

ADDITIONAL RECORDS OF ABERRANT PLUMAGE COLORATION OF THE GROOVE-BILLED ANI (*CROTOPHAGA SULCIROSTRIS*)Joselin V. Cabrera¹ · Yntze van der Hoek^{1,2}¹ Universidad Regional Amazónica Ikiam, Vía Muyuna, Kilómetro 7, Tena, Ecuador.² Dian Fossey Gorilla Fund International, Karisoke Research Center, Musanze, Rwanda.

E-mail: Joselin V. Cabrera · joselin.cabrera@ikiam.edu.ec

Abstract · Chromatic aberrations have previously been reported for the normally entirely black Groove-billed Ani (*Crotophaga sulcirostris*). Here, we present three additional observations of the occurrence of chromatic aberrations in this species, in the southwest of Ecuador. In May 2016, we observed two birds with a nearly entirely white coloration, except for a few small black spots, and one pied-colored bird, with a mix of white and black coloration on all main body parts. Most likely, these chromatic aberrations are cases of progressive greying. Future studies should determine whether multiple individuals with chromatic aberration in the same place are a coincidence or due to other reasons.

Resumen · Registros adicionales de la coloración aberrante del plumaje en el Garrapatero pico estriado (*Crotophaga sulcirostris*)

Casos de aberraciones cromáticas de plumaje han sido reportados previamente para el Garrapatero Pico Estriado (*Crotophaga sulcirostris*) una especie cuyo plumaje es normalmente completamente negro. Aquí, presentamos tres observaciones adicionales de ocurrencia de aberraciones cromáticas en esta especie para el sureste de Ecuador. En mayo de 2016 observamos dos individuos con una coloración casi completamente blanca, salvo pequeñas manchas negras, y un individuo que presentaba una mezcla de plumas blancas y negras. Es probable que en este caso se trate de encanecimiento progresivo ("progressive greying"), que puede afectar la mayor parte del plumaje de esta ave. Son necesarios más estudios para determinar si las observaciones de múltiples individuos con aberraciones cromáticas en el mismo lugar, se tratan de una coincidencia o si existen otros factores.

Key words: Aberrant plumage · *Crotophaga sulcirostris* · Ecuador · Leucism · Progressive greying

Leucism and progressive greying are two of the most common forms of chromatic aberrations found in birds. Difficult to tell apart in field observations, both leucism and progressive greying refer to a partial or total lack of melanin in feathers (and skin), leading to a white color in skin and feathers (van Grouw 2013). The difference between them is that leucism is due to the heritable absence of pigments cells and in the progressive greying is due to the progressive loss of pigment cells with age (van Grouw 2013).

Earlier cases of chromatic aberrations have been reported for at least two individuals of the normally entirely black Groove-billed Ani (*Crotophaga sulcirostris*), both of which were classified as forms of leucism. Cadena-Ortiz et al. (2015) reported partial leucism in a Groove-billed Ani in western Ecuador. This individual had normal black coloration of almost the entire body, but small white spots on its chest. In Mexico, Rodríguez-Ruiz et al. (2017) observed a predominantly white individual with three black spots on the dorsal part of its body, but legs and beak with a normal coloration. Here, we present three additional records of aberrant plumage in the Groove-billed Ani from southwestern Ecuador, which suggest that such conditions are relatively prevalent among this species. However, we deem it most probable that the observed aberrations were due to progressive greying, not leucism. Finally, we show that chromatic aberrations can affect more than a few feathers or spots of plumage in this species and may lead to nearly entirely white individuals.

On 15 May 2016, we observed and photographed three individuals of the Groove-billed Ani in the province of El Oro, in the relatively arid southwestern part of Ecuador. We encountered these individuals near the town of El Palmal (3°46'07.3"S, 79°51'39.5"W), in an agricultural field used for growing corn and rice with little coverage of native vegetation. An individual had unusual white coloration on large parts of its dorsum, tail, and chest, with only one small black spot on its right wing (Figure 1a). The rest of its body, such as the legs, beak, and eyes, maintained the normal grey to black coloration corresponding to the species. The two other individuals were of normal black color (Figure 1b). Later the same day, we were able to photograph another individual with aberrant plumage, approximately 100 m from the previous record. We were able to distinguish this individual from the previous one, as this bird had two black spots on its left wing (Figure 1c).

