Wallace, R. B., Martinez, J., López-Strauss, H., Barreta, J., Reinaga, A., and López, L. 2013. Conservation challenges facing two threatened endemic titi monkeys in a naturally fragmented Bolivian forest. In: *Primates in fragments: complexity and resilience*, L. K. Marsh, and C. A. Chapman (eds.), pp.493–501. Springer Science, New York.

Wolovich, C. K., and Evans, S. 2007. Sociosexual behavior and chemical communication of *Aotus nancymaae*. *Int. J. Primatol*. 28: 1299–1313.

Zito, M., Evans, S., and Weldon, P. J. 2003. Owl monkeys (*Aotus* spp.) self-anoint with plants and millipedes. *Folia Primatol*. 74: 159–161.

GEOGRAPHICAL AND ALTITUDINAL RANGE EXTENSION OF WHITE-BELLIED SPIDER MONKEYS (*ATELES BELZEBUTH*) IN THE NORTHERN ANDES OF COLOMBIA

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Introduction

The geographic distribution of white-bellied spider monkeys (*Ateles belzebuth*) has been debated extensively, and there is no consensus on the historical continuity or discontinuity of its wild populations. Currently, white-bellied spider monkeys are known to have a disjunct distribution located across three regions: [1] the western piedmont of the Eastern Andes and the lowland rainforests of Colombia, [2] the forests in western Amazonia in Ecuador and Peru, as well as from [3] southern Venezuela and northwestern Brazil (Fig. 1). As mentioned by the IUCN Red List Assessment: "The distribution of this species is not well known and defies easy description" (Link *et al.*, 2019).

In Colombia, white-bellied spider monkeys are present in the lowland rainforests of Tinigua and Macarena National Parks, especially near the piedmont of the Eastern Andes. Some populations also occur in Guaviare and Caquetá departments, and a few "anecdotal" records have been documented in south-eastern Colombia. Nonetheless, Defler (2003) proposed that this handful of records in south-eastern Colombia actually correspond to isolated individuals, including two spider monkeys that were hunted by local persons given its rarity in the region. These spider monkeys are not present across a broad area of the Amazonian rainforests in Colombia (e.g. Amazonas department), nor are they found in northern Ecuador, north of the Cuyabeno River. Thus, based on reliable records, it seems that populations of white-bellied spider monkeys are divided into at least three disjoint populations (Fig. 1). The biogeographical, ecological and even anthropological drivers of this discontinuous distribution are still unknown.

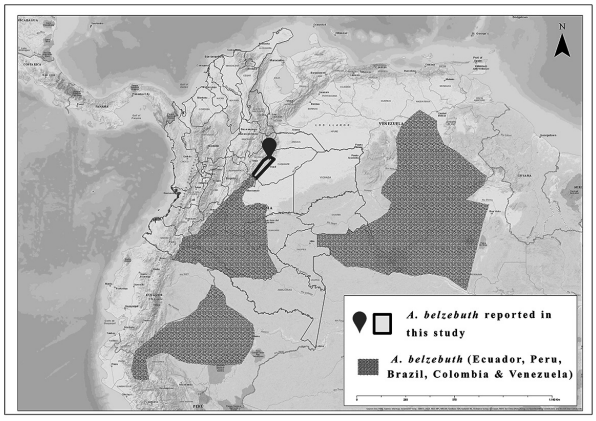

Figure 1. Geographical distribution of *Ateles belzebuth* (IUCN 2019). Shadow denotes reported populations and grey symbol denotes the northern population newly registered in this study.

The white-bellied spider monkey is classified as Endangered by the IUCN Red List (Link *et al.*, 2019) mainly due to the loss of habitat and the estimated reduction of its populations during the last decades. The demographic dynamics of white-bellied spider monkeys have been studied in the Ecuadorian and Colombian Amazon (Shimooka et al., 2008; Link et al. 2018) and it is clear that they have one of the slowest development cycles amongst living primates, with extended periods of infancy and sexual immaturity (Link et al., 2018). It has been proposed that their slow life history variables partly account for their high vulnerability to anthropogenic threats (Michalski & Peres, 2005). White-bellied spider monkeys also have long periods of development. Females begin reproducing only when they are approximately 7 – 9 years, most often have singletons (but see Link et al 2006), and have inter-birth intervals of approximately 30 – 36 months (Shimooka et al., 2008; Link et al., 2018). Spider monkeys also prefer undisturbed forests where they use large areas (160 – 400 hectares) to search for food, especially ripe fleshy fruits (Di Fiore et al., 2008). Spider monkeys' large body size makes them preferred hunting items for many indigenous and local communities, posing a strong threat on their wild populations (Franzen, 2008).

