

Domestic Llama

Lama glama

Class: Mammalia **Order:** Artiodactyla (even-toed ungulates) **Family:** Camelidae (camels, llamas and relatives)

Other names:

Other subspecies:

Other Relatives: The llama is one of four South American camelids (mammals in the camel family) recognized today, two of which are wild species, the guanaco (*Lama guanicoe*) and the vicuña (*Vicugna vicugna*), and two of which are domesticated forms, the alpaca (*Lama pacos* or *Vicugna pacos*) and the llama. [1]

- Llamas are domesticated from the wild guanacos (*Lama guanicoe*) [1]
- Evidence from 6000 to 7000 years ago in the central Peruvian Andes links alpaca origins to the vicuña (*Vicugna pacos*) [1]

Zoo Llamas 2.3

“Dolly” 0.1 – Female, DOB: 02/08/94

“Dino” 1.0 – Male, DOB: 12/30/95

“Adrianna (“Andi”)” 0.1– Female, DOB: 01/21/97

About Our Llamas

All 5 llamas were born in our zoo. All weights as of 05/08/14

Dolly one white ear one black ear, solid black head Wt: 270 lb.

Dino two black ears, long white neck Wt: 264 lb.

Andi one black ear, one white ear, long white neck, white triangle on her forehead & white nose Wt: 271 lb.

Status

Domesticated - Least concern

Geographic Region

Llamas have a native range all along the Andes Mountains, but are not found in the wild. Llamas are used commercially throughout North America, Europe and Australia. Indispensable pack animals, herds of Llamas are maintained extensively by the native human populations in Argentina, Ecuador, Chile, Bolivia and Peru. [2]

Habitat

The Andean highlands, especially the Altiplano of southeast Peru and western Bolivia, is the natural habitat of *L. glama*. These plateaus are covered with low growth, including various shrubs stunted trees and grasses. [2]

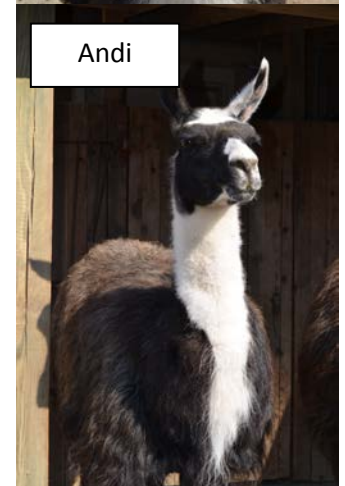
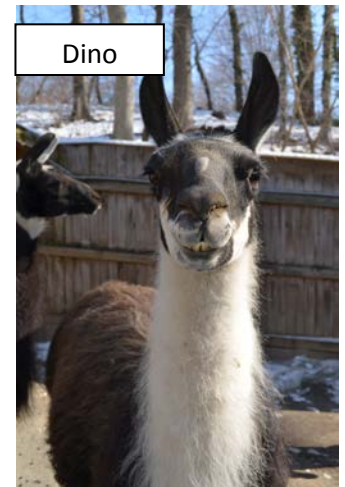
Characteristics

Size: *height at shoulder:* 5.5 – 6 ft. *length:* 1.2 m from head to tail *weight:* 280 – 450 lbs. (130-200 kg.)

Longevity: **Wild:** llamas are domesticated and not found in the wild **Captivity:** 20-30 years is possible, but most realistically live 16-20 years

Physical Description

- Llamas, like other camelids have long necks, limbs, rounded muzzles, protruding lower incisors, and a cleft upper lip. [2]
- South American camelids, including llamas, alpacas, and guanacos do not have humps as do Old World camelids. Llamas are the largest member of this group. [2]
- They have long, shaggy pelage which varies greatly in color. A common coat pattern is reddish brown fur with mottled patches of white or yellow. [2]
- Llamas have a two toed foot with a thick leathery pad on each foot's sole. [2]
- Adult llamas retain only one upper incisor, and the lower incisors clip vegetation against hardened gums. [2]
- Llama **hemoglobin** has an unusually high affinity for oxygen and the blood contains an usually high concentration of red blood cells, at least partially explaining the ability of llamas to function so well at high altitudes. [1]



Dimorphism

There is no distinguishable dimorphism between males and females.

