

- Silvestre Neotropical*. Smithsonian Institution / Man and Biosphere Program, Washington, D. C.
- Ortiz Pérez, M. A., J. R. Hernández Santana y J. M. Figueroa Mah – Eng. 2004 Reconocimiento Fisiográfico y Geomorfológico. En: A. J. García – Mendoza, M. J. Ordóñez y M. Briones – Salas (Eds.), *Biodiversidad de Oaxaca*. Instituto de Biología, UNAM – Fondo Oaxaqueño para la Conservación de la Naturaleza – World Wildlife Fund, México.
- Robinson, J. G., and E. L. Bennett (eds). 2000. *Hunting for sustainability in tropical forest*. Columbia University Press, New York, NY.
- Secretaría de Medio Ambiente, Recursos Naturales y Pesca (Semarnap). 2002. Norma Oficial Mexicana NOM-059-ECOL-2002. Protección Ambiental, Especies de Flora Y Fauna Silvestres de México, Categorías de Riesgo y Especificaciones para su Inclusión, Exclusión o Cambio, y Lista de Especies en Riesgo. Diario Oficial de la Federación, Lunes 16 de Octubre de 2001, 1: 1-62.
- Shaw, J. H. 1991. The outlook for sustainable harvests in Latin America. In: J. G. Robinson and K. H. Redford (eds), *Neotropical wildlife use and conservation*. University of Chicago Press, Chicago, IL.
- Soulé, M. 1980. Thresholds for survival: maintaining fitness and evolutionary potential. Pp 151-179. In: Soulé, M. (ed.). *Conservation Biology*. Sinauer Assoc. Inc. Sunderland, Mass.
- Torres Colín, R. Tipos de Vegetación. En: A. J. García – Mendoza, M. J. Ordóñez Y M. Briones – Salas (Eds.), *Biodiversidad de Oaxaca*. Instituto de Biología, UNAM – Fondo Oaxaqueño para la Conservación de la Naturaleza – World Wildlife Fund, México.
- Webb, R.G. y R. H. Baker. 1969. Vertebrados terrestres del suroeste de Oaxaca. Anales del Instituto de Biología, Universidad Nacional Autónoma de México, *Serie Zoología* 40 (1): 139-152.

Ethnozology of the Amazonian Tapir (*Tapirus terrestris* Linnaeus 1758) in the Sarayaku Community, Ecuador

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„At the beginning of the world there were no wars, but once the peccaries killed a tapir. There was in the forest a very powerful ‘yachak’ that was a tapir and it revenged the death of his brother, then there were wars in the world and nothing went back to be the same.”

Shipibo-Conibo narrative Ucayali, Peruvian Amazon (Harbes Silvano, pers. comm.)

Abstract

The present study was carried out in Sarayaku, a Kichwa indigenous community of the Pastaza Indigenous Peoples' Organization (OPIP) in the Ecuadorian Amazon, Province of Pastaza, Ecuador. Twenty one families were interviewed by means of structured surveys about general knowledge of Amazonian Tapir (*Tapirus terrestris*). Surveys were directed toward hunters' families and com-

munitarian park-rangers. Tapir represented 6.34% of the annual diet of the 21 surveyed families and occupied sixth place among the most hunted species. Preferred sites for hunting were: salt licks, *Mauritia flexuosa* swamps, chacras (small gardens), hills, plains and river edges. Interviewed people described hunting techniques, hunting histories and mythological knowledge about the species. Six families attributed medicinal uses to the hoof of the tapir. Another six indicated that tea made of grated hooves fights cardiac afflictions, epilepsy and rheumatism. The nine remaining families did not attribute any medicinal use to the species. Additionally, we consider the experience of the "Tapir Conservation Project" held in the community through the establishment of communitarian reserves as an alternative for food security and management of the biodiversity. This experience, combined with the results of this study, give us an idea of the ample knowledge of Kichwa indigenous peoples on the biodiversity of our house, Pachamama.

