

Proyecto Ba'tz de los Maya



Alouatta pigra juvenile.
Photo by LG Luecke, 2005.

I first came to México on a vacation with my family in the Caribbean town of Akumal. I was working on my Bachelor's degree in anthropology then and was keen on learning about the Maya people and their history. After visiting Coba, Tulum, and Chichen-Itza, I was hooked. When I decided to become a biological anthropologist, studying early primate evolution and the behavior and ecology of living primates, I noticed, as I continued my travels, an abundance of monkeys in and around the Maya archaeological zones of México, Belize, and Guatemala.

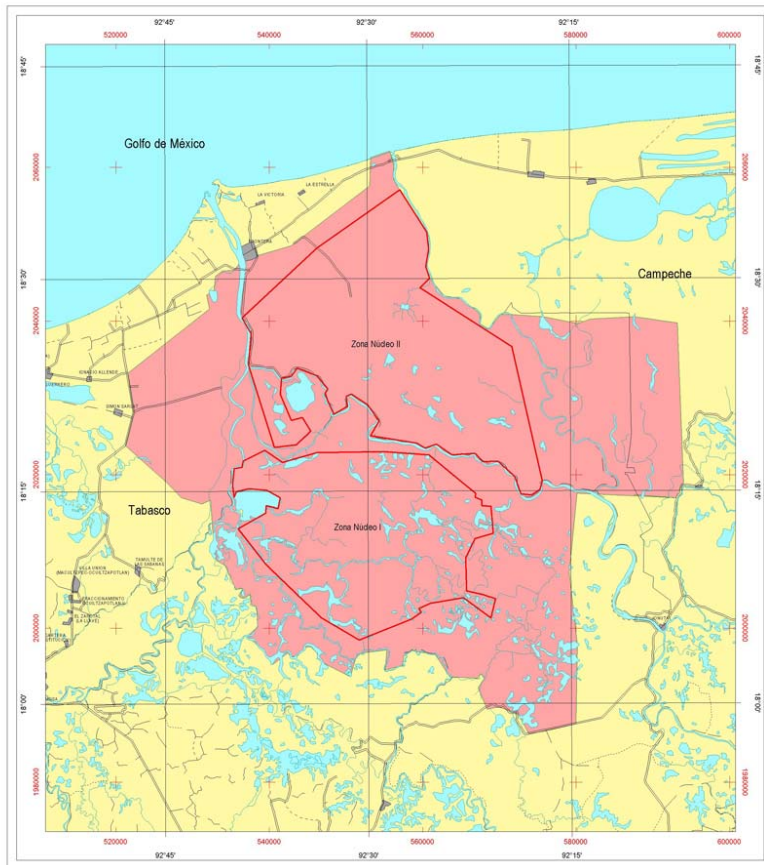
While visiting Palenque in the summer of 2000, I met Dr. Alejandro Estrada (Universidad Nacional Autonomia de Mexico), who was conducting a census of the howler monkeys at the site. Later we spent several months censusing black howler monkeys (*Alouatta pigra*) and spider monkeys (*Ateles geoffroyi*) in Yaxchilán, Bonampak, and Lacanja in Chiapas, Calakmul in Campeche, and Tikal in Guatemala.¹ We found that these protected zones are indeed important conservation areas for monkey populations.

Three species inhabit the forests of México: the mantled howler monkey (*A. palliata*) which ranges from Colombia to Veracruz; the black howler (*A. pigra*), which is endemic to this region and has nearly 80% of its distribution in México; and Geoffroy's spider monkey (*A. geoffroyi*), which is found in most areas of the Yucatan Peninsula as well as in the southern states of Chiapas and Oaxaca. Howler monkeys are primarily folivorous (leaf-eaters) and supplement their diets by eating fruit and flowers, and because they occupy the same ecological niche, their distributions rarely overlap. However, the state of Tabasco harbors an important transition zone between the mantled and black howlers; according to recent reports, both species inhabit the same forest patches in and near the Biological Reserve Pantanos de Centla. It is this area where I will conduct my doctoral dissertation research.

