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COLOMBIAN BLACK-SPIDER MONKEY (*ATELES FUSCICEPS*) IN TATAMÁ NATIONAL NATURAL PARK, WESTERN COLOMBIA

María Elena Giraldo
Carolina Guzmán Valencia
Luis Enrique Gallego López
Luis Guillermo Gallego Patiño
Libaniel Osorio Parra
Jhon Eduar Rojas Osorio
Ricardo José Pérez Montalvo
Néstor Roncancio Duque

Introduction

The rarity of a taxon may be expressed in three ways: a restricted range (endemicity), low population densities, and demanding ecological requirements (habitat specialist) (Rabinowitz *et al.* 1986; Gaston 1994). Taxa with small geographic ranges are intrinsically vulnerable to habitat transformation even over relatively small areas, exacerbated if their population densities are low, and they are habitat specialists or otherwise, demanding in terms of specific ecological requirements. Specific habitat conditions may be high productivity and broad and functional connectivity to supply the needs of a viable population. If these conditions are not available, populations may be rapidly depleted and isolated (Rabinowitz and Zeller 2010).

The original range of *Ateles fusciceps* in Colombia extended approximately 142,000 km2 (Hernández-Camacho and Cooper 1976, Rodríguez-Bolaños *et al*. 2013), but has been reduced 35% with a total current rate of deforestation of 0,2% per year. Habitat lost has occurred mainly in the Caribbean region with an increasing rate of deforestation from 1.55% per year between 2002 to 2009, to 2.98% per year between 2009 – 2012 (IDEAM 2002, 2009, 2012). Of 92,300 km2 of remnant forest in the Colombian range of this species, only 850 km2 are in national natural parks, and in most there are no confirmed records of its presence. These parks partially overlap with indigenous and afrocolombian communities that hunt them for food. Their current distribution is unknown, we have no information where they occur and, no data on the sizes of remaining populations and their growth rates are available.

Spider monkeys have features like its body mass (7-9kg), diet (up to 85% of their diet is composed of ripe fruit), reproduction (1 birth every 3-4 years), activity patterns (1.5-3.5 km traveled per day) and home range (60-350ha) that make them extremely vulnerable to the loss, reduction and fragmentation of habitat (Chapman and Onderdonk 1998; Stevenson *et al.* 2002; Link and Di Fiore 2006; Takahashi, 2008; Urbani *et al.* 2008; Defler, 2010). Thus, the current rate of habitat loss, the likely high hunting pressure, plus its intrinsically vulnerability, *A. fusciceps* is categorized as Critically Endangered (CR); it is estimated that more than an 80% population decline has occurred over the past 45 years (based on a generation time of 15 years) (Cuarón, et al 2008).

To plan effective strategies for the conservation of wildlife species, it is necessary to do a quantitative diagnosis of their conservation status, measuring some indicators that compared over time can lead to evaluate the effect of the implemented interventions. In order to evaluate the conservation status of the Colombian Black-spider monkey, it is necessary to know the current distribution and the current available habitat (size and spatial configuration) as well as its population density in different zones of the landscapes. Therefore, the location of remnants population must be documented.

Records of *Ateles fusciceps*

Tatamá National Natural Park is one out of the 10 national protected areas that probably has populations of this taxon; the park is in the eastern border of its distribution, where the Andean (left margin of the Cauca River) and the Pacific regions get in contact. While carrying out sampling activities of the monitoring plan of Tatamá National Natural Park, we obtained two records of *Ateles fusciceps*. Eight individuals of *A. fusciceps* were seen moving and foraging at 1,780 m a. s. l. (5°13´48´´N, -76°05´57´´W, Fig. 1) and three individuals were seen at 700 m a.s.l. in the Área de Manejo Especial de Comunidades Negras Alto Amurrapá, an afrocolombian community adjacent to the park (05°18´56.8´´N - W 076°09´06.5´´W). Based on these observations, Tatamá National Natural Park is the only confirmed National Park that protects this taxon at the eastern border of its distribution.

Discussion

The borders of the distribution of any species are usually marginal habitat with low population density, compared with the core areas (Hengeveld and Haeck, 1982, Soley-Guardia, et al 2014); thus, the fact that our records are in a limit of the distribution of the species, makes this eastern population of the Tatamá Natural Park more vulnerable. Another important aspect lies on the fact that this park

has an altitudinal distribution from 850 to 4,250 m a. s. l. and, only a reduced area (20% of the park) is below 2,000 m of elevation. *Ateles species* prefer habitats from 0 to 800 meters of elevation (Cant 1978; Green 1978; Stevenson *et al.* 2002; Aldana *et al.* 2008, Defler 2010; Roncancio *et al.* 2010, Roncancio *et al.* 2013; Roncancio & Benavidez 2013; Gonzáles com. pers.), so we can consider that the available preferred habitat for the species inside the protected area is reduced. In addition, the lowland section adjacent to the park is affected by extractive and productive human activities. Currently, the road between Pereira and Tadó municipalities is being paved (Fig. 1). Along the sideway (200m width) of the road 75% (2,195 out of 2,947 ha) of the natural forest cover have been removed, and likely this is going to increase exponentially by the paving without an effective environmental management plan (Pfaff 1999; Nepstad *et al.* 2001; Kirby *et al.* 2006), promoting the isolation of the two populations recorded (Peres 2001). Consequently, Tatamá, in addition to offering a marginal habitat for *A. fusciceps* is a very important refuge for this population, and consequently, the local environmental authorities CODECHOCO, CARDER, and National Natural Parks must plan a cooperative management of this landscape to mitigate the effect of development projects, considering the ecological requirements (size and connectivity) of the conservation object that play a role of landscape or surrogate species, like the Atelinae primates (Coppolillo *et al.* 2004).

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María Elena Giraldo, Carolina Guzmán Valencia, Luis Enrique Gallego López, Luis Guillermo Gallego Patiño, Libaniel Osorio Parra, Jhon Eduar Rojas Osorio, Tatamá National Natural Park, E-mail: maria.giraldo@parquesnacionales.gov.co, **Ricardo José Pérez Montalvo, and Néstor Roncancio Duque,** West Andean Territory, National Natural Parks of Colombia.

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