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BIOTRADE - DESIGNER'S TOOLKIT YELLOW ANACONDA EUNECTES NOTAEUS



Sustainable Materials for the Fashion Industry Biodiversity/Ecosystems/Community Impact Review



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I. INTRODUCTION

The wild harvesting of animals such as the Yellow Anaconda has the potential to be used as a conservation tool for the species itself and for the protection of it's habitats. The economic incentives that the local communities receive are directly linked to the habitat, producing strong reasons for them to protect and care for the natural areas.

The Yellow Anaconda Management Program in Formosa province in Argentina (YAMP) is the only management program for a snake species in the world, promoting conservation of biodiversity as well as the social and environmental impacts of management and trade of the species.

This factsheet provides insight into the sustainable management program of the species and highlights the market potential, including trade facts and potential policies for the Yellow Anaconda skin trade.

A. Material name and specifications

1. Taxonomy

Kingdom: Animalia. Phylum: Chordata. Class: Reptilia. Order: Serpentes. Family: Boidae. Genus: Eunectes. Taxon: Eunectes notaeus Cope, 1862.

2. Common names

English: Yellow anaconda. French: Anaconda jaune. German: Gelbe anakonda. Spanish: Anaconda amarilla.

3. Trade names

Kuriju, sucuri amarela, yellow anaconda.

4. Name (etymology)

The name *Eunectes* is derived from the Greek word **Euvήκτης**, which means "good swimmer". Local names for the yellow anaconda in South America include the Native American terms curiyú in Argentina and Paraguay, and sucuri amarela or sucuriju in Brazil.

B. Facts

1. Biological characteristics

Although yellow anacondas are much smaller than



green anacondas (*Eunectes murinus*, the world's biggest snakes) they do reach lengths of up to 4 meters (typical adult range 2 to 3 m). Yellow anacondas have a yellowish-green background color with blackish bands and overlapping spots that wrap around the entire body. This provides camouflage in murky water or in vegetated marshes. Females grow longer than males and generally weigh more as well. Male yellow anacondas can reach up to 2.5 m in total length while a female can reach a maximum length of 4 m (Waller et al., 2007).

2. Distribution

Argentina, Bolivia, Brazil, Paraguay (see figure 1).

3. Habitat

Yellow anacondas can be found in lagoons, swamps and marshlands associated to slow-moving rivers or streams. During droughts they can be found using caves for shelter and along riverbanks near ponds that retain water. During the rainy months, yellow anacondas can be found in flooded, treeless areas, where they hunt for fishes, water snakes, caimans, water rats, and birds (Burton, 1967; Waller et al., 2007). Habitat regions: Tropical / subtropical; terrestrial; freshwater.

Terrestrial biomes: Tropical and subtropical forests and savannas.

Aquatic biomes: Rivers and streams. Wetlands: Marsh: swamp.

Other habitat features: Riparian; caves.

4. Ecology

Yellow anacondas are keystone species; they are one of the top predators in the ecosystems they inhabit. Yellow anacondas interact with other animals in a predator-prey relationship, influencing and being influenced by the populations of other species.

In captivity yellow anacondas can live for more than 20 years. In the wild, a typical lifespan would be shorter depending on natural conditions. Some key biological traits of anacondas, such as growth, age at first reproduction, and reproductive frequency, are very flexible and can change according to varying environmental conditions, in a way that makes yellow anaconda populations very resilient to induced or natural mortal-ity events (Waller et al., 2007).

5. Diet

Yellow anacondas are trophic generalists, preying mainly on animals found in wetland and riparian areas

throughout their range. Their diet consists of birds, bird eggs, small mammals, turtles, snakes, occasional fish or fish carrion, and caimans. Yellow anacondas are considered ambush predators and constrictors. They may eat only every few days or weeks, depending on the size of their last prey item and overall prey availability. In the wild, most predation occurs during the relatively dry periods when wetlands have shrunk and prey concentrates around remaining water bodies (Parker, 1963; Strussmann, 1997; Waller et al., 2007).

6. Breeding

Female anacondas breed every two years or less frequently, depending on body condition. They are viviparous, with the largest females capable of giving birth to up to 45 offspring per reproductive event, with each offspring about 55 cm in length. Mating in Argentina takes place at the onset of the local spring season (from September to October). Males become attracted to females when they release pheromones into their surroundings. Several males can congregate around a single female in "mating balls", engaging in copulation alternatively. Ovulation occurs around November and gestation takes 5 months, with the delivery of offspring at the end of the hot season, during March and early April. Anacondas reach sexual maturity at 3 to 4 years old. Schmidt and Inger, 1982; Mattison, 1995; Waller et al., 2007).