After obtaining official permission from the Ministry of the Environment and Natural Resources (SEMARNAT) and the National Commission of Natural Protected Areas (CONANP), I spent July of 2005 surveying and censusing the howler populations in the northeastern portion of Pantanos de Centla. This biological reserve, located on the southern rim of the Gulf of Mexico, is important for several reasons. First, the confluence of three major rivers, the Usumacinta, the Grijalva, and the San Pedrito, occurs here and represents one of the most significant hydrological systems in Mesoamerica. Second, the reserve is home to numerous plants and animals that are

¹ Many thanks to INAH and UNAM for permission and support while working in these sites in Mexico.

becoming increasingly endangered. Finally, the area is a rich source of petroleum, which is being drilled by the Mexican government and represents a terrific threat to the entire ecosystem. Centla covers over 300,000 hectares between 17° 57' 53" and 18° 39' 03" north latitude, and 92° 06' 39" and 92° 47' 58" west longitude. There are two main core areas, surrounded by a buffer zone.



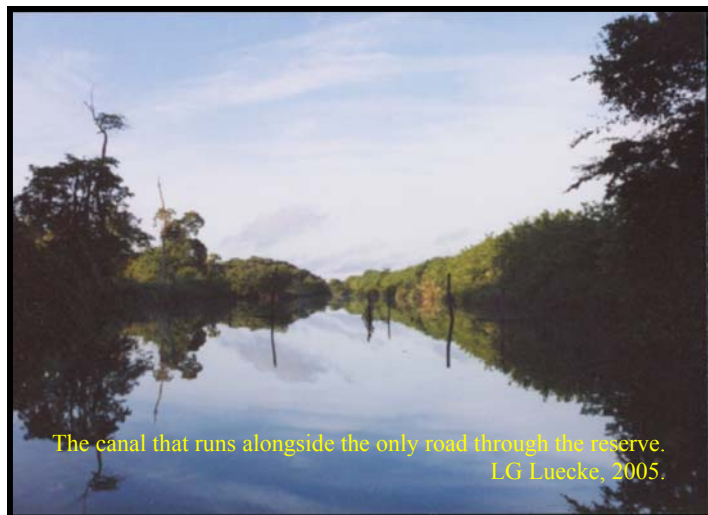
Map of the Biological Reserve Pantanos de Centla.

http://www.conanp.gob.mx/sig/anps/ramsar/pantanosdecentla_g.jpg

The reserve is rich in floral biodiversity, harboring approximately 570 plant species studied to date, thirteen of which are endangered. There are several ecosystems within its borders, ranging from a large variety of wetlands to medium/low semi-evergreen and riparian forest.

Aquatic plant communities dominate the reserve (68.1%) and are represented by submerged, floating, and emergent flora. Semi-evergreen forest constitutes 6.7% and riparian forests make up 5.8% of the vegetation within the reserve.

Mangroves, rosewood matorrals (thickets), palm



The canal that runs alongside the only road through the reserve.
LG Luecke, 2005.

stands, and crop and pastureland cover the remaining land surface.

Because of the diversity of ecosystems within its borders, the reserve is also home to an abundance of animals. Marine animals are plentiful in the reserve and inhabit many different aquatic habitats with varying degrees of salinity. These include 52 species of fish, 27 species of amphibians (mostly frogs and toads), and several crustaceans (shrimp, prawns, and crabs). Birds are the most diverse animals that inhabit Centla; at last count there were 255 year-round and migratory species. Some examples of the avian fauna are jabirus (*Jabiru mycteria*), ospreys (*Pandion hallaetus*), and peregrine falcons (*Falco peregrinus*). Reptiles are represented by 68 different species and include crocodiles (*Crocodylus moreletii*), several genera of turtles (e.g. *Chelydra*, *Dermatemys*, *Kinosternon*, *Staurotypus*) and poisonous snakes (*Oxybelis* and *Bothrops* spp.). There are 104 mammal species reported within the reserve, including manatees (*Trichechus manatus*), jaguars (*Panthera onca*), white-tailed deer (*Odocoileus virginianus*), and mantled howler monkeys (*Alouatta palliata*). The fauna within the reserve supply local human inhabitants with food, and it is estimated that 199 species are endangered because of harvesting and habitat destruction.² Until now, only mantled howlers were recorded in the reserve.

During my short survey, I found that both species of howler monkey are indeed present in Centla. My survey area covers approximately 160 km² in the northeastern portion of the reserve, near the Estación Central Tres Brazos. I designated three survey areas within the larger study area where the monkey populations were concentrated. The survey area Laguna Coco (6 km²) harbors a small population of mantled howlers and is located on the western side of the Río Grijalva near the fishing community of San Roman. Almost directly across the river, the *ejido* of Arroyo Polo (12 km²) is one of the survey areas for the black howler. The other black howler survey area lies in the southeastern portion of the study area within the *ejido* Tres Brazos (9 km²). All three populations inhabit the same type of flooded mangrove forests. With the help of two research assistants and two undergraduate students from Mexico and the US, I will conduct more extensive surveys in these three areas for five to six months during the dry season of 2006. Following the intensive surveys, I will begin a year-long collection of ecological and behavioral data on both species for comparison of niche use. These data will focus on feeding behavior, use of space, and social relationships.

