NOTAS SOBRE

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Melanism in *Bradypus variegatus* (Pilosa, Bradypodidae)

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ABSTRACT
In January 2011, a brown-throated three-toed sloth, *Bradypus variegatus*, was observed in an Atlantic forest area from Rio de Janeiro, southeastern Brazil. The individual presented a blackish fur, indicating a melanic condition. This is the first record of melanism for this species, and I discuss possible behavioral consequences related to this chromatic disorder.

RESUMO
Em janeiro de 2011, uma preguiça-comum *Bradypus variegatus* foi observada em uma área de Mata Atlântica no Rio de Janeiro, Sudeste do Brasil. O indivíduo apresentava coloração da pelagem enegrecida, indicando condição melânica. Esse é o primeiro registro de melanismo para essa espécie, e eu discuto aqui possíveis consequências comportais ligadas à essa alteração cromática.

The brown-throated three-toed sloth *Bradypus variegatus* Schinz, 1825, has a wide distribution in the Neotropics, occurring from Honduras to the west coast of Ecuador, through Colombia and Venezuela, continuing east of the Andes and through the tropical forest of Peru, Bolivia, and southern Brazil (Wetzel 1982). In Brazil, the species has been recorded in almost all biomes except for the plains of the Pantanal and Pampa (Emmons 1990; Aguiar 2004; Medri et al. 2011). This species has long and coarse guard hairs which lie over short, dense, and silky underfur, and the coloration ranging from gray to yellowish-brown, with whitish spots concentrated on the dorsum near the hind limbs, creating a grizzled appearance (Emmons 1990; Eisenberg & Redford 1999; Hayssen 2009). Adult males can be easily distinguished from females by presenting, in the middle of the dorsum, some short and black hairs surrounded by a yellowish stripe named speculum (Eisenberg & Redford 1999). However, chromatic disorders have been previously reported for this species (Xavier et al. 2010). I report here the first record of melanism in *B. variegatus*.

The record was made in an Atlantic Forest remnant at Parque Natural Municipal de Nova Iguaçu (22° 46' 48.70" S; 43° 27' 33.50" W, altitude ca. 181 m), located between Nova Iguaçu and Mesquita municipalities, Rio de Janeiro state, southeastern Brazil. On January 2, 2011, at 09:40 h, one adult individual (undetermined sex) of

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B. variegatus with melanism (Fig. 1) was observed while moving horizontally in a dense forest. The individual had blackish fur, except for some hairs of the rostrum. The nail pigmentation also showed normal coloration. At the time of the photograph, the individual was superficially wet—due to the rainy day—which can make the fur appear darker. However, this individual was observed for four consecutive days after the photograph was taken, remaining with the same color even when the coat was dry. A photographic record available on the Wikimedia Commons made by A. Witoki in the Marañon River, Peru (04° 44' 53" S; 73° 30' 41" W), shows an individual of *B. variegatus* with blackish coloration and dry coat, which may represent another record of melanism for this species (https://commons.wikimedia.org/wiki/File:Paresseux-sloth-peru-maranon.JPG, accessed on July 13, 2020).

In general, melanism is characterized as a considerable increase of black or brown pigmentation with changes in the phenotype of the individual (Lucati & López-Baucells 2016). It is a genetic and hereditary condition caused by an abnormal deposit of melanin in the skin and/or hair follicles (Majerus & Mundy 2003; Hofreiter & Schöneberg 2010). However, partial melanism can occur by environmental conditions, like malnutrition, disease, or lack of exposure to the sun (Hofreiter & Schöneberg 2010; Lucati & López-Baucells 2016).

Chromatic disorders are uncommon in natural populations of wild animals, possibly due to a negative selection of individuals (Guthrie 1967; Parsons & Bonderup-Nielsen 1995). Studies conducted on reptiles, birds, and mammals reveal how hypopigmentation, for example, can lead to poor vision, greater predation risk, lower mating success, alteration in behavior, increased risk of diseases due to solar radiation, and lower survival rates (Lee & Grant 1986; Laikre et al. 1996; Møller & Mousseau 2001; Caro 2005; Krecsák 2008; Tavares et al. 2019). Xavier et al. (2010) reported a case of complete albinism in *B. variegatus* and emphasized that, because they are highly enigmatic animals, with diurnal and nocturnal habits and with few natural predators, sloths with albinism may be more likely to survive. Thus, it is very probable that the melanic condition also has a reduced impact on the behavior and survival of *B. variegatus*.

