OBSERVATIONS OF NATURAL HISTORY OF THE GREEN ANACONDA (***Eunectes murinus*** Linnaeus, 1758) IN THE VENEZUELAN LLANOS. AN ECOTOURISTIC PERSPECTIVE

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AndígenA

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AndígenA means “born in the Andes” and it reflects the origin of this organization: an initiative of a group of young professionals and naturalists concerned by the lack of effective conservation programs in the Andean Region of Venezuela.

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INTRODUCTION

During the past seven and twelve years (each of the authors, respectively), the both of us have been accumulating data on natural history of the Green Anaconda (*Eunectes murinus*) in the Venezuelan Llanos. We are both wildlife guides leading tours to this magnificent scenario called Los Llanos (flat lands).

Los Llanos is an extensive region of Venezuela and Colombia, consisting in savannas north of the Orinoco river, flowed by some of the most impressive rivers of South America, which flood half of the year the plains.

The landscape is mainly grassland with scattered trees and palms (more forested to the northwest, called then *Llanos altos*), but also gallery dry forest along rivers, many lagoons and palms forests (morichales). We base our activity in the small village of San Vicente, in the shore of the Apure river (Fig 1), although both have had experiences in other parts as well.

"It is of unsightly body, of the size of a pine beam with bark and everything. It can be as long as eight varas (6.4 m; each vara is 0.8 m). Only to see it gives remarkable frightness. The one that knows the reach of their pestilent breath puts on in flight. In the event of feeling a noise, the snake lifts the head one or two varas and shot against tiger, lion, veal, deer or man. From their mouth it throws a breath that stops, rushes it stuns and turns immobile the animal that was poisoned. It attracts it bringing until inside their mouth and swallows it.

I said that it swallows it because it doesn't have teeth. It spends whole days in gobbling the prey; and it has the capacity to open their mouth a lot…"

Father José Gumilla. El Orinoco Ilustrado. 1741.

Anaconda (*Eunectes murinus*) by Wied-Neuwied, 1822

LOOKING FOR ANACONDAS

Our proposal to the groups is to go to the field searching for the typical fauna of that zone, like capybaras, giant anteaters, giant Amazon otters, pink river dolphins, hundreds of species of birds (raptors, egrets, herons, screamers, terns, skimmers, parrots, toucans, woodpeckers, ducks, storks, etc.), piranhas, spectacled caimans, green iguanas, mata-mata turtles, and of course, the indisputable star of the place, the giant serpent, the green Anaconda. A tour in dry season never is complete if we cannot find at least one of these snakes.

Among the stunning wildlife of the area and the impressive landscape, Anacondas are surely the most expected animal by foreign visitors that are always intrigued by the presence of this famous snake in the region. The reaction of tourists in front of one of the most impressive serpents in the world, if not the most, is always subject of study. From interested and impressed people to the most scared faces we ever have seen. But much more interesting subject of study is the proper animal, starring of myriads of stories in Los Llanos and the Amazon. The myth, the fantasy and the scientific reality, the natural history, the interaction with humans, the Anaconda mythology within the local culture (indigenous people and European descendants) and the economical importance based on tourism will be treated in the present work.

