Discussion

No known studies have assessed the bioacoustics of any wild *Aotus* species. Furthermore, no studies have analyzed *Aotus nigriceps* vocalizations, even in captivity. This study describes three calls in *A. nigriceps* (Twitter, Ch Ch, and Long Trill), though continued field research may reveal additional calls. Thirteen other calls have previously been described in *A. azarae* and *A. lemurinus*, which suggests that the vocal repertoire of *Aotus nigriceps* is likely larger than described here. However, captive settings allow researchers to control for background noise and to elicit calls in response to experimental stimuli, which may increase the number of calls found in captivity compared to a wild setting. Bioacoustic information in wild primates is also likely to be different than those in captivity because of their capacity to adjust calls in an environment filled with background white noise from both biotic and abiotic factors (Brumm et al. 2004). For example, the frequency range of captive *Aotus* species was previously reported to be 140-5,800 Hz; however, some of our calls peaked at 13,612 Hz (e.g., Ch Ch), and all but one call fell within the previously reported range. This could be an adaptation to a much more crowded acoustic environment, where other organisms use a similar bandwidth (Ey and Fischer 2009). We report initial findings of behavioral associations with vocalizations, though caution must be taken in interpreting these results since the majority of behaviors couldn't be documented due to dense foliage or total darkness. Our continued research includes aspects of intra- and inter-group variability, geographic variability, inter-species diversity, and behavioral playback experiments in wild *Aotus nigriceps* populations.

Acknowledgements

Thank you to the Amazon Conservation Association (ACA), Villa Carmen Biological Station and Manu Learning Center (CREES) staff for hosting us, clearing trails, and providing valuable insight into location and behavior of groups. We are indebted to students and staff from the School for Field Studies who assisted with data collection and logistics.

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NEW RECORDS OF THE BLACK TITI MONKEY *(PLECTUROCEBUS CINERASCENS)* (PRIMATES, PITHECIIDAE) IN THE ALTO VALE GUAPORÉ, BORDER REGION BETWEEN BRAZIL AND BOLIVIA

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Introduction

The black titi monkey, previously classified as *Callicebus cinerascens* (Spix, 1823), from molecular evidence is currently included in the genus *Plecturocebus* (Byrne et al., 2016). Has a gray coat over almost all the body with a contrasting brown patch on the back. It feeds on fruits, leaves, insect and seeds. It inhabits dry land environments, Campinarana (forest fragments with poor, rocky, shallow soil and a mix of trees and bamboo), secondary forests and relatively open areas. Its known distribution is still imprecise due to the limited number of records for the species (Veiga et al., 2008). Current knowledge about *Plecturocebus cinerascens* distribution indicates occurrence in the Madeira-Tapajós interfluves (Noronha et al., 2007), with records on the left bank of the Juruena River, the region of the headwaters of the Roosevelt River, the right bank of the Cabixi River, the right bank of the Alto Guaporé River among municipality of Vila Bela da Santíssima Trindade and Pontes e Lacerda, and within the Juruena-Teles Pires interfluves (Sampaio et al., 2012). The western limit may be the municipality of Pimenteiras do Oeste, in the middle of the Vale do Guaporé, in the state of Rondônia, Brazil (Gusmão and Costa, 2014). The species is considered endemic to Brazil.

For this poorly known species (Sampaio et al., 2012) with an imprecise distribution delimitation especially in relation to its southern and southeastern limits (Veiga et al., 2008), new record reports are extremely important. The present study presents four new observations of *P. cinerascens* in the

region of Alto Guaporé, in the municipality of Comodoro, Mato Grosso state, Brazil.

Study area

The observations were carried out in two different sample sites, in the region of Alto Guaporé, municipality of Comodoro, western Mato Grosso state, Parecis microregion. The first sampling site is in the southwestern portion of the municipality, within the domain of the privately owned Conguape farm, in a Permanent Protection Area. The second sampling site is near the municipal port in Comodoro. The two sites are located in tropical semi-deciduous forest areas (Veloso, 1992), and are separated by approximately 30 km distance. East of the sites are the indigenous lands of the Vale do Guaporé and Nambikwára. Both sites connect to the right bank of the Guaporé River, in a border region with the Noel Kempff National Park in Bolivia.

