

THE GUANACO

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In South America there are many animals, such as chinchillas, coypus and armadillos, which have no near relatives elsewhere. Among them are the South American camelidae, which are not true camels but only camel-like. They have no hump, their ears are proportionately long and their tails short and bushy, but their slender build and long necks remind one of camels. Like camels, they walk on two toes or phalanges, on the last one, as do all artiodactyles, and also on the penultimate one, so that they seem to be rather digitigrades than unguligrades. Behind their relatively long claws, below the second phalange, there is a kind of little cushion which serves as a callous sole.

The South American Camelidae.—There are four species of South American camelidae: the llama, *Lama glama*, the alpaca, *Lama pacos*, the guanaco, *Lama guanico* and the vicuña, *Vicugna vicugna*. Of these, the llama and the alpaca are domestic animals but the guanaco and the vicuña are truly wild and their preservation is of great importance.

The Guanaco and its Sub-species.—The guanaco is the tallest South American wild animal. It stands about 43 inches (110 cm.) high at the shoulder; its length from nose to tip of tail is 7 feet (210 cm.). In colour it is dark fawn-brown above, with white underparts. It has a blackish face. Callosities on the inner side of the forelimbs distinguish the guanaco from the vicuña.

The first detailed description of the guanaco was given by Molina, who called it *Camelus huanacus*. Waterhouse, in 1839, named it *Auchenia lama*—hence the family's other name Auchenidae. Frisch earlier (1775) named the genus *Lama* and Müller (1776) called the species *Camelus guanicoe*. The valid scientific name is therefore *Lama guanicoe*, not *Lama huanacus*, as was usual in zoology compendia until recently.

Although some people distinguish between the mountain guanaco of the Andes and the pampa guanaco of the plains, systematic zoology recognizes two sub-species only, *Lama guanicoe cacsilensis* of the area around Nunoa, Peru, and *Lama guanicoe guanicoe* in other areas. The former was established by Lönnberg in 1913 on account of its small size, and Osgood approved it, basing his opinion on material of the Collins-Day South American expeditions. However, Glover M. Allen stated (Bibl., 1942, p. 407), "very likely when sufficient series of specimens are available, more geographic forms may be distinguished."

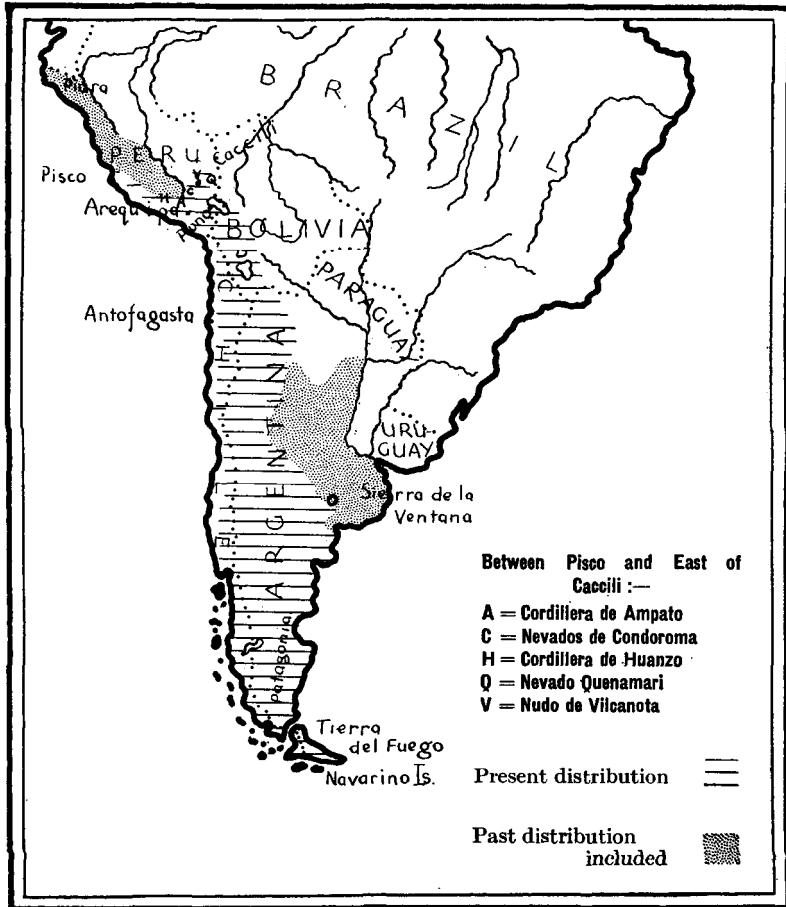
In Chile and Peru the vernacular name is preferably—huanaco; in Argentina and Bolivia—guanaco. Its origin is Quichua, the language of the Incas, still spoken by the natives of Peru. Among the Chilean Indians, the Aracaunos call it *luan*, the Puelches *pichua*, the Patagonians of the south *navu*, the Yamanes of Navarino Island *amere*. The Onas call it *yoohn*, but make a difference between the adult male, *marin*, and the female, *cheyuan o toulpai*, meaning mother of toul, the offspring. They call both sexes of the young *unán*, distinguishing between *clatuán*, the male, and *omtén*, the female. In general the offspring is called *guanaquito*, but in Patagonia *chulengo*, and in the north of Argentina *teck*.

