NOTACIENTÍFICA

New records of *Neocrex erythrops* (Sclater, 1867) (Aves, Rallidae) in Brasília, Federal District, Brazil

Gustavo Figueiredo Marques Leite

Colégio Militar de Brasília, Clube de Estudos Ambientais, Brasília, Distrito Federal, Brasil. gfmleite@gmail.com

Eduardo Guimarães Santos

Universidade Estadual Paulista, Rio Claro, São Paulo, Brasil

Miguel Ângelo Marini

Universidade de Brasília, Brasília, Distrito Federal, Brasil.

Abstract:We report two new records of Paint-billed Crake *Neocrex erythrops* (Sclater, 1867) (Aves, Rallidae), in the Federal District, central-western region of Brazil. The first record was on February 10, 2024, after a night of torrential rain, in a residential area and, after being photographed the bird was released. The second record was on April 19, 2024, after the bird was found dead near a six-story building in the urban center of Brasília. Given the scarcity of records, these records help elucidate a gap in the distribution and period of occurrence of this species in the Cerrado biome and central region of Brazil.

Keywords: Distribution, Neotropics, Cerrado biome, Rails.

Novos registros de *Neocrex erythrops* (Sclater, 1867) (Aves, Rallidae) em Brasília, Distrito Federal, Brasil

Resumo: Relatamos dois novos registros do Turu-turu, *Neocrex erythrops* (Sclater, 1867) (Aves, Rallidae), no Distrito Federal, região centro-oeste do Brasil. O primeiro registro foi realizado no dia 10 de fevereiro de 2024, após uma noite de chuva torrencial, em uma área residencial e, após ser fotografada, a ave foi solta. O segundo registro foi realizado no dia 19 de abril de 2024, quando a ave foi encontrada morta próxima a um edifício de seis andares no centro urbano de Brasília. Dada a escassez de registros, estes achados ajudam a elucidar uma lacuna na distribuição e no período de ocorrência desta espécie no bioma Cerrado e na região central do Brasil.

Neocrex erythrops (Sclater, 1867) (Aves, Rallidae) is one of the least-known species of Rallidae, a family that houses aquatic and land birds. It can be observed alone, in small family groups (Sousa et al., 2020), or mixed groups (Behrstock, 1983), and is most frequently seen in shrubby vegetation environments close to watercourses and swampy environments. However, many species' records were in urban or anthropogenic areas (Remsen & Traylor, 1983; De la Peña, 2002; Bertin et al., 2017).

The species' distribution extends from southern North America (Arnold, 1978) to the southern most regions of South America (Nicéforo-María, 1948; Osborn & Beissinger, 1979; Remsen & Traylor, 1983; Behrstock, 1983; De la Peña, 2002; Dvorak et al., 2012; Luzuriaga et al., 2012; Cantador, 2014). Although *N. erythrops* is distinctly recognizable by its striking characteristics, such as a short beak with a red base and a black and white striped flank (Ripley et al., 1977; Silva et al., 2021), records for the species are still scarce, and it is considered a widely distributed species (Lopes et al., 2012; Diniz et al., 2013; Souza et al., 2018).

In Brazil, it has been observed mainly in the northeast and southeast regions, but there

are also records in several other Brazilian states (Oliveira-Pinto & Camargo, 1957; Vasconcelos & D'Angelo-Neto, 2007; Kirwan, 2009; Lopes et al., 2012; Guilherme et al., 2017; Sousa et al., 2020; Silva et al., 2021). However, published records for the central region of Brazil are seemingly nonexistent, but there is a single record for the Federal District of a bird collected in 1968 (skin deposited in the National Museum of Rio de Janeiro - MNRJ 32885).

Here we report two new records of *N. erythrops* in the city of Brasília, center of Brazil (Figure 1), within the Cerrado biome (Eiten, 1972; Ribeiro & Walter, 2008), a region with high biodiversity identified as a global biodiversity hotspot (Myers et al., 2000). The region is characterized by having a rainy tropical summer between October and April and dry winters between May and August/September, with an average temperature of 21 °C.