Males:

Females:

Diet: Herbivore

Diet in the Wild: Llamas browse on low shrubs, lichens, and mountain vegetation. Llamas make use of native shrubs and grasses.

Diet in the Zoo: Our zoo llamas eat alfalfa hay, llama chow, and a salt lick.

Behavior

- *Diurnal, day-active*

Social Structure & Communication

- Llamas are highly social, living in groups of up to 20 individuals.
- Before domestication, llama groups would consist of one male and about six breeding females and their offspring from the current year. This group is led by a male llama that aggressively defends his position by engaging in dominance fighting.
- Llamas are aggressive towards predators and have been reported charging, kicking, biting, and spitting at those they deem a threat. Llamas have a hierarchy and may discipline lower-ranking individuals by spitting at them. [2]
- Llamas will vocalize to warn the herd of predators and to express vexation. [2]
- Communal feces piles may serve as a specific herd's territorial demarcation, and may function through both visual and scent components.
- Tactile communication is important between rival males, as well as between mothers and their young. The presence of a submissive position indicates that llamas use body postures as visual signals of dominance. [2]

Reproduction

- **Polygynous**
- Male llamas gather a harem of about 6 females into a designated territorial region and then aggressively drive away all other male llamas of breeding age who come into the area.
- In domesticated llamas, males and females are often housed separately. When breeding is planned, one male and one female are placed together at a time.
- Gestation takes about 360 days, and the female llama gives birth to one **cria** (infant llama) almost every year. Crias **precocial** and are able to run about an hour after being born. Females are capable of producing one cria a year.
- Female llamas are responsible for the bulk of parental care. Female llamas protect and care for the cria until it is about one year old. Weaning takes place at about 4 months. Maturity is reached at 2 years. [2]
- Male llamas provide some indirect care for the young: they defend a territory to provide access to sufficient grazing resources for the females and younger members of their group.

Conservation

- **Use & Trade** The llama (*Lama glama*) is a large animal (around 130 to 155 kg) and is able to carry a load of 96 kg at a rate of 26 km/day over rugged mountain terrain at an elevation of 5000 m. Llamas played a major role in the development of the Inca Empire, providing invaluable service as beasts of burden (the llama is apparently the only animal domesticated by native peoples of the New World that was used for this purpose). [1]
 - Llamas were also used as a source of meat, fat for making candles, materials for making clothes and rope, and dried excrement that could be used as fuel. [1]
- **Threats**
- **Predators** Most predation on llamas is by small canids, including coyotes, although pumas and humans were the greatest exploiters of llama populations before the species underwent geographic redistribution throughout the world. [2]

Interesting facts

- Llamas were domesticated 4,000 – 5,000 years ago from the guanaco (pronounced *hwa-NAH-coe*).
- Llamas can carry about 25-30% of their weight for 5-8 miles at a time.
- Llamas were domesticated for their fur, meat, and use as pack animals.

Glossary

Cria - A cria is the name for a baby camelid such as a llama, alpaca, vicuña, or guanaco.

Hemoglobin - the protein molecule in red blood cells that carries oxygen from the lungs to the body's tissues and returns carbon dioxide from the tissues back to the lungs.

Polygynous - the state or practice of having more than one female mate at a time

Precocial - hatched or born in an advanced state and able to feed itself almost immediately

References

- [1] Encyclopedia of Life , "Llama glama," 2015. [Online]. Available: <http://eol.org/pages/309018/overview>. [Accessed February 2015].
- [2] T. Vaughan, J. Ryan and N. Czaplewski, "Lama glama," 2004. [Online]. Available: http://animaldiversity.org/accounts/Lama_glama/. [Accessed February 2015].