

The Tigrilladas in Colombia

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The jaguar *Panthera onca* and the tigrillos, - the ocelot *Leopardus pardalis*, the margay *L. wiedi* and the oncilla *L. tigrinus* - are the four spotted cat species indigenous to the Colombian Amazon basin. The cat skin boom of the 1960s and 1970s is well known, but details of how these skins were produced remain obscure. The tigrilladas is the name is given to the hunting missions that used to go after jaguars and tigrillos to cater for this fashion craze. Here we detail how these operated and discuss the significant implications for conservation.

Historical background.

The tigrillos are part of a guild of three species of spotted cats commonly and collectively called this way by locals. It comes from the word *tigre*, which in Spanish means tiger. Jaguars have been called *tigres* since they were seen for the first time by the Spanish conquistadors, who had the Asiatic tiger *Panthera tigris* as their reference from the old world; however, early naturalists realized this and at first named the jaguar [*Felis*] *onca* Linné (Goldman 1932). The common name, jaguar, is derived from the South American Indian name *jaguara*, meaning, according to Liais (1872), 'carnivore that overcomes its prey at a single bound'. *Tigrillo*, the diminutive for tiger, is how local people refer to the *Leopardus* sp. guild.

In the Amazon alone between 1968 and 1969, 2,000 jaguars were hunted, and in the same years the USA imported 13,516 jaguar skins and 9,831 skins, respectively (Ruiz-Garcia *et al.* 2003). Gieteling (1972) and Fitzgerald (1989) estimated that 15,000 jaguar pelts were exported to the USA and Europe in the late 1960s. In 1973, 3,500 jaguar skins were exported through the Amazonian port of Leticia (Redford & Robinson 1991). The ocelot was the spotted cat most heavily exploited by the fur trade from the early 1960s to the mid-1970s. Gieteling (1972) estimated that some 200,000 ocelots (i.e., *tigrillos*) were hunted annually in the Amazon basin, and

Myers (1973) reports that 133,069 skins were officially imported into the United States alone in 1969. Although many South American countries had prohibited trade of their native cats before CITES became effective in 1975 (and listed all Colombian spotted cats in Appendix 1), as had Colombia for instance in 1973 (Broad 1987, Nowell & Jackson 1996), this country exported 62 jaguar pelts in 1974 (Baptiste *et al.* 1992). From 1976 to 1983 the net international trade in skins fell and effectively ceased in the late 1980s (Broad 1987).

We have not found detailed accounts of the methods used for hunting felids in Colombian Amazonia, only an unpublished research report on jaguar natural history (Baptiste *et al.* 1992), two references to these practices in journalistic tales (Castro 1986, 1998), and a mention of the possible conservation impact of using primates as bait in an unpublished research report (Defler 1980). During a jaguar project in 2005, the principal author interviewed locals from Amazonia and Orinoquia and collected data on the hunting practices presented here.

The demand from the fashion trade in the industrialized countries for spotted fur from Neotropical cats changed the way of life for many living in the Amazon basin. In Colombian Amazonia the demand for pelts motivated local people to commence hunting cats for sale, and around 1965 this hunting became standardized and systematic, giving rise to the *tigrilladas*. They occurred mainly in the Amazon basin, specifically in the basin of the Caquetá River and its tributaries such as the Puré, Cahuinari, Bernardo, and Mirití-paraná River and Metá creek in the Amazonas department, the Yari, Cuñaré and Yavillá Rivers and other creeks in the Caquetá and Vaupés departments. North of the Amazon, in the Vichada department there have been oral reports on the occurrence of the *tigrilladas* on the Siare River.

Hunting methods

In the dry season (November-May), groups of 20-25 hunters set out upriver

to hunt spotted cats for 1-2 months. During daylight the groups travelled upriver in several boats and hunted primates, rodents, tapirs *Tapirus terrestris*, peccaries *Tayassu* sp., sloths, anteaters, coatis, deer, black caimans *Melanosuchus niger*, *babillas* (a variety of small crocodile), anacondas and, prime baits for ocelots, armadillos and agoutis. Primates were also heavily hunted, especially because of the relative ease of seeing them in daylight and of killing them with firearms.

The following species of primates were specifically hunted for use as baits: woolly monkey *Lagothrix lagothricha*, howler monkey *Alouatta seniculus*, capuchin monkey *Cebus apella*, spider monkey *Ateles* sp. and squirrel monkey *Saimiri* sp. Ten to 25 hunters laid out 5-10 baits. Small and medium size primates as *Cebus* sp. and *Saimiri* sp. would provide one bait (whole), but large primates such as *Ateles* sp., *Lagothrix* sp. and *Alouatta* sp. supplied meat for two baits. A peccary would be cut into six baits: one from each leg, one from the lower body and another from the head and neck. A tapir would provide about 15 baits, as would a black caiman.