Introduction

Sachawagra (“cow of the jungle” in Kichwa language), danta or tapir (*Tapirus terrestris* Linnaeus 1758) traditionally represents an important source of animal protein for indigenous communities of the Ecuadorian Amazon region (Tapia, 1999). Tapirs are mammals with a low reproductive rate (Bodmer et al., 1997) and thus very susceptible to negative impacts. The decline that the species faces today is largely the responsibility of the big industries (oil and timber) (Schultz, 1998), as well as governmental laws that in the name of development stimulated unsustainable depredation of our indigenous territory in the 70-s and 80-s (Agrarian Reform and Colonization Law of 1964). In this context, we wanted to know how the human being and the wildlife species related in a same environment. That is, we wanted to know the uses and values for tapirs in the Kichwa indigenous tradition and how it relates to its use. This study would help us understand better what we stand to lose, economically and culturally, if the species disappears.

Indigenous beliefs have rooted in their Cosmo vision the idea that all beings own a spirit (supay) that makes them belong to this world. All the animals are, therefore, important to keep the equilibrium of life. Amazonian indigenous nationalities tell many legends about the genesis of the world; in these narrations, the participation of all beings alive is defined. The tapir, the largest terrestrial mammal of the Neotropics, is said to own a powerful spirit, and therefore a strong symbolic value. Tapir populations are seen like “people” with their own social organization and with rules for relations with other beings of nature (Sarmiento, 2004).

Despite these values, it must be understood that increased dependency to external factors introduced in the communities by the practice of extractive process, like oil and timber industries, stimulate the deterioration of the natural resources in name of development. In addition, organizational weakness of some communities has made these problems more acute. The increase of hunting with commercial aims is undeniable, even in remote communities. Commercialization of wildlife has been stimulated by the abovementioned factors. In the Amazonian departments of the Peru, illegal sale of tapir parts has been registered. Ninety eight percent among 120 interviews reported the use of the snout to cure diseases such as cardiac problems, epilepsy, asthma, osteoporosis, etc. (Figueroa, 2004). Additionally use as pet has been described in some communities of southeast Peru (Figueroa, 2004).

In the present study, we tried to understand the pressure exerted by subsistence hunting, based on the multiple factors that determine the reality of Amazonian towns. In other words, we wanted to inter-

pret the uses of tapirs in the appropriate spiritual and cultural context, understanding the intimate relation between the human being and the forest. The power of histories, the vitality of the mythologies and the prescience of tradition of our people are aspects that must be considered because they represent coherent explanations to the phenomena that determine the life of man in the forest.

Materials & Methods

We surveyed 21 families of the Sayaraku Kichwa indigenous community of the Ecuadorian Amazon, by means of structured interviews. The surveys were directed mainly to hunters’ families and communitarian park-rangers. Surveys were made through visits to local families in coincidence with New Year eve festivities.

Some of the questions asked include: What are the most hunted species in the community? Have you or your relatives hunted tapirs? Where is it easier to find tapirs (salt licks, palm swamps, river edges, etc)? How many individuals do you hunt per year? How many tapir species or varieties do you know? What functions does the tapir perform in the rainforest? Do you know any medicinal use of tapirs? Do you consider the tapir as a sacred/symbolic animal? Have you tamed tapirs and what do you think about its management in captivity?

Results & Discussion

In at least 62 countries, hunting contributes approximately with 20% of animal protein in the diet of local people (Stearman & Redford, 1995). Results from this study indicate that the tapir represented 6.34% of the annual diet of the 21 surveyed families and occupied the sixth place between the more hunted species after the lumucuchi (*Tayassu tajacu*), lumucha (*Paca Agouti*), caruntzi (*Penelope purpuranssen*), taruga (*Mazama americana*) and chorongó (*Lagothrix lagothricha*). All hunted species are destined for meat consumption in the family (Belto Santi, pers. comm.). According to Siren (2004), the percentage in weight of tapir meat in the family diet in the same community is 8.7%. During a study in northeastern Ecuadorian Amazon, tapir contributed to local diets with a biomass of 595.80 kg (or 3.86% of all animal biomass consumed) in a period of nine months (Zapata, 2001). During communitarian festivities in central Ecuadorian Amazon, tapir represented 35.4% (200 kg) of total hunting (Freire, 1997).

