

## NEW RECORDS OF BIRDS WITH ABERRANT PLUMAGE IN RIO GRANDE DO SUL, SOUTHERN BRAZIL

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### ABSTRACT

We present here six new cases of birds with aberrant coloring in the state of Rio Grande do Sul, Brazil. Records were made via non-systematized field activities. We suggested Progressive Greying in *Zenaida auriculata*, *Turdus rufiventris*, *Leptasthenura setaria*, *Molothrus bonariensis* and for *Sporophila collaris* a case of Dilution – *pastel*. The study contributes with new informations about chromatic anomalies in birds' plumages in Southern Brazil, since these cases must be divulged in specialized literature.

**Keywords:** Aberrant Coloring; Chromatic Anomaly; Dilution; Progressive Greying.

### RESUMO

**Novos registros de aves com plumagem aberrante no Rio Grande do Sul, Sul do Brasil.** Apresentamos aqui seis novos casos de aves com coloração aberrante no estado do Rio Grande do Sul, Brasil. Os registros foram realizados em atividades não sistematizadas em campo. Sugerimos progressivo acinzentado para *Zenaida auriculata*, *Turdus rufiventris*, *Leptasthenura setaria*, *Molothrus bonariensis* e para *Sporophila collaris* um caso de Diluição – *pastel*. O estudo contribui com novas informações acerca de anomalias cromáticas em plumagem de aves no sul do Brasil, uma vez que esses casos devem ser divulgados na literatura especializada.

**Palavras-chave:** Coloração Aberrante; Anomalia Cromática; Diluição; Progressivo Acinzentado.

### INTRODUCTION

Cases of birds with aberrant plumages have been commonly recorded in specialized literature (van Grow, 2012; Corrêa et al., 2017a; Petry et al., 2017). These variations may occur due to genetic factors, environmental causes, feeding habits, species' age, diseases and exposure to parasites, that may affect the increase and/or decrease of melanins (eumelanin and phaeomelanin), such as carotenism (Guay et al., 2012). Among all the categories of aberrant coloring, the most reported are cases of individuals presenting Albinism, Brown, Dilution, Melanism, Schizochroism, Leucism and Progressive Greying (van Grow, 2006;

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2013; 2017), but there are other categories. However, there's still some confusion among ornithologists about the correct identification of some cases (Guay et al., 2012; van Grow, 2013), such as, for example, between leucism and progressive greying (van Grow, 2012; 2018).

Leucism can occur both in a total and/or partial form. Total leucism occurs when there's lack of both melanins in every part of the plumage, and it affects even the skin. It manifests as all-white plumage all over, yellow bill and feet, and normal colored eyes. At partial leucism, there's also lack of both melanins in the plumage. It manifests as all-white feathers next to regular colored ones, with white pattern bilaterally symmetrical, yellow bill and feet (or regular colored bill and feet), and normal colored eyes (eg., van Grow, 2006; 2012; 2013).

In cases of progressive greying, there's a depigmentation in the plumage, due to the lack of melanins, and with the progressive absence of these pigments, affected individuals present all-white plumage all over or all-white feathers mixed randomly with regular colored ones, and regular colored bill, feet and eyes (see, van Grow, 2012; 2013; 2018). Dilution is characterized by a quantitative reduction of melanins, consisting of two main categories (*pastel* and *isabel*). In *pastel* dilution, both pigments (eumelanin and phaeomelanin) are affected (eg., van Grouw, 2012; 2013). In this aberration category, the black and brown plumage becomes silvery grey, and reddish/yellowish brown becomes buff/cream. In *isabel* dilution, only eumelanin is affected. In this aberration category, black and brown becomes silvery grey, while reddish/yellowish brown stays unaffected (van Grouw, 2006; 2012).

