

## **Observations of a Fight between Two Adult Male Mantled Howler Monkeys (*Alouatta palliata*)**

Authors: Meyer, Christopher, and Young, Orrey P.

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deforestation of the reservoir areas, merit further research and monitoring in order to establish the consequences for *Cebuella pygmaea niveiventris* in the upper reaches of the Rio Madeira basin.

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**Mariluce Rezende Messias**, Universidade Federal de Rondônia – UNIR – Mastozology Laboratory. BR 364, Km 9,5. CEP 76900–000. Porto Velho, Rondônia, Brazil, e-mail: messias.malu@gmail.com, **Juliano Tupan Coragem**, **Ivonete Santa Rosa Gomes**, **Marcela Alvares Oliveira**, **Paulo Henrique Bonavigo**, **Samuel dos Santos Nienow** and **Eduardo Santos de Souza**, Environment Basic Program (PBA) of “Faunal observation and rescue from the construction site (dry areas) of the Santo Antônio hydroelectric dam – Santo Antônio Energia Sustentável Consortium (SAE).

### References

- Brown, A. D. and Rumiz, D. I. 1986. Distribución y conservación de los primates em Bolivia – estado actual de conocimiento. In: *Primatología no Brasil* – vol. 2, M. T. de Mello (ed.), pp. 335–363. Sociedade Brasileira de Primatologia, Brasília.
- Ferrari, S. F. 1993. The adaptive radiation of Amazonian callitrichids (Primates, Platyrrhini). *Evolución Biológica* 7:81–103.
- Ferrari, S. F., Cruz Neto, E. H., Iwanaga, S., Corrêa, H. K. M. and Ramos, P. C. S. 1996. An unusual primate community at the Estação Ecológica Serra dos Três Irmãos, Rondônia, Brazil. *Neotrop. Primates* 4(2): 55–56.
- Heltne, P. G., Freese, C. H. and Whitesides, G. 1976. Field survey of nonhuman primates in Bolivia. Unpublished report, Panamerican Health Organization (PAHO), Washington, D.C.
- Izawa, K. 1979. Studies on the peculiar distribution pattern of *Callimico*. Kyoto University Primate Research Institute, *Reports of New World Monkeys* (1979): 23–41.
- Izawa, K. and Bejarano, G. 1981. Distribution ranges and patterns of nonhuman primates in western Pando, Bolivia. *Kyoto University Overseas Research Reports of New World Monkeys* (1981): 1–12.
- Lönnerberg, E. 1940. Notes on marmosets. *Ark. Zool.*, 32A (10):1–22.
- Messias, M. R. 2002. “Levantamento de mastofauna da Avaliação Ecológica Rápida da Estação Ecológica Estadual Antônio Mujica Nava/ RO”, fevereiro de 2002. Unpublished report, Programa das Nações Unidas para o Desenvolvimento - PNUD - Projeto BRA/00/004, technical cooperation with PLANAFLORO, Porto Velho/RO.
- Messias, M. R. 2004. “Diagnóstico Ambiental da área de Influência Direta dos AHEs de Jirau e Santo Antônio

considerando-se mamíferos de médio e grande porte como grupo indicador”. Unpublished report., Furnas Centrais Elétricas S.A.

- Napier, P. H. 1976. *Catalogue of Primates in the British Museum (Natural History), Part 1: Families Callitrichidae and Cebidae*. British Museum (Natural History), London.
- Rylands, A. B., Coimbra-Filho, A. F. and Mittermeier, R. A. 1993. Systematics, distributions and some notes on the conservation status of the Callitrichidae. In: *Marmosets and Tamarins: Systematics, Behaviour and Ecology*, A.B. Rylands (ed.), pp.11–77. Oxford University Press, Oxford.
- Roosmalen, M. G. M. van and T. van Roosmalen. 1997. An Eastern Extension of the Geographical Range of the Pygmy Marmoset, *Cebuella pygmaea*. *Neotrop. Primates* 5(1), pp: 3–6.

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## OBSERVATIONS OF A FIGHT BETWEEN TWO ADULT MALE MANTLED HOWLER MONKEYS (*ALOUATTA PALLIATA*)

Christopher Meyer  
Orrey P. Young

### Introduction

The mantled howler monkey (*Alouatta palliata*), in the initial studies by Carpenter (1934), was considered to have very low social interaction rates and very rare aggressive behaviors. Forty years later, Klein (1974) was still able to claim that howlers exhibited the lowest levels of conspecific aggression among social primates. More recently, reports of male-male fights (Glander, 1992) and chases (Young, 1981), female-female fights (Zucker & Clarke, 1998), male-female fights leading to death of the female (Mendez-Carvajal et al., 2005), and infanticide by males (Clarke, 1983), have changed that perception. The actual observation of these aggressive interactions, however, continues to be a rare event, and has led to various indirect measures documenting aggression, such as bodily injuries of live animals in the field (Cristobal-Azkarate et al., 2004) and skeletal pathologies of collected skulls from one location (DeGusta & Milton, 1998).

