# Status and distribution of Paraguayan "Black Tyrants" (Tyrannidae: *Knipolegus*) with a remarkable new country record

Paul Smith<sup>1,2</sup>, Kevin Easley<sup>3</sup>

- <sup>1</sup> FAUNA Paraguay, Encarnación, Dpto. Itapúa, Paraguay; www.faunaparaguay.com Contact email: faunaparaguay@gmail.com
- <sup>2</sup> Para La Tierra, Centro IDEAL Mariscal Estigarribia 321 c/ Tte. Capurro, Pilar, Dpto. Ñeembucú, Paraguay www.paralatierra.org.
- 3 Costa Rica Gateway San José, Costa Rica

Abstract – "Black-tyrants" (Tyrannidae: *Knipolegus*) are a distinctive Neotropical genus of flycatchers with black or dark grey males and brownish or reddish females. Five species have previously been reported in Paraguay and a discussion of all verifiable reports is provided. *Knipolegus striaticeps* is considered resident and a presumed breeder, but no nest has yet been reported. *Knipolegus hudsoni* is considered a passage migrant in September and October. *Knipolegus cyanirostris* is considered a winter visitor. *Knipolegus aterrimus* is known from few records in the Chaco region, and is possibly a rare altitudinal migrant. The status of *Knipolegus lophotes* requires further investigation, with Paraguay representing the western extreme of its known range. The first report of *Knipolegus poecilurus* for the country is documented with photographs. This high-Andean species is considered to be a vagrant pending further information.

**Key-words**: Knipolegus aterrimus, Knipolegus cyanirostris, Knipolegus hudsoni, Knipolegus lophotes, Knipolegus poecilurus, Knipolegus striaticeps.

## INTRODUCTION

The genus *Knipolegus* consists of 10 species that are distributed throughout most of South America (Farmsworth & Langham 2004). Most species are sexually dimorphic, with black or dark grey males and brownish or reddish females with or without streaking on the underparts. Typical *Knipolegus* are aerial hawkers inhabiting forest or forest edge habitats and build open cup nests (Traylor & Fitzpatrick 1982).

Paraguay is located in central South America at the transition zone of six major ecoregions (Cerrado, Atlantic Forest, Dry Chaco, Humid Chaco, Pantanal and Mesopotamian Grasslands). West of the Paraguay River xeric forests, palm savannas and marshlands make up the Chaco region. East of the Paraguay River the Oriental region is a mosaic of Cerrado savannas, flooded grasslands and humid Atlantic Forest. Five species of *Knipolegus* have been previously documented to occur in the country (Guyra Paraguay 2004), the majority of which are poorly known and irregularly reported. Only one species (*K. striaticeps*) is suspected to breed in Paraguay, but no nest or breeding data of any species has yet been forthcoming (Guyra Paraguay 2005).

In order to coordinate observer effort and update published distributional data, here we critically review the distribution of the genus *Knipolegus* in the country (Fig.1a), comment on their status and report an additional and quite remarkable new country record of Rufous-tailed Tyrant *K. poecilurus*, a species typically associated with humid montane areas above 900 m (Fjeldsa & Krabbe 1990; Schulenberg et al. 2007) from a lowland area of the Paraguayan Dry Chaco.

#### MATERIALS AND METHODS

All records of *Knipolegus* tyrants in Paraguay were compiled from the published literature, museum specimens, the authors' own field observations and through consultations with ornithologists and experienced birdwatchers. Records with information regarding plumage or vocalizations were reviewed based on current knowledge of key identification features and distribution (the latter based on confirmed identifications). Circumstances regarding published records are clarified. Unpublished noteworthy distributional reports lacking identification details

were omitted. The following museum acronyms are employed:

AMNH American Museum of Natural History, New York

**CLO ML** Cornell Lab of Ornithology, McCauley Library, New York.

FMNH Field Museum of Natural History, Chicago.

FPAVE FAUNA Paraguay online database, www.faunaparaguay.com.

**KU** University of Kansas Biodiversity Institute, Lawrence.

**LSUMZ** Louisiana State University Museum of Natural Science, Baton Rouge.

MHNG Natural History Museum of Geneva, Geneva.MNHNP Museo Nacional de Historia Natural del Paraguay, San Lorenzo.