² Ecological information for Pantanos de Centla obtained from www.parkswatch-mexico.com



The survey areas are located within three different *ejidos*, only three of 172 such communities within the boundaries of the reserve. Within these *ejidos*, I met with community leaders (*comisarios*), and found that the local people are mostly indigenous Chontal-Maya who have lived here for countless generations. I hired fishermen from the *ejidos* to escort me to locations where they knew howlers to be, and they were very receptive, helpful, and eager to know more about the monkeys. Another objective of my research in this area is to work closely with the local people, so that they understand the importance of forest conservation and how vital moneys are to preserving the ecosystem in which they live.

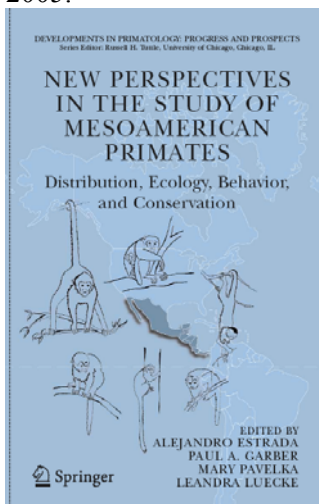
I look forward to my future work in this area, and hope that readers will be interested in updates involving this novel research on the monkeys in Mexico.

Thanks for reading!



Edited Volume/Book (Due out in October/November 2005)

New Perspectives in the Study of Mesoamerican Primates: Distribution, Ecology, Behavior and Conservation. A. Estrada, PA Garber, MSM Pavelka and L Luecke (Eds), New York: Springer, 2005.



For detailed information, see Springer online:

<http://www.springeronline.com/sgw/cda/frontpage/0,11855,4-40389-22-51201920-0,00.html>

Book Chapters

Estrada, A, S Van Belle, L Luecke and M Rosales Meda. Primate populations in the protected forests of Maya archaeological sites in southern Mexico and Guatemala. In A. Estrada, PA Garber, MSM Pavelka and L Luecke (Eds), *New Perspectives in the Study of Mesoamerican Primates: Distribution, Ecology, Behavior and Conservation*. New York: Springer, 2005.

Estrada, A, PA Garber, MSM Pavelka and L Luecke. Overview of the Mesoamerican primate fauna, primate studies and conservation concerns. In A. Estrada, PA Garber, MSM Pavelka and L Luecke (Eds), *New Perspectives in the Study of Mesoamerican Primates: Distribution, Ecology, Behavior and Conservation*. New York: Springer, 2005.

Articles

Estrada, A, L Luecke, S Van Belle, E Barrueta, M Meda. Survey of black howler (*Alouatta pigra*) and spider (*Ateles geoffroyi*) monkeys in the Mayan sites of Calakmul and Yaxchilán, Mexico and Tikal, Guatemala. *Primates: a Journal of Primatology* Vol. 45 (1). (2004)

Electronic copy: <http://www.primatesmx.com/pigraprimates04.pdf>

Estrada, A, L Luecke, S Van Belle, K French, D Muñoz, Y García, L Castellanos & A Mendoza. The black howler monkey (*Alouatta pigra*) and spider monkey (*Ateles geoffroyi*) in the Mayan site of Yaxchilán, Chiapas, Mexico: a preliminary survey. *Neotropical Primates* 10(2): 89-95. (2002)

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Abstracts and Presentations

Luecke, LG. Distribution of black howler monkeys (*Alouatta pigra*) in Mesoamerica: A GIS analysis. Oral presentation. American Society of Primatologists Annual Meeting, Madison, Wisconsin. (2004)

Luecke, LG. Howler monkey (*Alouatta pigra*) populations in five Maya archaeological zones in southern Mexico and northern Guatemala. Poster presentation. American Association of Physical Anthropologists Annual Meeting, Tampa, Florida. (2004)

Luecke, LG, SP Lambeth & SJ Schapiro. Social proximity to a postpartum chimpanzee and her infant in a captive group. Poster presentation, American Association of Physical Anthropologists Annual Meeting, San Antonio, Texas. (2000)

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