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BOLETÍN

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MUSEO NACIONAL DE HISTORIA NATURAL DEL PARAGUAY

THE AVIFAUNA OF THE PARAGUAYAN DEPARTMENT OF ÑEEMBUCÚ



**GEORGE HICKS, JEREMY DICKENS, CRISTIAN TORRES, EMMA WALKER,
SERGIO D. RÍOS, LUIS DOLDAN, IGNASI TORRE, ARNE J. LESTERHUIS,
HUGO DEL CASTILLO, OSCAR RODRÍGUEZ & PAUL SMITH**

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Ilustración de la portada: Adulto y polluelo de *Charadrius collaris* (Vieillot) [Charadriidae] en la costa del arroyo Ñeembucú, cerca del puente de la ciudad de Pilar [foto de Emma Walker].



BOLETÍN

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CONTENIDO

[Entre corchetes la fecha de publicación online de cada artículo]

Ornitología

George Hicks, Jeremy Dickens, Cristian Torres, Emma Walker, Sergio D. Ríos, Luis Doldan, Ignasi Torre, Arne J. Lesterhuis, Hugo del Castillo, Oscar Rodríguez & Paul Smith. The avifauna of the Paraguayan department of Ñeembucú. [18.iv.2022] 3–54

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The avifauna of the Paraguayan department of Ñeembucú

La avifauna del departamento de Ñeembucú, Paraguay

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Abstract.– The avifauna of Ñeembucú is currently one of the most understudied within Paraguay, with the true diversity present likely to be greatly underrepresented. In the interests of contributing an up-to-date species list for the department, we present 46 new documented bird records, as well as a list of all 330 documented birds within the department. We also provide documentation for 39 additional species that have been previously reported in the department but without supporting evidence. Many of the newly documented species are not surprising and highlight the substantial lack of robust ornithological work occurring in the Ñeembucú department currently.

Keywords: *Asio clamator*, *Sporophila iberaensis*, *Leptotila rufaxilla*, *wetland birds*, *humid chaco*, *distributional records*.

Resumen.– La avifauna de Ñeembucú es actualmente una de las menos estudiadas dentro de Paraguay, con la diversidad real presente probablemente muy subrepresentada. En el interés de contribuir con una lista actualizada de aves del departamento, presentamos 46 nuevos registros documentados de aves, así como una lista de las 330 aves documentadas dentro de Ñeembucú. Así también, proveemos documentación para 39 especies adicionales, que han sido previamente registradas en el departamento, pero sin evidencia asociada. Varios de las nuevas especies documentadas no son sorpresas y resaltan la carencia sustancial de trabajos ornitológicos considerables desarrollados actualmente en el departamento de Ñeembucú.

Palabras Clave: *Asio clamator*, *Sporophila iberaensis*, *Leptotila rufaxilla*, *aves de humedales*, *chaco húmedo*, *registros de distribución*.

The current state of the Paraguayan avifauna is summarized in Smith & Clay (in press), with over 700 species documented to occur in the country. The avifauna of Ñeembucú is one of the most poorly sampled of all Paraguayan departments, and the number of species currently thought to occur in the department likely greatly underestimates the true diversity (Guyra Paraguay, 2005). Ñeembucú department is located in the south-western Oriental region and is bordered by the Paraguay river (facing Formosa and Chaco Provinces in Argentina)

to the west and the Paraná river (opposite Corrientes Province) to the south. The department is made up largely of a vast wetland known as the Ñeembucú Wetland Complex (NWC), the second largest wetland complex in Paraguay (Neiff, 2001), interspersed with wet grasslands, *Copernicia* palm savannas and gallery forests (Mereles *et al.*, 2005).

Despite the paucity of bird reports from Ñeembucú, the department has a long history of ornithological exploration, with the first collections in the region in the early 20th Century



by Grant (1911a-c) who collected at Ajerichi, Mortero, Tayru, Tebicuari, Villa Franca, Villa Oliva and Pilar as he travelled along the Paraguay River. Following this, the difficulties of access into the NWC meant that ornithological survey work virtually ground to a halt. It was 70 years before data from the area began to be collected again when, during the 1980s and early 1990s, the Contreras family (Julio Rafael Contreras, Andrés Óscar Contreras and Yolanda E. Davies) collected widely across Ñeembucú. They published some of their new departmental records (A. O. Contreras, 1993, J. R. Contreras, 1986, 1992, 1995, Contreras *et al.*, 1988, 1992, 1993, Contreras & Contreras, 1992, 1993, 1994, Teta & Contreras, 2003), but the full catalogue of the IBIS specimen collection of the Contreras family was only published recently, adding an additional 14 species to the departmental list (Smith *et al.*, 2021).

Hayes (1995) provided details of some of the more interesting records from the department, including a small number of first published reports based on specimens in US museums, but the first attempt at an atlas of Paraguayan birds was Guyra Paraguay (2005), which provided a baseline for records based on sightings logged in the Guyra Paraguay Biodiversity Database (GPBD).

However, despite being a significant contribution, this publication suffers from the poor print quality, mapped points are not easily assigned to departments (they are divided by ecoregion), most of the mapped points are not based on published records and numerous significant published records (including many for Ñeembucú) were overlooked.

Additional new Ñeembucú records have been included in small numbers in publications dealing with wider ornithological themes (Ridgely & Tudor 1994, Contreras *et al.* 2014, Contreras & Smith 2014, Clay *et al.* 2015, Hayes *et al.* 2018, Lesterhuis *et al.* 2018, Vallotton & Smith, 2021). Another significant “hole” in the published data is that specific records obtained during the Neotropical Waterbird Census (Censo

Neotropical de Aves Acuáticas) are not publicly available. To address this, we summarise the relevant Ñeembucú data herein.

Here we present a critically appraised, fully referenced and updated bird list for Ñeembucú, as well as documented records for a further 46 bird species that occur in the department, bringing the total number of documented species known to occur to 330.

Materials and Methods

A thorough review of the published literature and online databases was performed with a view to verifying previous bird records from the department. Records were then classified as documented (i.e. independently verifiable with a voucher specimen, published description associated with a discrete record, or publicly available photograph or sound recording) or pending documentation (records that do not have independently verifiable corroborating data publicly available). An undocumented species was admitted to the main list (Appendix 1) only if there were multiple (>3) and credible reports by multiple experienced observers. All other records on the main list are documented.

Several new documented records for the department are also presented here from the first time. The majority of these were obtained from dedicated bird surveys, or incidental observations, at Estancia Santa Ana (-26.8499, -58.0343), a working cattle ranch, in the urban zone of the city of Pilar (-26.8618, -58.3026), at the Pilar Military Base - Regimiento de Caballería N° 2 “Coronel Felipe Toledo” (on the outskirts of the city) (-26.8425, -58.3086), at Estancia Delfino (-26.8919, -58.3479) or the town of Cerrito (-27.3436, -57.6383). A map of these localities, as well as additional localities, with coordinates, can be seen in Figure 1.

A species was considered to be a new record for the department if no published report of its presence could be found. Key sources for determining previous reports were Guyra Paraguay (2005) and Smith & Clay (in press)

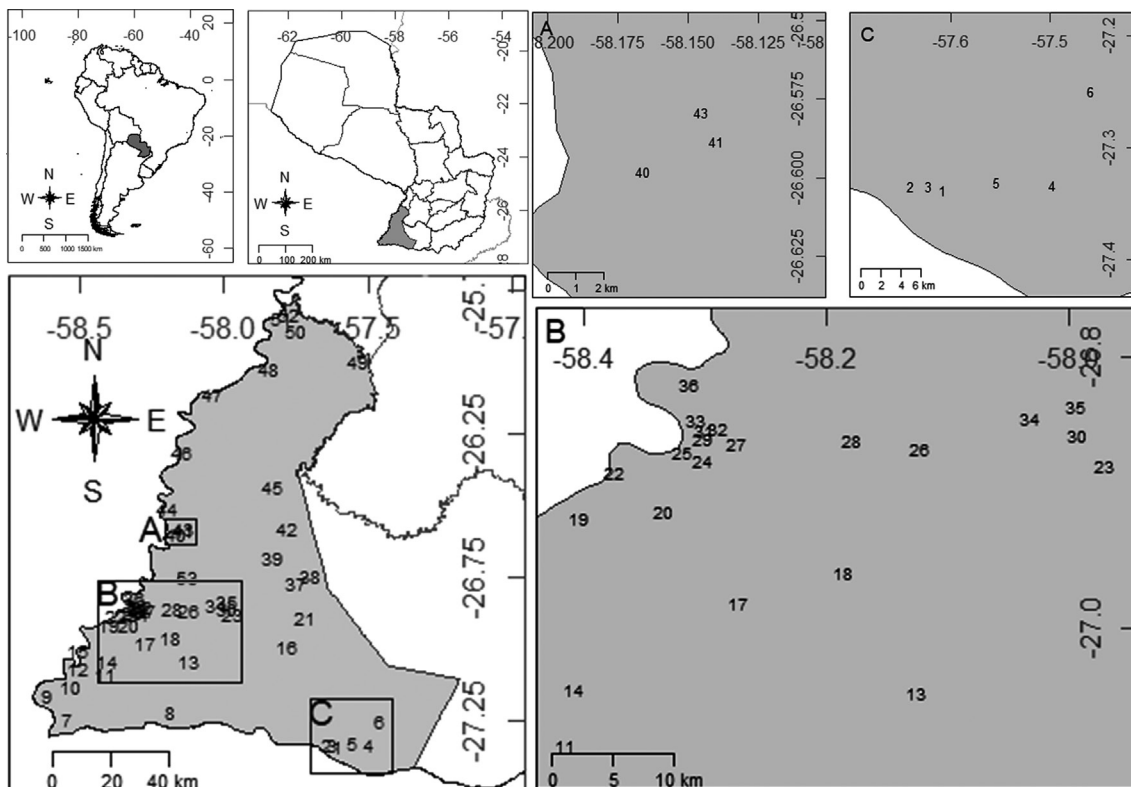


Figure 1. Map of the localities featured in this publication. **1)** Isla Martín García (-27.3379, -57.6075). **2)** Town of Cerrito (-27.3344, -57.6402). **3)** Laguna Sirena (-27.3339, -57.6219). **4)** Laguna Bogado (-27.3331, -57.4976). **5)** Laguna Rivero (-27.3304, -57.5532). **6)** Laureles (-27.2497, -57.4595). **7)** Paso de Patria (-27.2439, -58.5477). **8)** Itá Corá (-27.2217, -58.1896). **9)** Laguna Sisi, 9 km south of Humaitá (-27.1613, -58.6158). **10)** Estancia Yvera, 50 km from Pilar on the old Ruta IV (-27.129, -58.5352). **11)** Estancia San Solano (-27.0862, -58.4153). **12)** Humaitá (-27.0691, -58.5074). **13)** Estancia Puerto Eliza, Desmochados (-27.0465, -58.1252). **14)** Boquerón-Humaitá road (-27.0449, -58.4079). **15)** Tayru (-27.0079, -58.5087). **16)** Swamps of the Arroyo Montuoso, 17 km NW of Pilar (-26.9918, -57.7788). **17)** Isla Umbú (-26.9812, -58.2724). **18)** Paso Alambre (-26.9588, -58.1853). **19)** Laguna Pablino (-26.9181, -58.4037). **20)** Ruta Pilar- Boquerón (-26.914, -58.3345). **21)** Potrero González area of Ruta IV (-26.8905, -57.7172). **22)** Estancia Delfino (-26.8848, -58.374). **23)** Guazú Cuá (-26.8797, -57.9701). **24)** Barrio San Lorenzo, Pilar (-26.8759, -58.3021). **25)** Puerto Nuevo de Pilar (26.8697, -58.3187). **26)** 17 km E of Pilar, Ruta IV (-26.8675, -58.1228). **27)** Playa Municipal (-26.864, -58.274). **28)** 10 km E of Pilar on Ruta IV (-26.8611, -58.1793). **29)** City of Pilar (-26.8604, -58.3021). **30)** Ruta IV junction with Guazú Cuá (-26.8572, -57.9925). **31)** Arroyo Ñeembucú near the city bridge (-26.8533, -58.3003). **32)** Barrio San José, Pilar (-26.8527, -58.2889). **33)** Pilar Military Base (-26.8462, -58.3074). **34)** Estancia Santa Ana (-26.8448, -58.0312). **35)** Puente Palenque, Tacuaras (-26.8362, -57.9935). **36)** Laguna Gadea (-26.8201, -58.3126). **37)** Estero Yacaré (-26.7711, -57.7506). **38)** Estero Camba (-26.7486, -57.6986). **39)** San Juan de Ñeembucú access road (-26.681, -57.833). **40)** Tebicuari (-26.5981, -58.1661). **41)** Estancia Yacaré (-26.5883, -58.14). **42)** Estancia Salvese Quien Pueda (-26.5822, -57.7935). **43)** Tebicuary river (-26.5792, -58.1453). **44)** Ajerichi (-26.5115, -58.2011). **45)** Tebicuary river near Ciervo Blanco (-26.4389, -57.8331). **46)** Villa Franca (-26.3185, -58.1485). **47)** Riacho Piriri (-26.1135, -58.0418). **48)** Villa Oliva (-26.0264, -57.8423). **49)** Estancia Santa Oliva (-25.9969, -57.5339). **50)** Ruta Villeta-Alberdi (-25.8954, -57.7493). **51)** Colonia M. Domínguez (-25.851, -57.7983). **52)** Mortero (-25.8376, -57.7759). **53)** Cerca de Pilar (-26.7733, -58.1336).

(and the references cited therein), as well as the references cited here in the introduction. Photos, recordings or detailed descriptions are provided to document all new records included herein,

and observers are referred to by their initials after the species text (all figures in the author line). We also publish for the first-time data for Ñeembucú department compiled from the

Censo Neotropical de Aves Acuáticas (CNAA – Neotropical Waterbird Census) obtained from 2004–2007, 2009 and 2013.

The list of the birds of Ñeembucú was compiled with references to records for each species, and by reviewing museum collections of birds from the department. Little published literature is available about the avifauna of the department, and we found that in many cases the only published record of the species in Ñeembucú was a mapped point in Guyra Paraguay (2005), and this was even the case for some abundant and frequently observed species. Where no voucher specimen was available to document the presence of such species in the department we uploaded photographs of them taken in Ñeembucú to the ebird platform to confirm the identification and document presence in the department.

Results

Here we report 46 new departmental distribution records for Ñeembucú department, documenting 43 of them photographically, 5 with specimens and 5 with sound recordings.

Yellow-billed Pintail

Anas georgica

(Anatidae)

(Fig. 2)

Three individuals photographed during February 2020 in the company of White-faced Whistling-Ducks *Dendrocygna viduata* on a roadside wetland in the Potrero González area of Ruta IV (LD). The species is considered a vagrant to Paraguay (Lesterhuis *et al.*, 2018), with scattered previous reports from Central and

Presidente Hayes departments (Smith & Clay, in press.) (LD).

Grey-fronted Dove

Leptotila rufaxilla

(Columbidae)

(Fig. 3)

An adult captured in a mist net and photographed at Cerrito on 29 July 2021 (GH, PS). This resident species is typically associated with humid forests in the Oriental region of Paraguay, with previous reports from Amambay, Alto Paraná, Caazapá, Canindeyú, Concepción, Guairá, Misiones, Itapúa and Paraguari departments (Smith & Clay, in press.). Its presence in Misiones and Ñeembucú departments is apparently associated with the gallery forests of the Paraná River and mirrors the distribution on the opposite bank of the river in Corrientes Province, Argentina (Mark Pearman, pers. comm.) (GH, PS).

