

# Checklist of the birds of Mato Grosso do Sul state, Brazil: diversity and conservation

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**Abstract.** Several phytogeographic regions (Cerrado, Pantanal, Atlantic Forest, Gran Chaco, and Chiquitano Dry Forests) converge in the state of Mato Grosso do Sul, Brazil, and influence regional biodiversity. Despite a list of birds in the state of Mato Grosso do Sul being published by Nunes *et al.* (2017), it is necessary to update and critically review avifauna records. In this study, we gathered the results of several records obtained from species lists and online data platforms of the 336 sites in this state over the last decades and grouped them into Main (Primary and Secondary) and Tertiary Lists. The avifauna of Mato Grosso do Sul is composed of 678 species, of which 643 (95%) have records proving their occurrence (Primary List), whereas 34 still lack documentation (Secondary List). The number of related species for Mato Grosso do Sul represents 34% of the Brazilian avifauna. Some species stand out for their unique occurrence in Mato Grosso do Sul, such as *Melanerpes cactorum*, *Celeus lugubris*, *Phaethornis subochraceus*, and *Cantorchilus guarayanus*, reflecting the influence of different phytogeographic regions of the Chaco and Chiquitano Dry Forests. Migrants represent 20% of the bird community occurring in the state, of which 93 species correspond to migrants from various regions of South America (south and west) and 40 to boreal migrants. Thirty-three species perform nomadic movements across the Pantanal Plain and other regions of the state. Thirty-one species are included in some conservation-threatened categories of global and/or national endangered species lists. Other 30 species are included in the near-threatened category at the global level and 23 at the national level. In addition, species typical of dry forests (in Serra da Bodoquena and Maciço do Urucum) and those from the Atlantic Forest in the south of the state deserve attention due to their restricted distribution and the high anthropogenic pressure on their habitat.

**Keywords.** Avifaunal inventory; Geographic distribution; Threatened species; Migration; Southwestern Brazil.

## INTRODUCTION

Scientific expeditions conducted in the state of Mato Grosso do Sul, Brazil, played a critical role in building the knowledge of regional biodiversity. The expeditions conducted by the naturalists Alfredo Borelli and Herbert H. Smith in the 1880s on the outskirts of Corumbá stand out (Allen, 1891, 1892, 1893; Salvadori, 1895, 1900). Moreover, at the beginning of the 20<sup>th</sup> century, in 1909, the expeditions of Claude H.B. Grant to the Pantanal, at the service of the British Museum of Natural History, were significant. Additionally, the collections performed by the naturalists George K. Cherrie and Leo E. Miller, from 1913 to 1914, during the Roosevelt-Rondon expe-

dition in the Corumbá region are noteworthy, with the majority of the specimens deposited in the American Museum of Natural History (Naumburg & Cherrie, 1930; Vasconcelos *et al.*, 2016). Equally important are the material collections conducted in the Pantanal region, such as in Corumbá (1904, 1917, 1944), Porto Esperança (1930), Aquidauana (1930 to 1931), Salobra (1939, 1941), and Miranda (1930), by the staff of the Paulista Museum, currently the Zoology Museum of the University of São Paulo (Pinto, 1932, 1938, 1940, 1944). These expeditions were conducted by the Paulista Museum together with the Osvaldo Cruz Institute, especially in Salobra and Miranda, between 1939 and 1941 (Travassos & Freitas, 1942).

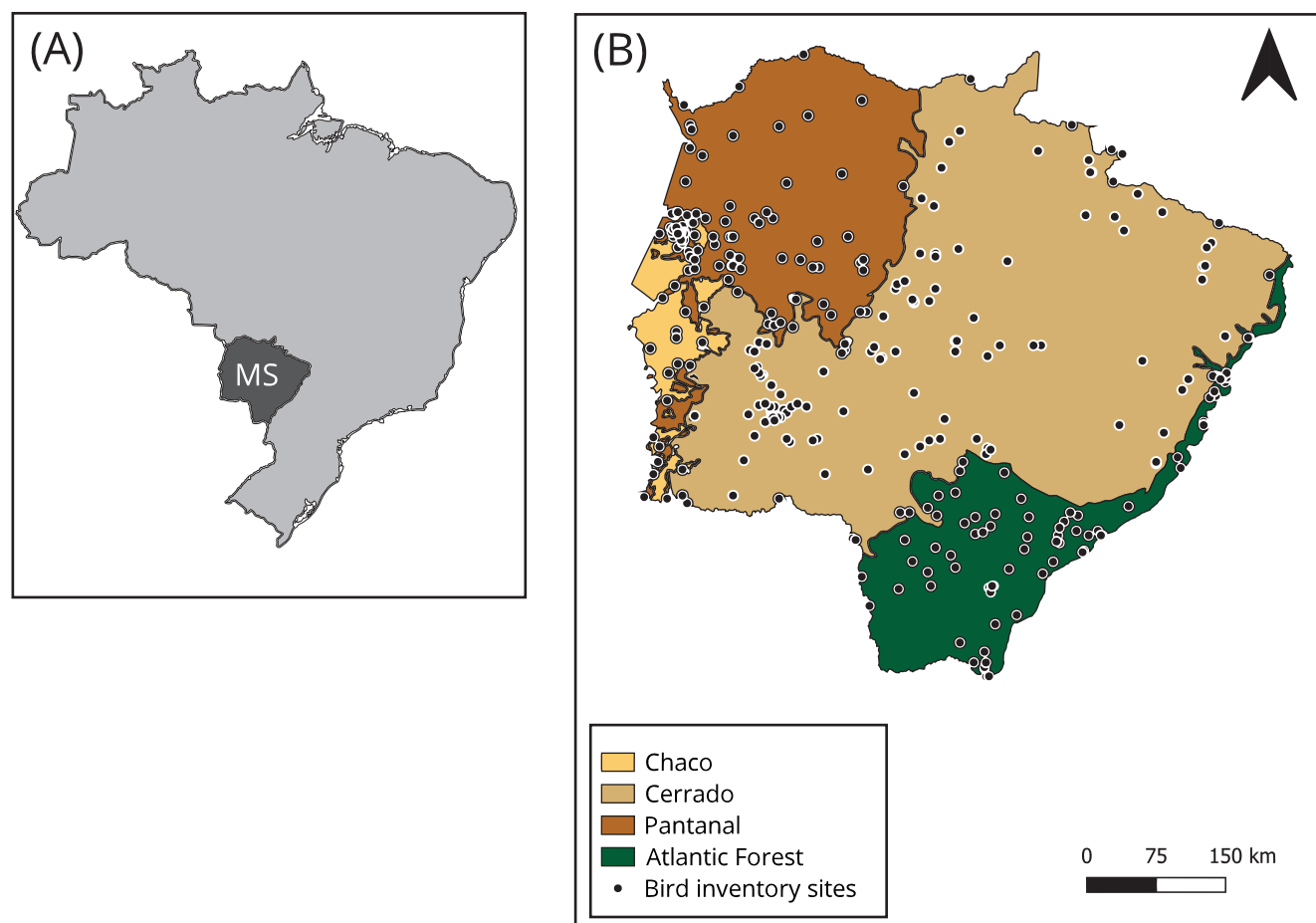
Undoubtedly, the legacy of the expedition of the German naturalist Emil Kaempfer to Brazil in 1930 is one of the most important contributions to the state ornithology, especially for specimens collected in the Chaco and the southern region of Mato Grosso do Sul (Straube & Urben-Filho, 2010). The collected material is deposited in the American Museum of Natural History. Furthermore, in 1937, Emmet Blake visited Capão Bonito Farm, located in the municipality of Sidrolândia, and collected several specimens, which are deposited in the Field Museum of Natural History in Chicago (Straube, 2011).

Most of the subsequent expeditions, notably between the 1940s and 1960s, were conducted by national institutions, covering the central and southern areas of the Pantanal Plain of Mato Grosso do Sul (Tubelis & Tomas, 2003a, b). These include the expeditions of Aggio Neto and Álvaro C. Aguirre to Corumbá and Miranda, between 1940 and 1958, as well as the collections performed by Adolf Schneider in the Chaco of Porto Murtinho in 1941, both at the service of the National Museum of Rio de Janeiro (Pacheco & Bauer, 1994; Tubelis & Tomas, 2003a, b; Straube *et al.*, 2006a). The collections performed during these expeditions resulted in relevant publications (Travassos & Freitas, 1942; Pinto, 1948; Travassos *et al.*, 1957; Sick, 1961). Other essential expeditions were conducted by Andreas Mayer to the south of the state, in 1950, at the service of the Capão da

Imbuia Natural History Museum and by José Hidasi to the Pantanal and Serra de Maracaju, in 1981, at the service of the Museum of Ornithology Foundation of Goiânia, GO (Tubelis & Tomas, 2003a, b; Nunes *et al.*, 2013).

The expeditions in which specimen collection was intended are also noteworthy, especially those by Marcos Bornschein and Fernando Costa Straube, from 1987 to 1991, at the service of the Capão da Imbuia Natural History Museum (Straube *et al.*, 1996). José Maria Cardoso da Silva and his team collected specimens in the Bonito region, in 1994, at the service of the Paraense Museum Emílio Goeldi (Pivatto *et al.*, 2006). Marcelo Ferreira de Vasconcelos and Diego Hoffmann performed several collections in the city of Corumbá from 2005 to 2009 (Vasconcelos *et al.*, 2008; Nunes *et al.*, 2018). More recently, several ecological studies have been conducted, and has contributed to a better understanding of the birds of the state.

In the first list of bird species from Mato Grosso do Sul, Nunes *et al.* (2017) listed 630 species for the state. Despite its relevant contribution, this listing considers some questionable and invalid records, compromising the understanding of birds found in Mato Grosso do Sul. Thus, this study aims to present an updated list of the state avifauna obtained through field data collection, in addition to a comprehensive compilation and review of reliable historical and contemporary records.



**Figure 1.** Localities with ornithological inventories in Mato Grosso do Sul state. The black circle corresponds to different sample sites, whose geographic coordinates can be found in Table S1. Image: Ivana Cardoso.

## MATERIAL AND METHODS

### Mato Grosso do Sul state: location, landscape, and environment

Mato Grosso do Sul occupies an area of almost 360,000 km<sup>2</sup> in the central-west region of Brazil (Fig. 1) and is cut in the northwest-southwest direction by the Serra de Maracaju, one of the main watersheds in the basins of the Paraguay and Paraná rivers. The Serra de Maracaju, originating from basaltic flows, comprises levels on the western edge of the Paraná River Basin and is complemented to the south by the Maracaju and Dourados plateaus (Boggiani *et al.*, 1998). Around the Pantanal Plain, plateaus with altitudes ranging from 200 to 950 m stand out in the landscape. Bordering to the east is the Bodoquena Plateau, and on the western edge, in some border areas with Bolivia and Paraguay, notable hill complexes stand out for orographic systems, such as the Serra do Amolar, Maciço do Urucum, and Serra do Amonguijá (Ab'Saber, 1988; Okida & Anjos, 2000). Much of the state has a humid tropical climate with a dry season in winter and a total rainfall ranging from 1,000 to 2,000 mm. The temperature is higher in the state's northern region, in the same area corresponding to the driest vegetation of the savannah and the Pantanal, with monthly average temperatures above 22°C and annual precipitation above 1,500 mm (Alvares *et al.*, 2013). Several phytogeographic regions in South America converge in Mato Grosso do Sul, with almost 2/3 of its territory composed of the Cerrado, followed by the Pantanal, and a small part by the Atlantic Forest in the south of the state (IBGE, 2015). The prominent remnants of the Atlantic Forest in the state are concentrated in three areas: the Bodoquena Plateau; the Paraná River Plain, close to the border between the states of São Paulo and Paraná; and isolated fragments within the various indigenous areas located in the southwest of the state (RBMA, 2008). The Chaco, widely represented in Bolivia, Paraguay, and Argentina, can be found in small patches in the extreme southwest of the state (around Porto Murtinho) and along the Paraguay River (Prado, 1993a, b; Prado & Gibbs, 1993; Straube *et al.*, 2006a). The Chiquitano Dry Forests represent a forest nucleus, with the main occurrence in the southeast region of the Santa Cruz Department (Bolivia), extending tangentially to the extreme west of Mato Grosso, and in Mato Grosso do Sul (Corumbá municipality), where they occupy highly restricted areas in the Brazilian territory (Timothy *et al.*, 2006; Vasconcelos & Hoffmann, 2006; Werneck *et al.*, 2011). However, there is a drastic conversion of native vegetation in the state of Mato Grosso do Sul into pastures and monocultures areas, especially in the Cerrado. Although native vegetation once occupied 60% of the territory, currently less than 25% remains (MapBiomias, 2020). The forests under the influence of the Atlantic Forest, which extend mainly through the south of the state and the Bodoquena Plateau, are highly fragmented and represent only 15% of the original cover (Fundação SOS Mata Atlântica & INPE, 2019). In addition to the conversion of native landscapes to cultivated pastures (16% of the plain) and the silting of the main rivers,

the Pantanal has been suffering from uncontrolled fires that, in recent years, have affected more native vegetation and killed more than 17 million vertebrates (Tomas *et al.*, 2009; Padovani, 2017; Tomas *et al.*, 2021). The Chaco represented 6.7% of the native vegetation of the Pantanal do Nabileque; however, in recent years, there has been a considerable increase in the conversion of these areas into cultivated pastures (Silva *et al.*, 2008; Dias *et al.*, 2021). Silva *et al.* (2011) estimates that by 2045, native vegetation of the Pantanal plain may be 100% suppressed. Nunes *et al.* (2018) highlight that the suppression of hilltop fields, semideciduous hillside forests, and dry forests for mining and livestock activities represent a severe threat to biodiversity conservation in Chiquitano Dry Forests.

### Data collection

The elaboration of the consolidated list of birds of Mato Grosso do Sul considered records made by authors in recent decades, either consisting of systematic sampling or not, as well as those available in the literature (Table S1). Altogether, 356 sites were visited, of which 22 could not be georeferenced. In addition to the records cited in the literature and in the authors' fieldwork, the specimens deposited in museums, institutional ornithological collections from Brazil and abroad (ExM) were also considered. Furthermore, there are photographic records deposited in institutional museums (FoM) or cited in scientific journals (FoP), photographic (Fol) and sound (ASI) records available on internet data platforms, and sound (ASM) records deposited in institutional museums (see Carlos *et al.*, 2010).

Data on specimens deposited in institutional museums in Brazil and abroad were obtained by consulting Tubelis & Tomas (2003a) and VertNet (2021) and by searching the digital data collection of the Paraense Museum Emílio Goeldi (*Museu Paraense Emílio Goeldi* – MPEG) in Belém, PA; Capão da Imbuia Natural History Museum (*Museu de História Natural Capão da Imbuia* – MHNCI), in Curitiba, PR; and Department of Zoology at the Federal University of Minas Gerais (*Departamento de Zoologia, Universidade Federal de Minas Gerais* – DZUFMG), Belo Horizonte, MG. Sound records deposited in institutional museums obtained from the Prof. Elias Coelho Sound Archive (*Arquivo Sonoro Elias Coelho* – ASEC), from the Federal University of Rio de Janeiro, and Jacques Vielliard Neotropical Music Library (*Fonoteca Neotropical Jacques Vielliard* – FNJV) of the Zoology Museum of the State University of Campinas were also considered.

Regarding the photographic and sound records available in digital media, this study evaluated those hosted until December 2021 in the WikiAves (<https://www.wikiaves.com>; 2021), Xeno-Canto (<https://xeno-canto.org>; 2021), and VIREO (<http://vireo.ansp.org>; 2021) databases.

### Data requirements for inclusion into inventory lists

The taxonomic classification proposed by Pacheco *et al.* (2021) was adopted. In addition, each species was



included in two types of listings: (i) Primary List, consisting of species with at least one of the occurrence records in Mato Grosso do Sul with documentary evidence, that is, item(s) available for independent consultation in the form of a full or partial specimen, photography, or recording of audio or video, which allows the safe and indisputable determination of the taxon, and (ii) Secondary List, which includes species with one or more visual and/or sound records for Mato Grosso do Sul, but whose documentary evidence is not known or available. In this context, the adopted filtering protocol consisted in detailing information alluding to the record, obligatorily associated with consistency with the distribution and dispersion pattern of the species established based on documentary evidence. The Primary and Secondary Lists make up the Main List.

Additionally, species in questionable records with incompatible distribution and/or occurrence only marginal to Mato Grosso do Sul, in addition to taxa that are extinct in nature or not validated as full species, although mentioned in some of the consulted sources, were excluded. These cases were consolidated in a Tertiary List, which, in addition to listing the considered taxa, also indicates the original source of mention and reason for the exclusion.

In summary, the Main List includes only the species proven to occur in the state, based on the following superior evidence, in hierarchical order: ExM, FoM, FoP, FoI, ASM, and ASI (for details, see Carlos et al., 2010).

### Species categorization

Species were categorized for conservation status based on global (IUCN, 2021) and national (ICMBio & MMA, 2018) lists of threatened species as follows: Deficient Data (DD), Near Threatened (NT), Vulnerable (VU), Endangered (EN), and Critically Endangered (CR).

Given the complexity of the migratory routes used by birds in Mato Grosso do Sul, the criteria for migratory displacements in the available literature were adapted (Morrison et al., 2008; Nunes & Tomas, 2008; Somenzari et al., 2018; Pacheco et al., 2021). Species whose populations occupy the same area throughout the year were considered residents. Under adverse landscape conditions, especially in the Pantanal (e.g., drought, floods, intense cold, food shortage), species that moved to other state's regions in search of more favorable areas for their survival were considered nomads. Northern or boreal migrants (NMs) gather the species that perform large displacements from the Northern Hemisphere toward the southern South America. Southern or austral migrants (SM) gather species that move from the southernmost portions of South America toward the regions of Central and Northern Brazil. Species coming from the west, such as the Andes, Chiquitano Dry Forests, and Gran Chaco (Bolivia and Paraguay), were also considered in the study (Somenzari et al., 2018; Pacheco et al., 2021). In the category of partial migrants, species in which only part of the population migrates, especially those from the south, were included.