The first record was on February 10, 2024, after a night of torrential rain, in a large residential condominium located close to an environmental protection area (15°53'26" S, 47°48'41" W, Fig. 1a). The bird was found by three children inside a house when it was cornered by a domestic cat, but had no signs of predation or injury. It was an adult of unidentified sex, measuring approximately 195 mm in length. After being photographed, it was released shortly afterward near a spring, flying at a low height for around 15 meters towards the interior of the shrubby vegetation. The record day preceded days of intense rain in Brasília, with rainfall levels higher than the average values expected for February (INMET, 2024).

The second record was on April 19, 2024, when the bird was found dead by residents of a six-story building within a highly urbanized area of Brasília (15°45'55.1"S 47°53'20.2"W, Fig. 1c). Since the bird had no injuries, it seems that it collided with the glass windows of the building. The bird, a female with medium-sized gonads (9.40 x 4.24 mm) and an empty stomach, was prepared and deposited in the "Coleção Ornitológica Marcelo Bagno da Universidade de Brasília" (COMB – 3391, weight = 54g, length = 150mm). The day of this second record was not preceded by any intense weather event.

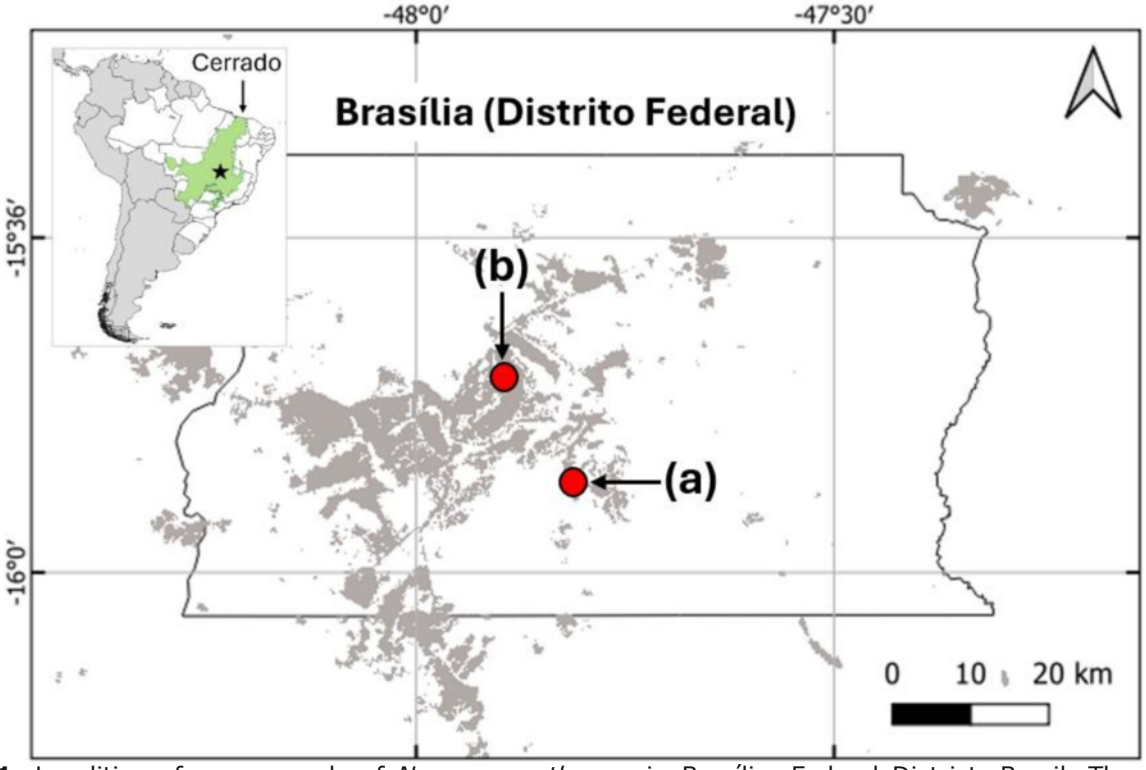

Fig 1. Localities of new records of *Neocrex erythrops,* in Brasília, Federal District, Brazil. The city (black star) is located in the center of the Cerrado biome (in green). Urban areas of Brasília are shaded in grey according to the MapBiomas land use classification (https://brasil.mapbiomas.org/). The red dots represent the new location records: A) first on February 10, 2024. B) second on April 19, 2024.

