

New and noteworthy records of waterbirds from Paraguay

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Received on 26 October 2017. Accepted on 06 March 2018.

ABSTRACT: Previously unpublished new and noteworthy Paraguayan reports of Anatidae, Ardeidae, Podicipedidae and Rallidae are provided. The first documented records of Speckled Teal *Anas flavirostris*, Yellow-billed Pintail *Anas georgica*, Blue-winged Teal *Anas discors* and Red-gartered Coot *Fulica armillata* are detailed with a review of previous undocumented reports of the species. Additional records of a further five rarely-recorded waterbird species are also reported: Silvery Grebe *Podiceps occipitalis*, Great Grebe *Podiceps major*, Little Blue Heron *Egretta caerulea*, Cinnamon Teal *Anas cyanoptera* and Red Shoveler *Anas platalea*. The new additions add up to a total of 123 waterbird species documented to occur in Paraguay.

KEY-WORDS: Anatidae, Ardeidae, distribution, Podicipedidae, Rallidae.

INTRODUCTION

Less is known about waterbirds in the Neotropics than in any other region of the world (Wetlands International 2012). Within South America, data are especially limited for Paraguay, where very few studies of waterbirds have been undertaken despite 26% of the avifauna being wetland dependent (Clay *et al.* 2004). Paraguayan waterbirds are distributed amongst 19 families, of which 60% (74 species) are considered resident (Guyra Paraguay 2004). However, even among these resident species field observations by the authors and others suggest some unusual patterns of movement, with species becoming momentarily abundant in a given locality or region and then become rare or even completely unrecorded for many years. With Paraguay's position at the centre of the continent, the documentation of such records takes on renewed significance for helping to understand regional movements and population dynamics.

Previously unpublished waterbird counts have been taking place in Paraguay since 2001, stimulated in part by the Neotropical Waterbird Census. These have led to a number of new and interesting records, including four species which are documented here for the first time in Paraguay (three Anatidae and one Rallidae). Furthermore, we present a full summary of records for five other rarely recorded waterbirds (two Podicipedidae, one Ardeidae and two Anatidae) that show irregular

patterns of occurrence. We also speculate on some of the factors that may influence their movements.

METHODS

The Paraguayan waterbird records presented here were compiled from the published literature, museum specimens, on-line databases like Worldbirds (www.worldbirds.org) and e-Bird (www.ebird.org), the Guyra Paraguay Biodiversity Database, the authors' own field observations and through consultations with ornithologists and birdwatchers. Abbreviations used in the text are: dept. – departamento (a geopolitical division of Paraguay); USNM – National Museum of Natural History, Washington, USA (formerly the US National Museum of Natural History); UMMZ – University of Michigan Museum of Zoology (Ann Arbor, USA). Nomenclature follows the South American Classification Committee (Remsen-Jr. *et al.* 2017).

Newly documented species

Speckled Teal *Anas flavirostris* (Anatidae): a specimen of *Anas flavirostris* in the US National Museum of Natural History (USNM 59140) labelled “Paraguay” was supposedly collected by Captain T.J. Page in the mid-1800s during a US Navy exploration of the La Plata

River Basin. However, no additional locality information was provided (J. Dean, *in litt.* 2004), and Page did not include it in his appendix of “natatores – swimming birds” collected during the expedition (Page 1859: 602). If this specimen was indeed collected by Page, then it was probably collected outside of the current borders of Paraguay. Page collected widely in southern South America, at a time when the political limits of Paraguay were much greater than they are today. Given that the species is much more common to the south, the balance of probability is that he collected the bird within what is now Argentine territory. Berlepsch (1887) included the species in a list of birds of likely occurrence in Paraguay, but it was omitted from the next list of Paraguayan species (Bertoni 1901). Phillips (1923) categorically stated that the species “does not occur” in the country.

Consequently, the first concrete mention of “Paraguay” in the species range appears to be Zotta (1935). This was cited by Laubmann (1939) who added that the presence of the species in Paraguay had not yet been established. Bertoni (1939) provided the first locality of “R. Paraguay”, having omitted the species entirely from Bertoni (1914), but no details accompanied the record. More recently undocumented observations of 14 individuals were reported during July 1991 in the Paraguayan Chaco (López 1992) and 80 individuals at Laguna Millón in July 1992 (López 1993).