## RESULTS AND DISCUSSION

The avifauna of Mato Grosso do Sul is composed of 678 species, of which 643 (95%) have supporting records of occurrence (Primary List 1) and 34 still lack documentation (Secondary List) (Table 1). Fifty-five species records from Mato Grosso do Sul state were included in the Tertiary List (Table 2), which is based on questionable information, misidentifications, and taxa not valid as full species. Fourteen species were transferred to the Main List based on reliable photographic records, including *Calidris alba*, *Fulica leucoptera*, *Chaetura brachyura*, and *Hypocnemoides maculicauda*. *Xiphorhynchus fuscus*, *Conopias trivirgatus*, *Progne subis*, and *Progne elegans* were allocated to the Primary List. The other species (*Nothura boraquira*, *Numenius hudsonicus*, *Arenaria interpres*, *Calidris pusilla*, *Calidris minutilla*, and *Calidris bairdii*) were allocated to the Secondary List based on new information from undocumented incident records.

Based on species splits, three species were added (Pacheco et al., 2021). In this context, *Ortalis remota*, *Trogon chrysochloros*, and *Pyriglena maura*, which were previously treated as subspecies of *Ortalis guttata*, *Trogon rufus*, and *Pyriglena leuconota*, respectively, were also included. Nunes et al. (2017) raised the subspecies of *Aburria* (*A. cumanensis grayi* and *A. cujubi nattereri*), *Picumnus* (*P. albosquamatus corumbanus*), *Icterus* (*I. pyrrhopterus periporphyrus*), *Serpophaga munda*, and *Basileuterus hypoleucus* to the species rank. However, this study adopted the current taxonomy (Pacheco et al., 2021), treating them as subspecies of *A. cumanensis*, *A. cujubi*, *P. albosquamatus*, and *I. pyrrhopterus*, respectively. *Sporophila frontalis* related by Nunes et al. (2017) in the Primary List was removed from the Main List and included in the Tertiary List because it is a species that probably escaped from captivity.

Twenty-four species added to the Primary List had taxonomic changes at the genus level based on recent phylogenetic studies and taxonomic research (Pacheco et al., 2021). These include *Anas* (*Spatula versicolor* and *Spatula platalea*), *Amazilia* (*Chrysuronia versicolor* and *Chionomesa fimbriata*), *Hylocharis* (*Chlorestes cyanus*), *Laterallus* (*Rufirallus viridis*), *Porzana* (*Mustelirallus albicollis*), *Phalacrocorax* (*Nannopterum brasilianum*), *Accipiter* (*Hieraspiza superciliosa*), *Suiriri* (*Guyramemua affine*), *Xolmis* (*Nengetus cinereus*), *Sporagra* (*Spinus magellanicus*), *Euphonia* (*Cyanophonia cyanocephala*), *Sturnella* (*Leistes superciliaris*), *Procacicus* (*Cacicus solitarius*), *Parula* (*Setophaga pitaiayumi*), *Cyanoloxia* (*Amaurospiza moesta*), *Tiaris* (*Asemospiza obscura* and *Asemospiza fuliginosa*), *Poospiza* (*Microspingus melanoleucus* and *Microspingus cinereus*), *Pipraeidea* (*Rauenia bonariensis*) and *Tangara* (*Stilpnia preciosa* and *Stilpnia cayana*). At least one species listed in the Secondary List (*Tryngites* [*Calidris subruficollis*]) and another four in the Tertiary List (*Anas* [*Spatula cyanoptera* and *Mareca sibilatrix*], *Xolmis* [*Heteroxolmis dominicanus*], and *Sturnella* [*Leistes militaris*]) had a change in genus.

NMs were found to represent 30% (40 species) of the migratory bird community occurring in Mato Grosso do Sul. Most migrants are northern species (70 species), of which at least 36 are part of the population that performs

**Table 1.** Main list of bird species occurring in the Mato Grosso do Sul state, Brazil. Taxa highlighted in square brackets are on the secondary list and lack adequate supporting documentation. Conservation status: LC = Least Concern, NT = Near Threatened with extinction, VU = Vulnerable, EN = Endangered, CR = Critically Endangered, DD = Data Deficient, Global = IUCN, 2021, Brazil = Brazilian List/ICMBio & MMA, 2018. Status of migration: RE = Resident, M (N) = North Migrant, M (S) = South Migrant, M (W) = Migrant from West, MP (S) = Partial Migrant from South, MP (W) = Partial Migrant from West, NO = Nomadic. Evidence: ExM (specimen deposited in a national institutional museum and/or abroad), FoM (photographic records deposited in institutional museums), FoP (photographic records cited in scientific journals), ASM (sound records deposited in institutional museums), Rv/sP (visual and/or sound records quoted in a scientific journal), Rv/sNP (visual and/or sound records obtained by the authors and not published), FoI (photo published on the internet), ASI (sound file available on the internet).

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<b>Rheiformes</b>				
<b>Rheidae</b>				
<i>Rhea americana</i> (Linnaeus, 1758)	NT	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<b>Tinamiformes</b>				
<b>Tinamidae</b>				
<i>Tinamus solitarius</i> (Vieillot, 1819)	NT	NT	RE	ExM, Rv/sP
<i>Crypturellus obsoletus</i> (Temminck, 1815)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Crypturellus undulatus</i> (Temminck, 1815)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Crypturellus parvirostris</i> (Wagler, 1827)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Crypturellus tataupa</i> (Temminck, 1815)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Rhynchotus rufescens</i> (Temminck, 1815)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
[ <i>Nothura boraquira</i> (Spix, 1825)]	LC	LC	RE	Rv/sP
<i>Nothura minor</i> (Spix, 1825)	VU	EN	RE	ExM, Rv/sP, Rv/sNP
<i>Nothura maculosa</i> (Temminck, 1815)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
[ <i>Taoniscus nanus</i> (Temminck, 1815)]	EN	EN	RE	Rv/sP
<b>Anseriformes</b>				
<b>Anhimidae</b>				
<i>Anhima cornuta</i> (Linnaeus, 1766)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Chauna torquata</i> (Oken, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<b>Anatidae</b>				
<i>Dendrocygna bicolor</i> (Vieillot, 1816)	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP
<i>Dendrocygna viduata</i> (Linnaeus, 1766)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Dendrocygna autumnalis</i> (Linnaeus, 1758)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Coscoroba coscoroba</i> (Molina, 1782)	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Neochen jubata</i> (Spix, 1825)	NT	DD	M (W)	ExM, Rv/sP, FoI
<i>Cairina moschata</i> (Linnaeus, 1758)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Sarkidiornis sylvicola</i> Ihering & Ihering, 1907	LC	LC	NO	Rv/sP, Rv/sNP, FoI
<i>Callonetta leucophrys</i> (Vieillot, 1816)	LC	LC	M (S)	Rv/sP, Rv/sNP, FoP, FoI
<i>Amazonetta brasiliensis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Spatula versicolor</i> Vieillot, 1816	LC	LC	M (W)	Rv/sP, Rv/sNP, FoI
<i>Spatula platalea</i> Vieillot, 1816	LC	LC	M (S)	Rv/sP, Rv/sNP, FoI
<i>Anas bahamensis</i> Linnaeus, 1758	LC	LC	M (W)	Rv/sP, Rv/sNP, FoI
[ <i>Netta erythrophthalma</i> (Wied, 1833)]	LC	LC	RE	Rv/sNP
<i>Netta peposaca</i> (Vieillot, 1816)	LC	LC	M (S)	Rv/sP, FoI
<i>Nomonyx dominicus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Oxyura vittata</i> (Philippi, 1860)	LC	LC	M (S)	Rv/sP, FoP
<b>Galliformes</b>				
<b>Cracidae</b>				
<i>Penelope superciliosa</i> Temminck, 1815	LC	DD	RE	ExM, Rv/sP, FoI
<i>Penelope ochrogaster</i> Pelzeln, 1870	VU	VU	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Aburria cumanensis</i> (Jacquin, 1784)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Aburria cujubi</i> (Pelzeln, 1858)	NT	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Ortalis canicollis</i> (Wagler, 1830)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<i>Ortalis remota</i> Pinto, 1960	LC	CR	RE	ExM, Rv/sP
<i>Crax fasciolata</i> Spix, 1825	VU	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<b>Odontophoridae</b>				
<i>Odontophorus capueira</i> (Spix, 1825)	LC	LC	RE	ExM
<b>Podicipediformes</b>				
<b>Podicipedidae</b>				
[ <i>Rollandia rolland</i> (Quoy & Gaimard, 1824)]	LC	LC	NO	Rv/sP
<i>Tachybaptus dominicus</i> (Linnaeus, 1766)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Podilymbus podiceps</i> (Linnaeus, 1758)	LC	LC	NO	Rv/sP, Rv/sNP, Fol
<i>Podiceps major</i> (Boddaert, 1783)	LC	LC	M (S)	Rv/sP, Fol
<b>Columbiformes</b>				
<b>Columbidae</b>				
<i>Columba livia</i> Gmelin, 1789	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Patagioenas speciosa</i> (Gmelin, 1789)	LC	LC	RE	Rv/sP, Rv/sNP, ASM, ASI
<i>Patagioenas picazuro</i> (Temminck, 1813)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Patagioenas cayennensis</i> (Bonnaterre, 1792)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Patagioenas plumbea</i> (Vieillot, 1818)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Geotrygon montana</i> (Linnaeus, 1758)	LC	LC	RE	Rv/sP, Rv/sNP, ASM, ASI
<i>Leptotila verreauxi</i> Bonaparte, 1855	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Leptotila rufaxilla</i> (Richard & Bernard, 1792)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Zenaida auriculata</i> (Des Murs, 1847)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Claravis pretiosa</i> (Ferrari-Perez, 1886)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Uropelia campestris</i> (Spix, 1825)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Columbina minuta</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Columbina talpacoti</i> (Temminck, 1811)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Columbina squammata</i> (Lesson, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Columbina picui</i> (Temminck, 1813)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Cuculiformes</b>				
<b>Cuculidae</b>				
<i>Guira guira</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Crotophaga major</i> Gmelin, 1788	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Crotophaga ani</i> Linnaeus, 1758	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Tapera naevia</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Dromococcyx phasianellus</i> (Spix, 1824)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Dromococcyx pavoninus</i> Pelzeln, 1870	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASM
<i>Coccyua minuta</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Micrococcyx cinereus</i> (Vieillot, 1817)	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Piaya cayana</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Coccyzus melacoryphus</i> Vieillot, 1817	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP, Fol
<i>Coccyzus americanus</i> (Linnaeus, 1758)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<i>Coccyzus euleri</i> Cabanis, 1873	LC	LC	RE	Rv/sP, Rv/sNP, FoM, Fol
<b>Nyctibiiformes</b>				
<b>Nyctibiidae</b>				
<i>Nyctibius grandis</i> (Gmelin, 1789)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
[ <i>Nyctibius aethereus</i> (Wied, 1820)]	LC	LC	RE	Rv/sNP
<i>Nyctibius griseus</i> (Gmelin, 1789)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<b>Caprimulgiformes</b>				
<b>Caprimulgidae</b>				
[ <i>Nyctiphrynus ocellatus</i> (Tschudi, 1844)]	LC	LC	RE	Rv/sP
<i>Antrostomus rufus</i> (Boddaert, 1783)	LC	LC	MP (S)	Rv/sP, Rv/sNP, ASI
<i>Antrostomus sericocaudatus</i> Cassin, 1849	LC	LC	RE	Fol
<i>Lurocalis semitorquatus</i> (Gmelin, 1789)	LC	LC	NO	Rv/sP, Rv/sNP, ASM, ASI
<i>Nyctiprogne leucopyga</i> (Spix, 1825)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Nyctidromus albicollis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Hydropsalis parvula</i> (Gould, 1837)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Hydropsalis candicans</i> (Pelzeln, 1867)	VU	VU	RE	Fol
<i>Hydropsalis longirostris</i> (Bonaparte, 1825)	LC	LC	RE	Fol
<i>Hydropsalis maculicaudus</i> (Lawrence, 1862)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Hydropsalis torquata</i> (Gmelin, 1789)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
[ <i>Hydropsalis forcipata</i> (Nitzsch, 1840)]	LC	LC	RE	Rv/sP
[ <i>Nannochordeiles pusillus</i> (Gould, 1861)]	LC	LC	MP (S)	Rv/sP, Rv/sNP
<i>Podager nacunda</i> (Vieillot, 1817)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Chordeiles minor</i> (Forster, 1771)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<i>Chordeiles acutipennis</i> (Hermann, 1783)	LC	LC	MP (S)	Rv/sP, Rv/sNP, Fol
<b>Apodiformes</b>				
<b>Apodidae</b>				
<i>Cypseloides fumigatus</i> (Streubel, 1848)	LC	LC	RE	Fol

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Cypseloides senex</i> (Temminck, 1826)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Streptoprocne zonaris</i> (Shaw, 1796)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Chaetura meridionalis</i> Hellmayr, 1907	LC	LC	M (S)	Rv/sP, Rv/sNP, Fol
<i>Chaetura brachyura</i> (Jardine, 1846)	LC	LC	RE	ExM
<i>Tachornis squamata</i> (Cassin, 1853)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<b>Trochilidae</b>	LC	LC		
<i>Florisuga fusca</i> (Vieillot, 1817)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Phaethornis subochraceus</i> Todd, 1915	LC	DD	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Phaethornis pretrei</i> (Lesson & Delattre, 1839)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Colibri serrirostris</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Heliactin bilophus</i> (Temminck, 1820)	LC	LC	RE	ExM, Fol
<i>Polytmus guainumbi</i> (Pallas, 1764)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Chrysolampis mosquitos</i> (Linnaeus, 1758)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Anthrocothorax nigricollis</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
[ <i>Lophornis gouldii</i> (Lesson, 1832)]	VU	VU	RE	Rv/sNP
<i>Lophornis magnificus</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Heliomaster squamosus</i> (Temminck, 1823)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASM
<i>Heliomaster furcifer</i> (Shaw, 1812)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Calliphlox amethystina</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Chlorostilbon lucidus</i> (Shaw, 1812)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Thalurania furcata</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Thalurania glaucopsis</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Eupetomena macroura</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Aphantochroa cirrochloris</i> (Vieillot, 1818)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Chrysuronia versicolor</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Leucochloris albicollis</i> (Vieillot, 1818)	LC	LC	RE	Rv/sP, Fol
<i>Chionomesa fimbriata</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
[ <i>Chionomesa lactea</i> (Lesson, 1832)]	LC	LC	RE	Rv/sP
<i>Hylocharis chrysurus</i> (Shaw, 1812)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Chlorestes cyanus</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP
<b>Gruiformes</b>				
<b>Aramidae</b>				
<i>Aramus guarana</i> (Linnaeus, 1766)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<b>Rallidae</b>				
<i>Porphyrio martinica</i> (Linnaeus, 1766)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Porphyrio flavirostris</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Rufirallus viridis</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Laterallus flaviventer</i> (Boddaert, 1783)	LC	DD	RE	Rv/sP, Rv/sNP, Fol
<i>Laterallus melanophaius</i> (Vieillot, 1819)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Laterallus exilis</i> (Temminck, 1831)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASI
<i>Laterallus xenopterus</i> Conover, 1934	VU	DD	RE	Rv/sNP, Fol
[ <i>Coturnicops notatus</i> (Gould, 1841)]	LC	DD	RE	Rv/sP
[ <i>Micropygia schomburgkii</i> (Schomburgk, 1848)]	LC	NT	RE	Rv/sNP
<i>Mustelirallus albicollis</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Neocrex erythrops</i> (Sclater, 1867)	LC	LC	NO	Rv/sP, Rv/sNP, Fol
<i>Pardirallus maculatus</i> (Boddaert, 1783)	LC	LC	NO	Rv/sP, Rv/sNP, FoP, Fol
<i>Pardirallus nigricans</i> (Vieillot, 1819)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Amauralimnas concolor</i> (Gosse, 1847)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASI
<i>Aramides ypecaha</i> (Vieillot, 1819)	LC	LC	RE	Rv/sP, Rv/sNP, FoP, Fol
<i>Aramides cajaneus</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
[ <i>Aramides saracura</i> (Spix, 1825)]	LC	LC	RE	Rv/sP
<i>Porphyriops melanops</i> (Vieillot, 1819)	LC	LC	RE	Fol
<i>Gallinula galeata</i> (Lichtenstein, 1850)	LC	LC	NO	Rv/sP, Rv/sNP, Fol
<i>Fulica leucoptera</i> Vieillot, 1817	LC	LC	M (S)	Rv/sP, Fol
<b>Heliornithidae</b>				
<i>Heliornis fulica</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Charadriiformes</b>				
<b>Charadriidae</b>				
<i>Pluvialis dominica</i> (Statius Muller, 1776)	LC	DD	M (N)	ExM, Rv/sP, Rv/sNP, Fol



Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Pluvialis squatarola</i> (Linnaeus, 1758)]	LC	LC	M (N)	Rv/sP
<i>Vanellus cayanus</i> (Latham, 1790)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Vanellus chilensis</i> (Molina, 1782)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Charadrius semipalmatus</i> Bonaparte, 1825	LC	LC	M (N)	Rv/sP, Fol
<i>Charadrius collaris</i> Vieillot, 1818	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<b>Recurvirostridae</b>				
<i>Himantopus mexicanus</i> (Statius Muller, 1776)	LC	LC	NO	Rv/sP, Rv/sNP, Fol, ASI
<i>Himantopus melanurus</i> Vieillot, 1817	LC	LC	NO	Rv/sP, Rv/sNP, Fol
<b>Scolopacidae</b>				
<i>Bartramia longicauda</i> (Bechstein, 1812)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
[ <i>Numenius hudsonicus</i> Latham, 1790]	LC	NT	M (N)	Rv/sP
<i>Limosa haemastica</i> (Linnaeus, 1758)	LC	LC	M (N)	Rv/sP, Rv/sNP, Fol
<i>Arenaria interpres</i> (Linnaeus, 1758)]	LC	NT	M (N)	Rv/sP
<i>Calidris himantopus</i> (Bonaparte, 1826)	LC	LC	M (N)	Rv/sP, Fol
<i>Calidris alba</i> (Pallas, 1764)	LC	LC	M (N)	Fol
[ <i>Calidris bairdii</i> (Coues, 1861)]	LC	LC	M (N)	Rv/sP
[ <i>Calidris minutilla</i> (Vieillot, 1819)]	LC	DD	M (N)	Rv/sP
<i>Calidris fuscicollis</i> (Vieillot, 1819)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP
[ <i>Calidris subruficollis</i> (Vieillot, 1819)]	NT	VU	M (N)	Rv/sP
<i>Calidris melanotos</i> (Vieillot, 1819)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, FoP, Fol
[ <i>Calidris pusilla</i> (Linnaeus, 1766)]	NT	EN	M (N)	Rv/sP
<i>Gallinago undulata</i> (Boddaert, 1783)	LC	DD	NO	Rv/sP, Rv/sNP, ASM, ASI
<i>Gallinago paraguayae</i> (Vieillot, 1816)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Phalaropus tricolor</i> (Vieillot, 1819)	LC	DD	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<i>Actitis macularius</i> (Linnaeus, 1766)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<i>Tringa solitaria</i> Wilson, 1813	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<i>Tringa melanoleuca</i> (Gmelin, 1789)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP
<i>Tringa flavipes</i> (Gmelin, 1789)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<b>Jacaniidae</b>				
<i>Jacana jacana</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Laridae</b>				
<i>Chroicocephalus maculipennis</i> (Lichtenstein, 1823)	LC	LC	M (S)	Fol
[ <i>Chroicocephalus cirrocephalus</i> (Vieillot, 1818)]	LC	LC	M (S)	Rv/sP
<i>Rynchops niger</i> Linnaeus, 1758	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Sternula supercilialis</i> (Vieillot, 1819)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Phaetusa simplex</i> (Gmelin, 1789)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<i>Sterna hirundo</i> Linnaeus, 1758	LC	LC	M (N)	ExM, Rv/sP
[ <i>Sterna trudeaui</i> Audubon, 1838]	LC	LC	M (S)	Rv/sP
<b>Eurypygiiformes</b>				
<b>Eurypygiidae</b>				
<i>Eurypyga helias</i> (Pallas, 1781)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<b>Ciconiiformes</b>				
<b>Ciconiidae</b>				
<i>Ciconia maguari</i> (Gmelin, 1789)	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP, Fol
<i>Jabiru mycteria</i> (Lichtenstein, 1819)	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP, Fol
<i>Mycteria americana</i> Linnaeus, 1758	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP, Fol
<b>Suliformes</b>				
<b>Anhingidae</b>				
<i>Anhinga anhinga</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Phalacrocoracidae</b>				
<i>Nannopterum brasilianum</i> (Gmelin, 1789)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, Fol
<b>Pelecaniformes</b>				
<b>Ardeidae</b>				
<i>Tigrisoma lineatum</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Tigrisoma fasciatum</i> (Such, 1825)	LC	VU	RE	Rv/sP, Rv/sNP, FoP, Fol
<i>Agamia agami</i> (Gmelin, 1789)	VU	LC	RE	Rv/sP, FoP, Fol
<i>Cochlearius cochlearius</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Zebrilus undulatus</i> (Gmelin, 1789)	NT	LC	RE	ASI
<i>Botaurus pinnatus</i> (Wagler, 1829)	LC	LC	RE	Rv/sP, Rv/sNP, Fol

Table 1. continued.

Taxon	Status		Migration	Evidence
	Conservation			
	Global	Brazil		
<i>Ixobrychus exilis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Ixobrychus involucris</i> (Vieillot, 1823)	LC	LC	RE	Rv/sP, FoI
<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Butorides striata</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Bubulcus ibis</i> (Linnaeus, 1758)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Ardea cocoi</i> Linnaeus, 1766	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Ardea alba</i> Linnaeus, 1758	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Syrigma sibilatrix</i> (Temminck, 1824)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Ptilherodius pileatus</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Egretta thula</i> (Molina, 1782)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Egretta caerulea</i> (Linnaeus, 1758)	LC	LC	NO	Rv/sP, Rv/sNP, FoP, FoI
<b>Threskiornithidae</b>				
<i>Plegadis chihi</i> (Vieillot, 1817)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Mesembrinibis cayennensis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Phimosus infuscatus</i> (Lichtenstein, 1823)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Theristicus caerulescens</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Theristicus caudatus</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Platalea ajaja</i> Linnaeus, 1758	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<b>Cathartiformes</b>				
<b>Cathartidae</b>				
<i>Sarcoramphus papa</i> (Linnaeus, 1758)	LC	NT	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Coragyps atratus</i> (Bechstein, 1793)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cathartes aura</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cathartes burrovianus</i> Cassin, 1845	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<b>Accipitriformes</b>				
<b>Pandionidae</b>				
<i>Pandion haliaetus</i> (Linnaeus, 1758)	LC	LC	M (N)	Rv/sP, Rv/sNP, FoI
<b>Accipitridae</b>				
<i>Gampsonyx swainsoni</i> Vigors, 1825	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Elanus leucurus</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Chondrohierax uncinatus</i> (Temminck, 1822)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Leptodon cayanensis</i> (Latham, 1790)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Elanoides forficatus</i> (Linnaeus, 1758)	LC	LC	M (N)	Rv/sP, Rv/sNP, FoI
<i>[Morphnus guianensis</i> (Daudin, 1800)]	NT	VU	RE	Rv/sP
<i>Harpia harpyja</i> (Linnaeus, 1758)	NT	VU	RE	Rv/sP, FoP, FoI
<i>Spizaetus tyrannus</i> (Wied, 1820)	LC	LC	RE	Rv/sP, Rv/sNP, FoP, FoI
<i>Spizaetus melanoleucus</i> (Vieillot, 1816)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Spizaetus ornatus</i> (Daudin, 1800)	NT	NT	RE	Rv/sP, Rv/sNP, FoP, FoI
<i>Busarellus nigricollis</i> (Latham, 1790)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Rostrhamus sociabilis</i> (Vieillot, 1817)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Harpagus bidentatus</i> (Latham, 1790)	LC	LC	RE	FoM
<i>Harpagus diodon</i> (Temminck, 1823)	LC	LC	M (W)	Rv/sP, Rv/sNP, FoI
<i>Ictinia mississippiensis</i> (Wilson, 1811)	LC	LC	M (N)	Rv/sP, Rv/sNP, FoI
<i>Ictinia plumbea</i> (Gmelin, 1788)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Circus buffoni</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<i>Hieraspiza superciliosa</i> (Linnaeus, 1766)	LC	LC	RE	Rv/sP, Rv/sNP
<i>Accipiter poliogaster</i> (Temminck, 1824)	NT	DD	RE	Rv/sP, FoP, FoI
<i>Accipiter striatus</i> Vieillot, 1808	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Accipiter bicolor</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Geranospiza caerulescens</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Heterospizias meridionalis</i> (Latham, 1790)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Urubitinga urubitinga</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Urubitinga coronata</i> (Vieillot, 1817)	EN	EN	RE	Rv/sP, Rv/sNP, FoP, FoI, ASM
<i>Rupornis magnirostris</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Parabuteo unicinctus</i> (Temminck, 1824)	LC	LC	RE	Rv/sP, FoP, FoI
<i>Geranoaetus albicaudatus</i> Vieillot, 1816	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Geranoaetus melanoleucus</i> (Vieillot, 1819)	LC	LC	RE	Rv/sP, Rv/sNP, FoP, FoI
<i>Pseudastur albicollis</i> (Latham, 1790)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Buteo nitidus</i> (Latham, 1790)	LC	LC	RE	Rv/sP, Rv/sNP, FoI

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Buteo platypterus</i> (Vieillot, 1823)	LC	LC	M (N)	ExM, Fol
<i>Buteo brachyurus</i> Vieillot, 1816	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Buteo swainsoni</i> Bonaparte, 1838	LC	LC	M (N)	Fol
<i>Buteo albonotatus</i> Kaup, 1847	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<b>Strigiformes</b>				
<b>Tytonidae</b>				
<i>Tyto furcata</i> (Temminck, 1827)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<b>Strigidae</b>				
<i>Megascops choliba</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Megascops atricapilla</i> (Temminck, 1822)	LC	LC	RE	ExM
<i>Pulsatrix perspicillata</i> (Latham, 1790)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASM
<i>Pulsatrix koenigswaldiana</i> (Bertoni & Bertoni, 1901)	LC	LC	RE	Rv/sNP, Fol
<i>Bubo virginianus</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Strix virgata</i> (Cassin, 1849)	LC	LC	RE	ExM, Rv/sP
<i>Strix huhula</i> Daudin, 1800	LC	LC	RE	Rv/sP, Fol, ASM
<i>Glaucidium minutissimum</i> (Wied, 1830)	LC	LC	RE	ExM
<i>Glaucidium brasilianum</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Athene cunicularia</i> (Molina, 1782)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Asio clamator</i> (Vieillot, 1808)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Asio stygius</i> (Wagler, 1832)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASM
<i>Asio flammeus</i> (Pontoppidan, 1763)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<b>Trogoniformes</b>				
<b>Trogonidae</b>				
<i>Trogon surrucura</i> Vieillot, 1817	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Trogon curucui</i> Linnaeus, 1766	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Trogon chrysochloros</i> Pelzeln, 1856	LC	LC	RE	Fol
<b>Coraciiformes</b>				
<b>Momotidae</b>				
<i>Baryphthengus ruficapillus</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Momotus momota</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Alcedinidae</b>				
<i>Megaceryle torquata</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Chloroceryle amazona</i> (Latham, 1790)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Chloroceryle aenea</i> (Pallas, 1764)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Chloroceryle americana</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Chloroceryle inda</i> (Linnaeus, 1766)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<b>Galbuliformes</b>				
<b>Galbulidae</b>				
<i>Brachygalba lugubris</i> (Swainson, 1838)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Galbula ruficauda</i> Cuvier, 1816	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Bucconidae</b>				
<i>Chelidoptera tenebrosa</i> (Pallas, 1782)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Monasa nigrifrons</i> (Spix, 1824)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Nonnula rubecula</i> (Spix, 1824)	LC	LC	RE	ExM, Rv/sP, Fol, ASM
<i>Notharchus swainsoni</i> (Gray, 1846)	LC	NT	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Nystalus maculatus</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Nystalus striatipectus</i> (Sclater, 1854)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Nystalus chacuru</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<b>Piciformes</b>				
<b>Ramphastidae</b>				
<i>Ramphastos toco</i> Statius Muller, 1776	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Ramphastos vitellinus</i> Lichtenstein, 1823	VU	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Ramphastos dicolorus</i> Linnaeus, 1766	LC	LC	RE	Rv/sP, Rv/sNP, ASM
<i>Selenidera maculirostris</i> (Lichtenstein, 1823)	LC	LC	RE	Rv/sNP, Fol
<i>Pteroglossus bailloni</i> (Vieillot, 1819)	NT	NT	RE	Rv/sP, Fol
<i>Pteroglossus castanotis</i> Gould, 1834	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Picidae</b>				
<i>Picumnus cirratus</i> Temminck, 1825	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Picumnus albosquamatus</i> d'Orbigny, 1840	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Melanerpes candidus</i> (Otto, 1796)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Melanerpes flavifrons</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Melanerpes cactorum</i> (d'Orbigny, 1839)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASI
[ <i>Veniliornis affinis</i> (Swainson, 1821)]	LC	LC	RE	Rv/sNP
<i>Veniliornis passerinus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
[ <i>Veniliornis spilogaster</i> (Wagler, 1827)]	LC	LC	RE	Rv/SP, Rv/sNP
<i>Veniliornis mixtus</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Campephilus robustus</i> (Lichtenstein, 1818)	LC	LC	RE	ExM, Rv/SP, Fol, ASM
<i>Campephilus melanoleucos</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Campephilus leucopogon</i> (Valenciennes, 1826)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Dryocopus lineatus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Celex flavus</i> (Statius Muller, 1776)	LC	LC	RE	Rv/SP, Rv/sNP, FoP, Fol
<i>Celex lugubris</i> (Malherbe, 1851)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Celex flavescens</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/SP, Rv/sNP
<i>Piculus chrysochloros</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/SP, Rv/sNP
<i>Colaptes melanochloros</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Colaptes campestris</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASI
<b>Cariamiformes</b>				
<b>Cariamidae</b>				
<i>Cariama cristata</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASM
<b>Falconiformes</b>				
<b>Falconidae</b>				
<i>Herpetotheres cachinnans</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Micrastur ruficollis</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/SP, Rv/sNP
<i>Micrastur semitorquatus</i> (Vieillot, 1817)	LC	LC	RE	Rv/SP, Rv/sNP, Fol
<i>Caracara plancus</i> (Miller, 1777)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Ibycter americanus</i> (Boddaert, 1783)	LC	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Milvago chimachima</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASI
<i>Milvago chimango</i> (Vieillot, 1816)	LC	LC	RE	Rv/SP, Rv/sNP, Fol, ASI
<i>Falco sparverius</i> Linnaeus, 1758	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Falco rufigularis</i> Daudin, 1800	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Falco deiroleucus</i> Temminck, 1825	NT	LC	RE	Rv/SP, Rv/sNP, Fol
<i>Falco femoralis</i> Temminck, 1822	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Falco peregrinus</i> Tunstall, 1771	LC	LC	M (N)	Rv/SP, Rv/sNP, Fol
<b>Psittaciformes</b>				
<b>Psittacidae</b>				
<i>Myiopsitta monachus</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASI
<i>Brotogeris chiriri</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/SP, Rv/sNP
<i>Pionus maximiliani</i> (Kuhl, 1820)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Pionus menstruus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Alipiopsitta xanthops</i> (Spix, 1824)	NT	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Amazona aestiva</i> (Linnaeus, 1758)	NT	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Amazona amazonica</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Forpus xanthopterygius</i> (Spix, 1824)	LC	LC	RE	Rv/SP, Rv/sNP, Fol
<i>Pyrrhura devillei</i> (Massena & Souancé, 1854)	NT	NT	RE	ExM, Rv/SP, Rv/sNP
<i>Pyrrhura frontalis</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Pyrrhura molinae</i> (Massena & Souancé, 1854)	LC	NT	RE	ExM, Rv/SP, Rv/sNP, FoM, Fol
<i>Anodorhynchus hyacinthinus</i> (Latham, 1790)	VU	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Eupsittula aurea</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Aratinga nenday</i> (Vieillot, 1823)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Aratinga auricapillus</i> (Kuhl, 1820)	LC	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Orthopsittaca manilatus</i> (Boddaert, 1783)	LC	LC	RE	Rv/SP, Rv/sNP, Fol, ASM
<i>Primolius maracana</i> (Vieillot, 1816)	NT	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Primolius auricollis</i> (Cassin, 1853)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASM
<i>Ara ararauna</i> (Linnaeus, 1758)	LC	LC	RE	Rv/SP, Rv/sNP, Fol, ASM
<i>Ara chloropterus</i> Gray, 1859	LC	NT	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Thectocercus acuticaudatus</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASI
<i>Diopsittaca nobilis</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol
<i>Psittacara leucophthalmus</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/SP, Rv/sNP, Fol, ASI

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<b>Passeriformes</b>				
<b>Thamnophilidae</b>				
<i>Myrmorchilus strigilatus</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Terenura maculata</i> (Wied, 1831)	LC	LC	RE	ExM
<i>Formicivora melanogaster</i> Pelzeln, 1868	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Formicivora rufa</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Dysithamnus mentalis</i> (Temminck, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Herpsilochmus longirostris</i> Pelzeln, 1868	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
[ <i>Herpsilochmus rufimarginatus</i> (Temminck, 1822)]	LC	LC	RE	Rv/sP
<i>Herpsilochmus atricapillus</i> Pelzeln, 1868	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Thamnophilus doliatus</i> (Linnaeus, 1764)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
[ <i>Thamnophilus ruficapillus</i> Vieillot, 1816]	LC	LC	RE	Rv/sP, Rv/sNP
<i>Thamnophilus torquatus</i> Swainson, 1825	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Thamnophilus sticturus</i> Pelzeln, 1868	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Thamnophilus pelzelni</i> Hellmayr, 1924	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Thamnophilus caerulescens</i> Vieillot, 1816	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Taraba major</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Hypoedaleus guttatus</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sNP, ASM
<i>Hypocnemoides maculicauda</i> (Pelzeln, 1868)	LC	LC	RE	Rv/sP, Fol
<i>Pyriglena maura</i> (Ménétrières, 1835)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Pyriglena leucoptera</i> (Vieillot, 1818)	LC	LC	RE	ExM
<i>Cercomacra melanaria</i> (Ménétrières, 1835)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<b>Melanopareiidae</b>				
<i>Melanopareia bitorquata</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	Rv/sP, Rv/sNP, FoP, Fol
<i>Melanopareia torquata</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<b>Conopophagidae</b>				
<i>Conopophaga lineata</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sNP
<b>Formicariidae</b>				
<i>Chamaeza campanisona</i> (Lichtenstein, 1823)	LC	LC	RE	ExM
<b>Scleruridae</b>				
[ <i>Sclerurus scansor</i> (Ménétrières, 1835)]	LC	LC	RE	Rv/sNP
<i>Geositta poeciloptera</i> (Wied, 1830)	VU	EN	RE	ExM, Rv/sNP, Fol
<b>Dendrocolaptidae</b>				
<i>Sittasomus griseicapillus</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Dendrocincla turdina</i> (Lichtenstein, 1820)	LC	LC	RE	ExM
<i>Dendrocolaptes picumnus</i> Lichtenstein, 1820	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Dendrocolaptes platyrostris</i> Spix, 1825	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Xiphocolaptes albicollis</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sNP
<i>Xiphocolaptes major</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Xiphorhynchus fuscus</i> (Vieillot, 1818)	LC	LC	RE	ExM
<i>Xiphorhynchus guttatoides</i> (Lafresnaye, 1850)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Dendroplex picus</i> (Gmelin, 1788)	LC	LC	RE	Fol
<i>Campylorhamphus trochilirostris</i> (Lichtenstein, 1820)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Lepidocolaptes angustirostris</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<b>Xenopidae</b>				
[ <i>Xenops minutus</i> (Sparman, 1788)]	LC	LC	RE	Rv/sP, Rv/sNP
<i>Xenops rutilans</i> Temminck, 1821	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Furnariidae</b>				
[ <i>Berlepschia rikeri</i> (Ridgway, 1886)]	LC	LC	RE	Rv/sP
<i>Furnarius leucopus</i> Swainson, 1838	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Furnarius rufus</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Lochmias nematura</i> (Lichtenstein, 1823)	LC	LC	RE	Rv/sNP, Fol
<i>Phleocryptes melanops</i> (Vieillot, 1817)	LC	LC	RE	Rv/sP, Fol
<i>Anabacerthia lichtensteini</i> (Cabanis & Heine, 1859)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Syndactyla rufosuperciliata</i> (Lafresnaye, 1832)	LC	LC	RE	ExM, Rv/sP, Fol
<i>Syndactyla dimidiata</i> (Pelzeln, 1859)	LC	LC	RE	ExM, Rv/sP, Fol
<i>Dendroma rufa</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Clibanornis rectirostris</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Automolus leucophthalmus</i> (Wied, 1821)	LC	LC	RE	Rv/sP, Rv/sNP, Fol



Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Phacellodomus rufifrons</i> (Wied, 1821)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Phacellodomus ruber</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Anumbius annumbi</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cranioleuca vulpina</i> (Pelzeln, 1856)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cranioleuca pyrrhophia</i> (Vieillot, 1818)	LC	LC	RE	Rv/sP, FoI
<i>Cranioleuca obsoleta</i> (Reichenbach, 1853)	LC	LC	RE	FoI
<i>Pseudoseisura unirufa</i> (d'Orbigny & Lafresnaye, 1838)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Certhiaxis cinnamomeus</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Schoeniophylax phryganophilus</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<i>Synallaxis scutata</i> Sclater, 1859	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Synallaxis cinerascens</i> Temminck, 1823	LC	LC	RE	ExM, Rv/sNP
<i>Synallaxis albilora</i> Pelzeln, 1856	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<i>Synallaxis ruficapilla</i> Vieillot, 1819	LC	LC	RE	Rv/sP, Rv/sNP, FoI, ASM, ASI
<i>Synallaxis hypospodia</i> Sclater, 1874	LC	LC	RE	ExM, Rv/sP, Rv/sNP
[ <i>Synallaxis spixi</i> Sclater, 1856]	LC	LC	RE	Rv/sNP
<i>Synallaxis albescens</i> Temminck, 1823	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Synallaxis frontalis</i> Pelzeln, 1859	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<b>Pipridae</b>				
<i>Neopelma pallescens</i> (Lafresnaye, 1853)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Chiroxiphia caudata</i> (Shaw & Nodder, 1793)	LC	LC	RE	ExM, Rv/sP
<i>Antilophia galeata</i> (Lichtenstein, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Manacus manacus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sNP
<i>Pipra fasciicauda</i> Hellmayr, 1906	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
[ <i>Machaeropterus pyrocephalus</i> (Sclater, 1852)]	LC	LC	RE	Rv/sNP
<b>Cotingidae</b>				
<i>Phibalura flavirostris</i> Vieillot, 1816	NT	LC	RE	Rv/sP, Rv/sNP, FoP, FoI
<i>Pyroderus scutatus</i> (Shaw, 1792)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Procnias nudicollis</i> (Vieillot, 1817)	NT	NT	RE	ExM, Rv/sP, FoI
<b>Tityridae</b>				
<i>Schiffornis virescens</i> (Lafresnaye, 1838)	LC	LC	RE	Rv/sP, Rv/sNP, ASM
<i>Tityra inquisitor</i> (Lichtenstein, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Tityra cayana</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Tityra semifasciata</i> (Spix, 1825)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Pachyramphus viridis</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Pachyramphus castaneus</i> (Jardine & Selby, 1827)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Pachyramphus polychopterus</i> (Vieillot, 1818)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
[ <i>Pachyramphus marginatus</i> (Lichtenstein, 1823)]	LC	LC	RE	Rv/sP
<i>Pachyramphus validus</i> (Lichtenstein, 1823)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Xenopsaris albinucha</i> (Burmeister, 1869)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<b>Oxyruncidae</b>				
<i>Oxyruncus cristatus</i> Swainson, 1821	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<b>Pipritidae</b>				
<i>Piprites chloris</i> (Temminck, 1822)	LC	LC	RE	ASM
<b>Platyrinchidae</b>				
<i>Platyrinchus mystaceus</i> Vieillot, 1818	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<b>Rhynchocyclidae</b>				
<i>Leptopogon amaurocephalus</i> Tschudi, 1846	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Corythopis delalandi</i> (Lesson, 1830)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Phylloscartes eximius</i> (Temminck, 1822)	NT	LC	RE	ExM
<i>Phylloscartes ventralis</i> (Temminck, 1824)	LC	LC	RE	ExM, Rv/sNP
<i>Phylloscartes paulista</i> Ihering & Ihering, 1907	NT	LC	RE	ExM
<i>Tolmomyias sulphureus</i> (Spix, 1825)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Tolmomyias flaviventris</i> (Wied, 1831)	LC	LC	RE	Rv/sP, FoI, ASI
<i>Todirostrum poliocephalum</i> (Wied, 1831)	LC	LC	RE	FoI
<i>Todirostrum cinereum</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Poecilotriccus plumbeiceps</i> (Lafresnaye, 1846)	LC	LC	RE	ExM, Rv/sP
<i>Poecilotriccus latirostris</i> (Pelzeln, 1868)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Myiornis auricularis</i> (Vieillot, 1818)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Hemitriccus striaticollis</i> (Lafresnaye, 1853)	LC	LC	RE	ExM, Rv/sP, FoI

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Hemitriccus margaritaceiventer</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<b>Tyrannidae</b>				
<i>Hirundinea ferruginea</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Inezia inornata</i> (Salvadori, 1897)	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP, Fol
<i>Euscarthmus meloryphus</i> Wied, 1831	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Euscarthmus rufomarginatus</i> (Pelzeln, 1868)	NT	NT	RE	ExM, Rv/sNP, Fol
<i>Campostoma obsoletum</i> (Temminck, 1824)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Elaenia flavogaster</i> (Thunberg, 1822)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Elaenia spectabilis</i> Pelzeln, 1868	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Elaenia chilensis</i> Hellmayr, 1927	LC	LC	M (S)	ExM, Rv/sP, Fol
<i>Elaenia parvirostris</i> Pelzeln, 1868	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Elaenia mesoleuca</i> (Deppe, 1830)	LC	LC	RE	Rv/sP, Rv/sNP, ASI
<i>Elaenia cristata</i> Pelzeln, 1868	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Elaenia chiriquensis</i> Lawrence, 1865	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP
<i>Elaenia obscura</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	ExM, Rv/sP, Fol
<i>Suiriri suiriri</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Myiopagis gaimardii</i> (d'Orbigny, 1839)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASM
<i>Myiopagis caniceps</i> (Swainson, 1835)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Myiopagis viridicata</i> (Vieillot, 1817)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, ASM
<i>Capsiempis flaveola</i> (Lichtenstein, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Phaeomyias murina</i> (Spix, 1825)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Phyllomyias virescens</i> (Temminck, 1824)	LC	LC	RE	ExM
<i>Phyllomyias reiseri</i> Hellmayr, 1905	LC	DD	RE	ExM, Rv/sP
<i>Phyllomyias fasciatus</i> (Thunberg, 1822)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Culicivora caudacuta</i> (Vieillot, 1818)	VU	LC	RE	ExM, Rv/sP, Fol
<i>Polystictus pectoralis</i> (Vieillot, 1817)	NT	NT	MP (S)	Rv/sP, Rv/sNP, Fol
<i>Pseudocolopteryx sclateri</i> (Oustalet, 1892)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Pseudocolopteryx acutipennis</i> (Sclater & Salvin, 1873)	LC	LC	M (W)	ExM, Rv/sP, Fol
<i>Pseudocolopteryx flaviventris</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	M (S)	Fol
<i>Serpophaga nigricans</i> (Vieillot, 1817)	LC	LC	M (W)	Rv/sP, Fol
<i>Serpophaga subcristata</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Serpophaga griseicapilla</i> Straneck, 2008	LC	LC	M (W)	Rv/sP, Fol, ASI
<i>Attila phoenicurus</i> Pelzeln, 1868	LC	LC	RE	ExM, Rv/sNP
<i>Attila bolivianus</i> Lafresnaye, 1848	LC	LC	RE	Rv/sP, ASI
<i>Legatus leucophaeus</i> (Vieillot, 1818)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Myiarchus tuberculifer</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	Fol
<i>Myiarchus swainsoni</i> Cabanis & Heine, 1859	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Myiarchus ferox</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Myiarchus tyrannulus</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Sirystes sibilator</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Casiornis rufus</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Pitangus sulphuratus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Philohydor lictor</i> (Lichtenstein, 1823)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Machetornis rixosa</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Myiodynastes maculatus</i> (Statius Muller, 1776)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Tyrannopsis sulphurea</i> (Spix, 1825)	LC	LC	RE	Rv/sNP, Fol, ASM
<i>Megarynchus pitangua</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Myiozetetes cayanensis</i> (Linnaeus, 1766)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Myiozetetes similis</i> (Spix, 1825)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Tyrannus albogularis</i> Burmeister, 1856	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Tyrannus melancholicus</i> Vieillot, 1819	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP
<i>Tyrannus savana</i> Daudin, 1802	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Tyrannus tyrannus</i> (Linnaeus, 1758)	LC	LC	M (N)	Rv/sP, Fol
<i>Griseotyrannus aurantioatrocristatus</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Empidonomus varius</i> (Vieillot, 1818)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Conopias trivirgatus</i> (Wied, 1831)	LC	LC	RE	ASM
<i>Guyramemua affine</i> (Burmeister, 1856)	NT	DD	RE	ExM, Rv/sP, Fol
<i>Sublegatus modestus</i> (Wied, 1831)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Colonia colonus</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Arundinicola leucocephala</i> (Linnaeus, 1764)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Fluvicola albiventer</i> (Spix, 1825)	LC	LC	NO	ExM, Rv/sP, Rv/sNP
<i>Fluvicola nengeta</i> (Linnaeus, 1766)	LC	LC	RE	Rv/sP, Rv/sNP, FoP, FoI
<i>Pyrocephalus rubinus</i> (Boddaert, 1783)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP
<i>Muscipipra vetula</i> (Lichtenstein, 1823)	LC	LC	RE	ExM
<i>Gubernetes yetapa</i> (Vieillot, 1818)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Alectrurus tricolor</i> (Vieillot, 1816)	VU	VU	MP (W)	ExM, Rv/sP, Rv/sNP, FoP, FoI
<i>Alectrurus risora</i> (Vieillot, 1824)	VU	NT	M (W)	ExM, Rv/sP, FoP, FoI
<i>Myiophobus fasciatus</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cnemotriccus fuscatus</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Lathrotriccus euleri</i> (Cabanis, 1868)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Empidonax alnorum</i> Brewster, 1895	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, FoP, FoI
<i>Contopus cooperi</i> (Nuttall, 1821)	LC	LC	M (N)	FoI
<i>Contopus virens</i> (Linnaeus, 1766)	LC	LC	M (N)	Rv/sNP, FoI
<i>Contopus cinereus</i> (Spix, 1825)	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Satrapa icterophrys</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Hymenops perspicillatus</i> (Gmelin, 1789)	LC	LC	MP (S)	Rv/sP, Rv/sNP, FoI
<i>Knipolegus lophotes</i> Boie, 1828	LC	LC	RE	Rv/sP, Rv/sNP, FoP, FoI
<i>Knipolegus cyanirostris</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Knipolegus striaticeps</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	M (W)	ExM, Rv/sP, FoP, FoI
<i>Knipolegus hudsoni</i> Sclater, 1872	LC	LC	M (S)	Rv/sP, FoI
<i>Knipolegus aterrimus</i> Kaup, 1853	LC	LC	M (S)	Rv/sP, FoP
<i>Xolmis irupero</i> (Vieillot, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Xolmis velatus</i> (Lichtenstein, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Nengetus cinereus</i> (Vieillot, 1816)	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, FoI
<b>Vireonidae</b>				
<i>Cyclarhis gujanensis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Hylophilus amaurocephalus</i> (Nordmann, 1835)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
[ <i>Hylophilus poicilotis</i> Temminck, 1822]	LC	LC	RE	Rv/sP, Rv/sNP
<i>Hylophilus pectoralis</i> Sclater, 1866	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Vireo olivaceus</i> (Linnaeus, 1766)	LC	LC	M (N)	FoI
<i>Vireo chivi</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<b>Corvidae</b>				
<i>Cyanocorax cyanomelas</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<i>Cyanocorax cristatellus</i> (Temminck, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Cyanocorax chrysops</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cyanocorax cyanopogon</i> (Wied, 1821)	LC	LC	RE	ExM, Rv/sP, FoP, FoI
<b>Hirundinidae</b>				
<i>Pygochelidon cyanoleuca</i> (Vieillot, 1817)	LC	LC	M (S)	Rv/sP, Rv/sNP, FoI
<i>Alopochelidon fucata</i> (Temminck, 1822)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Stelgidopteryx ruficollis</i> (Vieillot, 1817)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP
<i>Progne tapera</i> (Linnaeus, 1766)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP
<i>Progne subis</i> (Linnaeus, 1758)	LC	LC	M (N)	Rv/sP, Rv/sNP, FoI
<i>Progne chalybea</i> (Gmelin, 1789)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Progne elegans</i> Baird, 1865	LC	LC	M (S)	Rv/sP, FoI
<i>Tachycineta albiventer</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Tachycineta leucorrhoa</i> (Vieillot, 1817)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Riparia riparia</i> (Linnaeus, 1758)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, FoI
<i>Hirundo rustica</i> Linnaeus, 1758	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, FoI
<i>Petrochelidon pyrrhonota</i> (Vieillot, 1817)	LC	LC	M (N)	Rv/sP, Rv/sNP, FoI
<b>Troglodytidae</b>				
<i>Troglodytes musculus</i> Naumann, 1823	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI
<i>Cistothorus platensis</i> (Latham, 1790)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Campylorhynchus turdinus</i> (Wied, 1831)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Pheugopedius genibarbis</i> (Swainson, 1838)	LC	LC	RE	Rv/sP, Rv/sNP
<i>Cantorchilus leucotis</i> (Lafresnaye, 1845)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cantorchilus guarayanus</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM, ASI
<b>Poliopitidae</b>				
<i>Polioptila dumicola</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM, ASI

Table 1. continued.