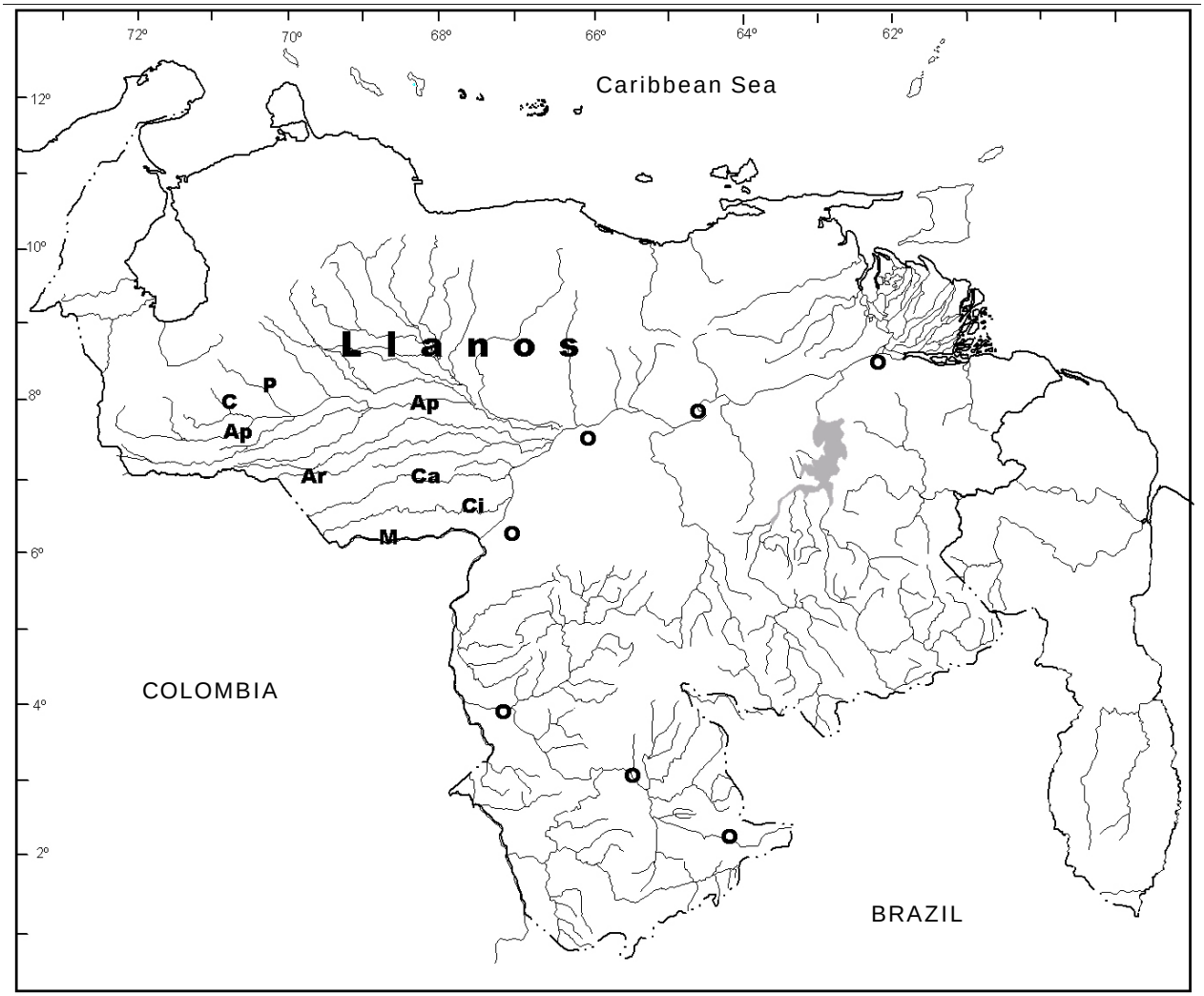


Fig 1. Hydrographic map of Venezuela, showing the situation of Los LLanos, and with the main rivers mentioned in the text. Ap: Apure; Ar: Arauca; C: Canaguá; Ca: Capanaparo; Ci: Cinaruco; M: Meta; O: Orinoco; P: Pagüey.

THE BOIDAE FAMILY

This family of snakes includes some of the most beautiful, better known and most famous of all snakes species. The colourful Rainbow Boa (*Epicrates cenchria*), the elegant Emerald Boa (*Corallus caninus*), the slender tree boa (*Corallus rushenbergerii*), the Red-tailed Boa (*Boa constrictor*) and the impressive Green Anaconda (*Eunectes murinus*) are all members of the Boidae family that includes non-poisonous snakes. All boas (subfamily Boinae) are known for killing their prey by constriction and suffocation. The subfamily is well distributed in America (where pythons are absent) from southern USA to the lowlands of Bolivia, and northern Argentina. Real Boas are also present in Madagascar and Polynesia. On the other hand, the other family branch (subfamily pythoninae) is covered by pythons, much more speciose, and distributed through the Old World, from Africa to southeast Asia, Malaysia and Australasia. Boas are a complex family of snakes comprising terrestrial, aquatic, digging and arboreal species with a wide variety of prey. All boas are ovoviviparous, while pythons are oviparous. In almost all the cases boas are nocturnal, but some New World species could be perfectly diurnal and nocturnal like Boa constrictor and the famous Anaconda which can be active and hunting during the day as well as during the night.

***Corallus hortulanus*, the Amazon tree boa. CLBA.**

***Epicrates cenchria*, the rainbow boa. CLBA.**

ANACONDA: THE ANIMAL

Eunectes murinus is its scientific name; anaconda, serpiente de agua, culebra de agua, caribita, madre de agua, güio, petaca, matatoro, sucurí, yacu mama, camudi, and by many more names is known through its wide distributional range, from Trinidad and Venezuela to Bolivia. The species is the biggest among anacondas, and the heaviest serpent in the world, surpassing other giants like the reticulated python in weight, which can reach 200 kg (227 kg is the record taken from the Guinnes World Records Book 2004).

Huge female anaconda of 5.6 m. CLBA.

Female Anaconda of 3.4 m. CLBA.

Length: Never has been a consensus about which one, the Asian or the American, is the longest of both. Always the maximum size of the Anaconda has been matter of rumors and hypothesis. While is accepted that they can reach 8.3 m (Murphy 1997), a documented voucher bigger that this is lacking (again, the Guinnes World Records Book 2004 offers a total length of 8.45 m, but with no reference of the source).

