Veiled Chameleons (Chamaeleo calyptratus) Species Profile: Housing, Diet, Temperment, and Care

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Veiled Chameleons are the most commonly bred and available species of chameleons, and are now being bred in captivity. They are hardy reptiles which require tall cages for perching, supplemental heat and UV light, a varied insect diet, and a dripping water source.

Natural environment

It is important to understand the natural environment from which a reptile comes, since that environment needs to be duplicated as much as possible when planning its housing and maintenance. The natural range of the Veiled Chameleon is western Yemen and southern Saudi Arabia, where temperatures vary between 68-110ºF and it is relatively humid, though there may not be a large amount of rainfall. These chameleons, which are insectivores, tend to concentrate where there is water, e.g.; pools of water left from the runoff of nearby mountains, and subsequently, vegetation. Near vegetation is where the most insects are found - the mainstay of their diet. They obtain most of their water by licking dew from leaves and branches, and are stimulated to drink by the movement of the water. In the morning, they are usually found basking, warming themselves after a cool evening. Veiled Chameleons spend most of their time in trees, and bushes, and are highly adapted for climbing.

Physical characteristics

Chameleons have a prehensile tail which aids them in balance when climbing. Their feet are also adapted for clinging to branches, and are quite strong. They have rotating eyes which act independently of each other: one can focus up and to the right, as the other looks down and to the left. Their tongues are sticky at the end and can be extended out to capture prey.

Subspecies differences: There are two subspecies of Veiled Chameleons, *C. calyptratus calyptratus* and *C. calyptratus calcarifer*. The main difference between the two is the casque, which is a fleshly fin-shaped protuberance on the top of the head. The casque of *C. c. calyptratus* is generally higher than that of *C. c. calcarifer*.

Sexual differences: In males, the casque is generally more pointed. Mature males are 18-24 inches long, whereas females are usually about 12 inches. The gular spines (spines on the back) of the male are generally longer. The male also has spurs on the back of his hind feet, and the female does not. Although both sexes can change color, the males tend to be brighter.

Color: Chameleons are best known for their ability to change color. The color of a chameleon may vary by health status, perception of a threat or incursion into its territory, presence of a mate, status of its shedding, age, sex, season, temperature, light, and other environmental factors. Color changes may be rapid, as when reacting to a threat, or gradual.

Life expectancy: When housed and fed properly, a male chameleon generally lives 7-10 yrs; breeding females, 4-6 years.

Temperament

Chameleons are solitary animals and very sensitive to stress. They are very territorial and aggressive towards other Veiled Chameleons. Members of this species should be kept individually in separate housing. The presence of another chameleon in the same cage or within sight can be very stressful and makes the chameleon more prone to illness. Even the sight of its reflection in glass can cause extreme territorial behavior, and cause the chameleon to stop eating.

Handling

Chameleons are shy, and move rather slowly. When frightened, a Veiled Chameleon will puff up with air, hiss loudly, and may change color. Handling a Veiled Chameleon should be avoided since it can cause severe stress, which increases the risk of illness and premature death. If you do need to handle a chameleon, do NOT pick it up, but place your hand in front of the chameleon and allow it to walk onto your hand. Do NOT hold onto a chameleon's neck, back, feet, or tail unless it is absolutely necessary to restrain it.

Housing

Cages: Screen cages (vinyl-coated, metal mesh) provide a better environment than glass aquariums because they allow for better ventilation, provide a physical barrier, and offer good protection. A Veiled Chameleon is very territorial and if it can see its image in a glass aquarium, it will be stressed. Chameleons need ample space, including vertical height. An ideal cage size for an adult is at least 4' H x 2' W x 2' D. Substrate in the bottom of the cage is not necessary. The cage should be placed so the chameleon can be at eye level or higher. It should have a tight-fitting screen lid. The cage should be placed away from high traffic areas and other reptiles, snakes, or birds, which could be perceived as a threat.

Cage furnishings: Wooden branches of various diameters large enough for the chameleon to climb comfortably should be provided. Construct multiple horizontal perches, especially in basking areas, and design walkways of branches from the various perches to the bottom of the enclosure. Live plants can be added; these can include Hibiscus, Ficus (sap can be mildly toxic), Schefflera, Bougainvillaea, Pothos, and ferns.

