

**The Andean Cat (*Leopardus jacobita*),
the most endangered cat of the
Americas**



By: Andean Cat Alliance (AGA)
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www.gatoandino.org

Around ten years ago, all what we knew about the Andean cat, was that this species inhabits the high Andes of only 4 Latin American countries: Argentina, Bolivia, Chile and Peru and that it is restricted to rocky habitats over the 3500 meters. Virtually no information about the cat's biology and ecology was available and reported sightings as well as published photos of this species were really scarce.

Researchers from these four countries started independently to study this cat, with the primary objective of knowing its distribution within each country. In 1999 these researchers met to create a coordinated group that aims to join efforts for Andean cat conservation, this group later was named the Andean Cat Alliance (www.gatoandino.org).

When initial investigations started, none of the researchers from the group had ever seen an Andean cat, but we knew some particular features. The fur is mainly ash grey with brown-yellowish blotches distributed as vertical lines at both sides of the body, giving the appearance of continuous stripes. Also, the tail of the Andean cat is characteristic; it is very long, about 66–75% of the head and body length is thick and cylindrical, with a fluffy aspect and with 6 to 9 wide rings of dark brown to black colour. The nose of the Andean cat is dark.



Those features are easy to spot and very useful for identification purposes. There is another small cat species that shares the Andean cat habitat, the Pampas cat

(*Leopardus colocolo*), which can be easily confounded with the Andean cat, although the Pampas cat is a bit smaller and the color of their blotches give an appearance that the fur is reddish. The tail of the Pampas cat is also shorter and with thinner rings, and the nose is pink and conspicuous.



Andean cat



Pampas cat

When little is known about a particular species and, besides that, the studied animal is very elusive, rare or of suspected nocturnal habits, the best way to start research is carrying out field interviews to local people. Other survey techniques were later implemented, like camera trapping and faecal sampling for dietary studies and DNA analysis. In April 2004 the Bolivian AGA team was able to live capture a female Andean cat for placing a radio collar, the same month and year one of the Argentinean AGA teams was able to see an Andean cat for first time.



First ever radio-collared Andean cat
Southwest Bolivia



Andean Cat sighting in northern
Argentina

DNA analysis of faecal samples was a very useful technique for knowing the Andean cat distribution, although finding adequate faecal samples (relatively fresh) is not an easy task, particularly due to Andean cat preference of very inaccessible places.



Collecting faeces. Southwest Bolivia



Collecting faeces and placing a camera trap at the Provincial Reserve "Caverna de las Brujas", Argentina

Nonetheless, this technique keeps giving surprises. We now know that the altitudinal range of the Andean cat ranges from 650 m to up to 4800 m, and that it covers four Andean eco regions: the high Andes, the Puna region, the southern Andean steppe and the northern portion of the Patagonian Steppe. Recent research provided a map of habitat quality for Andean cats. We can now say that in South America 21 protected areas contain relevant surfaces of optimal habitat for Andean cats, but only 14 of those protected areas have positive records of species' presence.



The main features that these ecoregions share are rocky valleys, with steep and high rocky walls that are patchily distributed in the landscape and wetlands at the bottom called "bofedales", "vegas" or "mallines", where its main prey, the mountain vizcacha is frequently found feeding. Globally the climate is dry, with cold or very cold winters and low precipitations.

Andean cat habitat photos



High Andean dry rocky valleys.
Khastor – Southwest Bolivia



High Andean wet rocky places, Tanta,
Yauyos, “Centre” Peru



Northern Patagonia Payunia Provincial
Reserve, South Argentina



High Andean landscape. North Chile

By radio tracking one female Andean cat in Bolivia and carrying out a systematic camera trapping in Argentina, we were able to know that the home range of this species is one of the biggest for a cat of this size (66.5Km² – Bolivia and 40.5 Km² – Argentina). With camera trapping the density was estimated in 0.07 ind/Km² (2006) and 0.14 ind/Km² (2007) in north–western Argentina where the Pampas cat was much more abundant.

Radio tracking and camera trapping provided also the first information of the activity patterns of the two small cats occurring in the high Andes: activity of both Andean cats and Pampas cat are mainly nocturnal, but they show some difference and activity of Andean cats is generally similar to that of mountain vizcachas.

Camera trap photos



Andean cats at northern Argentina

There are few photos where two individuals of the species have been photographed



Andean cat at southern Bolivia



Andean cat in Parkoaya–Chile, a female with her kitten, see the small eyes at the right upper corner of the photo



First camera trap photo of an Andean cat in Antofagasta Region, Chile (4.200 masl)

DNA analysis of scats, skins and skulls (mainly provided by local people through our interviews) were able to prove that the Andean cat populations harbour extremely

low genetic diversity. A comparison with the Pampas cat suggests lineage extinctions associated to demographic events and a low effective population size as being responsible for the reduced diversity of the Andean cat. The unique population structure of this species enables the recognition of at least two evolutionarily significant units, separated by the Arid Diagonal crossing from Chile into Argentina, highlighting the importance of protecting the southern part of the species range. One of the most relevant outputs of the Andean Cat Alliance is an unique genetic records database that has 273 reliable records of localities of skins, skulls, sightings, camera-trap captures and DNA identifications of faecal samples mainly, and radio-tracking fixes from the only specimen ever trapped.