Hayes (1995) considered the occurrence of Speckled Teal in Paraguay to be hypothetical. He stated that though it is often cited to occur in Paraguay, no details of records are available. However, he added that it “may occur as an austral migrant”.

On 26 May 2001, R.P.C. observed a single Speckled Teal with a group of eight White-cheeked Pintail *Anas bahamensis* at Campo María, Presidente Hayes dept. (22°34'1"S; 59°20'52"W). The bird was easily identified because of its combination of bright yellow sides to the bill, clearly rounded dark brown head, and speckled breast contrasting with the clear unmarked flanks. In flight, the bright green speculum bordered buff in front and narrowly with white at the rear was clearly visible in the otherwise dark brown wing. The species was considered “pending documentation” on the basis of this well-described report (Guyra Paraguay 2004) and was later documented photographically at the same location by Hemme Batjes (Fig. 1A) on 29 July 2006 (P.S., H. del Castillo, H. Batjes and A. Betuel). Additional subsequent records are provided in Table 1. Although the nominate race of *A. flavirostris* appears to be a partial austral migrant (Blake 1977, Johnsgard 1978, Madge & Burn 1988), in Paraguay the species is apparently of only intermittent occurrence. We feel that it is best considered an irregular vagrant to Paraguay.

Yellow-billed Pintail *Anas georgica* (Anatidae): Berlepsch (1887) included the species in a list of birds

of likely occurrence in Paraguay. It was omitted from the next list of Paraguayan species (Bertoni 1901). Bertoni (1914) listed the species for “Alto Paraná” but he never published any details of any record.

Wetmore (1926) referred to a small series of specimens from Chile, Argentina, Paraguay and Peru, but failed to provide information as to where these specimens are located, and none are located in the USNM where he worked. Zotta (1935) then included “Paraguay” in the range, perhaps following Bertoni (1914), who was in close contact with him. This locality was then updated to “Alto Paraná (Puerto Bertoni)” in Bertoni (1939), suggestive that it was a first-hand record by the author, who resided there.

According to Laubmann (1939) and Hayes (1995), Kerr (1892) reported the species from Paraguay from “near Fortín Donovan”, but the coordinates provided (stated to be “approximate” by Kerr 1892) place the locality in Formosa province, Argentina.

López (1992) reported flocks of 60 and 24 from the central Chaco during July 1992, but Hayes considered these large numbers to be “unsubstantiated”. Given the lack of available details for any of these records, Hayes (1995) opted to treat the species as hypothetical, noting however that it possibly occurs in Paraguay as an austral migrant.

On 16 June 2004, A.J.L. observed a pair of *A. georgica* among a flock of *A. bahamensis* and Black-headed Duck *Heteronetta atricapilla*, at Laguna Sanidad, Estero Patiño, Presidente Hayes dept. (24°08'S; 59°00'W). They were readily identifiable by their large size, with overall mottled brown plumage, a much paler chin and foreneck, and yellow bill with black culmen stripe. The following day (17 June 2004), a bird was observed flying in a westerly direction at the same site (A.J.L.). The first documented record is of a single bird photographed (Fig. 1B) loafing with a group of *A. bahamensis* at Campo María, Presidente Hayes dept. on 13 October 2008 (P.S., Hugo del Castillo and M. Martin). There is one subsequent record, of two birds with a small flock of *A. bahamensis* in the Bahía de Asunción, Central dept. (25°20'S; 57°35'W) on 26 April 2009 (R.P.C.). *Anas georgica spinicauda* is considered an austral migrant, wintering into southern Brazil (Johnsgard 1978, Madge & Burn 1988). Individuals occurring in Paraguay are most likely to be of this subspecies, and the species can be considered of intermittent occurrence or at best an irregular vagrant.

