

# Fruit consumption and dispersion to *Siparuna guianensis* (Siparunaceae) by *Guerlinguetus (ingrami) brasiliensis* (Mammalia: Rodentia) in Southeastern Brazil

Aloysio Souza de Moura<sup>1\*</sup>, Felipe Santana Machado<sup>1</sup>, Ravi Fernandes Mariano<sup>1</sup>, Ricardo Rabinovici Trotta<sup>1</sup> & Marco Aurélio Leite Fontes<sup>1</sup>

1 Universidade Federal de Lavras (UFLA), Departamento de Ciências Florestais (DCF)

\* Autor para correspondência: thraupidaelo@yahoo.com.br

**Abstract:** Among the plants of the genus *Siparuna* occurring in Brazil, there is the species popularly known as “negramina” (*Siparuna guianensis*, Aublet). Birds are mentioned as the main consumers of the fruits and possible dispersers of *S. guianensis*. Here, we present the first record the consumption of its fruits by *Guerlinguetus (ingrami) brasiliensis* Gmelin.

**Key words:** Frugivory, dispersion, mammals dispersers.

**Resumo:** Dentre as plantas do gênero *Siparuna* ocorrentes no Brasil está a espécie popularmente conhecida como “negramina” (*Siparuna guianensis*, Aublet). Aves são apontadas como os principais consumidores dos frutos e possíveis dispersoras de *S. guianensis*. Aqui, apresentamos o primeiro registro do consumo de seus frutos por um mamífero, o “Caxinguelê” *Guerlinguetus (ingrami) brasiliensis* Gmelin.

**Palavras chaves:** Frugivoria, dispersão, mamíferos dispersores.

## Introduction

Frugivory is the act of animals eating fruits. Due to the high diversity of Brazilian flora and fauna,

the elements of this interaction are not yet known at the species level (BEGON, 2009).

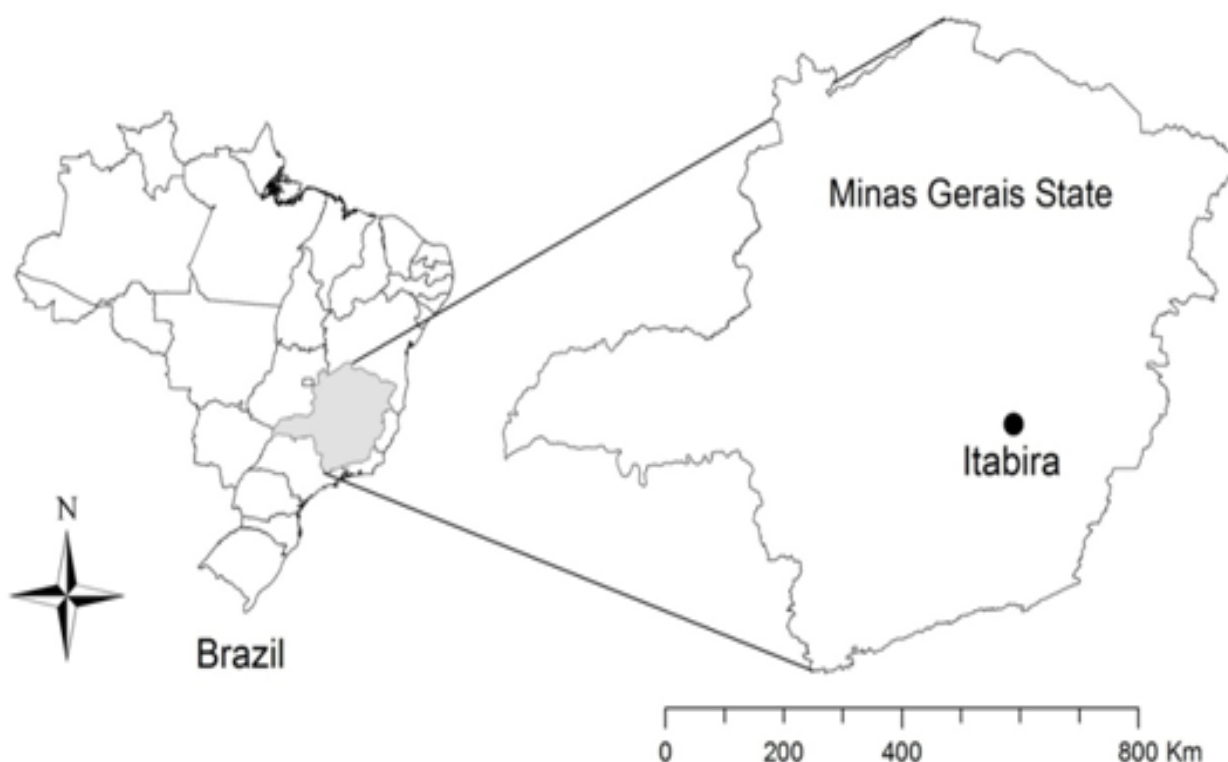
The family of plants Siparunaceae is represented by two genera: *Glossocalyx* and *Siparuna*. The first one is native to West Africa, with 70 species distributed from Mexico and the Caribbean to Paraguay and Argentina. The second one is composed of 72 species that occurs from Mexico until North of South America to Bolivia and Paraguay (RENNER et al., 1997). In the Brazilian territory occur approximately 40 species of the genus *Siparuna*, being more abundant in the Central and Southeastern region. The epicenter of occurrence is located in the Amazon region, where this genus comprises the great majority of species such as shrubs and similars (RENNER; HAUSNER, 2005).

