A reappraisal of the distribution of the Yellow-headed Manakin (*Chloropipo flavicapilla*) in Colombia and Ecuador

Una reevaluación de la distribución del Saltarín dorado (*Chloropipo flavicapilla*) en Colombia y Ecuador

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Abstract

The Yellow-headed Manakin (*Chloropipo flavicapilla*) is a rare and threatened species that is thought to occur between the Andes of Colombia and northeastern Ecuador. However, only three records support the presence of *C. flavicapilla* in Ecuador: a 19th-century specimen from Hacienda Mapoto, Tungurahua province, and two undocumented field observations from the early 1990s — one from Cordillera de Guacamayos and one from Volcán Sumaco. I investigated these records and found that the Mapoto specimen is a Green Manakin (*Cryptopipo holochlora*) deposited in the Museum and Institute of Zoology, Polish Academy of Sciences (MIZ 22050). The correct specimen identity was reported by Hellmayr (1929), but his notes were overlooked. The two undocumented sightings occurred in well-surveyed areas populated with eBird hotspots that are frequently visited by birders. Furthermore, there are no publicly available records of *C. flavicapilla* for these locations or anywhere else in Ecuador. Lastly, I analyzed the species distributional limits in southern Colombia. Two biogeographical barriers limit its distribution to northern Ecuador: (1) The Patía Valley in the western Andes and (2) the Colombian Massif in the central and eastern Andes. In conclusion, there is no tangible evidence that *C. flavicapilla* has been recorded in Ecuador, and based on its current distribution, it should be considered endemic to Colombia.

Key words: *Xenopipo flavicapilla*, species ranges, national responsibilities, conservation status

Resumen

El Saltarín dorado (*Chloropipo flavicapilla*) es una especie rara y amenazada que se considera está distribuida entre los Andes de Colombia y el noreste de Ecuador. No obstante, solo tres registros soportan su presencia en Ecuador: un espécimen del siglo XIX de la Hacienda Mapoto, provincia de Tungurahua, y dos observaciones de campo de comienzos de la década de 1990: una de la Cordillera de Guacamayos y otra del Volcán Sumaco. Al investigar estos registros, encontré que el espécimen es un Saltarín verde (*Cryptopipo holochlora*), depositado en el Museo e Instituto de Zoología de la Academia Polaca de Ciencias (MIZ 22050). La identificación correcta del espécimen fue reportada por Hellmayr (1929) pero sus notas pasaron desapercibidas. Además, las dos observaciones de campo ocurrieron en áreas bien inventariadas que están pobladas con hotspots de eBird y son visitadas por observadores de aves con frecuencia. En estos lugares no hay registros de ocurrencia de *C. flavicapilla*, ni en ningún otro lugar del Ecuador. Finalmente, analicé los límites de la distribución de la especie en el sur de Colombia. Existen dos barreras biogeográficas que limitan su distribución hacia el norte de Ecuador: (1) el valle del río Patía en los Andes occidentales y (2) el Macizo Colombiano en los Andes centrales y orientales. En conclusión, no hay evidencia tangible de que *C. flavicapilla* haya sido registrado en Ecuador, y con base a su distribución actual, debe considerarse endémico de Colombia.

Palabras clave: *Xenopipo flavicapilla*, distribuciones de especies, responsabilidad nacional, estado de conservación

The Yellow-headed Manakin (*Chloropipo flavicapilla*) is a poorly known species of the northern tropical Andes, with scarce information on its life history and ecology (Snow *et al.* 2020). The species is classified as Vulnerable (VU) on the IUCN Red List of Threatened Species (BirdLife International 2016) and could be sensitive to forest degradation. Although it can persist in some forest patches and agroecosystems (Renjifo

1999, Martínez-Sánchez *et al.* 2018), it has been extirpated from fragmented landscapes (Castaño-Villa & Patiño-Zabala 2008). Moreover, the species is more abundant in old-growth forests (Marín-Gómez *et al.* 2009) and has declined in abundance compared to historical records (Palacio *et al.* 2020).