Taxon	Status		Migration	Evidence
	Conservation			
	Global	Brazil		
<b>Donacobiidae</b>				
<i>Donacobius atricapilla</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM, ASI
<b>Turdidae</b>				
<i>Catharus fuscescens</i> (Stephens, 1817)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, FoP
<i>Turdus leucomelas</i> Vieillot, 1818	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Turdus hauxwelli</i> Lawrecen, 1869	LC	LC	RE	ExM, Rv/sP, FoP, Fol
<i>Turdus rufiventris</i> Vieillot, 1818	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Turdus amaurochalinus</i> Cabanis, 1850	LC	LC	MP (W)	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Turdus subalaris</i> (Seebohm, 1887)	LC	LC	MP (S)	Rv/sP, Rv/sNP, Fol
<i>Turdus albicollis</i> Vieillot, 1818	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Mimidae</b>				
<i>Mimus saturninus</i> (Lichtenstein, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Mimus triurus</i> (Vieillot, 1818)	LC	LC	M (S)	ExM, Rv/sP, Rv/sNP, Fol
<b>Estrildidae</b>				
<i>Estrilda astrild</i> (Linnaeus, 1758)	LC	LC	RE	Rv/sP, Fol
<b>Passeridae</b>				
<i>Passer domesticus</i> (Linnaeus, 1758)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<b>Motacillidae</b>				
<i>Anthus chii</i> Vieillot, 1818	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<b>Fringillidae</b>				
<i>Spinus magellanicus</i> (Vieillot, 1805)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Cyanophonia cyanocephala</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Fol
<i>Chlorophonia cyanea</i> (Thunberg, 1822)	LC	LC	RE	Rv/sNP, Fol
<i>Euphonia chlorotica</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Euphonia chalybea</i> (Mikan, 1825)	NT	LC	RE	ExM, Rv/sP
<i>Euphonia violacea</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Euphonia lanirostris</i> d'Orbigny & Lafresnaye, 1837	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<b>Passerellidae</b>				
<i>Ammodramus humeralis</i> (Bosc, 1792)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Arremon taciturnus</i> (Hermann, 1783)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Arremon flavirostris</i> Swainson, 1838	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Arremon polionotus</i> Bonaparte, 1850	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Zonotrichia capensis</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<b>Icteridae</b>				
<i>Dolichonyx oryzivorus</i> (Linnaeus, 1758)	LC	LC	M (N)	ExM, Rv/sP, Rv/sNP, Fol
<i>Leistes supercilialis</i> (Bonaparte, 1850)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, Fol
<i>Psarocolius decumanus</i> (Pallas, 1769)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Cacicus solitarius</i> (Vieillot, 1816)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Cacicus chrysopterus</i> (Vigors, 1825)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Cacicus cela</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Cacicus haemorrhous</i> (Linnaeus, 1766)	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASI
<i>Icterus croconotus</i> (Wagler, 1829)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Icterus pyrrhopterus</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Molothrus rufoaxillaris</i> Cassin, 1866	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Molothrus oryzivorus</i> (Gmelin, 1788)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Molothrus bonariensis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Amblyramphus holosericeus</i> (Scopoli, 1786)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASI
<i>Gnorimapsar chopi</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM, ASI
<i>Agelaioides badius</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Agelasticus atroolivaceus</i> (Wied-Neuwied, 1831)	LC	LC	RE	ExM, Rv/sNP, Fol
<i>Agelasticus cyanopus</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Chrysomus ruficapillus</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Pseudoleistes guirahuro</i> (Vieillot, 1819)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<b>Parulidae</b>				
<i>Geothlypis aequinoctialis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Setophaga pitiayumi</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Myiothlypis leucophrys</i> Pelzeln, 1868	LC	LC	RE	Rv/sP, Rv/sNP, Fol, ASM
<i>Myiothlypis flaveola</i> Baird, 1865	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Myiothlypis leucoblephara</i> (Vieillot, 1817)	LC	LC	RE	Rv/sP, ASM

Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Basileuterus culicivorus</i> (Deppe, 1830)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<b>Cardinalidae</b>				
<i>Piranga flava</i> (Vieillot, 1822)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Habia rubica</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Pheucticus aureoventris</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	M (W)	ExM, Rv/sP, Rv/sNP, FoP, FoI
<i>Amaurospiza moesta</i> (Hartlaub, 1853)	LC	LC	RE	ExM
<i>Cyanoloxia rothschildii</i> (Bartlett, 1890)	LC	LC	RE	ExM, Rv/sNP
<i>Cyanoloxia glaucocaeulea</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	MP (S)	Rv/sP, FoI
<i>Cyanoloxia brissonii</i> (Lichtenstein, 1823)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASI, ASM
<b>Thraupidae</b>				
<i>Charitospiza eucoisma</i> Oberholser, 1905	NT	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Nemosia pileata</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Coryphospiza melanotis</i> (Temminck, 1822)	VU	EN	RE	Rv/sP, Rv/sNP, FoI
<i>Embernagra platensis</i> (Gmelin, 1789)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Emberizoides herbicola</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Emberizoides ypiranganus</i> Ihering & Ihering, 1907	LC	LC	RE	Rv/sNP, FoI
<i>Porphyrospiza caeruleascens</i> (Wied, 1830)	NT	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Hemithraupis guira</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, ASM
<i>Tersina viridis</i> (Illiger, 1811)	LC	LC	NO	ExM, Rv/sP, Rv/sNP, FoI
<i>Cyanerpes cyaneus</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Dacnis cayana</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Saltatricula atricollis</i> Vieillot, 1817	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Saltatricula multicolor</i> (Burmeister, 1860)	LC	LC	M (W)	Rv/sP, FoI
<i>Saltator maximus</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Saltator coeruleascens</i> Vieillot, 1817	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM, ASI
<i>Saltator similis</i> d'Orbigny & Lafresnaye, 1837	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Saltator aurantiirostris</i> Vieillot, 1817	LC	LC	RE	ExM, Rv/sNP, FoI
<i>Coereba flaveola</i> (Linnaeus, 1758)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Aemospiza obscura</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	M (W)	ExM, Rv/sP, FoP, FoI
<i>Aemospiza fuliginosa</i> (Wied, 1830)	LC	LC	RE	FoI
<i>Volatinia jacarina</i> (Linnaeus, 1766)	LC	LC	NO	ExM, Rv/sP, Rv/sNP
<i>Conothraupis mesoleuca</i> (Berlioz, 1939)	EN	EN	RE	Rv/sNP, FoI
<i>Eucometis penicillata</i> (Spix, 1825)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Trichothraupis melanops</i> (Vieillot, 1818)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Coryphospingus cucullatus</i> (Statius Muller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Tachyphonus rufus</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Tachyphonus coronatus</i> (Vieillot, 1822)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Ramphocelus carbo</i> (Pallas, 1764)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila lineola</i> (Linnaeus, 1758)	LC	LC	M (S)	Rv/sP, Rv/sNP, FoI
<i>Sporophila falcirostris</i> (Temminck, 1820)	VU	VU	M (S)	FoI
<i>Sporophila plumbea</i> (Wied, 1830)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI, ASM
<i>Sporophila collaris</i> (Boddaert, 1783)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila nigricollis</i> (Vieillot, 1823)	LC	LC	RE	Rv/sP, Rv/sNP, FoI
<i>Sporophila caeruleascens</i> (Vieillot, 1823)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila leucoptera</i> (Vieillot, 1817)	LC	LC	MP (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila nigrorufa</i> (d'Orbigny & Lafresnaye, 1837)	VU	VU	M (S)	ExM, Rv/sP, FoP, FoI
<i>Sporophila bouvreuil</i> (Statius Muller, 1776)	LC	LC	M (S)	Rv/sP, Rv/sNP, FoI
<i>Sporophila pileata</i> (Scater, 1865)	LC	NT	M (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila hypoxantha</i> Cabanis, 1851	LC	VU	M (S)	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila ruficollis</i> Cabanis, 1851	NT	VU	M (S)	Rv/sP, Rv/sNP, FoP, FoI
<i>Sporophila iberaensis</i> Di Giacomo & Kopuchian, 2016	EN	LC	M (W)	Rv/sP, FoI
<i>Sporophila palustris</i> (Barrows, 1883)	EN	VU	M (S)	Rv/sP, Rv/sNP, FoI
<i>Sporophila hypochroma</i> Todd, 1915	NT	LC	M (S)	Rv/sP, Rv/sNP, FoI
<i>Sporophila cinnamomea</i> (Lafresnaye, 1839)	VU	NT	M (S)	Rv/sP, Rv/sNP, FoI
<i>Sporophila angolensis</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Sporophila maxilliani</i> (Cabanis, 1851)	EN	CR	RE	Rv/sP, Rv/sNP
<i>Thlyopsis sordida</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoI
<i>Cypsnagra hirundinacea</i> (Lesson, 1831)	LC	LC	RE	ExM, Rv/sP, FoP, FoI, ASM
<i>Donacospiza albifrons</i> (Vieillot, 1817)	LC	LC	RE	Rv/sP, Rv/sNP, FoI



Table 1. continued.

Taxon	Status			Evidence
	Conservation		Migration	
	Global	Brazil		
<i>Microspingus melanoleucus</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
<i>Microspingus cinereus</i> Bonaparte, 1850	LC	LC	RE	ExM
<i>Conirostrum speciosum</i> (Temminck, 1824)	LC	LC	RE	ExM, Rv/sP, Rv/sNP
[ <i>Sicalis citrina</i> Pelzeln, 1870]	LC	LC	MP (W)	Rv/sP, Rv/sNP
<i>Sicalis flaveola</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Sicalis luteola</i> (Sparman, 1789)	LC	LC	MP (W)	Rv/sP, Rv/sNP, Fol
<i>Pipraeidea melanonota</i> (Vieillot, 1819)	LC	LC	RE	Rv/sP, Rv/sNP, Fol
<i>Rauenia bonariensis</i> (Gmelin, 1789)	LC	LC	RE	Fol
<i>Neothraupis fasciata</i> (Lichtenstein, 1823)	NT	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Cissopis leverianus</i> (Gmelin, 1788)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, FoP, Fol
<i>Schistochlamys melanopis</i> (Latham, 1790)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Schistochlamys ruficapillus</i> (Vieillot, 1817)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Paroaria coronata</i> (Miller, 1776)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Paroaria dominicana</i> (Linnaeus, 1758)	LC	LC	RE	Fol
<i>Paroaria capitata</i> (d'Orbigny & Lafresnaye, 1837)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Thraupis sayaca</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol, ASM
<i>Thraupis palmarum</i> (Wied, 1821)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Stilpnia preciosa</i> (Cabanis, 1850)	LC	LC	RE	Fol
<i>Stilpnia cayana</i> (Linnaeus, 1766)	LC	LC	RE	ExM, Rv/sP, Rv/sNP, Fol
<i>Tangara seledon</i> (Statius Muller, 1776)	LC	LC	RE	ExM
<i>Tangara mexicana</i> (Linnaeus, 1766)	LC	LC	RE	Fol

migratory movements. In this group, the members of the families Tyrannidae (23 species), Thraupidae (12 species of *Sporophila*), and Hirundinidae (seven species) stand out.

Thirty-one species are included in at least one threat category at the global (IUCN, 2021) and/or national (ICMBio & MMA, 2018) level. Among the species listed in threat categories at the global level, most are included in the VU category (17 species), while the other six are in the EN category. At the national level, at least 20 species are listed as endangered species: VU (13 species), EN (seven species), and CR (two species).

The number of bird species recorded in Mato Grosso do Sul represents 34% of all known avifauna in the Brazilian territory (Pacheco et al., 2021), highlighting the importance of the state for bird conservation due to its expressive species richness. However, there are still considerable gaps in the knowledge about the avifauna occurring in Mato Grosso do Sul, especially in border regions with other countries and states, such as Chaco of Porto Murtinho, Serra do Amolar, Pantanal do Paiaguás, Aporé-Sucuriú Complex, floodplains of the Paraná River, and Mundo Novo region, in the south of the state (Fig. 1).

### Biogeographic aspects

The avifauna recorded in Mato Grosso do Sul is composed, in its majority, of species with a wide distribution, occurring in other South American phytogeographic regions, notably the Cerrado. The high representation of characteristic species of the Cerrado is expected, as this phytoregion covers  $\frac{2}{3}$  of the territory of Mato Grosso do Sul (IBGE, 2015). Several species that stand out for their wide distribution in the Cerrado (Silva, 1995; Silva & Bates, 2002) also occur in Mato Grosso do Sul. These species in-

clude *Nothura minor*, *Penelope ochrogaster*, *Hydropsalis candicans*, *Alipiopsitta xanthops*, *Melanopareia torquata*, *Geositta poeciloptera*, *Clibanornis rectirostris*, *Cyanocorax cristatellus*, *Myiothlypis leucophrys*, *Neothraupis fasciata*, *Microspingus cinereus*, *Saltatricula atricollis*, and *Cypsnagra hirundinacea*. *Porphyrospiza caeruleascens* occurs in a very restricted area that comprises the fields and Cerrado on the top of the mountains of the Maciço do Urucum (border region with Bolivia), frequently above 900 m of altitude, possibly representing isolated populations (Parker et al., 1993; Vasconcelos et al., 2008; Nunes, 2009).

Some elements of the Amazon Basin (Silva, 1996) extend their southern limits to the western edge of the Pantanal in the Serra do Amolar region (Nunes et al., 2018), such as *Coccyua minuta*, *Veniliornis affinis*, and *Dendroplex picus*. The typical elements of the Atlantic Forest are mainly concentrated in the Paraná River Plain and isolated forest fragments in the southwest of the state. The following species stand out in this context: *Pteroglossus bailloni*, *Selenidera maculirostris*, *Terenura maculata*, *Pyriglena leucoptera*, *Dendrocincla turdina*, *Xiphocolaptes albicollis*, *Anabacerthia lichtensteini*, *Syndactyla rufosuperciliata*, *Chiroxiphia caudata*, *Procnias nudicollis*, *Phylloscartes eximius*, *Todirostrum poliocephalum*, *Poecilotriccus plumbeiceps*, *Euphonia chalybea*, and *Chlorophonia cyanea*. *Saltatricula multicolor* is the only species considered endemic to the Chaco (Delhey & Scorolli, 2002). However, some taxa distribution is entirely centered in the Upper Paraguay River Basin, notably in the plain and western edge of the Pantanal. These taxa can be considered typical of the Chaco (Short, 1975; Straube et al., 2006a) and include *Ortalis canicollis*, *Aratinga nenday*, *Nystalus striatipectus*, *Melanerpes cactorum*, *Celeus lugubris*, *Xiphocolaptes major*, *Paroaria coronata*, and *Microspingus melanoleucos*. In addition, some

**Table 2.** Tertiary list of birds related to the Mato Grosso do Sul state.

Taxon	Citation source	Reason for exclusion
<i>Crypturellus soui</i> (Hermann, 1783)	Donatelli (2005)	A
<i>Spatula cyanoptera</i> (Vieillot, 1816)	Nunes <i>et al.</i> (2008)	C
<i>Mareca sibilatrix</i> Poeppig, 1829	Nunes (2011a)	A
<i>Mergus octosetaceus</i> Vieillot, 1817	Nunes <i>et al.</i> (2017)	A
<i>Penelope obscura</i> Temminck, 1815	Aguirre & Aldrighi (1983), Souza (2005)	C
<i>Aburria grayi</i> (Pelzeln, 1870)	Nunes <i>et al.</i> (2017)	D
<i>Aburria nattereri</i> Reichenbach, 1861	Nunes <i>et al.</i> (2017)	D
<i>Ortalis guttata</i> (Spix, 1825)	Bornschein <i>et al.</i> (1996), Nunes <i>et al.</i> (2017)	E
<i>Columbina cyanopsis</i> (Pelzeln, 1870)	Sick (1997), Tobias <i>et al.</i> (2006)	A
<i>Phaethornis nattereri</i> Berlepsch, 1887	Grantsau (1988)	B
<i>Phaethornis ruber</i> (Linnaeus, 1758)	Nunes <i>et al.</i> (2017)	B
<i>Phaethornis eurynome</i> (Lesson, 1832)	Araújo (2001), Tubelis & Tomas (2003a), Faria & Araújo (2010), Nunes <i>et al.</i> (2009)	B
<i>Helimaster longirostris</i> (Audebert & Vieillot, 1801)	Previatto <i>et al.</i> (2013)	B
<i>Campylopterus largipennis</i> (Boddaert, 1783)	Previatto <i>et al.</i> (2013)	A
<i>Hylocharis sapphirina</i> (Gmelin, 1788)	Nunes <i>et al.</i> (2017)	A
<i>Geranoaetus polyosoma</i> (Quoy & Gaimard, 1824)	Pacheco (2004)	A
<i>Leucopernis melanops</i> (Latham, 1790)	Catian & Aranda (2009)	A
<i>Aegolius harrisi</i> (Cassin, 1849)	Nunes <i>et al.</i> (2017)	B
<i>Trogon rufus</i> Gmelin, 1788	Nunes <i>et al.</i> (2017)	E
<i>Tamatia tamatia</i> Gmelin, 1788	Nunes <i>et al.</i> (2017)	B
<i>Ramphastos tucanus</i> Linnaeus, 1758	Pivatto <i>et al.</i> (2008)	C
<i>Picumnus corumbanus</i> Lima, 1920	Vasconcelos <i>et al.</i> (2008), Nunes <i>et al.</i> (2008, 2009)	D
<i>Piculus aurulentus</i> (Temminck, 1821)	Schubart <i>et al.</i> (1965)	B
<i>Pionopsitta pileata</i> (Scopoli, 1769)	Bocchese <i>et al.</i> (2008)	A
<i>Triclaria malachitacea</i> (Spix, 1824)	Sick & Teixeira (1979)	A
<i>Amazona vinacea</i> (Kuhl, 1820)	Zulian <i>et al.</i> (2021)	B
<i>Anodorhynchus glaucus</i> (Vieillot, 1816)	Collar <i>et al.</i> (1992)	A
<i>Myrmotherula multistriata</i> Sclater, 1858	Vasconcelos <i>et al.</i> (2008); Nunes <i>et al.</i> (2017, 2018)	B
<i>Formicivora grisea</i> (Boddaert, 1783)	Nunes <i>et al.</i> (2017)	A
<i>Thamnophilus punctatus</i> (Shaw, 1809)	Leuzinger (2011)	A
<i>Thamnophilus stictocephalus</i> Pelzeln, 1868	Silva <i>et al.</i> (2006)	A
<i>Pyriglena leuconota</i> (Spix, 1824)	Nunes <i>et al.</i> (2017)	E
<i>Xiphorhynchus guttatus</i> (Lichtenstein, 1820)	Nunes <i>et al.</i> (2017)	E
<i>Dendroplex kienerii</i> (Des Murs, 1855)	Pinto (1978)	A
<i>Philydor atricapillus</i> (Wied, 1821)	Ridgely & Tudor (1994)	B
<i>Neopipo cinnamomea</i> (Lawrence, 1869)	Donatelli <i>et al.</i> (2014)	A
<i>Mionectes rufiventris</i> Cabanis, 1846	Nunes <i>et al.</i> (2017)	A
<i>Serpophaga munda</i> Berlepsch, 1893	Nunes <i>et al.</i> (2017)	D
<i>Myiopagis flavivertex</i> (Sclater, 1887)	Tubelis & Tomas (2003a), Nunes (2011a)	A
<i>Pseudocolopteryx dinelliana</i> Lillo, 1905	Pérez-Villamayor <i>et al.</i> (2014), Nunes <i>et al.</i> (2017)	A
<i>Fluvicola pica</i> (Boddaert, 1783)	Leuzinger (2011)	A
<i>Heteroxolmis dominicanus</i> (Vieillot, 1823)	Silva (1995)	A
<i>Polioptila lactea</i> Sharpe, 1885	Atwood & Lerman (2020)	B
<i>Turdus flavipes</i> Vieillot, 1818	Ragusa-Netto (2002)	A
<i>Leistes militaris</i> (Linnaeus, 1758)	Pinto (1978)	A
<i>Agelasticus thilius</i> (Molina, 1782)	Nunes <i>et al.</i> (2017)	A
<i>Icterus cayanensis</i> (Linnaeus, 1766)	Nunes <i>et al.</i> (2017)	A
<i>Icterus periporphyrus</i> (Bonaparte, 1850)	Nunes <i>et al.</i> (2017)	D
<i>Cyanoloxia cyanoides</i> (Lafresnaye, 1847)	Nunes <i>et al.</i> (2017)	E
<i>Saltator fuliginosus</i> (Daudin, 1800)	Ribas <i>et al.</i> (2001)	B
<i>Coryphospingus pileatus</i> (Wied, 1821)	Nunes <i>et al.</i> (2017)	B
<i>Sporophila frontalis</i> (Verreaux, 1869)	Godoi <i>et al.</i> (2013), Nunes <i>et al.</i> (2017)	A
<i>Sporophila minuta</i> (Linnaeus, 1758)	Nunes <i>et al.</i> (2009)	C
<i>Sporophila melanogaster</i> (Pelzeln, 1870)	Nunes <i>et al.</i> (2009)	C
<i>Haplospiza unicolor</i> Cabanis, 1851	Godoi <i>et al.</i> (2013)	A