Scaled Dove

Columbina squammata

(Columbidae)

(Fig. 4)

A frequently seen resident dove, reported from various locations in Ñeembucú. The species was first heard vocalising in the city of Pilar during 2013 (PS) and was reported at Cerrito on 29 July 2021 (PS). Photographic documentation is provided of an individual in Pilar on 21 Jun 2020 (CT). This is a species that is rapidly expanding its range across Paraguay (Contreras & González-Romero, 1989) and it has now been recorded in all political departments (Smith & Clay, in press.) (CT, EW, SDR, PS).

Opposite page: Figures 2–9. Birds of Ñeembucú. **2)** Yellow-billed Pintail *Anas georgica*, Potrero González area of Ruta IV, February 2020 (Photo: Luis Doldan). **3)** Grey-fronted Dove *Leptotila rufaxilla*, Cerrito, 29 July 2021 (Photo: George Hicks). **4)** Scaled Dove *Columbina squammata*, Pilar, 21 June 2020 (Photo: Cristian Torres). **5)** Sick's Swift *Chaetura meridionalis*, Pilar, 30 September 2018 (Photo: Jeremy Dickens). **6)** Swallow-tailed Hummingbird *Eupetomena macroura*, Pilar, 23 July 2021 (Photo: Emma Walker). **7)** Azure Gallinule *Porphyrio flavirostris*, Boquerón-Humaitá road, 16 October 2019 (Photo: Sergio D. Ríos). **8)** Collared Plover *Charadrius collaris*, Ñeembucú River, near the Pilar city bridge, 15 August 2021 (Photo: Emma Walker). **9)** Upland Sandpiper *Bartramia longicauda*, Estancia Delfino, 21 December 2020 (Photo: Sergio D. Ríos).



The avifauna of the Paraguayan department of Ñeembucú

Sick's Swift***Chaetura meridionalis***

(Apodidae)

(Fig. 5)

This breeding northern migrant has been observed multiple times in Ñeembucú at Estancia Santa Ana, Pilar and Isla Umbú. First documentation is an individual photographed flying over Pilar on 30 September 2018 (JD). The species is now known to be present in all of the political departments in the country (Smith & Clay, in press.). (GH, JD, EW, SDR, PS).

Swallow-tailed Hummingbird***Eupetomena macroura***

(Trochilidae)

(Fig. 6)

A single individual was photographed on 23 July 2021 at 14:21 in an urban garden in Pilar (EW). The bird regularly visited a hummingbird feeder and garden flowers. This is a resident species that is rapidly expanding across Paraguay (perhaps along river systems), despite having a somewhat limited Paraguayan range just a decade ago (del Castillo *et al.*, 2012). It would seem likely that this species is (or will soon be) present throughout the country in all political departments (Smith & Clay, in press.). (GH, CT, EW).

Azure Gallinule***Porphyrio flavirostris***

(Rallidae)

(Fig. 7)

Photographed in a wetland along the Boquerón-Humaitá road on 16 October 2019 (SDR). An additional individual was photographed at Estancia Delfino on 17 December 2021 (SDR, PS). This is a breeding northern migrant that is easily overlooked because of its secretive habits. It has been previously recorded from Alto Paraguay, Canindeyú, Central, Cordillera, Guairá, Itapúa, Presidente Hayes and San Pedro departments (Smith & Clay, in press.) (SDR, PS).

Collared Plover***Charadrius collaris***

(Charadriidae)

(Fig. 8)

A commonly observed resident shorebird on the banks and shallow areas of the Paraguay and Ñeembucú rivers. This species was first observed during Paraguay River surveys during 14–15 October 2004, when a nest with 3 eggs was found on a sandbank in front of Paso de Patria within a colony of 10 nesting Yellow-billed Terns (*S. superciliaris*) and 2 nesting Black Skimmers (*R. niger*) (AJL). The species was further recorded during the CNAA 2006 at Estero Yacaré (1 individual) on 11 February 2006 and at Laguna Sirena, Cerrito (22 individuals) on 14 February 2006 (Lesterhuis *et al.*, 2007, Wetlands International, 2021). There is an undocumented record of the species from Estancia San Solano during November 2008 (HDC). Two individuals were observed and photographed on the Arroyo Ñeembucú, near the city bridge on 23 May and 10 July 2021, with another two later observed with three chicks on 15 August 2021 (CT, EW), confirming the breeding dates reported earlier by Steinbacher (1968). (GH, CT, EW, SDR, AJL, HDC, PS).

Upland Sandpiper***Bartramia longicauda***

(Scolopacidae)

(Fig. 9)

A single individual perched in natural grassland adjacent to a road close to the entrance to Estancia Delfino property was photographed on 21 December 2020 (SDR, PS). There is also a specimen in the MNHNPy (01845) from Estancia Yacaré (date unknown) and a report from the CNAA of a single individual at Laguna Pablino on 12 February 2006 (Lesterhuis *et al.*, 2007, Wetlands International, 2021). This is a Nearctic passage migrant that, according to tracking data, migrates on a broad front across the country and thus is likely to be recorded in all political departments (Hill *et al.*, 2019, Smith & Clay, in press.) (SDR, PS).

Baird's Sandpiper***Calidris bairdii***

(Scolopacidae)

(Fig. 10)

An uncommon Nearctic passage migrant through Paraguay, this species was observed and filmed on 19 August 2020 at 15:00, on the Arroyo Ñeembucú close to the city bridge (CT). The species migrates along the Paraguay River and so its presence in Ñeembucú is predictable and undoubtedly regular (Smith & Clay, in press.). The specimen (CE009384) reported as Baird's Sandpiper in Contreras & Contreras (1994) and Hayes (1995) is a Buff-breasted Sandpiper (Smith *et al.*, 2021). (CT).

White-rumped Sandpiper***Calidris fuscicollis***

(Scolopacidae)

(Fig. 11)

A common Nearctic passage migrant through Paraguay, this species was observed in small flocks of up to 20 birds, seen during Paraguay River surveys during 14–15 October 2004, approximately 30 km north of Pilar. It was photographed in Ñeembucú for the first time on 29 October 2018, on the Tebicuary River (JD). There is also a previously unpublished specimen in the MNHNPy (01833) from Isla Martín García. The species migrates along the Paraguay River and so its presence in Ñeembucú is predictable and undoubtedly regular (Smith & Clay, in press.). (GH, JD, CT, EW, SDR, AJL, PS).

Wilson's Phalarope***Phalaropus tricolor***

(Scolopacidae)

(Fig. 12)

A winter-plumaged adult was photographed on the Arroyo Ñeembucú on 03 and 06 September 2020 (CT). This is a regular winter visitor and passage migrant in Paraguay, but mainly to the

central Chaco. Passage through Ñeembucú is probably annual in small numbers. (Smith & Clay, in press.) (CT, EW, SDR, PS).

Spotted Sandpiper***Actitis macularius***

(Scolopacidae)

(Fig. 13)

A regular but uncommon Nearctic passage migrant and non-breeding visitor to Paraguay. The first observation is an undocumented sighting on the Paraguay River near Paraiso on 24 November 2011 (HDC) and it was also observed at Estancia Delfino on 21 December 2020 (SDR, PS). First documentation was an individual photographed on 05 October 2018, on the Tebicuary river near Ciervo Blanco (JD). The species migrates along the Paraguay River and so its presence in Ñeembucú is predictable (Smith & Clay, in press.). (JD, SDR, HDC, PS).

Solitary Sandpiper***Tringa solitaria***

(Scolopacidae)

(Fig. 14)

A common Nearctic passage migrant and non-breeding visitor to Paraguay. The GPBD notes the following records: Estancia Salvese Quien Pueda, 04-05 September 2004; Estancia San Solano, 08-09, 13-14 November 2008; and Estancia Yvera, 25-26 February 2009. There are also the following reports from the CNA: Paraguay River, 19 February 2004 (1 individual), Estero Yacaré, 05 February 2005 (1); Paso Alambre, 11 February 2006 (21); and Laguna Sisi, 13 February 2006 (11) (Wetlands International 2021). The species has also been recorded on multiple occasions at several localities since, with photographic documentation obtained on the Ñeembucú River near Pilar, on 17 August 2020 (CT). The species migrates along the Paraguay River and so its regular presence in Ñeembucú is predictable (Smith & Clay, in press.). (GH, JD, CT, EW, SDR, PS).

Greater Yellowlegs
Tringa melanoleuca
 (Scolopacidae)
 (Fig. 15)

This is an uncommon Nearctic passage migrant with infrequent records from Ñeembucú. There is a record in the GPBD from Estancia Yacaré (4-6 September 2008), and it has been observed at Cerrito (24 November 2011; Silvia Centrón) and on the Playa Municipal (21 May 2020; SDR). The first documented record was on the Ñeembucú river on 06 September 2020 (CT). (CT, SDR, PS).

Lesser Yellowlegs
Tringa flavipes
 (Scolopacidae)
 (Fig. 16)

Common and widespread in the department, despite there being no formal documentation of the species previously. The GPBD notes the following locality records: Guazú Cuá, 08-09 September 2001; Estancia Yacaré, 04-06 September 2008; and Estancia San Solano, 08-09, 13-14 November 2008. It was also reported at multiple sites in February, during the 2006 CNA: Estancia Yacaré (1 individual), Laguna Sisi (20), Laguna Sirena (5), Laguna Rivero (7) and Laguna Bogado (1) (Wetlands International 2021). The species also over-winters in lower numbers, and a large over-wintering flock of over 100 birds was watched feeding on mudflats at Laguna Sirena, Cerrito on 28 July 2021 (GH, PS). A documented record is provided here from 6 September 2020 on the Ñeembucú River near the city bridge (CT). Though the bulk of

the Paraguayan population may be considered a Nearctic passage migrant, many individuals over-winter in Ñeembucú (Smith & Clay, in press.) (GH, CT, EW, SDR, PS).

Pinnated Bittern
Botaurus pinnatus
 (Ardeidae)
 (Fig. 17)

The first report is an undocumented sighting at Estancia Santa Oliva during June/July 1997 (GPBD). The species was then documented with a photograph of a pair of displaying birds in the extensive marshland at the entrance to Estancia Delfino on 21 December 2020, suggestive of local breeding (SDR, PS). The Paraguayan distribution of the species appears to be associated largely with the watersheds of the Paraguay and Paraná Rivers, but scattered localized records in other areas suggest significant wandering (Smith & Clay, in press.) (SDR, PS).

Sharp-shinned Hawk
Accipiter velox
 (Accipitridae)
 (Fig. 18)

A single individual was photographed perched on the edge of a forest island in Estancia Santa Ana on 30 June 2021, at 11:02 (EW). An earlier undocumented observation of this species was an individual seen on 05 February 2005 along the San Juan de Ñeembucú access road (AJL). This resident species has been previously reported from Amambay, Alto Paraná, Alto Paraguay, Boquerón, Caazapá, Canindeyú, Central, Concepción, Misiones, Itapúa and Presidente Hayes

Figures 10-17. Birds of Ñeembucú [continued]. **10** Baird's Sandpiper *Calidris bairdii*, Ñeembucú River, near the Pilar city bridge, 19 August 2020 (Photo: Cristian Torres). **11** White-rumped Sandpiper *Calidris fuscicollis*, Tebicuary River, 29 October 2019 (Photo: Jeremy Dickens). **12** Wilson's Phalarope *Phalaropus tricolor*, Ñeembucú River, near the Pilar city bridge, 3 September 2020 (Photo: Cristian Torres). **13** Spotted Sandpiper *Actitis macularius*, Ciervo Blanco, 5 October 2018 (Photo: Jeremy Dickens). **14** Solitary Sandpiper *Tringa solitaria*, Ñeembucú River, near the Pilar city bridge, 17 August 2020 (Photo: Cristian Torres). **15** Greater Yellowlegs *Tringa melanoleuca*, Ñeembucú River, near the Pilar city bridge, 06 September 2020 (Photo: Cristian Torres). **16** Lesser Yellowlegs *Tringa flavipes*, Ñeembucú River, near the Pilar city bridge, 06 September 2020 (Photo: Cristian Torres). **17** Pinnated Bittern *Botaurus pinnatus*, Estancia Delfino, 21 December 2020 (Photo: Sergio D. Ríos).



The avifauna of the Paraguayan department of Ñeembucú

departments (Smith & Clay, in press.) (EW, AJL).

Crane Hawk

Geranospiza caerulescens

(Accipitridae)

(Fig. 19)

There are two reports from Ñeembucú, the first is an individual photographed at Humaitá on 15 September 2014 (SDR), while the second was a bird observed feeding on the ground at Estancia Delfino on 12 September 2021 (GH, CT, EW). The species is an uncommon resident in Paraguay typically associated with Chaco type habitats (especially in the Paraguay River watershed), often close to water. There are previous records from Alto Paraguay, Boquerón, Central, Concepción, Misiones, Presidente Hayes and San Pedro departments. (Smith & Clay, in press.). (GH, CT, EW, SDR).

Savanna Hawk

Buteogallus meridionalis

(Accipitridae)

(Fig. 20)

A common resident in Ñeembucú, often seen perched on wires, fences or treetops in open habitats. That this species has not previously been reported for the department is probably an oversight, as it is one of the most conspicuous components of the departmental avifauna. Photographic documentation was obtained on 08 August 2021, at 14:20 on Ruta Pilar-Boquerón, south of Pilar (EW). The species is widespread in Paraguay and has now been reported from

all departments (Smith & Clay, in press.). (All authors)

White-tailed Hawk

Geranoaetus albicaudatus

(Accipitridae)

(Fig. 21)

Two individuals photographed whilst soaring at Cerrito on 29 July 2021, is the first documented record of the species from the department (GH, PS). The species had previously been observed at this locality on 21 July 2007 (HDC). This is a fairly common resident hawk of open areas across most of the country (Smith & Clay, in press.). (GH, HDC, PS)

Ferruginous Pygmy-Owl

Glaucidium brasilianum

(Strigidae)

(Fig. 22)

Another common resident in most localities (including the main plaza of the city of Pilar) which seems to lack prior formal documentation in Ñeembucú (Guyra Paraguay, 2005). The species was photographed at Estancia Puerto Eliza, Desmochados on 8 December 2020 (CT). The species is present in all Paraguayan departments (Smith & Clay, in press.) (All authors).

