



New altitudinal records of *Dasyprocta punctata* (Rodentia: Dasyproctidae) in the Eastern Andean mountain forests of Cundinamarca, Colombia

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Resumen

Documentamos tres registros independientes del agutí centroamericano (*Dasyprocta punctata* Gray, 1842) en la Cordillera Oriental de Colombia, en las veredas de La Selva y Mancilla, ubicadas en el municipio de Facatativá, departamento de Cundinamarca. Estos registros se obtuvieron a 2978 y 2982 msnm en los bosques altoandinos de Colombia, representando una de las mayores elevaciones registradas para esta especie en toda su distribución.

Palabras clave: Distribución altitudinal, Dasyproctidae, Bosques andinos, Sabana de Bogotá, Historia natural.

Abstract

We document three independent records of the Central American agouti (*Dasyprocta punctata* Gray, 1842) in the Eastern Andes of Colombia, in the villages of La Selva and Mancilla, located in the municipality of Facatativá, Cundinamarca Department. These records were obtained at 2978 and 2982 masl in the upper Andean forests of Colombia, representing one of the highest recorded elevations for this species across its entire distribution.

Key words: Altitudinal distribution, Dasyproctidae, Andean forests, Bogotá savanna, Natural history.

Agoutis (*Dasyprocta* spp.), also known as Ñeques, Picures, Guatines, Seretes, and Guatuzas, are one of the most important seed dispersers in the Neotropics (Pires & Galetti 2012; Acevedo-Quintero & Zamora-Abrego 2016; Mittelman et al. 2021). Within the Agoutis, 10 species have been formally recognized (Patton & Emmons 2015; Patton et al. 2015). One of the most representative species is the Central American Agouti (*Dasyprocta punctata*) because of its vast geographical extension, spanning from the south of Mexico to the south of Bolivia, northern Argentina, and southwest of Brazil (Morales et al. 2004; Reid 2009; Torres-Trujillo & Mantilla-Meluck 2017; Marín 2020). Similar to many Agouti species, *D. punctata* is an elusive and shy mammal, difficult to observe in its natural habitat (Gilbert

& Lacher 2016; Tirira 2017), despite primarily displaying diurnal behavior (Cáceres-Martínez et al. 2016; Castillo-Figueroa et al. 2021). Although *D. punctata* typically exhibits a preference for altitudes between 0 to 1600 masl (Morales et al. 2004; Reid 2009), it has been observed inhabiting the Andes Mountain range from western to northwestern Venezuela, including old-growth and secondary humid and dry forests (Emmons 1990). Remarkably, these agoutis can also be found at elevations of up to 3200 masl in mountain cloud forests (Cuartas-Calle & Muñoz-Arango 2003; Morales et al. 2004; Reid 2009; Solari et al. 2013; Marín et al. 2020), as well as agricultural landscapes close to water bodies (IUCN 2021; SiB 2022). In Colombia, *D. punctata* is distributed in the Andean, Caribbean, and Pacific regions, encompassing four living subspecies (*D. p. chocoensis*, *D. p. colombiana*, *D. p. zuliae*, *D. p. candelensis*) (Ramírez-Chaves et al. 2018). Even though several records of this species have been documented in lowland ecosystems of the country (e.g., Torres-Trujillo & Mantilla-Meluck 2017; Ramírez-Chaves et al. 2018; Pineda-Cendales et al. 2020), large natural and transformed areas in the upper mountain forests of the Andean region remain under-sampled, with few documented records in this region above 2000 masl (Table 1). Here, we report new records of *D. punctata* in the upland Andes of Colombia around the mountains surrounding Bogotá.

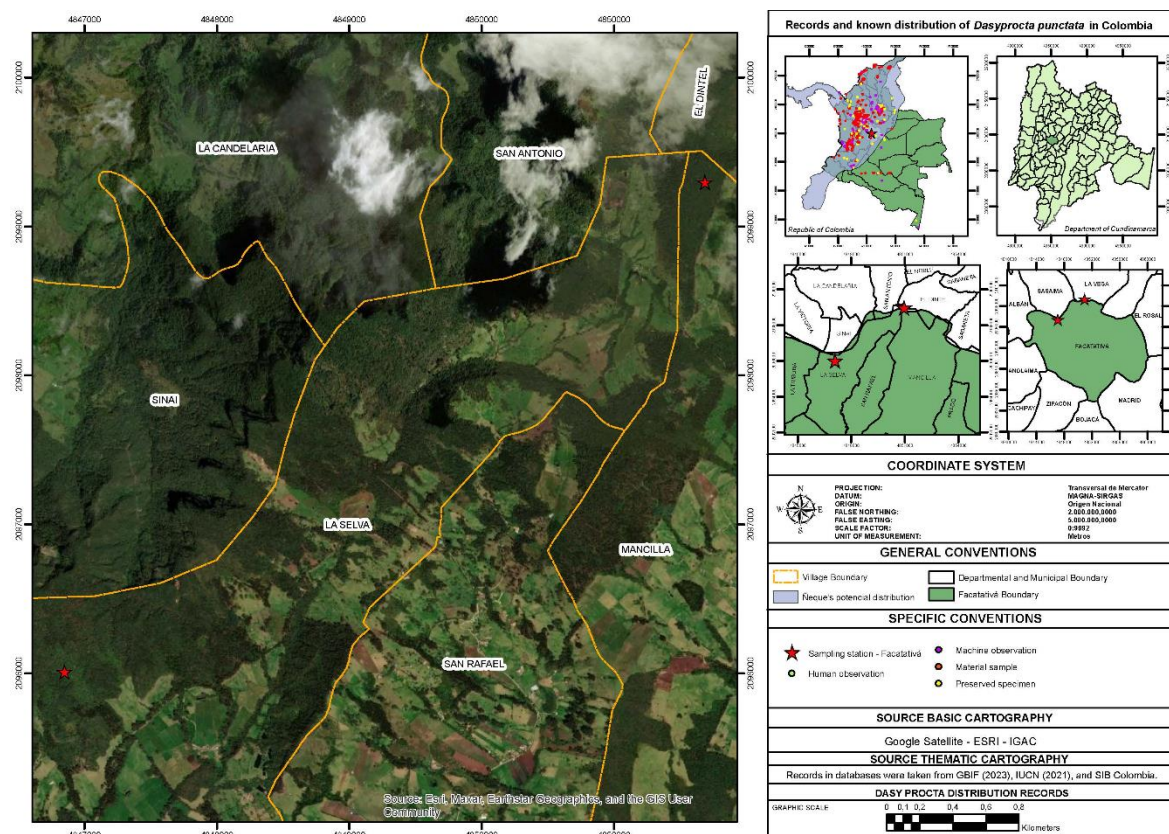


FIGURE 1. Records and known distribution of *Dasyprocta punctata* in Colombia. Records in databases were taken from GBIF (2023), IUCN (2021), and SiB Colombia. The sampling stations in the villages of La Selva and Mancilla where *D. punctata* was recorded are represented by red stars.

Our study site is located in the municipality of Facativá, Cundinamarca, within the high Andean Orobiome of the Colombian Eastern mountain range (Figure 1). We sampled the Mancilla and La Selva hills, which reach elevations of up to 3000 masl and are located on

the southeastern boundary of the Bogotá savanna. Our records are part of a terrestrial mammal survey from the baseline of an ecological restoration project in the Mancilla micro-watershed, which was conducted between May and September 2022, and was also integrated into the biodiversity inventory carried out in the upper mountain ecosystems of Facatativá between November 2021 and January 2022 (Fundación Guayacanal 2021, 2022). In both projects, we employed nine camera traps Moultrie A700i, 900, and 900i. Despite significant anthropogenic pressures related to agriculture and deforestation in their buffer zones, these forests remain well-preserved (Fundación Guayacanal 2021, 2022). We placed 15 sampling stations near previously identified trails and paths. These stations encompass the study site's spatial heterogeneity, including forest understory, shrubland, and riparian forest cover. Data collection took place over 45 days in La Selva village and 180 days within the Mancilla micro-basin, covering different forest successional stages (Figure 1). We used baits, for herbivores, a mixture of banana, oatmeal flakes, vanilla essence, and peanut butter (Lozano-Rodríguez 2010; Zamora 2012). The photo-trapping stations were installed every 250 m, placed on tree trunks at an average height of 50 cm above the ground according to topographic conditions and to avoid direct exposure to the sun (Chávez et al. 2013). Cameras were programmed to take videos of 15-30s because they can provide more information about the behavior and ecology of mammals in their natural habitats (Díaz-Pulido & Payán-Garrido 2012; Chávez et al. 2013).

TABLE 1. Altitudinal records of *Dasyprocta punctata* over 2000 masl in Colombia.

Elevation (masl)	Locality	Coordinates	Evidence	Reference
3200	Antioquia	Not provided	Preserved specimens	Cuartas-Calle & Muñoz-Arango 2003
2982	La Selva village, Facatativá municipality (Cundinamarca)	4.86766, 74.38002	Camera-trap	This study
2978	Mancilla village, Facatativá municipality (Cundinamarca)	4.89451, 74.34406	Camera-trap	This study
2442	Sonsón municipality (Antioquia)	5.71061, 75.31069	Preserved specimens	GBIF (2023)
2435	Choachí municipality (Cundinamarca)	4.59727, 73.95977	Preserved specimens	GBIF (2023)
2000	Chocó-Magdalena, high Magdalena river basin, Eastern slopes of the eastern cordillera	Not provided	Preserved specimens	Ramírez-Cháves et al. 2018

We documented three separate events of *D. punctata* involving four individuals in the upper Andean forests of Facatativá. The first record was obtained on 6 November 2021 at 14h26 during the upper slope of the Mancilla micro-watershed (Figure 2ab). During this observation, an individual was observed moving in a west-to-east direction. The second event was obtained in La Selva village on 10 January 2022 at 11h26, and it involved two

individuals. The video details the rapid mobility of an adult individual from west to east (<https://onx.la/07cf2>). Approximately 15s later, another individual followed it maintaining a distance of 10 m (Figure 2c). In the third event, we detected an individual in the same sampling station at 13h38 the next day (11 January 2022) (Figure 2d). Although we assume that the four individuals recorded during these events are distinct, some observations may represent the same individual recorded on different days.

We documented one of the highest altitudinal records for *D. punctata* in Colombia, representing one of the species' highest elevation occurrences across its entire distribution. Our record is similar to recent reports in Central America that documented the Agouti at 2742 masl (Costa Rica; Marín et al. 2020). This is also a new record of *D. punctata* for the upper mountain ecosystems in the vicinity of Bogotá. Despite widespread habitat transformation in the Colombian Andes (Etter et al. 2021), documentation of mammal species in this region, especially in the periurban upper Andean forests surrounding the capital city, remains limited (Jiménez-Alvarado et al. 2017).



FIGURE 2. Records of *Dasyprocta punctata* from Facatativá (Cundinamarca, Colombia). Three separate events in the villages of Mancilla and La Selva. In Mancilla (a-b) one individual is observed crossing the open area. In La Selva (c-d) three individuals are observed in two consecutive days, browsing in the leaf litter.

Given the proximity of our sampling stations to the western outer slopes of the Eastern mountain range, which has extensive continuous forest connecting to the lowlands of the Gualivá province (e.g., Sasaima, La Vega, and San Francisco, Figure 1), there is a plausible scenario in which this species could be expanding its altitudinal range to other municipalities (e.g., El Rosal and Subachoque) in response to the distribution of the plants it feeds on (e.g., Arecaceae, Meliaceae, Lauraceae, etc.). However, to confirm this hypothesis and gain a more comprehensive understanding of the distribution of this species, it is essential to conduct studies on population density, distribution area, and dietary preferences along this altitudinal transect.

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