



## New record and occurrence review of *Jabiru mycteria* (Ciconiidae) in Rio de Janeiro state, Brazil

RODOLFO TEIXEIRA FRIAS<sup>1,2\*</sup>, LUCAS ROCHA MELO PORTO<sup>3</sup>, LUCIANO GOMES FISCHER<sup>1,2</sup>, PATRICIA LUCIANO MANCINI<sup>1,2</sup>

<sup>1</sup> Instituto de Biodiversidade e Sustentabilidade (NUPEM/UFRJ), Universidade Federal do Rio de Janeiro, Macaé, RJ, Brasil. \*Corresponding author: [rodolfoteixeira26@gmail.com](mailto:rodolfoteixeira26@gmail.com).

<sup>2</sup> Programa de Pós-graduação em Ciências Ambientais e Conservação (PPG-CiAC), Universidade Federal do Rio de Janeiro (UFRJ), Macaé, RJ.

<sup>3</sup> Universidade Estadual do Norte Fluminense (UENF), Campos dos Goytacazes, RJ, Brasil.

\*Corresponding author: [rodolfoteixeira26@gmail.com](mailto:rodolfoteixeira26@gmail.com)

**Abstract.** This study summarized Jabiru occurrences in the Rio de Janeiro state, with a new northernmost record in the state, near the Restinga de Jurubatiba National Park. All individuals were recorded during the non-breeding period and rainy season.

**Key words:** Ciconiiformes, Restinga de Jurubatiba National Park, Quissamã, Tuiuiú, Fluminense Northern coast.

**Resumo:** Novo registro e revisão da ocorrência de *Jabiru mycteria* (Ciconiidae) no estado do Rio de Janeiro, Brasil. Este estudo sumariza as ocorrências de *Jabiru mycteria* no estado do Rio de Janeiro, com um novo registro mais ao norte no estado, próximo ao Parque Nacional Restinga de Jurubatiba. Todos os indivíduos foram registrados durante o período não-reprodutivo e estação de chuvas.

**Palavras-chave:** Ciconiiformes, Parque Nacional da Restinga de Jurubatiba, Quissamã, Tuiuiú, Costa Norte Fluminense.

The Family Ciconiidae comprises 20 species distributed in tropical and subtropical regions (Elliott *et al.* 2019). Morphologically, they have long legs with tibia and tarsus not covered by feathers; short feet with small interdigital membranes; bare parts on head; strong beak; air sacs under the skin of the neck and black and white plumage (Hancock *et al.* 1992, Santos *et al.* 2018). Maguari Stork *Ciconia maguari* (Gmelin 1789), Wood Stork *Mycteria americana* Linnaeus 1758 and Jabiru *Jabiru mycteria* (Lichtenstein 1819) are the three species of the Ciconiidae family that occur in Brazil (Sick 1997, Piacentini *et al.* 2015). Jabiru is a waterbird that occurs in neotropical wetlands (Hancock *et al.* 1992). Adults have white body plumage and red-base expandable black necks (Sick 1997, Willis & Oniki 2003). The strong, long black bill, with broad base has a slight upward curvature. Juveniles have

pale gray tops with silvery gray-brown feathered edges, with pale brown-stained white primaries (Elliott *et al.* 2019). Globally, Jabiru distribution spans from southeastern Mexico across Central and northern South America to northern Argentina (Sick 1997, Elliott *et al.* 2019). In Brazil, the species has a wide distribution from Roraima to Rio Grande do Sul, mainly across the central area of the country, with few records along the coast. More than half of the Jabiru population occurs in Mato Grosso and Mato Grosso do Sul states, at the Pantanal biome (Antas 1996, Willis & Oniki 2003, Sigris 2013). In the southern region, there are records of the species on the coast of Paraná, Santa Catarina and Rio Grande do Sul, and in the southeast, only on the São Paulo coast (Schunck & Ghetti 2004). The species has a wide range of occurrence in the Brazilian territory, but so far, there is no record for the

