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CHAMELEONS

Senegal Chameleon

Chamaeleo senegalensis

Chamaeleo senegalensis is a medium-sized, arboreal chameleon from humid savanna and forest edges in tropical West Africa. It is a plain green to olive-brown and has no horns or skin flaps at all. The species is common in the trade, where almost all animals are wild-caught. It needs a tall mesh enclosure with UVB, drinks only droplets and must live alone.

Family: Chamaeleonidae Former name: *Chamaeleo gymnocephalus*

KEY FACTS

THE ANIMAL

Adult size	**20-30 cm** total length incl. tail
Lifespan	**3-5 years**
Active	**By day**
Lifestyle	**Arboreal**
Habitat	**Savanna and dry forest**
Difficulty	**Intermediate**

CARE

Min. enclosure	**45 × 45 × 90 cm** L × W × H for 1 adult
Temperature, day	**22-27 °C**
Basking spot	**29-32 °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**
Sexually mature	**5-6 months**
Clutch size	**20-70 eggs**
Clutches per year	**1-3**
Incubation	**210-365 days** at 22-27 °C

PROTECTION AND PAPERWORK

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

About the species

Chamaeleo senegalensis is a medium-sized chameleon of 20-30 cm including the tail. The head is flat and has no skin flaps, horns or other outgrowths at all, and the skin is smooth. The base colour is lime green to olive green or olive brown, and the body can be marked with dark grey or brown spots. The colour changes with mood, temperature and stress, but not to match the background. The male can be recognised by a thicker tail base (the hemipenal bulge) and is normally smaller than the female.

The species is closely related to *Chamaeleo dilepis* and *Chamaeleo gracilis*, and the three species are kept in the same way. *C. senegalensis* is the smallest of them. *Chamaeleo gymnocephalus* is a synonym.

The species is one of the most common chameleons in the trade, because it is abundant and easy to catch in the wild. Almost all animals are wild-caught, and on arrival they are often weakened, dehydrated and infested with parasites. The trade can threaten local populations, even though the species as a whole is not threatened. It is suited to watching and not to handling.

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

Distribution and habitat

Chamaeleo senegalensis lives in tropical West Africa from Senegal in the west to Cameroon in the east: Mauritania, Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Mali and Cameroon. Further east it has been found in the Central African Republic, South Sudan and Sudan.

> **Native range:** Mauritania, Senegal, Gambia, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Mali, Cameroon, Central African Republic, South Sudan and Sudan.

HABITAT

The species lives in humid, bush-covered savanna and in forest edges and dry forest. It is arboreal and diurnal and sits in bushes and low trees, where it hunts and basks on the branches. It is territorial and does not tolerate other chameleons close by.

The climate in the range is tropical with a rainy season and a dry season. The species has such a large range that the population has not been counted, and it is regarded as common. Its food is orthopterans, especially grasshoppers and crickets, as well as mantises and stick insects. The animal spots its prey by sight, focuses both eyes and shoots out its sticky tongue. Its enemies are birds, snakes and mammals.

Read more: Feeder animals: keeping and breeding

Care

THE ENCLOSURE

An adult needs a mesh enclosure of at least 45 × 45 × 90 cm (length × width × height). Bigger is always an advantage. Juveniles can be kept in 40 × 40 × 75 cm. Only one chameleon should live in each enclosure: the animals are very territorial and become stressed by other chameleons, even of the same species.

The enclosure should be tall rather than wide and have mesh in the top and sides. Humid, stagnant air causes respiratory infections, but the humidity must also be possible to maintain, so one or two sides can be covered with a panel in a dry room. Lamps hang outside, on top of the mesh.

Furnish the enclosure with many rough branches of different thicknesses and densely with robust, non-toxic plants, so that the animal can retreat and stay hidden. The branches must lie far enough from the mesh that the animal cannot get up under a heat source and be burned. The floor should have no loose substrate: newspaper, a tray or a drain is simplest, and the plants stand in pots. Avoid sand, gravel, cat litter and corn bedding.

Read more: Humidity, misting and ventilation

TEMPERATURE

By day the temperature in the enclosure should be 22-27 °C, and on a basking branch it should be 29-32 °C. Start with a 60 W bulb and adjust according to the measurement: a lamp that is too strong can cause serious burns, even through the mesh. Measure the basking branch with an infrared thermometer, and keep an eye on the temperature at the bottom of the enclosure with a thermometer. The animal must be able to choose between warm and cool.

At night the light is switched off, and the temperature should fall to 18-22 °C. In an ordinary living room night heat is not necessary. If the room becomes very cold, use a ceramic heater or a room heater and never a bulb, not even a red or black one.

HUMIDITY AND WATER

Air humidity should be 50-70 %, and it is maintained by misting several times a day over the whole enclosure. Live plants help to hold the humidity, and a cold fogger or a timed misting system may be necessary. The species does not drink from standing water, only droplets from leaves and misted surfaces, so no water bowl and no waterfall is used.

Mist the enclosure at least twice a day, and let all surfaces dry completely between mistings, so that mould and bacteria do not develop. A drip set up on top of the mesh so that the droplets run down over the leaves is a good supplement. Without enough humidity the animal becomes lethargic and dehydrated and has difficulty shedding.