Cases of birds with aberrant plumage in the state of Rio Grande do Sul were already recorded, such as: leucism in Red-crested Cardinal (*Paroaria coronata*) (Corrêa et al., 2012) and Southern Lapwing (*Vanellus chilensis*) (Corrêa et al., 2017a); Dilution in Rufous Hornero (*Furnarius rufus*) and Yellow-headed Caracara (*Milvago chimachima*) (Corrêa et al., 2017b); Ino in Scaled Chachalaca (*Ortalis squamata*) (Mohr et al., 2017); Brown in Kelp Gull (*Larus dominicanus*) and Magellanic Penguin (*Spheniscus magellanicus*) (Petry et al., 2017); Flavism in Saffron Finch (*Sicalis flaveola*) (Vieira et al., 2018a) and Progressive greying in Southern House Wren (*Troglodytes musculus*), Creamy-bellied Thrush (*Turdus amaurochalinus*) and Surucua Trogon (*Trogon surrucura*) (Vieira et al., 2018b). However, there are other species of wildlife birds with aberrant coloring reported in the state.

The Eared Dove *Zenaida auriculata* (Des Murs, 1847) (Columbiformes: Columbidae) presents back and several parts of its plumage in a brown tone, two lateral black stripes visible in the head and several spots in a black tone on the wings. This species does not present visible sexual dimorphism (Sick, 1997; Sigrist, 2014). The Rufous-bellied Thrush *Turdus rufiventris* Vieillot, 1818 (Passeriformes: Turdidae) presents a plumage mainly in a brownish tone, abdomen in a reddish brown to orange tone. This species does not present visible sexual dimorphism (Belton, 1994; Sick, 1997; Sigrist, 2014).

Shiny Cowbird *Molothrus bonariensis* (Gmelin, 1789) (Passeriformes: Icteridae). The adult male presents a blueish-black coloring, and the female a dark brown (Belton, 1994). Araucaria Tit-Spintail *Leptasthenura setaria* (Temminck, 1824) (Passeriformes: Furnariidae), in a broad manner, its characteristic coloring is black with white stripes at the top of the head and dorse, and wings in a brownish tone (Belton, 1994; Sick, 1997; Sigrist, 2014). Rusty-collared Seedeater *Sporophila collaris* (Boddaert, 1783) (Passeriformes: Thraupidae), presents dimorphism, where the male has an evident black tone in the head,

wings, dorse and tail, white throat and other parts of the plumage in a yellowish-sand color. Female adults and young individuals present a brownish coloring (Belton, 1994; Sick, 1997; Sigrist, 2014).

#### OCCURRENCE DESCRIPTION

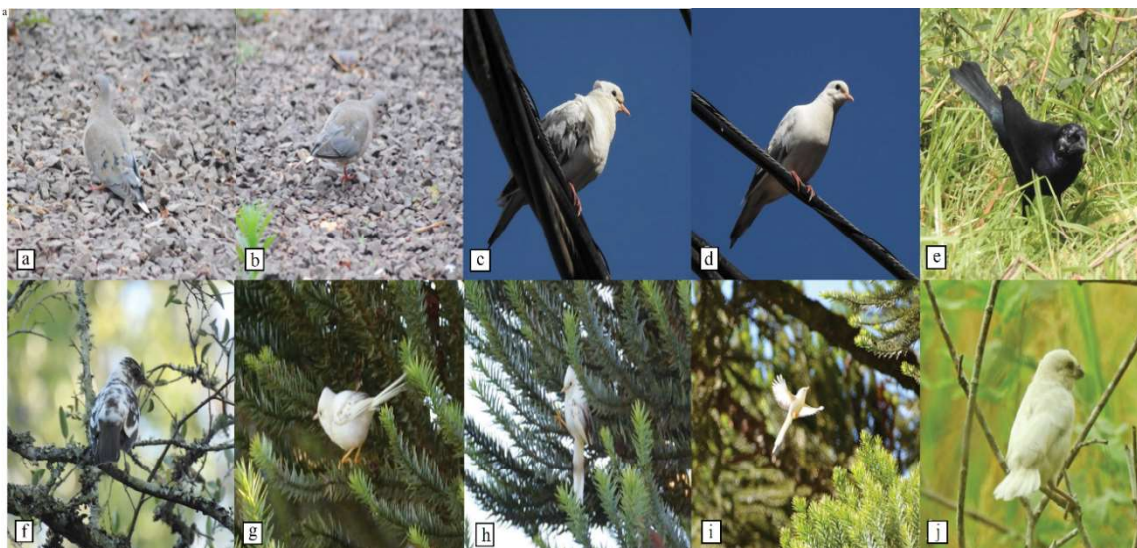
On October 10, 2018, an individual of *Zenaida auriculata* with aberrant coloring was observed in an urban perimeter (29°26'34.96"S, 51°57'30.22"W), in the city of Lajeado, state of Rio Grande do Sul, Brazil. The individual presented depigmentation in a whitish tone in the tail, and apparently whitish tones in the wings (Figure 1, A and B). A second case of aberrant coloring in *Z. auriculata* was recorded on February 20, 2020, in an urbanized area (29°35'20.4"S, 53°37'11.1"W) in the city of Júlio de Castilhos, RS. This specimen presented depigmented plumage in a whitish tone, and at the wings, all-white feathers mixed with regular colored ones (Figure 1, C and D).