In order of importance, the hunting sites preferred were: Salt licks (25% – in Kichwa: *kachis*), *Mauritia*

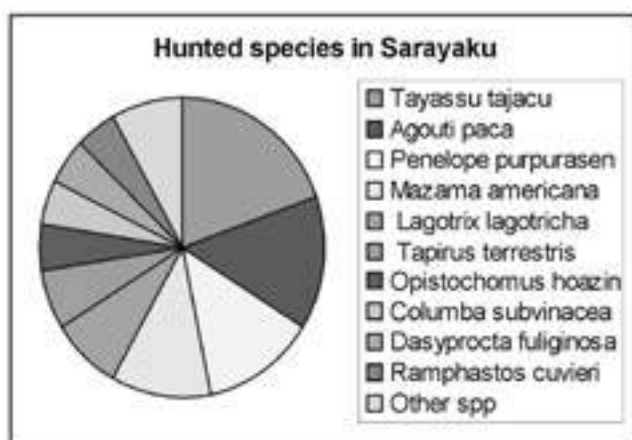


Figure 1. Frequency of hunted species in the diet of 21 families of the Sayaraku indigenous community, Ecuador.

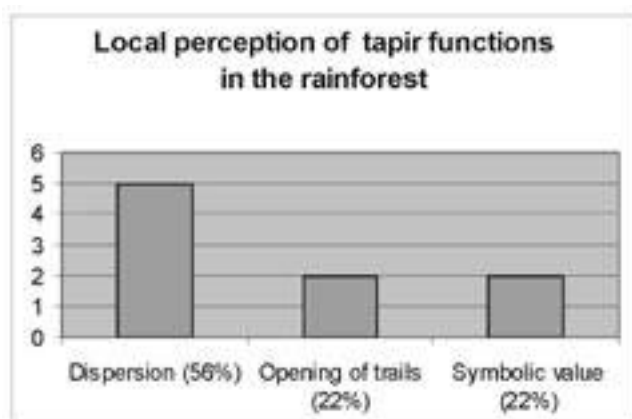


Figure 2. Local perception of tapir functions in the rainforest among 21 families of the Sayaraku indigenous community, Ecuador.

flexuosa swamps (20% – *muriti turu*), hills (20% – *urkus*), plains (20% – *pamba*), river edges (10% – *yaku*) and chacras (small gardens 5%).

Hunting techniques were described by interviews. Hunters usually wake up at 3:00 A.M, most of tapirs are hunted between 5:00 and 6:00 A.M while walking through their trails or at 12:00 noon, while resting. Many hunters wait in platforms located in strategic sites until tapirs appear and then kill them. Tapirs could also be found in river edges and lakes while hunters cruise in their canoes.

To the Sayaraku perceptions, two varieties of the same species of tapir exist. These varieties are: *Atun wagra* (great tapir) and *Shinlu wagra* or *Ichilla wagra* (small tapir). *Atun wagra* is blacker and its meat is clearer than *Shinlu wagra*. *Shinlu wagra* feeds mainly on the *Shinlu*, a 1 m tall shrub with green dark filamentous leaves.

People recognized the following functions of tapirs in the ecosystem: seed dispersal (5), opening of trails and footpaths that other animals and people use (2) and symbolic value (2). People usually attribute medicinal uses to tapir parts (Naveda, 2004). In this study, several families (6) attributed medicinal uses to the hoof of the tapir. They explained that the grated hoof is given to sick people in order to cure cardiac afflictions, epilepsy and rheumatism. People would also use this preparation against the “mal aire” (a weakness thought to be caused by spirits of forest), grated and offered with tobacco, or to help women become pregnant (grated and in drinks).

Five families had tamed tapir in the last years before the interview for domestic consumption. At the time of the interviews, one family owned a tamed animal and two animals had been released to a communitarian reserve as part of the Tapir Conservation Project held in the community. Many interviewees (14) said that semi-captivity is a good alternative for feeding security, while one other indicated that it is not a good choice due to the husbandry costs. At the present, an on going project exists for the conservation of tapirs, a natural resources and territory stewardship campaign impelled by communitarian leaders. Through the establishment of reserves and hunting prohibitions people have been involved in protection and ownership of resources, as a strategy against the unsound development plans promulgated by the State.