C. flavicapilla is often overlooked, and its distribution is not fully understood (Hilty & Brown 1986). It is currently categorized as near-endemic to Colombia (Stiles 1998, Chaparro-Herrera *et al.* 2013, Remsen *et al.* 2022) based on three Ecuadorian records (Ridgely & Tudor 1994). Their source was clarified in Ridgely & Greenfield (2001): "a 19th-century specimen (BMNH) from Hacienda Mapoto in Tungurahua; a female seen on the south slope of the Cordillera de Guacamayos above Archidona on 10 Nov 1990 (PJG); and a male seen on the south slope of Volcán Sumaco on 22 Jan 1991 (B. Whitney). Recorded from about 1500 to 2100 m". These records have persisted in the literature (del Hoyo *et al.* 2004, Restall *et al.* 2007, Kirwan & Green 2011) and are included into the assessments of Key Biodiversity Areas (Freile & Santander 2005, BirdLife International 2016, Key Biodiversity Areas Partnership 2022).

The three records from Ecuador have not been corroborated (Freile & Restall 2018), and *C. flavicapilla* was recently classified as Data Deficient (DD) on the Ecuadorian National Red List (Freile *et al.* 2019). In Colombia, the species is classified as Vulnerable (Renjifo *et al.* 2014) and has fewer than 7,000 mature individuals (Moreno-Palacios 2014). Thus, an appraisal of the species distribution is necessary to determine national responsibilities for its protection (Schmeller *et al.* 2014, Oliver *et al.* 2021). In this short note, I investigate the Ecuadorian records, analyze the limits of the species distribution in southern Colombia, and provide evidence to conclude that *C. flavicapilla* has not been recorded in present-day Ecuador.

The Mapoto specimen

Ridgely & Greenfield (2001) mentioned that the 19th-century Mapoto specimen is held in the British Museum of Natural History. However, a search in this database retrieved only eight records of *C. flavicapilla* from Colombia (Natural History Museum 2022). Similarly, a search on the VertNet database, which holds records from over 126 publishers, retrieved 34 specimens from Colombia (http://portal.vertnet.org/search; accessed 30 Jul 2022). I located the specimen at the Museum and Institute of Zoology (MIZ) of the Polish Academy of Sciences. It is a Green Manakin (*Cryptopipo holochlora*) with an associated occurrence record in GBIF (Iwan 2017): https://www.gbif.org/occurrence/1706132541. The museum personnel facilitated photographs of the specimen (Fig. 1) and its catalog number (MIZ 22050). Also, Jiří Mlíkovský helped clarify the history of the specimen based on the associated labels (Fig. 1).

The specimen was collected in 1884 by the polish ornithologist Jan Stanisław Sztolcman (often written as Stolzmann). Sztolcman's collection was included in Chapman's (1926) list of birds from Ecuador, who cited Taczanowski & Berlepsch (1885) identification as *C. flavicapilla*: "Une femelle de Mapoto, prise le 5 février. Iris brun fonce. Semblable en tout à la femelle de Bogota et 'en diffère que par le vert du dessus plus pur." (p. 93) [A female from Mapoto, taken on February 5th. Dark brown iris. Similar in all respects to the Bogotá female and differing only in the purer green above]. Note that the "purer green above" is indicative of *C. holochlora*, but the species was only described by Sclater in 1888.

The correct specimen's identity was reported in a footnote by Hellmayr (1929): "Count Berlepsch's MS. notes, now in my possession, clearly show that the Mapoto specimen is referable to *C. h. holochlora*." (p.44). This evidence may have been used by Meyer de Schauensee (1948-1952, 1970) to list *C. flavicapilla* as endemic to Colombia (but the specimen was not mentioned). Unfortunately, subsequent authors overlooked Hellmayr's footnote. Hilty & Brown (1986) also classified *C. flavicapilla* as endemic to Colombia but left the possibility of its occurrence in Ecuador: "perhaps also e slope E Andes at s end. Ecuador (Mapoto?)." (p. 436). Additionally, Ridgely & Tudor (1994) wrongly asserted that the species is absent from Mapoto because of forest conversion to agriculture.