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Heat: The daytime temperature should be in the 80's, and at night, should decrease by 10ºF into the 70's. A basking spot of 90° to 100°F should be provided during the day. An incandescent light bulb (75 watt or lower is generally sufficient), with a reflector, should be placed over one area of the cage which has perches or branches of multiple heights. This will provide a good heat gradient during the day. If necessary, an infrared bulb or room heater may be used to maintain the proper temperature at night. Do not use hot rocks for chameleons, as they need the heat to bask in, not stand on. Measure the temperature in the cage in several areas using a quality thermometer, to assure you have the proper gradient.

Light: If possible, provide exposure to direct sunlight, but guarantee the temperature within the cage will not become too high. NEVER place a glass aquarium in direct sun, as it may become too warm. Full spectrum fluorescent lighting with a bulb high in the UVB light spectrum should be used to enhance the chameleon's production of Vitamin D3. For another option, have two fluorescent fixtures running the length of the enclosure. In one fixture, use a bulb that emits UVB. In the second fixture, use a full-spectrum fluorescent bulb. Both of these bulbs must be replaced after 6 months, as their ability to emit true full-spectrum light diminishes over time. The light sources should be within 18-24 inches of the chameleon. The light should shine directly on the reptile, and not be filtered through glass or plastic. A mercury vapor lamp that emits UV-B, UV-A and infrared heat could also be used.

Water and humidity

The relative humidity in the cage should be kept around 50-60% most of the time. It is often recommended to increase the humidity slightly at night. As mentioned above, chameleons generally obtain their drinking water from droplets on plants. They are attracted to these droplets of water as they move or reflect light. Veiled chameleons rarely drink from standing water bowls, so drinking water should be provided in a way that mimics their wild environment: as water droplets on leaves of the plants. Chameleons are very susceptible to dehydration so it is imperative to provide a drinking water source they will use. Both humidity and drinking water can be made available in several ways, often in combination:

- Construct an in-cage rain system. PVC tubing, which has small holes drilled into it, can be connected to a water supply using a valve to control water flow. The tubing is placed over the cage, and the water drips into the cage. A collection system under the cage will need to be provided, such as large plastic trays or buckets.
- Set up a drip system. This consists of a container of water placed above the cage, with plastic tube leading from it which drips water onto the plants. (Ask your veterinarian for a used intravenous (IV) drip set, that you can fill with water.)

- Purchase an automated misting system or cool mist humidifier. These are generally available through pet supply companies and large garden supply centers.
- Mist the inside of the cage several times a day until the plants are dripping. This may not, by itself, provide enough water for an adult chameleon.
- Provide a small commercial waterfall. This will increase humidity, but the chameleon may still need a dripping water source for drinking. If used, waterfalls must be regularly cleaned as they become contaminated with feces or trapped insects.

Diet

Veiled Chameleons are insectivores, and need a varied, healthy and clean diet. They will become bored and refuse to eat if they are fed the same thing day after day. Adult Veileds will eat every other day.

Preparing insects for food: Feeder insects should be coated with calcium supplement (powdered calcium carbonate or calcium gluconate) twice a week for adult Veiled Chameleons, and every day for juveniles. The insects should also be "gut-loaded," which means the insects are fed nutritious and vitamin-rich foods before they are given to the chameleon. Good foods to feed the insects include ground legumes, corn meal, carrots, sweet potatoes, collard greens, mustard greens, broccoli, spinach, apples, oranges, cereals, and rolled oats. There are also commercial products rich in calcium and vitamins which can be fed to the insects. Insects may be purchased or wild-caught (without the use of pesticides). The diet can include:

- Crickets - no more than 50% of diet
- Mealworms
- Wax worms - high in fat, so feed sparingly
- Wax moths
- Earthworms
- Cockroaches
- Flies
- Cicadas
- Grasshoppers
- Walking sticks
- Caterpillars
- Silkworms and silkmoths
- Soldier fly larvae (phoenix worms)

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- Grain beetles
- Pinkie mice

The insects should be fed by placing them in a small bowl. After feeding, check that none of the insects escaped and fouled the water supply in the cage.

Veiled Chameleons are omnivores, so a small amount of plant material should be included in their diet. Clip mustard or collard greens to the side of the cage, and spray them with water.

Summary

In housing and providing for the nutritional needs of a Veiled Chameleon, its natural environment should be replicated as much as possible. By doing that, and avoiding stressors, such as the presence of other chameleons and handling the chameleon, your Veiled Chameleon can live a long and healthy life.

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