

Cat Project of the Month – March 2006

The IUCN/SSC Cat Specialist Group's website (www.catsg.org) presents each month a different cat conservation project. Members of the Cat Specialist Group are encouraged to submit a short description of interesting projects. For application use this [standardised form](#) (an editable word document)

Ecology and behaviour of two sympatric felids, the Andean cat (*Oreailurus jacobita*) and pampas cat (*Oncifelis colocolo*) in Khastor (Southern Bolivia)



Camera trap photo of an Andean cat at Khastor, Potosi – Bolivia (Photo L. Villalba and E. Delgado).

The present project was proposed in response to the lack of information on the Andean cat and the pampas cat and to the necessity to gather basic biological and ecological information of both species to propose conservation actions.

Ma. Lilian Villalba

Lilian is the former director of the Museum of Natural History in La Paz, Bolivia. She has been involved in Andean cat research since 1998 and is today an associate researcher with the Colección Boliviana de Fauna. For the past two and a half years she has been the coordinator of the Andean Cat Alliance (Alianza Gato Andino – AGA) and was Bolivian representative of the AGA. Lilian has been a member of the Cat SG since 2002.

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Ma. Lilian Villalba and Eliseo Delgado (Photo: N. Bernal)

The Andean cat is the most threatened felid species in the Americas, and worldwide is considered as one of the least known felines (Villalba *et al.* 2004). The conservation status of this species changed from Vulnerable (2000 IUCN Red List) to Endangered (2002 IUCN Red List) (Nowell 2002) and is listed in the Appendix I of CITES. No studies have been carried out about its biology and behaviour. The species inhabits the Andean region of Argentina, Bolivia, Chile and Peru and apparently is restricted to rocky habitats located above 3,500 meters.

There is also not much known about the pampas cat that inhabits the high Andean zones, although it has a wider distribution compared to that of the Andean cat. The pampas cat was considered as of Least Concern in the 2000 IUCN Red List, and now its conservation status was changed to Near Threatened in the 2002 IUCN Red List (Nowell 2002). It is listed in the Appendix II of Cites (Nowell and Jackson 1996).

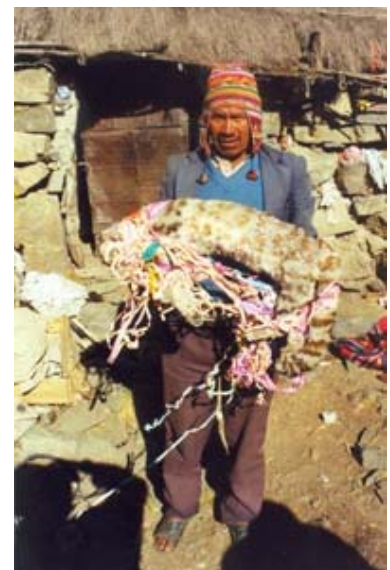
Both species are named as “titi” by local people that inhabit in the Bolivian Andes, and are considered sacred animals. Stuffed animals or the skin of both species are used in ceremonies at the beginning of the crop season or for marking their native and domestic livestock (llamas and/or alpacas), for having a good crop and animal production (Villalba *et al.*, in prep.). Cat hunting for this purpose or others, together with habitat loss/fragmentation and prey reduction are considered the main threats for the Andean cat in Bolivia (Villalba *et al.*, 2004).

The latest evaluation of the conservation status of the Bolivian mammals, places the pampas cat as Data Deficient and the Andean cat as an Endangered species (Bernal 1999, Bernal & Silva 2003), however the authors states that no enough information exists for the Andean cat.

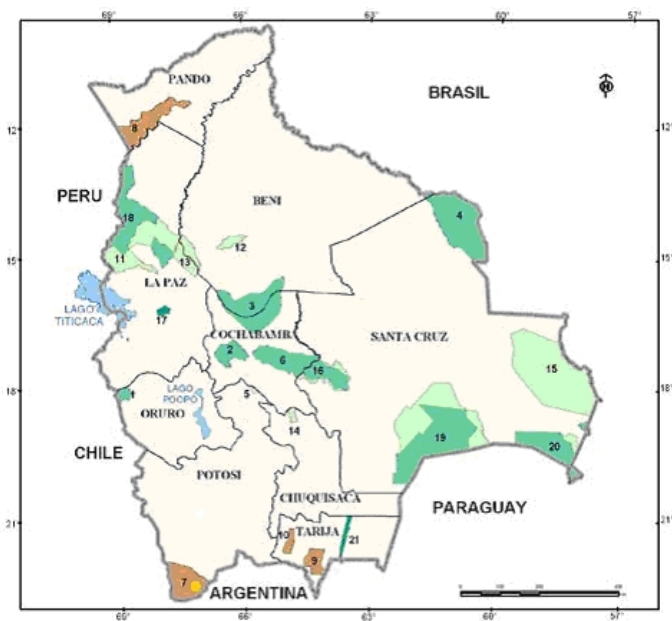
The main goal is to gather basic ecological and behavioural data on the two species that live in sympatry in the southern high-Andean region of Bolivia in order to contribute to the knowledge of these species and its conservation.

