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Hippocamelus antensis (History of Peru)

General Background

The Taruca; or Andean Deer is a deer species that has been becoming more and more rare in nature in South America. The Taruca has been called a few other names such as Guamal, Taruga, Peruvian Huemel or North Huemel because some information crosses over both species and some information is not known about the Taruca. There is also confusion on identifying the species because of the similarities and overlapping habitats of the Huemel. The Huemel live in lower parts of the country however some researchers have identified them in the same vicinity as Taruca. The *Hippocamelus antensis* is considered vulnerable on the IUCN Red list. A separate species of Andean deer has been discovered, *Hippocamelus bisulcus* (Putz). It is found in Peru, Bolivia, Argentina and the upper part of Chile.



Figure 1 graphically displays the habitat range of Taruca. The highlighted regions are the areas where Taruca have been spotted in the wild. (Barrio)

Many deer species are present in the Andes Mountains which makes identifying and finding information on the *H. antensis* species hard to find. Taruca males and females share the same traits as other deer species; males grow horns or antlers however the deer do not travel alone because they have flocks or herds. The deer has risen on vulnerable on the IUCN list for the main reason of hunting and fragmentation. The Taruca is found scattered throughout Peru and Ecuador. The average lifespan of a Taruca is expected to be 10 years because the average deer in captivity is 10.6 years (Putz). Formerly there were herds of Taruca up to 6000 individuals in the Peruvian coast. Currently their populations are very scarce, being in danger of extinction in Peru (History of Peru). It is well noted by local Indians that the hills and mountain tops used to be plentiful with this Andean Deer. With human disturbance and hunting the species has declined greatly.

The *H. antensis* is a deer species that lives in the upper altitudes and lives in herds of up to 40 members. The male deer is the tallest Andean deer however it is relatively small in comparison to other deer in the same family. The deer do have canines which is unusual for most deer species. The Taruca has a sandy gray color with light brown hues and patches of white on the underside of their chest or belly. The animals also have a dark band of fur coloration around their eyes and near their muzzle. This species is short and stalky in stature. The shoulder height of the males in this species is 74 to 77 cm and the females shoulder height is 69 to 71 cm. The antlers of the large male bucks grow from 22 to 27 cm.



Figure 2 displays images of the distinct Taruca fur colorations in males and females of the species. (Barrio)

History

Andean deer are very important to South America's history. The curious and confident Taruca is utilized by South American natives. The Nasquenses tribe tanned Taruca hides and used them for making deep Taruca or bolas to throw stones, held in the wars with other peoples. For ceremonial feast of the Temples, priests tend to start their rites standing way miter, heads and skins Taruca (History of Peru). Taruca skin used to be placed over the roof of homes where twins were born to help ward any ominous signs that follow the birth of having twins. This deer was harvested for the meat as well as the pelts. The meat is dried and typically stored for cold winters as well as ceremonies and celebrations. The Nasquences have also been depicted taking the form of these deer in artwork and ceremonies such as on pottery pieces and in folklore.

Habitat and Diet

The natural habitat for the *H. antensis* is at high elevations in the mountains at elevations of 3900 to 5000 meters on rock outcrops. Living in these rock outcrops allows them to take cover from predators, and find cover when required. The natural habitat is characterized by broad, flat, frequently marshy valley bottoms separating steep-sided, roundtopped mountains. The climate in this region is semi-arid, with a wet season at its peak in January and February, and a dry season in June and July (Roe). The climate also plays a role in how many resources are grown for the Taruca. The climate has been known to shift enough that certain quinoa trees will not grow in their normal areas. It is a common rule of thumb that the number of quinoa trees determines the number of Taruca. Quinoa grows in dense thickets and that is a main area the Taruca reside. The Taruca graze the mountainous landscape across many kilometers of open space. It is thought that a pack of Taruca require 5 to 10 km of open space to effectively graze and maintain themselves. The species prefers to use many kilometers of open space which has led to its downfall. With the human population growing, more and more space has been taken up. The Taruca has been seen moving into human inhabited places at night and occasionally at dawn. The harmless creature is not a threat to humans but has been under threat by humans. The Taruca has been labeled as a pest by some locals and this

has further pushed some individuals to hunt them more because the Andean deer have gotten closer to human areas.

Taruca typically gather water near human or manmade structures. On some mountain tops researchers have found bodies of water near dry streams, and water behind man-made structures, both of which showed evidence of use by Taruca (Roe). Local Indians have noted that Taruca often go down to the bottom of valley streams at dawn. H. antensis seem to eat large grasses that grow in vast amounts. The deer also feed on smaller grasses that grow in between cracks in the rocks or on the ground with a nibbling action. Sometimes food can become scare with the human disturbances very high in many areas. During rainy seasons this Andean Deer changes elevations in search of food. The following grasses and sedges were common among the slopes of the mountains: Mulhenbergia peruviana; Calamagrostis heterophylla; Calamagrostis spiciformis; Festuca humilior; Scirpus rigidus. The woody shrubs included Diplostephium sp. and Margyricarpus strictus (Roe). This reference Roe talks about the different species specifically. It should be noted that some of these plant species are locally endemic to Peru and the surrounding areas. Many of these plant species are common for all Andean deer and it was not noted if these plant species are Taruca specific. Endemic plant species are forcing the Taruca to move farther and farther across the mountain range in search of food. The plant species are quickly eaten by the Taruca but the problem arises with predation. As the Andean dear is in search for food the deer cannot hide in outcroppings as easily which means that local predators have a higher chance of preying on the Taruca. Being in the open, the Taruca is also at a higher risk of being hunted by humans for meat and fur.

Population and Reproduction

The Taruca has no information on species population or productive numbers. The H. antensis males follow a distinct mating routine before choosing female. When a female is in heat a male will make a move on the female when she is lying down. The male typically moves to the female and smells the genitalia of the female. If it satisfies his needs he heaves her hindquarters until the female gets up. Once the female rises she begins to urinate and the male then determines if the urine satisfies his requirements. Then the male follows her and continues to lick her vulva while lifting her hind quarters, which makes the female urinate again. When the male approaches from the rear of the female he flicks his tongue around the labial-nasal area continuously (Roe). The animal then begins to mount the female however only for a short period of time. The entire mating ritual of the Taruca is short lived and only lasts up to 6 minutes. The peak rutting season is in the dry months between June and July. The gestation period for the Taruca is 240 days which is very long for a small deer (Putz). The deer only produce one offspring per female which means that the total population of the species does not increase rapidly. Males typically guard their females that they mate with. Due to this protection males follow typically deer mating and use their antlers to fight for a female. By December all of the Bucks have velvet covered antlers and in January 30% of males shed velvet whereas in May all the deer have shed velvet and have full antlers (Putz). Again the lack of information on whether or not this deer species is monogamous or polygamous in mating has stunted my research. It is noted that a male deer mates at least once to twice a year but that is the only information available. The lack of breeding information historically must be why the population numbers are also not noted in any article I found.

Conservation

Due to very little data on actual population size it is not known how many Taruca are left in Argentina and surrounding areas. With little information on the species population no conservation methods were proposed. No official conservation effort is in place because not enough information on how to protect the remaining population. The only real method of conserving the species to date is to just preserve the habitat that is left and attempt to connect any fragments or patches so that the Taruca can attempt to replenish numbers.



Figure 3 is a typical landscape that the Taruca live on. The rock outcroppings that are prevalent contain grasses and other graminoids that are required for *H. antensis*. (Barrio)

References (A few articles are translated; some citation info not translated properly)

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