

# New record of the Gray-capped Cuckoo, *Coccyzus lansbergi* (Bonaparte, 1850) (Cuculiformes, Cuculidae), on the southwest coast of Panama

Kayra Aguilar-Samaniego<sup>1</sup>, Luis F. De León<sup>2, 3, 4</sup>, Celestino Aguilar<sup>3, 4</sup>

**1** Universidad de Panamá, Programa de Maestría en Ciencias Biológicas, Campus Octavio Méndez Pereira, Av. Simón Bolívar, Panamá 0824, Panamá. **2** University of Massachusetts Boston, Department of Biology, 100 William T. Morrissey Blvd. Boston, MA 02125, USA. **3** Instituto de Investigaciones Científicas y Servicios de Alta Tecnología, Centro de Biodiversidad y Descubrimiento de Drogas, Ciudad del Saber, Panamá, P. O. Box 0843-01103, Panamá. **4** Smithsonian Tropical Research Institute, Luis Clement Ave., Balboa Ancon, Panama, P.O. Box 0843-03092, Panama. **Corresponding author:** Celestino Aguilar, [aguilar.smng@gmail.com](mailto:aguilar.smng@gmail.com).

## Abstract

This note presents the first record of *Coccyzus lansbergi* (Bonaparte, 1850) for the southwest coast of Panama. This new record was made on July 11, 2018, in the rural community of Juan Hombrón, Coclé province, Panama. The species has been previously observed in eastern Panama, but this is the first record for the southwestern region of the country. Our record is at least 142 km southwest of its nearest reports in eastern Panama. Overall, this record indicates that the species is likely a vagrant from its known range, given that no other records have been documented south of Coclé, in Panama. In addition, the increasing number of records from eastern Panama over the last 30 years suggests a recent expansion in the northern range of the species.

## Keywords

Cuclillo Cabecigrís, distribution, Neotropical birds, range expansion, vagrant.

**Academic editor:** Sahas Barve | Received 12 March 2020 | Accepted 8 July 2020 | Published 17 July 2020

**Citation:** Aguilar-Samaniego K, De León LF, Aguilar C (2020) New record of the Gray-capped Cuckoo, *Coccyzus lansbergi* (Bonaparte, 1850) (Cuculiformes, Cuculidae), on the southwest coast of Panama. Check List 16 (4): 883–888. <https://doi.org/10.15560/16.4.883>

## Introduction

The genus *Coccyzus* (Vieillot, 1816) comprises 13 species of American cuckoos (Chesser et al. 2019). Most members of Cuculidae build their own nests, but some cuckoo species are popular due to their so-called brood parasitism (Kim et al. 2017). Cuckoos are widely distributed but are concentrated in the tropics, where they occur in a variety of habitats, including forests, woodlands, or mangroves (Posso and Donatelli 2012). However, there is little information regarding their distribution range

and migratory patterns, because most species have yet to be studied.

The Gray-capped Cuckoo, *Coccyzus lansbergi* (Bonaparte, 1850), is considered a poorly known migrant cuckoo from South America (Payne and Kirwan 2020). Its natural habitat comprises deciduous tropical forests, dry forest, and dense thickets near bodies of water (Ridgely and Gwynne 1992; Erritzøe et al. 2012), where it is usually overlooked, due to its habit of skulking in dense

undergrowth (Ridgely and Gwynne 1992; Athanas and Greenfield 2016). This species presents a relatively broad distribution in northwestern South America, occurring locally in north Colombia, northwest Venezuela, west Ecuador, and northwest Peru (Núñez-Zapata et al. 2016; Avendaño et al. 2017; Vallely and Dyer 2018; Payne and Kirwan 2020). Other records indicate that the species has been observed as far as Netherlands Antilles and Galapagos (Erritzøe et al. 2012).

In Panama, a total of thirteen sightings of *C. lansbergi* have been reported over the last 30 years (Braun and Wolf 1987; eBird 2020; Payne and Kirwan 2020). However, these records are patchy and scattered in a few localities restricted to the eastern part of the country (Payne and Kirwan 2020). Thus, the distribution of *C. lansbergi* in the Isthmus of Panama is not well known. Moreover, the lack of museum specimens collected in Panama, and the fact that the species has not been listed in any of the recent ornithological surveys and biodiversity assessments in this region (Miller et al. 2011; Renjufo et al. 2017), has led most authors to consider this species as a vagrant (Braun and Wolf 1987; Payne and Kirwan 2020).

