



Meller's Chameleon (*Trioceros melleri*)

Large and In Charge Chameleons

Meller's chameleons are large chameleon species that are also known as the Meller's one horned chameleon, or giant one horned chameleon. Meller's chameleons are a large, stout bodied chameleon with a relatively short, stubby tail, a low, scalloped crest or casque, and a low dorsal and medial crest. It also has a relatively small, elongated head with a single, small horn or protrusion on the tip of its snout. Base color is usually a deep forest green with lighter colored spots and/or vertical banding ranging from brown, to dark green, yellowish, or blackish. The Meller's chameleons are a species best maintained by advanced hobbyists and enthusiasts. Chameleons in general are a highly diverse and specialized family of Old World lizards with several extremely unique features and adaptations for survival. Perhaps best known are their color and/or pattern changing abilities. The skin and scales of chameleons possess a thin, superficial layer of color changing pigments, with another deeper layer consisting of guanine cells. In order to change their coloration, chameleons rely on changing the space and distance between these guanine cells, thereby changing the wavelengths of light reflected from the skin and scales. While it is popularly believed that chameleons change their colors and patterns for camouflage or crypsis, and while it is true that this has functions in concealing the animal from predators and prey, this is not the primary reason for their color changes. Instead, they will change color as a means of social signaling, to display territoriality and dominance, displaying defensive behaviors, and/or to aid in thermoregulation. Most chameleons also have highly specialized zygodactylus feet and prehensile tails for climbing and gripping branches as well. They also have highly modified and rapidly extrudable sticky tongues used and designed for capturing prey. Chameleons also possess a pair of highly mobile, independently operating eyes, giving them excellent depth perception and motor coordination as well. These are only some of the many unique features chameleons possess, making them popular and unusual pet reptiles to maintain in herpetoculture.

Taxonomy

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum/Sub Phylum: Chordata/Vertebrata

Class: Reptilia

Order: Squamata

Suborder: Lacertilia

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Infraorder: Iguania

Family: Chamaeleonidae

Genus: Trioceros

Species: *Trioceros melleri**

**Taxonomy subject to change and revision.*

Lifespan and Longevity

If provided the proper care, Meller's chameleons have been reported to attain longevity of up to 10 to 12 years or more.

Distribution and Habitat

The Meller's chameleon is a large chameleon species indigenous to the savannah and mountainous regions of East Africa from Malawi, Mozambique, to Tanzania.

Conservation Status

IUCN Red List Least Concern (LC).

Experience Level Required

Intermediate/Moderate to Advanced.

Size

Adult Meller's chameleons are sexually dimorphic, with females usually being smaller in size than males. This species ranges in size from 18 to 24 inches, but has been known to reach nearly 30 inches, making them among the largest species of chameleons.

Housing and Enclosure

Housing must be sealed, well ventilated, and escape proof. Provide a minimum of a four foot by six foot by six foot fully screened or glass tall enclosure for adults depending on your household's ambient temperature and humidity. Meller's chameleons can be extremely defensive and territorial towards perceived rivals, and are best housed individually. Some Meller's chameleons can also be housed in free range indoor enclosures, or in outdoor enclosures in appropriate housing provided climate and temperatures allow. Provide ample artificial foliage, driftwood, rocks, vines, branches or logs for ample basking, climbing, and hiding opportunities. Live potted trees and shrubs, such as Ficus species, and horizontal branches and perches are both also beneficial for this large, heavy species. Substrate is optional, but substrates such as cypress mulch, sphagnum moss, or coconut fiber can be used. Meller's chameleons also benefit from alternating, humid and dry conditions. Take care to avoid consistently too high or too low of humidity, as these conditions can result in a number of health and husbandry issues arising. Maintain humidity levels at an alternating 20 to 80% throughout the day by using the appropriate de-humidifiers, as well as daily or regular misting either manually or with a commercially available misting or fogging system. Pay close attention to enclosure conditions to determine whether humidity is consistently too high or too low, including issues such as bacteria, mold, or fungi buildup, issues shedding, or dehydration. Overall, hydration is an important factor for maintaining this species, as Meller's chameleons are well known for their long periods of drinking and long duration of misting requirements of at least 15 to 20 minutes daily to every other day.

Temperature, Lighting, and Humidity

Provide a lighting and temperature gradient for Meller's chameleons from 65 to 80 degrees F for ambient temperatures. Ambient temperatures should not exceed 83 to 90 degrees F, since Meller's chameleons can be subjected to heat related stress. Nighttime temperatures can be

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allowed to drop to 50 to 75 degrees F. Provide a basking lamp or light 8 to 10" from the basking site only at 80 to 90 degrees F. Use florescent, broad spectrum, and UVA/UVB lighting for optimal health of Meller's chameleons, but also do not allow any heating or lighting device to come into direct contact with the animal. Lighting, and access to natural sunlight should also replicate this species' natural 10 to 12 hour day/night cycle as well. Spot clean the enclosure for urates, feces, or uneaten food at least twice per week. Be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months or seasonally as needed. More specific lighting, heating, and humidity product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

Feeding, Diet, and Nutrition

Insectivorous; In the wild, Meller's chameleons are primarily insectivorous, feeding on insects and other invertebrates they can locate and capture using their specialized eye-sight and long sticky tongues. These large chameleons will also eat smaller vertebrates as well on occasion. In captivity, feed Meller's chameleons a variety of appropriately sized feeder insects such as crickets, roaches, mealworms, superworms, and waxworms. Other feeder items can also be given on occasion, including even anoles, house geckos, and pre-killed rodents of appropriate size, but sparingly. Feeder insects should be gut-loaded in order to increase their optimal nutritional value. These chameleons also require additional calcium and vitamin D3 supplementation 1 to 2 times weekly or as otherwise directed for optimal health and development. Adding bee pollen and spirulina (or dried blue-green algae) supplementation can also provide added health benefits for Meller's chameleons. This is in order to prevent Metabolic Bone Disease (MBD) and other growth and nutritional deficiencies. Well acclimated adults will generally eat 1 to 2 large food items daily to every other day. Their feeding frequency, however, can depend on the age, size, and overall health of your animal. Use care as to not overfeed them, as obesity and other health related issues can become an issue. Also do not over supplement food items, as Meller's chameleons can be sensitive to and adversely affected by this as well. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

Handling

In captivity, Meller's chameleons range in disposition from timid to moderately aggressive, and are thus not a suitable beginner's chameleon, or reptile species in general. Wild caught or imported melleri have traditionally fared poorly in captivity, often seeing high parasite loads and high mortality. Captive born melleri are available, however. Should a chameleon be handled, it is important to remember to not forcefully pick up the animal, which may lead to further stress and/or injury. Allow a chameleon to walk onto your hands or gently coax them to do so if possible. Generally, chameleons are better suited as display animals.

****Also be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens****

Contact

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact the Madison Area Herpetological Society at info@madisonherps.org

Disclaimer: Note that the information provided in these, or any care sheets, are not intended to be all-exhaustive, and further research and care should always be sought and provided when it comes to any species one may prospectively be interested in. These care sheets are also not intended to serve as

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substitutes for professional veterinary medical care and husbandry should any animal require it. Always seek proper and professional veterinary care for any animal should the need arise, and be prepared ahead of time for any and all husbandry costs and expenses that may occur with any animal beyond the initial purchase. Any animal owned is ultimately a matter of personal/individual care and responsibility.

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