

## New data on the distribution of Oilbird *Steatornis caripensis* in Ecuador

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Reportamos nuevos datos que extienden significativamente el rango altitudinal y de distribución del Guácharo *Steatornis caripensis* en Ecuador. Presentamos información sobre cuatro colonias reproductivas recientemente descubiertas, dos en la vertiente occidental de los Andes (prov. Pichincha y Azuay) y dos en la vertiente oriental (prov. Napo y Zamora-Chinchipe); dos registros que extienden el rango altitudinal de la especie hasta 3.650 m; un gran conjunto de registros que confirman la presencia de la especie en el área de Quito, extendiendo su rango regular en Ecuador hacia los valles interandinos del norte, entre 2.750 y 3.100 m de altitud; y nuevos registros en la vertiente noroccidental de los Andes que complementan la información de la presencia estacional de los guácharos en esa región. Discutimos sobre la naturaleza de los registros en relación con las capacidades de movimiento de la especie, hipotetizando si corresponden a viajes de forrajeo diarios, movimientos estacionales o individuos errantes. Algunas colonias de guácharos pueden estar en peligro de desaparecer debido a la destrucción de los hábitats, pero el conocimiento sobre esta especie en Ecuador es muy fragmentado, sin información confiable respecto a su estado de conservación. Hacemos un llamado urgente a los investigadores para que incrementen sus esfuerzos de estudio sobre estas fascinantes aves. Dado que son usadas por comunidades indígenas locales, las colonias de estas aves podrían convertirse en una atracción turística rentable y apreciada, si son estudiadas, manejadas y cosechadas sustentablemente.

Oilbird *Steatornis caripensis* is the only known nocturnal avian frugivore; a cave-dwelling species that forms colonies in caves or crevices, usually (see below) where no daylight penetrates<sup>5,13,19–21</sup>. It occurs from Costa Rica and Panama, across the tropical Andes, on Trinidad, and in the Guianas, in varied habitats to 3,080 m<sup>2,3,12,13,19–22</sup>. In Ecuador, most colonies are on the east slope of the Andes, with the only confirmed colony away from there in an inter-Andean valley (Quebrada de Alchipichi, prov. Pichincha<sup>15</sup>). However, in Colombia colonies have also been recorded from the west slope<sup>1,5,13,16,19</sup>. Scattered records of wandering birds suggest the presence of additional colonies elsewhere in Ecuador, with reports across the west and east Andean slopes<sup>7,10,15,16</sup> and the Cordillera de la Costa, an isolated range in coastal Ecuador<sup>6</sup>. Here, we present new data that significantly extend the altitudinal and geographic ranges of Oilbird in Ecuador, including the discovery of four new colonies.

Two of these newly discovered colonies are the first for the west Andean slope. In north-west Ecuador, AS-U & AA-T visited a property 30 km north-east of Armenia (Table 1) on 30 March 2008. They were taken to a steep canyon (40–50 m high and 3–5 m wide) with several waterfalls: 50–60 birds were roosting on the rock walls. Six to eight pairs had chicks or juveniles, and a naked chick was found dead in the stream. Vegetation around the canyon provided sufficient cover to

limit light for most of the day, except between 10h00 and 11h00, when most birds are exposed to sunlight. In south-west Ecuador, BAT learnt of a colony in the inter-Andean valley of Yunguilla, at Chalcapac (Table 1). Two visits (August 2005, February 2007) to the area confirmed that Oilbirds occupied crevices on the rock wall at the confluence of the ríos Rircay and Burro. Pastures dominate the landscape here but some native forest persists in inaccessible areas. Local people confirmed that Oilbirds are year-round residents and nests have been found. Individuals from this colony may account for records in El Oro and Loja provinces<sup>16</sup>.

Two new colonies were found on the east Andean slope. GB-J learnt from Quichua indigenous people the location of a colony (<30 birds) in the Pusuno Valley, Cordillera de Galeras (Table 1). Two juveniles captured for oil extraction were given to him in March 2001. The large cave network in the area may host additional colonies. This locality is the easternmost in Ecuador and the first reported colony for prov. Napo. On 5 March 2008, AS-U was taken to an Oilbird cave by Shuar indigenous people, c.3.5 km from Shaime, in the southern Cordillera del Cóndor (Table 1). About 40 birds were present, with 5–6 pairs having juveniles. The cave lies within hilly *terra firme* forest; the entrance is 2 m high by 4–5 m wide, descends for 3–4 m to the bottom, and is crossed by a small creek.

Many records from Quito (prov. Pichincha) extend the regular range in Ecuador to the inter-Andean valleys at 2,750–3,100 m. Ridgely & Greenfield<sup>16</sup> reported the main altitudinal range of Oilbird in Ecuador as 700–2400 m, with wanderers reaching 2,600 m. They overlooked reports by Salvadori & Festa<sup>18</sup> and Ortiz-Crespo<sup>15</sup> of specimens collected within Quito. Recent records (Table 1) attest that the species still regularly occurs there. A specimen (QCA 774, Museo Zoología, Universidad Católica Ecuador) was collected in November 1985 in the city. Singles were observed in February 1994 (roosting in a small ravine at Parque Metropolitano de Quito—PMQ), May 1994 (roosting on a *Eucalyptus*), August 1998 (flying at night), January and July between 1997 and 2002 (flying birds at night or roosting by day on abandoned buildings in the lower part of Bosque Protector del Pichincha), November 2008 (roosting on a *Prunus serotina* in Ashintaco ravine, PMQ), January 2009 (flying almost nightly in the Cumbayá Valley, near Quito), October 2009 (roosting by day on a building near PMQ), April 2010 (flying at night in the lower part of Bosque Protector del Pichincha) and June 2010 (flying at night at Cumbayá). Additionally, three were captured, on 22 December 1993, 11 April 1996 and 15 June 1997, in city gardens and taken to Aves&Conservación and released in the xeric valley of the río Guayllabamba (north of Quito) or at PMQ.