Here, we report the first record of *C. lansbergi* in the southwest coast of Panama. This record is based on a single specimen sighted and song recorded in the rural community of Juan Hombrón, Antón, Coclé Province, Panama.

## Methods

The record reported here was made by one of the authors (KA) during a visit to her family's property in the rural community of Juan Hombrón, municipality of Antón, in the province of Coclé, located on the Pacific coast of Panama (Fig. 1). This locality is characterized by forest patches of fragmented landscapes, interspersed with grasslands used for cattle ranching and agriculture. Photographic and audio recordings were obtained as evidence for the record. The bird was identified based on Ridgely and Greenfield (1992), and Angehr and Dean (2010) field guides. Photographic and the audio recording were uploaded to the online digital Macaulay Library (ML; <http://www.macaulaylibrary.org>) via eBird website (<https://ebird.org/home>). We also compared the



**Figure 1.** Historical sightings of the Gray-capped Cuckoo, *Coccyzus lansbergi*, in Panama. Black dots with numbers indicate localities of the sightings in western Panama: 1, Punta Patiño; 2, Aruza Arriba road; 3, Vista Alegre; 4, Finca Bayano (eBird 2020). The red dot shows the first documented (by photo and song) record of the species in the southwest coast of Panama. Dark gray areas represent the known distribution of the species in South America, modified from the Handbook of Birds of the World Alive (Payne and Kirwan 2020).

audio recording of its song with recordings published on Xeno-canto (<http://www.xeno-canto.org>) and Macaulay Library.

To create a geographic distribution map (Fig. 1), we used QGIS 3.12 (QGIS Development Team 2019) based on Panamanian occurrence records of *C. lansbergi* retrieved from Braun and Wolf (1987), Vallely and Dyer (2018), eBird (2020), and Macaulay Library. Finally, we drew the geographic range suggested by Payne and Kirwan (2020).

## Results

**New record.** PANAMA • 1 adult; Coclé province, Antón District, Juan Hombrón; 08°19.32'N, 080°11.8'W; 11 m a.s.l.; 11 Jul. 2018; observed and recorded by Kayra Aguilar-Samaniego; Figures 2A–D; ML107294671, ML

107296091 and ML109061181. The bird was first observed perched on a small branch of a *Byrsonima crassifolia* (L.) Kunth tree, allowing it to be photographed and its song recorded (Figs 2A–D). When it perceived the presence of the observer, it moved to the crown of a *Melicococus bijugatus* Jacq. tree.

**Identification.** *Coccyzus lansbergi* was identified based on the characteristics of its plumage, with a dark gray cap, upper body with rich rufous brown, and deep rufous buff underparts (Figs 2A–D). The species was also characterized by its black bill, and medium-sized body (Angehr and Dean 2010; Schulenberg et al. 2010; Athanas and Greenfield 2016; Payne and Kirwan 2020).

These characteristics distinguish *C. lansbergi* from other species of cuckoos whose distributional ranges lie into this region, such as *Coccyzus minor* (Gmelin, 1788), *Piaya cayana* (Linnaeus, 1766), and *Tapera*



**Figure 2.** Photographs of *Coccyzus lansbergi* recorded in the southwest coast of Panama. **A–D.** Adult individual photographed at Juan Hombrón, province of Coclé, southwestern Panama.

*naevia* (Linnaeus, 1766). We also found that our audio recording of the bird's song presented the same structure (a soft rolling series of hollow cooing notes, descending in pitch) of several *C. lansbergi* recordings from Venezuela (eBird: ML68684 from Zulia and ML68683 from Distrito Capital) and Ecuador (Xeno-Canto: XC274946 from El Oro, and XC257705 from Guayas).