It is common to find people (especially in los LLanos) talking about anacondas of dozens of meters, and like happens to the fishermen, it is a topic where everybody fascinates to exaggerate the sizes. A skin that is said has 12 meters, when being measured with accuracy it throwed a result of 6 m; in that case, the most surprised was the owner of the skin, who assured that it measured 12, and he was so disappointed when checking how that was not the way (case in Murphy & Henderson 1997). Many of the historical cases (reported in Murphy & Henderson 1997) played by scientists, reporting animals until of 14 m, and even 50 to 60 feet long, failed in not having been able to measure the snake more than subjectively. The most prominent case is that of Emmet Dunn, important herpetologist who lived in Colombia, believing the report of an oil geologist who measured seemingly in a correct way an anaconda captured in the río Meta, of 11.5 m (35.5 feet). In any case, the Zoological Society of New York is still offering a price of 50000$ for an anaconda bigger than 30 feet! Only females can reach the biggest size; largest males do not surpass 4 m (pers. obs.). see more cases on confusion regarding size under “Reproduction”.

Another topic to highlight is that of the anaconda skins that people report immense, as that of 29 feet (Robertson 1998), or those reported in Murphy & Henderson (1997). Is necessary to keep in mind that a snake skin, once separated from the flesh, salted and stretched, can show itself until 30% of its original length, this way giving the impression that the snake was a lot bigger than it that in fact was.

Anaconda of 6 m. RM.

Note the orange and the blanc postocular stripes. CLBA.

Coloration: The common coloration is olive greenish on the dorsum, with round black spots, and yellow ocelli surrounded by black on the flanks; the belly is yellow with black checkering; one red and black stripes on each side of the face immediately behind the eye is an important feature to distinguish between anaconda species.

The most common dorsal color is olive brown with black round spots. CLBA.

Other Anaconda species: Only two more anacondas are known, being both of them very similar, but much smaller. *Eunectes notaeus* Cope, the Yellow Anaconda, is smaller (up to four meters) and lives in the Paraguay-Paraná rivers basin (northern Argentina, Paraguay, Bolivia, southwestern Brazil). *E. deschaunseei* Dunn et Conant, the Brazilian Anaconda, also small (up to 2.5 m) is known from the mouth of the Amazon to French Guiana, being there sympatric with *E. murinus*. Recently another species of anaconda from Bolivia has been described as *E. beniensis* (Dirksen 2002; Dirksen & Böhme, 2005), also of small size (maximum 4 m), and characteristic coloration. Another name applied to an anaconda, *E. barbouri*, was proven to be synonym of *E. murinus* by Strimple et al (1997) and Dirksen & Böhme (1998). Anacondas are aquatic snakes, and always are found in or close to the water (but see "habitat" below). In Los Llanos, is difficult to be far away from the water, as everywhere are lagoons, swamps and rivers. Our observations are based mostly in the Apure river and some smaller tributaries, like the Pagüey and Canaguá rivers (see map). The behavior of anacondas in rivers has been never documented. The available, scattered information, (like Strimple 1993; Rivas 1998), comes from marshy areas which become muddy swamps in dry season, where is easier to mark and follow them afterwards. Until the long awaited PhD Thesis of Jesus Rivas will be published, a good overview on the species is that by Strimple (1993).

The population observed in this work is distributed along the Río Apure and some tributaries. CLBA.

TAXONOMY

For a long time, the northern Green Anaconda has been known as *Eunectes murinus gigas* (Latreille), the biggest of all anacondas. The differences pointed out in the description are a lighter postocular region, and slight differences in meristics. As Dirksen & Böhme (1998) suggest, this color form is widespread among *E. murinus*, and scalation show no important differences with the nominal form. Thus, the Green anaconda becomes a full species, as *Eunectes murinus* (Linnaeus, 1758), without any recognized subspecies.

Female Anaconda of 5.6 m at the shore of río Apure. CLBA.

HABITAT

Anacondas are aquatic snakes. They like to be with all its body under water, only with eyes and nares over the water line. If they bask under the sun, usually is at no more than one meter from water. All their activities are in and on the water. Anacondas living in rivers have a continuous water access, while those living in swamps take the risk of drying itself along with the swamp in dry season. Some times they can remain burrowed for months in mud until the swamp is still filled with new water. But we saw some dead anacondas in dried swamps far from current water.

It is quite common to see coiled anacondas basking under the sun, on river shores; or even protected in shadow. They like also to look for refuge in burrows and natural holes, where they are easy to find in extreme dry season, along rivers.

During the wet season, they spread through the flooded savannas, and are almost impossible to find.

Anaconda watching from its refuge on the bank of the river. AH.

Resting during the day. Photo: Arassari Trek.

Anacondas are not arboreal serpents. But in some occasions, we found a few resting on trees, as high as 4 m. They of course are never heavy females, but can be subadult females or adult males .

