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OCCURRENCE *CALLICEBUS NIGRIFRONS* (PRIMATES, *PITHECIIDAE*) IN APP OF SÃO JOÃO RIVER, EXPERIMENTAL PITANGUI FIELD, MINAS GERAIS, BRAZIL

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Abstract

According to island biogeography theory, fragments (vegetation islands) are transformed in habitats of animal species in very restricted areas, reducing food and increasing inbreeding rates. This leads important species to extinction. This is the case of SAUA monkey (Callicebus nigrifrons) in the city Pitangui, Minas Gerais state. This species survives in the region in disconnected islands of vegetation. Such situation can lead the species to local extinction. In addition, the SAUA monkey habitat is pressed by the expansion of sugarcane crops and increased gold exploration in the Pitangui City. This study aims to study is to register the presence of primate in Midwest region of Minas Gerais state. This may lead to other studies to estimate the population of this animal and its behavior is also important for the knowledge of this species. With this information it is possible to study the breaking of dormancy and germination of plant species to seedling production in scale and mobilize local farmers and government public in connection to recovery the forest fragments. We expect with this work to call to the importance to promote conservation biology of this species, promote environmental education to develop conservancy strategies to this specie in midwest region of Minas Gerais state..

Keywords: *Callicebus, Atlantic Forest, Pytangui, Conservancy Biology.*

INTRODUCTION

Primates are among most endangered mammals in Atlantic Forest due to deforestation and fragmentation. Among the 23 species of primates that occur in Atlantic Forest, 15 are classified in any category of endangerment (IBAMA, 2003).

Among the endangered species are the titi monkeys, with five species distributed in northern Tiete River to the south bank of the mouth of São Francisco river (van Roosmalen 2002).

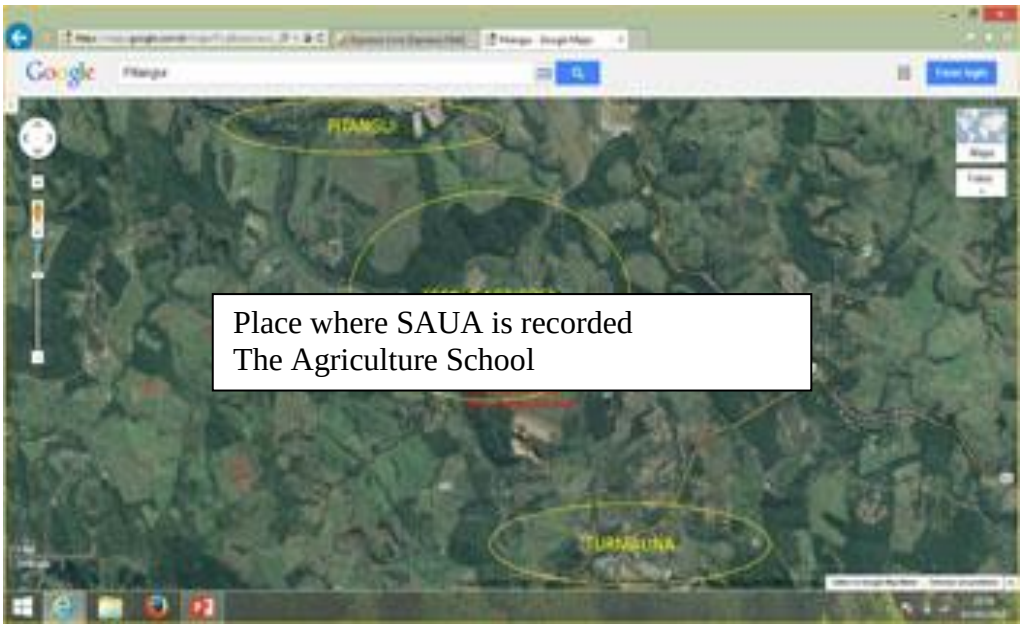
The personatus clade, the extra-Amazonian only consists of five species: Atlantic Titi (It Geoffroy, 1812.), *Callicebus nigrifrons* (Spix, 1823), *Callicebus melanochir* (Wied-Neuwied, 1820), *Callicebus barbarabrownae* (Hershkovitz, 1990) and *Callicebus coimbrai* (Kobayashi & Languth, 1999), all endemic to Atlantic Forest and surrounding areas of Caatinga and Cerrado, distributed by Southeast (Espírito Santo, Minas Gerais, Rio de Janeiro and São Paulo) and Northeast - Bahia and Sergipe state (Kinzey 1981; Hershkovitz, 1990; Van Roosmalen et al 2002).