Two records extend the altitudinal range to 3,650 m. Around 15 June 2004, an Oilbird with a broken wing was found by local people at the village of Pulug (Table 1), an inter-Andean valley in the watershed of the río Chambo. The bird died a few days later and P-YH examined it on 1 July 2004. The landscape is dominated by agricultural lands with sparse *Eucalyptus*. On 5 May 2001, GB-J found a dead bird at the edge of Papallacta lagoon (Table 1). It was rather well preserved and exhibited the typical size and coloration of the

species. This record is the highest anywhere in the species' range<sup>9,13</sup>.

New records were also made on the north-west slope of the Andes. Small groups (<5) or singles were recorded annually, mainly in August–March in 1998–2005, and also in April 2010, at Río Guajalito Protected Forest (Table 1), a montane cloud forest. Despite regular visits (at least ten days, six times p.a.), larger numbers (5–25) were detected only three times, in October–February 1998–2005 (DFCH *et al.* pers. obs.). In February 2009, March 2009 and January 2010, small groups (4–8) were observed at Yunguilla (Table 1), which records complement the data of Freile & Chaves<sup>10</sup> concerning seasonal occurrence of Oilbirds on the north-west Andean slope of Ecuador.

These opportunistic records from several 'new' areas for the species in Ecuador should be discussed in the light of the species' known movements. Oilbirds are highly mobile, ranging far from their colonies when foraging. Movements have been classified as follows: (i) daily foraging travels, (ii) seasonal movements, and (iii) wandering. Daily foraging travels are well studied in Venezuela. The home range of a breeding colony extended over c.97 km<sup>2</sup>, with a max. distance between feeding localities of 150 km and max. daily foraging distance of c.200 km in one night<sup>4,11,17</sup>; the records from Quito, Pulug and Papallacta are all within 150 km of a known colony, and may all reflect birds engaged in daily foraging. Seasonal movements are still poorly documented and understood. At some colonies, most birds engage in post-breeding migrations (whereas some remain year-round at the colonies<sup>4</sup>). Post-breeding migration probably is influenced by local food shortages<sup>4,5,17,18,21</sup>. This is the case at Venezuelan, Colombian and Ecuadorian colonies, where Oilbirds perform post-breeding migrations, unlike Trinidad colonies which occupy nesting caves year-round<sup>4,5,11,13,19–21</sup>. Birds on post-breeding migration have been found at caves

Table 1. Localities mentioned in the text for new records of Oilbird *Steatornis caripensis* in Ecuador.

Name	Province	Coordinates	Elevation (m)	Type
Chalcapac	Azuay	03°14.8'S 79°12.4'W	1,320	Colony
Pulug	Chimborazo	01°32'S 78°42'W	3,280	Dead bird
Río Pusuno Valley	Napo	00°52 S 77°35 W	1,200	Colony
Papallacta	Napo	00°22 S 78°10 W	3,650	Dead bird
Tiputini Biodiversity Station	Orellana	00°37'S 76°10'W	190–270	Sight records
30 km north-east of Armenia	Pichincha	00°13'N 78°43'W	900	Colony
Quito	Pichincha	00°13'S 78°30'W	2,750–3,100	Sight records
Guajalito	Pichincha	00°14'S 78°49'W	1,900–2,100	Sight records
Shaime	Zamora-Chinchipe	04°20'S 78°39'W	900	Colony

45 km from their colonies<sup>11</sup> and birds recorded at Guajalito could be seasonal migrants. Wandering movements usually involve individuals or small groups foraging far from their breeding or roosting caves, in areas where the species is rare. In Ecuador, such individuals have been reported in the eastern lowlands, e.g., at Cuyabeno<sup>16</sup> and Tiputini Biodiversity Station (Table 1; regular records mainly in June–August, in 1999–2010, of singles either flying at night or roosting on trees by day; DFCH pers. obs.).

It has been suggested that Oilbirds can inhabit agricultural areas<sup>3,4,11,17</sup>. However, extensive habitat destruction and expansion of agriculture coupled with total forest removal is doubtless negatively affecting Ecuadorian colonies, as in Venezuela, where three colonies in heavily modified areas have become extinct<sup>3,4</sup>. There are no reliable data on the conservation status of Ecuadorian colonies, but extensive habitat destruction in inter-Andean valleys (e.g., Alchipichi and Chalcapac) could also provoke extinction in the short term. Colonies on Andean slopes are probably more 'insulated', being located in forested areas, but it remains to be quantified how chick harvesting and habitat modification affect populations, especially where habitat fragmentation is intense.

Improved knowledge on the distribution of Oilbird in Ecuador will require the discovery, preservation and evaluation of colonies, foraging and post-breeding areas. Surveys at colonies should be undertaken during the breeding season to evaluate their true size. Oilbirds make fascinating research subjects; they are used by indigenous communities, and could become highly appreciated and profitable tourism attractions, if adequately studied and sustainably harvested.

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