

THE ANDEAN BEAR, FIRST EXPERIENCES WITH THE REHABILITATION AND LIBERATION OF THREE BEARS.

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How many times while walking in the mountains have you encountered strange tracks? Footprints similar to those of a human foot, trees with big scratches, and destroyed plants; these can be the vestiges of a bear. The existence of bears in the Ecuadorian Andes is generally ignored by most people. But in fact, a representative of the bear family exists in the Andes. They are not the enormous, hairy, hibernating bears of the northern hemisphere, but the only species of South American bear; it is the Andean Bear (*Tremarctos ornatus*). The Andean Bear is a thin creature in comparison to other members of its family, with a shorter nose, similar to that of a dog. This bear has a long, thick coat as black as coal, except around the muzzle, which is tawny or brown, often with white marks around the eyes that may extend to the throat, and which gives him the nickname of Spectacled Bear.

The Andean Bear inhabits the Andes mountain range, from western Venezuela to northwestern Argentina, and has several nicknames, such as: Jukumari, Ucumari, Manaba, Black Bear, Real Bear, Tomasito, Frontino Bear, and El Salvaje. This bear species has adapted to live in a variety of habitats and in altitudes from 250 to 4.250 masl. It prefers to live in the cloud forest, although it also uses the coastal desert, dry forest, rain forest, chaparral and paramo.

The cloud forest is a spectacularly rainy place -- dense and entangled, perpetually humid, wet and wrapped in fog. Tree trunks get lost in the claws of the matapalos stranglers, and branches are covered with climbers, mosses, lichens, and orchids. Palms and arborescent ferns are frequent. The floor of the forest is dense in leaves, ferns and dripping stems. Groups of birds fly from place to place, while others hide in the shade; toucans riot in the treetops and butterflies glow in the clearings. At night the air is full of raindrops, the caw and whistle of frogs, the intermittent flight of fireflies and the incessant flapping of bats; in some places, the floor of the forest is lit up by caterpillars that have luminescent segments.

This bear species has a very varied diet, it is the most vegetarian of the bear family but, given the opportunity, it can eat meat. The Andean Bear is relatively solitary. Males and females meet only to reproduce. The females begin to reproduce around four years of age. Gestation periods can vary between 5 and 8.5 months. Scientists believe the variation of the duration of pregnancy may be explained by a delayed implantation, that is to say, the fertilized egg remains in the uterus for a period of time before being implanted in the wall to continue development. It is also believed that the embryo can be reabsorbed by the

mother's body, thereby preventing births. Females give birth to 1 or 2 cubs (rarely 3) in a previously prepared nest under enormous rocks or in the roots of trees. Cubs measure 18 cm and they weigh from 300 to 500 g. They open their eyes around 42 days of age, and within three months of birth are able to follow their mother. In times of danger or if they tire they can ride on her. Mature males occasionally accompany the family group, but this is unusual. Cubs accompany the mother for 6 to 8 months. They are agile climbers, not only of trees but also of rock walls, to obtain food. They are also very good swimmers. They have a very sensitive sense of smell, but their vision is not very good. They emit a series of sounds, in communication between mother and cubs, to show curiosity, and when they are threatened. In the face of the danger they generally turn and run away or climb the nearest tree.

This bear species builds "nests" on the forest floor and in trees, a disorganized pile built with branches, leaves and unripe fruits. It makes arboreal platforms of up to 6m long. These places can be used for considerable periods of time to rest, eat, or guard a feeding place. In size the males are bigger than the females; they can measure up to 2.1 m and weigh 195 Kg. They can live up to 35 years in captivity. When the Andean Bear feeds on fruits, they disrupt the branches and clear the canopy, which presumably allows the bear to modify the microclimatic conditions of the lower strata, stimulating the natural regeneration of the forest. It also intervenes by dispersing the seeds of the fruits it eats, allowing the continuous recovery of the forest.

The destruction of the habitat by human intervention and the high number of bears killed has forced the Andean Bear to take refuge in more and more inaccessible places, creating small isolated populations. These circumstances have caused the species to be included in Appendix I of CITES and considered "Vulnerable" by the International Union for the Conservation of the Nature (IUCN).

REHABILITATION PROJECT

The high number of captive Andean Bears in Ecuador, 20 to 30, in zoos, circuses and private collections are generally maintained under inadequate conditions. I, together with the World Society for the Animal Protection (WSPA), outlined a project with the purpose of liberating young animals after a rehabilitation process and at the same time to study them in their natural habitat, based mainly on direct observations.

The program of Rehabilitation and Liberation of the Andean Bear was conducted from May of 1995 through August of 1996 in the Biological Reserve Maquipucuna, located in the cloud forests of the Guayllabamba River Valley, on the western slope of the Andes, very near the community of Nanegalito. The Reserve encompasses 4.500 hectares and altitudes between 1.200 and 2.800 m. The annual average temperature varies between 10 and 20 degrees centigrade. This area was chosen because its vegetation includes a great quantity of the vegetable species believed to be liked by the bears, and it is the home of many wild bears.