The objectives of the project are

- a) to determine home range size and movement patterns of both cat species,
- b) to study habitat use and activity patterns,
- c) to estimate abundance of the Andean cat's potential prey and compare abundance among areas where this cat is more frequently seen and
- d) to determine the diet of the Andean cat and other medium-sized carnivores present in the study area.



A skin of an Andean cat is being showed by a peasant from Janko Kala (Cochabamba). The skin is typically adorned with coloured paper strips, which local people use at their traditional festivities (Photo N. Bernal).



Map of the main protected areas from Bolivia that are part of the National System of Protected Areas (SNAP); the "Eduardo Avaroa" Andean Fauna National Reserve is located at the south west of Bolivia (Number 7), and encompasses an area of 7,147 km². The study area (yellow circle) is found within the enlargement area of the Reserve (Source: SERNAP 2001).

Project design and study area

The project was planned in two phases: the first phase involved the search of a suitable study area by surveying four potential sites, which were selected based on a previous survey that established the presence of one or both species mainly through field interviews (Villalba *et al.*, in prep). The second phase is the development of this particular study in the selected site.

Field work at first phase was done using scent stations, camera trapping as well as field surveys for signs and/or sightings and interviews to local people and park guards. This fieldwork was carried out at four protected areas where the Andean cat presence was confirmed or was supposed to be present. Park guards from the protected areas participated and assisted during field work.

During the second phase fieldwork took place at the influence area of the "Eduardo Avaroa" Andean Fauna National Reserve as the focal area. Between 2002 and 2003 Intensive field surveys as well as camera trapping were performed to establish a permanent study area for carrying out a study on the ecology of the Andean cat using radio-telemetry techniques. Park guards from the Reserve were actively involved in the project.



Methods

A pre-trapping campaign was carried out between December 2003 and April 2004. One hand-made cage and six Tomahawk Collapsible bobcat traps (#209.5) were used to get the Andean cat(s) habituated to them. Dead mountain viscachas were used as bait and the traps were left open during this time.

Andean cat is exploring at a hand made trap covered with flat stones and placed inside a latrine, the photo was taken with a camera trap during the first trapping campaign (March 2004). (Photo Eliseo Delgado, Diego Berna, Ma. Lilian Villalba).

In April 25th, 2004, a female Andean cat was captured and radio-collared (Delgado *et al.*, 2004) for further monitoring. Activity and location were recorded at day and night, between 10 and 15 days per month from April to December, then, the radio-collar stopped transmitting the signal.

The radio-collared Andean cat (Sombrita) when released after she was fully recovered (Photo L. Villalbat).



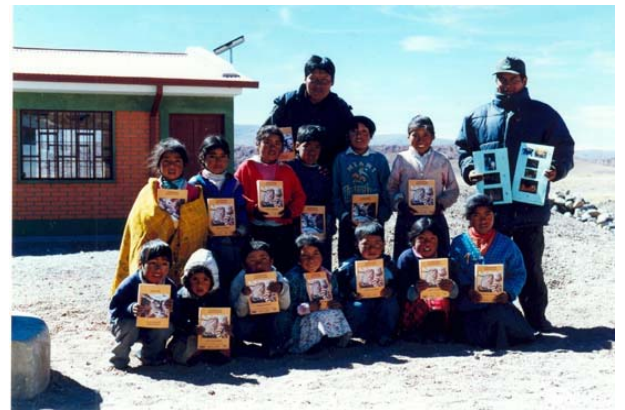


In 2005, between March and April, another pre-trapping campaign was carried out for capturing Andean cat(s) and pampas cat. In May 9 a female pampas cat was captured and radio collared. External measurements were taken as well as blood and faecal samples were collected for further laboratory analysis. The pampas cat is still being monitored under a similar schedule used for the radio-collared Andean cat.

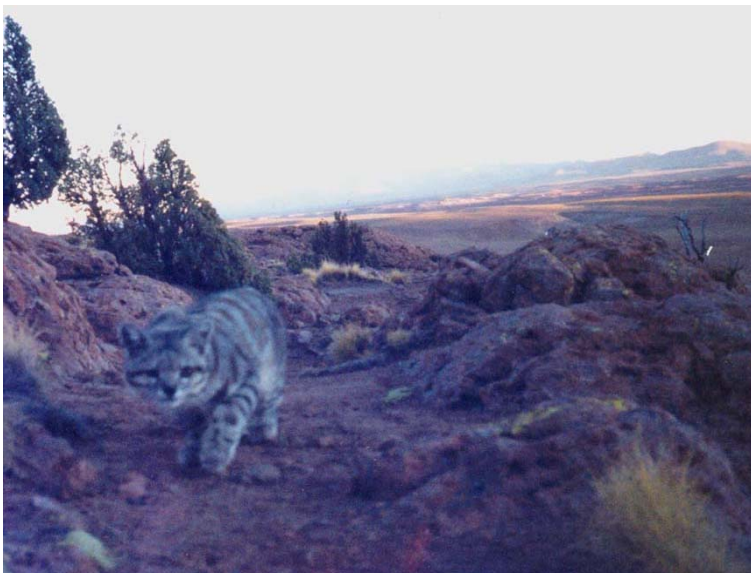
"Estrellita", the female pampas cat captured after the radio collar was placed and all measures and samples taken (Photo L. Villalba).

