

# New record of *Artibeus aequatorialis* Andersen, 1906 (Chiroptera: Phyllostomidae) for northwestern Colombia

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The Neotropical fruit bats of the genus *Artibeus* are distributed from southern México to northern Argentina occupying a wide array of different habitats. Of the 14 species present in Colombia, 85.7 % ( $n = 12$ ) occur in the department of Chocó. Bat inventories were carried out by the Consejo Comunitario Mayor de Istmina and Medio San Juan (COCOMINSA) and the Universidad Tecnológica del Chocó in the corregimiento de Chiqui Choqui, municipality of Medio San Juan. We present a new record of *A. aequatorialis* for Colombia, that makes an important addition to the bat fauna of Chocóan biogeographic region and is the northernmost record of the species. Our specimen of *A. aequatorialis* was collected in the Chiqui Choqui locality, that belongs to the district of Alto-Atrato San Juan that is a poorly study area, whose diversity is threatened by human activities, like deforestation and mining activities.

Los murciélagos frugívoros Neotropicales del género *Artibeus* extienden su distribución desde el sur de México hasta el norte de Argentina ocupando una gran variedad de hábitats. De las 14 especies registradas para Colombia el 85.7 % ( $n = 12$ ) ocurren en el departamento del Chocó. Muestreos con redes de nieblas fueron llevados a cabo durante un inventario de murciélagos realizado por el Consejo Comunitario Mayor de Istmina y Medio San Juan (COCOMINSA) y la Universidad Tecnológica del Chocó en el corregimiento de Chiqui Choqui, municipio de Medio San Juan. Se presenta un nuevo registro de *Artibeus aequatorialis* para Colombia, el cual constituye una adición significativa en la distribución de este taxón en la región del Chocó Biogeográfico-colombiano y el registro más norte conocido para esta especie en su distribución. El espécimen de *A. aequatorialis* fue colectado en la localidad de Chiqui Choqui, la cual forma parte del distrito Alto-Atrato San Juan que corresponde una zona pobremente muestreada en su fauna y flora, cuya diversidad se encuentra amenazada por presiones antrópicas como la tala selectiva y la minería a cielo abierto.

**Key words:** bat; distribution; diversity; pacific coast; Stenodermatinae.

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## Introduction

The Neotropical fruit bats of the genus *Artibeus* Leach, 1821 are distributed from southern México to northern Argentina and currently includes 23 species grouped into two subgenera: *Artibeus* and *Dermanura* (Hooper *et al.* 2008; Marques-Aguiar 2008; Redondo *et al.* 2008; Solari *et al.* 2009; Cirranello *et al.* 2016). For decades, there has been controversy regarding whether all the “*Artibeus*” species should be grouped into three genera (*Artibeus*, *Dermanura*, and *Koopmania*), two genera (*Artibeus* and *Dermanura*) or only one genus (*Artibeus*). Recently Baker *et al.* (2016) and Cirranello *et al.* (2016) settle this controversy by supporting with molecular and morphological data the recognition of a single genus with two subgenera (*Artibeus* and *Dermanura*).

Out of the 23 species, 14 occur in Colombia, seven of the subgenus *Artibeus*: *A. aequatorialis* Andersen, 1906; *A. amplus* Handley, 1987; *A. concolor* Peters, 1865; *A. jamaicensis* Leach, 1821; *A. lituratus* (Olfers, 1818); *A. obscurus* (Schinz, 1821); *A. planirostris* (Spix, 1823), and seven of the subgenus *Dermanura*: *A. anderseni* Osgood, 1916; *A. bogotensis* (Andersen, 1906); *A. glaucus* Thomas, 1893; *A. gnomus* Handley, 1897; *A. phaeotis* (Miller, 1902); *A. ravus* (Miller,

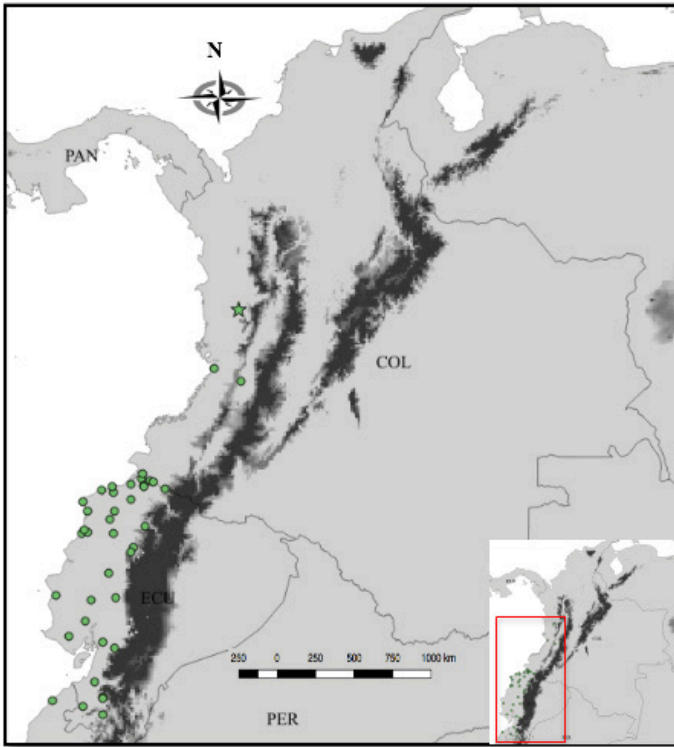
1902); and *A. rosenbergi* Thomas, 1987 (Ramírez-Chaves *et al.* 2016).