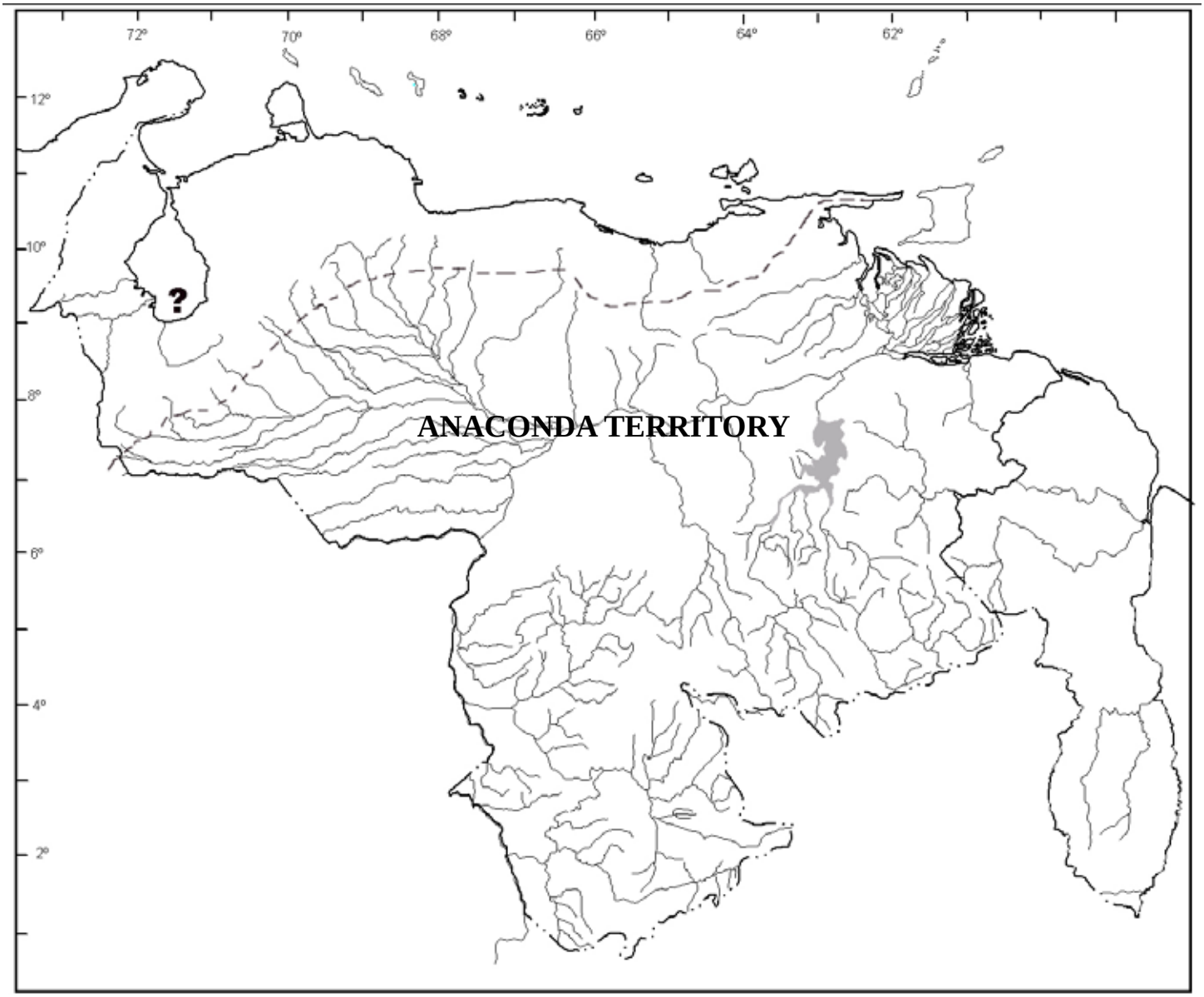
Anaconda resting at daytime on a tree. RM.

Active at night, slithering on a shrub. CLBA.

Another anaconda active at night on a log in the río Pagüey. CLBA.

DISTRIBUTION

The Green Anaconda has a continuous distribution from northeastern Venezuela and Trinidad to Bolivia, through the Orinoco and Amazon basins. It is currently unknown west of the Andes (but see below). In Venezuela, it is found through lowlands of states Sucre, Monagas, Anzoátegui, Bolívar, Amazonas, Apure, Barinas, Guárico, Cojedes, Portuguesa, and probably the southern part of states Aragua and Carabobo.



South of the line is the territory of the anaconda in Venezuela. Very especially in the Llanos of the Orinoco river, where is more abundant, but also through the Amazonian and Guayanan rainforests, and less abundant, along the proper swamps in the Gran Sabana.