Striped Owl

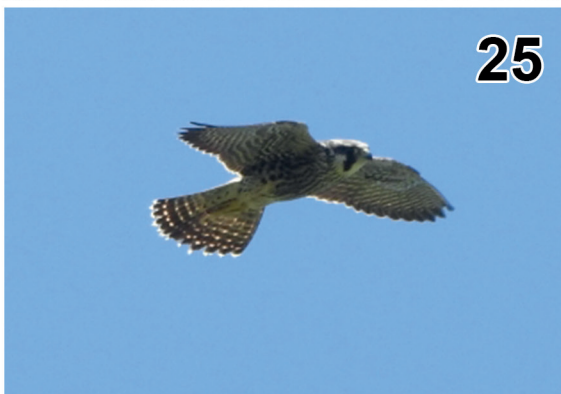
Asio clamator

(Strigidae)

(Fig. 23 & 24)

The first record of this species for Ñeembucú was a roadkill specimen (CZPLT-A-0085) collected on Ruta IV at Km 17 east of Pilar (-26.8675, -58.1228) in 2020 (PS). Subse-

Opposite page: Figures 18-25. Birds of Ñeembucú [continued]. **18**) Sharp-shinned Hawk *Accipiter velox*, Estancia Santa Ana, 30 June 2021 (Photo: Emma Walker). **19**) Crane Hawk, *Geranospiza caerulescens*, Estancia Delfino, 12 September 2021 (Photo: George Hicks). **20**) Savanna Hawk *Buteogallus meridionalis*, Boquerón-Humaitá road, 8 August 2021 (Photo: Emma Walker). **21**) White-tailed Hawk *Geranoaetus albicaudatus*, Cerrito, 29 July 2021 (Photo: George Hicks). **22**) Ferruginous Pygmy-Owl *Glaucidium brasilianum*, Estancia Puerto Elisa, Desmochados, 8 December 2020 (Photo: Cristian Torres). **23**) Female Striped Owl *Asio clamator*, Pilar Military Base, 22 March 2021 (Photo: George Hicks). **24**) Male Striped Owl *Asio clamator*, Pilar Military Base, 22 March 2021 (Photo: Cristian Torres). **25**) Peregrine Falcon *Falco peregrinus*, Ruta Villeta-Alberdi, 12 May 2021 (Photo: Luis Doldán).



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Table 1. Striped Owl *Asio clamator* egg weight change between 15 March 2021 and 26 March 2021.

	15/3/2021	16/3/2021	17/3/2021	18/3/2021	19/3/2021	20/3/2021	21/3/2021	22/3/2021	23/3/2021	24/3/2021	25/3/2021	26/3/2021
Egg 1 (Black)	43	36	39	40	38,1	37,3	37,3	37,1	37	36,8	37,1	36,8
Egg 2 (Red)	42	40	39	39	37	36,4	36	35,9	35,8	35,7	35,8	35,5
Egg 3 (Blue)	43	36	36	36	35,2	34,4	34,4	34,2	34	33,8	33,9	33,6

quently the species was found to be breeding in the department when a ground nest was located at the Pilar Military Base and monitored daily from 15 to 26 March 2021 (GH, CT). One parent was typically present at the nest, with the exception of 22 March, when both parents were observed. Monitoring of the nest ended abruptly after it was inundated by a flash flood.

The nest was a minimally constructed cleared area on the ground, with dimensions approximately 27 x 22 cm and 4 cm deep, and surrounded by plants of the genus *Eryngium* sp. Some dried *Eryngium* material was present in the nest, although this may have been incidental. The clutch was of three white eggs, and these were marked with distinctly coloured marker pens for purposes of identification.

Eggs had the following dimensions: Egg 1 (Black) 46 x 39 mm with circumference 120 mm. Egg 2 (Red) 47 x 38 mm and circumference 119 mm. Egg 3 (Blue) 44 x 38 mm and circumference 199 mm. The measurements of the eggs are consistent with those of eggs measured in previous studies of the breeding of the species (Goodman & Fisk, 1973, Krahe, 1981, Martinez *et al.*, 1996, Pautasso & de la Peña, 2001, Riaño *et al.*, 2017).

The mass of the eggs was recorded daily for 12 consecutive days (when the nest flooded). Eggs ranged from 43g to 34.64g in weight across the study period (Table 1), between 17 and 1.1 g heavier than those measured by Krahe (1981). Eggs reduced an average of 7 grams in weight during the 12 study days. Loss of weight during incubation is natural due to evaporation of the liquid in the egg (Drent, 1970).

As observers approached the nest, the sitting owl would remain motionless in a flattened posture with the wings spread over the nest (the streaked plumage providing excellent camouflage in the grass), until the researchers were approximately 1 m away, when it would flush to a nearby tree and perform

a distraction display. This display consisted of puffed-up feathers, a hunched-over pose and 2 defensive calls, a beak tapping and a drawn-out barking, consistent with the threat displays described previously (Krahe, 1981, Claessens *et al.*, 2017). An audio recording of this can be heard at Macaulaylibrary.org [ML385258321 - <https://macaulaylibrary.org/asset/385258321>]. This is the first breeding data for this species available for Paraguay. (GH, CT, PS).

Peregrine Falcon

Falco peregrinus

(Falconidae)

(Fig. 25)

The first two records of this species were at Estancia Salvese Quien Pueda on the 4th and 5th of September 2004 (Guyra Paraguay) and in Pilar on 03 February 2021 (CT), both lacking documentation. The first photographed record in Ñeembucú was taken on the Ruta Villeta-Alberdi on 12th May 2021 (LD). A widespread, but sparsely populated species in Paraguay, Peregrine Falcons have been recorded in all three of the chaco departments, as well as much of the oriental region (Alto Paraná, Canindeyú, Caazapá, Central, Concepción, Itapúa and Misiones).

White-eyed Parakeet

Psittacara leucophthalmus

(Psittacidae)

(Fig. 26)

Numerous undocumented and unpublished observations: Guazú Cuá (08-09 September 2001, GPBD); Cerrito (06 March 2002, 05-06 June 2004, August 2016, GPBD; 29 July 2021, GH, PS); Laguna Sisi, 9 km south of Humaitá (04 June 2004, GPBD); Ruta IV junction with Guazú Cuá (04-06 September 2008, GPBD); Estancia San Solano (November 2008, GPBD); Estancia Yvera, 50 km from Pilar on the old Ruta IV (25-26 February 2009, GPBD); Humaitá (15 October 2019, SDR); Ruta Villeta-Alberdi (29

November 2019, LD). The first photographic documentation is of an individual observed on 29 September 2020, in Barrio San José, Pilar (CT) and a single individual was also observed on 12 August 2021, in Barrio San Lorenzo, Pilar, regularly vocalising and moving between trees (EW). A recording of the vocalisations of this latter individual is available at Xeno-canto.org [XC684492 – <https://www.xeno-canto.org/684492>]. This resident species is distributed across the entire country, except the most arid areas of the Dry Chaco, where it occurs only occasionally (Smith & Clay, in press.). (GH, CT, EW, SDR, LD, HDC, PS).

Streaked Xenops

Xenops rutilans

(Furnariidae)

Observed at Estancia Puerto Eliza, Desmochados on 18 December 2020. The individual was photographed but the photograph (which was examined by the authors) has since been lost. This is an uncommon resident of forested areas and has been previously reported from Alto Paraná, Alto Paraguay, Canindeyú, Caazapá, Concepción, Itapúa, Guairá and Paraguari departments (Smith & Clay, in press.). (CT).

Buff-browed Foliage-gleaner

Syndactyla rufosuperciliata

(Furnariidae)

First reported from Guazú Cuá on 08 September 2001 (GPBD) and another individual was observed well at Estancia Santa Ana during May 2018 (JD). The first documented record is a bird seen well at Estancia Delfino on 21 December 2020 (SDR, PS), and for which recordings of its vocalisations are available online at Xeno-canto.org [XC670799 – <https://www.xeno-canto.org/670799>]. The species is a fairly common resident of humid and semi-humid forests in Amambay, Alto Paraná, Alto Paraguay, Caazapá, Canindeyú, Concepción, Guairá, Misiones, Itapúa and Paraguari (Smith & Clay, in press.). (JD, SDR, PS).

Black-crowned Tityra***Tityra inquisitor***

(Tityridae)

(Fig. 27)

The only report is of an adult male photographed at the Pilar Military Base on 18 October 2020, at 09:00 (CT). This species is a frequent breeding migrant that is widely distributed in forested areas of the Oriental region, and occurs marginally in the Chaco west of the Paraguay River in Alto Paraguay and Presidente Hayes departments (Smith & Clay, in press.) (CT).

Black-tailed Tityra***Tityra cayana***

(Tityridae)

A calling female recorded [ML195468 - <https://macaulaylibrary.org/asset/195468>] at Cerrito on 27 October 1999 and apparently collected by Kristof Zyskowski (specimen not examined, located in MNHNP), has been previously overlooked in the published literature. There is also an undocumented report of this species from Estancia Yvera on 25 February 2009 (HDC). This is a breeding northern migrant that has been previously recorded from Amambay, Alto Paraná, Caazapá, Canindeyú, Central, Concepción, Guairá, Itapúa, Paraguairí and San Pedro departments (Smith & Clay, in press.). (HDC).

White-naped Xenopsaris***Xenopsaris albinucha***

(Tityridae)

(Fig. 28)

The first record is of a female photographed at

Humaitá on 19 September 2014 (SDR). A male was then photographed perched in a tree in semi-open habitat at Estancia Santa Ana on 12 July 2021, at 16:09 (CT, EW). The status of this species in Paraguay is poorly understood, and this latter report is the earliest recorded arrival date of the species in the country. Though there are numerous reports from the Chaco region, there are few and scattered previous records from the Oriental region in Amambay, Canindeyú, Central, Concepción and Itapúa departments (Smith & Clay, in press.) (CT, EW, SDR).

Plain Tyrannulet***Inezia inornata***

(Tyrannidae)

(Fig. 29)

A previously unpublished male specimen (KU 129263) was collected on 31 October 1999 by Krystof Zyskowski at Estancia Yacaré after its vocalization was recorded [ML195476 - <https://macaulaylibrary.org/asset/195476>]. Another was photographed at Estancia Delfino on 17 September 2021 (SDR). This is a breeding northern migrant distributed in the Chaco region and very marginally on the east shore of the Paraguay River in Central and Concepción departments (Smith & Clay, in press.). (EW, SDR, PS).

Bearded Tachuri***Polystictus pectoralis***

(Tyrannidae)

(Fig. 30)

Photographed for the first time on the Ruta Villeta-Alberdi on 18 April 2021 (LD). Single

Opposite page: Figures 26-33. Birds of Ñeembucú [continued]. **26)** White-eyed Parakeet *Psittacara leucophthalmus*, Barrio San José, Pilar, 29 September 2020 (Photo: Cristian Torres). **27)** Black-crowned Tityra *Tityra inquisitor*, Pilar Military Base, 18 October 2020 (Photo: Cristian Torres). **28)** White-naped Xenopsaris *Xenopsaris albinucha*, Estancia Santa Ana, 12 July 2021 (Photo: Cristian Torres). **29)** Plain Tyrannulet *Inezia inornata*, Estancia Delfino, 21 December 2020 (Photo: Sergio D. Ríos). **30)** Bearded Tachuri *Polystictus pectoralis*, Ruta Villeta-Alberdi, 18 April 2021 (Photo: Luis Doldan). **31)** Dinelli's Doradito *Pseudocolopteryx dinellianus*, Humaitá, 16 October 2019 (Photo: Sergio D. Ríos). **32)** Variegated Flycatcher *Empidonomus varius*, Pilar, 3 October 2020 (Photo: Cristian Torres). **33)** Black-backed Water-Tyrant *Fluvicola albiventer*, Pilar, 9 July 2021 (Photo: Emma Walker).



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non-breeding males perched on tall reeds on the edge of a pond were then observed on 14 July 2021 at 15:55 and 03 August 2021 at 16:21 at Estancia Santa Ana (CT, EW). The species is a resident and Neotropical winter migrant. It has been previously reported from natural grasslands in the Cerrado, Humid Chaco and Mesopotamian Grassland ecoregions of Amambay, Alto Paraná, Boquerón, Caazapá, Canindeyú, Central, Concepción, Itapúa, Paraguari, Presidente Hayes and San Pedro departments (Smith & Clay, in press.). This is a globally Near Threatened and nationally Vulnerable species. (CT, EW, LD).

Dinelli's Doradito
Pseudocolopteryx dinellianus
(Tyrannidae)
(Fig. 31)

An individual of this species was detected by its distinctive call in a dense reedbed at Humaitá and photographed on 16 October 2019 (SDR). Earlier a bird had been mist-netted at Estancia Santa Ana on 05 March 2018, which from the moult pattern appeared to be part of an over-summering population rather than an early migrant (JD). All documented reports of this species in Paraguay are from the Paraguay River watershed (Smith & Clay, in press.). (JD, SDR).

Variegated Flycatcher
Empidonomus varius
(Tyrannidae)
(Fig. 32)

A frequent breeding northern migrant. The species was documented photographically on 03 October 2020 in Pilar (CT). An undocu-

mented record from Colonia M. Domínguez by Rafael Salcedo on 08 December 2020 (Ebird) suggests a wider distribution in the department. This is a common breeding northern migrant in Paraguay and has been previously reported from Amambay, Alto Paraná, Alto Paraguay, Canindeyú, Caazapá, Central, Concepción, Guairá, Itapúa, Paraguari, Presidente Hayes and San Pedro departments (Smith & Clay, in press.). (CT).

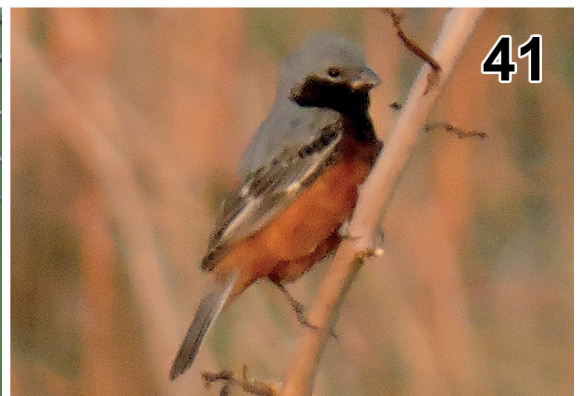
Black-backed Water-Tyrant
Fluvicola albiventer
(Tyrannidae)
(Fig. 33)

A regularly seen species in Ñeembucú, this species was first photographed at Humaitá on 13 September 2019 (SDR) and again on a stream in the city of Pilar on 09 July 2021 (EW). This resident species is distributed mainly in the Chaco and Paraguay River basin, but is prone to wandering and of potential occurrence anywhere in the country (Smith & Clay, in press.). (GH, CT, EW, SDR, PS).

Pale-breasted Thrush
Turdus leucomelas
(Turdidae)
(Fig. 34)

A common resident species observed in various habitats in Ñeembucú, including urban environments, throughout the year. Photographic documentation was obtained on 23 June 2018 and the species is now known from all departments in the Oriental region (Smith & Clay, in press.). (CT, EW, SDR, PS).

Opposite page: Figures 34-41. Birds of Ñeembucú [continued]. **34)** Pale-breasted Thrush *Turdus leucomelas*, Pilar, 23 June 2018 (Photo: Cristian Torres). **35)** Giant Cowbird *Molothrus oryzivorus*, Tacuaras, 27 September 2020 (Photo: Cristian Torres). **36)** Yellow-winged Blackbird *Agelaius thilius*, Estero Camba, 01 June 2018 (Photo: Óscar Rodríguez). **37)** Glaucous-blue Grosbeak *Cyanoloxia glaucocerulea*, Pilar Military Base, 15 August 2021 (Photo: Emma Walker). **38)** Hooded Tanager *Nemosia pileata*, Estancia Santa Ana, 27 May 2018 (Photo: Jeremy Dickens). **39)** Lined Seedeater *Sporophila lineola*, Ñeembucú River, near the Pilar city bridge, 26 October 2020 (Photo: Cristian Torres). **40)** Pearly-bellied Seedeater *Sporophila pileata*, Pilar, 05 October 2018 (Photo: Ignasi Torre). **41)** Dark-throated Seedeater *Sporophila ruficollis*, Ruta IV, Pilar, 09 November 2020 (Photo: Cristian Torres).