The Bears

Three young bears were selected: two females and a male called Chiquita, Tuta and Paddington respectively. The bears had been confiscated by authorities of the Department of Wildlife of INEFAN (Ecuadorian Institute of Forests and Natural Areas) and by the Civil Defense, from people that had them as pets and kept them under terrible conditions near the city of Cuenca. The cubs were then between 2 and 3 months of age, they were given into custody to Jim and Teresa Clare, an English family that lives in the afore-mentioned city. When the bears were approximately 17 months old they were taken by air to the city of Quito and from there by surface to the Maquipucuna Reserve to begin their rehabilitation.

Rehabilitation

Before the arrival of the bears at the Reserve, a provisional cage of 6m wide x 12m long and 3m high was built. In this confinement a small room was made comfortable with a tree about 6 m tall, so the animals could acquire good balance and climbing agility. A nest was built in the branches for rest and sleep.

The animals spent at least 15 days acclimatizing. They were fed in two ways, with prepared and natural foods; in the first case, the bears stayed on the diets to which they had been accustomed during their period of captivity; in the second case, they were fed a sampling of plants believe to be liked by Andean Bears in the wild, as proposed by several authors and local information. Some methods were designed to help the animals "learn" to eat palms, heliconias, bijaos, worms, larvae and insects. Thanks to these techniques the bears learned how to survive in the forest.

Preliberación

Before liberation, the bears were examined by a veterinarian. They also received preventive measures and dental occlusions, for which they were sedated using darts. Each bear was radio collared. The collars had movements sensors that transmitted two signs: a slow pulsation and another quick one that were activated according to the movement of the animal. The speed of the pulsations makes it possible to determine the Activity (feeding, walking, climbing) or Inactivity (resting, sleeping) of the bear. Signals were captured by means of a receiver and special antenna specially designed for this purpose; location was determined by conventional radiotelemetry.

When blood samples were taken the results showed that two of the three bears had a light infection. To safeguard the health of the wild bears, the bears were treated with antibiotics for one month.

Liberation and Tracking

On the 8th of December of 1995, the bears had learned how to feed on 37 species of plants and 16 species of animals; they were totally healthy, had become more attentive, and startled at the smallest noise. Therefore, the moment for liberation had arrived. The doors only had to be opened and the animals instinctively looked for the forest. Only two animals were tracked by means of radiotelemetry because the third, Tuta, was able to remove the radiocollar. In 8 continuous months of

tracking, I calculated for Chiquita a territory of 4.1 Km² while that for Paddington was 61 Km². By listening to activity I learned that these animals are as active in the night as in the day. In all of the months of tracking I obtained only a total 24 hours of direct observation in 127 encounters at distances between 5 and 30 m. This allowed me to study their behavior, especially feeding behaviors. An average of 70.2% of the time of direct observation the animals dedicated to eating, especially palms (palmitos).

Environmental education

At the same time that we developed the research there were talks about this species and its ecosystems in schools near the study area. To motivate people we used slides and videos of the field work, distributed flyers with basic information on the biology of the Andean Bear, and gave out T-shirts, stickers and posters. Some members of the neighboring communities were hired as field assistants and/or informants. These actions helped to create a deep change in people's attitude toward the populations of Andean Bears, so when local residents saw one of the study bears, they didn't shoot it and they reported the encounter to us.

Unexpected events

Within a few months of being liberated, Tuta and Paddington began to spy on and then raid farms surrounding the Reserve to "steal" provisions or sugar cane. The male bear also attacked and ate three calves, in a clear demonstration of his hunting instinct, while the female began to wander the tract of highway between the populations of Calacalí and Nanegalito, looking to be fed by tourists and travelers. All these events forced me to catch the two "sweet-toothed" bears and to move them to the Sangay National Park, which has 540,000 hectares and is located in the central and eastern part of the country. There are no nearby populations for the bears to bother.

The approaches of Tuta and Paddington to populated places didn't mean that they could not live off the forest and that the rehabilitation had failed. On the contrary, the animals knew how to take advantage of the resources that the forest offered. Our observations demonstrated this. The fact was that the animals spent too much time near people and they didn't feel fear or they felt fear and they ignored it, being more insistent on incursions. These "raids" to properties and attacks on livestock are not unique; they are also made by wild Andean Bears, Black Bears in North America and Brown Bears in Europe.

Conclusions

This was a pioneering study in South America. Although I obtained unexpected results, they helped to improve planning of other projects. It has been demonstrated that it is possible to rehabilitate Andean Bears and to liberate them in the forests where formerly they were masters and gentlemen and today they are only an illusion.

“aprendan” a comer palmas, platanillos, bijaos, lombrices, larvas e insectos.