Sampling

The observations of *P. cinerascens* were carried out *ad libitum*, by means of walks made in preexisting tracks in the two sampling sites, during an inventory of birds. For the observations, we used Bushnell legacy 8x40 binoculars and the photographs were with a camera Canon 7D with a lens of 100x400mm. The species identification was made through comparing with illustrations, photographs, and descriptions in the literature by Van Roosmalen et al. (2002), Veiga et al. (2008) e Sampaio et al. (2012).

Results and discussion

The black titi was observed three times at sampling site 1. The first recording took place on July 24, 2015 around 5:00 pm with two individuals photographed in the canopy of a tree approximately 50 meters from the right bank of the Guaporé River (13°47'44.52"S / 60°27'55.31"W). The second recording was performed on July 28, 2015 around 10:00 am, through visual and auditory contact with two individuals, where one was photographed (13°45'32.98"S / 60°25'8.23"W). The third record was from July 29, 2015, around 10:00 am, when two individuals were photographed (individuals 1 and 2) and observed foraging in the canopy of a tree (13°45'22.98"S / 60°25'11.97"W) (Fig. 1). The first photograph of the species in the wild was presented by Sampaio et al. (2012), and so far, no new images from wild animals have been published. Here we present two more photos of the species, which may be useful for identifying them in other areas (Figs. 2 and 3). At sampling site 2, the species was recorded through visual contact on August 4, 2015 while two individuals moved through vegetation (13°59'18.48"S / 60°15'26.61"W) (see Fig. 1). This sampling site is threatened due to current deforestation pressure occurring in the region of the municipal port of Comodoro.

Considering the importance of these areas for the maintenance of *P. cinerascens*, it is recommended to develop studies on the conservation status of the species in the region, as well as the implementation of conservation measures aimed at maintaining stable populations, especially at the sampling site 2, since, according with Valeça-Montenegro (2015), the main threats to the taxon are directly linked to the loss of habitat.

These observations help fill gaps regarding the spatial distribution of the species in its southern portion, for which, according with Sampaio et al. (2012), evidence is still meager. The records presented here, added to those of Sampaio et al. (2012) and Gusmão and Costa (2014), constitute the known southern distributional limits of the species (see Fig. 1). The three observations described for sampling site 1 are on the right bank of the Guaporé River at the Brazil and Bolivia border, like the record made by Gusmão and Costa (2014), drawing attention to the possible occurrence of *P. cinerascens* in Bolivia. Factors such as the narrow width and sinuosity of the river in some portions of this area, together with the number of water hyacinths that are carried downstream, may favor the crossing of the species to the left bank of the river, where one of the largest preserved remnants of Bolivia, Noel Kempff National Park, is located.

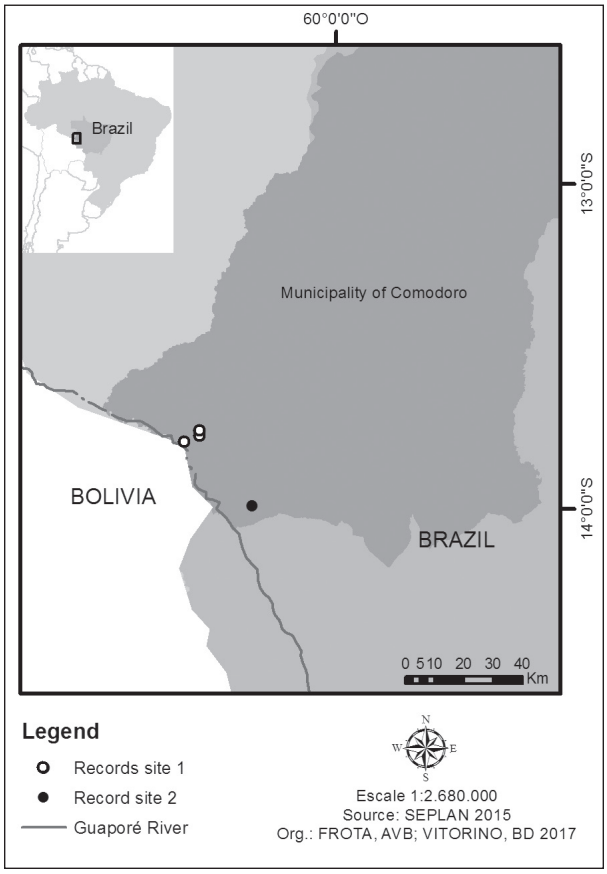

Figure 1. Location of records of *Plecturocebus cinerascens* , in the municipality of Comodoro, the region of Alto Vale Guaporé, Brazil.