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Giant Cowbird***Molothrus oryzivorus***

(Icteridae)

(Fig. 35)

Previous undocumented reports from Cerrito on 07 February 2013 (GPBD) and 29 July 2021 (PS). Documentation was obtained when an individual was photographed at Tacuaras close to the Palenque bridge on 27 September 2020 (CT). This is a resident species that has been recorded in all departments in the Oriental region except Guairá (though it undoubtedly occurs there). (CT, PS).

Yellow-winged Blackbird***Agelasticus thilius***

(Icteridae)

(Fig. 36)

Two reports, the first undocumented from Estancia Santa Oliva (12-16 July 1997) by Guyra Paraguay. The second is a photograph of a flock of female-plumaged and juvenile male birds at Estero Camba on 01 June 2018 (OR).

Glaucous-blue Grosbeak***Cyanoloxia glaucocaerulea***

(Cardinalidae)

(Fig. 37)

An uncommon winter visitor to Paraguay. The only record is of an adult male photographed at the Pilar Military Base on 15 August 2021 at 07:52. The species has now been recorded in all departments in the Oriental region, and marginally west of the Paraguay River in Presidente Hayes department (Smith & Clay, in press.). (CT, EW).

Hooded Tanager***Nemosia pileata***

(Thraupidae)

(Fig. 38)

Photographed at Estancia Santa Ana on

27 May 2018 (JD) and at Estancia Del-fino on 21 December 2021 (SDR). The species is a widespread resident across all departments in the Oriental region, and occurs marginally west of the Paraguay River in Presidente Hayes and Alto Paraguay departments (Smith & Clay, in press.). (JD, SDR).

Lined Seedeater***Sporophila lineola***

(Thraupidae)

(Fig. 39)

A single male photographed on the banks of the near the Pilar Costanera (coastal promenade) on 26 October 2020 (CT). This is a common see-deater in the Chaco and Paraguay River basin, and its presence in Ñembucú was expected (Smith & Clay, in press.). (CT).

Pearly-bellied Seedeater***Sporophila pileata***

(Thraupidae)

(Fig. 40)

One male individual photographed at Pilar on 05 October 2018 (IT). This is a common breeding northern migrant associated with natural grasslands. There are records from most departments in the Oriental region, and scattered records from all three Chaco departments which are probably migrating or wandering birds (Smith & Clay, in press.). (IT).

Dark-throated Seedeater***Sporophila ruficollis***

(Thraupidae)

(Fig. 41)

The first documented record is a male photographed about 10 km east of Pilar on Ruta IV on 09 November 2020 (CT). There is also an undocumented report on ebird of a sighting of this species on 22 January 2021 at Estancia San Solano by Matias Martínez (Ebird). This Neotropical passage migrant is considered Near Threatened at both the global and national level



Figures 42-43. Birds of Ñeembucú [end]. **42** Iberá Seedeater *Sporophila iberensis*, Itá Corá, 25 January 2021 (Photo: Cristian Torres). **43** Golden-billed Saltator *Saltator aurantirostris*, Puerto Elisa, Desmochados, 02 December 2020 (Photo: Cristian Torres). **44** Chaco Warbling-Finch *Microspingus pectoralis*, Pilar Military Base, 09 June 2020 (Photo: Cristian Torres). **45** Blue-and-Yellow Tanager *Raueia bonariensis*, Pilar Military Base, 16 September 2021 (Photo: Emma Walker).

and has been previously reported from Alto Paraná, Alto Paraguay, Boquerón, Canindeyú, Caazapá, Central, Concepción, Cordillera, Itapúa, Misiones, Paraguari, Presidente Hayes and San Pedro departments (Smith & Clay, in press.). (CT).

Iberá Seedeater
Sporophila iberensis
 (Thraupidae)
 (Fig. 42)

One individual was recorded in grassland habitat on a property in Itá Corá, on 25 January 2021, at 08:13 (CT). This is a newly described species (Di Giacomo & Kopuchianm 2016) that is endemic to central South America and considered Endangered globally and Vulnerable nationally.

The distribution and status of this breeding northern migrant in Paraguay was reviewed by Galluppi-Selich *et al.* (2018), and breeding in Ñeembucú department seems likely. There are previous Paraguayan records from Cordillera, Itapúa, Misiones, Presidente Hayes and San Pedro departments, and presence at least in Central and Paraguari seems probable (Smith & Clay, in press.). (CT).

Golden-billed Saltator
Saltator aurantirostris
 (Thraupidae)
 (Fig. 43)

There is an undocumented report of the species from Estancia Santa Oliva in mid-July 1997 (GPBD). The first documentation is a bird

photographed at Estancia Puerto Eliza, Desmochados on 23 June 2020 and 02 December 2020 (CT). This species is a fairly common resident in the Dry Chaco, but has been reported only marginally in the Oriental region in Central, Paraguari and San Pedro departments (Smith & Clay, in press.). (CT).

Chaco Warbling-Finch

Microspingus pectoralis

(Thraupidae)

(Fig. 44)

Two documented records of this Neotropical winter migrant. The first was at the Pilar Military Base on 09 June 2020 (CT) and another was photographed in the urban area of Villa Franca on 4 July 2020 (SDR). This species is mainly distributed in the Chaco region, and the only previous reports from east of the Paraguay River are from Central department (del Castillo, 2014) (CT, SDR)

Blue-and-Yellow Tanager

Rauenia bonariensis

(Thraupidae)

(Fig. 45)

Several individuals observed and photographed at the Pilar Military Base on 16 September 2021 (EW, SDR, PS). This may have been associated with a migratory movement. The species is widespread in Paraguay, but its status is poorly understood, with some populations apparently resident, and others perhaps longitudinal migrants. There are previous reports from Alto Paraná, Alto Paraguay, Boquerón, Caazapá, Canindeyú, Central, Cordillera, Guairá, Itapúa, Misiones and Presidente Hayes (Smith & Clay, in press).

Published species which we consider require further documentation

The following species have been reported as present in Ñeembucú in the published literature (excluding those featuring exclusively as mapped points in Guyra Paraguay 2005), but

no supporting evidence was provided to confirm the identification and there have been no subsequent reports.

Comb Duck

Sarkidiornis melanotos

(Anatidae)

Eight birds were reported for Ñeembucú on 12 July 2005 during the CNAAs, of which five were seen along the Paraguay River at Pilar and three at Estancia Redondo (López & Clay, 2006, Wetlands International, 2021).

Spectacled Owl

Pulsatrix perspicillata

(Strigidae)

Reported for Laguna Gadea, Ñeembucú in September 1998 in a review of the species distribution (Ramírez-Llorens & Bellocq, 2007), according to J. R. Contreras (pers. comm.). Whilst we consider this to be entirely plausible, as the species is present in all of the neighbouring departments, there is no documentation available and there have been no additional reports.

Blue-and-yellow Macaw

Ara ararauna

(Psittacidae)

Under the synonym *Ara caninde*, Zotta (1937) listed three localities for the species in Paraguay – Villa Franca, Desmochados, Guzu-Cua (=Guazú Cuá) – all of which are in Ñeembucú department. However, the source of these reports remains a mystery and there have been no additional reports of the species in the department (Rodríguez *et al.*, 2019). As this is a loud, colourful and distinctive species, we await further documentation of its continued presence.

Snowy-crowned Tern

Sterna trudeaui

(Laridae)

Contreras & Contreras (1922) listed three undocumented sight records of this species

along the Paraguay River, two of which were in Ñeembucú department, at Puerto Nuevo de Pilar (ÑEE) on 10 January 1992 and at least ten during a river cruise between Pilar and Naranjito (ÑEE) on 17 September 1992. The species is known to occur occasionally in the neighbouring Argentine provinces of Formosa (Contreras *et al.*, 2014) and Corrientes (Di Giacomo & Krapovickas, 2005), and it seems inevitable that occasional presence as a vagrant in Ñeembucú (and thus Paraguay) will eventually be confirmed. However, documentation is required for acceptance (Clay *et al.*, 2017).

Royal Tern

Thalasseus maximus

(Laridae)

Reported for Pilar by Contreras (1992) from close to the banks of the Arroyo Ñeembucú on 10 September 1992. The author provides no details, though the species has been previously reported from Corrientes Province, Argentina (Esteban, 1953, Clay *et al.*, 2017). Given the propensity for wandering by terns and the proximity of the previous record, this may be a good record, but proper documentation is required before it can be accepted.

Brown-hooded Gull

Chroicocephalus maculipennis

(Laridae)

Contreras *et al.* (2014) mention an undocumented report of the species flying over swamps and lagoons at Paso Lengá on 13 January 1992. This is an extremely rare species in Paraguay with all previous reports from more than a century ago (Azara, 1805, Bertoni, 1919, Storer, 1989, Clay *et al.*, 2017). Although this report may be reliable, the lack of subsequent records or verifiable documentation of the species in the department means it must be treated as hypothetical.

Amethyst Woodstar

Calliphlox amethystina

(Trochilidae)

Contreras *et al.* (2014) state that the species was observed in a small, forested stretch of the Arroyo Ñeembucú east of Pilar on 17 February 1994, however there are no details provided to support the identification. This is an uncommon species in Paraguay, but it is known to wander widely. The report may be credible, but there have been no further records and the species is pending documentation.

White-throated Hummingbird

Leucochloris albicollis

(Trochilidae)

Contreras *et al.* (2014) mention several sightings of the species in Pilar with periods of absence in between, however no description was provided. This species is a known wanderer, with numerous records from widely spaced localities in all habitats in Paraguay. Presence in Ñeembucú, albeit occasionally, seems inevitable, however the reports are insufficiently documented for acceptance at this stage.

Yellow-breasted Crake

Hapalocrex flaviventer

(Rallidae)

Contreras *et al.* (2014) mention a report from Isla Hû in the swamps of the Arroyo Montuoso, 17 km north-west of Pilar. However, no date or documentation is available for this record. The existence of this species in the Ñeembucú Wetland Complex would seem inevitable, but documentation is lacking.

Freckle-breasted Thornbird

Phacellodomus striaticollis

(Furnariidae)

Mapped for Paraguay by Guyra Paraguay (2005) and accepted onto the Paraguay list by del Castillo (2013) on the basis of a photograph and recording of the species from close to Pilar on 07 June 1991. However, the

authors of those publications did not see the photograph or recording, and we have been unable to track either down. Records of the species in Formosa Province, Argentina geographically close to the Paraguayan records suggest that this report is probably reliable, but in the absence of any confirmation and this being the only Paraguayan report of the species, caution is warranted and so we consider it hypothetical.

Species records published solely as a map point in Guyra Paraguay (2005) with no documentation and known from <3 reports in Ñeembucú

The supporting data of the records for the map points presented in Guyra Paraguay (2005) is provided here for 6 species from the GPBD. The majority of these records are likely reliable, but they are based on <3 undocumented sight records and are thus considered pending documentation. Records marked * are considered suspect.

- **Plumbeous Rail *Pardirallus sanguinolentus*** (Rallidae): Estancia Santa Oliva, 12-16 July 1997; Guazú Cuá, 08-09 September 2001. Guyra Paraguay.
- **Stripe-backed Bittern *Ixobrychus involucris*** (Ardeidae): Estancia Santa Oliva, 12-16 July 1997. Guyra Paraguay.
- **Yellow-chevroned Parakeet *Broto-geris chiriri*** (Psittacidae): Estancia Yacaré, 18-19 March 2000. Guyra Paraguay.
- **Social Flycatcher *Myiozetetes similis*** (Tyrannidae): Laureles, 1 December 2016.
- **Red-rumped Cacique *Cacicus haemorrhous*** (Icteridae): Estancia Yacaré, 18-19 March 2000. Guyra Paraguay.
- ***Swallow Tanager *Tersina viridis*** (Thraupidae): Based on a specimen

(FMNH 69159) collected in December 1927 at “Cerro Perron, Tebicuary river”. We were unable to find any locality with that name, and it is not clear that it was collected in Ñeembucú as the river passes through various departments.

Undocumented, unpublished reports which we consider require further documentation

The following species are known from <3 undocumented and unpublished reports in Ñeembucú, either on the ebird platform or in the GPBD. No supporting evidence is provided and they do not appear in the published literature on the departmental avifauna. We consider that several of these records are plausible, but in many cases confusion species exist. Taking a conservative approach, records that we suspect could involve an error of identification, or for which potential confusion species are already documented in the department are marked with *. Documentation is required for all of these species for acceptance.

- **Dark-billed Cuckoo *Coccyzus mel-acoryphus*** (Cuculidae): Estancia San Solano, 13-14 November 2011, Hugo del Castillo; Cerrito, 24 November 2011, Hugo del Castillo; Estancia Santa Ana, 9 February 2021, Cristian Torres; Pilar Military Base, 17 December 2021, Sergio D. Ríos, Paul Smith.
- **Rufous Nightjar *Antrostomus rufus*** (Caprimulgidae): Cerrito, 24 November 2011. Hugo del Castillo.
- **White-tailed Goldenthrout *Polytmus guainumbi*** (Trochilidae): Pilar Military Base, 24 January 2018. Fundación Para La Tierra.
- ***Slaty-breasted Wood-Rail *Aramides saracura*** (Rallidae): Riacho Piriri, 20 February 2019, Bruno Bareiro, Ebird. Often confused

with Grey-cowled Wood-Rail *A. cajaneus*. This record would be well to the west of all previous reports of this species (Smith & del Castillo 2021), and from an area ecologically more consistent with *A. cajaneus*.