Here, we report on a previously unknown population of white-bellied spider monkeys living in the highland forests in the Eastern slope of the Eastern Andes in Colombia, in the departments of Casanare and Boyacá. This population accounts for the northern-most record of white-bellied spider monkeys in the Andes Piedmont in Colombia, and is present in highland forests that extend its altitudinal range to over 1,800 m. a.s.l. Given that in the Colombian Andes during the last centuries there has been a dramatic transformation of natural forests into agricultural fields and pastures for cattle ranching (Etter and van Wyngaarden, 2000; Armenteras et al., 2011), it is possible to

speculate on the historical presence of a large and continuous population that might have been connected to those extant populations in northwestern Amazonia through a lowland and highland forest corridor west of the natural "Colombian and Venezuelan Llanos" savannas. We discuss the implications of these new records in light of the urgent need of conservation for these endangered primates in the Neotropics.

Methods

Study area.
The forests where the initial sightings of white-bellied spider monkeys took place in 2014 are located in the Eastern slope of the Eastern Andes cordillera, in the municipality of El Yopal - Corregimiento El Morro, vereda Marroquín - (5° 29.938'N, 72° 26.818'W) (Fig. 2), in Casanare Department. In 2018, we found other groups of white-bellied spider monkeys in forest fragments in the same broader region, specifically in the municipality of La Paya – veredas Guayabal de la Peña, La Unión and Milagros - (5° 35.626'N, 72° 21.218'W), in the department of Boyacá. The two localities are roughly 15 km apart.

According to Holdridge (1979) the area is considered as a premontane very humid forest and is characterized by steep mountains that oscillate between 1,100 and 2,200 m. a.s.l. Precipitation patterns are unimodal, with a rainy season from April through November, and a dry season from December through March. Annual rainfall ranges between 2,000 – 4,500 mm and average temperature oscillates between 12°C – 18°C (IGAC, 1999). The landscape is comprised by a matrix of pastures devoted to cattle ranching, subsistence agricultural plots and remnants of secondary and primary forests. Most forests have been selectively logged for timber but otherwise remain intact, although deforestation takes place in the broader region; between 2014 -2016, 114 ha of primary and secondary forests were cleared in the Paya alone (Pinza, unpublished data). However, since 2018, a payment for ecosystem services (PES) strategy is being implemented through Voluntary Conservation Agreements, where the owners of the forests receive monetary incentives from an oil company that operates down at the basin, as an environmental compensation, to preserve the forest for at least three years.

Characterization of the population of white-bellied spider monkeys in Casanare and Boyacá
We began to collect systematic data on the population of white-bellied spider monkeys at Yopal in 2018 and at Paya in 2019 (Fig. 2), as part of a regional on-going initiative to protect and conserve *Ateles belzebuth* in the premontane forests of the north-eastern Andes. We conducted population surveys at El Yopal in order to estimate primate population densities following the line transect methods proposed by Peres (1993) and Buckland et al. (1993). At Paya, we conducted *ad libitum* surveys in the forests during January and February in 2019 and conducted line transect surveys from April to September of the same year. For every visual observation of white-bellied spider monkeys we recorded the time of day, the number of individuals with age and sex categories whenever possible, and the location using a hand-held Garmin GPSMAP 64s Topo COL 100K GPS Handheld Receiver with 2.6-Inches Blacklit Display. Additionally, we conducted semi-structured interviews with locals in order to obtain information on the presence or absence of white-bellied spider monkeys in the different forest fragments in the broader region. We also asked for more detailed information (whenever possible) on the number of groups/subgroups present, specific behaviors and vocalizations, or other information about the species.

