



Morphological variation in the Cinnamon Tanager *Schistochlamys ruficapillus* (Aves: Thraupidae)

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Abstract

The Cinnamon Tanager *Schistochlamys ruficapillus* inhabits semi-open grassy country, primarily in Brazil south of Amazonia. Three subspecies are currently recognized, one of which, *S. r. sicki*, is poorly known and endemic to the central Brazilian savannas (Cerrado). This paper analyses individual and geographic variation in this species on the basis of body measurements and plumage coloration. Larger birds are usually found farther south and at higher elevations, while smaller birds are found farther north and at lower elevations, as predicted by Bergmann's rule. Nevertheless, some unexpectedly small individuals (referable to *S. r. sicki*) can be found in central Brazil. Individual and geographical variation in plumage coloration is substantial, but it is not closely tied to variation in body size. Therefore, given the large number of specimens intermediate between the three subspecies, we propose to consider the Cinnamon Tanager a monotypic but highly variable species. The recognition of three subspecies by previous taxonomists was due to small sample sizes associated with large gaps in sampling.

Key words: birds, Cerrado, Neotropics, tanagers, taxonomy

Introduction

The Cinnamon Tanager *Schistochlamys ruficapillus* (Vieillot, 1817) inhabits semi-open grassy country with scattered bushes and low trees, and is especially common in high mountain meadows above treeline (Isler & Isler 1987; Sick 1997; Ridgely & Tudor 2009; Hilty 2011). It occurs from northeastern to central and southern Brazil, with recent records from Argentina and Paraguay (Chebez 1996; Sick 1997; Zapata 2003; Ridgely & Tudor 2009). Three subspecies are traditionally recognized (Storer 1970; Isler & Isler 1987; Dickinson 2003; Clements 2007; Hilty 2011). The nominotypical subspecies has been recorded from southern Goiás, south-central Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, and Paraná in Brazil (Pinto 1944; Storer 1970), to southeastern Paraguay (Zapata 2003; Guyra Paraguay 2005) and northeastern Argentina (Chebez 1996). *Schistochlamys ruficapillus capistratus* (Wied-Neuwied, 1821) occurs from the extreme northern Minas Gerais northward, with records in Bahia, Alagoas, Pernambuco, Piauí, and Maranhão (Pinto 1944, 1954; Storer 1970). *Schistochlamys ruficapillus sicki* Pinto & Camargo, 1952, is the least-known subspecies, with published records from Serra do Cachimbo in southern Pará and Rio das Mortes in eastern Mato Grosso (Pinto & Camargo 1952, 1957; Storer 1970). Hilty (2011) referred birds from southern Pará to *S. r. capistratus*, contra Pinto & Camargo (1957), who referred specimens from there to *S. r. sicki*.

Although the Cinnamon Tanager occupies a large range and is fairly common where suitable habitat is available, being listed as a species of Least Concern (BirdLife International 2014), *S. r. sicki* is poorly known and very rare in collections (Pinto & Camargo 1952, 1957; Storer 1970). This subspecies is endemic to the Cerrado (Sick 1965), the largest savanna region in South America (Silva & Bates 2002) and considered a hotspot of biodiversity (Myers *et al.* 2000). The Cerrado is one of the regions of the world suffering major anthropogenic degradation (Ratter *et al.* 1997; Silva & Bates 2002); only 2.2% of its area is under legal protection (Klink & Machado 2005).

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APPENDIX 1. List of the specimens examined.

Small orthographical errors in the names of many localities have been corrected. All specimens were collected in Brazil.

UNSPECIFIED: (6♂—ANSP 7860, 7861, 7862, 7863, 7864, ZMB 14852; 1♀—BMNH 1885.6.12.1087; 24 unsexed—AMNH 4572, 511599, 511600, 511601, 511602, 511603, 511604, 511605, 511606, 511607, 511608, 511609, 511616, 818802, ANSP 64333, BMNH 1905.6.28.216, MNHN 505.1854, 2667.1999, 2668.1999, 2669.1999, 2670.1999, 7093.2010 [Holotype of *Saltator ruficapillus* Vieillot, 1817], SMF 58761, ZMB 5730 [Holotype of *Tanagra leucophaea* Lichtenstein, 1823]). **MARANHÃO:** Alto Parnaíba (2♂—FMNH 63602, 63605); Barra do Corda (2♂—FMNH 63603, 63604; 1♀—FMNH 63601). **PIAUI:** [Barra do Rio] Corrente, Rio Parnaíba (1♂—NMW 69635); Fazenda Ema-Flor, Bom Jesus (3 unsexed—MZUSP 75408, 75409, 75410); Fazenda União, Uruçui (3♂—MPEG 68733, 68734, 68736; 4♀—MPEG 68731, 68732, 68735, 68737); Parque Nacional da Serra das Confusões (1♂—MZUSP 77886); Santa Filomena, Rio Parnaíba