Blue-winged Teal *Anas discors* (Anatidae): Hayes (1995) considered two female or immature *Anas* observed in the Bahía de Asunción on the 15 February 1989 to possibly refer to Blue-winged Teal, but most likely Cinnamon Teal *A. cyanoptera*. This appears to be the only reference to Blue-winged Teal potentially occurring in Paraguay.

On the 13 January 2003, R.P.C. found a drake



Figure 1. (A) Distant individual of *Anas flavirostris* at Campo Maria Private Nature Reserve, Cuenca Upper Yacaré Sur, Presidente Hayes dept. (Photo author: Hemme Batjes); (B) Adult *Anas georgica*, Campo Maria Private Nature Reserve, Cuenca Upper Yacaré Sur, Presidente Hayes dept. (Photo author: Paul Smith); (C) Adult male *Anas discors*, Laguna Capitán, Presidente Hayes dept. (Photo author: Oscar Bordón); (D) Adult *Fulica armillata*, Estancia La Graciela, Misiones dept. (Photo author: Arne Lesterhuis).

Table 1. New records of Speckled Teal *Anas flavirostris*, Red-gartered Coot *Fulica armillata*, Silvery Grebe *Podiceps occipitalis*, Little Blue Heron *Egretta caerulea*, Cinnamon Teal *Anas cyanoptera*, Red Shoveler *Anas platalea* in Paraguay.

Date	Locality	Number of individuals	Observer
Speckled Teal (<i>Anas flavirostris</i>)			
16 January 2004	Laguna Buena Vista (22°36'22"S; 59°42'00"W)	1	J. Klavins
16–17 June 2004	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	At least 2	A.J.L., H. del Castillo, M. de Bernard, M. Montiel
02 July 2005	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	2	R.P.C.
Red-gartered Coot (<i>Fulica armillata</i>)			
17 June 2004	Laguna Sanidad, Presidente Hayes dept.	13	A.J.L.
09 October 2004	Laguna Sanidad, Presidente Hayes dept.	19	R.P.C.
02–04 July 2005	Laguna Sanidad, Presidente Hayes dept.	13	R.P.C., H. del Castillo
23 September to 14 October 2004	Bahía de Asunción, Central dept.	1–3	R.P.C., A.J.L., P.S., H. del Castillo
20 September 2009	Bahía de Asunción, Central dept.	1	R.P.C., A.J.L.
Silvery Grebe (<i>Podiceps occipitalis</i>)			
15 June 2004	Laguna Sanidad, Estero Patiño, President Hayes dept.	7 (non-breeding plumage)	A.J.L.
17 June 2004	Laguna Sanidad, Estero Patiño, President Hayes dept.	61	A.J.L.
13 July 2004	Chaco Lodge, President Hayes dept.	175	Lesterhuis <i>et al.</i> (2005)
13 July 2004	Campo Maria, President Hayes dept.	78	Lesterhuis <i>et al.</i> (2005)
16 October 2005	Campo Maria, President Hayes dept.	100+	P.S., R.P.C., R. Elsam, R. McCann