Bolivia

The Sacred Cat of the Andes
People from the high Andes, keep the skins of the Andean cat and Pampas cat and use them in marking ceremonies of their native herds of llamas and alpacas. Both cats are known as “titi” or “oskollo”, are considered as sacred species and are related with abundance and welfare of the herds.



Peru

Oreailurus or Leopardus?

The Andean cat classification, as well as that of other felids, has been the object of several studies and reviews. In 1865 the Andean cat was first described by Cornalia within the genus *Felis*, which included several small cat species. In 1940, Cabrera proposed a unique and separate genus *Oreailurus* (*oreos*=mountain, *ailurus*=cat), due to the Andean cat in contrast to other small felid species, has the frontal chamber of the auditory bulla (a bony capsule that encloses the middle ear) much larger than the posterior chamber; however this feature that is related with increased auditory sensitivity, is also found in other mammals that inhabit open, dry and desert habitats. Additionally, the result of genetic studies done by Johnson and his collaborators, although defines the Andean cat as a unique species different from

other felines, relates it to the ocelot (*Leopardus pardalis*) lineage, thus the Andean cat is now placed within the *Leopardus* genera. This study was made at a global scale. At local scale we consider, after all our findings during this 10 years of intensive research, that this cat presents particular conservation relevance because of its rarity, low genetic diversity and low densities.

Based on all the results obtained until the moment, the Andean Cat Alliance has identified habitat loss and degradation, hunting and main prey depletion as the main threats to the Andean cat.

Ongoing projects and Future actions

Besides all the impressive findings regarding this elusive and charismatic cat, there are still a lot of things that should be researched. The Andean Cat Alliance members have recently met to analyze our past and future actions. We were able to identify more accurately the main threats for Andean Cat conservation in its entire range, and also the positive interventions that could be made. All this information, with updated objectives and research goals will be combined in the Andean Cat Strategic Plan (under construction).

Members of the Andean Cat Alliance are also carrying out educative activities throughout the 4 range countries, since this subject is considered together with research and conservation-oriented management as the three main areas of our Action Plan (<http://www.gatoandino.org/en/plan.asp>).



Educative Activities with rural school kids in Argentina



Educative Activities with rural school kids in Bolivia

Educational outputs are overwhelming: more than 2100 kids, 200 park rangers, 70 rural teachers and 500 adults attended to different workshops that were made in more than 150 different sites. Also around 50 science students were trained in field and lab techniques. There are around 20 sites where we continue to work and local agents are being trained as wildlife monitors. The Chilean AGA members developed some beautiful cartoons that are easy to understand, and provides a conservationist message. The Spanish versions of these cartoons can be viewed here:

“Knowing the Andean Cat” (<http://www.youtube.com/watch?v=RVFORGdGEaI>),

“Titi’s story the shepherd boy” (http://www.youtube.com/watch?v=ncY_HmzARqI)

Meet “Almita” and her tale (<http://youtube.com/watch?v=7bQeH2DTxXs>)



Educative Activities with rural school kids in Chile



Educative Activities with rural school kids in Peru

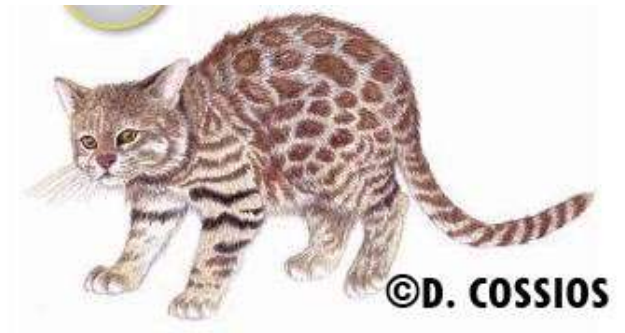
Currently we are still carrying out research to know more about the species distribution, estimate and monitor density, as well as education and capacity building activities in protected areas or local communities with the aim to involve local people in the Andean cat conservation. For more information visit us at: AGA Projects (<http://www.gatoandino.org/en/proyectos.asp>) or contact us: email to (<http://www.gatoandino.org/en/contactos.asp>).

All of these activities wouldn't be possible without the economic support of independent donors. The best way to give us your support is through Wildlife Conservation Network (www.wildnet.org), an NGO that gives 100% of what's donated to the project selected by the donor. Any support is welcomed, please donate!

HOW MANY DIFFERENCES COULD YOU FIND BETWEEN THE ANDEAN CAT AND PAMPAS CAT. Tell us to: <http://www.gatoandino.org/en/contactos.asp>



Andean cat



Pampas cat



Sunset at the "Auca Mahuida" Reserve, Neuquen – Argentina