Figure 1. The Mapoto specimen (MIZ 22050). — A female Green Manakin (*Cryptopipo holochlora*) collected in Ecuador by Polish ornithologist Jan Sztolcman on 5 Feb 1884. Sztolcman first labeled the specimen as "*Pipra chloromeros*" [Round-tailed manakin] under the (unconfirmed) field number 1407 (upper label, J. Sztolcman collection). Taczanowski & Berlepsch (1885) re-identified the specimen as the Yellow-headed Manakin (*Chloropipo flavicapilla*), and one of them added this name to Sztolcman's label (note that *C. holochlora* was described by Sclater in 1888). The specimen was deposited in the private Branicki Zoological Museum (MZBW) under catalog number "1988P" (new label). This museum was merged into the National Museum of Natural History in 1919, and the specimen received the new registry number "859a", given consecutively to the deposited specimens (Mlíkovský 2007). The specimen was assigned as *C. holochlora* by Tadeusz Chrostowski (black ink; *ca.* 1921), who briefly headed the Neotropical Bird Department (Kazubski 1996). Sztolcman confirmed the re-identification in 1926 (red ink) while revisiting his Neotropical collections (Mlíkovský 2009) and wrote "fide Chrostowski" meaning "according to Chrostowski". However, Berlepsch reexamined the specimen (Hellmayr 1929) and could have provided the correct identification to Chrostowski before his death in 1915 (Mlíkovský pers. comm.). The specimen was given the current catalog number following the reconstruction of the MIZ after World War II (Kazubski, 1996). The photos were courtesy of Arkadiusz Cegliński, Museum and Institute of Zoology, Polish Academy of Sciences.

Species records and distributional limits

I evaluated the distributional limits of *C. flavicapilla* in southern Colombia, based on the species occurrences and their overlap with biogeographical barriers (Fig. 2). The occurrence data was gathered from GBIF on 24 Jul 2022 (https://doi.org/10.15468/dl.5mymfv) and comprised 1,050 records only from Colombia (including eBird and iNaturalist observations, among others). Four records from the eastern slope of the Eastern Andes were wrongly georeferenced and removed. I further examined survey efforts in areas surrounding the Ecuadorian records using eBird hotspots (Inset; Fig. 2).

The distribution of *C. flavicapilla* in the southern east and central Andes is limited by the Colombian Massif, a major biogeographical barrier for birds (Hazzi *et al.* 2018). This barrier divides the Magdalena Valley montane forests from the Eastern Cordillera Real

