

Record of a leucistic Rufous-bellied Thrush *Turdus rufiventris* (Passeriformes, Turdidae) in São Paulo city, Southeastern Brazil

Carlos Campos Gonçalves Junior¹, Edson Aparecido da Silva¹, André Cordeiro De Luca¹,
Tatiana Pongiluppi¹ and Flavio de Barros Molina^{1,2}

1. Universidade Ibirapuera. Avenida Interlagos, 1329, Chácara Flora, 04661-100, São Paulo, SP, Brasil.
2. Corresponding author: fbmolina@uol.com.br

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RESUMO: Registro de sabiá-laranjeira *Turdus rufiventris* leucístico (Passeriformes, Turdidae) na cidade de São Paulo, Sudeste do Brasil. A ocorrência de plumagens aberrantes não é um evento excepcionalmente raro, embora seja pouco documentado. Registros em espécies de vida livre são ainda menos freqüentes, incluindo alguns casos de leucismo. O leucismo, que na natureza parece ocorrer em uma freqüência inferior a 1%, pode ser definido como a perda total de melanina em algumas ou todas as penas. Aves portadoras de leucismo total tornam-se mais conspícuas, existindo relatos de ataques por parte de indivíduos da mesma espécie. Muitos autores acreditam que devido a uma maior probabilidade de ataques por predadores, essas aves apresentem uma redução na sua longevidade. Durante uma sessão de observação para um levantamento de espécies de aves no Parque do Ibirapuera, cidade de São Paulo (SP), no final de junho de 2005, foi registrado um espécime de sabiá-laranjeira (*Turdus rufiventris*), com todas as penas brancas. A identificação específica foi possível através da morfologia externa, da vocalização e da observação da interação constante deste espécime com outros sabiás-laranjeiras de coloração normal. Ele foi observado em outras ocasiões, sempre na mesma área e interagindo com outros indivíduos da espécie. Apesar de *Turdus rufiventris* ser uma espécie comum em ambientes urbanos em praticamente todo o Brasil, este é o primeiro registro de um espécime leucístico para a cidade de São Paulo.

PALAVRAS-CHAVE: leucismo, sabiá-laranjeira, *Turdus rufiventris*, cidade de São Paulo, avifauna urbana.

KEY-WORDS: leucism, Rufous-bellied Thrush, *Turdus rufiventris*, São Paulo city, urban avifauna.

Rufous-bellied Thrush *Turdus rufiventris* is a common species occurring in Uruguay, Paraguay, northern Argentina, eastern Bolivia, and almost all Brazilian territory except for the Amazonian Forest (Frisch and Frisch 2005). It lives in gallery forests, dense cerrado woodlands, orchards, and wooded urban areas (Kraus *et al.* 2005). In fact, it is well adapted for living in urban areas, being one of the most common species in São Paulo city (Höfling and Camargo 1993, Devey and Endrigo 2004). Since 2002 the species is considered the Brazilian National Bird (Frisch and Frisch 2005).

The occurrence of aberrant plumage is not rare despite the scarcity of data registered in the literature (Teixeira 1985, Nemésio 1999, 2001b, Piacentini 2001, Wilson *et al.* 2006). Most of the papers published dealt with species bred in captivity, especially members of Psittacidae (Teixeira, 1985, Nemésio 1998a, b, 1999, 2001a, Sick 2001) and Emberezidae (Nemésio 2001b, Piacentini 2001, Sick 2001). Obviously, aberrant plumage is not so common in natural populations (Sick 2001, Hosner and Lebbin 2006). Recent literature based on Brazilian species include cases in members of Tinamidae (Ordano and Bo-

sio 2001), Anhimidae (Veiga and Oliveira 1995), Anatidae (Beltzer 1984, Ordano and Bosisio 2001), Cracidae (Teixeira and Sick 1986, Sick 2001), Sulidae (Coelho and Alves 1991), Phalacrocoracidae (Mallet-Rodrigues 2001), Cathartidae (Oliveira 1981, Hosner and Lebbin 2006), Columbidae (Mallet-Rodrigues 1995, González-Acuña 2004), Psittacidae (Teixeira 1985, Sick 2001), Furnariidae (Ordano and Bosisio 2001, Lebbin *et al.* 2007), Pipridae (Anciães *et al.* 2005), Turdidae (Veiga and Pardo 1990, Pomaredo 1991, Piacentini 2001, Sick 2001), Thraupidae (Sick 2001), Emberezidae (Oliveira 1983a, b, Chebez 1987, Nemésio 2001c, Sick 2001), Cardinalidae (Grilli *et al.* 2006), Parulidae (Hosner and Lebbin 2006) and Icteridae (Sick 2001).

Aberrant plumage may be caused by ambiental or genetic factors (Nemésio 1998a, b, 1999, 2001a, b). Different classifications are presented for genetically controlled aberrant plumage (*e.g.* Buckley 1982, Teixeira, 1985, Nemésio 1999, 2001b, van Grouw 2006). Teixeira (1985) mentioned six categories (albinism, leucism, xanthochroism, cianism, erythrism and melanism) latter reassembled by Nemésio (1999, 2001a, b) in a new clas-

sification based on eight main categories. These are ino (including albinism, lutinism and rubinism), pied (leucism), dilution, cianism, erythrism, melanism, cinnamon and fallow.