## Discussion

*Coccyzus lansbergi* is considered a rare migrant in South America (Ridgely and Gwynne 1992; Stotz et al. 1996), but its distribution remains poorly known (Payne and Kirwan 2020). In fact, *C. lansbergi* presents a disjunct geographical distribution, occurring in Venezuela and Colombia and apparently breeding in Ecuador and Peru (Erritzøe et al. 2012; Payne and Kirwan 2020). The Gray-capped Cuckoo was previously known to occur in eastern Panama where it has been previously reported thirteen times (Table 1) (Braun and Wolf 1987; eBird 2020). The first sightings were reported during the 1980s, three times in Tocumen and one in Bayano (both sites located in eastern Panama province), and one time in Cana (located in the southeast Darien province) (Braun and Wolf 1987). During the last decade, new records of Gray-capped Cuckoo have been added to online databases such as eBird and Macaulay Library. These records indicate that the species was sighted six times in Bayano, eastern Panama province, and that individual sightings

were also reported in three different locations in the Darién province (Punta Patiño, Aruza Arriba, and Vista Alegre) (Table 1). Some of these recent sightings in eastern Panama are backed by photographic evidence, which eliminates the possibility of confusion with another species of cuckoo that inhabit that region (Angehr and Dean 2010). This number and frequency of sightings suggests that the presence of *C. lansbergi* in eastern Panama is recurrent. Therefore, it is reasonable to think that these records correspond to a resident population, rather than vagrant individuals as previously reported (Braun and Wolf 1987; Payne and Kirwan 2020).

Despite the increasing number of sightings in Panama, there is no published record of the Gray-capped Cuckoo from the western side of the country. In fact, the species has not been reported in any of the recent ornithological surveys and biodiversity assessments conducted in the country (Lasky and Keitt 2009; Miller et al. 2011; Renjifo et al. 2017). Moreover, our review of popular online databases (i.e., eBird and Macaulay Library) as well as ornithological museum collections (i.e., Smithsonian Tropical Research Institute Bird Collection) did not find specimens sighted in Coclé or collected in the country. Thus, our new record represents the most western sighting of *C. lansbergi* in Panama (about 142 km in a straight line from the nearest reports in eastern Panama) and extends the known range of the species in Central America.

It seems likely that this new record of *C. lansbergi* in Juan Hombrón represents an occasional vagrant

**Table 1.** Records of *C. lansbergi* in Panama. Dashes indicate lack of information; *N* = number of individuals; Doc = documentation refers to the number of photographs (P) or recordings (R); Digital data = photographs, sound recordings, and checklist.

| Date         | Locality (province)   | Latitude     | Longitude     | <i>N</i> | Doc    | Observer                            | Source                      | Digital data                          |
|--------------|-----------------------|--------------|---------------|----------|--------|-------------------------------------|-----------------------------|---------------------------------------|
| 10 Feb. 1980 | Tocumen (Panamá)      | —            | —             | 1        | —      | V. Emanuel and M.J.B.               | Braun and Wolf 1987         | —                                     |
| 7 Jan. 1982  | Tocumen (Panamá)      | —            | —             | 1        | —      | B. Whitney, J. Rowlett and B. Barth | Braun and Wolf 1987         | —                                     |
| 30 Ja. 1985  | Cana (Darién)         | —            | —             | 1        | —      | D.E.W. and others                   | Braun and Wolf 1987         | —                                     |
| 23 Dec. 1985 | Tocumen (Panamá)      | —            | —             | 1        | —      | L. O'Meallie and T. Meyer           | Braun and Wolf 1987         | —                                     |
| 4 Apr. 2010  | Punta Patiño (Darién) | 08°12'60.0"N | 078°16'33.2"W | 1        | —      | Tom O'Callahan                      | eBird 2020                  | S42037468                             |
| 29 Jul. 2012 | Vista Alegre (Darién) | 08°47'14.1"N | 078°06'34.0"W | 1        | —      | Beny Wilson                         | eBird 2020                  | S19187794                             |
| 12 Aug. 2015 | Aruza Arriba (Darién) | 08°25'05.5"N | 077°56'21.2"W | 3        | 2P     | Domiciano Alveo                     | Macaulay Library            | ML51808661, ML51808651                |
| 19 Aug. 2017 | Finca Bayano (Panamá) | 09°05'23.6"N | 079°09'46.8"W | 1        | 1P     | Leslie Lieurance                    | Macaulay Library            | ML66465881                            |
| 19 Aug. 2017 | Finca Bayano (Panamá) | 09°05'23.7"N | 079°09'46.9"W | 1        | —      | Cynthia Lieurance                   | eBird 2020                  | S38720138                             |
| 20 Aug. 2017 | Finca Bayano (Panamá) | 09°05'23.7"N | 079°09'46.9"W | 1        | —      | Jan Cubilla                         | eBird 2020                  | S38731420                             |
| 21 Aug. 2017 | Finca Bayano (Panamá) | 09°05'23.6"N | 079°09'46.8"W | 1        | 3P     | Euclides Campos                     | Macaulay Library            | ML66653701, ML66653721, ML66653731    |
| 11 Jul. 2018 | Juan Hombrón (Coclé)  | 08°19'19.2"N | 080°11'48.1"W | 1        | 2P, 1R | Kayra Aguilar S.                    | This work: Macaulay Library | ML107294671, ML107296091, ML109061181 |
| 19 Oct. 2019 | Finca Bayano (Panamá) | 09°05'23.6"N | 079°09'46.8"W | 1        | 1P     | Luke Tiller                         | Macaulay Library            | ML183029681                           |
| 19 Oct. 2019 | Finca Bayano (Panamá) | 09°05'23.7"N | 079°09'46.9"W | 1        | —      | Steve Peck                          | eBird 2020                  | S62123811                             |