**Reason – Reason for exclusion** (adapted from Pacheco *et al.*, 2021): (A) The records for Mato Grosso do Sul with known authorship (documentation non-existent or not informed) are inconsistent with the species' distributional and dispersal patterns; (B) Occurrence in Mato Grosso do Sul either wrong, possibly non-existent or speculative. Species with marginal distribution in the Mato Grosso do Sul, but without evidence of occurrence within state boundaries; (C) Occurrence in Mato Grosso do Sul either wrong, possibly non-existent or speculative. The species is listed to Mato Grosso do Sul, nonetheless, data on any particular record is unknown or invalid; (D) Records for Mato Grosso do Sul are not valid. Subspecies not accepted as a full species by Brazilian Ornithological Records Committee (Pacheco *et al.*, 2021); (E) Changes in taxonomy makes the taxon extralimital to Mato do Grosso do Sul.

species stand out for their distribution centered in the Chiquitano Dry Forests (Vasconcelos & Hoffmann, 2006; Nunes et al., 2018), such as *Phaethornis subochraceus*, *Pyrrhura molinae*, *Thamnophilus sticturus*, and *Cantorchilus guarayanus*. The only species in Brazil that can be considered endemic to Mato Grosso do Sul is *Pyrrhura devillei*, whose occurrence extends throughout the entire Serra de Maracaju and surroundings, Bodoquena Plateau, and south of the Pantanal Plain. Further, endemic species from the Atlantic Forest (Vale et al., 2018; e.g., *Tinamus solitarius*, *Odontophorus capueira*, *Aramides saracura*, *Pulsatrix koenigswaldiana*, *Baryphthengus ruficapillus*, and *Campephilus robustus*) and the Cerrado (Silva, 1995; e.g., *Antilophia galeata*, *Phyllomyias reiseri*, *Charitospiza eucosma*, and *Conothraupis mesoleuca*) were recorded in Mato Grosso do Sul, highlighting the importance of the state for bird conservation in these biomes.

### Migration status

A sizable migratory flow of birds is observed from the southernmost portions of South America to Central and North Brazil, especially waterfowl (*Callonetta leucophrus*, *S. platalea*, *Netta peposaca*, *Oxyura vittata*, *Podiceps major*, and *F. leucoptera*), various Tyrannidae (*Elaenia chilensis*, *Elaenia chiriquensis*, *Myiodynastes maculatus*, *Myiarchus swainsoni*, *Tyrannus savana*, *Pyrocephalus rubinus*, *Knipolegus hudsoni*, *Hymenops perspicillatus*, and *N. cinereus*), and copper seedeaters (*Sporophila* spp.). Species such as *S. lineola*, *S. pileata*, *S. bouvreuil*, *S. hypoxantha*, *S. caerulescens*, *S. iberaensis*, *S. palustris*, and *S. ruficollis* reproduce in the hydromorphic grasslands of the southern region of South America and, in winter, appear in large numbers in the native grasslands of the Pantanal and other areas of the state (Hayes et al., 1994; D'Angelo-Neto & Vasconcelos, 2007; Machado & Silveira, 2010; Dornas et al., 2013).

Furthermore, 40 NMs (from the Northern Hemisphere) are represented, especially by members of the order Charadriiformes (two species of *Pluvialis*, *Charadrius semipalmatus*, *Limosa hemastica*, *N. hudsonicus*, *Bartramia longicauda*, *Actitis macularius*, *A. interpres*, three species of *Tringa*, eight species of *Calidris*, *Phalaropus tricolor*, and *Sterna hirundo*). Twenty-three species perform migratory movements in the western region (the Andes, Chaco in Bolivia, and Paraguay), including *Dendrocygna bicolor*, *Neochen jubata*, *S. versicolor*, *Anas bahamensis*, *Ciconia maguari*, *Jabiru mycteria*, *Mycteria americana*, *Pseudocolopteryx acutipennis*, *Serpophaga nigricans*, *Serpophaga griseicapilla*, and *Knipolegus striaticeps*. After the reproductive period, which coincides with the end of the rainy season, part of the population of *Pheucticus aureoventris* disperses from the Andes Precordillera mountains to the Pantanal and surrounding plateaus (Nunes, 2008), and some individuals extend their migratory routes to the Paraná River Basin (Faxina et al., 2010).

Thirty-three species perform nomadic movements across the state, especially in the Pantanal, where most are related to aquatic environments (Morrison et al.,

2008; Nunes & Tomas, 2008). The species *Dendrocygna viduata*, *D. autumnalis*, *Cairina moschata*, *Sarkidiornis sylvicola*, *Tachybaptus dominicus*, *Podilymbus podiceps*, *Porphyrio martinica*, *Neocrex erythrops*, *Pardirallus maculatus*, *Vanellus cayanus*, *Charadrius collaris*, *Himantopus mexicanus*, *H. melanurus*, *Gallinago undulata*, *G. paraguanae*, *Sternula superciliaris*, *Phaetusa simplex*, *N. brasiliannum*, *Ardea alba*, *Egretta caerulea*, and *Rostrhamus sociabilis* stand out in this context.

More than 60% of the Pantanal Plain area in Brazil is located in Mato Grosso do Sul territory (Silva et al., 1998), and its wide variety of aquatic habitats is responsible, in part, for the great diversity and abundance of NMs and SMs occurring in the state. This fact highlights the Pantanal Plain as one of the critical wintering sites for these birds during their migratory movements in South America (Nunes & Tomas, 2008).

The Upper Paraná River floodplain is another essential wintering site for migratory waterfowl in Mato Grosso do Sul. Most of these migrants, such as found in the Pantanal, are composed of species that move from various regions of South America and use the floodplain as a stopping point and/or feeding site (Anjos & Gimenes, 2005; Gimenes et al., 2007). Nunes & Tomas (2008) speculate that species migratory flow depends on aquatic environments (e.g., *Platalea ajaja* and *Rhynchops niger*) from the Pantanal to the Upper Paraná River floodplain, especially during the dry season. Less documented migration patterns may occur in Mato Grosso do Sul, such as the little-known cases of longitudinal migration of *E. chiriquensis* (Guaraldo et al., 2021).

### Conservation status

At the global level (IUCN, 2021), seventeen species are in the "VU" category, while six are considered "EN" (Table 1). At the national level, thirteen species are in the category "VU" to extinction, while seven are listed in the "EN" category (ICMBio & MMA, 2018). Two species have a very worrying status in Brazil, as they are "CR" according to the ICMBio & MMA (2018).

Thirty species are classified as "NT" at the global level and twenty-one at the national level. The other eleven species are listed in the national category of "DD" (ICMBio & MMA, 2018). The status of species in this category is just as worrying as that of others, as it reinforces the lack of knowledge about their populations, possibly subject to numerous threats.

Despite the various threats to conservation, such as illegal trafficking and emerging diseases (Vaz et al., 2021), the species *Amazona aestiva*, *A. xanthops*, and *Ara chloropterus* still have viable populations in Mato Grosso do Sul, notably in the Pantanal Plain. The management of *Anodorhynchus hyacinthinus* in the Pantanal, conducted by the Arara Azul project, has considerably increased its population in the region, estimated at more than 6,500 individuals (Scherer-Neto et al., 2019). However, anthropogenic actions, such as deforestation and fires, have drastically affected the population dynamics of

manduvi, *Sterculia apetala* (Jacq.) H. Karst., the main tree species used for nesting by the hyacinth macaw in the Pantanal (Johnson *et al.*, 1997; Santos-Júnior *et al.*, 2007; Santos-Júnior, 2010). In addition to these threats, emerging diseases arising from the reintroduction of captive birds into the wild and pesticides, combined with the effects of severe climate change in the Pantanal (intense and prolonged drought), can seriously compromise the largest population of *A. hyacinthinus* in its area of occurrence (Vicente & Guedes, 2021; Nunes *et al.*, 2021).

Considering the national territory, the species *P. molinae* occurs in a restricted area of the western edge of the Pantanal, notably in dry forest areas (Chiquitano Dry Forests), phytophysiognomies that are currently under threat due to mining activity, irregular urban expansion, deforestation, and fires. The occurrence extension area of *P. molinae* is less than 20,000 km<sup>2</sup>, which reinforces its inclusion in the "VU" category in the list of endangered species. Another species directly affected by habitat loss, especially from hilltop fields, due to uncontrolled fires and mining activity is *P. caeruleascens*, whose population in Mato Grosso do Sul is isolated from those in the Cerrado core area (Nunes *et al.*, 2018).

In addition to the loss of habitat, culling resulting from conflicts with rural producers seriously threatens large birds of prey, especially *Harpia harpyja* and *Spizaetus ornatus* (Pallinger & Menq, 2021).

Besides the threats mentioned above, several species (e.g., *Megascops atricapilla*, *Glaucidium minutissimum*, *T. maculata*, *P. leucoptera*, *Chamaeza campanisona*, *D. turdina*, *X. fuscus*, *Piprites chloris*, *P. eximius*, *Phylloscartes paulista*, *Phyllomyias virescens*, *Muscipipra vetula*, *A. moesta*, and *Tangara seledon*) were recorded in specific areas, especially in the forest remnants of the state's southern region, and their records are based on historical data. Therefore, some of these species may be regionally extinct, such as *O. remota* (Silveira *et al.*, 2017), mainly due to habitat loss and degradation.

It is estimated that fires occurring in the Pantanal in 2020 (Libonati *et al.*, 2020) were responsible for the death of 17 million vertebrates, of which 5.8% (983,216 individuals) correspond to small birds (Tomas *et al.*, 2021). In Mato Grosso do Sul, fires reached the main areas of occurrence of several species threatened with extinction, including *P. ochrogaster* and *Aburria kujubi* (Serra do Amolar and a narrow strip of forests in the north and northwest of the Paiguás region, along the Piquiri River) (Nunes *et al.*, 2021). Another species affected by fires on the western edge of the Pantanal is *Melanopareia bitorquata*, which in Mato Grosso do Sul occurs exclusively in the fields on the top of hills of Serra do Amolar (Benites *et al.*, 2017b).

Other typical dry forest species also deserve attention, such as *P. subochraceus*, *M. cactorum*, *Myrmorchilus strigilatus*, *P. reiseri*, and *Myiornis auricularis* (population occurring in Serra da Bodoquena).

Outside the Pantanal Plain, the situation is, to say the least, worrying. Extensive areas of native vegetation are being removed and replaced with cultivated pastures, eucalyptus, sugarcane, and soybean monocultures (Reynolds *et al.*, 2016). Therefore, typical species of the

Atlantic Forest restricted to forest remnants in the southern portion of the state deserve attention regarding conservation policies. *Megascops atricapilla*, *T. chrysochloros*, *Notharchus swainsoni*, *S. maculirostris*, *P. bailloni*, *C. robustus*, *T. maculata*, *P. leucoptera*, *C. campanisona*, *X. albicollis*, *A. lichtensteini*, *C. caudata*, *Pyroderus scutatus*, *P. chloris*, and *Myiothlypis leucoblephara* are some of these species. However, large areas of the Semideciduous Atlantic Forest are still conserved in the southern part of the Mato Grosso do Sul state. In fact, the worst scenario can be found in the northwest part of the state. Posso *et al.* (in prep.) compiled a list of sixteen threatened bird species in this region. Further, eleven species that are strongly dependent on the Semideciduous Atlantic Forest have disappeared from areas with few isolated, small remnants. The Semideciduous Atlantic Forest was initially suppressed by the use for beef cattle grazing and is now suppressed by extensive eucalyptus plantations. This deforestation has also occurred because of irregular land occupation, dam construction, and unsustainable use of the native forest; this, in turn, has led to illegal hunting (Lima *et al.*, 2021). Unfortunately, most of the Semideciduous Atlantic Forest is now severely fragmented, and it is not under protection in the Mato Grosso do Sul state, especially in this northwestern portion. Thus, we consider this ecoregion the highest priority area for preservation in the state, and strong efforts should be made to restore those portions subjected to some level of disturbance. Moreover, little is known about its bird communities since there are still important knowledge gaps in the west part of the state and, thus, it should be the subject of more intense bird inventories.

The concentration of important bird and biodiversity areas (IBAs) in the Paraguay River Basin (Maciço do Urucum and surroundings, Nhumirim, Negro, and Aquidauana Rivers, Pantanal do Nabileque, and Serra da Bodoquena National Park and surroundings) is noteworthy. The south of the state, a region where most records of Atlantic species are concentrated, is covered by only a tiny part of IBA Ilha Grande National Park (Develey & Goerck, 2009). Although the proposed Priority Areas for Conservation for Mato Grosso do Sul are also concentrated in the Paraguay River Basin, they include critical areas for bird conservation in the state, notably the Atlantic remnants of the Paraná River Basin (MMA, 2018).

Given the growing threats to native habitats and, consequently, bird species, regional lists of endangered species are necessary to guide public policies and conservation strategies (ICMBio & MMA, 2018). Thus, it is essential and urgent to discuss and prepare a list of the endangered species of birds in Mato Grosso do Sul, considering the subspecies occurring in the region and the peculiarities and vulnerability of the phytogeographic regions that make up the state.

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**GOF, RADS, MB, SM, WM:** Investigation. All authors actively participated in the discussion of the results; they reviewed and approved the final version of the paper.

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## SUPPLEMENTARY MATERIAL

**Table S1.** Sites and regions with records of bird species in the Mato Grosso do Sul state, followed by their geographic coordinates and their sources of information.

Localities	Coordinates	References
Abismo Anhumas	21°09'S, 56°36'W	Pivatto <i>et al.</i> (2006)
Água Blanca de Corumbá	19°59'1"S, 57°39'W	Naumburg & Cherrie (1930)
Água Clara	21°26'S, 56°52'W	WikiAves (2021)
Albuquerque	19°24'S, 57°24'W	Grant (1911), Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2007, 2008 and 2010)
Alcinópolis municipality	18°19'S, 53°42'W	WikiAves (2021)
Alegre ("Fazenda Alegre")	20°26'S, 54°07'W	Pinto (1944)
Amambai	23°06'S, 55°13'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
Amambai/rio Amambai	23°05'S, 55°13'W	Naumburg & Cherrie (1930), Zimmer (1955)
Amolar	18°02'S, 57°29'W	Pinto (1948)
Anaurilândia	22°11'S, 52°43'W	WikiAves (2021)
Angélica	22°06'S, 53°53'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
APA Baía Negra	19°01'S, 57°31'W	This study (GOF & RADS, 2011 to 2021)
APA Guariroba	20°33'S, 54°15'W	F.A.T. Tizianel ( <i>pers. comm.</i> ) 2006, WikiAves (2021)
Aparecida do Taboado	20°05'S, 51°05'W	WikiAves (2021)
Aquidauana – rural area	20°29'S, 55°48'W	Pinto (1932), Tubelis & Tomas (2003a), Silveira & Straube (2008), WikiAves (2021)
Arapuá	20°48'S, 52°04'W	VertNet (2021)
Angélica – rural area	22°06'S, 53°53'W	Godoi <i>et al.</i> (2012a)
Aral Moreira	22°57'S, 55°37'W	WikiAves (2021)
Bonito – rural area	21°08'S, 56°28'W	Godoi <i>et al.</i> (2012a), Melo <i>et al.</i> (2021)
Bonito/Jardim – rural area	21°10'S, 56°26'W	Godoi <i>et al.</i> (2012a)
Assentamento Santa Olga	22°21'S, 53°25'W	WikiAves (2021)
Assentamento Taquaral	19°09'S, 57°42'W	Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2007, 2008 and 2010)
Bacia do Rio Scuriú	20°46'S, 51°48'W	D.R.C. Buzzetti ( <i>pers. comm.</i> ) 1987 to 1996
Baía Grande	22°40'S, 53°12'W	This study (FCS & AUF, 1991)
Balneário Menck	19°18'S, 57°35'W	Nunes <i>et al.</i> (2018), this study (MFV & DH, 2007, 2008 and 2010; APN, 2019 to 2020)
Banhados do Rio Formoso	21°13'S, 56°30'W	Pivatto <i>et al.</i> (2006)
Barra do Rio Paraguai/São Lourenço	Not found	WikiAves (2021)
Bataguassu	21°43'S, 52°25'W	WikiAves (2021)
Batayporã	22°17'S, 53°16'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
Bela Vista	22°06'S, 56°31'W	WikiAves (2021)
Belvedere de Urucum	19°13'S, 57°34'W	Naumburg & Cherrie (1930), Nunes <i>et al.</i> (2018), this study (MFV, DH, APN, 2007, 2008 and 2010; APN, 2019 to 2020)
Boca da Onça	20°45'S, 56°42'W	Pivatto <i>et al.</i> (2006), Godoi <i>et al.</i> (2012a)
Boca de Hormiguera	19°03'S, 57°19'W	Grant (1911), Tubelis & Tomas (2003a)
Bodoquena	19°51'S, 56°58'W	Travassos & Freitas (1942)
Bodoquena	20°32'S, 56°40'W	Souza <i>et al.</i> (2015), WikiAves (2021)
Bonito	21°08'S, 56°28'W	WikiAves (2021)
BR-163	24°02'S, 54°16'W	Pérez-Villamayor <i>et al.</i> (2014)
BR-060	20°57'S, 55°03'W	Godoi <i>et al.</i> (2012a)
Brasilândia	21°15'S, 52°02'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
Brejão	20°07'S, 55°23'W	Nunes <i>et al.</i> (2013)
Brejo/Nova Alvorada do Sul	21°33'S, 54°15'W	Godoi <i>et al.</i> (2012a)
Buraco das Araras	21°29'S, 56°24'W	Pivatto <i>et al.</i> (2006), Godoi <i>et al.</i> (2012a), WikiAves (2021)
Buritizal do Rio Baía	22°30'S, 53°09'W	This study (FCS & AUF, 2009)
Caarapó	22°38'S, 54°49'W	WikiAves (2021)
Caixa de empréstimo/BR-262	19°34'S, 57°10'W	This study (APN, 2011)
Camapuã	19°31'S, 54°02'W	WikiAves (2021)
Campanário	22°47'S, 55°04'W	Naumburg (1935), Straube & Urben-Filho (2010), Morante-Filho & Godoi (2012)
Campo Grande	20°26'S, 54°38'W	Pinto (1944), Parker & Willis (1997), Sick (1997), Silveira & Straube (2008), WikiAves (2021)
Campus da UFMS/Campo Grande	20°30'S, 54°36'W	WikiAves (2021), this study (APN, 2006 to 2013; RRL, 2010 to 2019)
Campus da UFMS/Corumbá	18°59'S, 57°37'W	Nunes <i>et al.</i> (2011)
Campus da UFMS/Três Lagoas	20°47'S, 51°39'W	This study (APN & PAS, 2001)
Canal do Rio Baía	22°41'S, 53°13'W	Straube <i>et al.</i> (1996)
Caracol	22°01'S, 57°01'W	WikiAves (2021)
Carandazal/MS-325	19°43'S, 57°04'W	This study (WMT, 2011)



Table S1. Continued.