Leucism is defined as the total absence of melanin in some or all feathers (but not other body tissues) and is caused by an inherited disorder in the pigment deposition mechanism (Nemésio 1998a, 1999, van Grouw 2006). Bird literature referring to leucism includes many specimens erroneously classified as partial and incomplete albinos (e.g. Oliveira 1983a, Coelho and Alves 1991, Møller and Mousseau 2001, Dowding and Gummer 2003, González-Acuña 2004). As melanin is present in other parts of the body (like the eyes) the use of these terms is a big mistake (Buckley 1982, Nemésio 1998a, 1999, 2001a, van Grouw 2006).

In North America, leucism seems to be more common in the families Emberezidae, Turdidae, Icteridae, Anatidae, Corvidae and Passeridae (Gross 1965). In the United Kingdom, leucism seems to be more common in the families Turdidae, Corvidae, Hirundinidae, Passeridae, Sturnidae and Emberezidae (Sage 1963). Leucistic birds rarely represent more than 1% of all the specimens in a natural population (Sage 1963, Santos 1981, Bensch *et al.* 2000). This frequency seems to be higher in cities when compared to the countryside (Il'enko 1960 *apud* Møller and Mousseau 2001), probably because leucism causing factors are more common in polluted urban areas (Møller and Mousseau 2001). Elevated frequencies of leucism in bird populations can be associated with genetically inbred populations (4.5% in a recently founded population of *Acrocephalus arundinaceus* in Sweden – Bensch *et al.* 2000) and with populations affected by nuclear accidents (13% to 15% in a population of *Hirundo rustica* after Chernobyl accident – Ellegren *et al.* 1997, Møller and Mousseau 2001).

While studying a bird community at Parque do Ibirapuera, a large urban park in São Paulo city, in 30 July 2005, we found a completely leucistic adult of *Turdus rufiventris*. We could find no record of leucism in *Turdus rufiventris* in São Paulo city, thus making the bird described here noteworthy. It was identified based on external morphology, vocalization, and interaction with normally pigmented *Turdus rufiventris*. The leucistic specimen was photographed at a minimum distance of two meters with a digital Sony™ camera model Cyber Shot DSC-H7 8.1 Mega pixels 15 X OPTICAL ZOOM.

The bird in question is almost completely white. All the feathers are white and the eyelids are pale yellow (lighter than normal). The beak, tarsus, and feet are normally colored. The iris is dark (Figure 1). The leucistic bird was observed during many days from July to December 2005, in a total of 33 hours, always in the same area and interacting with normally colored *Turdus rufiventris*. Besides being more aware of human beings, it showed the

common behavior of the species, feeding on earthworms and bathing in puddles. At the end of August 2005 it was observed in nesting activities for the first time (reproductive behavior will be described elsewhere based on observations registered from 2005 to 2007). No other leucistic bird was observed at Parque do Ibirapuera.

Brazilian ornithology has evolved rapidly during the last decades (Alves and Silva 2000, Marini and Garcia 2005, Pacheco 2005), what is especially true for ecosystems in South and Southeast Brazil (Silva 1998, Alves *et al.* 2000b, Vielliard 2000, Anjos 2001, Straube *et al.* 2004). The development of studies related to bird ecology are becoming increasingly more frequent in Brazil (e.g. Alves *et al.* 2000a, Albuquerque *et al.* 2001, Silva *et al.* 2003, Donatelli *et al.* 2004, Olmos *et al.* 2005, Telino-Jr *et al.* 2005) and so populations of common birds, like *Turdus rufiventris*, are increasingly more observed by ornithologists everywhere. Even so, the only records of free living leucistic specimens of *Turdus rufiventris* we could find in the literature were made for locations in Rio de Janeiro city (Sick 2001), Curitiba city (specimen incorrectly classified as albino – Veiga and Pardo 1990) and a city countryside Santa Catarina state (specimen found already as a cage bird – Piacentini 2001). The occurrence of leucism in *Turdus* spp. seems a rare event in Spain (0% to 0.23% – Santos 1981). North American *Turdus migratorius* with leucistic plumage seems not so rare (Johnston 1947, Dexter 1949, 1957, Tyler 1964, Gross 1965) representing probably the most affected bird species in the continent (Gross 1965).

Albino and completely leucistic birds are more conspicuous than normally colored ones. They are often the target of harassment by conspecifics (Harris 1983, Withgott 1993). As they are more visible to their predators,



FIGURE 1: Leucism in Rufous-bellied Thrush (*Turdus rufiventris*) at Parque do Ibirapuera, São Paulo city, Southeastern Brazil (photo by Carlos C. Gonçalves Júnior).

some authors state that their life span can be shorter than normal (Santos 1981, Pomarede 1991, Alaja and Mikkola 1997, Ellegren *et al.* 1997, Collins 2003). According to Møller and Mousseau (2001) there seems to be a selection against leucistic birds. Even so Bensch *et al.* (2000) found no differences in relation to life span and reproductive success between partially leucistic and normally colored *Acrocephalus arundinaceus* in a Sweden population. The same seems to be true for populations of owls, in this case probably because they have nocturnal habits (Alaja and Mikkola 1997). The above mentioned studies included cases of incomplete and complete leucism and obviously the degree of conspicuousness was variable. It is important to have in mind also that leucistic birds have normally colored eyes and therefore no problem related to bad eyesight (Grouw 2006).

The survivorship of a leucistic bird predominantly diurnal as *Turdus rufiventris* may be explained by the fact that urban birds are less affected by predators than wild ones (Møller and Mousseau 2001, Sick 2001, Shochat 2004, Shochat *et al.* 2004). The domestic cat (*Felis catus*), a very important bird predator in urban environments (Woods *et al.* 2003, Baker *et al.* 2005), is predominantly a nocturnal hunter (Clutton-Brock 1999).

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