(Ridgely and Gwynne 1992; Erritzøe et al. 2012), given that vagrancy is common in many migratory species (Ralph and Wolfe 2018; Howes et al. 2019). Nonetheless, it is also possible that the species is recurrent in eastern Panama, but it may have been overlooked, given its “timid” habits and the type of habitats it associates with. Specifically, this species is considered as a skulking and solitary bird, mainly associated with bushes, thickets, and dense shrubbery near water, undergrowth of moist to dry semi-deciduous forest and secondary woodland, which makes it difficult to observe and record (Erritzøe et al. 2012). For the same reason, its current distribution in South America is poorly known, and in many cases is restricted to a small number of points scattered across the several countries in which it has been recorded (Erritzøe et al. 2012; eBird 2020). It is also important to mention that the areas around Juan Hombrón remain scientifically underexplored, but we hope that the publication of this new record will encourage future research in this region. Our photographic and sound record demonstrate the contemporary occurrence of the Gray-capped Cuckoo on the southwest coast of Panama and provides the only evidence of its presence in Coeló province.

Taken together, all these records show a scarce, but regular presence of the Gray-capped Cuckoo in areas far north, suggesting that the range of the species may be extending north from its traditionally known distribution (Fig. 1). Although the reason for this recent range expansion is currently unknown, we speculate that anthropogenic disturbances such as land-cover changes and climate change are likely important factors to consider. Indeed, a growing number of studies have also associated range expansion in Neotropical birds with these factors in both lowland and montane species (Sandoval et al. 2017; Freeman et al. 2018). Thus, the detailed collection and publications of sighting records of the Gray-capped Cuckoo throughout the region will be crucial to test this possibility.

Overall, however, further research is needed to determine if this species is present in nearby localities, or between the new locality and the previously known occurrences. Therefore, reporting new locations, and reviewing the distribution of Neotropical birds will be important to clarify the species’ range and its conservation status.

## Acknowledgements

We acknowledge the Panamanian Secretaría Nacional de Ciencia, Tecnología e Innovación for the scholarship granted to KA for Master Program in Biological Sciences of the Universidad de Panamá. CA thanks the Sistema Nacional de Investigación and the Smithsonian Tropical Research Bird Collection for their support. We thank Sahas Barve, Flávio Ubaid, and the anonymous reviewers for their helpful comments and suggestions in an earlier version of the manuscript.

## Authors’ Contributions

KA photographed and recorded the specimen. KA, LFD, and CA wrote the manuscript. CA produced the figures.