The hunter chose a baiting site and dragged the bait across the ground several hundred metres from the shore of the river or camp to the selected site and around it. They tied the bait to a tree with a special, very resistant type of liana called *cumare*. Primates were opened from the throat to the abdomen before they were dragged and then tied at the neck to the baiting tree (Castro 1986). At the site a medium sized tree was chosen and the bait tied to the tree at about 1 m above ground. The size had to permit the tree to be flexible enough not to break with a jaguar struggling to rip off the bait, it had to waggle enough to impede the jaguar from achieving equilibrium and stealing the bait, and it had to make a noise brushing against the canopy to alert the hunter waiting in ambush that the jaguar was eating.

Once the bait was fixed in place it was left for one night and checked the following day. If the bait had been ea-

ten (it had to be tied well so that some of the meat was left the following day), the hunters had to choose a shooter and construct a pasera or shooting platform, ideally located upwind. The *pasera* was constructed 5-6 m from the bait tree and at a height of 2-4 m depending on the surrounding trees. An ideal site would include a pasera that could support a sitting or standing hunter who could shoot with ease. The lianas and branches were cut and joined together away from the bait site to avoid too much disturbance and human smell at the site itself.

A hunter was left alone the second night to wait for the jaguar; he would wait up to three nights maximum. When the jaguar came to feed the tree shook, thus warning the hunter (who was waiting in the dark) that the cat had returned. When not hunting, jaguars walk noisily, breaking twigs and moving leaf litter, but when they are alert their walk becomes silent and imperceptible; then they are called *mano de lana*, 'woollen hands' (this study, Baptiste *et al.* 1992). When a jaguar is hunting or alert, hunters say that they have to try to listen for a twitching sound from its ears, which is the only sound it makes. When the jaguar came to feed, the hunter had to illuminate the jaguar with his flashlight and shoot while it was startled by the light, aiming at the head to avoid damaging the pelt.

Hunters believe there are different types of jaguar behaviour. The 'tame' jaguars usually feed on the bait from around 18:30 to 20:00 hours, while the other more crafty and sly kind feed around midnight. The latter are also the dog killers, although not all jaguars kill dogs, and not all dogs tree jaguars. Baptiste *et al.* (1992) report that these sneaky ones, when pursued, run in circles and then hide in ambush and kill the dogs that are after them.

These hunting missions of 1-2 months produced around 20-30 jaguar and 100-150 *tigrillo* skins. The pelts were initially treated with salt and ash to dry and conserve them in the jungle, while the paws and canines were taken and sold separately. Nowadays, locals still use jaguar (and also *Puma concolor*) canines in a gold bracing hanging from a chain around the neck and the bone is ingested to help treat arthritis.

Another, less common hunting method was imitating the jaguar's roar. Clay



Fig. 1. Seized spotted-cat skins from the fur trade housed at IAvH's Natural History Collection in Villa de Leyva, Colombia (Photo: V. Lehner).

pots and empty dried fruits were used to imitate the jaguar's roar by blowing air into them, luring the jaguar closer. The small spotted cats were also hunted by blowing on a leaf close to the mouth that produces a whistle similar to the agonized cry of an agouti; this was done at intervals along trails. Spears and arrows have been used in the past by indigenous tribes and some older settlers, but details of these rare hunting techniques were unavailable. The basic method was to spear the jaguar in the abdomen with the spear - but on the ground with the hunter holding it. Settlers used *tramperos*, even up to the present, consisting of a rifle (or just a barrel loaded with lead pellets and gunpowder) situated on a trail and triggered by a passing animal that trips a wire. This off course can also injure people.

The trade in skins

The small river ports of Araracuara and La Pedrera (25 inhabitants in 1965, Castro 1998) were the first collecting points for skins; from there they were taken to Leticia or Villavicencio, then to Bogotá or to Manaus and on to Europe and the USA. As intermediaries and the distance from the jungle increased, so did the price of the pelts. A jaguar pelt in 1966 in La Pedrera was worth 1,800 pesos, and in Leticia 4,100 pesos (Castro 1986); in that year a US dollar was about 13.5 pesos. In Bogotá in 1972, 103 jaguar and *tigrillo* pelts were valued at 500,000 pesos (Castro 1986). In 1975 in Bogotá, a jaguar pelt was valued at 7,000 pesos and an ocelot at 4,000 pesos. To place these costs in context, a 40-hp outboard engine was priced at 8,000 pesos,



Fig. 2. Ocelot pelt for sale in Iquitos market, Peru, in 2003 (Photo: E. Payán).

that the ocelot was the most sought-after spotted cat even well into the 1990s. We should note that 5 skins from those seized in 1972 came from the Chocó region on the Pacific coast which is one of the remaining large jaguar population habitat blocks in Colombia (Payán 2005). Present day felid hunting in Colombian Amazonia is restricted mainly to retaliatory hunting for livestock and poultry, but in Peru, another Amazonian country, hunters still sell ocelot skins in the markets without legal permission (Fig. 2).

The effects of hunting

There are at least 4 identified jaguar population blocks in Colombia. The Amazon one is the largest (Payán 2005) and also the one that was most heavily exploited. This block is at present the main stronghold of the species in Colombia, and luckily the jaguar population was not eradicated by the fur trade bonanza. However, the impact on other ecosystems that hold fewer jaguars, such as the Llanos and Choco areas, has still to be studied. Study of the conservation status of the jaguar populations is urgently needed in order to prioritise conservation action.

