The Green Tree Python (*Chondropython viridis*)

By
Hugh Blake

Webster's dictionary defines venomous as: "1. Full of venom: as a: poisonous, envenomed b. virulent, baneful c. spiteful, malignant..." Of all of these definitions, the only one that may be applied to the green tree python (*Chondropython viridis*) is the last one. While the green tree python is **not** a true venomous snake, its temperament may best be described as "venomous." Most green tree pythons are easily stressed and will not hesitate to inflict an essentially harmless but painful wound. The large triangular shaped head, with the bilineal rows of pits along both infralabials, ntribute to its "venomous" appearance.

The coloration of the green tree python changes from the usual yellow color with brown markings (occasionally red or brown with white markings) of juveniles to the green color with white markings of adults. This ontogenetic change from juvenile to adult coloration takes less than a year to occur. Some authorities believe this color change reflects a change between the microniches of young and adults. Some individuals also exhibit some blue stippling, while others rarely may be entirely blue (termed cyanomorphic).

Green tree pythons grow to only a moderate length. Maximum recorded size for a green tree python is just over 6 ft (2.0 meters) while a more common size for adults is 4 ft (1.3 meters). In both sexes, sexual maturity is reached at about 3 ft (1.0 meter) in length.

Similar in appearance to the green tree python is a snake native to South America, the emerald tree boa (*Corallus caninus*). Both snakes inhabit similar ecological niches, and at first glance they may appear identical. However, there are a number of differences between the two species. The emerald tree boa has the pits (thermoreceptors) situated along both the supralabials and the infralabials, whereas the green tree python has the pits along the infralabials and foremost supralabials only. Also, the morphology of the pits between these two species is different. In the emerald tree boa, they are located between the scales; whereas in the green tree python, they are situated within the scale. Another highly significant, but less obvious difference between the two snakes is that the emerald tree boa is live bearing and the green tree python is egg laying.

The maintenance of green tree pythons in captivity is similar to that of other medium-sized arboreal snakes. Being almost exclusively arboreal (the exception being females incubating eggs on the ground), they will do well if kept in a cage with plenty of vertical space. Branches placed at various heights will allow the snake both the opportunity to select a suitable perch and the opportunity to climb. Most green tree pythons prefer one perch, usually the highest, over any other, regardless of the availability of other perches.

Indigenous to the lowland and mountainous rainforests of Papua New Guinea and the Cape York Peninsula in Queensland, Australia, the green tree python is subject to two defined seasons in the wild. Throughout most of this region, summertime highs reach over 90° F (30° C), with lows of 70° F (21° C). Winter temperatures are about ten to fifteen degrees cooler. Correspondingly, relative humidity is higher in the warm season and lower in the cool season. Considering these fluctuations, green tree pythons in captivity should be given variations in temperature and humidity to simulate natural conditions. To provide a suitable, specific basking site of 90 to 95° F (32 to 35° C) during the cooler periods, it is advisable to use a heat source such as a floodlamp or heatlamp during the day with the beam aimed in towards a branch or other perching site.

If good drainage is a component of the enclosure, an excellent method to vary the humidity is with a garden sprinkler hose placed above the cage (use tepid water). For periods of low humidity, run the system only enough to provide water for the snakes to drink, about five minutes daily. During the wet season, run the system for a minimum of four hours daily. Of course, be sure there is a place for the runoff to flow into to prevent damaging the surrounding area in which they are kept. A less preferable method is to spray the snakes with an atomizing spray bottle of water. This is more time consuming and labor intensive than the garden hose method, but is an acceptable alternative.

A common problem with green tree pythons in captivity is that some individuals have difficulty shedding the ocular scale. Check to see that both oculars have been shed. If they have not, they may need to removed manually after being moistened with water, using a pair of forceps.

Because of the slow metabolism of green tree pythons, most specimens will only need to be fed small food items as infrequently as two to three times a month. Most larger specimens will accept subadult rats, mice or baby chicks fed freshly killed at the end of a pair of forceps, while juveniles will do well on small mice or pinkies. Newly hatched specimens may only accept lizards or frogs, but they can be switched over to pinkies fairly easily by scenting (see *The Vivarium*, Vol. 2, Number 3).

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Reproduction of green tree pythons occurs only in a minority of collections in captivity. Once a successful breeding occurs, it usually becomes easier to induce successive breedings. One of the prerequisites to a successful breeding program is to be sure all specimens have been accurately sexed. Checking the size of the spurs near the edge of the cloaca is a quick method of determining sexes, as those of males are significantly larger than those of females. To be absolutely certain, probing may be required. In female green tree pythons, the probe will penetrate to the second or third subcaudal while in males the probe will penetrate down to the seventh subcaudal. Be wary of using commercial lubricants on the probes as many of them are spermicidal. An alternative to commercial lubricants is ordinary tap water. Disinfect and then rinse probes between use.

