

The role of woolly monkeys as a flagship species for conservation in the Colombian Amazon (work in progress)

Angela Maldonado

Oxford Brookes University, UK and The Woolly Monkey Project, Colombia

amaldonado@brookes.ac.uk

Introduction

Amazonia is the largest tropical forest, representing 53% of the world's remaining tropical rain forest; it plays a critical role in regulating climate at both regional and global levels (Bunyard, 2005). The Amazon basin has the largest concentration of primate diversity in the world with 81 primate species (CI 2002). Primates comprise 25 to 40% of the frugivore biomass in Neotropical forests (Terborgh, 1983; Palacios and Peres, 2005), and large-bodied primates play an important role in ecosystem dynamics as seed dispersers, being important agents in the renovation and diversification of the forest (Stevenson, *et al.*, 2002; Peres and Van Roosmalen, 2002). These primates are increasingly threatened by anthropogenic habitat disturbance and from subsistence hunting (Chapman and Peres, 2001) (Fig1).

Little is known about the impact of subsistence hunting within protected areas and indigenous land in the Colombian Amazon. Palacios and Peres (2005) stated that it is critical to obtain long-term baseline information on the abundance and distribution of the harvest-sensitive mammals, in order to propose conservation actions alongside the government component (Colombian Park System Unit). With the aim of meeting these information requirements, The Woolly Monkey Project (TWMP)¹ began a census to provide a baseline for future monitoring by assessing the status of primates and other harvest-sensitive vertebrates in the Southern part of Amacayacu National park (Colombian Amazon), an area intensively exploited by Tikuna indigenous communities.

The Woolly monkey as a flagship species

The Common woolly monkey (*Lagothrix lagothricha*) is widely distributed throughout the Amazon. However, it is restricted to primary and continuous forest, and 50% of its total distribution is represented by the Colombian population (Defler and Rodriguez, 2003; Defler 2004). *Lagothrix lagothricha* is one of most threatened Amazonian species as a result of hunting, so that even at subsistence level, the wild population has been depressed to the point of local extinction (Peres, 1990; Mena, *et al.*, 2000).



Fig 1. A hunter from the Tikuna indigenous community of San Martín de Amacayacu. (Photo source: Angela Maldonado).

¹ The Woolly Monkey project (TWMP): A community-based research project in the Colombian Amazon.



Fig 2. *Lagothrix lagotricha*: Conservation status downgraded to Lower Risk “Least Concern” (Lc) (Photo source: Angela Maldonado).

The most recent classification of *Lagothrix lagotricha* by the IUCN has downgraded its status to Lower Risk: “Least Concern” (Lc) (Rylands et. al. 2000) (Fig 2).

Large mammals are the highest biomass seed predators of intact Amazonian communities and at risk due to human disturbance; they are potentially a central mechanism for maintaining tree species diversity (Wyatt and Silman 2004). Ateline primates and particularly woolly monkeys are the most effective seed dispersers in western Amazonia (Stevenson 2000). Owing to the important role of this charismatic species in the fragile Amazonian ecosystem, woolly monkeys were chosen as the *flagship species*. In 2004 Mocagua, one of the indigenous communities involved in this research, agreed to implement a prohibition on the hunting of woolly monkeys and a restriction on the hunting of tapirs (Amacayacu National Park, 2005).

In March 2005 **TWMP** started a census of large-vertebrates and a preliminary phase of the environmental education programme. This programme involved two Tikuna indigenous communities (Mocagua and San Martin) which have permanent settlements in the southern part of Amacayacu National Park. The government component, the Colombian Park System, which is

currently co-managing the natural resources of the area alongside the indigenous communities is also involved. This project includes the development of biological and socio-economic baseline information to examine hunting off-take rates and determine the degree to which they are sustainable, and its implications for local people and large mammal conservation.

Preliminary results

Fieldwork: During the first six months of field work, a group of 20 co-investigators, comprised of local hunters, were trained in line transect method and currently, the team members are completing the data recording sheets.

