

## **Sympatric Occurrence of *Alouatta caraya* and *Alouatta sara* at the Río Yacuma in the Beni Department, Northern Bolivia**

Authors: Büntge, Anna B. S., and Pyritz, Lennart W.

Source: Neotropical Primates, 14(2) : 82-83

Published By: Conservation International

URL: <https://doi.org/10.1896/044.014.0208>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

- [http://www.belizebotanic.org/xate\\_manual.pdf](http://www.belizebotanic.org/xate_manual.pdf). Accessed 25 October 2006.
- Bodmer, R. E., Eisenberg, J. and Redford, K. 1997. Hunting and the likelihood of extinction of Amazonian mammals. *Cons. Biol.* 11: 460–466.
- Friends for Conservation and Development. 2005. Proceedings of the Chiquibul Stakeholders' Planning Workshop. 33pp. Website: [http://www.eco-index.org/search/pdfs/970report\\_1.pdf](http://www.eco-index.org/search/pdfs/970report_1.pdf). Accessed 25 October 2006.
- Horwich, R. H. 1990. How to develop a community sanctuary: An experimental approach to the conservation of private lands. *Oryx* 24: 95–102.
- Horwich, R. H. and Johnson, E. D. 1986. Geographic distributions of the black howler (*Alouatta pigra*) in Central America. *Primates* 27: 53–62.
- Horwich, R. H., Koontz, R., Saqui, E., Saqui, H., and Glander, K. E. 1993. A reintroduction program for the conservation of the black howler monkey (*Alouatta pigra*) in Belize. *Endangered Species UPDATE* 10: 1–6.
- Horwich, R. H., Brockett, R. C. James, R. A. and Jones, C. B. 2001. Population growth in the Belizean black howling monkey (*Alouatta pigra*). *Neotrop. Primates* 9: 1–7.
- IUCN. 2006. *IUCN Red List of Threatened Species*. IUCN, Gland, Switzerland. Website: <http://www.iucnredlist.org>. Accessed 28 July 2006.
- Meffe, G. K. and Carroll, C. R. 1994. *Principles of Conservation Biology*. Sinauer Associates, Sunderland, MA.
- Pavelka, M. S. M. 2003. Group, range and population size in *Alouatta pigra* at Monkey River, Belize. *Neotrop. Primates* 11: 187–191.
- Wolfheim, J. H. 1983. *Primates of the World: Distribution, Abundance and Conservation*. University of Washington Press, Seattle.

---



---

## SYMPATRIC OCCURRENCE OF *ALOUATTA CARAYA* AND *ALOUATTA SARA* AT THE RÍO YACUMA IN THE BENI DEPARTMENT, NORTHERN BOLIVIA

Anna B. S. Büntge  
Lennart W. Pyritz

### Introduction

Sympatry of two species belonging to the same genus occurs rarely in Neotropical primates. It has been observed regularly for *Cebus apella* and *Cebus albifrons* (Terborgh, 1983), and for *Saguinus fuscicollis* and *Saguinus* sp. (Heymann and Buchanan-Smith, 2000). In both cases, the species occupy different ecological niches, through the use of different forest strata or individual foraging strategies. For species of the genus *Alouatta* there are several limited cases of sympatry, for example *Alouatta palliata* and *Alouatta pigra* in Tabasco, Mexico and at the southern Belize-Guatemala border (Horwich and Johnson, 1986), *Alouatta caraya* and *Alouatta guariba* in southern Brazil (Júlio César Bicca-Marques, pers. comm.) and the El

Piñalito Provincial Park in Misiones, Argentina (Di Bitetti, 2004), and *A. palliata* and *Alouatta seniculus* in northwestern Colombia (Hernández-Camacho and Cooper, 1976). Here we report for the first time a clearly sympatric occurrence of the two howler monkey species *Alouatta sara* and *A. caraya*.