Among the plants of the genus *Siparuna*, it is the species popularly known as “negramina”. *Siparuna guianensis* Aublet, has a broad ethnobotanical and ethnopharma ecological indication and has been indicated as one of the priority conservation species for the Brazilian Cerrado region (VIEIRA; ALVES, 2003).

In literature, the birds are the main consumers and dispersers of *S. guianensis* (VALENTINI et al., 2010; GONÇALVES et al., 2015). Then, we objective increase the knowledge about “negramina” and its consumers and dispersers. We shown here the consumption of fruits by “Caxinguelê” *Guerlinguetus*

## Materials and Methods

The record was obtained during fauna studies (mammals and birds) conducted in Itabira municipality, central region of Minas Gerais State, Southeastern Brazil (Figure 1). The weather in accord to Koppen classification is CWA, with annual average precipitation of 1,529.7 mm and annual average temperature of 19.4 C° (OMETTO, 1981). The landscape is composed by mining areas, semideciduous forest fragments, Cerrado areas, and Riparian Forests. The record area is made in semideciduous forest fragment in intermediate stage of regeneration. The observations were obtained with Nikon 08X40 binoculars, and the photographic record with digital camera Canon Power Shot SX50 HS.



**Figure 1** Location of Itabira municipality, Minas Gerais State, Brazil.

### *The plant studied*

“Negramina” (*S. guianensis*) is a species shrub belonging to the family Siparunaceae. The leaves are simple, membranous, with smooth, opposing margins, petioles 0.5 to 1.5 cm in length. They are 10 to 33 cm long by 4 to 16 cm wide, elongate to elliptic or lanceolate. In some areas previously surveyed, the leaf size was larger in shaded areas, with an average size of 8.1 cm in width and 23.8 cm in length, than in the area with higher solar incidence, it showed an average size of 5.7 cm of width, and 14.9 cm of length (VALENTINI *et al.*, 2009).

The fruits of *S. guianensis* are green when young and wine when ripe, which open irregular-

ly exposing the reddish-red interiors, with multiple cupuliform seeds, round 0.68 - 1.32 cm long by 0.67 -1.37 cm diameter dome receptacular, covered by white fleshy outgrowth, 4.2 to 5.8 mm long and 3.6-4.5 mm in diameter (APPROBATO; GODOY, 2006).

## Results and Discussion

At 17:20 hours on 22 February 2014, we recorded a “Caxinguelê”, *Guerlinguetus (ingrami) brasiliensis*, consuming and carrying fruits of *S. guianensis*, in the Itabira municipality, Minas Gerais State, Southeastern Brazil (Figure 2).



**Figura 2** “Caxinguelê”, *Guerlinguetus (ingrami) brasiliensis* consuming fruits of *Siparuna guianensis*, Itabira municipality, Minas Gerais, Brazil. (Photo by Aloysio Souza de Moura).