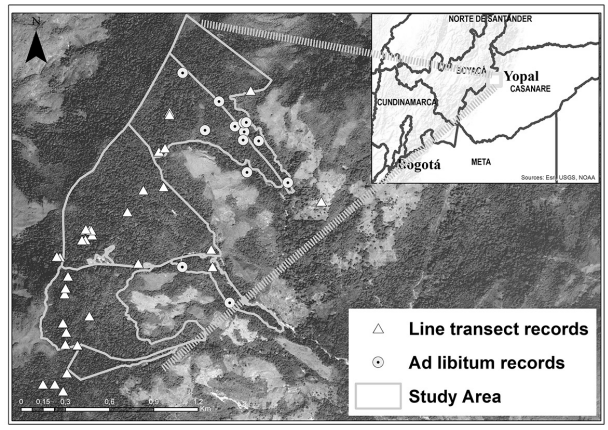

Figure 2. Records of *Ateles belzebuth* at Paya, Boyacá. Circles denote records from ad libitum surveys from January to February 2019; Triangles denote records from line transect surveys from April to September 2019.

Results

During the initial surveys (July to October 2018) at the municipality of Yopal we were unable to visually record the presence of *Ateles belzebuth*, however we were able to record several long-distance vocalizations, thus confirming their presence in the area. Moreover, the interviewees confirmed the presence of white-bellied spider monkeys in the adjacent forest fragments, and from the information gathered during these interviews we could infer the presence of at least two subgroups of around six individuals in different parts of the forest as well as solitary females traveling through the fragments, as expected given the high degree of fission-fusion dynamics described for the genus *Ateles* (Symingon, 1990; Aureli and Schaffner, 2008).

On the other hand, at Paya (January to March and April to September 2019) we obtained 56 sightings of subgroups of *Ateles belzebuth* in 170 ha of continuous forest (Appendix 1). The subgroups ranged in size from 1 to 9 individuals with a mean subgroup size of 3.8 individuals (SD = 2.5) (Appendix 1). This matches the information given by the peasants, who had seen groups between 2 and 5 individuals of *Ateles belzebuth* in both fragments, and closely resembles the average

subgroup size of other populations of white-bellied spider monkeys in lowland forests (Link & Di Fiore, 2013).

In both localities, locals described two vocalizations: a long-distance call and a "barking" or "repeated bark" alarm call, previously described for several species of spider monkeys (Eisenberg, 1976; León & Link, 2013). Through hearing long-distance vocalizations, we were able to confirm the presence of *Ateles belzebuth* at Yopal, and to locate the subgroups during the ad libitum and transect surveys at Paya.

Discussion

The distribution of white bellied spider monkeys has been a matter of debate, given the current discontinuity between populations found on the eastern slope of the eastern Andes cordillera and in the Amazon rainforests (Link *et al.,* 2019). This study adds to this debate by documenting the northernmost populations of *Ateles belzebuth* in the Andes, and extending the distribution of this taxon for approximately 130 km from the locations of specimens collected in 1920´s and 1950´s in the departments of Cundinamarca and Meta, respectively (Fig. 2). Also, these records expand the altitudinal range for white-bellied spider monkeys from 1,300 m. a.s.l. (Hernandez-Camacho & Cooper, 1976) to 1,800 m. a.s.l. This geographical and altitudinal expansion poses an additional question about the continuity of these recently recorded populations with those in northwestern Amazonia in Colombia, and adds to the complexity of its current geographical distribution.

The biogeography of spider monkeys (*Ateles spp*.) has been largely explained by the separation of major clades due to riverine and mountain barriers (Collins & Dubach 2000; Morales-Jiménez et al. 2015). Nonetheless, these northern populations of white-bellied spider monkeys are currently located about 200 km south of records of brown spider monkeys (*Ateles hybridus*) with no evident geographical barriers between them. In the 1960´s there is a record of *Ateles hybridus* in Cucuta, Norte de Santander department, Colombia (see Defler, in press), and currently there is a population of brown spider monkeys at Caparó, in Venezuela (Aliaga-Samanez et al., 2017) (Fig 3). Thus, populations of both taxa might be currently in a process of range expansion (and have not reached a contact zone), or might have occupied these areas and have been locally extirpated elsewhere except for limited current residual populations.