Considering just potential aggressive interactions between males, individuals within the same troop may fight over access to an estrous female (Jones, 1980), or a solitary male may fight the alpha male of a troop either for control of the troop (Glander, 1992) or just to become a troop member (Estrada, 1982). If the relationship of the two males had been father-son, there probably would not have been a fight, with the displaced father either leaving or becoming a subordinate (Glander, 1992). Numerous observers have indicated the take-over of mantled howler troops by solitary males (e.g. Young, 1982). Only one publication, involving

a long-term study, indicates that a possible take-over fight was actually seen (3 times); unfortunately, descriptions of the actual fights were not included (Glander, 1992). Short-term observations, obtained due merely to chance, can sometimes provide records of rarely-occurring behavior not typically documented in long-term observations. An example of such a phenomenon is the following observations of a fight between two male mantled howler monkeys.

## Observations

On 15 March 2002 on the west side of the Osa Peninsula of Costa Rica, at Drake Bay in the vicinity of the Punta Rio Clara Wildlife Refuge, a group of howlers were at a beach area with low forest canopy (height 25–40 ft) composed of the trees Manchineel (*Hippomane mancinella*) and Beach Almond (*Terminalia catappa*). Observations began 0900 h, with clear skies. The howler group was composed of 12 individuals (3 males, 6 females, 1 juvenile, 2 infants) spread out amongst several adjacent trees. All was quiet for the first hour of observation with no obvious feeding by adults and immatures. The two infants were active and separated from adults, with several adults grooming themselves or adjacent animals. At about 1000 h, an adult male (henceforth A), at the periphery of the group and adjacent to several females, began howling and making other vocalizations, began jumping from one branch to another, and in general seemed quite agitated. After several minutes of this activity, another adult male in the group (henceforth B), slightly smaller and in apparent prime condition, also became agitated. This male had been quietly reposing well within the group area, adjacent to other members of both sexes. Male B began jumping and running from limb to limb, circling male A while continuing to vocalize. Male A stayed in place but kept moving so as to continually face male B. Actual physical contact was initiated by male B, with subsequent screaming, yipping, wrestling, and biting, with blood becoming visible on both monkeys. About 20 seconds after the initial contact, both monkeys fell together approximately 20 ft to the ground. Within an approximately 6m<sup>2</sup> area, the two male monkeys continued vocalizing and fighting, with blood now visible on the sand as well as on bodies. The fighting involved standing upright on the rear legs and grabbing and biting of face, neck, back, arms, and legs, (but not tails); close face-to-face contact with associated body punching and scratching; all of which continued for approximately 90 seconds. Finally male B began chasing male A on the ground; when male A went up into a tree, male B followed, but when male A continued into an adjacent tree, male B did not follow. Male A continued moving through the trees, away from male B, until out of sight of the observers. Male B stayed quietly in the tree for about 10 minutes, then moved back to the trees where the other group members resided. There were no obvious sounds or movements of group members when male B arrived. All members remained quiet and inactive for the next hour, when the observations were terminated. In departing the area, the observers searched for male A in

the direction that it had fled, but it was not detected. When the fighting began, the 2 infants of the group had quickly moved to adjacent adult females. The group members then vacated the tree in which the fight was occurring, moved to the surrounding trees, and faced the combat area.

## Discussion

One of several unusual aspects of these observations is that both males appeared to be within the group structure – group initially quiet, the two males resting close to other group members and within the apparent borders of the spread-out group – suggesting that neither male was a ‘solitary’ male trying to gain access to the troop and that both may actually have been resident males. There did not appear to be an estrous female being guarded by either male, which if that had been the case, could have led to a fight (Jones, 1980). The fight also suggests that their relationship was not of father-son. Male A was the slightly larger monkey, but male B was in prime condition (no obvious scars or other damage or deformities) with a shiny coat and quite vigorous, whereas male A had several neck and facial scars, a dull coat, and seemed to be less vigorous. The very placid response of the other members of the group to the fight was also not anticipated, the minimal response suggesting that the fight was something that was expected by group members or at least was not unusual and was not something that should have led to group agitation.