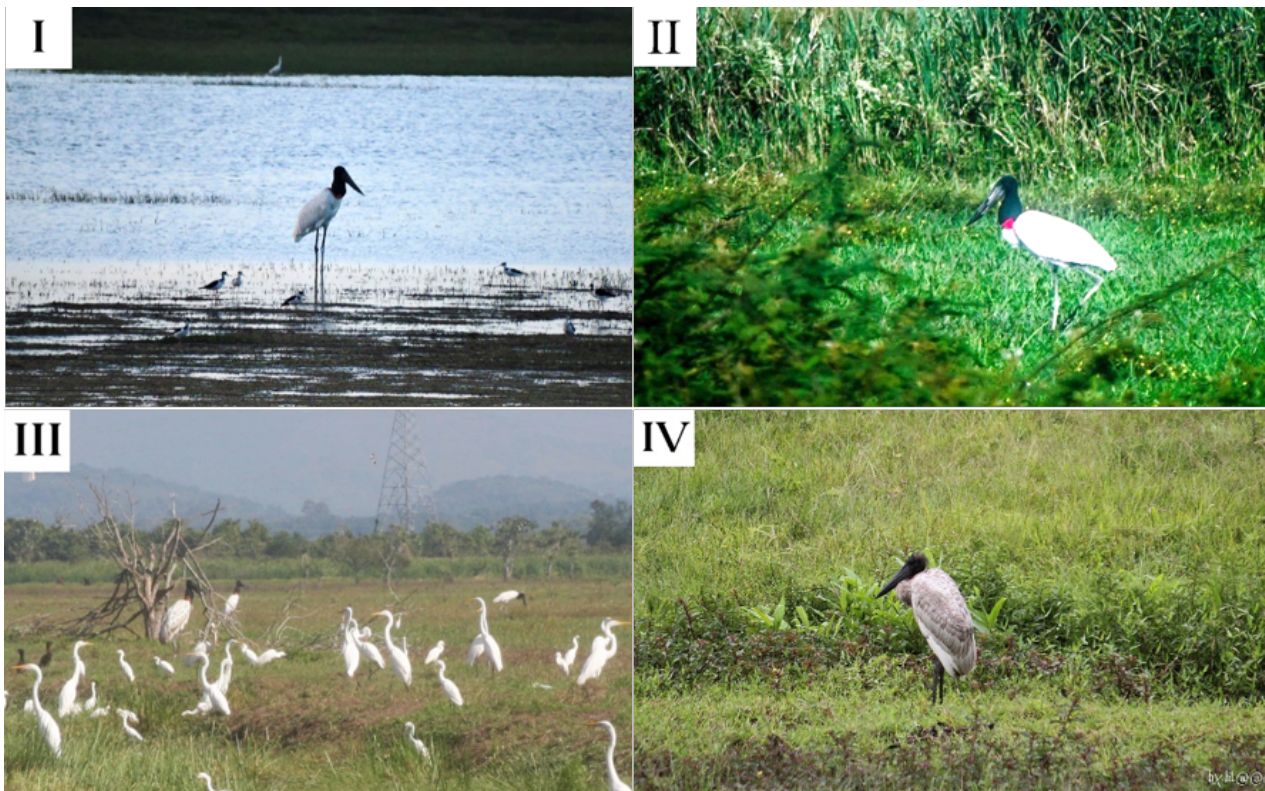
northern coast of Rio de Janeiro state in the south-east of Brazil, and no compilation on the occurrence of Jabiru in the state.

The observation of Jabiru was carried out with Nikon binoculars and a Celestron Ultima 100 22-66 x 100 spotting scope and it was photographed with a Nikon (P600) camera during a field expedition.

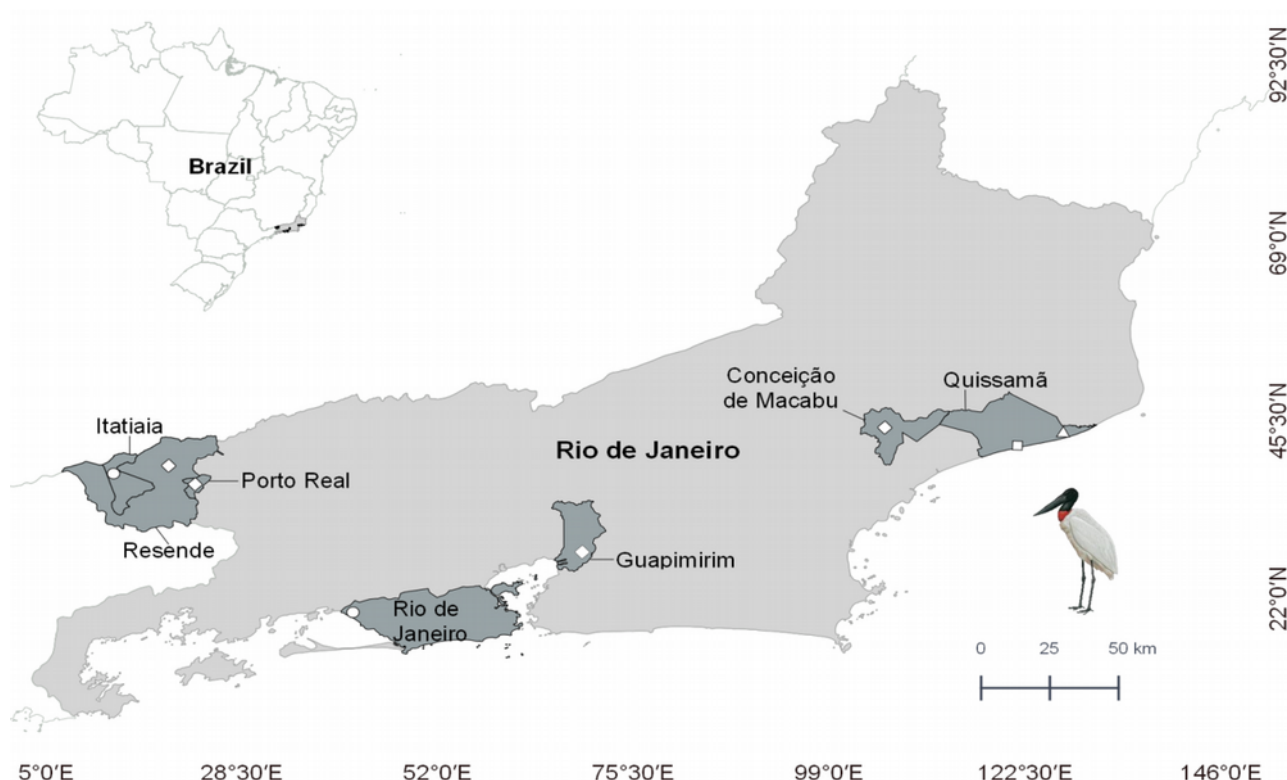
On March 14, 2019, *J. mycteria* was photographed, on the northern coast of Rio de Janeiro state, 5 km from the northern limit of the Restinga de Jurubatiba National Park (RJNP), in Quissamã city (22°8'38.72"S, 41°14'35.03"W) by RTF and LRMP (Fig.1). Only one individual was observed, along with a *C. maguari* flock, as well as other species such as *Ardea alba*, *Egretta thula* and *Himantopus melanurus*. Previously only RJNP's team (Ary Miranda Neto and Alan Maynhone) had mentioned sighting the species on February 7, 2019 at "Catingosa" lagoon inside the RJNP (22°11'08.3"S 41°23'51.4"W). Another four records in the state were derived from online databases (Wikiaves and e-Bird; Figures 1 and 2). The Jabiru was registered in Guapimirim (12 records by 6 different authors), as well as Porto Real and

