

Report TCD Field Grant 2015

Title: Response of pumas to the migration of guanaco population in La Payunia Reserve, Mendoza, Argentina.

Student: Maria Laura Gelin, MS Interdisciplinary Ecology

Advisor: Dr. Lyn Branch

Abstract:

I will investigate the response of pumas to the longest known terrestrial migration of wildlife in South America -- migration of guanacos, a wild relative of the llama, in La Payunia Reserve of northern Patagonia, Argentina. Large predators are threatened world-wide because they require large amounts of habitat and conflict with humans. Pumas are the largest source of mortality for guanacos, and when guanacos migrate pumas may be more vulnerable to humans because they prey on domestic livestock or increase activity outside reserves. Using camera traps, I will estimate the density of pumas in winter and summer ranges of guanacos in La Payunia Reserve, and changes in this density with guanaco migration. At the same time, these cameras will allow me to obtain data on density of smaller cats (e.g., Andean cat, Pampas cat, and Geoffroy's cat), which are poorly known and, in the case of Andean cat, highly endangered. In addition, I will analyze puma scats to assess changes in consumption of native prey and livestock with guanaco migration.

Field Research Activities:

My field work was conducted in La Payunia Reserve (36°10'S, 68°50'W), a protected natural area in northern Patagonia, Province of Mendoza, Argentina. The field work lasted around eight months (from June 2015 to January 2016). A total of 12 recent graduates from Argentine universities and other early-career professionals volunteered on the project. They learned about conservation issues and field skills.

Activity 1: Placement of camera traps.

We conducted field surveys with remotely triggered cameras (Browning BTC5 Strike Force) (Image 1) on two grids previously defined, one centered on summer range of guanacos and one centered on winter range (each approximately 720 km²). We divided each grid in 17 cells of 6x6 km². In each cell we looked for sites where it's more probable to find pumas and placed there 2 camera stations (Image 2). In total, we placed 140 camera traps.

To improve the quantity and quality of the pictures in each camera station we placed perfume (Obsession by Calvin Klein) as an attractant (Calvin Klein's Obsession for Cats, 2010) on a stake.

To place all the cameras took us around two months. Once this activity was completed we were able to check batteries and memory cards status every month, and replaced when necessary.

Activity 2: Collection of scats

Puma scats were collected from walking transects in drainages and other good puma habitat in the reserve. Transects were established throughout the winter and summer range of guanacos. Equal sampling was conducted in both of these areas in winter and summer (e.g. We walked the same number of kilometers and transects). The transects were searched to remove feces and then resampled so that feces were identified as being deposited during the period when guanacos were present or absent in the area. Collected scats were washed to separate hairs and bones and stored with silica gel in labelled paper envelopes for shipment (Image 3)



Image 1. Camera traps placement.

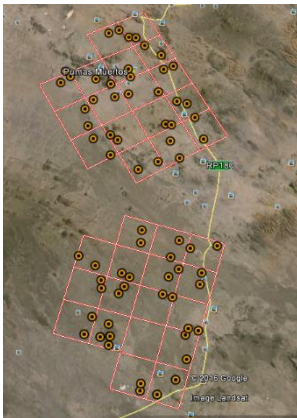


Image 2. Arrangement of the cameras on the ground. Red squares correspond to the cells, Orange dots correspond to each camera station.



Image 3. Scat collection and storage.

Some camera trap pictures obtained during field work:

