

New Olingo records (genus *Bassaricyon*) from the Colombian Andes

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<http://www.smallcarnivoreconservation.org>
ISSN 1019-5041

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Associate editor:

José F. González-Maya

Abstract. Knowledge of geographic distribution and taxonomic status of *Bassaricyon* species in Colombia is still incipient. In this note, we gather information about the current known localities and present new field records for two olingo species (*Bassaricyon alleni* and *Bassaricyon neblina osborni*) from the Andes in Colombia. These records extend the geographic range of these species and highlight the need for further studies to clarify its taxonomy, distribution, and conservation status.

Keywords: Andes, *Bassaricyon*, conservation status, geographic range, taxonomic status.

The olingos (genus *Bassaricyon* Allen 1876) are an enigmatic group of small to medium-sized arboreal procyonids that occur from low to high altitudes in tropical or subtropical forests ($\leq 2,750$ m asl) of Central America and northern South America (Glatston 1994, Kays 2000, Prange & Prange 2009, Sampaio *et al.* 2010, Helgen *et al.* 2013). Most species are described as solitary, arboreal, and nocturnal animals that feed mostly on fruits and nectar (Glatston 1994, Kays 2000, González-Maya & Belant 2010, Sampaio *et al.* 2010, Helgen *et al.* 2013).

Olingos are poorly-known mammals relatively new to science (the genus was first described by Allen 1876) relative to other carnivore forms (Helgen *et al.* 2013). The genus is underrepresented in museum collections and most records come from anecdotal reports, presumably because they are overlooked easily or mistaken with similar nocturnal arboreal mammals such as *Potos flavus* or even *Aotus* spp. (Emmons 1984, Kays 2000, Prange & Prange 2009, Sampaio *et al.* 2010, 2011, Helgen *et al.* 2013).

Despite recent efforts to clarify the taxonomic status, diversity, and distribution in this genus (*e.g.*, Helgen *et al.* 2013), knowledge of the geographic distribution of *Bassaricyon* species in Colombia is still incipient. In fact, before Helgen *et al.* (2013) all forms of olingos in the country were treated as *B. gabbii*. Here, we present new field records of two species of olingos from the Colombian Andes, including the first confirmed record of the Eastern Lowland Olingo (*Bassaricyon alleni*) in Santander department on the western slope of the Cordillera Oriental and an additional record for the Olinguito

(*Bassaricyon neblina osborni*) from the eastern slope of the Cordillera Occidental in Antioquia department.

The Eastern Lowland Olingo, Bassaricyon alleni

The Eastern Lowland Olingo is a medium-sized olingo that differs externally from other similar species by having a more strikingly black-tipped dorsal pelage (Helgen *et al.* 2013). This species is known from forested areas in eastern and central Guyana, western Venezuela, eastern Colombia, eastern Ecuador, eastern Peru, north-western and central Bolivia, and western Brazil (Helgen *et al.* 2013, Sampaio 2013). Because of its wide distributional range, which probably includes several protected areas, the species is listed as Least Concern according to the IUCN Red List of Threatened Species (Helgen *et al.* 2016, Helgen *et al.* 2013). Based on museum specimens, the species elevational distribution ranges from sea level up to 2,000 m asl, most records coming from areas below 1,000 m asl (Helgen *et al.* 2013). Although Colombian specimens of *B. alleni* have been deposited in several museum collections (American Museum of Natural History - AMNH, National Museum of Natural History - USNM, British Museum of Natural History - BMNH) previously (mislabelled mostly as *B. gabbii*), the species was only recently included in the list of mammals of Colombia by Ramírez-Chaves & Suárez-Castro (2014) and Ramírez-Chaves *et al.* (2016).

In Colombia, the species has been reported in forested areas below 1,900 m asl (record from Serranía de los Churumbelos by Donegan & Salaman 1999), in the Andean, Caribbean and Llanos regions; with records in the political administrative departments of Cauca (Donegan & Salaman 1999, as “*Bassaricyon* sp” but designated as *B. alleni* by Helgen *et al.* 2013), Meta (Thomas 1927, Helgen *et al.* 2013, AMNH 142223), Cundinamarca (Helgen *et al.* 2013, AMNH 70532), Norte de Santander (Helgen *et al.* 2013, USNM 281485), and “Cesar department” in territories belonging today to La Guajira department (Helgen *et al.* 2013, USNM 281482, 281483, 281484).

The new records of *B. alleni* presented here (Figure 1) come from the north-western slopes of the Eastern Andes Slope (*Cordillera Oriental*) of Colombia in the Serranía de los Yariquíes, San Vicente de Chucurí municipality, Santander department (6°47'2.4" N, 73°28'4.8" W, 1,450 m asl); ca. 176 km south-southwest from San Calixto municipality (Norte de Santander), the closest known locality (Figure 3A). During faunal surveys in April 2012, two presumably adult individuals, were first observed and photographed on a tree (ca. 5 m high) in the border of the forest at 19h00. Later, we observed at least one additional adult individual in the forest moving through the canopy, but then we lost sight of the animal.

Additional sightings of individuals have been recorded periodically since 2012 from the same locality. Recently, in January 2015, an adult male (based on its prominent testes)

was followed for about 4 hours (between 20h00 and 00h00) while it was jumping through the canopy. In June 2015 we witnessed a noisy fight between two presumably male individuals. The individuals here reported were recorded in a disturbed cloud forest patch (Figure 1C), surrounded almost completely by cattle grazing grasslands. The forest fragment has a dense canopy (up to 30 m height) dominated by *Erythrina* sp (Fabaceae), *Nectandra* sp (Lauraceae), and *Cordia* sp (Boraginaceae) trees.

From existent records, specimens referred to as *Bassaricyon* sp from the north-western slope of the Cordillera Oriental in the Serranía de los Yariguíes, Cerro Manchurrias, El Carmen de Chucurí municipality, Santander department (6°41'1.5" N, 73°26'27.7" W, 1824 m asl; A.J. Lozano, com. pers.), may correspond to *B. alleni*. Specimens at the mammal collection of the Universidad Nacional de Colombia (identified as "*Bassaricyon gabbi*") from Meta (ICN-M-105, 106, 2075), Santander (ICN-M-168), and Putumayo (ICN-M-3725), and a record from Vaupes (ICN-M-184, designated as "*Bassaricyon* sp"), were already identified to *B. alleni* (Suárez-Castro & Ramírez-Chaves 2015), likely the only olingo found east of the Andes.

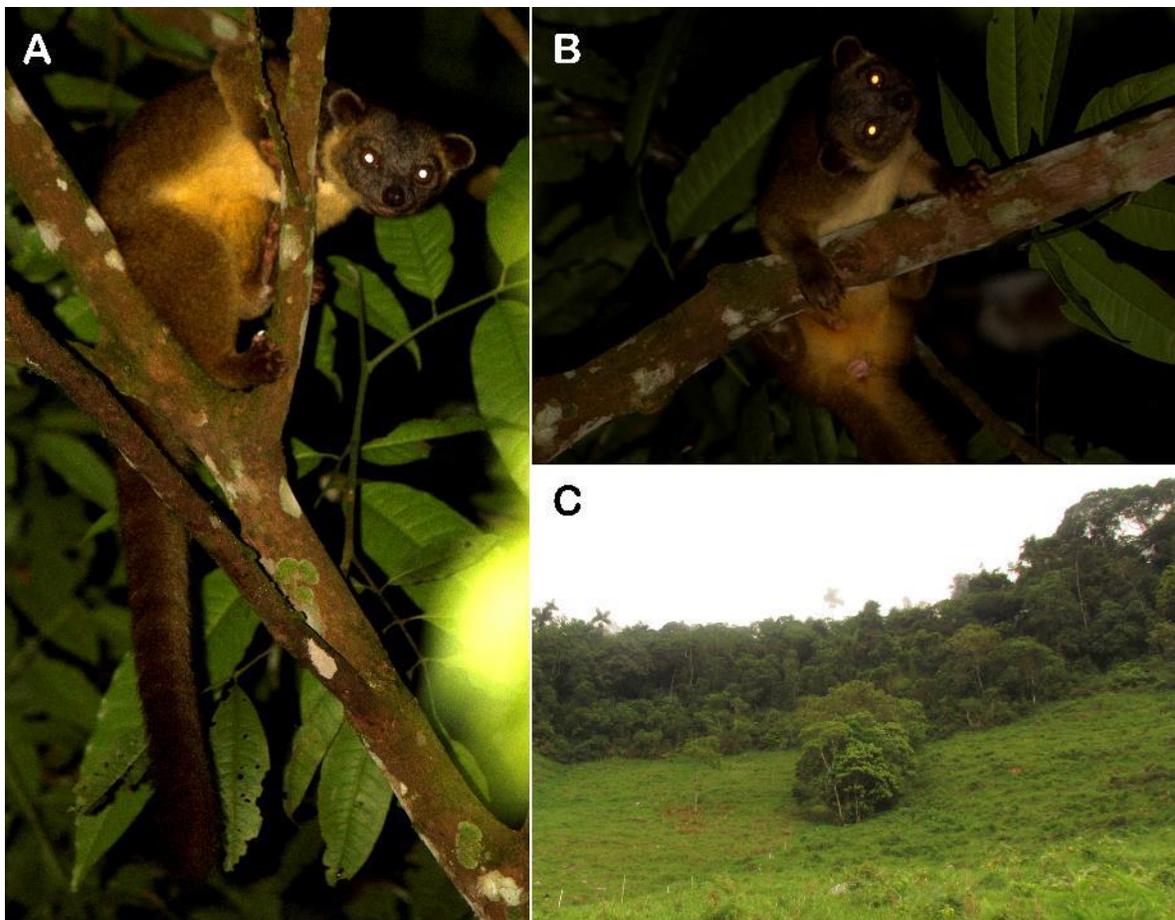


Figure 1. (A-B) Adult individuals of *Bassaricyon alleni* from Serranía de los Yariguíes, Santander, Colombia and (C) general view of the habitat where *B. alleni* was recorded (Photos F.L. Meza-Joya).

The Olinguito, *Bassaricyon neblina osborni*

Bassaricyon neblina is a complex of four subspecies currently recognized (*B. n. osborni*, *B. n. neblina*, *B. n. herskovitzi*, and *B. n. ruber*) differing externally from other olingos according to body size, coloration, length, density of dorsal pelage and the presence of a shorter and bushier tail without distinctive bands (Helgen *et al.* 2013). The species was recently assessed as Near Threatened by the IUCN Red List of Threatened Species given inferred declines of its populations due to the extensive deforestation historically occurring within its range (Helgen *et al.* 2016).

B. n. osborni is the largest subspecies of the group and is recognized by its short rostrum, dorsal pelage of moderate length, and its general pattern of coloration (Helgen *et al.* 2013). This subspecies occurs in humid montane rainforests, from 1,500 to 2,750 m asl, on the Eastern slopes of the Western Andes Range (Cordillera Occidental) and on both slopes of the Central Andean Range (Cordillera Central) of Colombia (Helgen *et al.* 2013). *B. n. osborni* has been recorded in the political administrative departments of Caldas (“Cauca department” in Helgen *et al.* 2013, based on the political division of Colombia at 1898, AMNH-14185), Antioquia (Helgen *et al.* 2013, AMNH-42351), Valle del Cauca (Poglayen-Neuwall 1976, Saavedra-Rodríguez & Velandia-Perilla 2011, as “*Bassaricyon gabbii*” but designated as *B. n. osborni* by Helgen *et al.* 2013, UV-13700), and Cauca (Helgen *et al.* 2013, AMNH-32608, 32609, FMNH-85818, FMNH-88476, FMNH-89220, FMNH-90052).

One new confirmed record of *B. n. osborni* (Figure 2A, 2B) was obtained through *ad-libitum* surveys in September 2013, on the north-eastern slope of the Cordillera Occidental, Vereda Sedeño Alto, Tamesis municipality, Antioquia department (5°34'31.2" N, 75°41'56.7" W, 2,216 m asl, Figure 3B). This area is located within the “Distrito de Manejo Integrado Cuchilla Jardín-Támesis”, a regional reserve of Antioquia department that expands through 31,759 ha of cloud forest habitats. The forest fragment where de olinguito was observed is dominated by *Hedyosmum* sp (Chloranthaceae), *Croton* sp (Euphorbiaceae), and *Inga* sp (Fabaceae); and is surrounded by a modified matrix of cattle grazing grasslands (Figure 2C).

This record extends the distributional range of the species ca. 190 km north from the closest record in the Cordillera Occidental and 22.9 km from the nearest record in the Cordillera Central (Figure 3B). The specimen deposited in the mammal collection of the Universidad del Valle and previously identified as *B. gabbii* (Saavedra-Rodríguez & Velandia-Perilla 2011, UV-3774), could correspond to *B. n. osborni* or *B. medius medius*. The taxonomic status of these specimens requires confirmation, because the geographic boundaries of these species are unclear and both are presumably sympatric (Helgen *et al.* 2013).



Figure 2. (A-B) Adult individuals of *Bassaricyon neblina osborni* from Distrito de Manejo Integrado Cuchilla Jardín-Támesis, Tamesis, Antioquia department and (C) general view of cloud forest where *B. n. osborni* was recorded (Photos A-B: C. Ortiz, Photo C: D.M. Cardona).

Research priorities for olingo species include studies to clarify the taxonomic status of Colombian species, and specimens (González-Maya *et al.* 2011), and the improvement of our understanding of the distributional range of the genus in the country. Additional studies are needed to evaluate the level of genetic divergence between different populations of olingos. Further studies about demography, ecology, and natural history of the genus remain a priority for a better understanding of its conservation status.

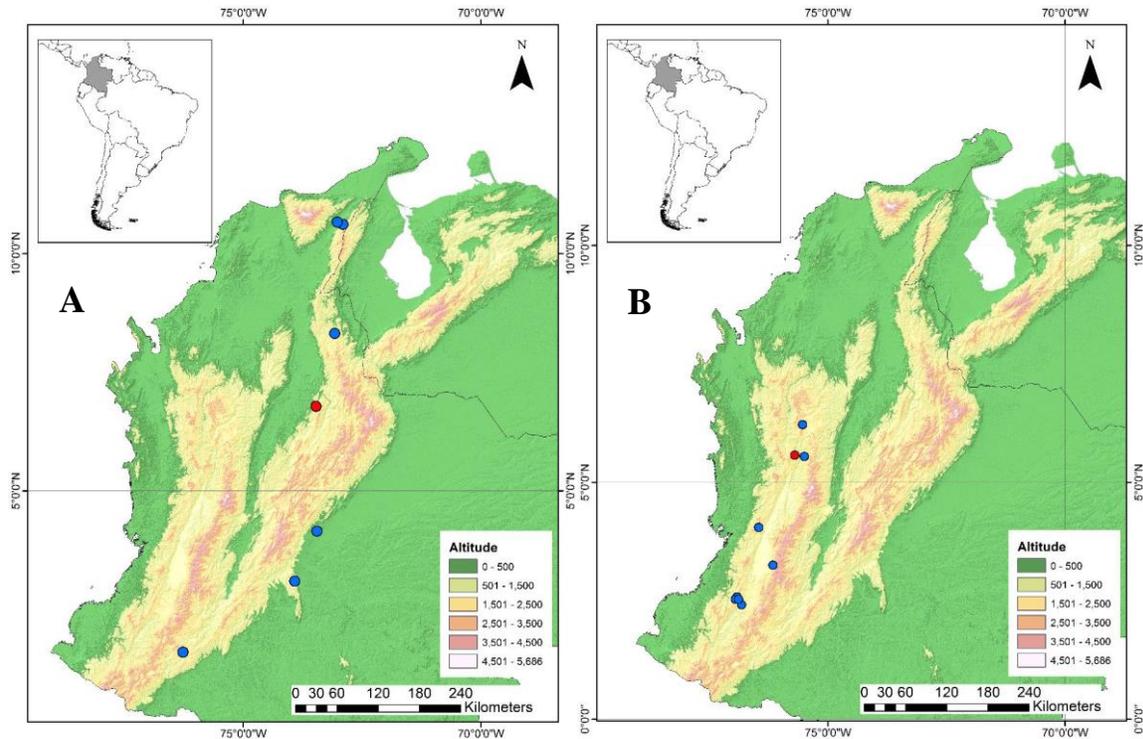


Figure 3. Distribution maps with confirmed records of the (A) Eastern Lowland Olingo, *Bassaricyon alleni* and (B) Olinguito, *Bassaricyon neblina osborni* from Colombia. Red circle indicates new records presented here.

Acknowledgements

We are very grateful to K. M. Helgen for confirming the identity of the specimens. Financial and logistic support was provided by Asociación Colombia Endémica and Fundación Guaya canal. We thank K. M. Helgen, R. Kays, C. A. Hernández and J. A. Mejía for the review and comments on the manuscript. A. Celis kindly performed the taxonomic identification of plant species from Serranía de los Yarigués. We thank F. Cediél and C. E. Ortiz for the photographic material. We also thank E. Meneses for field assistance at Serranía de los Yarigués. Thanks to the reviewers and the editor for improvements and updates to the manuscript.

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