Receipt 22 April 2018 · First decision 9 July 2018 · Acceptance 27 September 2018 · Online publication 8 October 2018

Communicated by Kaspar Delhey © Neotropical Ornithological Society

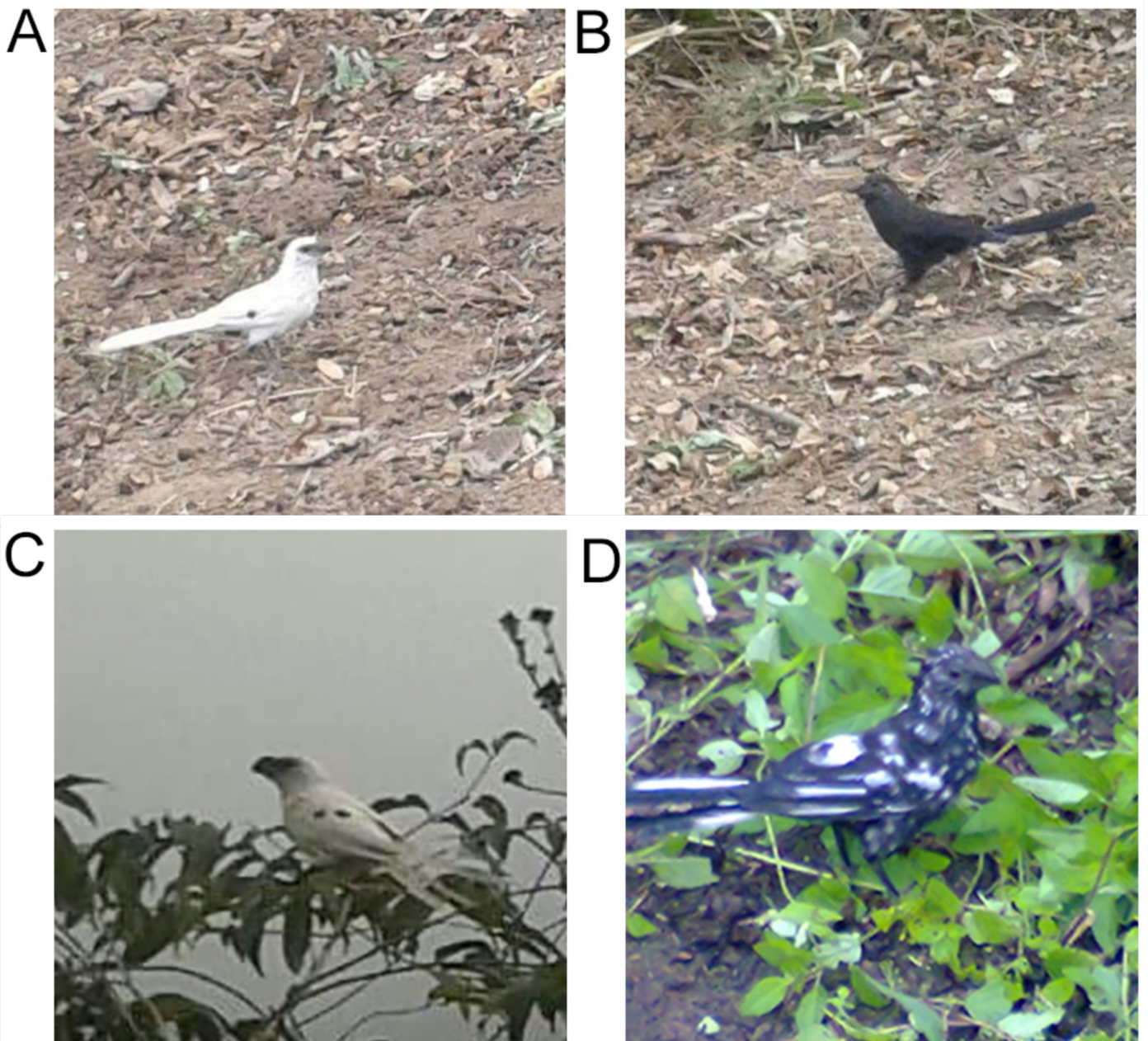


Figure 1. Photographs documenting chromatic aberrations in the Groove-billed Ani (*Crotophaga sulcirostris*) in El Palmar, Oro province, Ecuador. (A) An aberrant individual and (B) a normal individual in an agricultural field (15 May 2016). (C) A different aberrant individual photographed on the same day as (A). (D) Another aberrant individual with less white plumage (22 May 2016). Photographs by Joselin Cabrera.