- ***Green Ibis *Mesembrinibis cayennensis*** (Threskiornithidae): Estancia Santa Ana, 23 February 2019. Margaret Wohler, 4 individuals, Ebird. The species seems certain to occur in gallery forests in the Ñeembucú Wetland Complex, however several previous claims of Green Ibis have been confirmed to refer to non-breeding or juvenile White-faced Ibis *Plegadis chihi*, thus caution is warranted with undocumented reports, especially considering the number of individuals claimed.
- **White-tailed Kite *Elanus leucurus*** (Accipitridae): Guazú Cuá, 08-09 September 2001, Guyra Paraguay; Road to Laureles, 01 December 2016, Guyra Paraguay.
- **Pearl Kite *Gampsonyx swainsonii*** (Accipitridae): Pilar Military Base (-26.848, -58.302), 22 December 2020. Matias Martínez, Ebird.
- **Mississippi Kite *Ictinia mississippiensis*** (Accipitridae): Laguna Sisi, 13 February 2006, Guyra Paraguay; Paso de Patria, 2 February 2017, Óscar Rodríguez, 15 individuals.
- ***Swainson's Hawk *Buteo swainsoni*** (Accipitridae): Riacho Piriri, 20 February 2019. Bruno Bareiro, 3 individuals. Ebird. No description provided. The species likely migrates through Ñeembucú in small numbers, but this is an uncommon and easily confused species and documentation is desirable.
- **Short-eared Owl *Asio flammeus*** (Strigidae): Estancia Santa Oliva, 12 July 1997. Guyra Paraguay; Ruta 4 Transect Point 4, 21 February 2018. Fundación Para La Tierra.
- **Lineated Woodpecker *Dryocopus lineatus*** (Picidae): Estancia Santa Oliva, 12 July 1997. Guyra Paraguay; Estancia Santa Ana, Transect 1 Point 13, 25 January 2018. Fundación Para La Tierra.
- ***White-throated Woodcreeper *Xiphocolaptes albicollis*** (Furnariidae): Estancia Santa Oliva, 12 July 1997. Guyra Paraguay. A species typically associated with the Atlantic Forest ecoregion. The species may occur in remnants of humid forest, however we note that visually confusion is possible with Planalto Woodcreeper *Dendrocolaptes platyrostris* and vocally it is similar to Great Rufous Woodcreeper *Xiphocolaptes major*, both of which are known to occur in the department. Caution is warranted until documentation is available.
- **Bay-capped Wren-Spinetail *Spartonoica maluroides*** (Furnariidae): Estancia San Solano, 05 June 2004. Guyra Paraguay; Ruta Alberdi-Pilar, 19 July 2020. Luis Doldán.
- ***Spix's Spinetail *Synallaxis spixi*** (Furnariidae): Estancia Santa Oliva, 12 July 1997. Guyra Paraguay. A species of open scrubby habitats which seems very likely to occur in the department. However, *Synallaxis* spinetails are difficult to identify by sight (several confusion species exist), whilst the surprising finding of a population of the vocally and visually similar Cinereous-breasted Spinetail *S. hypospodia* in a neigh-

bouring department not too far distant from this report suggests that it would be prudent to document this species in Ñeembucú before acceptance.

- **Sepia-capped Flycatcher *Leptopogon amaurocephalus*** (Tyrannidae): Laguna Sisi, 04 June 2004, Arne J Lesterhuis; Zanjita, 23 September 2016. José Méndez, Ebird.
- **Greenish Elaenia *Myiopagis viridicata*** (Tyrannidae): Estancia Delfino, 21 December 2020, Sergio D. Ríos, Paul Smith.
- ***Drab-breasted Bamboo-Tyrant *Hemitriccus diops*** (Tyrannidae): Estancia Santa Oliva, 12 July 1997. Guyra Paraguay. This is considered by Guyra Paraguay to be a possible error, as the abundant Pearly-vented Tody-Tyrant *Hemitriccus margaritaceiventer* was not listed for this locality by the observers.
- ***Subtropical Doradito *Pseudocolopteryx acutipennis*** (Tyrannidae): Puente Palenque, Tacuaras, 17 October 2020. Jorge Ayala, Ebird. The identification of doraditos *Pseudocolopteryx* is complex (Smith *et al.* 2014) and, though this species seems certain to occur in Ñeembucú, a documented record is required for acceptance to rule out misidentification.
- **Chestnut-bellied Seedfinch *Sporophila angolensis*** (Thraupidae): Guazú Cuá Transect 9 Point 5, 10 March 2018. Grace Pan, Ebird.
- **Burnished-Buff Tanager *Stilpnia cayana*** (Thraupidae): Pilar, 13 July 2005. Charley Hesse, Ebird.
- ***Guira Tanager *Hemithraupis guira*** (Thraupidae): “Ñeembucú”, 18 March 2014. Rafael Berlanga, Ebird. A species of likely occurrence in Ñeembucú, but the lack of a con-

crete locality, and potential confusion of the department with the Ñeembucú ecoregion (which covers a larger geographic area), introduces doubt.

- **Black-and-rufous Warbling-Finch *Poospiza nigrorufa*** (Thraupidae): Estancia Santa Ana, 20 June 2021, CRistian Torres, Emma Walker.
- **Dull-coloured Grassquit *Asemospiza obscura*** (Thraupidae): Villa Franca, 04 July 2020, Sergio D. Ríos, Óscar Rodríguez.

Discussion

We conclude that 330 species can be considered documented as present in Ñeembucú department. A further 39 species have been associated with the department, but lack formal documentation. Whilst there are clear problems with some of the claimed records, many of these reports are likely correct but should be considered “pending documentation” to distinguish them from species which are confirmed to occur.

Significant collections of birds from Ñeembucú are held at the Colección Zoológica de Para La Tierra (CZPLT), Pilar, Paraguay (reviewed by Smith *et al.*, 2021), the Geneva Natural History Museum (MHNG), Switzerland (reviewed by Vallotton & Smith, 2021), the Natural History Museum (NHM), London (published by Grant, 1911a-c) and the Kansas University Museum (KU), Kansas (unpublished but catalogue available at vert-net.org). We note that these collections are a valuable, but much under-used resource, and they have been consistently overlooked in the published literature (Smith *et al.*, 2021, Vallotton & Smith, 2021). These museums hold voucher specimens of 177 species from the department, comprising 53.64% of the avifauna.

As a final note we remind readers that science is by definition replicable, and “citizen science” can only be considered real science when its results can be replicated by other researchers. There is a general lack of awareness amongst

users of online portals of the importance of documenting records whenever possible, the additional time taken to upload photographs or recordings as data being seen as an unnecessary and time-consuming step. However, doing so greatly increases the utility of the data for those scientists who require corroborated records for their research. We urge users of the eBird platform to support local researchers and to greatly increase the scientific utility of their checklists by uploading corroborating evidence of their observations, even (and perhaps especially) for what might be considered common species.

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Appendix 1

In the following pages we give a checklist of the birds of Ñeembucú with sources for specific records. Note that the biogeographic region of Ñeembucú *sensu* Hayes (1995) covers a wider geographical area than just the department itself, and reference below to that publication is to specific departmental records cited in the distributional notes section. Species marked with a * are those for which Ñeembucú voucher specimens exist in CZPLT (examined), MHNG (examined), MNHNPy, NHM or KU. Species marked ⁱ are those for which a documentation photograph or recording that we have examined is available from Ñeembucú on an online platform or database (ebird, MacCauley Library, FAUNA Paraguay, iNaturalist, VIREO, Xeno-canto). Records accepted on the basis of a single published report and for which documentation is unavailable, but there are multiple observations (>3) by multiple reliable observers are marked ^M. Records based on multiple observations (>3) in the Guyra Paraguay Diversity Database (GPBD) are marked ^G. Data for abundance is given for the Ñeembucú ecoregion (larger than the department) by Guyra Paraguay (2004) and is reproduced here with codes as follows: A – Abundant; C – Common; F – Fairly Common; U – Uncommon; S – Scarce; R – Rare; Hi – Hypothetical; M – Of marginal occurrence; h – Historical record. Though slightly outdated now this still represents the most recent systematic attempt to assess bird populations in the region that is available. Details of records for species in the database that were included in the departmental avifauna post the publication of Guyra Paraguay (2005), and those for which the only available published report is Guyra Paraguay (2005) (with no additional documentation) are provided.

RHEIDAE

- 1 ^{Gi}**Greater Rhea** *Rhea americana*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)

TINAMIDAE

- 2 ^{*}**Undulated Tinamou** *Crypturellus undulatus*
Grant (1911c)
- 3 ^{G*i}**Tataupa Tinamou** *Crypturellus tataupa*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021)
- 4 ^{G*i}**Red-winged Tinamou** *Rhynchotus rufescens*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- 5 ^{G*i}**Spotted Nothura** *Nothura maculosa*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith
et al. (2021)

ANHIMIDAE

- 6 ^{Gi}**Southern Screamer** *Chauna torquata*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); CNA
(2004, 2005, 2006, 2007, 2009, 2013)

ANATIDAE

- 7 ^{*}**Fulvous Whistling-Duck** *Dendrocygna bicolor*
Grant (1911b); Guyra Paraguay (2004: R)
- 8 ^{Gi}**White-faced Whistling-Duck** *Dendrocygna viduata*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); CNA
(2004, 2006)
- 9 ^{Gi}**Black-bellied Whistling-Duck** *Dendrocygna autumnalis*
Guyra Paraguay (2004: R); Guyra Paraguay (2005); CNA
(2005, 2006)
- 10 ^{GM}**Muscovy Duck** *Cairina moschata*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); CNA
(2005, 2006)
GPBD: Estancia San Solano (July 1997); Guazú Cuá (8-9
September 2001); Estancia Yvera (3-4 May 2003, 25-26
February 2009); Estancia Kambushi (7-9 July 2004);
Estancia Salvese Quien Pueda (4-5 September 2004);
Estancia Redondo (29 October 2004)
- 11 ^{Gi}**Ringed Teal** *Callonetta leucophrys*
Guyra Paraguay (2004: Hi); Guyra Paraguay (2005); CNA
(2004)
- 12 ^{G*i}**Brazilian Teal** *Amazonetta brasiliensis*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); CNA
(2004, 2005, 2006, 2007, 2009, 2013)

- 13 ^{Gi}**Silver Teal *Spatula versicolor***
Guyra Paraguay (2004: S); Guyra Paraguay (2005); CNA
(2004, 2005)
- 14 ^{GM}**Red Shoveler *Spatula platalea***
Lesterhuis *et al.* (2005); Guyra Paraguay (2005); Contreras
et al. (2014); CNA (2004)
GPBD: Laguna Itá (7-9 June 2004)
- 15 ^{GM}**White-cheeked Pintail *Anas bahamensis***
Guyra Paraguay (2005); CNA (2004)
GPBD: Laguna Itá (7-9 June 2004)
- 16 **Yellow-billed Pintail *Anas georgica***
This publication.
- 17 ^{GM}**Rosy-billed Pochard *Netta peposaca***
Guyra Paraguay (2004: R); Guyra Paraguay (2005); CNA
(2004)
GPBD: Laguna Sisi (4 June 2004); Cerrito (5-6 June 2004);
Laguna Itá (7-9 June 2004); Estancia Kambushi (7-9
July 2004); Estancia Redondo (31 July-2 August 2004)
- 18 ^{GM}**Black-headed Duck *Heteronetta atricapilla***
López (1986); Lesterhuis *et al.* (2005); Guyra Paraguay
(2005); Contreras *et al.* (2014); CNA (2004, 2005)
- 19 ⁱ**Masked Duck *Nomonyx dominicus***
Bertoni (1939); Guyra Paraguay (2004: R); CNA (2005)

CRACIDAE

- 20 ^G**Dusky-legged Guan *Penelope obscura***
Acevedo *et al.* (1990); Clay (2001); Guyra Paraguay (2004:
Hi); Guyra Paraguay (2005)
- 21 ^{Gi}**Chaco Chachalaca *Ortalis canicollis***
Contreras & Acevedo (1997); Clay (2001); Guyra Paraguay
(2004: M); Guyra Paraguay (2005); Guyra Paraguay
(2008)

PODICIPEDIDAE

- 22 ^{Gi}**White-tufted Grebe *Rollandia rolland***
Guyra Paraguay (2004: R); Guyra Paraguay (2005); CNA
(2004)
- 23 ^M**Least Grebe *Tachybaptus dominicus***
CNA (2009)
- 24 ^{Gi}**Pied-billed Grebe *Podilymbus podiceps***
Guyra Paraguay (2004: R); Guyra Paraguay (2005); CNA
(2004, 2005)
- 25 ^{GM}**Great Grebe *Podiceps major***
Contreras *et al.* (1992); Hayes (1995); Guyra Paraguay
(2004: R); Guyra Paraguay (2005)

COLUMBIDAE

- 26 ^{Gi}**Rock Pigeon** *Columba livia*
Guyra Paraguay (2004: C); Guyra Paraguay (2005)
- 27 ^{GM}**Pale-vented Pigeon** *Patagioenas cayennensis*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
GPBD: Estancia Yacaré (7-8 August 2000)
- 28 ^{G*i}**Picazuro Pigeon** *Patagioenas picazuro*
Grant (1911c); Guyra Paraguay (2004: A); Guyra Paraguay
(2005); Smith *et al.* (2021)
- 29 ^{G*i}**White-tipped Dove** *Leptotila verreauxi*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- 30 **Grey-fronted Dove** *Leptotila rufaxilla*
Guyra Paraguay (2004: R); This publication.
- 31 ^{Gi}**Eared Dove** *Zenaida auriculata*
Guyra Paraguay (2004: A); Guyra Paraguay (2005)
- 32 ^{G*i}**Ruddy Ground-Dove** *Columbina talpacoti*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 33 ⁱ**Scaled Dove** *Columbina squammata*
This publication
- 34 ^{G*i}**Picui Ground-Dove** *Columbina picui*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)

CUCULIDAE

- 35 ^{G*i}**Guira Cuckoo** *Guira guira*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith
et al. (2021)
- 36 ^{Gi}**Greater Ani** *Crotophaga major*
Grant (1911b); Guyra Paraguay (2004: U)
- 37 ^{Gi}**Smooth-billed Ani** *Crotophaga ani*
Guyra Paraguay (2004: A); Guyra Paraguay (2005)
- 38 ^{G*i}**Striped Cuckoo** *Tapera naevia*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021)
- 39 ⁱ**Pheasant Cuckoo** *Dromococcyx phasianellus*
A. O. Contreras (1993); Hayes (1995); Guyra Paraguay (2004:
S); Contreras *et al.* (2014)
- 40 ^{G*}**Ash-coloured Cuckoo** *Coccyua cinerea*
Hayes (1995); Guyra Paraguay (2004: R); Guyra Paraguay
(2005); Smith *et al.* (2021)
- 41 ^{G*i}**Squirrel Cuckoo** *Piaya cayana*
Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay
(2005); Contreras *et al.* (2014)

- 42 ***Yellow-billed Cuckoo** *Coccyzus americanus*
Guyra Paraguay (2004: R); Contreras *et al.* (2014)

NYCTIBIIDAE

- 43 ^{GM}**Common Potoo** *Nyctibius griseus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)

CAPRIMULGIDAE

- 44 ^{G*i}**Nacunda Nighthawk** *Chordeiles nacunda*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 45 ^{*i}**Common Nighthawk** *Chordeiles minor*
Guyra Paraguay (2004: R); Smith *et al.* (2021)
- 46 ^{Gi}**Common Pauraque** *Nyctidromus albicollis [derbyanus]*
Guyra Paraguay (2004: U); Smith *et al.* (2021)
- 47 ^{G*i}**Little Nightjar** *Setopagis parvula*
Teta & Contreras (2003); Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 48 ^{G*i}**Scissor-tailed Nightjar** *Hydropsalis torquata*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith *et al.* (2021)

APODIDAE

- 49 ⁱ**Sick's Swift** *Chaetura meridionalis*
Guyra Paraguay (2004: R); This publication

TROCHILIDAE

- 50 ^{GM}**Black-throated Mango** *Anthracothorax nigricollis*
Contreras (1992); Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 51 ^{G*i}**Blue-tufted Starthroat** *Heliomaster furcifer*
Guyra Paraguay (2004: S); Smith *et al.* (2021)
- 52 ^{G*i}**Glittering-bellied Emerald** *Chlorostilbon lucidus*
Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay (2005); Contreras *et al.* (2014)
- 53 ⁱ**Swallow-tailed Hummingbird** *Eupetomena macroura*
This publication
- 54 ^{G*i}**Gilded Hummingbird** *Hylocharis chrysura*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)

ARAMIDAE

- 55 ^{Gi}**Limpkin** *Aramus guarauna*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Lesterhuis *et al.* (2007); Smith & Ríos (2017); CNAAs (2005,