The question mark shows the possibility of its presence on the southern part of the Maracaibo lake (see below)

The Maracaibo Lake incognita

The presence of anacondas in the Maracaibo lake have been not confirmed. Some investigation made by the senior author with others (Gilson Rivas, Tito Barros, Fernando Rojas) through many localities on that lake indicates that many people know a “Madre de Agua”, living in deep pools of rivers and lagoons. They fear the animal, but respect it because is believed that these giants keep and protect the waters of the rivers. Two guides working with us at the same tour operator in Mérida city (Arassari Trek), Camilo Trujillo and Jesús de Orión, affirm to have seen anacondas squashed on the road. They lead wildlife tours to los llanos, so they known perfectly anacondas, even not being herpetologists. But no vouchers exist, and so far, we must reject its presence there until some animal or picture can confirm that.

Two individuals trying to pass unnoticed during the day. Photos: above CLBA; below: RM.

NATURAL HISTORY

One of the most attractive issues about large serpents is about their feeding habits. What can eat a huge snake? First of all, is necessary to clarify that the anaconda is a constrictor snake, of the same family of boas and pythons, and they are not poisonous. The manner to kill their preys is by constriction, which means that they await for hours, sometimes days or weeks, hidden under the water, with only their nostrils and eyes out, and then, when a prey comes close, they attack suddenly with a demonic speed within a short distance to catch it, and immediately will round its rings around the animal till it exhale its last breath, due to asphyxia.

Juvenile anaconda killing a small caiman. Note the recent wounds, although not due to the samle caiman. AH.

Below, with a loricarid fish. AH.

Prey items are depending its size. Juveniles prey on small mammals, frogs, big invertebrata, and while they are growing, the preys grow respectively. A giant female of 6 meters, can swallow a capybara or a huge pig. And although stories abound about anacondas swallowing caws and bulls, there is not any documented reference in Venezuela.

ENEMIES

Anacondas are believed to be in the top of the feeding pyramid. But they have a lot of enemies. Especially when they are young, are eaten by many birds (storks, raptors, herons, etc.), spectacled caimans, ocelots, and a wide sort of carnivorous mammals. One of the most striking features in many anacondas of all sizes is the quantity of wounds, old or recent, they show. Many are made by piranhas (*Serrasalmus* or *Pygocentron*), which apparently bite and release the animal, leaving a nasty wound (PICS). Other are by spectacled caimans, a powerful prey, who can offer good fights.

Right and below, two examples of piraña bites.

Below right: three healed piraña bites. Fotos: CLBA.

Surprisingly, the anacondas heel well, and most show old scars with the form of a half moon or a complete circle due to piranhas, or parallel lineal wounds due to caimans. Some others can die of such bites (see pics). Anacondas can also be cannibals. Rivas and Owens (2000) show three cases, two of them being females eating smaller males at the end of the breeding season.

They speculate that females could eat males immediately after mating, as probably they do not eat anything during pregnancy. Matter of legend and Hollywood minds, is a fight between a giant anaconda and a jaguar. I don't believe any jaguar so stupid to attack a giant serpent, but smaller specimens can be easy preys of experienced big cats.

Juvenile anaconda, with a healing wound, probable due to a piranha. CLBA.

This animal has lost its eye. CLBA.

Squashed on the road. Unfortunately a frequent sight in los Llanos. CLBA.

But of course, the main enemy of anacondas is the human. As almost all snakes encountered, they are systematically killed by persons. We see them squashed on the road (knowing that cars never will stop to safe one), killed by *campesinos* when working on the field, and even we saw a fisherman burning with fuel a complete roll of breeding anacondas (too late to do anything!). This is changing at least in areas with a strong touristic presence, but it is an atavist sentiment in almost all judeo-christian cultures.

Do anacondas attack humans?

As any animal in the world, anacondas do not like to be bothered by annoying guides who want to show them to tourists… So, anacondas will defend themselves energically… biting nastily and literally shiting when handled. A bite is not venomous, and depend to the size, can be like a cat scratch or like a Rottweiller bite; furthermore, due to its aquatic life, the mouth contains bacteria that can infect the wound. In some cases, anacondas leave some teeth in a bite, and the teeth can be encysted, resulting in a sudden apparition of an anaconda tooth months after when less one can think about…

An anaconda bite can be very dramatic (right) but without consequences (below). The wound was not even infected. Other cases can be much more serious. CLBA.

Anacondas of more than five meters can cause severe injuries, and the long teeth can reach the bones on a hand, for example. An infected bite can also result in a serious perchance, involving hospital care. Many times we have been treated serious injuries with points.

A few cases reported in literature are about attempts of anaconda attacks. One is in Murphy (1997), involving a young girl caught through its bathe suit, and saved by her sisters. The size of the anaconda is not mentioned. Rivas (1998) commented about two attacks to his helpers during field surveys in the swamps of an Hato (Cattle Ranch). One of the anacondas measured 5.04 m, while the other 4.45 m. Rivas (op. cit.) believe that both attacks were predatory attempts.