Reports of melanism are important to generate information that can be used in future studies of genetic evolution and behavioral ecology of several species (Majerus & Mundy 2003; Tavares et al. 2019). The present study represents the first report of melanism for a sloth species, which indicates that this chromatic disorder may be rare in this group.

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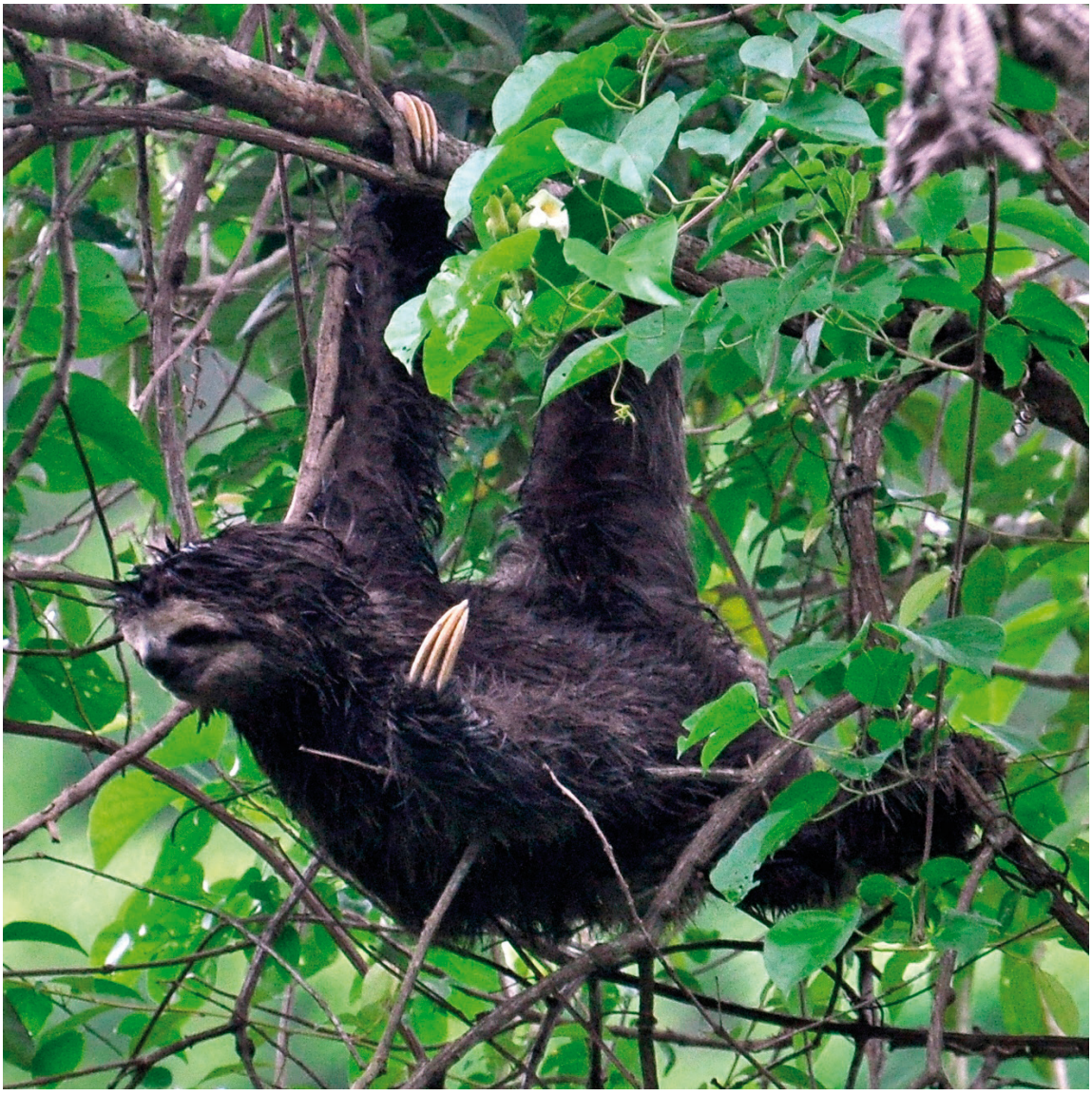

Figure 1. Individual of *Bradypus variegatus* with melanism, Rio de Janeiro, Brazil.

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