The status of white-bellied spider monkeys in the northern Andes of Colombia is largely unknown and efforts should be made to better understand the size of this highland population, in order to plan successful conservation strategies. Mountain forests in Colombian Andes have been heavily degraded during the last centuries (Etter and van Wyngaarden, 2000), and the broader region where white bellied spider monkeys have been recently recorded in the Andes has high levels of forest fragmentation. Thus, understanding how common or rare is the presence of *Ateles belzebuth* in these forest fragments might drive conservation strategies focused on a few fragments or, in restoring connectivity between isolated populations, amongst other conservation actions. Studies on the ecology and behavior of *Ateles belzebuth* in highland forests are urgently needed to better understand the ecological flexibility of these endangered primates, as most of the information on the species has been recorded on populations in lowland Amazonian forests (Stevenson et al., 2000; Link et al., 2018).

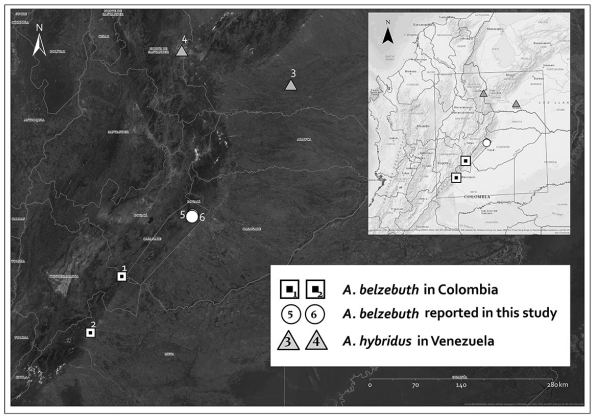

Figure 3. Records of *Ateles belzebuth* (1, 2, 5, 6) and *A. hybridus* (3,4) in Colombia and Venezuela. Circles (5, 6) show this study data at Casanare and Boyacá; Triangles show literature reports of nearest populations of *A. hybridus* and, Squares show literature reports of *A. belzebuth*. 1. Mambita, Cundinamarca, [N 4°45.08112´, W-73°19.6705´], 1923, AMNH76784, AMNH62815. 2. Villavicencio, Acacías, Meta, [N3°59.2285´, W-73°45.6075´], 1956, FMNH85816. 3. Caparó, Venezuela, [N7° 25.3´, W-70°59.7166´], 2014, direct observation, 4. Cúcuta, rio del Oro, [N7° 53.4963´, W-72° 30.102´], 1965, ICN1033.

In conclusion, the record of a new population of white-bellied spider monkeys living in the highland forests of the northern Andes of Colombia creates the need to prioritize urgent conservation actions to study and better understand spider monkey evolutionary history and behavioral flexibility, that allows them to adapt to highland ecosystems. *Ateles* may well represent some of the most important seed dispersers (see Link & Di Fiore, 2006; Dew et al., 2008) for these mountain forests, and may be playing a crucial role in the maintenance of the structure and composition of these threatened ecosystems (Link & di Fiore, 2006). Finally, given the high vulnerability of spider monkeys to anthropogenic pressure, spider monkeys can be used as flagship species; focusing conservation efforts on their wild population can drive indirect conservation of a large biodiverse ecosystem in the global biodiversity Hotspot of the Northern Andes in the Neotropics.

Appendix. Visual records of *Ateles belzebuth* at Paya, Boyacá, January to September 2019.