Big anacondas can watch their preys submerged in water, with only the head out, to strike in the right moment with an unsuspected speed. CLBA.

But, can an anaconda swallow a human being? Potentially, an anaconda of six or more meters could swallow easily a small human being like a child, or a little adult, but massive animals of eight meters could swallow any adult human shape. For that, the person should be completely slept or drunk, and the animal would begin the hunting smelling through its tongue the immobile human, capturing the head with its mouth, rolling the rings in a few seconds, and strangling the unfortunate victim during some time, until it becomes a formless mass. Then, it would start to swallow the person, as it would do with any other prey of similar size. For that, the animal should need at least some hours. The digestion could take some weeks or even months.

Sensational histories of anacondas attacking humans have been referred in popular literature for centuries, although few have slips of reality. Again it is necessary to refer to the book by Murphy & Henderson (1997) to enjoy some of these epic and not very realistic readings.

Fortunately, no report like that exists from Venezuela, although many rumors of missing persons attributed to anacondas can be heard especially talking with local llaneros.

REPRODUCCTION

Other legends around anacondas are those about its size… No one llanero will admit that anacondas can only reach 8, perhaps 9 m. All of them have seen at least once in their lives anacondas of 15, 20 or even 40 m. And it is impossible to discuss about that! They are right, and you are a “gringo” who does not know anything!

Once, one *llanero* came quickly to us, and said that he saw a huge anaconda of at least 20 m, and that he knew where it was. So, we run there… And after some hours in the swamps, we really saw an amazing roll of anaconda… probably 20 m long… yes, but not one, 14 anacondas!!!!!!, 13 males around one huge female…

The famous anaconda breeding rolls can be found during the dry season in swamps (above): RM; or at the river shore (below): CLBA.

Anaconda rolls are without doubt the origin of the mythological size of these animals. CLBA.

This is the way how anacondas mate. In dry season, large female anacondas liberate pheromones that attract males from kilometers around. One found the female and stay days (or even weeks) rolled on her. As the time does not matter, many other males are attracted as well, and then, many males at last will be around the same female. This orgy is a calmed fight between males (they are not aggressive among them), all of them trying to introduce one of the hemipenis into the female's cloaca. They do not attack the others, just are patient, and perhaps, after some weeks, all of them have mated with her. Once the males finish the mate, one by one they release the female and go away. The female, thus, retain the sperm from many males, and the offspring can be of mixed origin

It is possible to distinguish between sexes when observing the claws beside the anal opening. The male has bigger and more curved (left), while they are barely visible in the female (right). CLBA.

An interesting feature of anacondas, as in many other boids, is the presence of small claws on both sides of the cloaca, being larger on males than on females. These claws are mobile, and help in mating stimulating the female's cloaca, for reception. These claws also are an important proof of evolution, as they reveal the presence of legs and fingers with claws in serpents, which descent from lizards.

Baby anacondas (right) have brighter colours than adults, and are very aggressive. CLBA.

Below, an adult female close to a young of less than one year old, to compare sizes. CLBA.

After 6-7 months of pregnancy, the female give birth to 8-82 baby anacondas (usually 20-40). New born anacondas usually are of 60-80 cm, lighter in color (bright yellow), and very aggressive.

Capturing an Anaconda; defenssive behaviour, bites and other annoyances

When first observed in nature, along rivers, during the day, anacondas usually are resting, basking under the sun on the shore, completely exposed, or more commonly hidden in many ways (into the high grass, in *paleras* or floating amounts of logs and branches, or submerged and only exposing nares and eyes). During the night, they are more active, and can be seen moving along shores and logs, or swimming along the shallow waters of the river shore. Capturing an anaconda in such conditions is never easy. We need to catch at the first glance the neck. If the animal is resting and the neck exposed, that is not difficult. They allow a close approach, and usually the catch is successful without any accident. If the head is hidden, and we do not know where it is, is necessary to touch the animal until it starts to move and then normally we see the head, and catch it. If the animal is in the water, and the head is under, we usually catch the mid-body, at risk to be bitten. They turn quickly, especially males, which are smaller, more agile and aggressive, and strike. But generally we obtain the animal.

Some other guides use gloves, which are good to avoid bites. We are a little masoquists, and try always to capture the animals at free hand. Anacondas can bite also under the water, and some times we were surprised by an angry male biting our feet.

The senior autor handling carefully a huge anaconda of more than 5 m.

RM.

We have received dozens of bites, some severe, but never grave. A bite is always painful, very bloody, and big anacondas can even reach the bones, so the pain is unbearable. Only a few times we decided to leave the anaconda catching to other day due to the received injuries. Females are bigger but also more calmed and quite than males. They are easier to catch. Once one of us has the neck, we can move or lift up the animal depend on its weight. Males, as commented, are lighter, and we can deal with adults of 3 m without many problems. An adult male of 3 m, can weight about 5-7 kg. Females are a different question. A subadult female of the same size can weight double, also depending if it is thin or thick or has a prey in the stomach. Usually females of more than 4 m usually are difficult to impossible to lift up by oneself.