### Study area and Methods

The Río Yacuma is a small tributary of the Río Mamoré, approximately 10 km upstream of the village of Santa Rosa (14°10'S, 66°52'W, Fig. 1). The Río Yacuma flows through the alluvial plain of the Río Mamoré at an elevation of approximately 150 m a.s.l. Heavy floods during the rainy season transform the region into a vast swamp. Mean annual temperature is 26°C, and mean annual precipitation is approximately 1,800 mm (Montes de Oca, 1997; Navarro and Maldonado, 2002). The region is part of the biogeographic sector of the Moxos lowlands, characterized by tree savannahs and *Várzea* forests along the watercourses (Navarro and Maldonado 2002). Observations were made during a boat trip between April 10 and 12.

### Results and Discussion

In April 2006, while travelling northeast of the city of Rurrenabaque in the Beni Department in northern Bolivia (Fig. 1), we observed two distinct howler species, *A. caraya* and *Alouatta sara* (taxonomy following Groves, 2001), foraging and resting in close proximity (at a minimum distance of approx. 100 m and in the range of vision of each other on the bank of a river). The two species were clearly distinguished by the different coloration of the fur (black in male and yellowish in female *A. caraya*, red in *A. sara*). Presumably, the Río Yacuma is not a natural barrier to the dispersal of the *Alouatta* species as both species were seen in the gallery forest on the left and right bank of the river. Water levels decline considerably during the dry season, probably enabling the howler monkeys to cross the river. Groups of *A. caraya* were observed three times. The observations included: an adult male and an adult female; an adult male and two adult females, one carrying a baby; and three adult females with a male. *Alouatta sara* was seen two times. Once we observed a group of three individuals—two adult males and an adult female— foraging in a *Cecropia concolor* tree. On another occasion, we saw a single adult male of *A. sara* resting in the tree canopy. Several minutes of howling of *Alouatta* groups were heard repeatedly in the morning and in the late afternoon on both sides of the river.

In Bolivia, *A. caraya* has been observed at two localities in the Santa Cruz Department and at various localities in the Beni Department including the mouth of the Río Yacuma. Distributional notes on *A. sara* in Bolivia include localities in the Beni, Cochabamba, La Paz, Pando, and Santa Cruz departments. There have been no reports for the central Beni or Río Yacuma region, though (Anderson, 1997). Both *Alouatta* species observed are assessed as Least Concern on