Callicebus nigrifrons (Spix, 1823), popularly known as titi monkey has the most northerly geographic distribution of genus. It is distributed north of Tiete River in São Paulo state, Rio de Janeiro and Minas Gerais. It is limited to west by right bank of Paraná River and Paranaiba and east by the Serra da Mantiqueira and Espinhaço to the *C. personatus* distribution limit (van Roosmalen et al., 2002).

Although it is widely distributed, the sub-populations are isolated and very small overall, so the species was framed in category of Near Threatened according to list of IBAMA (2003). *Callicebus nigrifrons* is still framed as Vulnerable according to list of endangered species of Minas Gerais (COPAM, 1998).

The sub-basin of São João River is part of Para River Basin, located in the Upper São Francisco Basin, with an area of 1500 square kilometers. The São João River rises in field of Gentiles, in Itaguara city and supplies 11 cities of Minas Gerais (Itaguara, Itatiaiuçu, Carmo do Cajuru, Itauna, Mateus Leme, Sao Goncalo do Pará, Igaratinga, Conceição do Pará, Pará de Minas, Onça do Pitangui and Pitangui) flowing into Pará River in Velho do Taipa of Pitangui City (RODRIGUES 1979). The average width of the São João River is 5m, and at its mounth has a width of 8 to 10 m, and a depth of 1 to 1.5 m. The basin is located in a transition area between Cerrado and Atlantic Forest, this vegetation already quite degraded and replaced by pastures and eucalyptus

Figure 1. Google Earth Image of the Primate saua hit area, trunking Rivers St. John and Pará River.



reforestation. The climate is tropical of altitude, with average rainfall of 1557.5 mm annual, average annual temperature of 21.8 ° C and relative humidity of 68% (DE SOUZA GONÇALVES, 2002).

The Pitangui City is located in the Midwest region of Minas Gerais state and it is a city of colonization time of Brazilian by Portuguese crown. In the city still bears houses of the colonial era, some gold mines built by slaves, bibliographic and the Brazilian colonial documents and a quilombo known as velloso registered in the Federation of Quilombo Communities of Minas Gerais State. The city has about 300 years, which in addition to historical heritage also has a natural resource of significant value.

The Pitangui City has a significant Natural Resource, the area is in transition forest area (Ecotone) of Atlantic Forest to typical Cerrado. Have plant species of significant value like Cedar, Jequitibá, Pau d´oleo, bicuiba, Mamica de porca and fruit species of Cerrado like Pequi, Mangaba, Cagaitera, Cerrado pineapple and medicinal species like Alecrim, gorse, Barbatimão and others. Among animals that occur in region are Tatu, Paca, Mico estrela, titi monkey, Monkey Nail, Coati, Fox Field, Deer Campeiro, Oriço caxeiro, Cuíca, Mão Pelada; Bird species like Tucano, Pinhé, Partridge, Carcara, Canarinho, João de Barro, Jacu, Sabia, Sofré, Verdadeiro, Juriti, Inhambu, Quero-Quero, Tisorinha, Passaro petro, Tiziu, Maritaquinha, Martin Pescador, wild Codorninha, Parakeet, Juriti-Papu and others.

The occurrence of a primate called SAUA was well known in Pitangui and micro region as indicated verbally by IEF Environmental Analyst Pitangui Dr Jose Norberto Lobato.

The objective of this study was record the presence and if possible identify the primate through photography, movie and recording of vocalization. This study describes the occurrence of *Callicebus nigrifrons* in A.P.P. of the São João river, located in the experimental farm of Company of Agricultural Research and Minas Gerais (EPAMIG) at Pitangui City. It is expected to develop conservation tactics in fragments and areas where the occurrence of the species is confirmed.