*Artibeus aequatorialis* is known from west of the Andes Mountains from northern Perú, northward throughout western Ecuador to Colombia (Larsen *et al.* 2010). The northernmost vouchered record of the species occurs in the department of Valle del Cauca [Rio Raposo 3° 43' N; -77° 08' W] (Larsen *et al.* 2010). Even though *A. aequatorialis* is considered by some authors to occur in the departments of Chocó and Nariño (e. g., Solari *et al.* 2013), there are no vouchered record that support this assertion. Herein, we report the northernmost vouchered record of this species, extending its distribution into the department of Chocó (Figure 1).

## Methods

During a bat inventory carried out by the Consejo Comunitario Mayor de Istmina and Medio San Juan (COCOMINSA) and the Universidad Tecnológica del Chocó along the left bank of the San Juan river (5° 2' 16.26" N, -76° 43' 23.4" W, 45 m), corregimiento de Chiqui Choqui, municipality of Medio San Juan (Figure 1), one adult male specimen of *A. aequatorialis* was collected with a mist-net at a height of 1.60 m

from the ground in a secondary growth habitat that is in the process of recovery after being the subject of intensive gold and platinum mining activities. The specimen was deposited in the Colección Masozoológica del Chocó, Universidad Tecnológica del Chocó (CMCH), in Quibdó, Chocó, Colombia. The following species were also captured in this locality: *Artibeus lituratus*, *A. ravsus*, *Carollia castanea*, *C. perspicillata*, and *Uroderma convexum*.



**Figure 1.** Geographic distribution of *Artibeus aequatorialis* and the new record (star) in the department of Chocó, western Colombia.

## Results

Our specimen (CMCH 1410) was captured on 12 October 2011 at 21:48 h and is preserved as a study skin and skull. It was identified based on the characteristics described in [Larsen et al. \(2010\)](#). Standard external measurements (in mm) and weight (in gr) are as follows: total length, 78.3; length of hind foot, 17.1; length of forearm, 64.3; length of ear, 24.0; weight, 45.9. Selected craniodental (in mm) measurements based on [Larsen et al. \(2010\)](#) were taken with a digital caliper (0.01 mm precision) and are provided in Table 1.

Our specimen externally presents the following diagnostic characteristics of *Artibeus aequatorialis*: brown dorsal fur with pale white bands at the base, pale brown ventral fur with whitish tips, almost imperceptible facial lines, white wing tips, broad inter-femoral membrane with V-shaped notch of almost naked appearance, with few short hairs in ventral and dorsal view.

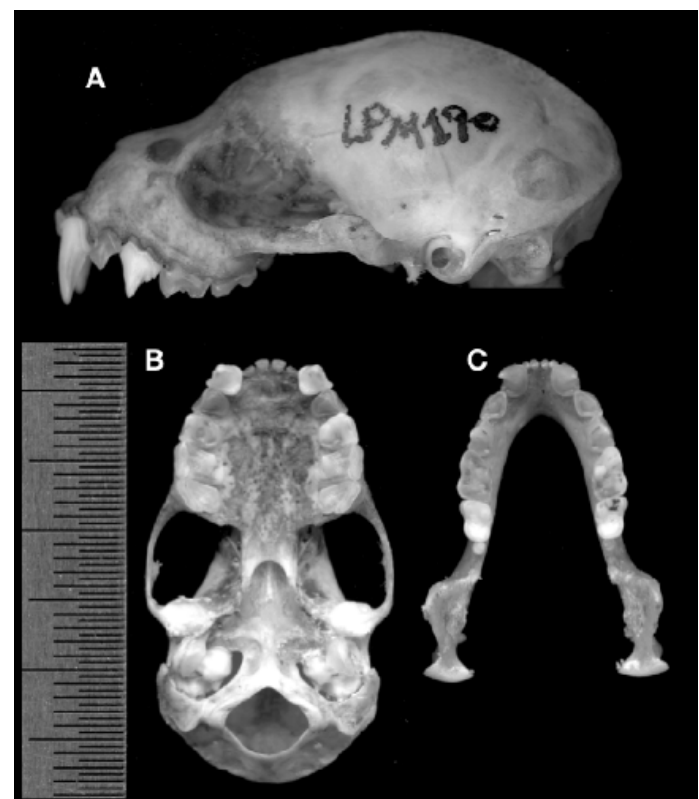
Our specimen has a large skull (GSL = 30.28), a fairly robust dentition. The sagittal crest, as well as the pre- and postorbital processes are slightly developed; the face is relatively short with a slightly arched appearance; and the P4 presents two cusps in the proximal face (Figure 2). Both the protocone and the hypocone of the upper first molar (M1)

**Table 1.** Craniodental measurements of the new record of *Artibeus aequatorialis* from the department of Chocó, Colombia (CMCH 1410). Mean and range of specimens recorded by Larsen et al. (2010).

	CMCH 1410		Larsen et al. (2010)	
	Male	Males (n = 37)	Females (n = 42)	
GSL	30.28	29.43 (27.88 – 30.63)	29.61 (28.54 – 30.84)	
CIL	26.91	26.37 (24.82 – 27.50)	26.54 (25.51 – 27.75)	
SH	12.02	13.12 (12.27 – 13.91)	13.00 (12.29 – 13.96)	
MB	14.41	15.55 (14.32 – 16.60)	15.50 (14.35 – 16.25)	
BRW	13.38	13.96 (12.78 – 14.60)	13.93 (13.28 – 14.61)	
ZB	17.96	17.87 (16.66 – 18.93)	17.97 (16.63 – 18.99)	
POW	7.80	7.35 (6.94 – 7.77)	7.40 (6.85 – 8.01)	
C1C1	8.96	8.64 (7.85 – 9.20)	8.52 (7.92 – 9.05)	
M2M2	13.21	13.40 (12.62 – 14.16)	13.35 (12.83 – 14.22)	
PL	14.53	14.24 (13.15 – 14.89)	14.35 (13.65 – 15.19)	
MXTR	10.91	10.64 (9.88 – 11.39)	10.48 (9.77 – 11.08)	
MIL	19.78	19.38 (18.31 – 20.55)	19.45 (18.54 – 20.36)	
MLT	11.99	11.74 (10.86 – 12.56)	11.62 (10.47 – 12.36)	
c1c1	4.91	4.79 (4.37 – 5.14)	4.73 (4.39 – 5.30)	

are moderately developed, with a broad heel. The upper second molar (M2) is clearly smaller; with its expanded paracone and a well-developed labial cingulum. The M1 and M2 are separated by a diastema (Figure 2B). The third lower molar (m3) is small (Figure 2C). The craniodental measurements obtained for our specimen fall within the range of variation for the species (Table 1; [Larsen et al. 2010](#)).

The habitat at the site of capture is a river bank forest with clay soils and open understory characterized by the



**Figure 2.** Dorsal, ventral, and lateral views of the skull and also dorsal and lateral views of the mandible of *Artibeus aequatorialis* (CMCH 1410). See Table 1 for measurements. Scale bar = 0.05 mm.

presence of *Cyperus luzulae* (L.) Retz., *Scleria secans* (L.) Urb., *Croton killipianus* Croizat, *Isertia pittieri* (Standl.), *Cecropia hispidissima* Cuatrec, *Cecropia peltata* L., *Mimosa pudica* L., *Vismia baccifera* L. Planch. & Triana, *Acacia mangium*, and *Cespedesia spathulata* (Ruiz & Pavon). This site, now under recovery, was subject to intensive gold and platinum mining activities.

## Discussion

Before the revision of [Larsen et al. \(2010\)](#) *Artibeus aequatorialis* was considered one of the five subspecies of *A. jamaicensis*, and because of that its conservation status of is unknown. Neither, IUCN or national red lists include *A. aequatorialis* in their accounts, but there is an urgent need to determine its conservation status since this species has a restricted distribution and many of the populations occur in areas that face many threats, including deforestation, mining activities, etc.

In the last decade, the number of new bat records reported for the Chocó biogeographic region in Colombia has increased exponentially: *Diclidurus ingens*, *Lonchophylla choacoana*, *Lonchophylla orcesi*, *Artibeus rosenbergi*, *Micronycteris giovanniae*, *Platyrrhinus matapalensis*, *P. nitelinea*, among others ([Davalos 2004](#); [Albuja V et al. 2005](#); [Velazco 2005](#); [Fonseca et al. 2007](#); [Hooper et al. 2008](#); [Mantilla-Meluk et al. 2009](#); [Velazco and Gardner 2009](#)). The specimen reported here represents the first record of *A. aequatorialis* in the department of Chocó and extend the known northern limit of the species distribution by more than 153 km (Figure 1).

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