Distribution.—The guanaco's range extends along the Cordilleras of the Andes in Peru, Bolivia, Chile and Argentina, but the northern limit is not exactly established. While Cabrera and Yepes (1940) indicate the distribution as reaching the limit of the Peruvian Andes to the north, Osgood (1916) states that the herds he saw on the Pampa de Arrieros, between Puno and Arequipa are "almost if not quite the northernmost now existing". However, this author mentioned in the same paper the sub-species *Lama huanacus cacsilensis*, from Cacsile (Caccili), near Nunoa, north-west of Titicaca Lake. Nunoa is about 14° 20' south latitude, nearly two degrees north of the Pampa de Arrieros. In my travels in Peru I have never seen guanacos north of a line Nevado Quenamari–Nudo de Vilcanota–Nevados de Condoroma–Cordillera de Ampato–Cordillera de Huanzo–Pacific coast at Pisco.

In the west the guanaco reaches the Pacific coast wherever food conditions give permanent or temporary support, that is in the canyons which periodically conduct water to the sea. From Pisco (Peru) to Antofagasta (Chile) it is confined to semi-desert high pampas which lie inland in the western Cordilleras. In the southern parts of the Andes and in Tierra del Fuego the guanaco inhabits the forestless zones. It reaches its southerly limit in Navarino Island.

To the east the guanaco's range is limited in the Peruvian and Bolivian Andes by the forested zones called "montanas". In Argentina it extends to the Precordilleras and Sierras Pampeanas. From the foothills of the Andes at Cuyo its distribution goes across the pampa as far as the Sierra de la Ventana (Window Mountains) in the province of Buenos Aires. During the colonial era the guanaco was probably found all over the pampa of Santiago del Estero and the southern Chaco as far as the Paraguay river, and to the Atlantic coast in what is now the

DISTRIBUTION MAP



province of Buenos Aires. It reaches the coast even to-day, across the Patagonian plateau, south of the Colorado river.

Habitat.—The guanaco is not a climber like the mountain goat for, as Finsterbusch observed, its foot is adapted to sand or dry clay, not to rock climbing. Both in mountainous districts and in the plains it inhabits semi-desert country. In the mountains it chooses the high pampas and the plateaus, moving along the contours and avoiding rocks, cliffs and steep slopes. Thus it ranges from almost sea-level up to 13,000 feet (4,000 metres). It never enters woods or forests but likes clearings in the wooded regions of the southern Andes and Tierra del Fuego.

Habits.—Guanacos live in small herds of four to ten females led by a male. Young males and others which have failed to win a harem, unite into herds of a dozen to fifty. Darwin saw small herds of half a dozen to thirty and, in southern Patagonia, large herds of at least 500.

During the last fifteen years I myself have failed to find female herds of more than seven, or male herds of more than twenty-five. Ten years earlier I often counted herds of a dozen females or eighty males.

In a small herd, while the females are grazing, the male always stands at a vantage point on watch.

Unlike the camel the guanaco is a good swimmer, which explains its presence in Tierra del Fuego and Navarino Island.

