

RECORD OF ABERRANT PLUMAGE IN *Cyclarhis gujanensis* (AVES: VIREONIDAE) IN SOUTHERN BRAZIL

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ABSTRACT

Cases of birds with aberrant coloring are not an uncommon sight in the wild, but they need to be documented in specialized literature. These abnormalities may be associated with distinct factors, which can be environmental, genetic, food, diseases, exposure to parasites and age, causing increase and/or reduction of melanin, such as carotenism, in the affected species. We are presenting a report of Rufous-browed Peppershrike (*Cyclarhis gujanensis*) with aberrant coloring in southern Brazil. The specimen had some feathers in the head's region depigmented to a whitish hue, mixed with feathers presenting regular coloring. Other bare parts and the remaining plumage present normal color. The report is about progressive graying, in what we believe is the first record of aberrant coloring for *C. gujanensis* through its known distribution.

Keywords: Aberrant Coloring; Rufous-Browed Peppershrike; Passeriformes; Progressive Graying.

RESUMO

Registro de plumagem aberrante em *Cyclarhis gujanensis* (Aves: Vireonidae) no sul do Brasil. Casos de aves com coloração aberrante não são incomuns de serem observados na natureza, mas carecem de serem documentados na literatura especializada. Essas anomalias podem estar associadas a distintos fatores, que podem ser ambientais, genéticos, alimentares, doenças, exposição a parasitas e idade, provocando o aumento e/ou redução de melaninas, como carotenismo, na espécie afetada. Apresentamos aqui um registro de pitiguari (*Cyclarhis gujanensis*) com coloração aberrante no sul do Brasil. O espécime apresentava algumas penas na região da cabeça despigmentadas para uma tonalidade esbranquiçada, misturadas com penas de coloração normal. Demais partes nuas e da plumagem permanecem na coloração normal. O registro trata-se de progressive graying, que acreditamos ser o primeiro registro de coloração aberrante para *C. gujanensis* através de sua distribuição conhecida.

Palavras-chave: Coloração Aberrante; Pitiguari; Passeriformes; Progressivo Acinzentado.

INTRODUCTION

The Rufous-browed Peppershrike *Cyclarhis gujanensis* (Passeriformes, Vireonidae) is a small bird, occurring from Argentina to Mexico (Sick, 1997; Narosky and Yzurieta, 2003), resident of forestal

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environments, which can be found in both rural and urbanized areas (Belton, 2004). It presents head coloring in a grayish tone, and a reddish-brown colored band above the eyes. In the head, a dark gray shade can also be noted, reaching an olive tone. The dorsal area is brown to greenish, with yellowish chest and throat in a light gray hue. The species has no apparent sexual dimorphism (Sick, 1997; Narosky and Yzurieta, 2003; Belton, 2004).

Distinct quantities of pigments can cause abnormalities in birds' plumage, resulting in abnormal alterations in the coloring of the affected species (van Grouw et al., 2011; van Grow, 2012). These aberrant cases apparently can be associated with many factors, which can be environmental, genetic, food, diseases, exposition to parasites and age, causing the increase and / or reduction of melanin (eumelanin and pheomelanin), such as carotenism, affecting the plumage coloring and, sometimes, even the bare parts, like bill, feet and skin (Guay et al., 2012).

These coloring abnormalities are popularly known for instances of albinism, leucism and melanism. However, there are different categories described in literature for these coloring variations, like dilution, ino, brown, progressive graying, and many others (van Grow, 2013; 2018). Regarding the existence of confusion by lay people and even by ornithologists in the proper identification of some cases, generally birds that showed variation in the original color to a whitish hue are called albino or leucistic (van Grow, 2013). In this sense, it's important to be cautious in the correct recognition, since some individuals may have another category of aberrant anomaly in the coloring, such as, for example, progressive graying (van Grouw et al., 2011; 2012; van Grow, 2013).

Albinism in birds is often characterized by loss of all melanin pigments (eumelanin and pheomelanin). Carotenoids, if present in the species, apparently are not affected (van Grouw, 2012; 2013). Albino individuals display plumage with a whitish hue (colorless), reddish eyes, and pink shading in the feet and bill (van Grouw et al., 2011; van Grouw, 2012; 2013). Leucism may occur as total or partial. In total leucism, both melanin are lacking in every part of the plumage, affecting even the skin. Individuals display all-white plumage all over, yellow bill and feet, and regular colored eyes (van Grow, 2012; 2013). In partial leucism, there's also a lack of both melanin in the plumage, with all-white feathers next to normal colored ones. Individuals present a white pattern bilaterally symmetrical, yellow bill and feet or regular colored bill and feet, and normal colored eyes (van Grow, 2012; 2013). In the progressive graying category of aberrant coloring, depigmentation in the plumage occurs because of the absence of melanin and the progressive absence of these pigments, and affected individuals display all-white plumage all over or all-white feathers mixed randomly with normal colored ones, along with regular colored bill, feet and eyes (van Grow, 2012; 2013; 2018).