The two most probable alternative interpretations of these observations are as follows: 1) Male A was the alpha male of the group, male B was a subordinate male within the group (both males had all white and fully descended scrotums) who successfully changed his position in the dominance hierarchy by defeating and chasing the alpha male from the group. The fact that male A was the first to become agitated (issuing a challenge?) suggests that there was some tension between these monkeys, and that as alpha male he was looking for a resolution, for him the removal of B from the group. Being the larger male, with some probable battle scars, would not be unusual for an alpha male (Carpenter, 1934), or, 2) Male B was the alpha male of the group, defending successfully his position from the attack by the subordinate male A. The fact that male B initiated the physical contact indicates that he was willing to actually fight, rather than merely posturing. His prime physical condition suggests that he had been well fed and cared for, also not unusual for an alpha male (Carpenter, 1934). Additional factors that seem to favor this interpretation of male B as the alpha male include his behavior once male A became agitated. Male B was the subsequent aggressor, circling male A before finally attacking, suggesting willingness for physical combat expected from an alpha male defending his status. A subordinate male would likely attempt to intimidate an alpha male by threatening behaviors but be less likely to actually fight, given that in general the possessor of resources is usually successful in defending those resources (e.g. Silk, 1987). Perhaps the most significant indication that male B was the initial alpha male

was the apparent lack of response of the group to his victory. If the subordinate male A had been the victor, immediate and considerable activity of the other group members would have been expected, particularly from the females (Young, pers. obs.).

Unfortunately, it was not possible to obtain observations of this group on the days immediately before or after the fight, observations that could have indicated the previous relationship of these two males and the subsequent fate of the defeated male and the group infants.

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**Christopher Meyer**, Avenida cinco, calle cinco, San José, Costa Rica and **Orrey P. Young**, 9496 Good Lion Rd, Columbia, MD 21045, E-mail: <ory2pam@verizon.net>

### References

- Carpenter, C. R. 1934. A field study of the behavior and social relations of howling monkeys. *Comp. Psychol. Monogr.* 10: 1–168.
- Clarke, M. R. 1983. Infant-killing and infant disappearance following male takeovers in a group of free-ranging howling monkeys (*Alouatta palliata*) in Costa Rica. *Am. J. Primatol.* 5: 241–247.
- Cristobal-Azkarate, J., Dias, P. A. D., and Veá, J. J. 2004. Causes of intraspecific aggression in *Alouatta palliata mexicana*: evidence from injuries, demography, and habitat. *Int. J. Primatol.* 25: 939–953.
- DeGusta, D., and Milton, K. 1998. Skeletal pathologies in a population of *Alouatta palliata*: behavioral, ecological, and evolutionary implications. *Int. J. Primatol.* 19: 615–650.
- Estrada, A. 1982. Survey and census of howler monkeys (*Alouatta palliata*) in the rainforest of “Los Tuxtlas”, Veracruz, Mexico. *Am. J. Primatol.* 2: 363–372.
- Glander, K. E. 1992. Dispersal patterns in Costa Rican mantled howling monkeys. *Int. J. Primatol.* 13: 415–436.
- Jones, C. B. 1980. The functions of status in the mantled howler monkey, *Alouatta palliata* Grey: intraspecific competition for group membership in a folivorous neotropical primate. *Primates* 21: 389–405.
- Klein, L. L. 1974. Agonistic behavior in neotropical primates. In: *Primate aggression, territoriality, and xenophobia*, R. L. Holloway (ed.), pp. 77–122. Academic Press, New York.
- Mendez-Carvajal, P. G., Santamaria, M., and Moreno, R. A. 2005. An observation of agonistic behavior in howler monkeys (*Alouatta palliata*) on Barro Colorado Island, Panama. *Neotrop. Primates* 13: 30–32.
- Silk, J. B. 1987. Social behavior in evolutionary perspective. In: *Primate societies*, B. B. Smuts et al. (eds.), pp. 318–329. University of Chicago Press, Chicago.

- Young, O. P. 1981. Chasing behavior between males within a howler monkey troop. *Primates* 22: 424–426.
- Young, O. P. 1982. Tree-rubbing behavior of a solitary male howler monkey. *Primates* 23: 303–306.
- Zucker, E. L. and Clarke, M. R. 1998. Agonistic and affiliative relationships of adult female howlers (*Alouatta palliata*) in Costa Rica over a 4-year period. *Int. J. Primatol.* 19:433–450.

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