Date	Locality	Number of individuals	Observer
14 July 2006	Campo Maria, Presidente Hayes dept.	6	P.S., H. del Castillo, A. Holman
27 July 2006	Campo Maria, Presidente Hayes dept.	1	Adam Betuel
Little Blue Heron (<i>Egretta caerulea</i>)			
20 April 2001	Bahía de Asunción, Central dept.	1 (non-breeding adult)	A.J.L., F. Fragano
06 February 2005	Bahía de Asunción, Central dept.	1 (immature)	R.P.C.
21 February 2010	Bahía de Asunción, Central dept.	1 (immature)	R.P.C.
10 October 2010	Bahía de Asunción, Central dept.	1 (immature)	R.P.C., A.J.L., H. del Castillo
30 October 2010	Cercanías del Río Aquidaban, Amambay dept.	1 (adult)	O. Rodríguez
02 July 2012	Campo María, Presidente Hayes dept.	1 (immature)	P.S.
19 August 2012	Asunción, Central dept.	1 (adult)	R.P.C.
13 December 2014	Asunción, Central dept.	1 (adult)	R.P.C.
10 November 2015	Asunción, Central dept.	1 (adult)	R.P.C.
23 July–14 Sep 2016	Bahía de Asunción, Central dept.	1 (immature)	R.P.C., O. Bordon, J.L. Mendez, A. Martin
Cinnamon Teal (<i>Anas cyanoptera</i>)			
May 1997	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	a few individuals (including adult males)	H. del Castillo
20–25 July 1999	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	1 male	H. del Castillo
16 June 2004	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	2 pairs	A.J.L., H. del Castillo
02–03 July 2005	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	2 pairs and a female	R.P.C., H. del Castillo, L. López
Red Shoveler (<i>Anas platalea</i>)			
May 1997	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	Up to 30 individuals (pair shot by hunters photographed)	H. del Castillo
20–25 July 1999	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	Few individuals	H. del Castillo
05–16 May 2004	Bahía de Asunción, Central dept.	1 male (presumably the same bird? Remains later found on 21 May)	R.P.C., A.J.L., H. del Castillo
30 May 2004	Estancia La Graciela, Misiones dept.	12	H. del Castillo, M. de Bernard, M. Montiel, A. Stroessner
03 June 2004	Estancia La Graciela, Misiones dept.	7	A.J.L., H. del Castillo, R. Elsam, M. Ibarra

Date	Locality	Number of individuals	Observer
05 June 2004	Bahía de Asunción, Central dept.	3 (adult male and female, and an immature male)	R.P.C.
15–18 June 2004	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	125	A.J.L., H. del Castillo, M. de Bernard, M. Montiel
14 July 2004	Laguna Campo Leon, Presidente Hayes dept.	8	A.J.L., E. Coconier
29 June–04 July 2005	Bahía de Asunción, Central dept.	2 males	R.P.C., P.S., C. Morales, S. Centrón, L. López, H. Batjes, C. Hesse
03 July 2005	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	950	R.P.C., H. del Castillo, L. López, S. Centrón, H. Cabral Beconi
02 September 2005	Laguna Sanidad, Estero Patiño, Presidente Hayes dept.	<1000	H. del Castillo, H. Cabral Beconi, R. Zarza, F. Fragano
26 April 2009	Bahía de Asunción, Central dept.	18	R.P.C.
21 June 2009	Bahía de Asunción, Central dept.	2 males	P.S.
05 October 2009	Bahía de Asunción, Central dept.	1	R.P.C., A.J.L., M. Jeffrey, K. Pierson
07 July 2015	Laguna Lucero, Presidente Hayes dept. (22°33'S; 59°26'W).	10	A.J.L., H. Cabral Beconi

Blue-winged Teal in the company of *c.* 100 Ringed Teal *Callonetta leucophrys* and Brazilian Teal *Amazonetta brasiliensis* at Campo María, Presidente Hayes dept. The bird was easily identified through a combination of small size, longish body, bluish-grey head contrasting with warm brown underparts heavily marked with dark spotting, white facial crescent, white flank patch and black vent. In flight, the pale blue forewing, bordered by a white greater covert bar (broadening distally) and green speculum were obvious, while the largely white underwing with broad blackish leading edge was also conspicuous. An adult male, was observed at Laguna Capitán, Presidente Hayes dept. (22°32'S; 59°40'W) during November 2004 by N. López (pers. comm. 2005). The first documented record of the species in Paraguay was a male at Campo Leon (22°34'S; 59°32'W) photographed by O. Bordon on 6 August 2016 (Fig. 1C).

Anas discors is found with some regularity as far south as Argentina (Mazar-Barnett & Pearman 2001), thus its occurrence in Paraguay is not surprising. All three records have been in relative proximity and given that the species can live for over 20 years (USGS Patuxent Wildlife Research Center 2015), it is possible that the records refer to the same individual.

Red-gartered Coot *Fulica armillata* (Rallidae): Hayes (1995) considered the occurrence of this species in Paraguay as hypothetical based on a lost specimen

collected by Félix Posner at Monte Sociedad Colony (now Benjamín Aceval), Presidente Hayes dept. (Bertoni 1930). In that publication, Bertoni (1930) stated that he had never recorded the species in the forested area of the Oriental region. Bertoni's (1939) listing of Villa Hayes is in reference to the same record. However, numerous previous citations of the species in Paraguay also exist.

Vieillot (1817) described the species based on Azara 448 "Focha de ligas roxas" and gave the type locality as "Paraguay", but in fact Azara (1802) states that his two specimens came from Buenos Aires, Argentina and he makes no mention of the species in Paraguay, *contra* Hartlaub (1854) and Laubmann (1939). Hartlaub (1854) and Berlepsch (1887) included the species for Paraguay based on Azara 448, but also cite a specimen from "Misiones" Paraguay collected by Bonpland, and deposited in the Museum d'Histoire Naturelle de Paris, though we were unable to trace this specimen. Though Aimé Bonpland lived in the town of Santa María de Fé in Paraguay for many years, he also spent much of his time in Corrientes, Argentina (at that time part of Paraguay) and thus the exact collection locality of this bird is of some relevance. Subsequent to this, it was also included in the Paraguayan avifauna by Sharpe (1894), Bertoni (1901, 1914), Ihering (1904), Peters (1934) and Hellmayr & Conover (1942), amongst others. In August 1995, the species was reported by Kevin Burns at Rancho

Chaco (Presidente Hayes dept.), but no further detail of the record was provided. However there have been very few concrete, well-documented reports.

On the 30 May 2004, H. del Castillo, M. de Bernard, A. Stroessner and M. Montiel found a *F. armillata* with eight White-winged Coots *Fulica leucoptera* in a small artificial lagoon at Estancia La Graciela, Misiones Department (26°34'52"S; 56°49'18"W). The bird was still present on 03 June 2004, when it was also seen by A.J.L., J. Klavins, R. Elsam, A. Spiridonoff and M. Ibarra. This bird was documented by photos taken by A.J.L. which clearly show the wine-red band separating the rather broad yellowish bill from the frontal shield (Fig. 1D). The bird was also noticeably larger than the accompanying *F. leucoptera*. Additional subsequent records are provided in Table 1.

The population of northeastern Argentina is considered to consist of austral migrant birds (Taylor 1998). In Paraguay it appears to occur in small numbers as a rare but regular austral migrant during the austral winter, probably as part of the same northward movement.

Noteworthy records

Silvery Grebe *Podiceps occipitalis* (Podicipedidae): Hayes *et al.* (2004) summarized records of the species in Paraguay to that point, considering *P. occipitalis* to be an uncommon austral migrant to Paraguay. He reported one individual at Estancia Golondrina, Presidente Hayes dept. (24°56'S; 57°42'W) and observations of up to ten birds at Laguna Salada, Presidente Hayes dept. (22°32'S; 59°18'W). Details of additional new records, including flocks of 175 and 78 birds simultaneously in the central Chaco (Lesterhuis *et al.* 2005), are provided in Table 1.

It seems likely that *P. occipitalis* has been somewhat overlooked in Paraguay, occurring as an irregular and irruptive austral migrant. Large numbers, such as those observed in 2004 and 2005, seem to occur during very cold winters and are most likely to be observed in the Paraguayan Chaco west of the Paraguay River.

Great Grebe *Podiceps major* (Podicipedidae): Bertoni (1901) and presumably also Ihering (1904) listed the species for Paraguay on the basis of Azara No. 443 "Macá Cornudo". Azara (1805) does not clarify the origin of his birds, but does state in the introduction to the family that he "described them all from Paraguay" and that he "released them in his room". Schlegel (1867) reported two specimens from "Paraguay" in "perfect plumage", one of which is sexed as a male, but no more details were provided and we have been unable to trace them. Berlepsch (1887) listed the species with a query, Bertoni (1914, 1939) listed it as requiring confirmation, and the species was omitted entirely by Laubmann (1939).