The data to determine population density estimates are under analysis. Nevertheless, we performed a preliminary Chi-square analysis with significance set at $p < 0.05$, employing the programme SPSS 12.0.

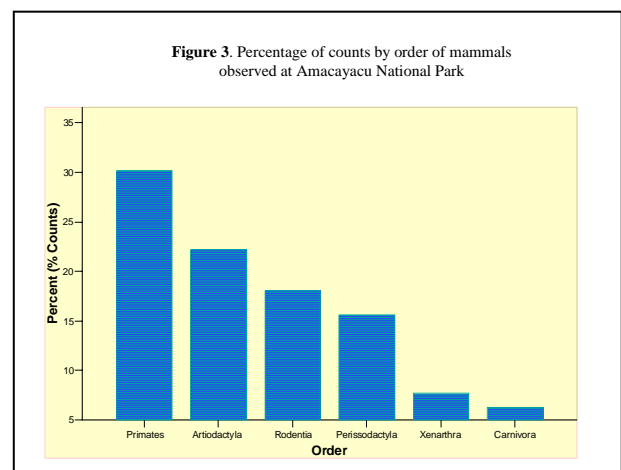


Figure 3. summarises the percentage of counts recorded by order of mammals in the communities of Mocagua and San Martin from March to August 2005. The preliminary results illustrate that encounters with primates were more frequent than with other groups of mammals, representing 30% of the total counts, followed by the order Artiodactyla, which includes red deer, grey deer, collared peccary and white-lipped peccary with 22% of the counts. It is important to

note that the primate species most frequently observed was small-bodied Black-mantled Tamarin (*Saguinus nigricollis*). The order Rodentia (which comprises paca, black agouti, porcupine and capybara), and order Perissodactyla (tapirs) had a similar representation of 18% and 16% respectively. The lowest number of counts was recorded for the Xenarthra (8%) and the Carnivora order (6%). The order Xenarthra consists of armadillos, three and two toed sloths, giant anteater and tamandua. Carnivora order includes the ocelot, maragay, jaguar and tayra.

Environmental education: Currently **TWMP** has a group of 30 people (mainly children and women) taking weekly lessons on basic biology and English. During a preliminary approach to local people, we asked adults and children what they thought about woolly monkeys and their answers were:

Hunters in Mocagua: *“they are very difficult to find now, and because we decided to stop hunting them, we prefer to search for peccaries or tapirs”*.

San Martin: *“We have to walk for more than six hours to find a woolly monkey, if by chance we find a group we hunt them”* (A. Maldonado, unpubl. data) (Fig 4).

Children: *“woollies are cute, nutty, funny, greedy and fat, I haven’t seen one in the forest”* (A. Maldonado, unpubl. data) (Fig 5).

At international level, I have been giving oral presentations about **TWMP** in academic and funding institutions and overall, people agreed that woolly monkeys are a key species for habitat conservation. During a Primate Conservation Fundraising Campaign Launch Event at Oxford Brookes University, Jon Snow (BBC 4 News) refers to woolly

monkeys as: *“charismatic and beautiful monkeys deserving our effort and dedication to preserve them in the wild”*.



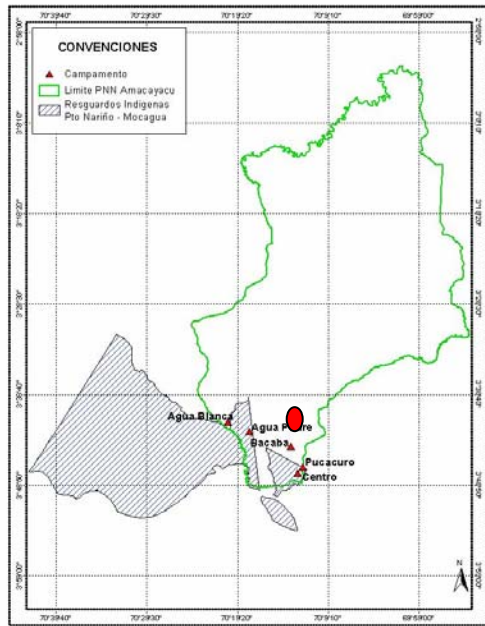
Fig 4. Hunters, women and elderly people from San Martin sharing information on their perception about woolly monkeys (Photo source: Alex King).