Localities	Coordinates	References
Carandazinho	18°39'S, 57°32'W	Tubelis & Tomas (2003a)
Cassilândia	18°06'S, 51°44'W	WikiAves (2021)
Chapadão do Sul	18°47'S, 52°37'W	Godoi <i>et al.</i> (2013), WikiAves (2021), this study (MBC & ESM)
Corguinho	19°50'S, 54°49'W	WikiAves (2021)
Corguinho (Estância Quinta do Sol)	19°46'S, 55°14'W	MB & SM (2013 to 2021)
Coronel Juvêncio	20°12'S, 56°38'W	Tubelis & Tomas (2003a)
Coronel Sapucaia	23°16'S, 55°32'W	WikiAves (2021)
Córrego Azul	20°24'S, 56°44'W	Pivatto <i>et al.</i> (2006)
Córrego Caraguatá	21°42'S, 52°25'W	Godoi <i>et al.</i> (2012a)
Córrego Cumandaí	23°03'S, 54°11'W	Faxina & Schlemmermeyer (2010)
Córrego Mantena	20°26'S, 53°40'W	This study (JCMF, 2009)
Córrego das Pedras	19°13'S, 57°37'W	This study (APN & MNG, 2007, 2008, 2010, 2011)
Córrego do Moeda	Not found	Gabriel & Godoy (2019)
Córrego do Paredão	18°30'S, 54°45'W	Pinto (1938)
Córrego do Touro	23°04'S, 54°14'W	Faxina & Schlemmermeyer (2010)
Córrego Pindó	23°07'S, 54°13'W	Godoi <i>et al.</i> (2012a)
Córrego São Domingos	22°43'S, 54°39'W	Godoi <i>et al.</i> (2012b)
Corumbá	18°59'S, 57°38'W	Allen (1891, 1892, 1893), Naumburg & Cherrie (1930), Pinto (1938), Tubelis & Tomas (2003a), Vasconcelos & Hoffmann (2006), Nunes <i>et al.</i> (2008), Mestre (2007), Mestre <i>et al.</i> (2010), WikiAves (2021), this study (APN, 2004 to 2020)
Corumbá (Parque Marina Gatass)	19°00'S 57°41'W	MB & SM (2020 to 2021)
Costa Rica	18°32'S, 53°07'W	Godoi <i>et al.</i> (2012a, 2013), WikiAves (2021)
Costa Rica (Parque Natural Municipal Salto do Sucuriú)	18°33'S, 53°07'W	MB & SM (2005 to 2014)
Costa Rica (Parque Nacional das Emas)	18°18'S 52°54'W	MB & SM (2005 to 2021)
Coxim	18°30'S, 54°45'W	Pinto (1938)
Coxim	18°30'S, 54°44'W	WikiAves (2021)
Curva do Leque	19°15'S, 57°03'W	Nunes <i>et al.</i> (2010), this study (APN, 2004, 2005, 2007, 2011 to 2013)
Deodópolis	22°16'S, 54°10'W	WikiAves (2021)
Douradinha	22°02'S, 54°36'W	WikiAves (2021)
Dourados	22°13'S, 54°48'W	Godoi <i>et al.</i> (2013), Goes <i>et al.</i> (2021), WikiAves (2021)
Eldorado	23°46'S, 54°17'W	WikiAves (2021)
EMBRAPA Agropecuária Oeste de Dourados	22°17'S, 54°48'W	Zucca <i>et al.</i> (2005)
Fátima do Sul	22°22'S, 54°30'W	WikiAves (2021)
Fazenda Estância Crioula	20°30'S, 55°31'W	Godoi <i>et al.</i> (2012a), Nunes <i>et al.</i> (2013), this study (MACP, 2008)
Fazenda Acurizal (Uacurizal)	17°49'S, 57°33'W	Allen (1891), this study (FCS & AUF, 2003; SRP & RRL, 2014)
Fazenda Aguapé	20°06'S, 55°57'W	Tubelis & Tomas (2003a), Nunes (2011a), WikiAves (2021)
Fazenda Abasto	Not found	VertNet (2021)
Fazenda Alegria	19°03'S, 56°47'W	Tubelis & Tomas (2003a), Nunes <i>et al.</i> (2009), Nunes (2015)
Fazenda Alvorada	17°16'S, 56°15'W	This study (WMT, 2007)
Fazenda América	21°13'S, 56°36'W	Pivatto <i>et al.</i> (2006)
Fazenda Baía Bonita	18°40'S, 56°26'W	Tubelis & Tomas (2003a)
Fazenda Baía das Pedras	19°15'S, 55°46'W	This study (RJD, 2007)
Fazenda Banda Alta	19°08'S, 57°34'W	Nunes <i>et al.</i> (2010)
Fazenda Bandeirantes	22°35'S, 53°28'W	Lopes <i>et al.</i> (2016), this study (EVL, LBM & LA, 2003, 2005 and 2006)
Fazenda Barra Mansa	19°35'S, 56°05'W	Tubelis & Tomas (2003a)
Fazenda Bela Vista	19°14'S, 57°26'W	Nunes <i>et al.</i> (2010), Nunes <i>et al.</i> (2018)
Fazenda Boa Esperança	20°43'S, 56°02'W	Nunes <i>et al.</i> (2013)
Fazenda Bocaina	20°04'S, 55°34'W	Nunes <i>et al.</i> (2008, 2013)
Fazenda Boqueirão	21°05'S, 56°44'W	Godoi <i>et al.</i> (2012a)
Fazenda Braunal	22°06'S, 57°44'W	Straube <i>et al.</i> (2006a)
Fazenda Cabeceira do Prata	21°27'S, 56°26'W	Pivatto <i>et al.</i> (2006), Godoi <i>et al.</i> (2012a)
Fazenda Caiman	19°56'S, 56°20'W	Tubelis & Tomas (2003a), Straube <i>et al.</i> (2007), Nunes (2011a), Straube & Melo (2011), Xeno-Canto (2021), WikiAves (2021)
Fazenda Caité	18°42'S, 55°10'W	Nunes <i>et al.</i> (2008)
Fazenda Campo Limpo	Not found	VertNet (2021)
Fazenda Campo Lourdes	19°32'S, 55°38'W	This study (RJD, 2007)
Fazenda Campo Novo	19°22'S, 57°37'W	Nunes <i>et al.</i> (2008, 2018)
Fazenda Campo Verde	21°25'S, 56°47'W	Pivatto <i>et al.</i> (2006)

Table S1. Continued.

Localities	Coordinates	References
Fazenda Capão Bonito	21°14'S, 54°43'W	Straube (2011), VertNet (2021)
Fazenda Carrapatos	21°32'S, 54°59'W	Pinto (1944)
Fazenda Carugá	22°30'S, 53°00'W	This study (FCS & AUF, 2009)
Fazenda Cisalpina	21°16'S, 51°54'W	Morante-Filho <i>et al.</i> (2014), this study (PAS, 2006)
Fazenda Constantino	19°49'S, 55°15'W	Nunes <i>et al.</i> (2013)
Fazenda Correntes	20°34'S, 55°24'W	Nunes <i>et al.</i> (2013)
Fazenda Cristo Rei	Not found	VertNet (2021)
Fazenda Curralinho	21°28'S, 54°53'W	Pinto (1944)
Fazenda da Barra	21°06'S, 56°13'W	Pivatto <i>et al.</i> (2006)
Fazenda Esperança	22°27'S, 53°03'W	This study (FCS & AUF, 2009)
Fazenda Estância Mimosa Ecoturismo	20°58'S, 56°30'W	Pivatto <i>et al.</i> (2006), Godoi <i>et al.</i> (2014)
Fazenda Fazendinha	19°29'S, 56°29'W	Tubelis & Tomas (2003a), this study (APN, 2011)
Fazenda Figueirinha	19°15'S, 57°40'W	Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2005, 2006, 2008 and 2009)
Fazenda Firme/Fazenda Leque	19°15'S, 57°01'W	Tubelis & Tomas (2003a), Morrison <i>et al.</i> (2008), Xeno-Canto (2021)
Fazenda Formoso	21°06'S, 56°23'W	Data from MPEG (FCS & AUF, <i>pers. comm.</i> )
Fazenda Harmonia	21°16'S, 56°40'W	Data from MPEG (FCS & AUF, <i>pers. comm.</i> )
Fazenda Indiana	20°25'S, 56°39'W	Pivatto <i>et al.</i> (2006)
Fazenda Igrejinha	18°50'S, 54°58'W	Benites & Mamede (2021), this study (MB & SM, 2021)
Fazenda Ipanema	19°03'S, 56°35'W	Chiaravallotti <i>et al.</i> (2009), Nunes <i>et al.</i> (2009)
Fazenda Jatiúca	20°31'S, 55°50'W	Godoi <i>et al.</i> (2012a), Nunes <i>et al.</i> (2013), this study (MACP, 2008)
Fazenda Lagoinha	19°17'S, 51°03'W	Silva <i>et al.</i> (2006)
Fazenda Mimoso	19°02'S, 52°52'W	Silva <i>et al.</i> (2006)
Fazenda Monjolo	19°19'S, 57°34'W	Vasconcelos <i>et al.</i> (2008), Nunes <i>et al.</i> (2018), this study (MFV & DH, 2007, 2008 and 2010)
Fazenda Nhumirim	18°59'S, 56°39'W	Tubelis & Tomas (1999, 2003a), Nunes <i>et al.</i> (2009), Nunes (2015)
Fazenda Nova Canadá	22°38'S, 54°49'W	VertNet (2021)
Fazenda Novo Horizonte	23°03'S, 54°52'W	Godoi <i>et al.</i> (2012a)
Fazenda Novos Dourados	18°05'S, 57°28'W	Benites <i>et al.</i> (2017b), Nunes <i>et al.</i> (2018), WikiAves (2021)
Fazenda Pacu	20°38'S, 57°37'W	Straube <i>et al.</i> (2006b)
Fazenda Palmeiras	18°55'S, 57°03'W	Tubelis & Tomas (2003a), VertNet (2021)
Fazenda Panambi	22°30'S, 53°29'W	This study (FCS & AUF, 2009)
Fazenda Parque das Cachoeiras	20°58'S, 56°30'W	Pivatto <i>et al.</i> (2006)
Fazenda Pedra Branca	19°11'S, 52°46'W	Silva <i>et al.</i> (2006)
Fazenda Pitangueiras	20°52'S, 56°36'W	Pivatto <i>et al.</i> (2006)
Fazenda Pontal	18°21'S, 52°47'W	Silva <i>et al.</i> (2006)
Fazenda Ponte Nova	19°34'S, 51°53'W	Silva <i>et al.</i> (2006)
Fazenda Porto Conceição	20°28'S, 57°55'W	Straube <i>et al.</i> (2006a)
Fazenda Potreiro do Sucuriú	19°01'S, 53°11'W	Silva <i>et al.</i> (2006)
Fazenda Pousada da Garça	Not found	Straube <i>et al.</i> (1996)
Fazenda Pouso Frio	18°39'S, 52°53'W	Silva <i>et al.</i> (2006)
Fazenda Primavera	Not found	VertNet (2021)
Fazenda Princesinha	21°11'S, 56°51'W	Pivatto <i>et al.</i> (2006)
Fazenda Quebracho/Porto Quebracho	21°50'S, 57°53'W	Pacheco & Bauer (1994), Tubelis & Tomas (2003a), Straube <i>et al.</i> (2006a), this study (APN, 2011)
Fazenda Quinta do Sol	19°46'S, 55°14'W	Nunes <i>et al.</i> (2013)
Fazenda Rabicho	18°59'S, 57°37'W	Tubelis & Tomas (2003a)
Fazenda Rancharia	18°34'S, 55°50'W	This study (WMT, 2007)
Fazenda Rancho Alegre	22°25'S, 53°28'W	This study (FCS & AUF, 2009)
Fazenda Rancho Branco	20°40'S, 56°45'W	Godoi <i>et al.</i> (2012a)
Fazenda Recreio	18°13'S, 54°40'W	Pinto (1940)
Fazenda Remanso	20°46'S, 56°43'W	Godoi <i>et al.</i> (2012a)
Fazenda Retirinho	19°59'S, 56°02'W	Tubelis & Tomas (2003a)
Fazenda Ribeirão da Serra	19°58'S, 55°03'W	Godoi <i>et al.</i> (2011)
Fazenda Rio Negro	19°30'S, 56°17'W	Tubelis & Tomas (2003a), Donatelli (2005), Cestari (2006a, b), Donatelli & Ubaid (2008), Ubaid & Donatelli (2008), Donatelli <i>et al.</i> (2014, 2017)
Fazenda Rodeio	19°44'S, 55°09'W	Nunes <i>et al.</i> (2008, 2013)
Fazenda Salina/Barranco Alto	19°35'S, 56°09'W	Tubelis & Tomas (2003a), Leuzinger (2011), Severo-Neto <i>et al.</i> (2017), WikiAves (2021)
Fazenda Salobra	20°29'S, 56°50'W	Pivatto <i>et al.</i> (2006)
Fazenda San Francisco	20°05'S, 56°36'W	Melo <i>et al.</i> (2007), Melo & Teribeli (2008), this study (AVM, 2005)

Table S1. Continued.