Reproduction.—The mating season is from November to February. When in rut the male chases the female but dares not go far from the herd lest another male should try to steal one of his harem. When this happens the two males fight bitterly, often inflicting deep wounds with their upper incisors and lancet-shaped canines. During mating the female is placed with her belly to the ground, as with camels.

Conservation of the Guanaco.—The guanaco is preyed upon by the puma and, at high altitudes, by the condor, which sometimes attacks the young if it strays too far from its mother. But the real enemy is man—not the native who hunted the guanaco for centuries without harming the species, but civilized man, beginning with the Spaniards.

When the Spaniards conquered South America guanacos were plentiful from the Piura region, north of Peru, along the Andes to Tierra del Fuego. Their range extended from the Pacific coast to the Peruvian and Bolivian “montanas”, and all over the pampas to the Paraguay and Paraná rivers. Further south it reached the Patagonian plateau and the Atlantic ocean. This is proved by reference to the many authors of that time who describe the slaying of hundreds of guanacos. The Spaniards until they had imported sheep and cattle from Europe, fed their troops upon the meat of guanacos and llamas. There may have been millions of guanacos in existence at that time, and at the end of the nineteenth century there were still many hundreds of thousands.

During the early decades of the present century, however, the demand for guanacito pelts increased and the Indians became possessed of firearms. This heralded the threat to the species, for the big herds of males in the Indian reservations were massacred and natural increase of the species was stopped by

the killing of the young. I myself saw the total extermination, within twenty years, of between 8,000 and 9,000 guanacos in an area of 25 leguas, i.e. 125,000 hectares or 500 square miles. It was in the Tehuelches Indian Reservation, in the Gastre zone of Chubut, Argentina.

Extension of sheep and cattle breeding and increase of agriculture in the pampas, in the Patagonian plateau and in the Chilean valleys, contributed also to the diminution of the guanacos. In the semi-desert zones of the Andes the guanacos stock was also threatened by the engineers and workmen of the mining companies, who hunted them in their spare time. More recently it even happened (*horribile est dictu*) that frontier officers hunted guanacos herds with machine-guns.

Thus the guanaco is everywhere threatened and stringent measures are necessary if its extinction, already accomplished in many of its previous areas, is to be avoided in others where it is steadily decreasing. To judge the extent of the guanacos decrease is not easy, because it is the newly-born young that are killed. The animals' life-span is estimated at thirty years, which enables the adult herds to remain intact for a long time. Suddenly the collapse comes and a whole generation vanishes. This threatened extinction of a species by the killing of the young and not by the persecution of adults is an unusual and remarkable phenomenon.

In Argentina, Chile, Bolivia and Peru, the countries in which guanacos exist, hunting of females is forbidden by law and hunting of males and gualaquitos limited to certain months. In Argentina, for example, the open season for male guanacos is June and July. Commercial hunters may, however, kill them during November and December also, and these two months are open for gualaquito hunting. But the immense areas involved and the thin human population makes strict control impossible. Furthermore, the co-operation of the police is negligible.

It was this difficulty of control and lack of police co-operation which prompted me in 1938, when preparing the hunting regulations for the Ministry of Agriculture of Argentina, to insist on the earmarking of furs, before they left the territories in which the animals were killed. The situation, particularly in Patagonia, was extremely difficult because not only was the demand for gualaquito fur increasing year by year, but the sheepbreeders were extremely hostile to wild fauna and called for the complete extinction of the guanaco.

The ranchers based their campaign against the guanacos on the following arguments :—

(1) *A guanaco eats from three to five times as much as a sheep. Guanacos are stronger than sheep and drive them away from the best pasture grounds.*

In truth the guanacos eat leaves and buds of bushes inaccessible to sheep.

(2) *Guanacos prevent sheep getting to the watering places.*

This is not true. I have often seen guanacos and sheep peacefully drinking together.

(3) *Guanacos destroy the wire fences.*

This very rarely happens. Sometimes in winter a guanaco gets entangled in a fence hidden by the snow. Guanacos easily leap the fences, which are never higher than 4 feet (1·20 metres).

(4) *During the rut the male guanacos chase the females and disturb the sheep, which at this time are accompanied by lambs. Lambs are thereby separated from their parents and may die.*

Actually the guanacos, during the rut, stay in the foothills of the Andes and in the canyons of the Patagonian plateau and on the coast. There are very few flocks of sheep in these areas during that season.

