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## Chameleon Care

### **INTRODUCTION**

Chameleons are becoming more and more popular as pets in the US. However, they are notoriously hard to keep in captivity. Their care is highly specialized and they are considered to be very fragile. The appropriate husbandry and diet is key to success. Their average lifespan in captivity ranges from 3-5 years with some chameleons living up to 10 years. Their size varies with their species.

### **HOUSING**

**Cage** - Chameleons need a large, well-ventilated enclosure. Screens are often used to provide ventilation. Mesh screens are often preferred to maximize ventilation. Sharp edges should be avoided and plastic coated screen or PVC mesh is preferred over metal screens. Screened Exo-terra tanks can be set up for chameleons. Large, vertically-oriented aquariums may work for smaller species and juveniles as well.

**Substrate** - The substrate should be safe and easy to clean. Commonly used examples are paper towels, butcher paper, newspaper, Repti-Carpet, Vinyl tile, or terry towels. Untreated topsoil with no fertilizer can be used, but may be very difficult to keep clean. We do not recommend using sand, gravel, mulch, cat litter, or wood shavings due to risk of ingestion leading to impaction as well as irritation of the eyes and mouth. The bottom of the enclosure should be cleaned every few days to prevent exposing chameleons to their waste.

**Cage Furniture** - Numerous branches in various sizes should be provided for climbing and hiding. Artificial plants and branches are easier to keep clean than live plants, but plants such as ficus and pothos can be used.

**Temperature** - Temperature requirements vary among the different species of chameleons and can be divided into two main groups (highland and lowland). The enclosure should be large enough to have a focal basking area (top) and a cool side (bottom) to allow your chameleon to regulate its temperature by changing its location. Digital thermometers rather than dial thermometers should be used for accuracy. At least two thermometers should be used, one to measure the cool side and one the warm side. A clear incandescent bulb, red bulb, or ceramic heating element can be used to provide heat at the focal basking area. *It is very important to allow the tank to drop to a much cooler temperature at night.*

- **Highland group:** Species of chameleon, including Jackson's chameleon (*C. jacksonii*), Fischer's chameleon (*C. fischeri*), mountain chameleon (*C. montium*), Parson's chameleon (*C. parsonii*)
  - Daytime temperature between 70-80°F, with focal basking site reaching 82-85°F
  - Nighttime temperature as low as 55-60°F
- **Lowland group:** Species of chameleon, including flap-necked chameleon (*C. dilepis*), graceful chameleon (*C. gracilis*), Senegal chameleon (*C. senegalensis*), Meller's chameleon (*C. melleri*), Oustalet's chameleon (*C. oustaleti*), Yemen/veiled chameleon (*C. capyrratus*), and panther chameleon (*C. pardalis*)
  - Daytime temperature between 79-88°F, with focal basking site reaching 94-100°
  - Nighttime temperature as low as 64-66°F

**Humidity** - Both types of chameleons require a relatively high humidity (50-75%). Highland species will need to be on the higher side and the lowland species on the lower side of the range. You can spray the enclosure multiple times a day with fresh water or set up a drip system. Ventilation should not be sacrificed to increase humidity as this can lead to medical problems and bacterial/fungal growth. If commercial humidifiers are used, they must be cleaned every week as they can result in microbial growth.

**Lighting** - It is imperative that a UVB light source be provided for proper Vitamin D production and calcium absorption. A 5.0 ultraviolet B (UVB) light should be placed over the basking area (within 18 inches) for 12-14 hours in summer and 10-12 hours in winter. The light needs to be placed over a screen top (as plastic/glass blocks the emission). The light needs to be replaced every 6 months even if it still works as UVB production decreases over time. You can expose your chameleon to natural sunlight during the warmer months. Always supervise your chameleon if loose outside. Your chameleon can be placed in a screened enclosure outside, but aquariums should not be used due to risk of overheating.

**Cage Mates** - Chameleons should be housed individually as they are very territorial and will often fight. Adult chameleons will also eat juveniles. Juveniles should ideally not be housed together, but if they are, adequate foliage is required to minimize interactions between individuals.

## **DIET**

**Insects** - Insects fed should be no longer than the width of your chameleon's head. Insects should always be gut loaded. To do this, provide insects with a diet such as cricket food, rodent chow, or dry dog food. The primary insect used should be crickets, Dubia roaches, silkworms, and hornworms as other insects (mealworms, giant mealworms, superworms, wax worms) are high in fat and should only be used as treats. Please remove uneaten insects to prevent injury to your chameleon.

- Juveniles should be fed as much as they will eat daily
- Adult should be fed 5-15 insects every 2-3 days

**Supplements** – Insects should be dusted with a high quality calcium/vitamin D3 supplement (with no added phosphorus) and multivitamins. We recommend the Repashy Calcium Plus powder.

- Juveniles should receive supplements 3-4 times a week
- Adults should receive supplements twice weekly

## **WATER**

**Water bowl** - Chameleons generally will not drink from standing water, so while a bowl can be provided, alternate sources of water MUST be provided as well.

**Misting and dripping** - Most chameleons like to drink water from droplets that accumulate on plants. Misting the cage 4-5 times a day will provide a water source for your chameleon. You can also try to offer water from a dropper or a water bottle. Be sure that the enclosure is well ventilated as frequent misting can contribute to bacterial growth if there is inadequate ventilation.

**Commercial misters, drip systems, and bubblers** - There are commercial systems available that provide water on a scheduled basis. These systems have a tendency to harbor bacteria and must be meticulously cleaned often. The systems should be thoroughly disinfected one to two times a month with dilute bleach (1:30 bleach:water). Allow for a contact time of 15-20 minutes before rinsing extremely thoroughly.

## **HEALTH CARE**

We recommend a complete physical exam, choanal culture, and fecal by an exotic animal veterinarian for all newly acquired pet chameleons. Thereafter, we recommend exams every 6 months and yearly choanal cultures and fecal exams.

## **COMMON MEDICAL PROBLEMS**

**Metabolic Bone Disease** – Inappropriate lighting and inappropriate calcium supplementation can lead to brittle or soft bones that can easily break. Signs include weakness, decreased appetite, swelling of the joints/legs, and twitching or tremors. If you notice any of these signs, please contact your veterinarian.

**Retained Shed** – Chameleons shed in pieces and sometimes the shed can be retained. Common places for retained shed are in the eyes and around legs, toes, and the tail. Signs include squinting or swelling of the leg, tail, or toes. If you notice any of these signs, please contact your veterinarian.

**Abscess** – Abscesses appear as firm lumps on your chameleon. They will need to be lanced and some need to be surgically removed.