In the Brazilian territory there is an increasing number of reports in the literature, mentioning aberrant coloring in birds, where southern Brazil has been standing out. Among these records, individuals with progressive graying have been mentioned, such as White-necked Thrush *Turdus albicollis* (Passeriformes, Turdidae) (Martins-Silva et al., 2016); Brazilian Tanager *Ramphocelus bresilius* (Passeriformes, Thraupidae) (Corrêa et al., 2018); Southern House Wren *Troglodytes musculus* (Passeriformes, Troglodytidae), Creamy-bellied Thrush *Turdus amaurochalinus* (Passeriformes, Turdidae), Surucua Trogon *Trogon surrucura* (Trogoniformes, Trogonidae) (Vieira et al., 2018), Southern Lapwing *Vanellus chilensis* (Charadriiformes, Charadriidae) (Corrêa et al., 2020) and Rufous-bellied Thrush *Turdus rufiventris* (Passeriformes, Turdidae),

Araucaria Tit-Spintail *Leptasthenura setaria* (Passeriformes, Furnariidae), Shiny Cowbird *Molothrus bonariensis* (Passeriformes, Icteridae), Eared Dove (Columbiformes, Columbidae) (Rödel et al., 2020).

OCCURRENCE DESCRIPTION

A *C. gujanensis* individual with aberrant plumage was observed on May 3, 2020, in a rural area of the municipality of Pinhal Grande, state of Rio Grande do Sul, Brazil. The record was made around 9:00 AM, on the edge of a small forest fragment (29°21'40"S, 53°18'34"W), on the sides of the rural road Linha Ferrari, distant 8 km of the municipality's downtown zone. The aberrant specimen presented some depigmented feathers in a whitish color (Figure 1), mixed with other normal colored ones in the head's region (Figure 2). As verified by van Grow (2012; 2013; 2018), the present record is a case of progressive graying.



Figure 1. Photograph of a Rufous-browed Peppershrike (*Cyclarhis gujanensis*) individual with progressive graying recorded in a rural area of the municipality of Pinhal Grande, state of Rio Grande do Sul, Brazil.
Photo: Giancarlo Pozzebon



Figure 2. Photograph of a Rufous-browed Peppershrike (*Cyclarhis gujanensis*) individual with progressive graying recorded in a rural area of the municipality of Pinhal Grande, state of Rio Grande do Sul, Brazil. Note the depigmented feathers in the head's region mixed with the normal colored ones. Photo: Giancarlo Pozzebon.

Considering that instances of progressive graying can be wrongly mentioned, confused with leucism, careful attention is needed. Especially if the aberrant displays depigmentation in the plumage in a whitish hue mixed with the feathers of normal color, or some isolated feather with whitish parts (van Grow, 2012; 2018). In this sense, we don't rule out the hypothesis that several birds reported in the Brazilian territory as presenting leucism may be, in fact, cases of progressive graying. It would be important to check some reports, following the definitions of the illustrated variations of progressive graying by van Grow (2012; 2013; 2018).

Occurrences of aberrant plumage already published in indexed journals nationwide could be gathered, aiming at the elaboration of regional charts, reporting the respective instances of birds with aberrant plumage (Bem et al., 2020). When it's needed, a suggestion of change in the category of aberrant coloring might be mentioned (Corrêa et al., 2020). Potential factors that may influence the occurrence of these abnormalities in birds are discussed in Guay et al. (2012), and considering that some aberrant birds tend to have a short life span in the wild (Ellegren et al., 1997), it becomes important to document in indexed journals all cases of birds with aberrant plumage (van Grow, 2013; Corrêa et al., 2017a; Petry et al., 2017; Corrêa et al., 2020).

However, any additional behavioral information from aberrants in the field should be mentioned in communications whenever possible (Corrêa et al., 2012, Corrêa et al., 2017a; Petry et al., 2017; Rödel et al., 2020). As well as any data about the environment in which it is inserted (urban or rural) (Corrêa et al., 2017b), partner selection, reproductive success (Finger et al., 2018) and longevity (Corrêa et al., 2013). Martins-Silva et al. (2016) mention that the analysis of a population in a given region would be pertinent, verifying the existence of other potential aberrants. Through these data compilations, obtained directly and indirectly in the field, it is viable to complement in the specialized literature the bioecological knowledge of aberrant birds in the wild.

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