Complete leucism in the Fawn-breasted Tanager *Pipraeidea melanonota* (Aves: Thraupidae)

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RESUMO: **Leucismo total na saíra-viúva *Pipraeidea melanonota* (Aves: Thraupidae)** O leucismo é a ausência total ou parcial de melanina nas penas de aves, que pode ser expresso de diferentes maneiras. Essa anomalia tem sido registrada em diversos táxons, no entanto atualmente existe pouca informação sobre Thraupidae leucísticos na natureza. Nesta nota relatamos o registro de um indivíduo de saíra-viúva com leucismo total, que foi detectada enquanto forrageava em um bando misto em uma reserva de Mata Atlântica no sudeste do Brasil.


**ABSTRACT**. Leucism is the partial or total lack of melanin in feathers, which can be expressed in a variety of forms. This anomaly has been recorded in a number of taxa but there is currently little information on leucism in wild tanagers. In this short piece we report an individual of the Fawn-breasted Tanager with complete leucism foraging in a mixed-species flock in an Atlantic forest reserve in south-eastern Brazil.

**Keywords**: Atlantic Forest. Plumage aberration. Songbirds. Tanagers.

Leucism is the partial or total lack of melanin in feathers as a result of inherited disorder of the deposition of these pigments. Different forms of leucism are known and can vary from only a few white feathers (<25%) to
totally white individuals (van Grouw, 2006). This aberrant colouration generally reduces the survivability of the inflicted individual, although in the case of a coastal population of the Southern Caracara *Caracara plancus*, it has been suggested that leucistic individuals may benefit from selective advantages (Edelaar et al., 2011).

The number of records of leucistic wild birds in Brazil is growing continuously and come from both natural and anthropogenic habitats. These include the Southern Lapwing *Vanellus chilensis* (Cestari & Costa, 2007; Franz & Fleck, 2009), Picazuro Pigeon *Patagioenas picazuro* (Santos et al., 2011), Burrowing Owl *Athene cunicularia* (Motta-Junior et al., 2010; Nogueira & Alves, 2011), Rufous-bellied Thrush *Turdus rufiventris* (Gonçalves-Junior et al., 2008; Santos et al., 2011; Gonçalves-Junior & Molina, 2013), Blue-black Grassquit *Volatinia jacarina* (Gaiotti et al., 2011), Chestnut-bellied Seed-Finch *Sporophila angolensis* (Schunck et al., 2011) and House Sparrow *Passer domesticus* (Pereira et al., 2008; Corrêa et al., 2011; Ribeiro & Gogliath, 2012). There are fewer records for suboscines, with scattered records for the Furnariidae (Rufous Hornero *Furnarius rufus*, Ruddy Spinetail *Synallaxis rutilans*; Lebbin et al., [2007]) and Tyrannidae (Crested Black Tyrant *Knipolegus lophotes*; Santos et al., [2011]). For the Dendrocolaptidae (Ivory-billed Woodcreeper *Xiphorhynchus flavigaster*) and Pipridae (Pin-tailed Manakin *Ilicura militaris*), only plumage aberrations other than leucism have been reported (Anciães et al., 2005; Lebbin et al., 2007). In all the above cases, individuals with complete leucism were the rarest.

Nemésio (1999; 2001) reviewed, and Piacentini (2001) mentioned, several other Neotropical species which presented this plumage aberration, but currently very little information specific to leucistic wild tanagers is available (e.g. Lebbin, 2005). Corrêa et al. (2012) observed a Red-crested Cardinal *Paroaria coronata* in the state of Rio Grande do Sul, southern Brazil, which was entirely white but for its red chest and crest. Moura et al. (2010) reported a partially leucistic female Fawn-breasted Tanager from Serra das Broas, municipalities of Carrancas and Minduri, state of Minas Gerais, southeastern Brazil. This bird had predominantly white wings with white markings on its nape and tip of the tail as well.