The first verifiable Paraguayan records of the species

were specimens collected 235 km W of Río Negro (Presidente Hayes dept.) in June and September 1939 (Storer 1989). One of these birds was a juvenile with wings too short for flight, suggestive of local breeding (Storer 1989, Hayes 1995). Two further specimens in USNM (59894, 59896) with locality "Paraguay, Santa Fe, Río Salado" seem certain to have come from Argentina and not Paraguay (Storer 1989). Contreras *et al.* (1989a, 1989b) provided a review of Paraguayan records of the species until that point, citing additional records from Lago Ypoá, Paraguairí dept., on 27 August 1989; the Paraná River at Refugio Biológico Mbaracayú, Canindeyú dept. (28 August to 09 September 1985); Ruta Transchaco km 416, Boquerón dept. (07 December 1990); the Paraguay River near the mouth of the Bermejo River (07 July 1992) and the Paraguay River at Puerto Naranjito (17 September 1992), both at Ñeembucú dept.

Additional subsequent records include one individual on 25 July 2009 at Laguna Blanca (Smith *et al.* 2016), one individual observed at Bahía de Asunción on 10 and 14 October 2010 (R.P.C., A.J.L., P.S. and H. del Castillo) and three at Laguna León (Chaco Central) on 11 July 2012 and 26 August 2012 (R.P.C.).

This species seems to occur fairly regularly in the country. However, the species is not resident and the pattern of records is not suggestive of migration so much as random dispersal or nomadism. Consequently, we consider this species to be a regular vagrant in Paraguay, noting that it might occasionally breed when conditions are suitable.

Little Blue Heron *Egretta caerulea* (Ardeidae): first listed for Paraguay in a catalogue by Pinto (1938), with no details provided, and then by Bertoni (1939) who cited it as his source. Hellmayr & Conover (1948) specifically stated that the species had "never been recorded in Paraguay" and the country was subsequently omitted from the range of the species in an updated edition of the same catalogue (Pinto 1978), suggesting a retraction of the earlier report.

The first record with a locality is thus Peris & Suárez (1985) who reported small flocks of 2–3 birds in southern Presidente Hayes dept. along the Ruta Trans Chaco between km 100 and km 260 during December 1983. However, Hayes (1995) considered these as hypothetical due to a lack of details. The first documented record was a non-breeding individual photographed by F. Hayes on 18 August 1988 at Puerto Bahía Negra, Alto Paraguay dept. (Hayes *et al.* 1990). Subsequently, R. Ryan observed one bird at Ruta Trans Chaco km 79, Presidente Hayes dept., on 08 August 1994 (Hayes 1995). Additional unpublished records are provided in Table 1. This species seems to be occurring with increasing frequency in central South America and may be undergoing range expansion. For the time being we consider this species to be an

increasingly regular vagrant in Paraguay.

Cinnamon Teal *Anas cyanoptera* (Anatidae): Berlepsch (1887) included the species in his list of “potential” additions to the Paraguayan avifauna. Bertoni (1914, 1939) however, included the species as confirmed in Paraguay, though he provided no locality or reference to support this. Hayes (1995) reported just two localities for the species, one of which “near Fortín Donovan” (Kerr 1892) is actually in Argentina according to the coordinates provided. Consequently, the first documented record is a specimen of the subspecies *A. c. cyanoptera* collected 170 km W of Puerto Casado on 01 March 1938 (UMMZ 96201) (Storer 1989).

Two additional specimens of Cinnamon Teal are purportedly from Paraguay. A specimen labelled as “*Anas cyanoptera* or *Anas discors*” in the Jacob Unger Museum in Filadelfia, Boquerón Department, is clearly this species, identifiable by the large broad bill, plain head pattern and rufous wash to the plumage, especially on the flanks and breast sides. Although no locality data are provided, all specimens in the museum were collected by Jacob Unger, who is only known to have collected in the central Paraguayan Chaco. An additional specimen held in the USNM (USNM 571248) was collected during the 1850s or 1860s by Captain T.J. Page of the US Navy Steamer Water Witch. The only locality information is “Paraguay”, but the specimen probably originates from Argentina.

The latest records of the species are all from the same locality, Laguna Sanidad, Estero Patiño, Presidente Hayes dept. Details are provided in Table 1. This species is known from very few records of a small number of individuals from March to July. We consider this species to be a rare and irregular straggler to Paraguay, with records representing overshooting migrants from further south.