Localities	Coordinates	References
Fazenda Santa Emília	19°30'S, 55°36'W	Pivatto <i>et al.</i> (2008)
Fazenda Santa Lúcia	21°02'S, 57°44'W	This study (APN & WMT, 2011)
Fazenda Santa Teresa	21°05'S, 56°44'W	Pivatto <i>et al.</i> (2006)
Fazenda Santa Teresa/Serra do Amolar	18°17'S, 57°29'W	Nunes (2008), Nunes <i>et al.</i> (2018)
Fazenda Santana do Paiaguás	18°03'S, 56°31'W	This study (WMT, 2007)
Fazenda Santana	19°37'S, 55°36'W	Nunes <i>et al.</i> (2008), this study (APN, PAS & MBC, 2005 to 2006)
Fazenda Santo Expedito	19°06'S, 56°44'W	Nunes (2015)
Fazenda São Bento	19°29'S, 56°59'W	Severo-Neto <i>et al.</i> (2015)
Fazenda São Francisco do Paiaguás	17°46'S, 55°37'W	WikiAves (2021), this study (WMT, 2007)
Fazenda São Geraldo	21°15'S, 56°34'W	Pivatto <i>et al.</i> (2006), Xeno-Canto (2021), WikiAves (2021)
Fazenda São Luis	18°09'S, 57°01'W	Nunes (2011b)
Fazenda São Martin	21°41'S, 56°54'W	WikiAves (2021)
Fazenda Taboco	20°04'S, 55°38'W	Nunes <i>et al.</i> (2008, 2013)
Fazenda Taquari	21°23'S, 52°20'W	VertNet (2021)
Fazenda Taruana	20°30'S, 55°15'W	Nunes <i>et al.</i> (2013)
Fazenda Tarumã	19°05'S, 57°06'W	Tubelis & Tomas (2003a)
Fazenda Tarumã do Nabileque	20°17'S, 57°38'W	Straube <i>et al.</i> (2006b)
Fazenda Terra Preta	20°24'S, 57°21'W	Straube <i>et al.</i> (2006b)
Fazenda Trilhas do Sol	19°26'S, 54°49'W	Nunes <i>et al.</i> (2013)
Fazenda Vale do Ribeiro	19°12'S, 57°41'W	Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2005, 2006, 2008 and 2009)
Fazenda Verde Mar I	Not found	VertNet (2021)
Fazenda Verde Mar II	Not found	VertNet (2021)
Fazenda Viramão	21°27'S, 54°46'W	Pinto (1944)
Fazenda Vô Fiorindo	20°35'S, 55°25'W	Nunes <i>et al.</i> (2013), this study (MACP, 2008)
Fazenda Ypiranga	Not found	Data from MHNCI (FCS & AUF, <i>pers. comm.</i> )
Ferrovia MCR	19°25'S, 57°30'W	This study (MFV & DH, 2007, 2008 and 2010)
Firme	21°12'S, 57°26'W	Straube <i>et al.</i> (2006b)
Floresta Ripária/Rio Amambai	22°54'S, 54°54'W	Morante-Filho & Godoi (2012)
Forte Coimbra	19°55'S, 57°47'W	Grant (1911), Naumburg & Cherrie (1930), Tubelis & Tomas (2003a), this study (RRL 2019)
Foz do Rio Apa	22°05'S, 57°59'W	Straube <i>et al.</i> (2006b), Benites <i>et al.</i> (2017a)
Foz do Rio Iguatemi	Not found	Data from MHNCI (FCS & AUF, <i>pers. comm.</i> )
Foz do Rio Negro	Not found	Nascimento <i>et al.</i> (2000)
Fragmento florestal/Vicentina	22°29'S, 54°23'W	Godoi <i>et al.</i> (2012a)
Furma	19°19'S, 51°49'W	Godoi <i>et al.</i> (2011)
Gloria de Dourados	22°24'S, 54°13'W	WikiAves (2021)
Guia Lopes da Laguna	21°27'S, 56°06'W	WikiAves (2021)
Gruta do Lago Azul	21°08'S, 56°35'W	Pivatto <i>et al.</i> (2006)
Horto Barra do Moeda	20°59'S, 51°46'W	Piratelli (1999), VertNet (2021)
Horto Buriti	20°50'S, 51°40'W	Piratelli (1999)
Horto Matão	20°20'S, 51°40'W	Piratelli (1999), VertNet (2021)
Horto Palmito	20°50'S, 51°40'W	Piratelli (1999), Pacheco <i>et al.</i> (2011)
Horto Santa Luzia	21°00'S, 51°50'W	Piratelli (1999)
Horto Rio Verde	20°55'S, 52°08'W	Piratelli (1999)
Iguatemi	23°40'S, 54°33'W	WikiAves (2021)
Ilha Cantagalo	21°18'S, 51°54'W	VertNet (2021)
Ilha dos Bugres/Passo do Bugre	19°47'S, 57°39'W	Grant (1911), Tubelis & Tomas (2003a)
Inocência	19°43'S, 51°55'W	WikiAves (2021)
Instituto São Vicente	20°23'S, 54°36'W	Corral <i>et al.</i> (2017)
Itaporã	22°04'S, 54°47'W	WikiAves (2021)
Itaquirai	23°28'S, 54°10'W	WikiAves (2021)
Ivinhema urban area	22°18'S, 53°48'W	Ponço <i>et al.</i> (2013)
Ivinhema	Not found	Gimenes <i>et al.</i> (2007), Godoi <i>et al.</i> (2013), WikiAves (2021)
Jaraguari	20°08'S, 54°24'W	WikiAves (2021)
Japorã	23°53'S, 54°24'W	WikiAves (2021)
Jardim	21°28'S, 56°09'W	WikiAves (2021)
Jateí	22°28'S, 54°18'W	WikiAves (2021)
Jateí (Parque Estadual das Várzeas do Rio Ivinhema)	22°55'S, 53°39'W	MB & SM (2016 to 2018)

**Table S1.** Continued.

Localities	Coordinates	References
Jupirá	20°47'S, 51°39'W	Pinto (1932), this study (APN, 2010)
Juti	22°51'S, 54°36'W	WikiAves (2021)
Lagoa do Finado Raimundo	22°47'S, 53°32'W	Lopes <i>et al.</i> (2016), this study (FCS & AUF, 1991; EVL, LBM & LA, 2003, 2005 and 2006)
Lagoa Jacadigo	19°13'S, 57°49'W	Nunes <i>et al.</i> (2018), this study (MFV & DH, 2007, 2008 and 2010)
Lagoa Maior	20°47'S, 51°42'W	This study (APN 2000 to 2002)
Laguna Carapã	22°33'S, 55°09'W	WikiAves (2021)
LDC Rio Brilhante	21°42'S, 54°31'W	Godoi <i>et al.</i> (2011)
Lote Suedia	Not found	VertNet (2021)
Maciço do Urucum	19°12'S, 57°33'W	Godoi <i>et al.</i> (2012a), Nunes <i>et al.</i> (2018), this study (APN, 2011, 2019 to 2020)
Maracaju	21°37'S, 55°09'W	WikiAves (2021)
Maria Coelho	19°17'S, 57°33'W	Nunes <i>et al.</i> (2018), this study (MFV & DH, 2007, 2008 and 2010)
Mata ciliar do Rio Campanha	22°34'S, 53°30'W	This study (EVL, LBM & LA, 2003, 2005 and 2006)
Mata do Azulão	22°12'S, 54°54'W	Catian & Aranda (2009)
Mata do Exército	23°57'S, 54°17'W	This study (SLRC, 2003 to 2004)
Mata estacional de Novo Horizonte do Sul	22°31'S, 53°49'W	Godoi <i>et al.</i> (2012a)
Mina 63	19°11'S, 57°37'W	This study (MFV & DH, 2007, 2008 and 2010 to 2011)
Miranda	20°14'S, 56°22'W	Pinto (1944), Tubelis & Tomas (2003a), WikiAves (2021)
Morangas	19°22'S, 51°52'W	This study (JCMF, 2010)
Morro do Aeroporto	19°10'S, 57°40'W	Ragusa-Netto (2002), this study (JRN)
Morro Grande	19°13'S, 57°33'W	This study (MFV & DH, 2007, 2008 and 2010; APN, 2019 to 2020)
Morro/Ilha do Puga	19°37'S, 57°30'W	Grant (1911), Tubelis & Tomas (2003a)
Morro Pão de Açúcar	21°26'S, 57°53'W	Grant (1911), Tubelis & Tomas (2003a), this study (APN, 2011)
Morro Santa Cruz	19°12'S, 57°35'W	This study (MFV & DH, 2007, 2008 and 2010; APN, 2019 to 2020)
Mundo Novo	23°56'S, 54°17'W	WikiAves (2021), this study (SLRC, 2003 to 2004)
Naviraí	23°03'S, 54°12'W	Straube <i>et al.</i> (1996), this study (CF, 2003 to 2004)
Naviraí	23°03'S, 54°12'W	WikiAves (2021)
Nhecolândia	Not found	Morrison <i>et al.</i> (2008)
Nioaque	21°09'S, 55°49'W	WikiAves (2021)
Norte de Aquidauana	20°25'S, 55°48'W	Whittaker <i>et al.</i> (2008)
Nova Alvorada do Sul	21°27'S, 54°22'W	WikiAves (2021)
Nova Andradina	22°15'S, 53°21'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
Novo Horizonte do Sul	22°39'S, 53°51'W	WikiAves (2021)
Novo Planalto	22°18'S, 54°23'W	This study (FCS & AUF, 2009)
Palmeiras	19°02'S, 57°13'W	Naumburg & Cherrie (1930)
Pantanal do Abobral	19°27'S, 57°03'W	Araújo (2001), Ramos (2002)
Paranaíba	19°40'S, 51°11'W	Pinto (1932), Godoi <i>et al.</i> (2013), WikiAves (2021), this study (PAS, 2001 to 2003)
Parque Estadual das Matas do Segredo	20°23'S, 54°35'W	This study (APN, 2007), WikiAves (2021)
Parque Estadual Nascentes do Rio Taquari	18°02'S, 53°20'W	This study (AH, VSB & MAB, 1998 to 2000; RRL 2016)
Parque Estadual das Várzeas do Rio Ivinhema	22°55'S, 53°39'W	Godoi <i>et al.</i> (2012a), this study (CF, 2005 to 2007; FCS & AUF, 2009)
Parque Municipal de Piraputangas	19°16'S, 57°35'W	Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2007, 2008 and 2010; APN, 2019 to 2020)
Parque Municipal Recanto das Capivaras	20°44'S, 51°39'W	Peres (2014), this study (SRP, 2012 to 2013)
Parque Nacional da Serra da Bodoquena	Not found	Pivatto <i>et al.</i> (2006), WikiAves (2021)
Parque Natural Municipal Cachoeira do Apa	22°09'S, 57°31'W	MB & SM (2002 to 2020)
Passo do Lontra	19°34'S, 57°02'W	Tubelis & Tomas (2003a), Amaral & Ragusa-Netto (2008), Nunes <i>et al.</i> (2010), WikiAves (2021)
Pastagem no município de Água Clara	20°36'S, 52°34'W	Godoi <i>et al.</i> (2012a)
PCH Santa Gabriela	17°32'S, 54°26'W	Godoi <i>et al.</i> (2012b), Nunes <i>et al.</i> (2013)
Pedro Gomes	18°05'S, 54°33'W	WikiAves (2021)
Piraputanga	20°27'S, 55°29'W	Godoi <i>et al.</i> (2011)
Planície alagável do Rio Paraná (stretch between mouth of the Ivinhema river and flooded area in Porto Primavera)	Not found	Gimenes <i>et al.</i> (2007)
Plateaus in the town of Rio Negro municipality	19°28'S, 54°49'W	Godoi <i>et al.</i> (2012b)
Ponta Porã	22°32'S, 55°43'W	WikiAves (2021)
Ponta Porã (Clube Itapema)	22°33'S, 55°41'W	MB & SM (2019)
Ponte do Rio Nabileque	20°21'S, 57°38'W	Straube <i>et al.</i> (2006b)
Ponte sobre Rio Verde	19°28'S, 57°29'W	This study (MFV & DH, 2007, 2008 and 2010)
Porto da Manga	19°15'S, 57°14'W	Nunes <i>et al.</i> (2010)

Table S1. Continued.

Localities	Coordinates	References
Porto do Alegre	17°37'S, 56°57'W	This study (WMT, 2007)
Porto Esperança	19°36'S, 57°26'W	Grant (1911), Tubelis & Tomas (2003a), Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2007, 2008 and 2010)
Porto Faia	18°22'S, 57°21'W	Pinto (1932, 1944)
Porto Morrinho	19°30'S, 57°26'W	This study (MFV & DH, 2007, 2008 and 2010)
Porto Murtinho (municipal boundary area)	21°41'S, 57°52'W	Grant (1911), Pacheco & Bauer (1994), Tubelis & Tomas (2003a), Straube <i>et al.</i> (2006a)
Porto Murtinho (dike)	21°41'S, 57°52'W	Benites & Mamede (2021), WikiAves (2021), this study (MB & SM, 2011 to 2021)
Porto Murtinho (Chácara Brasília)	21°42'S, 57°50'W	Benites & Mamede (2021), this study (MB & SM, 2015 to 2021)
Porto Primavera	22°30'S, 53°01'W	Mitchell (1957)
Porto Sapé	21°39'S, 52°11'W	Pinto (1938), Bornschein <i>et al.</i> (1996), Silveira <i>et al.</i> (2017)
Praia das Figueiras	21°13'S, 56°32'W	Pivatto <i>et al.</i> (2006)
Pousada Olho d'Água	21°06'S, 56°34'W	Pivatto <i>et al.</i> (2006)
Pousada Refúgio da Ilha	20°13'S, 56°34'W	Ribas <i>et al.</i> (2001)
Pousada Xaraés	19°29'S, 56°57'W	Nunes <i>et al.</i> (2010)
Projecto Vivo	21°04'S, 56°19'W	Xeno-Canto (2021)
Rabicho	19°06'S, 57°27'W	Grant (1911)
Rancho Sombra das Aroeiras	21°13'S, 56°35'W	Pivatto <i>et al.</i> (2006)
Região do Rio Negro	Not found	Morrison <i>et al.</i> (2008), Nunes (2011a)
Região leste de Mato Grosso do Sul	Not found	Gwynne <i>et al.</i> (2010)
Reserva Kadiwéu	20°39'S, 57°29'W	Straube <i>et al.</i> (2006b)
Retiro Carandá	21°47'S, 57°34'W	WikiAves (2021)
Riacho Sanga Funda	22°04'S, 57°34'W	Straube <i>et al.</i> (2006a)
Ribas do Rio Pardo	20°26'S, 53°45'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
Ribeirão Baú	18°25'S, 53°09'W	This study (JCMF, 2011)
Rio Amambai	23°22'S, 53°56'W	Silva (1995), Straube <i>et al.</i> (1996), Straube & Urben-Filho (2010)
Rio Baía	Not found	Gimenes <i>et al.</i> (2007)
Rio Brilhante	21°48'S, 54°33'W	VertNet (2021)
Rio Brilhante	Not found	WikiAves (2021)
Rio Brilhante I	22°52'S, 54°01'W	This study (JCMF, 2009 to 2011)
Rio Brilhante II	22°15'S, 55°06'W	This study (JCMF, 2009 to 2011)
Rio Indaiá	18°59'S, 52°21'W	This study (JCMF, 2010)
Rio Nabileque	20°44'S, 57°43'W	Straube <i>et al.</i> (2006b)
Rio Negro	19°26'S, 54°59'W	WikiAves (2021)
Rio Paraguai-Mirim	19°00'S, 57°25'W	Grant (1911), Tubelis & Tomas (2003a)
Rio Pardo	21°46'S, 52°09'W	Pinto (1938)
Rio Tarumã	21°32'S, 57°49'W	Straube <i>et al.</i> (2006a)
Rio Piquiri	17°56'S, 56°12'W	This study (WMT, 2007)
Rio Tronqueira	22°15'S, 55°12'W	Morante-Filho & Godoi (2012)
Rio Vacaria	21°37'S, 54°16'W	This study (JCMF, 2009 to 2011)
Rio Verde de Mato Grosso	18°55'S, 54°50'W	WikiAves (2021)
rios Miranda/Abobral	19°34'S, 57°01'W	Tubelis & Tomas (2003a), Nunes <i>et al.</i> (2010)
rios Vermelho/Miranda	19°36'S, 56°56'W	Ramos (2002)
Rochedo	19°57'S, 54°53'W	WikiAves (2021)
Rodovia MS-195	20°04'S, 57°32'W	This study (WMT, 2011)
Rodovia MS-325	20°01'S, 57°20'W	This study (WMT, 2011)
RPPN Cara da Onça	20°44'S, 56°44'W	Godoi <i>et al.</i> (2012a)
RPPN Gavião de Penacho	19°57'S, 55°03'W	Godoi <i>et al.</i> (2011, 2012a), Nunes <i>et al.</i> (2013)
RPPN Vale do Bugio	19°56'S, 55°04'W	Godoi <i>et al.</i> (2012a), Nunes <i>et al.</i> (2013), Buainain <i>et al.</i> (2017), this study (MB & SM 2013 to 2015)
RPPN Xodó do Vô Ruy	21°50'S, 56°01'W	Godoi <i>et al.</i> (2012a)
Salobra	20°11'S, 56°30'W	Travassos & Freitas (1942), Pinto (1944), Tubelis & Tomas (2003a)
Salobrinha	20°41'S, 56°47'W	Faria & Araújo (2010)
Salto do Rio Sucuriú	18°33'S, 53°08'W	Godoi <i>et al.</i> (2011)
São Gabriel do Oeste	19°23'S, 54°34'W	WikiAves (2021)
Santa Rita do Pardo	21°18'S, 52°49'W	WikiAves (2021)
Selvíria	20°21'S, 51°24'W	This study (PAS, 2001 to 2003)
Selvíria	20°21'S, 51°24'W	Godoi <i>et al.</i> (2013), WikiAves (2021)
Sete Quedas	23°58'S, 55°02'W	WikiAves (2021)
Sidrolândia	20°56'S, 54°57'W	WikiAves (2021)



**Table S1.** Continued.

Localities	Coordinates	References
Sítio Água Azul	21°15'S, 56°34'W	Pivatto <i>et al.</i> (2006)
Sítio Bananal	19°12'S, 57°36'W	This study (APN & MNG, 2007 to 2008)
Sítio Córrego do Ouro	20°56'S, 51°47'W	This study (PAS, 2001 to 2002)
Sítio Limãozinho	19°17'S, 57°35'W	Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2007, 2008 and 2010)
Sítio Vale do Taquaral	21°06'S, 56°37'W	Pivatto <i>et al.</i> (2006)
Sonora	17°35'S, 54°45'W	WikiAves (2021)
Sudeste da Nhecolândia	19°18'S, 56°06'W	Tubelis & Tomas (2003a)
Sul de Mato Grosso do Sul	Not found	Sick (1997)
Terenos	20°26'S, 54°52'W	WikiAves (2021)
Trecho do Parque Nacional da Serra da Bodoquena	56°408'S, 21°04'W	WikiAves (2021)
Três Lagoas	20°48'S, 51°43'W	Pinto (1932), Godoi <i>et al.</i> (2013), VertNet (2021), WikiAves (2021)
Urucum	19°09'S, 57°38'W	Naumburg & Cherrie, 1930), Nunes <i>et al.</i> (2018), this study (APN, 2011 and 2019 to 2020)
Usina Eldorado	21°49'S, 54°04'W	Morante-Filho & Godoi (2012)
Usina Laguna	22°27'S, 53°17'W	Morante-Filho & Godoi (2012)
Usina Santa Luzia	21°34'S, 54°13'W	Morante-Filho & Godoi (2012)
Várzea do Rio Salobra	20°30'S, 56°47'W	Pivatto <i>et al.</i> (2006)
Várzeas do Rio Iguatemi	23°53'S, 54°16'W	This study (SLRC, 2003 to 2004)
Várzeas do Rio Paraná	24°02'S, 54°14'W	This study (SLRC, 2003 to 2004)
Vertente oeste do Maciço Urucum	19°13'S, 57°37'W	Vasconcelos <i>et al.</i> (2008), this study (MFV & DH, 2007, 2008 and 2010)
Vestia	20°21'S, 51°25'W	This study (PAS, 2001 to 2003; JCMF, 2010)
Vicentina	22°24'S, 54°26'W	WikiAves (2021)
Vista Alegre	21°47'S, 55°33'W	Godoi <i>et al.</i> (2011), this study (MNG, 2010)

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