Due to its aquatic habits, the mouth of anacondas is home of bacteria that can infect a bite. CLBA.

Recently CLBA captured an impressive female of 5.5 m, so thick that was impossible for three people to move it! We calculate a weight of more than 100 kg!

Animals of more than 6 m need at least four people just to move it out of the water, and to lift up it without much work, at least 10 people are necessary.

With no doubt, the heaviest anaconda to the senior author . Photo: Arassari Trek / courtesy AndígenA.

Below, the wildlife guide Alan Highton and a group of tourists with an anaconda of almost 6 m. AH.

Other than strike, anacondas, when secured by the neck, release a horrible smelling musk from its cloaca that, if reach the objective (the skin or clothe of anyone) can subsist for hours! This is one of the most stinking and severe stench ever felt… When we have an anaconda recently captured, we quickly proceed to wash the cloaca, until it releases all the content to the water.

Once showed to anyone, with the rigor pictures, we proceed to liberate the animal, in the same spot if possible. After some handling some anacondas become very calmed, and just stay for a while in the same position we leaved it. Some others disappear quickly. A few adopt a balling defensive posture, as explained by Dirksen et al. (1998), consisting in forming a ball, protecting the head in the middle of the body, but this is not quite often.

As better they are is quite in its environment.. CLBA.

In spite of that read about their powerful and poisonous vapor (Gumilla 1999), it is known nowadays that this is false. Neither the snakes emit vapor, neither this is poisonous, neither it stuns, neither anything like that. We don't know well why is this observation so common to several cultures through the world, since it is a strongly ingrained belief in Spain and all Latin America. But again it is difficult trying to convince the *llaneros* on their error when believing in this. Here the only one that doesn't know anything is one!

Another common legend is the one that is about a giant anaconda, of more than 6 m, coiled by its tail on a tree, and watching a cow or bull until they go to drink to the pool where the monster waits patient. Once the snake catches the snout of the ruminant, this will turn back for dozens of meters, with the anaconda still biting it the mouth, and stretching out elastically (it is still coiled by its tail to a tree that serves it as ballast) until an incredible length, hoping the zebu is exhausted, and then, when it is suffocated and tired, release the tail and proceeds to swallow the animal. Obviously it is not more than a story, but surprisingly well common and ingrained.

Another legend refers to find immense anacondas resting and digesting, showing through the mouth the horns of a prey, either a white-tailed deer or a cow. According to the *llaneros*, the anaconda will wait until the horns fall naturally, by effect of the digestion of the rest of the body. Murphy & Henderson (1997) don't grant bigger credit to these episodes (although in Africa cases of pythons have been reported with horned preys that have survived the digestion!).

Big anacondas can swallow capibaras and even caw cakfs, but World be very difficult to swallow a caw. CLBA.

ABNORMALITIES

The most common injuries shown by anacondas, as commented, are piranha bites. If recent, they can be very impressive; if old, possibly almost healed. The way of healing a wound can vary, from a perfect natural suture and no malformation, to different levels of scale malformations.

Some people like to talk about serpents (in this case, anacondas) with ears. No snake in the world have ears, they are depth. But it is always possible to see some abscesses at any part of the body, being more common on the head, and some in the same place where an ear should be. So, in fact, it is true that some anacondas bear ears… but not really very useful!

Eared anaconda. CLBA.

Recuperation of the scales after diverse wounds take irregular forms. CLBA.

More injures can be a cut or not complete tail. Some of these short tailed anacondas are easy to recognize even years after, if recaptured.

A further abnormality observed in an adult female was the lack of the left eye, and almost complete recovering of the scales on the missing eye (see page 15).

Short tails are also frequent among adult individuals. CLBA.

Wounds like this one, can heal favourably. CLBA.

Only a few times we observed so hurt anacondas (this one had 12 piranha bites) than were not able to survive. CLBA.

CONSERVATION

Little is known, and much more is necessary to understand the role the anacondas play as one of the top predators of los Llanos. The others are: the jaguar, the puma, the Orinoco Crocodile, the spectacled caiman, the pink river dolphin, and the giant Amazon otter. After the almost total disappearance of the two biggest predators, the jaguar and the Orinoco Croc, and after the pumas and Giant otters also became very rare, anacondas and Spectacled caimans became the top predators. The vast llanos ecosystem depends mostly in two main predators then, and the scavengers (piranhas, vultures and other raptors), to maintain the ecosystem clean and healthy. Of course, the alteration made by the humans also changed the interactions of natural preys and predators, introducing cattle, hunting deers and capybaras, and over-fishing. There are still some almost untouched llanos ecosystems, in National Parks. Most preserving areas (as private Hatos), are highly altered, although no hunting is allowed. Because there are cattle, no predators can live there, and then, other preys, as capybaras and deers can increase their numbers to much more than naturally permitted. Anacondas, thus, became a very important part of the natural selection, when not killed.