2006, 2007, 2009, 2013)

RALLIDAE

- 56 ^{G*i}**Purple Gallinule** *Porphyrio martinica*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021); CNAA (2006, 2009)
- 57 **Azure Gallinule** *Porphyrio flavirostris*
Guyra Paraguay (2004: R); This publication
- 58 ^{G*i}**Rufous-sided Crake** *Laterallus melanophaius*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 59 ***Grey-breasted Crake** *Laterallus exilis*
Contreras & Contreras (1994); Guyra Paraguay (2004: S);
Contreras *et al.* (2014); Smith *et al.* (2021)
- 60 ^{G*i}**Ash-throated Crake** *Mustelirallus albicollis*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021); CNAA (2006)
- 61 ^{G*i}**Spotted Rail** *Pardirallus maculatus*
Guyra Paraguay (2004: R); Guyra Paraguay (2005); Con-
treras *et al.* (2014); Smith *et al.* (2021)
- 62 ^{G*i}**Giant Wood-Rail** *Aramides ypecaha*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); CNAA
(2004, 2005, 2006, 2007, 2009, 2013)
- 63 ^{Gi}**Grey-cowled Wood-Rail** *Aramides cajaneus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 64 ^{GM}**Spot-flanked Gallinule** *Porphyriops melanops*
Podtiaguin (1945)?; Hayes (1995); Guyra Paraguay (2004:
Hi); Guyra Paraguay (2005); CNAA (2004)
- 65 ^{Gi}**Common Gallinule** *Gallinula galeata*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); CNAA
(2004, 2005)
- 66 ^{GM}**White-winged Coot** *Fulica leucoptera*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); CNAA
(2004)

CHARADRIIDAE

- 67 ***American Golden-Plover** *Pluvialis dominica*
Guyra Paraguay (2004: R); Contreras *et al.* (2014); Smith
et al. (2021)
- 68 ^{G*i}**Southern Lapwing** *Vanellus chilensis*
López (1993); Guyra Paraguay (2004: A); Guyra Paraguay
(2005); Lesterhuis *et al.* (2007); Smith *et al.* (2021);
CNAA (2004, 2005, 2006, 2007, 2009, 2013)
- 69 ^{Gi}**Collared Plover** *Charadrius collaris*
Guyra Paraguay (2004: U); This publication

RECURVIROSTRIDAE

- 70 ^{Gi}**Black-necked Stilt** *Himantopus mexicanus* [*melanurus*]
Guyra Paraguay (2004: U); Guyra Paraguay (2005); CNA
(2004, 2005, 2006, 2007, 2009, 2013)

SCOLOPACIDAE

- 71 ^{*}**Upland Sandpiper** *Bartramia longicauda*
Guyra Paraguay (2004: S); This publication
- 72 ^M**Hudsonian Godwit** *Limosa haemastica*
Contreras *et al.* (2014)
- 73 ^{*i}**White-rumped Sandpiper** *Calidris fuscicollis*
Guyra Paraguay (2004: R); This publication
- 74 **Baird's Sandpiper** *Calidris bairdii*
Guyra Paraguay (2004: R); This publication
- 75 ^{*}**Buff-breasted Sandpiper** *Calidris subruficollis*
Contreras & Contreras (1994); Smith *et al.* (2021)
- 76 ^{Gi}**Pectoral Sandpiper** *Calidris melanotos*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); CNA
(2005, 2006, 2009)
- 77 ^{G*i}**South American Snipe** *Gallinago paraguaiiae*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Lesterhuis & Centrón (2007); Guyra Paraguay (2008); CNA (2005, 2006, 2007, 2013)
- 78 **Wilson's Phalarope** *Phalaropus tricolor*
This publication
- 79 ^{Gi}**Spotted Sandpiper** *Actitis macularius*
Guyra Paraguay (2004: Hi); This publication.
- 80 ^{Gi}**Solitary Sandpiper** *Tringa solitaria*
Guyra Paraguay (2004: U); This publication; CNA (2004, 2005, 2006)
- 81 ⁱ**Greater Yellowlegs** *Tringa melanoleuca*
Guyra Paraguay (2004: S); This publication
- 82 ^{Gi}**Lesser Yellowlegs** *Tringa flavipes*
Guyra Paraguay (2004: S); This publication; CNA (2006)

JACANIDAE

- 83 ^{G*i}**Wattled Jacana** *Jacana jacana*
Grant (1911c); López (1993); Guyra Paraguay (2004: A); Guyra Paraguay (2005); Lesterhuis *et al.* (2007); CNA (2004, 2005, 2006, 2007, 2009, 2013)

ROSTRATULIDAE

- 84 ^{Gi}**South American Painted-Snipe** *Nycticryphes semicollaris*
Contreras & Contreras (1992); López (1993); Hayes (1995); Guyra Paraguay (2004: R); Contreras *et al.* (2014)

RYNCHOPIDAE

- 85 ^{Gi}**Black Skimmer** *Rynchops niger*
 Contreras & Contreras (1994); Guyra Paraguay (2004: S);
 Guyra Paraguay (2005); CNAА (2004, 2006)

LARIDAE

- 86 ^M**Grey-headed Gull** *Chroicocephalus cirrocephalus*
 Guyra Paraguay (2004: Hi); Contreras *et al.* (2014)
- 87 ^{Gi}**Yellow-billed Tern** *Sternula superciliaris*
 Contreras & Contreras (1994); Guyra Paraguay (2004: U);
 Guyra Paraguay (2005); Contreras *et al.* (2014); CNAА
 (2004, 2005, 2006, 2009)
- 88 ^{G*i}**Large-billed Tern** *Phaetusa simplex*
 Grant (1911c); Guyra Paraguay (2004: F); Guyra Paraguay
 (2005); Contreras *et al.* (2014); CNAА (2004, 2005,
 2006, 2009)

CICONIIDAE

- 89 ^{G*i}**Maguari Stork** *Ciconia maguari*
 Grant (1911b); López (1993); Guyra Paraguay (2004: F);
 Guyra Paraguay (2005); CNAА (2004, 2005, 2006,
 2007, 2009)
- 90 ^{Gi}**Jabiru Stork** *Jabiru mycteria*
 López (1993); Guyra Paraguay (2004: S); Guyra Paraguay
 (2005); Lesterhuis *et al.* (2007); CNAА (2004, 2005,
 2006, 2007, 2009)
- 91 ^{Gi}**Wood Stork** *Mycteria americana*
 López (1993); Guyra Paraguay (2004: U); Guyra Paraguay
 (2005); Lesterhuis *et al.* (2007); CNAА (2004, 2005,
 2006, 2007, 2009, 2013)

ANHINGIDAE

- 92 ^{G*}**Anhinga** *Anhinga anhinga*
 Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay
 (2005); CNAА (2004, 2005, 2007)

PHALACROCORACIDAE

- 93 ^{G*i}**Neotropic Cormorant** *Nannopterum brasilianus*
 Grant (1911b); Guyra Paraguay (2004: A); Guyra Paraguay
 (2005); CNAА (2004, 2005, 2006, 2007, 2009, 2013)

ARDEIDAE

- 94 ^{Gi}**Rufescent Tiger-Heron** *Tigrisoma lineatum*
 Guyra Paraguay (2004: U); Guyra Paraguay (2005); CNAА
 (2004, 2005, 2006, 2007, 2013)

- 95 ^GPinnated Bittern *Botaurus pinnatus*
Guyra Paraguay (2004: S); This publication.
- 96 ^{G*i}Least Bittern *Ixobrychus exilis [erythromelas]*
Guyra Paraguay (2004: R); Guyra Paraguay (2005); Clay
et al. (2015)
- 97 ^{Gi}Black-crowned Night-Heron *Nycticorax nycticorax*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); CNA
(2004, 2005, 2007)
- 98 ^{Gi}Striated Heron *Butorides striata*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); CNA
(2004, 2005, 2006, 2007)
- 99 ^{Gi}Cattle Egret *Bubulcus ibis*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); CNA
(2004, 2005, 2006, 2007, 2009, 2013)
- 100 ^{G*i}Cocoi Heron *Ardea cocoi*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); CNA
(2005, 2006, 2007, 2009)
- 101 ^{Gi}Great Egret *Ardea alba [egretta]*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Les-
terhuis *et al.* (2007); CNA (2004, 2005, 2006, 2007,
2009, 2013)
- 102 ^{G*i}Whistling Heron *Syrigma sibilatrix*
Grant (1911b); Guyra Paraguay (2004: C); CNA (2004,
2005, 2006, 2007, 2009, 2013)
- 103 ^{Gi}Snowy Egret *Egretta thula*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); CNA
(2004, 2005, 2006, 2007, 2009, 2013)

THRESKIORNITHIDAE

- 104 ^{G*i}White-faced Ibis *Plegadis chihi*
Grant (1911b); Guyra Paraguay (2004: A); Guyra Paraguay
(2005); CNA (2004, 2005, 2006, 2007, 2009, 2013)
- 105 ^{Gi}Bare-faced Ibis *Phimosus infuscatus*
López (1993); Guyra Paraguay (2004: A); Guyra Paraguay
(2005); CNA (2004, 2005, 2006, 2009)
- 106 ^{Gi}Plumbeous Ibis *Theristicus caerulescens*
Guyra Paraguay (2004: R); Guyra Paraguay (2005); CNA
(2004, 2006)
- 107 ^{GM}Buff-necked Ibis *Theristicus caudatus*
Guyra Paraguay (2004: R); Guyra Paraguay (2005); CNA
(2004, 2006)
- 108 ^{G*i}Roseate Spoonbill *Platalea ajaja*
Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay
(2005); CNA (2004, 2005, 2006, 2007, 2009)

CATHARTIDAE

- 109 ^{G*i}**Black Vulture** *Coragyps atratus*
Guyra Paraguay (2004: A); Guyra Paraguay (2005)
- 110 ^{Gi}**Turkey Vulture** *Cathartes aura*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Contreras *et al.* (2014)
- 111 ^{G*i}**Lesser Yellow-headed Vulture** *Cathartes burrovianus*
Grant (1911b); Guyra Paraguay (2004: C); Guyra Paraguay (2005)

PANDIONIDAE

- 112 ^{Gi}**Osprey** *Pandion haliaetus*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)

ACCIPITRIDAE

- 113 ^{Gi}**Grey-headed Kite** *Leptodon cayanensis*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 114 ^{G*i}**Black-collared Hawk** *Busarellus nigricollis*
Grant (1911b); Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 115 ^{G*i}**Snail Kite** *Rostrhamus sociabilis*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Contreras *et al.* (2014)
- 116 ^{GM}**Plumbeous Kite** *Ictinia plumbea*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
GPBD: Estancia Yacaré (18-19 March 2000); Estancia Redondo (29 October 2004, 23-27 October 2005); Estancia Yvera (25-26 February 2009);
- 117 ^{Gi}**Long-winged Harrier** *Circus buffoni*
Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 118 ⁱ**Sharp-shinned Hawk** *Accipiter velox*
Guyra Paraguay (2004: S); This publication.
- 119 **Crane Hawk** *Geranoospiza caerulescens*
Guyra Paraguay (2004: R); This publication.
- 120 ^{Gi}**Savannah Hawk** *Buteogallus meridionalis*
Guyra Paraguay (2004: C); This publication.
- 121 ^{G*i}**Great Black Hawk** *Buteogallus urubitinga*
Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 122 ^{G*i}**Roadside Hawk** *Rupornis magnirostris*
Grant (1911b); Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith *et al.* (2021)
- 123 ^G**White-tailed Hawk** *Geranoaetus albicaudatus*
Guyra Paraguay (2004: S); This publication.

TYTONIDAE

- 124 ^{G*}**American Barn Owl** *Tyto [alba] furcata*
Teta & Contreras (2003), Guyra Paraguay (2004: S); Guyra Paraguay (2005)

STRIGIDAE

- 125 ^{Gi}**Tropical Screech-Owl** *Megascops choliba*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 126 ^{Gi}**Great Horned Owl** *Bubo virginianus*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 127 ^G**Ferruginous Pygmy-Owl** *Glaucidium brasilianum*
Guyra Paraguay (2004: S); This publication.
- 128 ^{G*i}**Burrowing Owl** *Athene cunicularia*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith *et al.* (2021)
- 129 ^{*}**Striped Owl** *Asio clamator*
Guyra Paraguay (2004: R); This publication.

TROGONIDAE

- 130 ^{G*i}**Surucua Trogon** *Trogon surrucura*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021)

ALCEDINIDAE

- 131 ^{G*i}**Ringed Kingfisher** *Megaceryle torquata*
Grant (1911b); Guyra Paraguay (2004: C); Guyra Paraguay (2005)
- 132 ^{G*i}**Amazon Kingfisher** *Chloroceryle amazona*
Grant (1911b); Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 133 ^{G*i}**Green Kingfisher** *Chloroceryle americana*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Vallotton & Smith (2021)

RAMPHASTIDAE

- 134 ^{G*i}**Toco Toucan** *Ramphastos toco*
Chubb (1910); Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay (2005); Guyra Paraguay (2008); Contreras *et al.* (2014)

PICIDAE

- 135 ^{G*i}**White-barred Piculet** *Picumnus cirratus*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)

- 136** ^{G**i}**White Woodpecker** *Melanerpes candidus*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- ¹³⁷ ^{Gi}**White-fronted Woodpecker** *Melanerpes cactorum*
Guyra Paraguay (2004: M); Guyra Paraguay (2005)
- 138** ^{Gi}**Chequered Woodpecker** *Dryobates mixtus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 139** ^{G**i}**Little Woodpecker** *Dryobates passerinus [olivinus]*
Grant (1911b); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Contreras *et al.* (2014); Smith *et al.* (2021);
Vallotton & Smith (2021)
- 140** ^{G**i}**Crimson-crested Woodpecker** *Campephilus melanoleucos*
Guyra Paraguay (2004: S); Contreras-Chialchia & Smith
(2014); Contreras *et al.* (2014); Smith *et al.* (2021)
- 141** ^{G**i}**Cream-backed Woodpecker** *Campephilus leucopogon*
Guyra Paraguay (2004: M); Guyra Paraguay (2005); Guyra
Paraguay (2008); Contreras-Chialchia & Smith (2014);
Smith *et al.* (2021)
- 142** ^{G**i}**Pale-crested Woodpecker** *Celeus lugubris*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 143** ^{G**i}**Golden-green Woodpecker** *Piculus chrysochloros*
Grant (1911b); Guyra Paraguay (2004: S); Guyra Paraguay
(2005); Contreras *et al.* (2014); Smith *et al.* (2021)
- 144** ^{G**i}**Golden-breasted Woodpecker** *Colaptes melanolaimus [nigroviridis]*
Grant (1911b); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Smith *et al.* (2021)
- 145** ^{G**i}**Campo [Pampas] Flicker** *Colaptes campestris [campestroides]*
Guyra Paraguay (2004: A); Contreras *et al.* (2014); Smith
et al. (2021); Vallotton & Smith (2021)

CARIAMIDAE

- 146** ^{Gi}**Red-legged Seriema** *Cariama cristata*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)

FALCONIDAE

- 147** ^{G**i}**Crested Caracara** *Caracara plancus*
Guyra Paraguay (2004: A); Guyra Paraguay (2005)
- 148** ^{Gi}**Yellow-headed Caracara** *Daptrius chimachima*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- 149** ^{Gi}**Chimango Caracara** *Daptrius chimango*
Contreras & Contreras (1993b); Guyra Paraguay (2004:
A); Guyra Paraguay (2005)
- 150** ^{Gi}**American Kestrel** *Falco sparverius*

Guyra Paraguay (2004: F); Guyra Paraguay (2005)

151ⁱ Bat Falcon *Falco ruficularis*

Guyra Paraguay (2005)

152^{Gi} Aplomado Falcon *Falco femoralis*

Guyra Paraguay (2004: U); Guyra Paraguay (2005)

153^{Gi} Peregrine Falcon *Falco peregrinus*

Guyra Paraguay (2004); This publication.