## Conclusion

To our knowledge, this is the first report of consumption *S. guianensis* by *G. brasiliensis*. New studies are necessary to understand the importance of the plant in the diet to animal, even as the rule of this mammal in utilization and dispersion of *S. guianensis*.

## References

- Approbato AU, Godoy SAP (2006) Levantamento de diásporos e máreas de Cerrado no Município de Luiz Antônio, SP. **Hoehnea** 33: 385-401.
- Begon M, Townsend C R, Harper J L (2009). *Ecologia: de indivíduos a ecossistemas*. Artmed Editora.
- Bordigmon M, Margarido TC, Lange RR (1996) Formas de abertura dos frutos de *Syagrus romanzoffiana* (Chamisso) glassman efetuadas por *Sciurus in grami* Thomas (Rodentia, Sciuridae). **Revista Brasileira de Zoologia** 13: 821-828.
- Bordigmon M, Monteiro-Filho ELA (2000) O serelepe *Sciurus ingrami* (Sciuridea: Rodentia) como dispersor do Pinheiro do Paraná *Araucaria angustifolia* (Araucariaceae: Pinophyta). **Arquivos de Ciências Veterinária e Zoologia** 3: 139-144.
- Dário FR (1994) Dispersão de sementes. **Revista Silvicultura** 58:32 34.
- Francisco MR, Galetti, M (2001) Frugivoria e dispersão de sementes de *Rapanea lancifolia* (Myrsinaceae) por aves numa área de cerrado do estado de São Paulo, sudeste do Brasil. **Ararajuba** 9(1): 13-19.
- Gonçalves, VF, Silva AM, Baesse CQ, Melo C(2015) Frugivory and potential of birds as dispersers of *Siparuna guianensis*. **Brazilian Journal of Biology** 75(2): 300-304.
- Guzzo LC, Papalambropoulos PR (2008) Padrão comportamental e dieta de *Guerlinguetus ingrami* L. em um fragmento urbano na Praia dos Padres, Aracruz, ES. Monografia de Bacharelado. Curso de Ciências Biológicas, Escola Superior São Francisco de Assis

(ESFA), Santa Teresa, ES.

Maia AA, Serran FP, Fernandes HQB, Oliveira RR, Oliveira RF, Penna TMP (1987) Interferências faunísticas por vestígios vegetais. III: Inter-relações do caxinguelê (*Sciurusa estuansingrami*, Thomas, 1901) com a palmeira “baba-de-boi” (*Syagrus romanzoffiana* (Chamisso) Glassman). **Atas da Sociedade Botânica do Brasil** 3: 89-95.

Nievas AM(2010) Existe Um Tamanho Ideal De Fruto De *Syagrus Romanzoffiana* (Arecaceae) Para O Consumo Por *Guerlinguetus Ingrami* (Rodentia)? Universidade de São Paulo. 1-4.

Ometto JC (1981) **Bioclimatologia Vegetal**. São Paulo: Agronomia Agrocere. 440p.

Patton JL, Pardinãns UFJ, D’Elía G (2015) **Mammals of south america, volume 2: Rodents.Vol. 2**. University of Chicago Press.

Renner SS, Hausner G (2005) **Monograph of Siparunaceae: Flora Neotropica** 95. New York: New York Botanical Garden, 256p.

Renner SS, Schwarzbach EA, Lohmann L (1997) Phylogenetic position and floral function of siparuna(-SIPARUNACEA: LAURALES). **Journal of Plant Sciences** 158: 89-98.

Valentini CMA, Coelho MFB, Ortiz CER, Almeida JD (2009) Uso e conservação da negramina (*Siparuna guianensis* Aubl.) em Bom Sucesso, Várzea Grande - MT. **Interações** 10(2): 195-206.

Valentini CMA, Rodriguez-Ortiz CE, Coelho MFB (2010) *Siparuna guianensis* Aublet (“Negramina”): a review. **Revista Brasileira de Plantas Mediciniais** 12(1): 96-104.

Vieira FR, Alves RBN (2003) **Desafios para a conservação de recursos genéticos de plantas medicinais e aromáticas no Brasil**. In: Coelho, M. F. B.; Costa (2010) *Siparuna guianensis* Aublet (“Negramina”): a review. **Revista Brasileira de Plantas Mediciniais** 12(1): 96-104.