## References

- Angehr GR, Dean R (2010) The birds of Panama: a field guide. Comstock Publishing Associates, New York, 456 pp.
- Athanas N, Greenfield PJ (2016) Birds of western Ecuador: a photographic guide. Princeton University Press, Princeton, 448 pp.
- Avendaño JE, Bohórquez CI, Roselli L, Arzuza-Buelvas D, Estela FA, Cuervo AM, Stiles FG, Renjifo LM (2017) Lista de chequeo de las aves de Colombia: una síntesis del estado del conocimiento desde Hilty & Brown (1986). *Ornitología Colombiana* 16: eA01.
- Braun MJ, Wolf DE (1987) Recent records of vagrants South American land birds in Panama. *Bulletin of the British Ornithologists’ Club* 107 (3): 115–117.
- Chesser RT, Burns KJ, Cicero C, Dunn JL, Kratter AW, Lovette IJ, Rasmussen PC, Remsen JV, Stotz DF, Winker K (2019) Checklist of North and Middle American birds. American Ornithological Society. <http://checklist.aou.org/taxa>. Accessed on: 2019-12-19.
- eBird (2020) *Coccyzus lansbergi* distribution map. <https://ebird.org/species/gyccuc>. Accessed on: 2020-6-15.
- Erritzøe J, Mann CF, Brammer FP, Fuller RA (2012) Cuckoos of the world (Helm identification guide). Christopher Helm, London, 544 pp.
- Freeman BG, Scholer MN, Ruiz-Gutierrez V, Fitzpatrick JW (2018) Climate change causes upslope shifts and mountaintop extirpations in a tropical bird community. *Proceedings of the National Academy of Science of the United States of America* 115 (47): 11982–11987. <https://doi.org/10.1073/pnas.1804224115>
- Howes C, Symes CT, Byholm P (2019) Evidence of large-scale range shift in the distribution of a Palaeartic migrant in Africa. *Diversity and Distributions* 25 (7): 1142–1155. <https://doi.org/10.1111/ddi.12922>
- Kim H, Lee JW, Yoo JC (2017) Comparing vocal structures of the parasitic and nonparasitic groups in Cuculinae. *Avian Research* 8 (27): 1–5. <https://doi.org/10.1186/s40657-017-0084-3>
- Lasky JR, Keitt TH (2009) Abundance of Panamanian dry-forest birds along gradients of forest cover at multiple scales. *Journal of Tropical Ecology* 26 (1): 67–78. <https://doi.org/10.1017/s0266467409990368>
- Miller MJ, Weir JT, Angehr GR, Guitton P, Birmingham E (2011) An ornithological survey of Piñas Bay, a site on the Pacific coast of Darién Province, Panama. *Boletín SAO* 20: 29-38.
- Núñez-Zapata J, Pollack-Velásquez LE, Huamán E, Tiravanti J, García E (2016) A compilation of the birds of La Libertad Region, Peru. *Revista Mexicana de Biodiversidad* 87 (1): 200–215. <https://doi.org/10.1016/j.rmb.2016.01.016>
- Payne RB, Kirwan GM (2020) Gray-capped Cuckoo (*Coccyzus lansbergi*), version 1.0. In: del Hoyo J, Elliott A, Sargatal J, Christie DA, de Juana E (Eds) *Birds of the world alive*. Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.gyccuc.01>. Accessed on: 2020-3-9.
- Posso SR, Donatelli RJ (2012) Biogeography on the early distribution of cuckoos (Aves: Cuculiformes). *Zoologia (Curitiba)* 29 (3): 187–194. <https://doi.org/10.1590/S1984-46702012000300001>
- QGIS Development Team (2019) QGIS, a free and open source geographic information system. <http://qgis.org>. Accessed on: 2020-3-3.
- Ralph CJ, Wolfe JD (2018) Factors affecting the distribution and abundance of autumn vagrant New World warblers in northwestern California and southern Oregon. *PeerJ* 6: e5881 <https://doi.org/10.7717/peerj.5881>

- Renjifo LM, Repizo A, Ruiz-Ovalle JM, Ocampo S, Avendaño JE (2017) New bird distributional data from Cerro Tacarcuna, with implications for conservation in the Darién highlands of Colombia. *Bulletin of the British Ornithologists' Club* 137 (1): 46–65. <https://doi.org/10.25226/bboc.v137i1.2017.a7>
- Ridgely RS, Gwynne JA (1992) *A guide to the birds of panama: with Costa Rica, Nicaragua, and Honduras*. Princeton University Press, Princeton, 656 pp.
- Sandoval L, Martínez D, Ocampo D, Pizarro MV, Araya-H D, Carman E, Sáenz M, García-Rodríguez A (2017) Range expansions and noteworthy records of Costa Rican birds (Aves). *Check List* 14 (1): 141–151. <https://doi.org/10.15560/14.1.141>
- Schulenberg TS, Stotz DF, Lane DF, O'Neill JP, Parker TA (2010) *Birds of Peru*. Revised and updated edition. Princeton University Press, New Jersey, 664 pp.
- Stotz DF, Fitzpatrick JW, Parker III TA, Moskovits DK (1996) *Neotropical birds. Ecology and conservation*. University of Chicago Press, Chicago, 502 pp.
- Vallely AC, Dyer D (2018) *Birds of Central America: Belize, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, and Panama*. Princeton University Press, Princeton, 584 pp. <https://doi.org/10.2307/j.ctv346nf2>