Date	Coordinates	Altitude (m)	Group size
21/01/2019	N5° 36.262' W-72° 20.907'	1425	3
22/01/2019	N5° 36.373' W-72° 20.998'	1610	3
23/01/2019	N5° 36.282' W-72° 20.940'	1361	7
24/01/2019	N5° 36.232' W-72° 20.910'	1329	3
25/01/2019	N5° 36.228' W-72° 20.853'	1355	4
26/01/2019	N5° 36.268' W-72° 21.050'	1460	6
28/01/2019	N5° 35.635' W-72° 20.962'	1218	5
29/01/2019	N5° 36.113' W-72° 20.897'	1311	3
31/01/2019	N5° 36.295' W-72° 20.908'	1466	2
1/02/2019	N5° 36.297' W -72° 20.898'	1460	1
29/04/19	N5° 36.606' W -72°21'036'	1836	4
29/04/19	N5° 36'606' W -72°21'029'	1833	1
29/04/19	N5° 36'560' W -72°21'016'	1794	1
14/05/19	N5° 36.413' W -72° 20.882'	1547	3
17/05/19	N5° 36.005' W -72° 20.624'	1576	3
17/05/19	N5° 36.005' W -72° 20.624'	1576	3
17/05/19	N5° 36.005' W -72° 20.624'	1576	3
17/05/19	N5° 36.005' W -72° 20.624'	1576	3
21/05/19	N5° 35.780' W -72° 21.297'	1453	2
21/05/19	N5° 35.969' W -72° 21.336'	1608	2
24/05/19	N5° 36.335' W -72° 21.180'	1734	4
28/05/19	N5° 36.049' W -72° 21.277'	1593	1
28/05/19	N5° 36.190' W -72° 21.220'	1602	3
6/06/19	N5° 36.325' W -72° 21.180'	1690	1
15/06/19	N5° 35.379' W -72° 21.560'	1635	4
26/06/19	N5° 35.313' W -72° 21.574'	1611	1
2/07/19	N5° 36.203' W -72° 21.197'	1658	6
16/07/19	N5°59174° W -72°.35986°	1388	2
17/07/19	N5° 35.903' W -72° 21.491'	1690	8
17/07/19	N5° 35.804' W -72° 21.584'	1740	1
17/07/19	N5° 35.806' W -72° 21.596'	1759	1
23/07/19	N5° 35.338' W -72° 21.648'	1508	2
30/07/19	N5° 35.885' W -72° 21.466'	1668	8
30/07/19	N5° 35.867' W -72° 21.502'	1693	9
31/07/19	N5° 35.867' W -72° 21.490'	1687	3
31/07/19	N5° 35.905' W -72° 21.474'	1687	9
4/08/19	N5° 35.866' W -72° 21.503'	1694	7
26/08/19	N5° 35.831' W -72° 21.029'	1275	1
26/08/19	N5° 36.061' W -72° 21.203'	1548	1
26/08/19	N5° 35.902' W -72° 21.469'	1684	4
29/08/19	N5° 35.669' W -72° 21.567'	1734	6
29/08/19	N5° 35.588' W -72° 21.477'	1641	3
30/08/19	N5° 35.480' W -72° 21.521'	1579	1
30/08/19	N5° 35.481' W -72° 21.521'	1579	5
30/08/19	N5° 35550' W -72°21.582'	1683	5
3/09/19	N5° 35.906' W -72° 21.489'	1699	1

Date	Coordinates	Altitude (m)	Group size
3/09/19	N5° 35.767' W -72° 21.024'	1254	3
4/09/19	N5° 35.562' W -72° 21.574'	1723	7
5/09/19	N5° 35.528' W -72° 21.562'	1684	9
6/09/19	N5° 35.484' W -72° 21.565'	1670	9
6/09/19	N5° 35.734' W -72° 21.555'	1774	3
13/09/19	N5° 35.338' W -72° 21.604'	1617	6
13/09/19	N5° 35.690' W -72° 21.564'	1749	3

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References

Armenteras, D., Rodríguez, N., Retana, J. and Morales, M. 2011. Understanding deforestation in montane and lowland forests of the Colombian Andes. *Reg Environ Chang.* 11(3): 693–705.

Aureli, F. and Schaffner, C. 2008. Social interactions, social relationships and the social system of spider monkeys. In: *Spider Monkeys: Behavior, Ecology, and Evolution of the genus Ateles,* Campbell, C. J. (ed.), pp. 236–265. Cambridge University Press, New York.

Buckland, S. T., Anderson, D. R., Burnham, K. P. and Laake, J. L. 1993 *Distance Sampling: Estimating Abundance of Biological Populations*. Chapman and Hall, London.

Collins, A. and Dubac, J. 2000. Biogeographic and ecological forces responsible for speciation in *Ateles. Int. J. Primatol.* 21: 421–444

Defler, T. R. 2003. *Primates de Colombia*. Conservación Internacional, Bogotá D. C.

Dew, J. L. 2008. Spider monkeys as seed dispersers. In: *Spider Monkeys: Behavior, Ecology, and Evolution of the genus Ateles,* Campbell, C. J. (ed.), pp.155–182. Cambridge University Press, New York.

Di Fiore, A., Link, A. and Dew, L. 2008. Diets of wild spider monkeys. In: *Spider Monkeys: Behavior, Ecology, and Evolution of the genus Ateles,* Campbell, C. J. (ed.), pp. 81–138. Cambridge University Press, New York.

