



Care Sheet for the Veiled Chameleon
Chamaeleo calyptratus

By Petr Necas & Bill Strand

Legend	Sub-legend	Description
Taxonomy	Taxon	<i>Chamaeleo calyptratus</i>
	Common Names	Yemen Chameleon, Veiled Chameleon, Cone-Head Chameleon (English) Harbaya (Arabic)
	Original Name	<i>Chamaeleo calyptratus</i>
	Author	Duméril & Duméril, 1851
	Original Description	Cat. méth. Coll. Rept.: 31.
	Terra Typica	Région du Nil, Africa (ex errore), restricted to S Arabia
	Typus	Syntypes: MHNP 6522, 6633-6634
	Taxonomy	A polytypic species with two subspecies: the nominotypic one, <i>Chamaeleo calyptratus calyptratus</i> , and <i>Chamaeleo calyptratus calcarifer</i> . Member of the genus <i>Chamaeleo</i>
Life Space	Range	The nominotypic subspecies lives in Yemen and <i>Chamaeleo calyptratus calcarifer</i> , inhabits the Asir province, Saudi Arabia. Introduced in USA (Florida, Hawaii – considered invasive species, California)
	Altitude	1000 – 2500m a.s.l., typically 1500-1800m
	Macro-habitat	Montane subtropical to tropical vegetation in the deep valleys (wadis) in the mountains. Not in the coastal plains. C.c.calcarifer is reported also from the foothills of the mountains.
	Micro-habitat	Trees and shrubs (mainly <i>Accacia</i> sp., <i>Zyzipha</i> sp.) living fences, agricultural plants (Coffee, Miraa, Maise...)
	Perching Height	0–20m (0-65') above ground (babies in grass, semi-adults in bushes, adults in trees and bushes)
	Daily Activity	Whole day in the bush or on its margin, Morning and late afternoon 1-2 hour basking on a sun exposed branch, Sleeping on terminal branches of the tree crowns, In case of rain, hiding in the middle of bushes
	IUCN Status	Least Concern: due to extensive successful captive propagation
	Conservation	Not protected
	CITES	CITES Ap. II

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Climate	Climate Type	Subtropical to tropical climate, with very specific regime of rain and temperatures
	Dry Season	September to March
	Rainy Season	April to August
	Temperature	There is a big difference between the climate in summer and winter Summer: Up to 40°C (104°F) at daytime; 22-25°C (72-77°F) in the shade, at night 17-20°C (63-68°F) Winter: Up to 22°C (72°F) at daytime, at night 7°C (45°F) dipping to 5°C (41°F) or even 0C (32°F) sometimes
	Humidity	Daytime: around 50% during wet season to below 20% in dry season. Nighttime: Up to 100 % all year
Life Cycle	Parity	Oviparous - egg laying
	Gestation Period	Approx. 1 month, depending on the temperatures and size
	Egg Laying Site	Egg deposition sites are situated on the ground, usually in shade, at a foot of a tree or bush Eggs are deposited at the end of a diagonal tunnel, with the total length and depth 12-15cm (4-6").
	Clutch Size	In the wild: 15-45 (15-30 first clutch, 25-45 second clutch) In Florida: 7-65 (dependent on size and age) In captivity: 5-121 dependent on female size and obesity. Obese females often have above 60 eggs and often have problems in egg deposition. Captive females lay repeatedly eggs even without fertilization
	Incubation Period	In the wild: 7-9 months In captivity: 6-16 months depending on temperatures (the warmer the shorter)
	Hatching Period	End of March-April, after the first rains of the rainy season come
	Size at Hatch	Approx. 68-84mm (1-3"), depending on incubation
	Maturity Reached	At 4-5 months: average 25cm (10")
	Maximum Size	At 10-14 months: Usually 43 to 55cm (17-22") up to 71cm (28")
	Mating Period	July - August
	Longevity	In the wild: 8-9 months, At the start of the dry season/wintertime, the vast majority of the population disappears due to harsh climate and predation

