Eunectes murinus (Green Anaconda or Huille)

Family: Boidae (Boas and Pythons)
Order: Squamata (Lizards and Snakes)
Class: Reptilia (Reptiles)

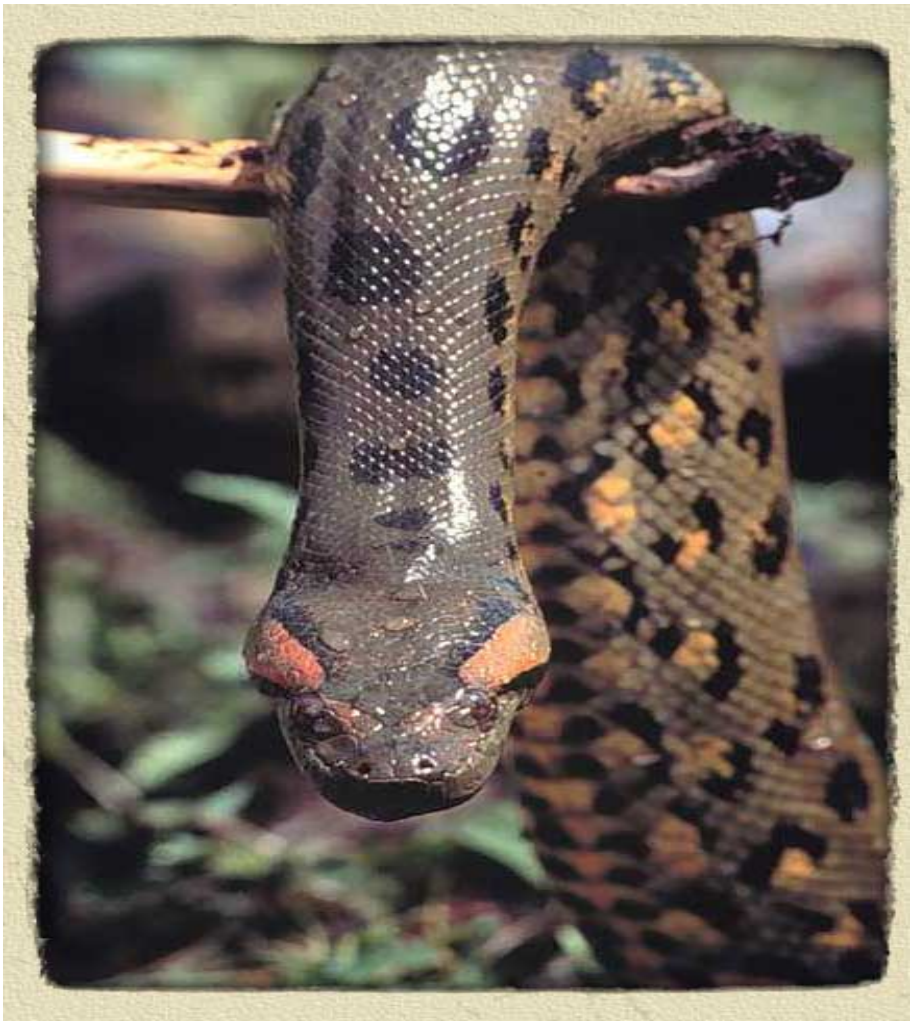

Fig. 1. Green anaconda, *Eunectes murinus.*

[http://realityismyreligion.wordpress.com/2010/02/18/reptile-of-the-day-eunectes-murinus-the-green-anaconda/ downloaded 15 November 2011]

TRAITS. *Eunectes murinus* is commonly known as the green anaconda due to the fact that it is green in colour. It can grow to a length of over 32 feet for females and a weight of over 550 pounds. The males can grow to about 20 feet and have a weight of 235 pounds. Hence it known to be the heaviest snake in the world and one of the largest snakes (Pinney 1991). The green anaconda is nocturnal and aquatic. They have a low metabolic rate that allows them to survive without food for a very long time (Murphy 1997). Sometimes it is called the “Water Boa” since

