

## THE CARE AND BREEDING OF JOHNSTON'S CHAMELEON, *CHAMAELEO JOHNSTONI*, IN CAPTIVITY

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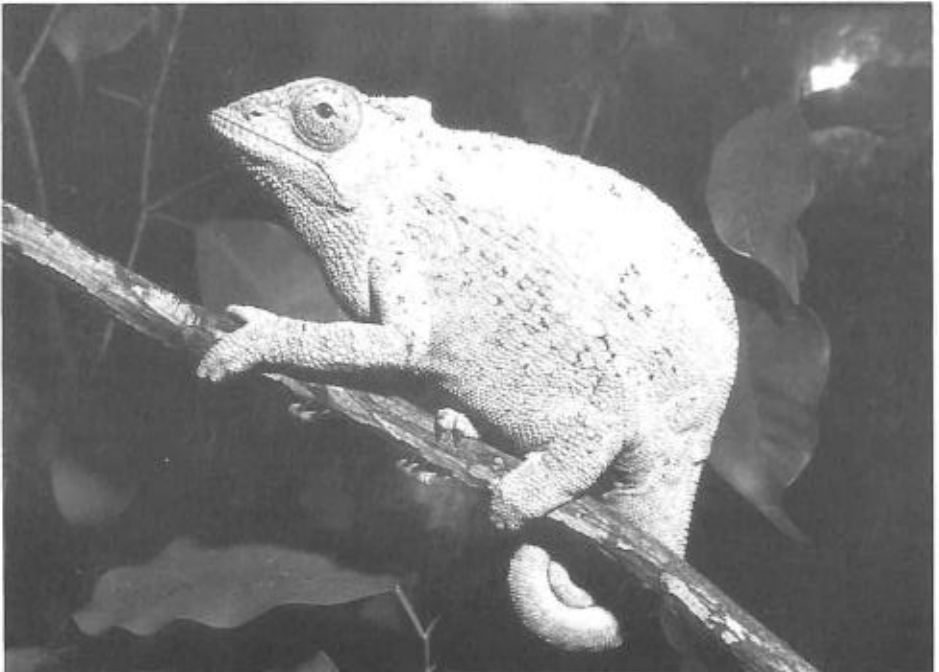
### INTRODUCTION

This species is found at high altitudes, 2000 ft to 7000 ft in the montane regions of central Africa (Witte G.De. 1965). It possesses large, muscular limbs and a very strong grip, reputedly necessary to combat high winds in its natural habitat. I have been informed that specimens currently being imported into Britain are collected from Burundi, at an altitude of approximately 6,500 ft (2,000 m), and are thus specimens from the cooler and higher altitude range of this species.

### DESCRIPTION

*Chamaeleo johnstoni* is an easily recognised species; the males possess three horns on their heads. Confusion often occurs between this species and *C. jacksoni*, however there are several distinguishing characters that easily differentiate the two. The dorsal crest in *C. johnstoni* is straight, whereas in *C. jacksoni* the dorsal is heavily serrated. *C. johnstoni* is the more colourful species, often showing vertical bands on the flanks in slate grey and yellow. Female *johnstoni* also show, to varying intensity, orange lips. An important point to consider is that few, if any, *jacksoni* exist in this country since Kenya, their country of origin, ceased exports some years ago. Any three horned chameleons offered for sale in this country are extremely unlikely to be *C. jacksoni*.

*C. johnstoni* is a medium sized chameleon, both sexes reaching 110mm snout to vent, with a 90mm tail.



Adult female *Chamaeleo johnstoni*

## ACCOMMODATION

I have housed this species in two quite different setups, both being successful. Gravid females are housed in a typical all glass vivarium, 120cms long x 40cms x 40cms. The floor is covered in a peat and leaf litter mix, which is piled up at one end to a depth of 20 cms, this providing a suitable laying area when covered with a few small branches. The rest of the vivarium is filled with branches, strategically placed to give various basking sites close to the heat and light source, some mention of which should be made. Heating is provided by an incandescent bulb, wattage adjusted to give the desired temperature. I also provide a source of ultra violet radiation, which I believe to be essential in captive lizards to enable them to produce their own vitamin D3. I use Actinic 09 tubes, 18" and 15 watts, situated vertically in the vivarium, allowing easy access for basking, and below any glass cover which would decrease the U.V. from the tube.