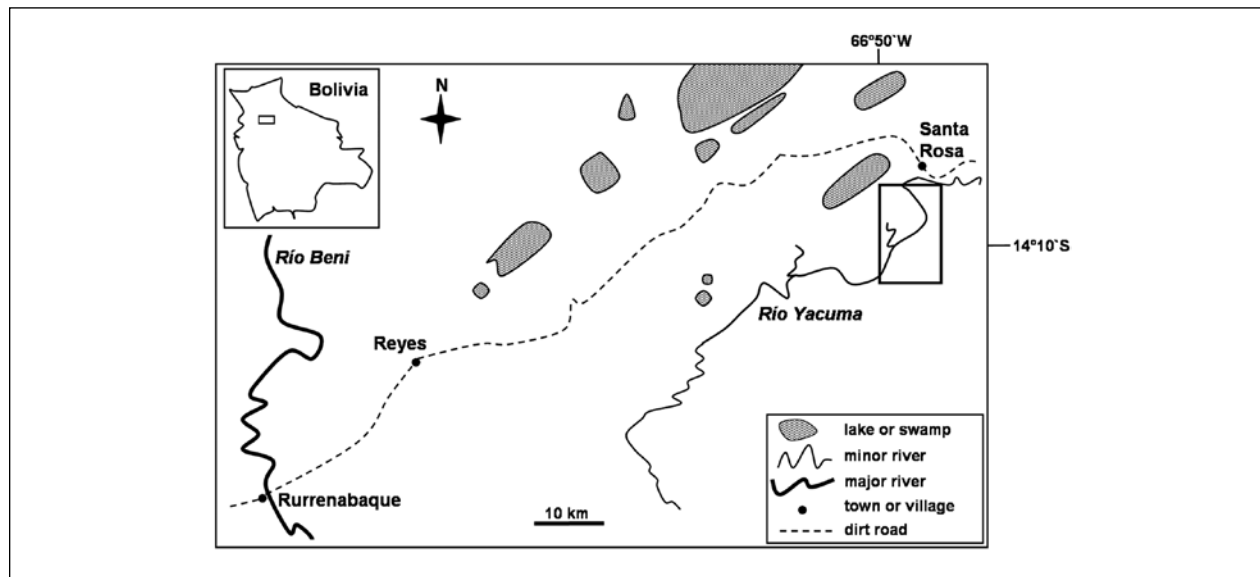


Figure 1. Location of the study area (black box) at the Río Yacuma in the Beni Department, Northern Bolivia.

a global level by IUCN–The World Conservation Union (2004) although declines have occurred in many parts due to hunting pressure and habitat loss. The sympatric occurrence of the two *Alouatta* species at the Río Yacuma raises the following questions: 1) Is the sympatry of *A. caraya* and *A. sara* a result of ecological differences (i.e., the use of different forest strata, different foraging strategies or activity patterns)?, 2) Is interspecific territoriality the same as within species territoriality?, and 3) Is the observed sympatry a recent phenomenon (i.e., caused by habitat loss and hunting pressure in the surrounding area) or has it existed for a longer time?

### Acknowledgments

We thank our Bolivian guide Bismarck Vaca from Rurrenabaque for his support and patience in the field. Dr. Eckhard W. Heymann from the German Primate Centre (DPZ) in Göttingen, Dr. Michael Kessler, and Moritz Rahlfs gave important comments on the manuscript.

**Anna B. S. Büntge**, Primate Genetics Working Group, German Primate Centre (DPZ), Kellnerweg 4, 37077 Göttingen, Germany, e-mail: <annabritta@gmx.de> and **Lennart W. Pyritz**, Ecological Department of the Johann-Friedrich-Blumenbach-Institute for Zoology and Anthropology, University of Göttingen, Berliner Str. 28, 37073 Göttingen, Germany, e-mail: <LennartPyritz@gmx.net>.

### References

Anderson, S. 1997. *Mammals of Bolivia: Taxonomy and Distribution*. Bulletin of the American Museum of Natural History 231.  
 Di Bitetti, M. 2004. A comparative study of two howler monkey species living in sympatry (*Alouatta guariba* and

*Alouatta caraya*) in El Piñalito Provincial Park, Argentina. Cleveland Metroparks Zoo/Cleveland Zoological Society, Scott Neotropical Fund: <<http://www.clemetzoo.com/conservation/grants/scott/2004/diBitetti.asp>>.

Groves, C. P. 2001. *Primate Taxonomy*. Smithsonian Institution Press, Washington, DC.

Hernández-Camacho, J. and Cooper, R. W. 1976. The nonhuman primates of Colombia. In: *Neotropical Primates. Field Studies and Conservation*, R.W. Thorington Jr. and P. G. Heltne (eds.), pp.32–69. National Academy of Sciences, Washington, DC.

Heymann, E. W., Buchanan-Smith, H. M. 2000. The behavioural ecology of mixed-species troops of callitrichine primates. *Biol. Rev.* 75: 169–190.

Horwich, R.H., Johnson, E.D. 1986. Geographical distribution of the black howler (*Alouatta pigra*) in Central America. *Primates* 27: 53–62.

Montes de Oca, I. 1997. Climatología. In: *Geografía y Recursos Naturales de Bolivia*. Montes de Oca, I., pp.125–142. Universidad Nuestra Señora de La Paz, La Paz.

Navarro, G. 2002. Provincias biogeográficas del Beni y del Pantanal. In: *Geografía Ecológica de Bolivia. Vegetación y Ambientes Acuáticos*, Navarro, G., Maldonado, M., pp.157–193. Fundación Simon I. Patiño, Departamento de Difusión, Cochabamba.

Terborgh, J. 1983. *Five New World Primates*. Princeton University Press, Princeton.

World Conservation Union 2004. *IUCN Red List of Threatened Species. A Global Species Assessment*. World Conservation Union, Gland.