among all the boas, it is the most aquatic. The green anaconda appears to be sluggish on land because it is very large in size (Pope 1969). This species of snake is not poisonous and is therefore a constrictor, that is, it kills its prey by tightly coiling around it and thereby suffocating it to death (Fig. 2). Around the green anaconda's mouth the skin is very thick so they are able to stretch around their prey's body. Their teeth are extremely sharp and make up more than one hundred. Towards the back of their throat their teeth are curved (Fig. 3) (Murphy 1997). Along its skin are black oval spots as well as black spots with yellow ochre centres (Fig 1.). The nostrils and the eyes of the *Eunectes murinus* are located on top of its head. This structure and location of the eyes allows the snake to be able to see and breathe even while swimming in the water. Its body is very muscular and is covered with scales. It has spurs, small claw-like appendages located on either side of the cloaca (which is the cavity from which excretory products areemitted) (Kemper 1996). The cloaca does not have scales but a foul scent can be emitted from it which is noxious to small organisms (Coborn 1980). Although the the vision of the green ananconda is slighter undeveloped, they are able to detect the heat of warm-blooded animals due to pits located on their lips which is very useful to them in the night (Place et al 2006). Also due to their sensitivity of their skin they are able to detect vibrations and sounds in the water through the ground (Pinney 1991). The female green anacondas are much larger than the males and hence the most perfect example of sexual dimorphism in the animal kingdom, that is difference between males and females phenotypically in the same species. Its sexual dimorphism is the largest among all snakes (Rivas and Burghardt 2001).

ECOLOGY. The green anaconda can be found in the Amazon basin as well as in South America that is, mostly in places with wetlands and rivers. They can also be found in countries such as Venezuela, Colombia, Suriname, Brazil, Peru, Bolivia, Ecuador, French Guiana and also the island of Trinidad (Murphy 1997). *Eunectes murinus* is usually found near the water's edge or submerged in the water. The snake is therefore aquatic (Rivas 2001). They can hunt on land as well. These snakes prefer still, dark, murky water because it allows them to be able to camouflage themselves (Thorbjarnarson 1995). Hence, they live in low altitudes. They can also be found below the undercut banks in shallow caves. Sometimes the green anaconda lay in shallow waters or bask in the sun near trees (Pope 1969).

ACTIVITY. The green anaconda is nocturnal and aquatic. It moves slow and sluggish on land due to its extremely large size. However, it is very quick and speedy in the water and on the surface of the water. Since, the eyes of the green anaconda is located on top of its head, the snake can wait in the water and extend its snout above the surface which allows them to be invisible to the other animals but also able to see their prey. Hence, when a prey approaches the green anaconda can grabs it and suffocate it by coiling around it and constricting it (Murphy 1997). Sometimes the green anaconda hangs in trees and hence can attack its prey from above by coiling around it. *Eunectes murinus* can prey on almost any animal. Some animals which they prey on are caimans, birds, mammals, tapir, deer and even jaguars. They can even swallow their victims whole even if it weighs more than them. The anaconda is very docile after a meal and hence takes a long time to digest its food (Murphy 1997).

DIET & FEEDING HABITS. Green anacondas are carnivorous and can eat any vertebrate. Some vertebrates that fall prey to green anacondas are fish, amphibians, mammals like the capybara and sometimes other snakes. The smaller snakes are able to attack birds by raiding their nest whilst the larger anacondas attack deer, caiman and peccaries. They can also attack humans, however, no deaths have ever been recorded (Rivas 2001). Since green anacondas are constrictors they coil their prey using muscular bodies. Their body is very flexible due to the, numerous short vertebrae along their spine. They squeeze their prey tight enough to suffocate and crush their bones. They use their jaws which allows them to swallow their prey whole since it attached by stretchy ligaments (Murphy 1997). As they swallow, their muscles contract and the victim is compressed with each move forward. The green anaconda is also known for killing its prey by drowning them below the water (Thorbjarnarson 1995). Since *Eunectes murinus* takes very long to digest their food, that is days to weeks, they are able to go without food for weeks or months after having a big meal (Murphy 1997). The green anaconda is capable of surviving cold spells and droughts due to natural selection (Murphy 1997).

COMMUNICATION. The communication of the green anaconda is made up of two types, that is, communication to attract a mate and communication to predate. The female *Eunectes murinus* is much larger than the male and hence she emits high scented pheromones when she is ready to mate to attract the male. The males can smell the pheromones from a great distance by using their tongue and licking the air. They also use what is called, the Jacobson's organ which is found on the roof of the anaconda's mouth. It is a specialized structure that helps the snake to sense every small detail of its surroundings. The female pheromones can also be left out on the forest floor as a trail for males to follow (Rivas et Burghardt 2001). Whilst the female use pheromones to communicate, the male use tactile communication in order to be the suited mate for the female. The male anaconda communicates by rubbing his cloacal spurs and chins along the females back. The male does this so as to "fool" the female so that she will choose him to mate with (Rivas et Burghardt 2001). Another form of communication by green anacondas is defensive communication. Animals prey on young anacondas that are vulnerable and share the same environment with them. Since anacondas are constrictors, and hence not poisonous, they lack bright warning colours to defend themselves from predators. Hence, anacondas use another method to deter their predators. They tightly curl up in a ball and loudly hiss with their mouths open wide. Since anacondas have big lungs, their hisses are loud and deep pitched. This allows them to escape their predators who become intimidated (Campbell 2011).