Eisenberg, J. F. 1976. Communication Mechanisms and Social Integration in the Black Spider Monkey, *Ateles fusciceps robustus*, and Related Species. Smithson. Contrib. Zool. 213: 1–108.

Etter, A. and van Wyngaarden, W. 2000. Patterns of landscape transformation in Colombia, with emphasis in the Andean region. *Ambio*. 29(7): 432–439

Franzen, M. 2006. Evaluating the sustainability of hunting: a comparison of harvest profiles across three Huaorani communities. *Environ. Conserv.* 33 (1): 36–45.

Hernández-Camacho, J. and Cooper, R. W. 1976. The nonhuman primates of Colombia. In: R. W. Thorington, Jr. and P. G. Heltne (eds.), *Neotropical Primates: Field Studies and Conservation*, pp. 35–69. National Academy of Sciences, Washington, D. C., USA.

Holdridge, L. R. 1979. *Ecología basada en zonas de vida*. Instituto Interamericano de Ciencias Agrícolas, San José.

IGAC. 1999. *Casanare, características geográficas.* Instituto Geográfico Agustín Codazzi (IGAC), Bogotá D.C.

León, J. y Link, A. 2013. Repertorio vocal de los monos araña café (*Ateles hybridus*). En: *Primates Colombianos en Peligro de Extinción*, Defler, T. R., Stevenson, P. R., Bueno, M. L. y Guzmán-Caro, D. L. (eds.), pp. 281–293. Asociación Primatológica Colombiana, Bogotá D. C.

Link, A., Palma, A. C., Velez, A. and de Luna, A.G. 2006. Costs of twins in free-ranging white-bellied spider monkeys (*Ateles belzebuth belzebuth*) at Tinigua National Park, Colombia. *Primates.* 47: 131–139.

Link, A. and Di Fiore, A. 2006. Seed dispersal by spider monkeys and its importance in the maintenance of neotropical rain-forest diversity. *J. Trop. Ecol.* 22: 235–246.

Link, A., Milich, K. and Di Fiore, A. 2018. Demography and life history of a group of white-bellied spider monkeys (*Ateles belzebuth*) in western Amazonia. *Am. J. Primatol*. e22899

Link, A., Muniz, C., Rylands, A. B., Mourthé, Í., Cornejo, F. M., Urbani, B., Mittermeier, R. A., Stevenson, P. R., Palacios, E., Boubli, J., Shanee, S., de la Torre, S. and Moscoso, P. 2019. *Ateles belzebuth*. The IUCN Red List of Threatened Species 2019: e.T2276A17928557. http://dx.doi.org/10.2305/IUCN.UK.20192.RLTS.T2276A17928557.en. Downloaded on 22 September 2019.

Michalski, F. and Peres, C. A. 2005. Anthropogenic determinants of primate and carnivore local extinctions in a fragmented forest landscape of southern Amazonia. *Biol. Conserv.* 124: 383–396.

Morales-Jiménez, A. L., Disotell, T., Di Fiore, A. 2015. Revisiting the phylogenetic relationships, biogeography, and taxonomy of spider monkeys (genus *Ateles*) in light of new molecular data. *Mol. Phylogen. Evol. 82*: 467–483.

Peres, C. A. 1993. Structure and spatial organization of an Amazonian *terra firme* forest primate community. *J. Trop. Ecol*. 9: 259–276.

Shimooka, Y., Campbell, C.J., Di Fiore, A., Felton, A. M., Izawa, K., Link, A., Nishimura, A., Ramos-Fernández, G. y Wallace, R. B. 2008. Demography and group composition of *Ateles.* In: *Spider Monkeys: Behavior, Ecology, and Evolution of the genus Ateles,* Campbell, C. J. (ed.), pp.329–348. Cambridge University Press, New York.

Stevenson, P. R., Quiñones, M. J. and Ahumada, J. A. 2000. Influence of Fruit Availability on Ecological Overlap among Four Neotropical Primates at Tinigua National Park, Colombia. *Biotropica.* 32(3): 533–544.

Symington, M. M. 1990. Fission-fusion social organization in *Ateles* and *Pan*. *Int. J. Primatol*. 11(1): 47–61.