Resende, located in the highland region of the state, and at Conceição de Macabu, in the northern part of the state, with one photographic record at each location (except in Guapimirim with 3 individuals in one photo in April 2018, recorded by GH Silveira). On e-Bird, only one record without a photo was published in a species list but the author published a photo of the species on the same day on Wikiaves.

The first record of Jabiru in the state was in 1817, by Spix and Martius, in the marshy region of the city of Rio de Janeiro, in the Santa Cruz neighborhood, where the authors claimed to have sighted the species "abundantly". Since the species had not yet been formally described, Pinto in 1964 stated that Spix and Martius probably referred to Jabiru (Sick & Pabst 1963). Another record was at Itatiaia National Park in the Vale do Paraíba on November 13, 1954, with an individual collected and deposited at the Itatiaia National Park Museum (#Vale do Paraíba, mun. Itatiaia, 400m, 13 nov 1954, E. Gouvêa (MPNI 793) [Barth 1957]) (Pacheco & Parrini 2000). Many Ciconiiformes populations change their distribution according to seasonal modifications in the environmental characteristics,



**Figure 1.** *Jabiru mycteria* records: (I) area outside of Restinga de Jurubatiba National Park on March 14, 2019; (II) near the municipality of Conceição de Macabu on March 23, 2019; (III) municipality of Guapimirim on April 13, 2018, with three individuals and (IV) juvenile in municipality of Resende on January 13, 2018. Photos: I - Lucas Rocha, II - Samir Mansur, III - Gustavo Henrique Silveira and IV - Deborah Nery.



**Figure 2.** New records of *Jabiru mycteria* in the Rio de Janeiro state. Historical records (circles), online databases (diamonds), new records inside (square) and outside the RJNP (triangles).

mainly linked to variations in water level, which in turn alters the food availability (Mourão 1989, Gimenes 2005, Medina-Júnior & Rietzler 2005).

There are three geographically distinct populations of Jabiru: Central America, northern South America and central South America (Luthin 1987, Wetlands International 2012). Jabiru is a non-migratory species (Short 1975, Blake 1977), but it does disperse seasonally, and sometimes it is found distant from its usual range (Schulemberg 2019). A large part of its diet consists of aquatic preys, including fishes, mollusks, insects, and amphibians, but they also feed on reptiles and small mammals (Kahl 1971, Elliott *et al.* 2019). During dry seasons, they have been known to eat carrion and dead fish (Kahl 1971, Elliott *et al.* 2019). The Jabiru was recorded during the rainy season in areas close to and inside the RJNP, which experiences constant hydrological changes (Tavares 2014). During the rainy period, between December and March, the water levels in the RJNP lagoons rises, turning these areas into wetlands and increasing the amount of available food (Tavares & Siciliano 2013, Kober & Bairlein 2009, Lunardi *et al.* 2012). The ability to fly long distances, associated with seasonal dispersal, and the presence of wetlands during the rainy season in RJNP, may explain the occurrence within and

around the RJNP lagoons. All photographed records of the species were recent (2018 and 2019) and occurred in the rainy season, which is the non-breeding period of the species in Brazil (Elliott *et al.* 2019). In the Threatened Bird Species List of Rio de Janeiro (2011), the species is classified as "vagrant" and its occurrence as "uncommon" (Gagliardi 2011), which is in agreement with this study.

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