Figure 2. Individual 1 of *Plecturocebus cinerascens*, registered in sample site 1, municipality of Comodoro, Mato Grosso state, Brazil.

Figure 3. Individual 2 of *Plecturocebus cinerascens*, registered in sample site 1, municipality of Comodoro, Mato Grosso state, Brazil.

New expeditions are recommended for assessing the status of the species in the region of Alto Vale Guaporé. Incursions that also contemplate the left bank of the Guaporé River, for evaluation of the inference raised here are stimulated.

Acknowledgements

Thanks to Biocev Environmental Services and Interligação Elétrica do Madeira for logistical support. We acknowledge CAPES for granting scholarships to authors BDV and AVBF. Special thanks to Danilo Saraiva (*in memoriam*) for his confirmation of our species identification.

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MICO HUMERALIFER ROADKILL IN THE AMAZON NATIONAL PARK, BRAZIL

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Introduction

Roads can have a negative impact on wildlife (Forman and Alexander, 1998; Laurance *et al.*, 2009) and when these roads cross protected areas, such as in the Amazon National Park, they can cause a considerable impact on populations (Gumier-Costa and Sperber, 2009; Murali Krishna *et al.*, 2013). Primate roadkill has rarely been recorded because the concern for monitoring fauna roadkill has developed only recently in Brazil (Cáceres *et al.*, 2010; Garbino, 2011; Gumier-Costa and Sperber, 2009; Secco and Bager, 2014).

The tassel-eared marmoset (*Mico humeralifer*) is a neotropical primate in the Callitrichidae family. Its occurrence is restricted to the Amazon, in the area south of the Amazon River and west of the Tapajós River, in the States of Pará and Amazonas. In this area between rivers, their presence is registered in three major conservation units: one with full protection, the Amazon National Park; and two for sustainable use, the Tapajós-Arapiuns Extractive Reserve and Amana National Forest. *Mico humeralifer* was categorized as of "least concern" (LC) in the latest assessment of threatened species (Buss and Ravetta, 2015).

The Amazon National Park has 1,084,895 ha and is situated in western Pará State (Figure 1a). It is transected by the Trans-Amazonian Highway (BR-230) in the Itaituba – Jacareacanga stretch, which is unpaved, 112 km long, and has little vehicular traffic (Brusnello *et al.*, 2010). The Park had its boundaries amended by Law number 12 678 of June 25, 2012 (Brazil, 2012). One of the objectives of this amendment was to enable the construction of the São Luiz Hydropower Plant (UHE), which will cause flooding in the southern part of the Park reaching stretches of the BR-230 highway (Fig. 1a). In addition to all the negative impacts related to habitat alteration, this venture should cause an increase in vehicle traffic on BR-230. Despite the existence of the highway and considering the rich fauna of primates in the Amazon National Park (Branch, 1983), there are no published record of primates run over by vehicles in the area (Brusnello *et al.*., 2010).

Observations and discussion

In August of 2010, we found a male tassel-eared marmoset (*Mico humeralifer*) (Fig. 1b) that died from being run over on the BR 230 Trans-Amazonian Highway, inside the Amazon National Park in Itaituba, PA (04031'26.1"S and 56018'2.2"W-Datum SAD69). Other marmosets were on the same road, at a distance of approximately 70 m from the dead marmoset during its removal by the researchers (Fig. 1c).

Biological material (fur and muscle samples) and some biometric data were collected from the dead marmoset and sent to the National Center for Research and Conservation of Brazilian Primates (CPB/ICMBIO). The animal was deposited in the Emilio Goeldi Museum, in Belém (PA). The animal's biometric data were: 130.68 g weight, 550 mm total length, 220 mm head-body length, 330 mm tail length, and 145 mm chest circumference. The low weight of the