SEXUAL BEHAVIOUR. *Eunectes murinus* reproduces sexually. They have internal fertilization. The green anaconda remains solitary until the mating season which is the period of April to May, that is, the rainy season. Courtship last for many months. During mating the male has to find the female. He does this by following a pheromone trail which is laid down by the female. Another way in which the female attracts the male is by emitting chemical signals into the air. The males then pick up the chemical signals by constantly licking the air. This allows the males to find the female. Several males find the female at once and form what is known as a "breeding ball"(Fig 4). A "breeding ball" can contain up to 12 males, all to one female (Thorbjarnason 2005). The group of snakes that is the one female and many males, stay together in this "breeding ball" between 2 weeks to one month. Within this time the males contest against each other slowly in an attempt to prove that they are the most fit mate for the female (Campbell 2011). The males try to insert the female's cloaca using their hemipenes which are their

copulatory organs. They also stimulate the female using their hind limbs, as clawed spurs when mating (Rivas 2001). The female however, has the final decision in who she mates with. The male who succeeds in mating with the female will prevent other males from being able to fertilize the female by leaving in a waxy plug in her cloaca. Once pregnant, the female is unable to feed during the gestational period (Murphy 1997).

REPRODUCTION. The green anaconda is often described as ovoviviparous which means that it is able to produce eggs but does not lay them. The eggs of the green anaconda are hatched inside the female. The female green anaconda bask in the sun when present in a dry habitat to allow her body temperature to rise which help speed the embryonic growth process. This ensures that the embryo develops properly inside the female. The gestation period is about six months to seven months and a female *Eunectes murinus* can produce up to 100 neomates (Pinney 1991). The litter size range from 20-40 babies. They are a length of 2.2 – 2.6 feet long. The neomates are not cared for by its parents and therefore most are preyed upon before the age of maturity. They are sexually mature within the first 4 years of life.

REFERENCES

Campbell (2011). Anancondas and Communication http://www.ehow.com/info_8369301_anacondas-communication.html downloaded 16 November 2011.

Coburn, K (1980). The Atlas of Snakes of the World. T.F.H Publications Inc, New Jersey

Kemper, S. 1996. “If it moves, grab it, but try not to get the end that bites.” Smithsonian. 27: 42-6.

Murphy, J. C. 1997. ”Tales of Giant Snakes: A Historical Natural History of Anacondas and Pythons.” Malabar, Fl.: Krieger Publishing Company

Pinney, R.1991. The Snake Book. New York: Doubleday Company, Inc.1981.

Place, A. J. and Abramson, C. I. 2006. “An Inquiry-Based Exercise for Demonstrating Prey Preferences in Snakes” The American Biology Teacher. Washington:Vol. 68, Iss. 4; pg. 221.

Pope, C. H. 1969.” The Giant Snakes.” Alfred A. Knopf, New York

Rivas, J.A (2001). “Feasibility and efficiency of transmitter force-feeding in studying the reproductive biology of large snakes.” Heerpetological Natural History.8.93-95

Rivas, J.A. and Burghardt, G.M. (2001) “Sexual Size Dimorphism in Snakes.” Animal Behavior.62 : F1-F6.

Thorbjarnarson, J. 1995 “Trailing the Mythical Anaconda.” Americas 47.4 :38

Author: Raeesah Sahibdeen

Posted online: 2011

Fig. 2. Green anaconda, *Eunectes murinus* suffocating its prey in the water.

[http://2.bp.blogspot.com/_Qe1wgxDiEdU/TDiOenTdtTI/AAAAAAAAAA-k/OkkkaxEGHL0/s1600/2anaconda.jpg downloaded 15 November 2011]

Fig. 3. The curved back teeth and extremely sharp teeth of the *Eunectes murinus.*

[http://realityismyreligion.wordpress.com/2010/02/18/reptile-of-the-day-eunectes-murinus-the-green-anaconda/ downloaded 15 November 2011]

Fig. 4. One female green anaconda and many males forming a “breeding ball” in the act of copulation.

[http://www.vertebratejournal.org/429/zoology/herpetology-2/mighty-constrictor-of-the-amazon-the-green-anaconda/, downloaded 15 November 2011]