



Encounter with *Leopardus jacobita* (Carnivora: Felidae) in Sajama National Park, Bolivia that reinforces studies on conservation threats and diet

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Resumen

El *Leopardus jacobita* (gato montés andino) es uno de los felinos más raros y menos estudiados del mundo. Los avistamientos en campo de esta especie son pocos, y la mayor parte del conocimiento sobre esta especie proviene de cámaras trampa y muestras fecales. En este trabajo, observamos cómo las influencias antropogénicas, en este caso los perros domésticos, suponen una amenaza para la persistencia de la especie, incluso en áreas protegidas. Además, se reporta una observación directa de gato montés andino cazando con éxito a un *Lagidium viscacia* (Vizcacha de la sierra) (Rodentia: Chinchillidae), la cual se destaca como una presa importante para este felino.

Palabras clave: áreas protegidas, conflicto entre humanos y vida silvestre, interacción presa-depredador

Abstract

Leopardus jacobita (Andean mountain cat) is one of the rarest and most understudied felids. Field sightings of this species are few, with most knowledge of this species coming from camera traps and fecal samples. In this observation, we saw how anthropogenic influences, in this case domestic dogs, are a threat to the species persistence, even in protected areas. In addition, we were able to witness the Andean mountain cat successfully kill a *Lagidium viscacia* (Mountain Viscacha) (Rodentia: Chinchillidae), which is highlighted to be a major prey item for the cat.

Key words: human-wildlife conflict, predator-prey interaction, protected areas

Leopardus jacobita (Andean mountain cat) is a naturally rare species of cat with an estimated population ranging from 1,400 – 2,500 individuals (Villalba et al. 2016; Castello 2020; Figure 1) and prior to the 1990's, records of *L. jacobita* were scarce and restricted (Yensen & Seymour 2000), which have been contributing factors to making this one of the least studied felid species in the world (Huaranca et al. 2019). Aiding to the cats rarity, are

a number of threats that have further driven its population into decline (Villalba et al. 2004; Villalba et al. 2008). These threats include habitat loss, inadequate livestock management and being killed by domestic dogs accompanying shepherds (Villalba et al. 2016).



FIGURE 1. *Leopardus jacobita* (Andean mountain cat) during a morning hunt on July 24, 2023 in Sajama National Park, Bolivia. (photo by Adam C. Stein).

Advancements in technology like camera-traps and DNA sequencing have recently allowed scientists to piece together details of the cat's natural history such as its population density and structure, its activity patterns, as well as its diet (e.g., Walker et al. 2007; Lucherini et al. 2009; Cossios et al. 2012; Huaranca et al. 2019). These studies have suggested that *L. jacobita* is heavily reliant on *Lagidium viscacia* (Walker et al. 2007; Napolitano et al. 2008) as a food source and that the cat's activity patterns align with those of *L. viscacia* showing a major peak of activity occurring at dawn (Lucherini et al. 2009).

While filming a colony of *L. viscacia* in Sajama National Park, Bolivia (-17.9965 S; -68.8206 W ; WGS84; Elevation: 4351.93 masl) on July 24, 2023, we observed a *L. jacobita* enter the boulder field where the colony was located. The cat came into view at approximately 07h40 (sunrise: 07h07). It appeared unaffected by our presence and began to actively pursue the *L. viscacia*. During the hunt, it would disappear from view and then reappear occasionally from another rocky outcrop, in an area totaling roughly 3,400 ms². Nearly 25 minutes into the hunt, the cat made a kill. However, before the cat began to eat its meal, a local herder with his two dogs began to move a llama herd to pasture. The dogs deviated from the herd and entered the boulder field where they discovered the cat and its kill (Figure 2). The dogs

harassed the cat but were unable to make physical contact, given its strategic placement on a high boulder. The cat stood its ground for several minutes before making an escape and abandoning its kill. The dogs returned to the herder and did not chase the cat as it escaped.



FIGURE 2. *Leopardus jacobita* (Andean mountain cat) stands between its kill (seen on the right) and two domestic dogs (seen on the left). The dogs eventually scared the cat away without its meal. (Photo is a screenshot from video taken by James Wolfe).

This observation provides reinforces previous studies aimed to elucidate *L. jacobita*'s habitat and dietary preferences as well as timing of activity. In addition, *L. jacobita* is listed as critically endangered in Bolivia (Villalba et al. 2016), where the cat has only been registered in six of the eight national protected areas that contain suitable habitat, Sajama National Park being one (Villalba et al. 2004). Villalba et al. (2004) highlight that the number one priority to protecting *L. jacobita* is habitat loss and fragmentation. The most effective method to combating habitat loss is the creation and enforcement of protected areas. Given that Sajama National Park is a protected area and we witnessed anthropogenic threats typically thought to be reduced with such designations, highlights the ubiquity of negative interactions.

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