FOLIA
Amazónica
Revista del Instituto de Investigaciones
de la Amazonía Peruana

Nota científica

A NEW CASE OF MELANIC JAGUAR, *Panthera onca* (CARNIVORA: FELIDAE) FROM PERU

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ABSTRACT

We report a new case of melanism in jaguars, *Panthera onca*, using camera traps in the Parque Nacional Ichigkat Muja - Cordillera del Cóndor, Amazonas - Peru. This report increases our knowledge related to polymorphic variations found in jaguars.

KEYWORDS: Jaguar, melanism, Amazonas - Peru.

UN NUEVO CASO DE JAGUAR MELANICO, *Panthera onca* (CARNIVORA: FELIDAE) DE PERU

RESUMEN

Reportamos un nuevo caso de melanismo en Jaguar, *Panthera onca,* usando camaras trampa en el Parque Nacional Ichigkat Muja - Cordillera del Cóndor, Amazonas - Peru. Este reporte aumenta nuestro conocimiento ralacionado con variaciones polimorficas del jaguar.

PALABRAS CLAVE: Jaguar, melanismo, Amazonas - Perú.

The existence of variations in pigmentation in wildlife populations has attracted attention since the early 18th century (Hoekstra, 2006). One of those variations is known as melanism, a kind of a phenotypic pigmentation, which is common in nature and in captivity in numerous organisms (Kingsley et al., 2009). Melanic pigmentation causes the coloration of skin, fur or plumage to have a darker appearance, and has been reported on insects, mammals, birds, reptiles, and amphibians (Majerus & Mundy, 2003; True, 2003; Mundy, 2005; Kolenda et al., 2017; Medina & Medina 2019). Herein, we report a new case of melanism in the jaguar, *Panthera onca* (Linnaeus, 1758). The melanic jaguar that we document here corresponds to an adult male, recorded on October 23th, 2018 at 06:23 hours in Tropical Premontane Rainforest in the Parque Nacional Ichigkat Muja - Cordillera de Cóndor, Amazonas department, Peru (3°4' 9.6"S; 77°53' 59.41"W) (Figure 1). The individual was photographed with a camera trap (Bushnell Trophy Camera HD)

Figure 1. Field location of melanistic jaguar (in red), in Parque Nacional Ichigkat Muja - Cordillera de Cóndor; white squares indicate previous reports (see da Silva, 2017)

(Figure 2) as part of a mammal inventory of the protected area. In the same study area, two non-melanistic individuals of the jaguar were also recorded. The sampling grid of the study was 2x2 km with 19 cameras in the field for 100 trap nights each.

This report increases the number of melanistic jaguars reported in the literature and thereby our understanding of the occurrence of melanism in the Jaguar, *Panthera onca*. The presence of this rare phenotype has been reported in early scientific literature, the first published report dates from 1756 (see Nelson & Golman, 1933), and many reports have since been recorded in various localities in the Americas (e.g., Rengger, 1830; Tschudi, 1845; von Humboldt & Bonpland, 1853; Bates, 1892; Wavrin, 1939; Perry, 1970; Smith, 1976; Dittrich, 1979; Mondolfi & Hoogesteijn, 1982; Seymour, 1989; Brown & Lopez-Gonzalez, 2001; Dinets & Polechla, 2007; Nuñez & Jimenez, 2009; Silveira et al. 2010; Haag et al. 2010; Blake et al. 2014; Sáenz-Bolaños et al., 2015). Da Silva (2017) collected data from 980 jaguar samples (from scientific collections and fieldwork notes) and found that approximately 9.8 % of the jaguar population exhibits the melanic phenotype. Bates (1892) mentioned that the numbers of melanistic jaguars seen in Peru were significantly greater than those seen in the drier areas of northeastern Brazil. In Peru, as in other places, indigenous hunters mention that there are two types of jaguar, referring to the non-melanic and melanic phenotypes (Tschudi, 1845), in the first case called "Otorongo" or "Tigre", in the second case called

Figure 2. Image of black jaguar, *Panthera onca*, in Parque Nacional Ichigkat Muja - Cordillera de Cóndor, Peru.

"Pantera" or "Pantera negra". Due to the elusive behavior of jaguars, there are few published cases (see Figure 1), with the individual reported here being the first reported in the Amazonas department in Peru.

According to Eizirik et al. (2003), melanism in *Panthera onca* is caused by a 15-base-pair deletion in the *MC1R* gene. Based on this genetic particularity, molecular techniques can help us to evaluate the presence and abundance of individual wildlife with this trait (see Haag et al. 2010). As our report highlights, the use of camera traps represents an effective method to quantify the presence of melanism in jaguar populations. We expect that in the future more information about the occurrence and frequency of melanism, not only in jaguars but in other species too, will be further revealed.

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Recibido: 3 de enero de 2020 **Aceptado para publicación:** 2 de marzo de 2020