The other setup used was a planted 2.4 m x 1.8 m x 1.8 m (8' x 6' x 6') high greenhouse. The glass is covered with green-house shading, to avoid any excess over-heating, and the floor is of concrete flags. The plants are container bound for ease of moving. The best types of plant to use are the Buddleias and the Rhododendrons. Both these plant genera contain half hardy species suitable for the cold greenhouse that also provide colour and fragrance on their own.



Juvenile *C. johnstoni*

## ENVIRONMENTAL PARAMETERS

As has been previously mentioned, this species of chameleon is found in montane regions, and therefore requires a cooler temperature than one might expect. The specimens imported into Britain show signs of stress at a temperature of 85 deg F. Those specimens kept in the greenhouse show no ill effects at all with a night time temperature down to 45 deg F (7.2 deg C). Daytime temperatures should be around 75 deg F (23.9 deg C), with a drop of 10 deg F at night. A temperature difference of 5 deg F above or below this does no harm, however 80 deg F (26.7 deg C) should be a maximum. The humidity needs to be quite high with this species, around 75%. This means a daily spraying of the enclosure used, and drinking

water should be offered at this time, using a syringe, offering droplets to the chameleon's mouth. This is necessary as chameleons will not drink from standing water. One alternative is to use a water pump to create a simple waterfall, water being pumped from a reservoir to the top of a long piece of cork bark or slate. The water flows down this, and is "visible" to the chameleon which will drink at will. The water flows back into the reservoir for recirculation, but should be replaced with fresh water at regular intervals. The water used should be at the same temperature as the environment, so as not to chill the chameleon.

### FEEDING

Food consists in the main of crickets, dusted with a mineral/vitamin powder. These can be placed in a smooth sided bowl from which they cannot escape but which the chameleon can feed from at will. Other food items include flies, hatched from maggots obtained from fishing tackle shops, locusts, wax worms, mealworms, and even pink mice. All food items should be fed a nutritious diet themselves as this will ultimately be utilised by the chameleon.

### BREEDING

The gravid female searches out a nest site prior to laying, and suitable areas should be available in the vivarium. These consist of mounds of moist peat and leaf litter to a depth of at least 20 cms and in a secluded position within the vivarium, such as the corners. The female digs a pit the depth of her body and lays 2 or 3 eggs then moves up out of the pit a little and fills substrate around the eggs. This is repeated until the eggs are laid and the female then covers the tops of the eggs with substrate, leaving behind the eggs in a "tube", stacked on top of each other.

The eggs should be removed to be incubated in a controlled environment, taking care to mark the orientation of the eggs. They should be transferred to a suitably moist media; the best seems to be "vermiculite", but only covered with the media to 50% to allow inspection of the developing egg. The eggs are quite large in comparison to the size of the female, around 20mm diameter and only slightly oval. This large size results in a low number of eggs, usually 10 to 12, though they can number up to 20.

The incubation temperature for the eggs should be around 75 deg F (21 deg C). A little below this seems to do no harm, even to 65 deg F (18.3 deg C), but the temperature should not go above 75 deg F, as this has proved detrimental to the developing embryos.

The eggs are reported to take around 100 days incubation (Schmidt, W. et al 1989) however I have had eggs hatch 10 days earlier at 85 to 90 days, but the incubation temperature increased to 85 deg F in the latter quarter of incubation due to a fault on the temperature regulator. Some eggs did not hatch although they reached full term, and when opened revealed fully developed young. This is almost certainly due to the erroneously high incubation temperature.

The young are quite large at hatching, 30 mm snout to vent, 45 mm total. Rearing the young chameleons has so far been relatively easy and problem free given that the temperature regime indicated above for adult specimens is strictly adhered to.

Feeding presents no problems as the young will take house flies and fruit flies, even within 4 hrs of hatching! The young grow quickly, and are soon feeding on crickets and other larger items. They can reach adult size in as little as 12 months.

*Chamaeleo johnstoni* has proved a very interesting and spectacular species which can be successfully bred and raised in captivity.

### REFERENCES

- Schmidt, W., Tamm, K. & Wallikewitz, 1989. "Chameleons Drachen unser zeit" Terrarien bibliothek,  
Witte, G. De., 1965". "Les Chameleons de L'Afrique centrale" Mus. R.Afr.Cent.