PRIMER REGISTRO DE *PITHECIA MILLERI* (ALLEN, 1914) EN LA BAJA BOTA CAUCANA, CORREGIMIENTO DE MIRAFLOR, MUNICIPIO DE PIAMONTE, CAUCA

Laura Suárez
Hugo Mantilla-Meluk

Introducción

Los monos voladores o sakis, comprenden las especies de menor tamaño entre los Pitheciines y son considerados habitantes típicos de los bosques de varzea, igapó y tierra firme en la Amazonía (Rylands, 1988; Rylands y Mittermeier, 2009). *Pithecia milleri*, descrita como una especie separada de *P. monachus* en 1914 por Allen, fue remitida a subespecie de *P. monachus* por Hershkovitz (1987), criterio aceptado para las poblaciones de Colombia por Defler (2004); siendo elevada de nuevo al estatus específico por Marsh (2014). Es poca la información que en la actualidad existe sobre esta especie, considerada a la fecha en la categoría Datos Deficientes (DD) por la Unión Internacional para la Conservación de la Naturaleza (Marsh, 2015); dicho desconocimiento, sumado a la degradación por deforestación de los ambientes que ocupa en la porción de su distribución en Colombia, son las principales amenazas para este taxón. Según García *et al.,* (2017) *Pithecia milleri* se distribuye en Colombia entre los 200 y 1,070 m.s.n.m., sobre el flanco oriental de la Cordillera Oriental, en el Piedemonte Andino-Amazónico, con límite norte en San Vicente del Caguán, en el departamento del Caquetá, cubriendo las cuencas del río Caguán hasta su desembocadura en el río Caquetá; y al sur, a través del interfluvio de los ríos Caquetá y Putumayo, hasta el límite de los departamentos del Putumayo y Amazonas en la población de Guaquirá. A pesar de que la presencia de la especie fue sugerida para la Bota Caucana por García *et al.,* (2017), a la fecha no se cuenta con registros de *P. milleri* para el departamento del Cauca.

Observaciones y discusión

En el marco del desarrollo de las actividades de campo del proyecto Densidad Poblacional y Estructura de grupo de *Plecturocebus caquetensis* en la Baja Bota Caucana, bajo financiación de la Primate Society of Great Britain (PSGB), se reportan los primeros registros de mico volador (*P. milleri*) para el municipio de Piamonte, departamento del Cauca, en la Baja Bota Caucana (Fig. 1), correspondientes a tres avistamientos independientes: i) observación de un individuo solitario, el día 17 de septiembre de 2018 a las 7:07 horas, en el fragmento de bosque La Floresta, ubicado en el Resguardo Indígena Inga "La Floresta-La Española" corregimiento de Miraflor, municipio de Piamonte, en un bosque de tierra firme de Piedemonte a 302 m.s.n.m. (dosel denso: 15 –20 m) (1° 1'22.38"N, 76°26'29.77"O).

El individuo observado se encontraba posado sobre un árbol de Yarumo negro (*Cecropia angustifolia)* de 15 m. Al observar al investigador realizó despliegues agonísticos, emitiendo gruñidos y balanceando su cuerpo de un lado al otro en repetidas ocasiones, para luego huir rápidamente saltando en el estrato medio del bosque. De acuerdo al patrón de distribución y coloración del pelaje de la especie, y las características registradas para este individuo, consideramos que el individuo observado era una hembra; presentaba extremidades y cola con pelos largos negruzcos con puntas blanquecinas y manos con pelos blanquecinos, en contraste con lo reportado por Allen (1914) para los machos: puntas de los pelos en extremidades y cola de color amarillento pálido, y de color blanco amarillento en sus manos, ii) observación de un individuo solitario el día 26 de septiembre de 2018 a las 7:44 horas, en el fragmento de bosque La Floresta, 294 m.s.n.m. (1° 1'23.66"N, 76°26'31.40"O). Este individuo fue observado posado sobre un árbol (no identificado) de 12 m; al observar al investigador emite gruñidos y emprende la huida rápidamente. Quizá, este individuo sea el mismo reportado para el primer avistamiento ya que se encontraba a unos 60m de distancia del primer punto de observación reportado y era una hembra, iii) observación de dos parejas de sakis, realizadas el día 8 de octubre de 2018