II. MARKET OVERVIEW

Anaconda skins, like those of other boas and pythons, are considered a valuable resource and are highly prized in the manufacture of exotic leather goods (Jenkins and Broad, 1994). Historically, Yellow Anaconda skins were mainly exported from Argentina and Paraguay, primarily to the USA and Europe (Micucci et al. 2006a). After trade was effectively banned in 1999, a sustainable management program was established in 2002 and a controlled trade recommenced in 2003. Today, the Yellow Anaconda Management Program of Argentina produces an average of 4,000 skins (10,000 linear meters) a year for export.

A. Sourcing insights

For over forty years, from the mid 1940's to the late 1980's, the yellow anaconda was exploited in Argentina and Paraguay for its skin. Between 10,000 and 60,000 skins were exported annually to the United States and Europe (Waller and Micucci, 1993), until a ban was effectively implemented in the late 1990's. During this time, the exploitation of yellow anacondas was carried out informally, without management guidelines or any regard to the species' biology (Waller et al. 2007).

The hunting of yellow anacondas diminished considerably when trade was effectively banned in Argentina; however, in several locations, anacondas were opportunistically captured and their skins smuggled to neighboring countries for export.

As a result of the implementation of Yellow Anaconda sustainable utilization program in 2002 in the Province of Formosa, Argentina, trade recommenced in 2003 and continues to date. The 'Yellow Anaconda Management Program' (YAMP) was devised to produce entire skins for export. All skins produced in the field are usually exported within a year. Cutting and manufacturing was not allowed in Argentina to avoid illegal activities, however, this policy may change in the future once a traceability system for finished products is put in place.

1. Supply chain structure

The economic structure of YAMP includes government (federal and provincial), exporters (4), hunters (about 300), local buyers (6), and the NGO in charge of the technical program. The government sector receives the smallest portion (4.2%) of shared benefits. The government delegates the administration of the program to an NGO (Fundación Biodiversidad -Argentina) in order to encourage prompt and direct allocation of funds for research and monitoring (14.8%). Hunters and local buyers collectively earn 13.3%, but three-fourths of this amount goes into hunters' pockets. Consequently, about one-third of the international value of a skin remains in the region. Although actual earnings at the local community level represent a three-fold increase over prices paid by illegal traders just a few years ago, the program strongly encourages higher prices to enhance the local allocation of benefits. For example, the price to hunters and local buyers increased 30% in 2012 compared to 2007 figures (Table 1) and is expected to increase even further in next season (2014).

Table 1: YAMP benefit sharing in 2007 (based on a US\$50 skin price).

Stakeholder	US\$	%
Provincial and export taxes	2.1	4.2
Program running costs (NGO)	7.4	14.8
Hunters and local buyers	6.7	13.3
Stockpiling logistic expenses	3.1	6.2
Total expenses per skin	19.3	38.5
Exportes income	30.7	61.5

Source: Micucci, P. and T. Waller. (2007). The Management of Yellow Anacondas (Eunectes notaeus) in Argentina: From Historical Misuse to Resource Appreciation. Vol. 14:3.

2. Processing

For export, there is a minimum allowed skin size, which is 230 cm long by 23 cm wide. Actual skin sizes range from 230 to 440 cm with an average size of 260 cm during annual harvests. In addition, every year the Program establishes a specific skinning pattern, at the level of the tail, to differentiate the year's skins and avoid stockpiling. Skins are nail-stretched on the ground for sun drying by hunters in the fields as they have always done. To nail the skins to the ground, hunters use the spines of a local invasive tree called Vinal (Prosopis ruscifolia). There are no slaughtering houses or "live" stockpiling facilities in the region. At this stage, no additives or chemical treatments are used on the skins. Once the skins are dried, they are rolled and stockpiled in the dark until their sale to a local buyer (stockpiler). Raw skins stored for more than a month at a stockpiling facility are rinsed with diesel as a moth repellent. In this way skins can last for more than a year (Figure 2).

Figure 2: The different stages of processing yellow anaconda skins can be seen below:

Yellow anaconda:



Hunting expedition:



Hunter:



Sun drying skins:

Nailing skins with tree spines:



Crust skins:



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