LIGHTING AND UVB

The species is diurnal and needs strong light and UVB for 12 hours and darkness for 12 hours. UVB is necessary, because the animal makes D3 in its skin and needs it to absorb calcium. Put a T5 UVB tube or an LED bar on top of the mesh, so that the basking branch gets a UV index of about 3-4. This corresponds to Ferguson zone 3; the zone is an estimate based on way of life and has not been measured for the species.

The top branch should sit at least 30 cm below the lamps, so that the animal is not burned; check the UV index with a UV meter. UVB tubes emit UVB for only 6-8 months, even when they still light up, so replace them at least twice a year. All lamps hang outside, on top of the mesh.

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

FEEDING

The species is an insectivore and needs live insects: crickets, silkworms, hornworms, cockroaches such as *Blaptica dubia* and the occasional superworm. Waxworms and mealworms are fatty and are given only now and then. The insects must be no longer than the width of the animal's head and must be well fed with greens and calcium for a couple of hours before they are given. Variety is important. Feed in the forenoon, so that the animal can warm up and digest.

Juveniles get as many small insects as they can eat, several times a day. Juveniles of 3-6 months get 10-12 small insects daily, and animals of 6-12 months 10-12 medium-sized ones every other day. Adults get 5-7 small to medium-sized insects every other day. Remove insects that have not been eaten, because they can bite the animal.

Dust the insects lightly with calcium without D3 at most feedings. Every other week they get a multivitamin, and every other week calcium with D3. A lack of calcium causes bone disease.

BEHAVIOUR AND HANDLING

Chamaeleo senegalensis is relatively calm compared with other chameleons, but it is an animal to watch and not one to pick up. Handling causes stress and may be done only when necessary. When the animal feels threatened, it changes colour and inflates its body to look bigger. Give a new animal peace for the first few weeks, and place the enclosure so that people are not constantly walking past.

The species is solitary and must live alone, even when the enclosure is large. The animal needs many hiding places in the foliage. Dark colours and an open mouth are signs of stress. The animal should not be held fast and must never be grabbed by the tail. Wild-caught animals require particular care on arrival and are not suitable for beginners.

Breeding

SEXUAL MATURITY AND SEXING

The male has a distinctly thicker tail base than the female and is normally smaller. The species becomes sexually mature after 5-6 months, but the females should not breed until they are at least a year old, so that they have enough calcium for both eggs and their own growth. Females can produce eggs without having met a male, so every adult female must have access to a laying box, even when she lives alone.

MATING

The species rarely breeds in captivity. A female who is receptive shows a strong yellow colour. The female may attack the male immediately after mating, so he must be removed at once. Put the animals together only under supervision. The female lays the eggs about 70-90 days after mating.

EGG-LAYING AND CLUTCHES

A clutch is 20-70 eggs, and the female lays 1-3 clutches a year. She can lay several clutches after one mating, because she stores sperm. In the week before laying, the female becomes restless, walks around the enclosure and eats less.

A female over 6 months must always have a laying box available: at least 40 × 40 × 40 cm with at least 30 cm of washed play sand or a mixture of sand and soil, damp enough for a tunnel to hold its shape. Place one or more branches in the box so that the female can climb in and out. The female digs a tunnel head first, backs into it, lays the eggs and closes the tunnel again. She needs complete peace, and the enclosure and box can be covered with a cloth with a peephole. Laying can take from a few hours to several days. If the female cannot pass the eggs (egg binding), it is life-threatening, and she must go to a vet at once. After laying she needs at least a week of peace, extra water and calcium-rich food.

Read more: Common diseases and signs of illness

INCUBATION

The eggs are lifted out carefully and placed in the same position in which they were laid, without being turned. They are placed half-buried in damp, coarse vermiculite in a tightly closed container with no holes or a few small holes. The substrate should be damp enough that only a few drops come out when a handful is squeezed. The lid must close tightly, otherwise the eggs dry out.

The incubation temperature is 22-27 °C, and incubation is very long: 7-12 months. The figures apply to the species *Chamaeleo senegalensis*, *Chamaeleo dilepis* and *Chamaeleo gracilis* taken together and have not been measured for the species alone. Temperature-dependent sex is not documented.

Read more: Incubating eggs

REARING THE YOUNG

Rearing of the species is not described in detail. The young need a mesh enclosure of at least 40 × 40 × 75 cm with many thin branches and plants, UVB and the same temperatures as the adults. Mist several times a day, so that the young can always drink droplets, because they dry out quickly. Juveniles up to 3 months get as many small insects as they can eat, several times a day, dusted with calcium. Juveniles that seem stressed are taken out and reared alone.

Health and common mistakes

Most problems are caused by care. In addition, wild-caught animals are often weakened, dehydrated and heavily infested with parasites on arrival. The typical problems are:

- Dehydration. Signs are sunken eyes, wrinkled skin, dry droppings and orange or yellow urates.
- Bone loss (metabolic bone disease) from too little UVB or calcium.
- Respiratory infection in humid, stagnant air: mucus in the mouth, open mouth, lethargy. Ensure ventilation.
- Egg binding in females, which is an acute and life-threatening problem and requires a vet. Overfeeding increases the risk.
- Burns from lamps.
- Internal parasites and stress in wild-caught animals. Have a new animal examined with a faecal sample before it is brought together with other animals.

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

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.