An individual of *Molothrus bonariensis* was recorded on June 10, 2019, in a rural area (29°43'49.4"S, 53°43'07.2"W), in the city of Santa Maria, RS. It presented depigmentation in the plumage in some white feathers in the head (Figure 1, E). On April 28, 2019, an individual of *Turdus rufiventris* with aberrant plumage was observed in a rural area (29°39'28.1"S, 53°41'21.5"W) in the city of Santa Maria, RS. It presented all-white feathers mixed with regular colored plumage (Figure 1, F).

On February 22, 2020, an individual of *Leptasthenura setaria* was recorded in an urban area (29°22'56.5"S, 50°52'31.7"W) in the city of Gramado, RS. The specimen presented depigmentation in the plumage to a whitish hue in practically the entire plumage, with only a few contour feathers (coverts) and wings (distal portion of the secondary remiges more than in the primary ones) in regular coloring, which are mixed with others in a whitish hue (Figure 1, G, H and I). The bill had a pinkish cream color and the legs had a yellowish cream color, with nails similar in color to the bill.

On February 25, 2020, around 5:30PM, an individual of *Sporophila collaris* presenting depigmentation in its plumage was spotted and recorded in a rural area (29.75°S, 53.63°W) in the city of Santa Maria, RS. The specimen (no sex identification) presented coloring throughout the plumage in a glossy, yellowish-cream tone (Figure 1, J).

By checking the descriptions of aberrant coloring reported in van Grow (2006; 2012; 2013; 2018), our cases presented for: *Zenaida auriculata*, *Molothrus bonariensis* and *Turdus rufiventris* all exhibit characteristics of Progressive Greying coloring. In *Leptasthenura setaria*, at first it apparently reminds a case of partial leucism, by the whitish coloring but with dorse and wings' feathers presenting regular coloring. However, considering the presence of all-white feathers mixed with regular colored ones in the dorsal area, we suggest it being more likely a case of Progressive Greying. The *Sporophila collaris* presents a case of Dilution – *pastel*.



**Figure 1.** (A and B): Eared Dove (*Zenaida auriculata*) with aberrant coloring, in the city of Lajeado. Photo: Luiz Corrêa. (C and D): Eared Dove (*Zenaida auriculata*) with aberrant coloring, in the city of Júlio de Castilhos. Photo: Roberta Rödel. (E): Shiny Cowbird (*Molothrus bonariensis*) with aberrant coloring, in the city of Santa Maria, RS. Photo: Roberta Rödel. (F): Rufous-bellied Thrush *Turdus rufiventris* with aberrant coloring, in the city of Santa Maria, RS. Photo: Roberta Rödel. (G, H and I): Araucaria Tit-Spinetail (*Leptasthenura setaria*) with aberrant coloring, in the city of Gramado. Photo: Giancarlo Pozzebon. (J): Rusty-collared Seedeater (*Sporophila collaris*) in the city of Santa Maria. Photo: Valéria Vieira. All records in the state of Rio Grande do Sul, Brazil.

Analyzing the cases we identified as presenting progressive greying (in *Z. auriculata*, *M. bonariensis*, *T. rufiventris* and *Leptasthenura setaria*), we believe those to be the first records of this category of aberrant coloring for these species in Rio Grande do Sul, considering that the only cases of progressive greying recorded in this state so far were for *T. musculus*, *T. amaurochalinus* and *T. surrucura* by Vieira et al. (2018). Similarly, the case of dilution for *S. collaris* and leucism in *L. setaria* would also be the first records of aberrant coloring in the state, and possibly in all Brazilian territory.