(5) *The guanquito hunters disturb the sheep and often kill sheep without permission, sometimes destroying pedigree animals of great value.*

Strict regulation of hunting and prohibition of trespass would cure this.

(6) *The guanaco is a carrier of scab and mange.*

The scab of the guanaco and of sheep differ and are not transferable. This was proved twenty-five years ago on the estancia "Sara", the property of the Braun-Menendez Company. If guanacos could catch sheep-scab there would be no guanacos left in Patagonia. They would all have been exterminated by it, as were the pampa-deer in the Pampa Argentina when they were infected with foot-and-mouth disease by cattle.

Future Preservation.—Against an unbiased assessment of the facts, the arguments advanced by the ranchers can not be maintained. Furthermore, the government must try to keep in being a fine natural product such as guanquito fur. The guanaco continues to decrease in most of its habitats and there is danger of its complete extermination. The way to avoid it is to establish complete reserves in areas which offer little or no prospect of agricultural development. Such reserves would serve also by re-establishing guanacos in the surrounding hunting zones. These reserves would have to be sufficiently large to ensure maintenance of the biological equilibrium, and I suggest

the Nahuel Pan, in Chubut, Argentina, for the guanacos southerly habitat and, in the north, an area in the high pampas and the Precordilleras.

The author of the above article, Dr. G. Dennler de La Tour, received in 1958 the Pan American Award for outstanding activity in conservation education among the people of Argentina.

BIBLIOGRAPHY

- ALLEN, GLOVER M., 1942. *Extinct and vanishing mammals of the Western Hemisphere*, pp. 406-9.
- CABRERA, ANGEL, and YEPES, JOSÉ, 1940. *Mamíferos Sudamericanos*, pp. 257-261.
- DARWIN, CHARLES, 1839. *Narrative of the surveying voyages of H.M. ships Adventure and Beagle, etc.*, vol. iii.
- DENNLER DE LA TOUR, GEORGES, 1938. La conservación de la fauna silvestre. *Argentina Austral*, ix, No. 106.
- 1939. La fauna silvestre de la Patagonia y la preocupación del Gobierno por la conservación de la misma. *Bol. de la Soc. Rur. de Com. Rivadavia*, No. 6.
- 1941. El problema de la protección y conservación del guanaco. *Ibid.*, No. 18.
- 1943. Protección y conservación del guanaco. *La Nación*, Buenos Aires, 4-1, 1943.
- 1944. La protección a la fauna necesita acción y espíritu concordantes de todos los países del continente. *Natura*, No. 5, pp. 7-10.
- 1949. Causes de la diminution de certaines espèces de la faune, raisons pour leur protection et mesures de conservation. *Lake Success, Proceedings and Papers of the I.T.C.P.N.*, pp. 495-9.
- 1952. La preservación de la fauna en región semi-árida.
- III. La región semiárida de la Pampa Argentina, *Diana*, No. 150.
- IV. La meseta patagónica, *Diana*, No. 151.
- V. Las zonas semiáridas de las Sierras Pampeanas, *Diana*, No. 152.
- VI. Las zonas semiáridas de la Precordillera, *Diana*, No. 153.
- VII. La Puna de Atacama y la Pampa de Tamarugal, *Diana*, No. 155.
- Préservation de la faune sur les plaines semi-arides du Paraguay et de l'Argentine. Rapport U.I.P.N. III^o Ass. Caracas.
- Préservation de la faune dans les zones semi-arides des Cordillères des Andes chiliennes-argentines. *Ibid.*
- FINSTERBUSCH, CARLOS F., 1952. El Guanaco. *Diana*, Nos. 155 and 156.
- LOENBERG, EINAR, 1913. Notes on guanacos. *Arkiv Zool.*, viii, 19.
- MOLINA, J. IGNACIO, 1782. Saggio sulle storia naturale del Chile, p. 317.
- MÜELLER, 1776. *Naturgeschichte*. Suppl.
- OSGOOD, WILFRED H., 1916. Mammals of the Collins-Day South American expedition. *Publ. Field Mus. Nat. Hist. Zool.*, ser. x, pp. 199-216.
- WATERHOUSE, GEORGE ROBERT, 1839. *Zoology of the voyage of H.M.S. Beagle. Mammalia*.