The oral tradition was enforced by Sayaraku elders during the Spanish conquest and colony as the main ideological weapon to oppose to the invading culture, and it became an institution that maintained alive our culture over the centuries since. Mythological aspects and dreams are very important in hunting activities of indigenous communities. During the preparatives before any hunting expedition, dream and mythological relates, chicha (traditional drink made of yucca, *Manihot sculenta*) and oral histories transmitted from one generation to another, conform a rich and variate cultural context that guides the hunter. The following are omens for good hunting among the Sayaraku: to dream being embraced by a girl, to kiss a girl or a relative, to dream constructing or hauling a canoe, to dream being near family or good friends, to dream being greeted by a fat person, or dream of weaving clothes or necklaces. Most families (15) consider tapirs as sacred animals and believe that they possess a spirit (*supay*), male or female, which whistles like the whinnying of a horse. This spirit lives in mountains (*urkus*) or salt licks (*kachis*). In these spiritual relates of the Sayaraku, wildlife species and their spirits – among them the tapir’s – play a pivotal role in the equilibrium of nature and are seen much like societies with their own organization, inter-related with all other beings of the forest – including humans.



Figure 3. A tapir inside a family abode at the Sayaraku indigenous community, Ecuador.

It is of paramount importance that the Sayaraku people develop sustainable management alternatives for its wildlife and forests, in response to unsustainable development options promoted by the government, to the economic interests of large extractive industries, and to the various proposed models that alienate indigenous peoples and threaten to annihilate the cultural traditions of native Amazon groups. Protecting biodiversity is, thus, not just about securing food sources and conserving ecosystems; it is also about a strategy for our people to maintain and preserve our cultural legacy.

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Literature Cited

- Bodmer, R. E., Eisenberg, J. F. & Redford, K. H. 1997. Hunting and the likelihood of extinction of Amazonian mammals. *Conservation Biology* 11: 460–466.
- Figueroa, J. 2004. Use and commerce of individual parts of the Amazonian Tapir (*Tapirus terrestris*) in Peru. *Proceeding of the Second International Tapir Symposium*. Ciudad de Panama, Panama. Tapir Specialists Group. 42 pp. <http://www.tapirspecialistgroup.org>.
- Figueroa, J. 2004. Mamíferos de la Zona Reservada Megantoni. In: C. Vriensdorp, L. Rivera, D. Moskovits

& J. Shopland (eds). *Rapid Biological Inventories* N°15, pp 110-118, 215-230, 288-293. The Field Museum, Chicago, IL. EE.UU.

- Freire, M. 1997. La cacería de mamíferos, aves y reptiles en una comunidad Quichua y en destacamentos militares Lorocachi-Pastaza 1995-1996. Thesis. Universidad del Azuay, Cuenca, Ecuador.
- Naveda, A. 2004. Ethnozoology of Lowland Tapir (*Tapirus terrestris*) in Venezuela. *Proceeding of the Second International Tapir Symposium*. Ciudad de Panama, Panama. Tapir Specialists Group. 42 pp. <http://www.tapirspecialistgroup.org>
- Sarmiento, A. 2004. Classificatory systems of the Tapir (*Tapirus terrestris*) in three ethnic groups of the Middle Caquetá River: Migh there be subspecies or local populations?. Fundación Tropenbos, Bogotá, Colombia.
- Sarmiento, A. 2004. Knowledge of the natural history of the Tapir (*Tapirus terrestris*) by three ethnic groups of the Middle Caquetá River region, Colombian Amazon. Thesis. Fundación Tropenbos, Bogotá, Colombia.
- Schultz, M. 1998. El tapir y el capibara, el ganado de la selva. In: M. Schultz, A. Sandahl, K. Backström, P. Berger, M. Tapia & R. Arias (eds) *Habla el amazonas*, pp.26-31. UBV/OPIP, Puyo, Ecuador.
- Siren, A. 2004. Changing interactions between humans and nature in Sarayaku, Ecuadorian Amazon. Thesis. University of Agrarian Sciences, Uppsala, Sweden.
- Stearman, A. M. & Redford, K. H. 1995. Game management and cultural survival: the Yuqui ethnodevelopment project in lowland Bolivia. *Oryx* 29: 29-34.
- Tapia, M. 1999. Guía para el Manejo, Crianza y Conservación del Tapir (*Tapirus terrestris* Linnaeus 1758). Centro Tecnológico de Recursos Amazónicos de la OPIP, Puyo, Ecuador.
- Zapata, G. 2001. Sustentabilidad de la cacería de subsistencia: el caso de cuatro comunidades Quichuas en la Amazonía nororiental ecuatoriana. *J. Neotrop. Mammal* 8(1):59-66.



Figure 4. Workshop diagram promoting the conservation of wildlife at the Sayaraku indigenous community, Ecuador.