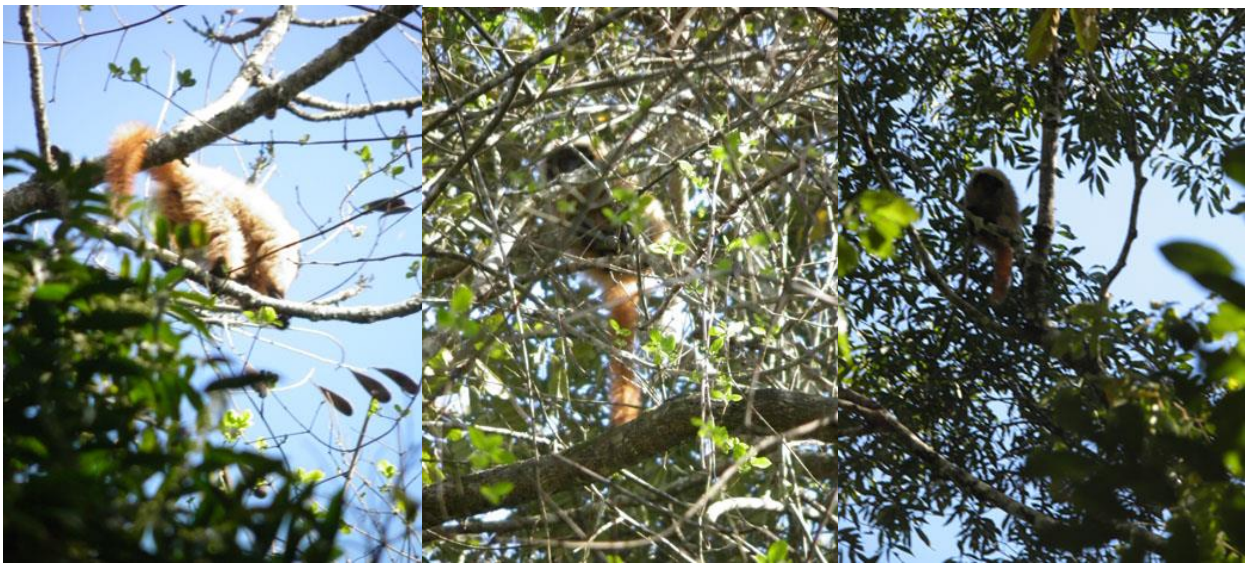
MATERIAL AND METHODS

This occurrence was sampled in Permanent Preservation Area of the São João River, located experimental field of Pitangui, held by the EPAMIG, Regional Unit EPAMIG ITAC. The experimental farm Pitangui has 480 ha with permanent preservation areas of the rivers São João and Pará River Basin San Francisco, a Legal Reserve area with two types of Atlantic Forest vegetation and Cerrado and areas of perennial crops, annual, and creation and management in animal area. The rest of the area comprises the administrative sector.

The São João River belongs to Pará River basin and it flows into São Francisco River in mediations of Abaete, Martinho Campos City. The São João is na important river that supplies the city of Pitangui and Pará de Minas, micro region Midwest.

Field observations were carried out from August to September 2014 with playback of tracks use at A.P.P. São João River. To this, we use a memory card with recordings of long cries of *C. nigrifrons* removed from the internet. The playbacks were issued with the aid of mobile phone and a portable amplifier box, in points located within the areas of use of titis. The playback sessions were started about 10 meters from the edge

Figure 2. Primate called SAUA is registered in Permanent Preservation Area of the São João River



towards the river São João. After the appearance of an individual group, the stimulus was maintained. He took advantage to register through photos with an Olympus SP-800UZ camera. It was made only about 5 to 10 tests with recording the vocalizations of notebook recorder. After issued vocalization recorded around 10 to 15 minutes individuals males appeared and began to vocalize being recorded vocalization. Seizing the moment the Observer crossed the river to be with a low bed and fitted the camera searched carefully approach the group while another member of team remained emitting vocalization primate as playback assistance. The group was not used to the presence of observers being aloof to first contact and starting to move away from jumping branches in branches, but it was possible to record photographically (Figure. 2) and shoot the primate.

The identification of the visualized and photographed species was based on the taxonomic literature and geographical distribution of *Callicebus nigrifrons*. We also have help of taxonomist (see acknowledgments) that confirmed the identification of the species and sent us a photo and a board to prove an important feature that differentiates between *C. nigrifrons* and *C. personatus*.

RESULTS AND DISCUSSION

Our observations confirmed the presence of *C. nigrifrons* group, in area A.P.P. located within the Pitangui and confrontational experimental farm can be significant since the wiles 7:00 to 9:00 in morning you can hear various points of Forest River Conservation Area São João primate groups vocalizing, and several subpopulations may be present in Mata do Ceu Forest (UC) Protected Areas, Rocinha Forest (UC) and Pedreira Forest (UC) and Forest fragments from the Conceição do Pará Municipality to Pitangui. The group at first responded to playback vocalizing at the place where he was. With repeat playback, the group approached the source of the sound, surrounding area, and sending vocalizations as playback was performed. When the researcher was sighted, the group walked away.

Ecological studies on *Callicebus nigrifrons*, and other species of the genus are scarce and should be widely encouraged. In Experimental Farm Pitangui offers optimal conditions of infrastructure and logistics for conducting longitudinal studies on the biology and population dynamics of this species and conservation actions need to be taken, otherwise the long-term survival of the population of titi monkey is seriously compromised. It is the full importance to urgently create a planning of the use of natural resources in the Atlantic Forest region between Itaguara to Bambui to ensure the conservation of this species.

CONCLUSIONS:

This shows the importance to link the conservation of the riparian forest with the agriculture activity, its is fundamental conserve the fragments of Atlantic forest in Midwest of Minas Gerais states aim to conserve important species like as SAUA monkey. It is importat to joins esforces between reasearch institutes and public organization and agriculture comunity to develop a way to produce and conserve endemic and vulnerable species like the titi mokeys.

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