mesh, and the branches should lie far enough from the lamps that the animal cannot burn itself.

Read more: Buying animals: captive-bred, wild-caught and transport

TEMPERATURE

By day the temperature in the enclosure should be 25-30 °C, and on a basking branch it should be 32-35 °C. Measure the basking branch with an infrared thermometer and place thermometers both at the top and at the bottom of the enclosure. At night the temperature should fall to 18-22 °C. A chameleon that gets too cold loses strength and cannot hunt or digest its food, so it must always be able to choose between warm and cooler.

The figures have not been documented for the species, but are borrowed from related *Chamaeleo* species and suit the warm climate of the range. In the wild it can be cool in winter, but a cool resting period has not been documented for animals in captivity and is not recommended.

HUMIDITY AND WATER

Humidity should be 50-70 %, and the enclosure should have good airflow, so branches and leaves can dry between mistings. Mist plants and branches twice a day, so there are droplets the animal can lick. Chameleons do not drink from a bowl. A drip over the top of the mesh that runs down over the leaves is a good supplement.

Humidity has not been documented for the species and is an estimate based on habitat and climate. With too little moisture the animal becomes dry and dehydrated, and with constantly damp, stagnant air respiratory infections and mould develop. Dehydration can cause serious kidney disease.

Read more: Humidity, misting and ventilation

LIGHTING AND UVB

The species is diurnal and needs strong light for 12 hours and darkness for 12 hours. UVB is necessary, because the animal needs D3 to absorb calcium. Mount a T5 UVB tube or an LED bar over the mesh, so the basking branch gets a UV index of about 3-4, which corresponds to Ferguson zone 3. The zone is an estimate based on lifestyle and climate and has not been measured for the species.

Check the UV index with a UV meter, and replace the UVB tube according to the manufacturer's instructions, because it loses UVB long before it stops giving light. Enclosures with many plants and branches that cast shade require a stronger tube than open enclosures. Also give the animal a heat bulb, so it can bask in the morning.

Read more: Lighting and UVB Read more: Calcium, vitamins and supplements

FEEDING

The species is an insectivore and needs live insects: crickets, locusts, silkworms, hornworms and cockroaches such as *Blaptica dubia*. Variety is important. Waxworms and mealworms are fatty and are given only occasionally. The insects must not be larger than the distance between the animal's eyes and should have been fed plenty of greens and calcium a couple of hours before being offered. Put them in a small container in the enclosure, so they do not hide or escape.

Juveniles are fed every day with small insects they can eat. Adults get 5-7 medium-sized insects every other day. Remove insects that have not been eaten, because they can bite the animal. Females stop eating in the weeks before egg-laying.

Dust the insects lightly with phosphorus-free calcium and D3 two to three times a week, and give calcium with D3 and a multivitamin a couple of times a month. Lack of calcium causes bone disease.

Read more: Feeder animals: keeping and breeding

BEHAVIOUR AND HANDLING

Chamaeleo zeylanicus is an animal to look at and not to handle. It sits still in the plants, sways slowly and lies in wait for prey. When it feels threatened, it turns dark with black spots, flattens its body, puffs itself up and hisses with its mouth open. Handling causes stress and should be avoided.

The species lives alone in the wild, and the females are territorial and tolerate no other chameleons close by, either males or females, except for a few days when they are receptive to mating. Males chase and bite other males on the flanks when competing for a female. The animals must therefore always live separately. Give a new animal peace for the first few weeks and place the enclosure where people are not constantly walking past. Lifespan in captivity has not been documented; 3-5 years is an estimate based on related *Chamaeleo* species.

Breeding

SEXUAL MATURITY AND SEXING

The male has a small tarsal spur on the hind leg and a slightly thickened tail base, where the hemipenes lie. They can be pushed out with gentle pressure. Males grow larger than females. Gravid females can be recognised by yellowish red spots on the lower part of the body and a lean appearance with a distended belly. Females can carry eggs from about 37 cm total length (17-18 cm from snout to vent). Age at sexual maturity has not been documented.

MATING

In the wild mating takes place in August. The male becomes territorial towards other males and follows the female for a week. The female at first rejects him with swaying movements and hissing, and mating lasts about three minutes. After mating the female is aggressive towards the male and must be kept apart from him. The female eats less well about a month after mating and stops eating altogether about 55 days later.

EGG-LAYING AND CLUTCHES

The female lays one clutch of 22-40 eggs in October, 6-8 weeks after mating. A female can have over 50 eggs developing. The female digs a sloping hole in loose sand that is up to 22 cm deep and 9 cm wide at the opening. If the ground is hard, the nest becomes wider and shallower, about 17 cm wide and 5 cm deep. It takes two days of digging before the female lays the eggs, and she closes the hole afterwards. The eggs are 15-22 mm long and 9-12 mm wide and weigh 1-2 g.

The females are exhausted after laying, stop eating and often die within a few days to weeks. Give the female peace, a deep sand box of at least 40 × 40 × 40 cm with at least 30 cm of moist play sand and immediate access to a vet. If she cannot pass the eggs, it is life-threatening.

INCUBATION

The eggs are laid in moist sand containing about 7 % water by weight. They grow in size and weight during incubation. The eggs hatch after about eight months, in the wild in June, when the rain comes and there are many small insects. The incubation temperature has not been documented for the species, and the figure of 22-27 °C is an estimate borrowed from related *Chamaeleo* species. In the wild incubation runs through both winter and summer.

Artificial incubation has not succeeded; the eggs easily perish from rot and mould. Even in the wild fewer than half of the eggs in a nest hatch.

Read more: Incubating eggs

REARING THE YOUNG

Rearing is hardly documented. Newly hatched young are 7 cm long, weigh about 1 g, are green and have no casque. They show the same defensive behaviour as the adults. Give the young a small mesh enclosure with thin branches and plants, UVB and the same temperatures as the adults, and feed them every day with small insects. Young must live separately, like the adults. Mist twice a day.

Health and common mistakes

The species is difficult to keep in the long term. The typical problems in chameleons in captivity are:

- Dehydration. Signs are sunken eyes, wrinkled skin and dry droppings.
- Bone loss (metabolic bone disease) from too little UVB or calcium.
- Respiratory infection in damp, stagnant air: mucus in the mouth, open mouth and lethargy.
- Egg binding and exhaustion in females, which is life-threatening and requires a vet.
- Burns from lamps.
- Internal parasites and stress. Have a new animal examined with a faecal sample.

A healthy animal has open, clear eyes, grips the branch firmly and eats. See a vet with reptile experience if the animal does not eat, loses weight, has its eyes closed by day, has mucus around the mouth or sits dark and lethargic.

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.