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Morphology	General	One of the largest chameleon species, equipped with all typical chameleon features like chamaeleodactylous feet, long prehensile tail, independently moving eyes in lid turrets, skin capable of color change, The head sports a high parietal crest forming a highest casque amongst chameleons and rough crests consisting of enlarged warty or pointed scales.
	Size	Males usually 43 to 55cm (17-22”) up to 71cm (28”), females max. 46cm (18”)
	Sexual Dimorphism	Males possess higher casques, higher and more pronounced crests and a tarsal spur (visible even in embryos), absent in females Excited males show 3 lime yellow crossbars along the flanks, females show in (and after first) gravidity yellow to orange markings and dots on the flanks and robin blue markings along the spine. Males have a swollen tail base
	Specialized Communication	Both male and females are known to communicate through vibrating the vegetation they perch on.
Diet	Diet Size	Wild diet includes Invertebrates under 2.5 cm (1”) in size - usually under 1.5cm (.5”) in size
	Natural Diet	Hymenopterans (bees and wasps) Dipterans (flies) Lepidopterans (butterflies, moths and their caterpillars) Coleopterans (small beetles)
	Widely available, but avoided, diet items	Orthopterans (locusts, grasshoppers, except of mantis) Black beetles
	Special/occasional diet items	Snails and small invertebrates like small weaver birds, young agamas and geckos
	Additionally digested items	Pollen

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Health Issues	Internal Parasites	Roundworms, Tapeworms, Flukes, Coccidia Treatment: If infestation is small, not necessary, if heavy, seek veterinary help
	RI (Respiratory infection)	Symptoms: heavy breathing, visible ribs, gaping, sitting with head up, bubbles in throat Cause: Arises often in captivity as a result of improper husbandry Treatment: Antibiotics to be prescribed by a veterinarian
	Dystocia (Egg retention)	Symptoms: Inability to lay eggs Cause: Can arise often in captivity as a result of overfeeding or inadequate care Treatment: Oxytocin and supportive measures administered by a veterinarian. Often necessary to solve surgically including sterilization (which can lead in masculinization of the female's appearance)
	Mouthrot (Stomatitis; Gingivitis ulcerosa)	Symptoms: white cheese-like deposits along the jaws, swollen jaws Cause: Arise often in captivity as a result of injuries of jaws and mucous in combination with improper husbandry conditions Treatment: Antibiotics to be prescribed by a veterinarian
	MBD (Metabolic Bone Disease)	Symptoms: casque and head deformities, rubber jaw, broken bones of extremities, fractures of ribs Cause: A condition found often in captivity as a result of an imbalance or lack of vitamin D3 (via proper UVB or dietary supplementation) and lack of Calcium or magnesium in the diet. Treatment: proper diet and UVB exposure. In heavy cases - veterinarian
	Obesity	Symptoms: Heavy body, inactivity, swollen cheeks and casques, puffy extremities Cause: Arise often in captivity as a result of overfeeding Treatment: properly managed diet both in quantity and quality of feeder nutrition
	Burns	Symptoms: Gray scarring usually along spine and top edges of casque Cause: Basking too close to basking lamp. Treatment: Silvadene crème on burn areas
	Eye Infections	Symptoms: Swollen turrets, closed eyes, eye opening blocked by transparent or milky pus Cause: Lack or overdose of vitamins and forceful spray of water towards eyes Treatment: Antibiotics to be prescribed by a veterinarian
	Paranasal Salt Glands	Symptoms: White discharge around nostrils Cause: Salt deposits being jettisoned from body Treatment: No treatment necessary. Completely normal.

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Caging	Caging Type	<p>Individual Cohabiting of adults not recommended Cohabiting of juveniles up to 3 months of age possible with diligent supervision If kept individually, sight contact with other chameleons possible (and sometimes recommended) no closer than 3m (9') away.</p>
	Cage Conditions	<p>Temperatures: daytime 22-25°C (72-77°F) with basking spot up to 32°C (90°F); nighttime drop to under 22°C (72°F) Humidity levels: nighttime up to 100% towards morning, daytime under 50%</p>
	Cage Size	<p>60cm x 60cm x 120cm (24 x 24 x 48") minimum or equivalent for both sexes, 3 months and older; Wider format cage can be lower in height if cage is placed higher up. The larger the cage the better. Sizes up to the land area of Yemen are acceptable.</p>
	Cage Type	<p>Full mesh cage preferred for adults Glass terrariums with minimum one side + ceiling made from screen, or other ventilation strategy are effective.</p>
	Cage Interior	<p>Dense network of thin natural branches that can be grasped around Lots of foliage of living plants Freely exposed horizontal branch for basking in safe distance (head and body length from the heat source) Bottom with no special requirements, can be anything from bare to bio-active</p>
	Lighting	<p>Light bulb white light = 12 hours per day Heat bulb white light (not red or colored) = according to surrounding temperatures Linear UVB bulb = 12 hours per day; UVI = 6 at hottest basking spot Nighttime: No heat/light source - including blue and red bulbs!</p>
	Water Management	<p>Fogger at night (from 1AM till dawn) Mister (1 minute in the early morning before lights go ON, 1 min at night after the lights go OFF, if misting at daytime, switch heat source OFF during the afternoon shower) Dripper (can be used throughout day, but best in the morning hours) Mist to fall down on chameleon. Do not directly spray at the body or head. Never soak a chameleon in water for a "bath" Water must be ambient temperature or cooler (do not put a chameleon in steam)</p>