Red Shoveler *Anas platalea* (Anatidae): first reported for Paraguay by Azara (1802) as his No. 431 “Pato Espátula”, where he notes that “Noséda killed two of three birds in Paraguay during July”. Padre Nosedá was based at San Ignacio, Misiones dept., and this may be presumed to be the collection site. Berlepsch (1887), Bertoni (1901, 1914, 1939), Ihering (1904) and Hellmayr & Conover (1948) then all listed the species for Paraguay, without providing any additional locality data.

Hayes (1995) listed six reports of Red Shoveler in Paraguay, one of which from the vicinity of Fortín Donovan (Kerr 1892) is actually in Argentina, according to the coordinates provided. The author reported his own sight records of a single bird at Estancia La Golondrina, Presidente Hayes dept. on 09 July 1989; a pair at Bahía de Asunción, Central dept. on 11 January 1989, a female only at the same locality on 18 January 1989 and a single female on 15 February 1989. Additionally, he reported three older specimen records, one held in the UMMZ (a

male, 105029) and two in the USNM (a male and female, USNM 390658 and 399450). An additional specimen record, a female collected by Alberto Schulze and Jacob Unger on 17 February 1939, 170 km W of Puerto Casado (UMMZ 105030) was apparently overlooked by Hayes (J. Hinshaw, *in litt.* 2004). It would appear that all of these are from the same series of specimens, as all four birds were collected in February 1939, at least three from the same general area (there is no locality information for USNM 399450; J. Dean, *in litt.* 2004, J. Hinshaw, *in litt.* 2004). Additional subsequent records are provided in Table 1.

Hayes (1995) considered Red Shoveler to be a breeding resident, presumably on the basis of the records in January and February. However, we are not aware of any evidence of breeding, and the recent records in discrete windows of time, sometimes involving quite large numbers, suggests the species may be somewhat nomadic, mainly during winter and in response to favourable local conditions.

DISCUSSION

With these new additions to the list of Paraguayan avifauna, including the recently added gull and tern species described in Clay *et al.* (2017), the total of true waterbird species in Paraguay is 123, comprising 19 families. Most of these new additions are a direct result of a growing interest in birding amongst Paraguayans, leading to a “mini-revival” of waterbird watching in the country. The subsequent increase in field effort is having a positive effect on the amount of data available to researchers and previously undetected patterns of movement are beginning to emerge. Whilst it is still too early to begin to formulate hypotheses, the signs for being able to do so in the near future are positive. On the other hand, just as interest in the local fauna is beginning to take off, the country is also facing severe environmental challenges with accelerating deforestation rates in the Chaco region (one of the hotspots for “waterbirding”) and the draining of wetlands and seasonally flooded grasslands in southern Paraguay amongst the most serious conservation issues affecting the country and its waterbird populations. The availability and publication of data that contributes to a better understanding of the patterns and processes affecting waterbird distribution in Paraguay is thus an obligation to field researchers working in the country.

ACKNOWLEDGEMENTS

James Dean (Smithsonian Institution) and Janet Hinshaw (UMMZ) checked the identification and label and

catalogue details of Paraguayan specimens. Also, thanks to current and former staff and members of Guyra Paraguay that joined fieldtrips and/or shared their observations (J. Klavins, H. del Castillo, M. de Bernard, M. Montiel, R. Elsam, F. Fragano, L. López, A. Stroessner, E. Coconier, S. Centrón, H. Cabral Beconi, R. Zarza). P.S. is grateful to the tour participants on FAUNA Paraguay tours during which some of these species were recorded. P.S. thanks the PRONII program of CONACYT for its support. R.P.C. and A.J.L. thank Wetlands International and the Canadian Wildlife Service for the financial support to Guyra Paraguay to implement the Neotropical Waterbird Census. Finally, the authors want to thank Hemme Batjes and Oscar Bordón for their kind permission to use their photos for this article.

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Associate Editor: Marcos P. Dantas.