A specific study on the mountain viscacha (*Lagidium viscaccia*), the main prey of the Andean cat was carried out in order to estimate its abundance in four different seasons (dry, wet, transition to dry and transition to wet) and to learn about its activity at the two main rocky sites where the radio-collared Andean cat was mainly seen/monitored. An inventory of smaller rodents was also carried out and samples of carnivore faeces were collected for studying diet.

Additional educational activities were also developed, visiting three remote schools with the purpose to let kids know about the project, the importance of Andean cat conservation and the value of the Protected Area.



Kids of a school near to the Argentinean border, after the educative activity holding a notebook with the Andean and pampas cat pictures (Photo L. Villalba).



Results

From 2002 to 2004, through camera trapping, we were able to identify the presence of three Andean cats at the rocky site called Khastor, and that two of the cats have been using this place during these three years.

Although the radio-telemetry data has not been analysed yet, field observations recorded activity for both species mainly at night but diurnal activity has also been recorded and this was more frequent for the pampas cat.

First camera trap photo of an Andean Cat (May 2002). This Andean cat was later photo-trapped in 2003 and 2004 at the same rocky site (Khastor, Potosi - Bolivia) and was identified because the right eye is permanently a bit closed (Photo L. Villalba, E. Delgado and J. C. Esquivel).

Two neighbouring rocky sites were the main places where the Andean cat was radio tracked, Khastor (where it was trapped) and Khumo (where the animal stayed the longest time); although some times we found her at other different and distant places. On the other hand, the pampas cat was mainly monitored at Khumo, but she was also monitored in other places nearby and farther away. Particular features common to both rocky sites could be important factors for Andean cat presence and permanence, and it is certainly related to prey accessibility and availability, as well as other resources such as water.



A view of the rocky valley of Khastor. Average elevation at the bottom is around 4400 meters and 4700 m at the top of the rocky tableau (Photo L. Villalba).

Table 1. Main external measurements taken from each captured individual.

Species	Sex	Weight (Kg)	HB (cm)	Tail (cm)	Rear foot size (for footprint) length x width (cm)
Andean cat	Adult Female	4.5	58	38	5 x 5
Pampas cat	Adult Female	4	55	28	4 x 3



Conclusions

The radio-collared Andean cat was found dead at the time when the second trapping campaign was being carried out to trap her for replacing the radio collar. Because of the strange circumstances that the death of the Andean cat occurred, no more individuals of this species were trapped. The radio telemetry study will end when the radio-collar of the pampas cat stops sending signals. The data obtained from the radio telemetry study, although coming from only one individual from each species and for a period of 8-9 months, will be important for a better understanding of their spatial ecology. Considering the importance of the area where this radio-telemetry was performed, on April 2006, a new project will be initiated. The main actions for this new project include field surveys to know more about the distribution of the Andean cat and other carnivores in this region (south west of Bolivia) as well as educational activities to increase awareness.

A photo of Sombrita, after the radio-collar stopped to emit the signal. A white feather is hanging from the top of the radio-collar's antenna (January 2005; Photo L. Villalba).

Acknowledgements

Jim Sanderson from Small Cat Conservation Alliance and the Vet Constanza Napolitano from Andean Cat Alliance – Chile assisted in the immobilization of the Andean cat in 2004.

Bolivian Veterinarians Rodolfo Nallar and Fabian Beltran, from WCS assisted during the second trapping campaign in 2005.

Park guards Eliseo Delgado and Mauricio Berna from the Reserve (REA) are participating in the field work .

The park guard Eliseo Delgado is holding the captured female pampas cat (May 2005). The two Bolivian vets, a local assistant and the park guard Mauricio Berna are accompanying him (Photo L. Villalba).



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Project information

- Duration: 2001-2006
- Location (see map): Southwest of Bolivia, within the influence area of the "Eduardo Avaroa" Andean Fauna National Reserve
- Sponsor(s):
First phase:
Cat Action Treasury (CAT-USA), The Bosack and Kruger Foundation (USA), Wildlife Conservation Research Unit (WildCRU)-Wellcome Trust (UK), Wild about Cats (WAC-USA)

Second phase:
Wildlife Conservation Research Unit-Wellcome Trust (UK), Wildlife Conservation Network (WCN-USA).

The "Eduardo Avaroa" Andean Fauna National Reserve (REA) and the Colección Boliviana de Fauna also supports the project.
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