On 22 May 2016, at the same location as the observations made on 15 May, we observed a third individual of the Groove-billed Ani with an unusual coloration. This individual had a pied-colored body, with an alternation of black and white colored patches. However, its legs, eyes, and beak were a normal black coloration (Figure 1d).

It is difficult to distinguish between partial leucism and progressive greying unless one has been able to observe individuals over a longer time period, preferably from when they were fledglings. That said, we deem it probable that the white coloration in the three individuals observed was caused by progressive greying, as this is the most common cause of aberrant white plumage in birds (van Grouw 2013). Moreover, progressive greying usually starts with randomly placed white patches but can gradually lead to birds with entirely white plumage (van Grouw 2013), which fits our observation of three individuals with a broad range of plumage aberration: from almost black with a white spot to almost completely white.

High incidences of chromatic aberrations are known from other bird species, or local populations, for example among Plain-flanked Rails (*Rallus wetmorei*) in Venezuela (Rodríguez-Ferraro et al. 2015) and Southern Caracaras (*Caracara plancus*) in Argentina (Edelaar et al. 2011). As this is the third report of aberrant plumage in the Groove-billed Ani in the Neotropics, and the second for Ecuador, we suggest that chromatic aberrations could be relatively common in this species, at least in the southwest of Ecuador. However, future studies should extend from these opportunistic observations and focus on the true prevalence of progressive greying and other causes of aberrant plumage in this region. Ideally, such information, in combination with ecological data (e.g., on habitat use or feeding), will allow us to test hypotheses regarding factors that influence the prevalence of chromatic aberrations, such as altered selection pressures caused by changes in habitat or predation risk (see, e.g., Rodríguez-Ruiz et al. 2014).

ACKNOWLEDGMENTS

We would like to thank Hein van Grouw for many insightful comments that greatly enhanced the quality of this work.

REFERENCES

- Cadena-Ortiz H, D Bahamonde-Vinueza, DF Cisneros-Heredia-Jurado & G Buitrón-Jurado (2015) Alteraciones de coloración en el plumaje de aves silvestres del Ecuador. *Avances en Ciencias e Ingenierías* 7: B75–B90.
- Edelaar, P, J Donazar, M Soriano, M Santillán, D González-Zevallos, P García Borboroglu, N Lisnizer, A Gatto, M Agüero, CA Passera, L Ebert, M Bertellotti, G Blanco, M Abril, G Escudero & F Quintana (2011) Apparent selective advantage of leucism in a coastal population of Southern Caracaras (Falconidae). *Evolutionary Ecology Research* 13: 187–196.
- Rodríguez-Ruíz, ER, J Valencia-Herverth, HA Garza-Torres, C Aguilar-Pérez & L López-Moctezuma (2014) Leucismo parcial en el gorrión casero *Passer domesticus* (Passeriformes: Passeridae) en México. *Acta Zoológica Mexicana* 30: 692–695.
- Rodríguez-Ferraro, A, A Rojas & M Lentino (2015) High incidence of color aberrations in the Plain-flanked Rail (*Rallus wetmorei*). *Ornitología Neotropical* 26: 193–199.
- Rodríguez-Ruíz, ER, WA Poot-Poot, R Ruíz-Salazar & J Treviño-Carreón (2017) Nuevos registros de aves con anormalidad pigmentaria en México y propuesta de clave dicotómica para la identificación de casos. *Huitzil* 18: 57–70.
- van Grouw, H. (2013) What colour is that bird? The causes and recognition of common colour aberrations in birds. *British Birds* 106: 17–29.