Discussion and conclusion

Although the attitude of local people have been changing very slowly, woolly monkeys have enabled us to gain support for habitat conservation, exemplifying the relationship between species, habitat and human well-being, reflected not only in the hunting prohibition, but more importantly in its application by Mocagua’s community.

During our fieldwork we noticed some confusion about the limits of the indigenous territories for local people as well as for the national park management. For instance, one of the hunting areas (Bacaba-Mocagua) (Map 1) used by local people is actually outside the official indigenous territory demarcated by the ministry of environment (red dot).

SITIOS DE ESTUDIO



Map 1. Mocagua and San Martín territories and study sites into Amacayacu National Park.

Acknowledgments: This work would not have been possible without the generous assistance of many people and institutions. Firstly, I would like to give my deepest thanks to the local communities for their priceless support during the field work, and to the staff of Amacayacu National Park, Colombian Park System and Dr. Sara Bennett for the logistic support. Thanks to Oxford Brookes University for the institutional support. Thanks to the volunteer team: Hannah Parathian, Alex King, Clair Tucker (The UK), Andrea Barrera, Jenny Zambrano and Juan David Sanchez (Colombia) for their valuable help. Finally, I wish to thank the Rivet-Carnac family (UK), Rufford Small Grants, Royal Geographical Society, IPPL, Tropenbos-Colombia, OWW, Kilverstone Trust, Prof. Thomas Defler and Reserve Life Support Ltd for funding this project.

As one of the priorities for the management plan of Amacayacu National Park is to monitor human activities within the park, The Woolly Monkey Project is well received as it fits the park's aims without using their limited financial resources. As a result we have received a two year extension of our research license.

The future of the Amazon forest depends on long-term conservation initiatives which involve local people, government and conservationists. A charismatic species can gain regional, national and international support for a whole ecosystem. A wide distribution or its presence in a protected area does not guarantee that the woolly monkeys' future will be stable. A re-evaluation of its conservation status, and *in-situ* efforts are essential for its long-term conservation.



Fig 5. Tikuna children painting a mural of the primate species found in their indigenous land, Mocagua. (Photo source: Angela Maldonado).

Selected References

- Defler, T., V. Rodríguez-Mahecha and Hernández-Camacho J. 2003. Conservation Priorities for Colombian Primates. *Primate Conservation* (19):10-18.
- Mena, P., Stallings, J., Regalado, B., and Cueva L. 2000. The sustainability of hunting practices by the Huaorani. In Robinson, J.G. and Bennett, E.L. (eds.), *Hunting for Sustainability in Tropical Forests*, Columbia University Press, New York, pp. 57-78.
- Palacios, E. and Peres, C. 2005. *Primate Population Densities at Three Nutrient-Poor Amazonian Terra Firme Forests of Southeastern Colombia*. *Folia primatologica*. 862.
- Robinson, J., and Redford, K. 1991. Sustainable harvest of neotropical forest mammals. in J. G. Robinson and K. H. Redford (eds). *Neotropical wildlife use and conservation*. University of Chicago Press, Chicago. pp 415-429
- Stevenson, P. 2000. *Seed dispersal by woolly monkeys (Lagothrix lagothricha) at Tinigua National Park, Colombia: Dispersal distance, germination rates, and dispersal quantity*. *American Journal of Primatology* 50: 275-289.
- Rylands, A. & Members of the Primate Specialist Group 2000. *Lagothrix lagothricha*. In: IUCN 2004. *2004 IUCN Red List of Threatened Species*
- Wyatt, J. and Silman, M. 2004. *Distance-dependence in two Amazonian palms: effects of spatial and temporal variation in seed predator communities*. *Oecologia* 140: 26–35.