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Feeding in Captivity	Food	<p>General rule: as variable as possible</p> <p>Overfeeding risk: high. Control feeder amounts with regular weighting/status assessment necessary to prevent obesity, that might have fatal consequences</p> <p>Food items size: preferable smaller size under 1/2 inch</p> <p>Feeders: flies, crickets, roaches, superworms, hornworms, fly larvae, wax worms/moths, silkworms/moths</p> <p>Not to feed: locusts, mealworms, black beetles</p> <p>Food to occasionally consider: small geckos, pinkie mice, small snails</p>
	Vegetable Matter	Used for roughage in digestion. Common cage plants used = Hibiscus, Epipremnum (pothos), Ficus, and Schefflera. Do not feed fruits.
	Supplements	<p>Calcium without D3: each meal</p> <p>Pollen: each meal</p> <p>Multivitamin mix: biweekly</p> <p>Calcium with D3: biweekly (skip if outdoor keeping - no extra D3 needed)</p>
	Hydration	<p>Hydration is to be facilitated by combination of night fogging, morning and evening misting and daytime dripping.</p> <p>Urates to be assessed and in case of deviations, hydration methods to be adjusted</p>
Reproduction in Captivity	Egg Deposition	<p>The female digs a tunnel and lays the eggs at its end</p> <p>The tunnel is covered with substrate</p>
	Lay Bin	<p>Artificial approach: prepare a lay bin – a large container filled with 20-25 cm (8-10inches) deep moist (not wet) sterilized substrate (sand, sand with soil, etc). Ensure soil can maintain a tunnel without collapsing.</p> <p>Semi-naturalistic approach: Take a gallon glass jar, fill it with 10 cm (4in) of substrate (same as above, best fine sand)</p> <p>Naturalistic approach: allow plant pots with living plants to be the laying opportunities for the females</p>
	Raising the Young	<p>Up to 3 months age (or until males start to show yellow crossbar), young can be kept together, then need to be separated and raised individually</p> <p>Food size should not exceed the length of the head</p> <p>Food amount should not be limited: feed ad libitum</p> <p>Offer natural plant hiding places</p> <p>High nighttime humidity with drying out during the day.</p>

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Incubation	Incubation Method	<p>Artificial approach: eggs are transferred to containers with special substrate (see below), filled in 2-4cm (1-2 inch) layer, eggs are positioned separately from each other in shallow holes so that 1/3 to 1/2 of the egg is above its surface</p> <p>Semi-naturalistic approach: eggs are kept where they have been laid in a group, water is added if necessary</p> <p>Naturalistic approach: eggs are kept where they have been laid in a group, the plant is watered as usual</p>
	Incubation Substrate	<p>Artificial: Vermiculite, Perlite</p> <p>Semi-natural: sterilized sand, soil, coconut soil</p> <p>Natural: soil in the plant pot</p>
	Incubation Temperatures	<p>Artificial approach: Eggs hatch if incubated at constant as well as variable temperatures ranging from 18 to 32°C (64 to 90°F), safest range from 23 to 28°C (73 to 82°F)</p> <p>Semi-naturalistic approach: keep the eggs at room temperatures</p> <p>Naturalistic approach: eggs are incubated temperatures oscillating daily and copying the natural cycle in the wild:</p> <p>2 months: daily oscillation between 23-26°C (73 - 43°F),</p> <p>1 month: the temperatures are slowly dropping</p> <p>2 months: daily oscillation between 15-18°C (59-64°F)</p> <p>1-2 month: the temperatures are slowly raising</p> <p>1 months: daily oscillation between 23-26°C (73 - 43°F), at the end sudden increase of humidity</p>
	Incubation Time	<p>Incubation time is dependent on the temperatures used, the lower the temperatures, the longer the time (6-16 months)</p> <p>6 months: daytime 32°C (90°F) with nighttime drop to 22-24°C (72-75°F)</p> <p>16 months: constant 20°C (68°F)</p>