Some pairs of green tree pythons will be reproductively inactive with each other. This may be due to incompatibility, the female not cycling, or to captive stagnancy. Captive stagnancy is a state in which the animal, having been in captivity for a long period of time with few stimuli, becomes listless with little interest in any other activity but eating.

For best breeding results, bring the ambient temperature down to 60 to 65° F (15 - 20° C) for a period of eight to twelve weeks. During this time, also lower the humidity level. Then, after several weeks of low temperature, humidity, and solitude, increase the humidity to 80% +, and introduce the male into the female's enclosure. Although several females may be housed together, caution must be used when placing more than one male into an enclosure, because male green tree pythons are territorial and may fight amongst themselves. If more than one male is used to promote reproductive behavior, they should be watched at all times. The beta male may need to be removed. Mating typically takes place at night, as green tree pythons are predominantly nocturnal. Also, as they may mate several times over a period of a few weeks, don't remove the male after the initial mating. Most captive breedings of green tree pythons that have taken place in the northern hemisphere have been between June and November. Vigorous courtship has most routinely been observed immediately after the female has shed.

If the female green tree python swells, showing signs of egg development, you will need to set up an incubator in which to place the eggs after ovoposition. The time between copulation and oviposition is typically between 70 and 79 days (the possibility of sperm storage would lengthen this period). If the female actively attempts to incubate the clutch of eggs, which can number from 12 to 26, she should only be allowed to do so provided that adequate humidity levels of 90% or more can be met. In such a case, a hide box containing damp spagnum moss should be provided as a nesting site. The female will be more interested in using the nest box if it is placed several feet off the ground in a secure place. If you decide to artificially incubate the eggs, they may be put in a plastic shoebox containing damp vermiculite with a water to vermiculite ratio of 1:1 by weight. As the eggs will likely adhere to each other, the bottom layer of eggs should be halfway buried in the vermiculite. Studies have shown that turtle eggs transfer water between them, and because the top layers of adherent snake egg clutches seldom dessicate, they may also exchange water. Eggs should be incubated at an ambient temperature of 88 to 90° F (30-32° C). Average duration of incubation is 55 to 65 days. *Hugh Blake, Houston Zoological Gardens, Section of Herpetology, 1513 North MacGregor, Houston, TX 77030.*

Editor's Note: *It is advisable to wear plastic eye goggles when working with green tree pythons as these arboreal snakes have a surprising long strike range.*

References

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our body of knowledge increases. Herpetoculture is still in its infancy and becoming an increasingly sophisticated field. Our goal is responsible herpetoculture which takes into consideration both public welfare and animal welfare. We foresee radical changes in the field in the not too distant future: growth followed by transformation.

The animals around the circle were meant to represent different herpetocultural efforts. The red-eye tree frog was selected to represent the anurans. At one level this species was chosen because it symbolizes our ineffectiveness in anuran breeding. When red-eye tree frogs were available at cheap prices nobody made concerned efforts to breed this species and today it is virtually unobtainable. We may have a second chance, but our knowledge of multigeneration breeding of amphibians is pitiful. Amphibian species are declining in numbers, and we are unwilling to put in the effort to acquire the body of knowledge to prevent this. Amphibians are labor intensive in their herpetoculture and have had limited appeal in part because they cannot be maintained as easily as colubrid snakes. Our lack of endeavor in the herpetoculture of amphibians may be our greatest failure. This is an area where considerably more effort needs to be put before it is too late.

The tiger salamander *(Ambystoma tigrinum)* was selected to represent the salamanders. Even less work is being done with salamanders than with anurans. Let's call the tiger salamander a reminder that this successful group of animals does exist.

A Jackson's chameleon *(Chamaeleo jacksonii)* was chosen to symbolize lizard herpetoculture, full of challenges, still in its infancy but in recent years having made tremendous progress. We are now beginning to have success with lizards such as the true chameleons which for years seemed like a group that we could not keep in captivity much less breed them. The number of lizard species now bred in captivity increases every year, and the entire field is in a very alive, dynamic and exciting state. Just think, we now have an International Gecko Society, a Monitor Information Newsletter and an International Iguana Society.

So we now have an official AFH T-Shirt. If someone asks you what it means, we've given you some ideas. Maybe you'll find

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