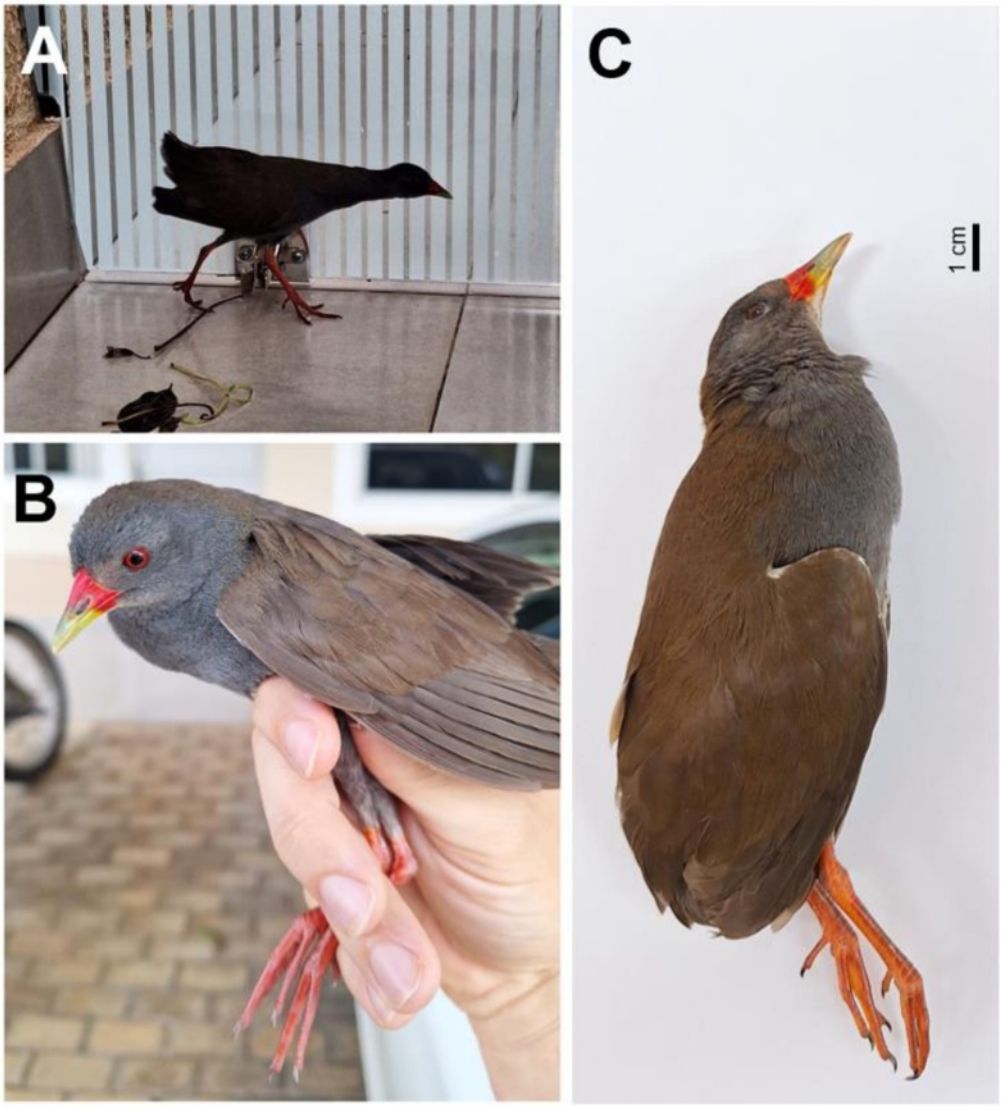

Fig 2. *Neocrex erythrops* records in Brasília, Federal District, Brazil: A) and B) first record on February 10, 2024 of a bird inside the house after being cornered by a cat. C) The moment when the bird was found dead on April 19, 2024(COMB 3391). Photos A and B: Gustavo Figueiredo Marques Leite; Photo C: Eduardo Guimarães Santos.