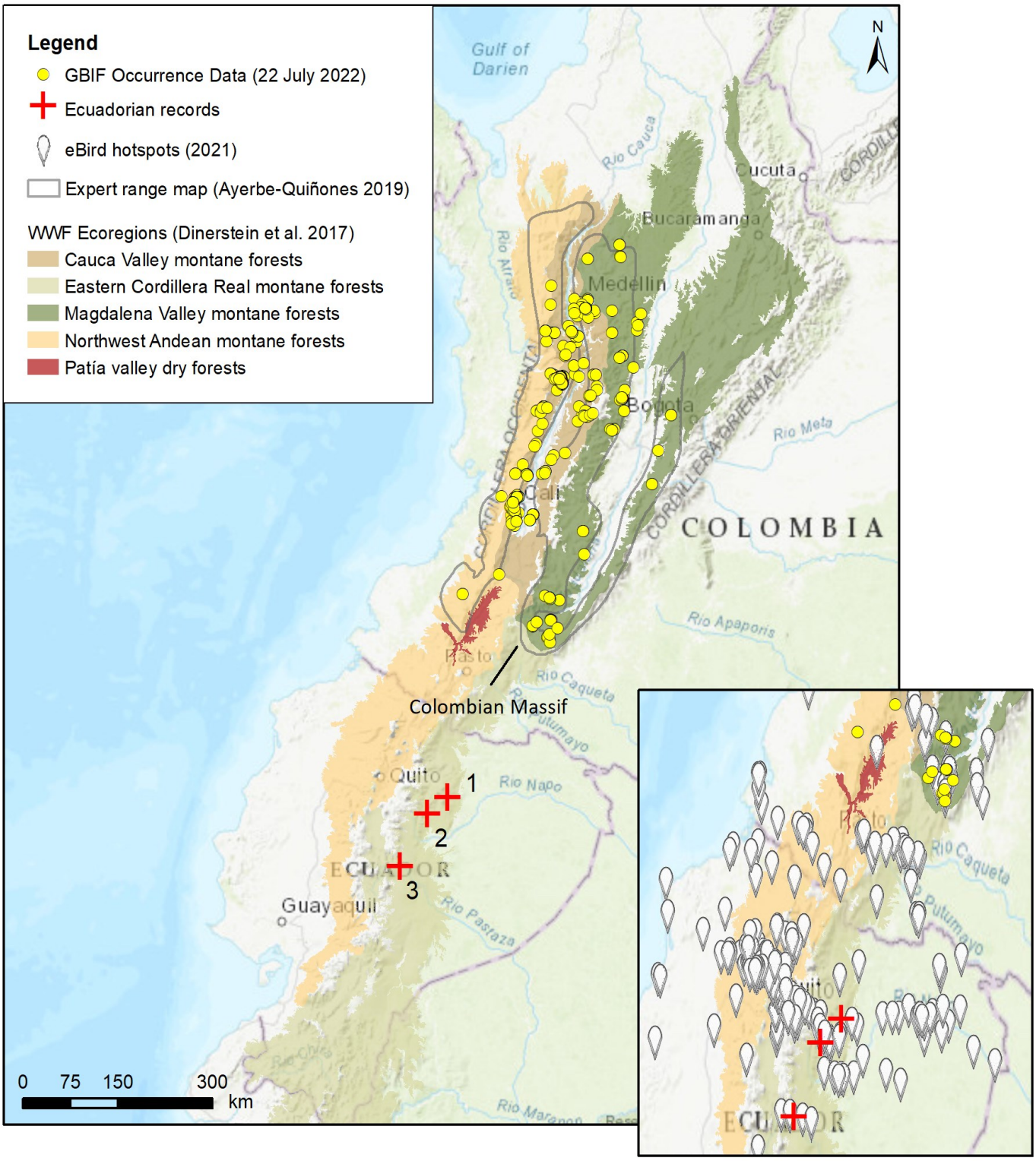

Figure 2. Geographic range of the Yellow-Headed Manakin (*Chloropipo flavicapilla*). The species' records are limited to the north of the Patía Valley in the western Andes and north of the Colombian Massif, central and Eastern Andes. The expert map of Ayerbe-Quiñones (2022) captures this geographical pattern. The inset shows that areas surrounding the Ecuadorian records are populated with eBird hotspots, most of which are frequently birded. The eBird hotspots were taken from Palacio *et al.* (2021) and the geographic coordinates of the Ecuadorian records from Olmedo (2019): 1- Volcán Sumaco; 2- Cordillera de Guacamayos; 3- Hacienda Mapoto.

Montane Forests ecoregions (Dinerstein *et al.* 2017). In the western Andes, the distribution is limited by the Patía Valley (Haffer 1986), and the species is absent from Nariño as remarked by Meyer de Schauensee (1948-1952, 1970) and valid to this date (Calderón-Leytón *et al.* 2011).

Thus, distributional evidence from Colombia suggests that records of *C. flavicapilla* in Ecuador are very unlikely. The two observational records from Volcán Sumaco and Cordillera de Guacamayos came from areas populated with eBird hotspots that are frequently birded. For instance, the hotspot of Sumaco Road has records of 492 species with 825 checklists (eBird 2022). The Cordillera de Guacamayos and nearby areas have eBird hotspots such as Cabañas San Isidro (https://ebird.org/hotspot/L489454), with a list of 526 species and 4854 checklists (eBird 2022). The species absence from eBird hotspots provides support that it does not occur in these localities (Palacio et al. 2021).

That *C. flavicapilla* has not been recorded since the 1990s in these highly surveyed regions of Ecuador is another reason to dispute the two observational records, despite coming from experienced ornithologists. Moreover, *C. flavicapilla* has not been found with mist nets, a method that increases its detectability in Colombia (López-Lanús *et al.* 2000, Peña & Weber 2000, Losada-Prado *et al.* 2005, Cuervo *et al.* 2008). Instead, mist-netting has provided verified records for the similarly elusive Jet Manakin (*Chloropipo unicolor*), a species that is scarcely known in Ecuador (Freile & Restall 2018).

Conclusion and recommendations

A reappraisal of the distribution of the Yellow-headed Manakin (*Chloropipo flavicapilla*) shows that there is no tangible evidence of the species in Ecuador, an assertion that has been sustained by only three records (Ridgely & Tudor 1994, Ridgely & Greenfield 2001). The 19th-century specimen from Mapoto is a Green Manakin (*Cryptopipo holochlora*), and the two undocumented sightings from the early 1990s come from highly surveyed regions where there are no publicly available records of *C. flavicapilla*, or anywhere else in Ecuador.

Thus, I suggest reincorporating *C. flavicapilla* as a Colombian endemic (Meyer de Schauensee (1948-1952, 1970, Hilty & Brown 1986) and removing it from the Ecuadorian checklists (Freile *et al.* 2020, Remsen *et al.* 2022). These actions go beyond improving the accuracy of national checklists for two main reasons. First, they serve as a cautionary tale that records of rare taxa should always be scrutinized, even when reported by highly regarded authorities. Second, *C. flavicapilla* is a threatened species for Colombia (Renjifo *et al.* 2014), and its categorization as a country endemic would make it a higher priority for research and conservation.

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