Payán (2001) and Ruiz-García & Payán (subm.), studying the genetic structure of the jaguar in Colombia ($n = 49$) using 8 microsatellite loci, found that the bottleneck detection test gave negative evidence for demographic reduction events in jaguars. This indicates that in the last thousand generations there has not been a genetically significant decrease in population size that would have been recorded in the genome, in spite of the dramatic commercial hunting and trapping of jaguars for their pelts during the 1960s and 1970s; or a subsequent expansion of the population that would follow a bottleneck. The presence of jaguars in the last 10 years in all the above-mentioned river basins suggest that jaguars are quite resilient and, with available habitat and prey, could overcome this heavy hunting pressure.

The conservation status of the other three spotted cats in Colombia is unknown. However, a higher frequency of ocelot occurrence than that of the other spotted cats in the east of Colombia is evidenced by hunting records, photographed skins and interviewee responses. The ocelot is smaller than the jaguar, implying less need for territory

and the minimum Colombian wage per month was 300 pesos. In 1980 a *tigrillo* skin was worth 800-2,800 pesos on the black market (Defler 1980). A jaguar skin in New York rose in price up to US\$2,500 (Cala 1969), and a top quality jaguar coat fetched US\$20,000 in the fur boutiques of New York (Nowell & Jackson 1996), and Myers (1973) estimated that the international trade in spotted cat skins was worth approximately US\$30 million at this time.

In the days of the *tigrilladas* in the Amazon, very little money circulated, so business was conducted through exchange. The intermediaries were the people who bought the skins from hunters in the outposts (e.g., La Pedrera, see below) and took them to sell in the larger towns (e.g., Leticia), coming back with clothing, batteries, radios, fishing hooks etc to exchange for skins. Hunters acquired debts from the intermediaries for food, rifles, ammunition and gasoline and paid for them with part of the haul of skins

from the animals they set out to hunt.

In 1973 the Instituto Nacional de los Recursos Renovables y del Ambiente (INDERENA) prohibited the hunting and sale of spotted cats. The Alexander von Humboldt Institute (IAvH) in Colombia replaced INDERENA in 1994 and inherited their pelt collection which is now housed as a Natural History Collection (Figure 1). The ocelot pelts seized by INDERENA, now in the collection, are as follows: 37 from the 1970s, 6 from 1980s and 100 from 1990s. Apparently the seizure of pelts after prohibition was not very effective, given the low numbers and probable high illegal hunting rate. The 100 pelts from the 1990s were captured in two shipments, 50 pelts in 1995 and another 50 in 1997, probably old skins produced for the past bonanza that someone was trying to export at this later date. Cat skin trade reported by CITES for the 1990s include 0 ocellas, 2 margays, 21 ocelots, and 0 jaguars (Nowell & Jackson 1996), confirming again

(4 individuals per 5 km² in the Amazon; Emmons 1988), requirements of smaller of prey, and shorter reproductive and development stages, and even though it was the most heavily hunted cat it has shown startling resilience. The lack of biological information on *Leopardus sp.* leaves a black hole in terms of detailed loss per species of *tigrillos* from the fur trade years. Furthermore, the use of one vernacular Spanish name for three species due to their similar morphological characteristics evidences the lack of knowledge on biological diversity by the general public (Rodríguez-Mahecha *et al.* 1995), in a time where conservation science is considering priorities at sub-species level with other cat species. This highlights the urgent need for species-specific knowledge and local education on the occurrence and ecology of this mysterious cat guild.

The hunting method described here was worryingly efficient in terms of catching cats in dense forest and on the toll it had on the huge numbers of other large vertebrates used as bait. Olfaction has been seen to play a role in ocelot hunting behaviour, and they have been seen following odour trails (Emmons 1988), thus the dragging of bait along trails can have played a determinant factor in the baiting efficiency. One would expect that the number of small monkey species would fall drastically since they would provide a small number of baits, but tapirs would be even more tempting targets for hunters owing to the large number of baits they would yield. Defler (1980) states that woolly, howler and spider monkey densities were drastically reduced on the banks of the Mirití-paraná and the Caquetá rivers in the early 1970s, but by the early 1980s they had recovered again. The correlation between the *tigrilladas* and the decrease in primates are probably directly proportional. Baptiste *et al.* (1992) also express concern on the impact on tapirs, peccaries, howler, woolly and spider monkeys. Populations of large mammals, such as tapirs, that are slow to grow and reproduce may never have a chance to recover, since they are still hunted locally for their meat. The species used for baiting where also natural prey for jaguars and ocelots, which deepens the impact for felids since their prey availability would also be low and, thus, impairing rapid population recovery.

At the end of the cat skin bonanza, the only people who had made a profit from it, were a couple of intermediaries in large cities and the fur boutiques of the USA and Europe, leaving the local hunters still poor and the forest empty. This shows the fragility of the Neotropical forest ecosystem and how all its animals are at the mercy of humankind and its ideas, and how the slightest possibility of money income from the industrialized nations can wreak havoc in one of the last remaining truly wild places. For the moment, these historical facts should serve to highlight the importance of regulating the demand for resources found in the tropics.

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