These two new records occurred after more than 50 years and demonstrate the rarity of the species in the region or due to limited monitoring efforts. Apart from a specimen collected in 1968, no other records have been made since then in the Federal District. The closest previously recorded was a male (AMNH 798729), collected on October 30, 1936, in the city of Anápolis, state of Goiás, 124 km away from Brasília center (Lopes et al., 2012). Also, birds were photographed and tape-recorded between December 14 2019-February 24 2020 at the wetlands of Rio Meia Ponte, in the city of Goiânia, state of Goiás, 175 km from Brasília (WA3607448-WA3700277).

These rare records reveal a scarcity of data on *N. erythrops* for the region and reveal the need for greater efforts to elucidate the distribution and biology of the species, especially in the central-western region of Brazil. It is possible that this data gap for the region is due to the characteristics of the species (Taylor et al., 2020), which have very specific habitat requirements, explaining the lower abundance when compared to other

regions.

It intense rains may interfere with the movement of *N. erythrops*, which could explain the higher number of records during these events (Silva et al., 2021). Previous studies have recorded individuals who were disoriented or injured after nights of intense rain or even dead after colliding with obstacles found in cities (Remsen & Traylor, 1983, De la Peña, 2002, Bertin et al., 2017; Guilherme et al., 2017; Silva et al., 2021). Window collisions are a growing cause of bird mortality in urban areas, with evidence from Latin American cities showing the vulnerability of migratory species (Santiago-Alarcon & Delgado-V, 2017). Another hypothesis is that *N. erythrops* presents some tolerance to human environments and, like other rallids, is attracted to the lights (Barnett, 2000; Lopes et al., 2010; Lopes et al., 2012; Silva et al., 2021), as these attract insects, especially beetles, which constitute food resources consumed by *N. erythrops* (Taylor et al., 2020). Kirwan (2009), for example, recorded a pair of *N. erythrops*, accompanied by their young, feeding at the side of a dirt road, near a rural residence and, therefore, illuminated and with slightly modified vegetation, on the northeast coast of São Paulo (Brazil), which would corroborate this hypothesis. However, more studies are needed to elucidate the species' relationship with urban environments.

These occasional records in central Brazil may occur during a period of migration, which may corroborate the scarcity of records. Although migratory behavior has not yet been recorded for *N. erythrops*, there is evidence that may support this inference. Its morphological similarity to other rallids (e.g., cryptic plumage, short tail, long legs, toes, and bill, and short wings) with good flying capacity and well-described migratory behavior are characteristics that reinforce this possibility (Stermin et al., 2012). Furthermore, the irregular observations throughout central Brazil (e.g., Mato Grosso, Mato Grosso do Sul, and Goiás; Lopes et al., 2012), with an higher number of records in the coastal strip of southeastern and northeastern Brazil during the rainy season (October to March; several WikiAves records), may suggest that the migratory period of *N. erythrops* coincides with the rainy season (Silva et al., 2021), when the species has been most recorded in central Brazil. However, this behavior requires further studies based on a larger number of records.

The scarcity of basic and precise information on the biology of *N. erythrops*, such as behavior, reproduction, and diet, highlights the need for more studies on the biology of the species. Our records made for the Brasília region, central Brazil, increase knowledge of occurrences of *N. erythrops* throughout its distribution, especially the records made for the Cerrado biome. The rarity of records accentuates the gap in knowledge about the distribution and behavior of the species, which still need to be studied. Also, the potential effects of urban expansion and how they may be affecting birds must be further studied.

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