PSITTACIDAE

154^{G*i} Monk Parakeet *Myiopsitta monachus*

Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith
et al. (2021)

155^{G*i} Scaly-headed Parrot *Pionus maximiliani*

Grant (1911b); Guyra Paraguay (2004: U); Guyra Paraguay
(2005)

156^{G*} Turquoise-fronted Parrot *Amazona aestiva*

Guyra Paraguay (2004: S); Guyra Paraguay (2005); Guyra
Paraguay (2008); Smith *et al.* (2021)

157^{Gi} Cobalt-rumped Parrotlet *Forpus xanthopterygius*

Guyra Paraguay (2004: U); Guyra Paraguay (2005)

158^{G*} Maroon-bellied Parakeet *Pyrrhura frontalis*

Guyra Paraguay (2004: R); Guyra Paraguay (2005); Smith
et al. (2021)

159^{G*i} Peach-fronted Parakeet *Eupsittula aurea*

Hayes (1995); Guyra Paraguay (2004: S); Guyra Paraguay
(2005); Smith *et al.* (2021)

160^{Gi} Nanday Parakeet *Aratinga nenday*

Guyra Paraguay (2004: U); Guyra Paraguay (2005)

161^{Gi} Blue-crowned Parakeet *Thectocercus acuticaudatus*

Guyra Paraguay (2004: R); Guyra Paraguay (2005)

162^G White-eyed Parakeet *Psittacara leucophthalmus*

Guyra Paraguay (2004: S); This publication.

THAMNOPHILIDAE

163^{G*i} Great Antshrike *Taraba major*

Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay
(2005); Smith *et al.* (2021); Vallotton & Smith (2021)

164^{Gi} Barred Antshrike *Thamnophilus doliatus*

Guyra Paraguay (2004: U); Guyra Paraguay (2005)

165^{G*i} Variable Antshrike *Thamnophilus caerulescens*

Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Smith *et al.* (2021); Vallotton & Smith (2021)

FURNARIIDAE

166^{G*i} Olivaceous [Chaco] Woodcreeper *Sittasomus griseicapillus* [gri-

- seicapillus*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021)
- 167^{G**i*}Planalto Woodcreeper *Dendrocolaptes platyrostris***
Grant (1911a); Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 168^{G**i*}Great Rufous Woodcreeper *Xiphocolaptes major***
Grant (1911a); Guyra Paraguay (2004: S); Guyra Paraguay (2005); Guyra Paraguay (2008); Smith *et al.* (2021); Vallotton & Smith (2021)
- 169^{G**i*}Red-billed Scythebill *Campylorhamphus trochilirostris***
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 170^{G**i*}Narrow-billed Woodcreeper *Lepidocolaptes angustirostris***
Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 171 Streaked Xenops *Xenops rutilans***
This publication.
- 172^{G**i*}Rufous Hornero *Furnarius rufus***
Grant (1911a); Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 173^{Gⁱ}Wren-like Rushbird *Phleocryptes melanops***
Guyra Paraguay (2005)
- 174^{Gⁱ}Buff-winged Cinclodes *Cinclodes fuscus***
Hayes *et al.* (1994); Hayes (1995); Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 175^{Gⁱ}Buff-browed Foliage-gleaner *Syndactyla rufosuperciliata***
Guyra Paraguay (2004: S); This publication.
- 176^rTufted Tit-Spintail *Leptasthenura platensis***
Ridgely & Tudor (1994); Hayes (1995); Guyra Paraguay (2004: R)
- 177^{G*ⁱ}Little Thornbird *Phacellodomus sibilatrix***
Guyra Paraguay (2004: R); Guyra Paraguay (2005); Smith *et al.* (2021)
- 178^{G**i*}Greater Thornbird *Phacellodomus ruber***
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 179^{G**i*}Firewood-gatherer *Anumbius annumbi***
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021)
- 180^{G**i*}Lark-like Brushrunner *Coryphistera alaudina***
Hayes (1995); Guyra Paraguay (2004: M); Guyra Paraguay (2005); Smith *et al.* (2021)
- 181 *Sharp-billed Canastero *Asthenes pyrrholeuca***
Grant (1911a); Hayes *et al.* (1994); Hayes (1995); Guyra

Paraguay (2004: h); Smith *et al.* (2021)

- 182** ^{G*i}**Stripe-crowned Spinetail** *Cranioleuca pyrrhophia*
Guyra Paraguay (2004: M); Guyra Paraguay (2005); Smith
et al. (2021)
- 183** ^{G*i}**Chotoy Spinetail** *Schoeniophylax phryganophilus*
Grant (1911a); Guyra Paraguay (2004: F); Smith *et al.*
(2021); Vallotton & Smith (2021)
- 184** ^{G*i}**Yellow-chinned Spinetail** *Certhiaxis cinnamomeus*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 185** ^{G*}**Austral Spinetail** *Synallaxis [albescens] australis*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 186** ^{G*i}**Sooty-fronted Spinetail** *Synallaxis frontalis*
Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Smith *et al.* (2021)

COTINGIDAE

- 187** ^{Gi}**White-tipped Plantcutter** *Phytotoma rutila*
Guyra Paraguay (2005)

TITYRIDAE

- 188** ^{*i}**Black-tailed Tityra** *Tityra cayana*
Guyra Paraguay (2004: S); This publication.
- 189** **Black-crowned Tityra** *Tityra inquisitor*
Guyra Paraguay (2004: S); This publication.
- 190** **White-naped Xenopsaris** *Xenopsaris albinucha*
Guyra Paraguay (2004: R); This publication.
- 191** ^{G*i}**Green-backed Becard** *Pachyramphus viridis*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 192** ^{G*}**White-winged Becard** *Pachyramphus polychopterus*
Guyra Paraguay (2004: S); Smith *et al.* (2021)
- 193** ^{*i}**Crested Becard** *Pachyramphus validus*
Guyra Paraguay (2004: S); Smith *et al.* (2021)

TYRANNIDAE

- 194** ^{G*}**Yellow-olive Flycatcher** *Tolmomyias sulphurescens*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 195** ^{G*i}**Pearly-vented Tody-Tyrant** *Hemitriccus margaritaceiventer*
Grant (1911a); Guyra Paraguay (2004: C); Guyra Paraguay
(2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 196** ^{*i}**Plain Tyrannulet** *Inezia inornata*
This publication.

- 197** ^{*i}**Tawny-crowned Pygmy-Tyrant** *Euscarthmus meloryphus*
Contreras (1986); Guyra Paraguay (2004: S); Smith *et al.* (2021)
- 198** ^{G*i}**Southern Beardless-Tyrannulet** *Camptostoma obsoletum*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021)
- 199** ^{G*}**Yellow-bellied Elaenia** *Elaenia flavogaster*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Vallotton & Smith (2021)
- 200** ^{G*}**Large Elaenia** *Elaenia spectabilis*
Guyra Paraguay (2004: F); Smith *et al.* (2021); Vallotton & Smith (2021)
- 201** ^{Gi}**White-crested Elaenia** *Elaenia albiceps [chilensis]*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 202** ^{G*}**Small-billed Elaenia** *Elaenia parvirostris*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith *et al.* (2021)
- 203** ^{G*i}**[Chaco] Suiriri Flycatcher** *Suiriri suiriri*
Grant (1911a); Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith *et al.* (2021)
- 204** ^{Gi}**Mouse-coloured Tyrannulet** *Phaeomyias murina*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 205** **Bearded Tachuri** *Polystictus pectoralis*
Guyra Paraguay (2004: S); This publication.
- 206** ^{Gi}**Crested Doradito** *Pseudocolopteryx sclateri*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith *et al.* (2021)
- 207** ^{Gi}**Warbling Doradito** *Pseudocolopteryx flaviventris*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 208** ^G**Dinelli's Doradito** *Pseudocolopteryx dinellianus*
This publication.
- 209** ^{G*i}**Sooty Tyrannulet** *Ridgwayornis nigricans*
Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay (2005); Vallotton & Smith (2021)
- 210** ^{G*}**White-crested Tyrannulet** *Serpophaga subcristata* (including “*S. munda*”)
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021)
- 211** ^{G*i}**Straneck's Tyrannulet** *Serpophaga griseicapilla*
Guyra Paraguay (2004: R); Guyra Paraguay (2005); Smith *et al.* (2021)
- 212** ^{G*i}**Great Kiskadee** *Pitangus sulphuratus*
Grant (1911a); Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021)
- 213** ^{G*i}**Cattle Tyrant** *Machetornis rixosa*
Grant (1911a); Guyra Paraguay (2004: A); Guyra Paraguay

- (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 214**^{G*}**Boat-billed Flycatcher** *Megarynchus pitangua*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- 215**^{G*}**Solitary Flycatcher** *Myiodynastes [maculatus] solitarius*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 216** **Variegated Flycatcher** *Empidonomus varius*
Guyra Paraguay (2004: S); This publication.
- 217**^{*}**Crowned Slaty Flycatcher** *Empidonomus aurantioatrocristatus*
Guyra Paraguay (2004: S); Smith *et al.* (2021)
- 218**^{G*i}**Tropical Kingbird** *Tyrannus melancholicus*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith
et al. (2021)
- 219**^{G*i}**Fork-tailed Flycatcher** *Tyrannus savana*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith
et al. (2021)
- 220**^{G*i}**Rufous Casiornis** *Casiornis rufus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 221**^{G*}**Swainson's Flycatcher** *Myiarchus swainsoni*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 222**^{G*i}**Short-crested Flycatcher** *Myiarchus ferox*
Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay
(2005); Smith *et al.* (2021)
- 223**^{G*i}**Brown-crested Flycatcher** *Myiarchus tyrannulus*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- 224**^{G*}**Bran-coloured Flycatcher** *Myiophobus fasciatus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 225**^{*i}**Southern Scrub-Flycatcher** *Sublegatus modestus*
Guyra Paraguay (2004: R); Smith *et al.* (2021)
- 226**^{G*i}**Vermilion Flycatcher** *Pyrocephalus rubinus*
Hayes *et al.* (1994); Guyra Paraguay (2004: F); Guyra
Paraguay (2005); Smith *et al.* (2021)
- 227**ⁱ**Black-backed Water-Tyrant** *Fluvicola albiventer*
Guyra Paraguay (2004: S); This publication.
- 228**^{G*i}**White-headed Marsh Tyrant** *Arundinicola leucocephala*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021)
- 229**^{Gi}**Streamer-tailed Tyrant** *Gubernetes yetapa*
Guyra Paraguay (2004: F); Guyra Paraguay (2005)

- 230**^{Gi}**Strange-tailed Tyrant** *Alectrurus risora*
 Contreras & Contreras (1992); Guyra Paraguay (2004: U);
 Guyra Paraguay (2005); Guyra Paraguay (2008)
- 231**ⁱ**Austral Negrito** *Lessonia rufa*
 Hayes *et al.* (1994), Hayes (1995); Guyra Paraguay (2004:
 R)
- 232**^{G*i}**Spectacled Tyrant** *Hymenops perspicillatus*
 Hayes *et al.* (1994); Guyra Paraguay (2004: U); Guyra
 Paraguay (2005); Vallotton & Smith (2021)
- 233**^{G*i}**Blue-billed Black-Tyrant** *Knipolegus cyanirostris*
 Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
 & Easley (2019); Smith *et al.* (2021)
- 234**^{G*i}**Yellow-browed Tyrant** *Satrapa icterophrys*
 Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 235**^{G*i}**White Monjita** *Xolmis irupero*
 Grant (1911a); Guyra Paraguay (2004: C); Guyra Paraguay
 (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 236**^{Gi}**Grey Monjita** *Nengetus cinereus*
 Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 237**^{G*i}**Whistling Fuscous-Flycatcher** *Cnemotriccus [fuscatus]*
 Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021)
- 238**^{G*}**Euler's Flycatcher** *Aphanotriccus euleri*
 Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 239**^{Gi}**Many-coloured Rush Tyrant** *Tachuris rubrigastra*
 Hayes (1995); Guyra Paraguay (2004: R); Guyra Paraguay
 (2005)

VIREONIDAE

- 240**^{G*i}**[Chaco] Rufous-browed Peppershrike** *Cyclarhis gujanensis [viri-
 dis]*
 Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 241**^{G*i}**Chivi Vireo** *Vireo chivi*
 Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
 (2005); Smith *et al.* (2021); Vallotton & Smith (2021)

CORVIDAE

- 242**^{G*}**Purplish Jay** *Cyanocorax cyanomelas*
 Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
 (2005)
- 243**^{G*i}**Plush-crested Jay** *Cyanocorax chrysops*
 Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith

et al. (2021)

HIRUNDINIDAE

- 244^M **Blue-and-white Swallow** *Pygochelidon cyanoleuca*
Contreras (1995); Guyra Paraguay (2004: R)
- 245^M **Black-collared Swallow** *Pygochelidon melanoleuca*
Contreras (1995); Guyra Paraguay (2004: R)
- 246^{G*i} **Tawny-headed Swallow** *Alopochelidon fucata*
Grant (1911a); Contreras (1995); Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 247^M **Southern Rough-winged Swallow** *Stelgidopteryx ruficollis*
Contreras (1995); Guyra Paraguay (2004: U)
- 248^{G*i} **Brown-chested Martin** *Progne tapera*
Contreras (1995); Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021)
- 249^{Gi} **Grey-breasted Martin** *Progne chalybea [macrorhamphus]*
Contreras (1995); Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 250^{Gi} **Southern Martin** *Progne elegans*
Contreras (1995); del Castillo (2013)
- 251^{*i} **White-winged Swallow** *Tachycineta albiventer*
Contreras (1995); Guyra Paraguay (2004: S); Smith *et al.* (2021)
- 252^{G*i} **White-rumped Swallow** *Tachycineta leucorrhoa*
Contreras (1995); Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021)
- 253^{Gi} **Chilean Swallow** *Tachycineta leucopyga*
Hayes *et al.* (1994); Contreras (1995); Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 254ⁱ **Sand Martin** *Riparia riparia*
Contreras (1995); Guyra Paraguay (2004: U)
- 255^{Gi} **Barn Swallow** *Hirundo rustica [erythrogaster]*
Contreras (1995); Guyra Paraguay (2004: A); Guyra Paraguay (2005)
- 256^M **Cliff Swallow** *Petrochelidon pyrrhonota*
Contreras (1995); Guyra Paraguay (2004: A)

TROGLODYTIDAE

- 257^{G*i} **House Wren** *Troglodytes aedon [musculus]*
Grant (1911a); Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith *et al.* (2021)
- 258ⁱ **Thrush-like Wren** *Campylorhynchus turdinus [unicolor]*
Contreras *et al.* (1993); Hayes (1995); Guyra Paraguay (2004: R); Hayes *et al.* (2018)