It is always difficult to protect or try to defend the snake point of view, but something is changing. We saw more killed anacondas years ago than now. People do not use them very much for natural medicine (although it is believed that the fat is miraculous for rheumatism). Once, we liberated one huge anaconda of 4.5 m that was kept by a local fisherman to extract the fat and sell it (quite expensive!).

The anacondas are yet quite common in some areas. Endless swamps do not allow a presence of humans, and this habitat looks perfect for the giant serpents. Also, big rivers and small tributaries offer many opportunities to anacondas to live and hide without much perturbation.

The most important is to convince to llaneros to keep and protect their natural heritage, through campaigns, posters, lectures in local schools, and showing that anacondas are an inherent part of the area, offer no danger, and are a tourism attractive.

CAN ECOTOURISM PROTECT ANACONDAS?

In ten years we have showed hundreds of anacondas to tourists from different parts of the world. We believe that is very important to show anacondas directly to the public; capture one specimen per group (and usually to show many more), and make that everybody can feel the power of its muscles, the skin, the colors, and possibly the terrible smell. For the people, to have at hand one of the most powerful predators of nature is a unique experience, leaving in them an unforgettable idea about the animal, its habitat, and the importance of preservation. Many people is scared at first, and at last agree to touch or even to hold one of these animals, changing the wrong idea that all serpents are sinister and evil animals. When one tourist is in front of an anaconda, even if is hold by us, their reactions are diverse, from excitation and deep interest and admiration, to the fear of their lives, but always they depart with a different impression. They come back to their cold homes in Sweden, England, or Canada, and tell incredible histories to their friends, some of whom want to see that show in direct! This means that there is an improving movement of nature tourism coming to Los Llanos with a primary objective, to see, among other spectacular animals, anacondas. Eco or Bio-tourism operators (at least the most serious) offer work to many people in Los Llanos: boat men, local guides, cooks, and they and the people around them (family, friends, neighbors), all fishermen, potential enemies of the anacondas and other animals, with some time, change to protect these animals, seeing that they attract tourism and thus, money for the village.

Wildlife watching in direct cause an unforgettable effect in the tourist. RM.

What can be negative?

During the wet season, Los Llanos appear flooded; the water overlaps the border of the rivers and enters the savannas. The fauna radically disappear! The huge concentrations of birds and caimans, turtles and piranhas, widespread into the flooded savanna, and becomes more difficult to see. So, during that season (which in Venezuela comes from mid May to mid November) anacondas are much more difficult to watch, and consequently, many tourists can be disappointed about that, although we advertise about that fact. What many sharp “llaneros” do? They capture any anaconda they see, and keep (some times in a sac for weeks, or until it dies or is too weak or thin to be interesting), and offer it for watching, for some money. Others tie a rope around the neck of a big snake, and keep the animal in a swamp, until the tourists go to the place, and the local guide, suddenly, appear with the giant (always with neck injuries) for satisfaction of the tourists, not aware of the fraud. If some guides follow this practice, the legally “honest” ones, are in disadvantage, because during their tours will be naturally difficult to see anacondas, while with these pirate companies tourists will see anacondas, even during wet season.

For tourists it is an unique opprtunity to be close to a powerful predator. CLBA.

Is that negative? The impact is not too big, only a few anacondas will serve as bait, and the education on tourists can be more positive than not to see any animal. But otherwise, that is a manner of nature alteration, and personally, we do not approve that. Either is good for the honesty of good guides.

Some tourists in our groups are very conservative, and they do not want to touch the animal. Only observing is good. They claim that we stress the animals. Yes, can be. However, big reptiles do not stress like birds or mammals, due to its slower metabolism. Usually, big snakes like anacondas, but also small boids like tree boas, iguanas and spectacled caimans, fight for a while when captured, and then cease to move, like being in trance… that's the perfect moment to show the characteristics to people, to take pictures, and in a few minutes, the animal is free again, at the same spot. Only a few animals are caught, always with extreme precaution for both, the captor, and them, and used as a live teaching material. They are always released quickly, and can become later more cautious to be caught again. But we recaptured several times some anacondas, in perfect shape.

RM with an anaconda captured with all care. Photo: Arassari Trek.

FUTURE PERSPECTIVES

A lot of work is lacking yet. We have the facility to follow populations of anacondas in rivers, without much cost. We can mark, photograph, measure, and release anacondas all the time we go with tourists to los llanos. Our intention would be to put radio transmitters or something more advanced in all anacondas we found, and follow them, especially in the rainy season, when the savanna is flooded and the anacondas disappear from the river shores, to study their intriguing lifes.

Henrry Ramírez filming a documentary. CLBA.

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