The Cantareira State Park (23º25’S, 46º38’W), in the municipality of Guarulhos, São Paulo, south-eastern Brazil, is one of the largest urban tropical forests in the world (7.900 ha). It is an Important Bird Area (SP03) with 65 species considered globally threatened and/or endemic to the Atlantic forest (Bencke et al., 2006). At about 09h30 on the 7 July 2013, while conducting a pilot study in the Cabuçu area of this park (23º23’52.3”S, 46º31’53.3”W) we encountered a large mixed-species flock composed of several common Atlantic
forest species, such as the Plain Antvireo *Dysithamnus mentalis*, Scalloped Woodcreeper *Lepidocolaptes falcinellus*, Sepia-capped Flycatcher *Leptopogon amaurocephalus*, Southern Beardless Tyrannulet *Camptostoma obsoletum* and Golden-crowned Warbler *Basileuterus culcivorus*. This is when a high pitched song caught our attention. It came from an entirely white, black-eyed bird with pinkish bill, tarsi and feet, that we could not identify immediately (Fig. 1). It seemed most likely that it was moving with the mixed flock, as it stayed with them for the entire 15 minutes they were present and then moved off with them into the forest. We observed the bird foraging in a spider-web and then perch-gleaning a caterpillar.

After observing and filming its behaviour we were able to photograph it with a Sony DSC-HX100v and record its vocalization with a Tascam DR-40 digital recorder and an Audio Technica AT85R directional microphone (Fig. 2a). It then stood still on a branch about 5m off the ground and groomed for a

Figure 1. Leucistic Fawn-breasted Tanager *Pipraeidea melanonota* found foraging in a mixed-species flock at Cantareira State Park, Guarulhos municipality, São Paulo state, Brazil, in 2013. Photograph by Vagner Cavarzere.
few minutes before following the flock into the forest. Voice recordings will be deposited in the Sound Archive of the Museu de Zoologia da Universidade de São Paulo.

**Figure 2.** Spectrograms of the song emitted by the leucistic Fawn-breasted Tanager *Pipraeidea melanonota* (a), and similar songs of a normal-coloured male of the same species recorded in Praia Grande municipality, Santa Catarina state (b) and in São José dos Campos municipality, São Paulo state, on the 14 October 2010 (c). Recordings by Vagner Cavarzere, Vitor Q. Piacentini and Rodrigo D. Rosa, respectively. Arrows indicate assumed homology between notes. Notes with the same number are considered to be homologous.
Based on the ratio between wings and tail (observed by comparing our photographs with photographs of known specimens and with museum specimens) and its behaviour, we suspected it was a Fawn-breasted Tanager. We confirmed this hypothesis by comparing our recordings with other uncommon songs which had visual confirmation of the species, such as that taken on the 9 May 2012 at Serra do Faxinal, Praia Grande municipality (29º11’S 49º57’), Santa Catarina, Brazil (Fig. 2b). As of 14 September 2014, we were able to find another 12 recordings on the Wiki Aves (www.wikiaves.com.br) and Xeno-canto (www.xeno-canto.org) online databases that very closely resembled these songs (e.g. Fig. 2c). These recordings differ slightly, but one can assume homology from the similarly shaped notes (Fig. 2).

Around 08h00, on the 7 July 2014, exactly one year later, and only a few meters from where the leucistic individual was first observed, VRT, while conducting a separate study, noted a completely white bird foraging within a large mixed-species flock. He assumed it could be the same individual seen one year earlier and then played back the “typical” Fawn-breasted Tanager loud-

![Figure 3. Leucistic Fawn-breasted Tanager Pipraeidea melanonota photographed exactly one year later in the same site and close to the same hour. Photograph by Vinicius R. Tonetti.](image)
song. The bird quickly responded to playback, having stayed a few meters from the observer for about 5 min, making it was possible to photograph it again (Fig. 3). Even though it immediately responded and remained in the area, this time the individual did not sing. The mixed flock with which the bird was part was very similar to the one in which it was first seen, with the exception of two additional species, Spot-backed Antshrike *Hypoedaleus guttatus* and Rufous-winged Antwren *Herpsilochmus rufimarginatus*. Both species are frequently associated with mixed-flocks in the study region (pers. obs.). Since the Fawn-breasted Tanager is uncommonly recorded in mixed-species flocks (Isler and Isler, 1987; Hilty, 2011), we suggest this leucistic individual would benefit from foraging within the flock by spending more time searching for food whilst avoiding predators through increased vigilance by the nuclear species (Morse, 1977; Powell, 1985), which in these forests, like in Costa Rica (Powell, 1979), seems to be a *Basileuterus* Warbler (pers. obs).

This is also the first suggested record of a wild leucistic songbird surviving for more than one year. It also further corroborates, although with anecdotic observations, the stability of mixed flocks (Powell, 1979, 1985; Jullien & Thiolay, 1998), as, what appeared to be the same individual, was registered again on the same date, site and around the same hour in two consecutive years.

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