Even if these cases of aberrant plumage in birds aren't unusual occurrences in the wild, some cases simply aren't considered relevant enough by researchers (Corrêa et al., 2012; Corrêa et al., 2017b; Petry et al., 2017; Vieira et al., 2018b). However, it is important to disseminate these cases in the literature, showing the respective patterns of aberrant colorings and the affected species (Corrêa et al., 2013; van Grow, 2013; Corrêa et al., 2017a; Petry et al., 2017; Quirino and Corrêa, 2018), as it would be a foundation for future studies, in order to elaborate a regional and/or national list that would gather all the possible cases of birds with aberrant plumage. Finally, we recommend a thorough review of reports already published on indexed journals in Rio Grande do Sul (specially of individuals with leucism), in order to verify if these cases, instead of leucism, could be of individuals with progressive greying.

## REFERENCES

- BELTON, W. 1994. **Aves do Rio Grande do Sul: distribuição e biologia.** São Leopoldo: Unisinos, 584p.
- CORRÊA, L. L. C. et al. 2012. Registro de leucismo em Cardeal *Paroaria coronata* (Miller, 1776) no Sul do Brasil. **Revista de Ciências Ambientais**, 6(2):73-79.

- CORRÊA, L. L. C. et al. 2017a. Leucism in *Vanellus chilensis* (Molina, 1872) (Birds: Charadriiformes) in Pampa Biome, southern Brazil. **Oecologia Australis**, **21**(2):219-221.
- CORRÊA, L. L. C. et al. 2017b. New records of birds with chromatic mutations, southern Brazil. **Oecologia Australis**, **21**(2):461-463.
- CORRÊA, L. L. C.; SILVA, D. E.; OLIVEIRA, S. V. 2013. A partial leucism case in *Columbina picui* (Temminck, 1813) (Birds: Columbiformes) in south of Brazil. **Caderno de Pesquisa**, **25**(2):41-46.
- GUAY, P.J.; POTVIN, D.A.; ROBINSON, R.W. 2012. Aberrations in Plumage Coloration in Birds. **Australian Field Ornithology**, **29**:23-30.
- MOHR, A. R. et al. 2017. Registro de mutação “Ino” em *Ortalis squamata* (Galliformes: Cracidae), no sul do Brasil. **Atualidades Ornitológicas**, **195**:24-25.
- PETRY, M. V. 2017. Brown plumage aberration records in Kelp Gull (*Larus dominicanus*) and Magellanic Penguin (*Spheniscus magellanicus*) in southern Brazil. **Revista Brasileira de Ornitologia**, **25**(2):122-124.
- QUIRINO, M. L.; CORRÊA, L. L. C. 2018. Record of leucism in *Ammodramus humeralis* (Bosc, 1792) (Passeriformes: Passerellidae) in Central-West Brazil. **Oecologia Australis**, **22**(1):93-95.
- SICK, H. 1997. **Ornitologia Brasileira**. Rio de Janeiro: Nova Fronteira, 912p.
- SIGRIST, T. 2014. **Guia de Campo Avis Brasilis: Avifauna brasileira**. Vinhedo: Avisbrasilis, 608p.
- van GROUW, H. 2018. White feathers in black birds. **British Birds**, **111**:250-263.
- \_\_\_\_\_. 2017. The dark side of birds: melanism-facts and fiction. **The Bulletin of the British Ornithologists' Club**, **137**:12-36.
- \_\_\_\_\_. 2013. What Colour is that bird? The causes and recognition of common colour aberrations in birds. **British Birds**, **106**:17-29.
- \_\_\_\_\_. 2012. What colour is that sparrow? A case study: colour aberrations in the house sparrow *Passer domesticus*. **International Studies on Sparrows**, **36**:30-55.
- \_\_\_\_\_. 2006. Not every white bird is an albino: sense and nonsense about colour aberrations in birds. **DutchBirding**, **28**:79-89.
- VIEIRA, V. C. B.; HORN, N.; CORRÊA, L. L. C. 2018a. Record of flavism in *Sicalis flaveola* (Passeriformes: Thraupidae) in Rio Grande do Sul, Brazil. **Atualidades Ornitológicas**, **201**:25.
- VIEIRA, V. C. B. et al. 2018b. New cases of birds with aberrant plumage in southern Brazil. **Atualidades Ornitológicas**, **205**:28-29.