POLIOPTILIDAE

- 259**^{G*i}**Masked Gnatcatcher** *Polioptila dumicola*
Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Smith *et al.* (2021)

DONACOBIIDAE

- 260**^{Gi}**Black-capped Donacobius** *Donacobius atricapilla*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)

TURDIDAE

- 261**^{G*i}**Creamy-bellied Thrush** *Turdus amaurochalinus*
Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 262**^{Gi}**Pale-breasted Thrush** *Turdus leucomelas*
Guyra Paraguay (2004: F); This publication.
- 263**^{G*i}**Rufous-bellied Thrush** *Turdus rufiventris*
Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay
(2005); Smith *et al.* (2021); Vallotton & Smith (2021)

MIMIDAE

- 264**^{G*i}**Chalk-browed Mockingbird** *Mimus saturninus*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021)
- 265**^{Gi}**White-banded Mockingbird** *Mimus triurus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)

PASSERIDAE

- 266**^{Gi}**House Sparrow** *Passer domesticus*
Guyra Paraguay (2004: A); Guyra Paraguay (2005)

MOTACILLIDAE

- 267**^{G*i}**Yellowish Pipit** *Anthus chii*
Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 268**^M**Short-billed Pipit** *Anthus furcatus*
Hayes *et al.* (1994); Hayes (1995); Guyra Paraguay (2004:
E)
- 269**^{G*i}**Hellmayr's Pipit** *Anthus hellmayri*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)

FRINGILLIDAE

- 270**^{Gi}**Hooded Siskin** *Spinus magellanicus*
Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 271**^{G*i}**Purple-throated Euphonia** *Euphonia chlorotica*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)

EMBERIZIDAE

- 272 ^{G**i}**Grassland Sparrow** *Ammodramus humeralis*
Grant (1911a); Guyra Paraguay (2004: C); Guyra Paraguay (2005); Vallotton & Smith (2021)
- 273 ^{G**i}**Saffron-billed Sparrow** *Arremon flavirostris [polionotus]*
Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)
- 274 ^{G**i}**Rufous-collared Sparrow** *Zonotrichia capensis*
Grant (1911a); Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith *et al.* (2021); Vallotton & Smith (2021)

ICTERIDAE

- 275 ^{Gi}**Bobolink** *Dolichonyx oryzivorus*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 276 ^{Gi}**White-browed Meadowlark** *Leistes superciliaris*
Contreras & Contreras (1992); Guyra Paraguay (2004: C); Guyra Paraguay (2005)
- 277 ^{G**i}**Solitary Black Cacique** *Cacicus solitarius*
Grant (1911a); Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith *et al.* (2021)
- 278 ^{G**i}**Golden-winged Cacique** *Cacicus chrysopterus*
Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021)
- 279 ^{G**i}**Variable Oriole** *Icterus pyrrhopterus*
Grant (1911a); Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021)
- 280 ^{GM}**Screaming Cowbird** *Molothrus rufoaxillaris*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 281 ^G**Giant Cowbird** *Molothrus oryzivorus*
Guyra Paraguay (2004: S); This publication.
- 282 ^{G**i}**Shiny Cowbird** *Molothrus bonariensis*
Grant (1911a); Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021)
- 283 ^{G**i}**Scarlet-headed Blackbird** *Amblyramphus holosericeus*
Guyra Paraguay (2004: C); Guyra Paraguay (2005)
- 284 ^{Gi}**Chopi Blackbird** *Gnorimopsar chopi*
Guyra Paraguay (2004: A); Guyra Paraguay (2005)
- 285 ^{G**i}**Greyish Baywing** *Agelaioides badius*
Grant (1911a); Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith *et al.* (2021)
- 286 ^{G**i}**Unicoloured Blackbird** *Agelasticus cyanopus*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith *et al.* (2021)
- 287 **Yellow-winged Blackbird** *Agelasticus thilius*
This publication.

- 288** ^{G*i}**Chestnut-capped Blackbird** *Chrysomus ruficapillus*
Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 289** ^{G*i}**Yellow-rumped Marshbird** *Pseudoleistes guirahuro*
Contreras & Contreras (1992); Guyra Paraguay (2004: A);
Guyra Paraguay (2005); Smith *et al.* (2021)
- 290** ^{Gi}**Brown-and-yellow Marshbird** *Pseudoleistes virescens*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)

PARULIDAE

- 291** ^{G*i}**Masked Yellowthroat** *Geothlypis aequinoctialis [velata]*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 292** ^{G*i}**Tropical Parula** *Setophaga pitayumi*
Grant (1911a); Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021)
- 293** ^{G*i}**White-browed Warbler** *Myiothlypis leucoblephara*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 294** ^{G*i}**Golden-crowned Warbler** *Basileuterus culicivorus*
Guyra Paraguay (2004: U); Smith *et al.* (2021); Vallotton
& Smith (2021)

CARDINALIDAE

- 295** ^{Gi}**Hepatic Tanager** *Piranga flava [flava]*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 296** ⁱ**Glaucous-blue Grosbeak** *Cyanoloxia glaucocaerulea*
Guyra Paraguay (2004: R); This publication
- 297** ^{G*i}**Ultramarine Grosbeak** *Cyanoloxia brissonii*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)

THRAUPIDAE

- 298** **Hooded Tanager** *Nemosia pileata*
Guyra Paraguay (2004: U); This publication.
- 299** ^{Gi}**Chestnut-vented Conebill** *Conirostrum speciosum*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 300** ^{G*i}**Saffron Finch** *Sicalis flaveola [pelzelni]*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 301** ^{Gi}**Grassland Yellow-Finch** *Sicalis luteola [luteiventris]*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 302** ^{Gi}**Blue-black Grassquit** *Volatinia jacarina*
Guyra Paraguay (2004: U); Guyra Paraguay (2005)
- 303** ^{G*i}**White-lined Tanager** *Tachyphonus rufus*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Va-

- Ilotton & Smith (2021)
- 304**^{G*i}**Red-crested Finch** *Coryphospingus cucullatus*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021)
- 305**ⁱ**Lined Seedeater** *Sporophila lineola*
This publication
- 306**^{Gi}**White-bellied Seedeater** *Sporophila leucoptera*
Guyra Paraguay (2004: R); Guyra Paraguay (2005)
- 307**ⁱ**Pearly-bellied Seedeater** *Sporophila pileata*
Guyra Paraguay (2004: C); This publication
- 308**^{G*}**Tawny-bellied Seedeater** *Sporophila hypoxantha*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 309****Dark-throated Seedeater** *Sporophila ruficollis*
Guyra Paraguay (2004: S); This publication
- 310**ⁱ**Iberá Seedeater** *Sporophila iberaensis*
This publication
- 311**^M**Marsh Seedeater** *Sporophila palustris*
Contreras *et al.* (1993); Guyra Paraguay (2004: S); Hayes
(1995)
- 312**^{Gi}**Rufous-rumped Seedeater** *Sporophila hypochroma*
Contreras *et al.* (1993); Hayes (1995); Guyra Paraguay
(2004: S); Guyra Paraguay (2005)
- 313**^{GM}**Chestnut Seedeater** *Sporophila cinnamomea*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Guyra
Paraguay (2008)
- 314**^{G*i}**Double-collared Seedeater** *Sporophila caerulescens*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 315**^{G*i}**Rusty-collared Seedeater** *Sporophila collaris*
Contreras & Contreras (1992); Guyra Paraguay (2004:
C); Guyra Paraguay (2005); Vallotton & Smith (2021)
- 316**^{G*i}**Greyish Saltator** *Saltator coerulescens*
Guyra Paraguay (2004: C); Guyra Paraguay (2005); Smith
et al. (2021); Vallotton & Smith (2021)
- 317**^{G*i}**Green-winged Saltator** *Saltator similis*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Smith
et al. (2021)
- 318**^{Gi}**Golden-billed Saltator** *Saltator aurantirostris*
This publication
- 319**^{G*i}**Great Pampa-Finch** *Embernagra platensis [platensis]*
Grant (1911a); Contreras & Contreras (1992); Guyra Pa-
raguay (2004: A); Guyra Paraguay (2005); Smith *et*
al. (2021)
- 320**^{G*i}**Wedge-tailed Grass-Finch** *Emberizoides herbicola*

- Contreras & Contreras (1992); Guyra Paraguay (2004: C);
Guyra Paraguay (2005); Smith *et al.* (2021)
- 321** ^{G*}**Lesser Grass-Finch** *Emberizoides ypiranganus*
Contreras & Contreras (1992); Hayes (1995); Guyra Paraguay (2004: F); Guyra Paraguay (2005)
- 322** ^{G*i}**Orange-headed Tanager** *Thlypopsis sordida*
Guyra Paraguay (2004: U); Guyra Paraguay (2005); Smith *et al.* (2021); Valotton & Smith (2021)
- 323** ⁱ**Chaco Warbling Finch** *Microspingus [torquatus] pectoralis*
This publication
- 324** ^{Gi}**Black-capped Warbling Finch** *Microspingus melanoleucus*
Guyra Paraguay (2004: S); Guyra Paraguay (2005); Guyra Paraguay (2008); Smith *et al.* (2021)
- 325** ^{Gi}**Long-tailed Reed Finch** *Donacospiza albifrons*
Guyra Paraguay (2004: S); Guyra Paraguay (2005)
- 326** ^{G*i}**Red-crested Cardinal** *Paroaria coronata*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021)
- 327** ^{G*i}**Yellow-billed Cardinal** *Paroaria capitata*
Guyra Paraguay (2004: F); Guyra Paraguay (2005); Smith *et al.* (2021)
- 328** ^{*}**Fawn-breasted Tanager** *Pipraeidea melanonota*
Contreras & Contreras (1993a); Guyra Paraguay (2004: R); Smith *et al.* (2021)
- 329** **Blue-and-yellow Tanager** *Rauenia bonariensis*
This publication
- 330** ^{G*i}**Sayaca Tanager** *Thraupis sayaca*
Guyra Paraguay (2004: A); Guyra Paraguay (2005); Smith *et al.* (2021)

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El Boletín del Museo Nacional de Historia Natural del Paraguay se publica en un volumen por año, dividido en dos números. Los manuscritos recibidos hasta el 1 de abril podrán ser considerados para el cierre de edición de junio (nº 1) y los recibidos hasta el 1 de octubre para el cierre de edición de diciembre (nº 2). Sin embargo, la entrega de un manuscrito dentro de un determinado periodo no garantiza su publicación en la edición inmediata siguiente, dependiendo ésta del tiempo que toma el proceso de revisión al que es sujeto. Los artículos se publicarán online en diferentes fechas a medida que estén completamente diagramados, y el conjunto publicado a lo largo de un semestre constituirá el cuerpo del correspondiente número. En caso de no tener un número completo para la edición de junio, se publicará un volumen de doble número en diciembre.

Se aceptan trabajos de investigación originales o de revisión en las áreas de Botánica, Zoología, Paleontología y Geología Descriptiva, cubriendo la Región Neotropical y preferentemente el Paraguay y regiones limítrofes. Se aceptan trabajos en Español, Portugués o Inglés. Las opiniones vertidas en los artículos son entera responsabilidad de los respectivos autores y no necesariamente reflejan los ideales de los miembros del cuerpo editorial.

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Las figuras deben ser originales, en archivos electrónicos numerados, de buena resolución (300 dpi para degradados de color/escala de grises, y 600 dpi para colores planos/blanco y negro plano) en formatos JPG, TIF o PNG. Los pies de ilustración deben ir en hoja aparte, indicando claramente los números de referencia de las ilustraciones originales o los archivos respectivos. Las tablas deben ir por separado, en archivo generado en Microsoft Excel.

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Los trabajos deberán respetar las disposiciones de los códigos de nomenclatura Zoológica y Botánica vigentes. Los nombres científicos deben escribirse en itálicas. Se sugiere que los nombres científicos se escriban completos, incluyendo autor(es), al menos la primera vez que se mencionan. La citación de autores de nombres científicos es obligatoria en trabajos de índole taxonómico. Los nombres genéricos al principio de una oración deben escribirse completos.

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En la sección Literatura se deben incluir los trabajos citados en el manuscrito o que merecen mención justificada por su importancia en el tema tratado. Las referencias deben ir por orden alfabético y cronológico y cada una siguiendo el modelo de secuencia: Autor. Año. Título. Publicación serial o Casa editora y Ciudad, Volumen (Número): Intervalo o total de páginas. Abajo hay algunos ejemplos:

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Richards, O.W. (1978). *The social wasps of the Americas excluding the Vespinae*. London, UK: British Museum (Natural History). 580 pp.

Hanson P. & Gauld, I.D. (Eds.). (1995). *The Hymenoptera of Costa Rica*. Oxford, UK: The Natural History Museum, London. 893 pp.

Hanson, P. & Menke, A.S. (1995). The sphecic wasps (Sphecidae). Pp. 621–646, in Hanson, P. & Gauld, I.D. (Eds.). *The Hymenoptera of Costa Rica*. Oxford, UK: The Natural History Museum, London. 893 pp.

CoreoideaSF Team. (2016). *Coreoidea Species File Online*. Version 5.0/5.0. [Consulted: 17.vii.2016]. <<http://Coreoidea.SpeciesFile.org>>.

Adobe. (2010). Adobe® Illustrator® CS5. Versión 15.0.0. Program for Microsoft Windows™ Environment.

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The editorial accepts original or revisional research papers on several aspects of Botany, Zoology, Paleontology and Descriptive Geology, covering the Neotropical Region, preferably Paraguay and neighbouring areas. Papers wrote in Spanish, Portuguese or English will be accepted. The opinions given in the papers are entire responsibility of their respective authors and not necessarily reflect the ideals of the member of the editorial team.

The manuscripts should be submitted as electronic files in Microsoft Word format, in A4 size paper with 25 mm margins and text in Times New Roman font, size 11. Footnotes will not be accepted.

Figures should be submitted as original numbered electronic files with good resolution (300 dpi for graded colors/grayscale and 600 dpi for flat colors/flat black and white); in JPG, TIF or PNG format. The figure legends must go in a separate page, clearly indicating the reference numbers of the original illustrations or files. Tables should be sent separately as electronic files made in Microsoft Excel format.

All the documentation related to the manuscript must be sent to the e-mail address of the Boletín: boletin.mnhnp@gmail.com. Authors are asked to provide name, address and e-mail of at least two potential referees.

The first page of the manuscript must contain the following data: **1)** short and concise title, **2)** full name of the author(s) [at least one of the first names and one of the last names of each author must be spelled out completely], **3)** complete address of the author(s), including e-mail address(es) if available, **4)** abstract, and **5)** key words. **Title, abstract and key words will be presented in both English and Spanish versions (the two latter to be called *resumen* and *palabras clave* in the Spanish version).**

The manuscript body could be composed by the following ordered parts, each one clearly entitled: **1)** Introduction, **2)** Materials and Methods, **3)** Results and Discussion, **4)** Conclusions, **5)** Acknowledgements and **6)** Literature. Modifications could be accepted if they follow a logic sequence equivalent to the one here proposed.

Papers must respect the rules of the codes on Zoology and Botany in force. Scientific names must be in italics. It is suggested that scientific names should be mentioned complete, including author(s) at least in the first mention. Authority is mandatory in taxonomic papers. Generic names must be completely spelled at the beginning of a sentence.

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BOLETÍN

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