MVZ Museum of Vertebrate Zoology, Berkeley.NHM The Natural History Museum, London.

RBINS Royal Belgian Institute of Natural Sciences,

Brussels.

SMF Senckenberg Forschungsinstitut und Naturmu-

seum, Frankfurt.

UNP University of Pilar IBIS collection, Pilar, Para-

**USNM** Smithsonian Institute, Washington DC.

**ZFMK** Zoologisches Forschungsmuseum Alexander

Koenig, Bonn

ZSM Zoologische Staatssammlung München, Mu-

nich.

## RESULTS

#### Crested Black-Tyrant Knipolegus lophotes (Fig. 1b)

This large, distinctive, sexually monomorphic species was first mentioned for Paraguay by Bertoni (1914, 1939 as Knipolegus comatus) who treated it as of possible occurrence at Ihgatimí, Canindeyú department but without providing any details to support the claim. Five specimens were subsequently collected at Capitán Bado by Alberto Schulze ("Cerro Amambay" 23° 16'S, 55° 32'W) during 1938 (UM-MZ 100121: 31 August; UMMZ 100426, 100828, 101104: 18 September; UMMZ 100827: 24 September) (Ridgely & Tudor 1994; Hayes 1995). The only subsequent reports are observations by experienced observers from the Cerrado of Aguara Ñu, Reserva del Bosque Mbaracayú, Canindeyú department on 15 October 2000 (Rob Pople), a pair on 26 February 2003 (Juan Klavins) and another record on 5 September 2003 (Alberto Madroño Nieto & Myriam Velázquez) (H. del Castillo in litt.).

The status of this species in Paraguay is unclear. It is apparently resident throughout its range, but the scarcity of Paraguayan reports (which represent the extreme west of the known range) suggest that, if resident, it occurs marginally, locally and at low density. Extreme dates of 31 August to 26 February do not confirm residency.

# **Blue-billed Black-Tyrant** *Knipolegus cyanirostris* (Fig. 1c, Tab. 1)

The first mention of this species in Paraguay was by Azara (1805) who described the female as No 178 Suiriri cabeza y rabadilla canela (2:p109) and the male as No. 181 Suiriri negro pico celeste (2:p116). Azara (1805) considered the species to be a scarce resident, but his description of a "variant female" refers to the similar resident Bran-coloured Flycatcher *Myiophobus fasciatus*, suggesting that he confused the two species. Bertoni (1914, 1939) claimed a wide distribution in eastern Paraguay, but provided no data to support the assertion and may have based this on Azara.

The first published specimens (Tab. 1) were those of Oberholser (1902) who listed "apparently typical" individuals collected by William Foster at Sapucay, Paraguarí department. Foster also sent other specimens collected at the same locality to the AMNH (Hayes 1995) and the NHM (Chubb 1910). William Foster commented (in Chubb 1910) that the species was "resident and not uncommon" and claimed to have "met with it in the large forests, and on open camp lands" adding that it "seems to be at home everywhere", but he may also have possibly confused it with Bran-coloured Flycatcher Myiophobus fasciatus. Other specimens were collected by Emil Kaempfer in Concepción department (AMNH), Pedro Willim in Central department (AMNH), Andres Contreras in Neembucú department (UNP) (Smith et al. in prep.) and Alberto Schulze in Presidente Hayes department (Hayes 1995). Hayes (1995) questioned the locality of the latter, possibly because of the lack of previous Chaco reports, but there have been additional observations from this department since (Hugo del Castillo in litt.).

The species seems to occur regularly in winter at Isla Yacyretá, Itapúa department being photographed there on 29 July 2017 (Anders Haeglund, and seen by Paul Smith), and reliably observed on 22 August 2007 (Hugo del Castillo in litt.), 27 September 2007 (Arne Lesterhuis pers. comm.) and 23 August 2019 (Paul Smith). Also from Itapúa department there is a convincing sight record from Estancia Nueva Gambach, Itapúa department on 26 July 2000 (Hugo del Castillo in litt.), whilst Laubmann (1940) mentioned the collection of a male in "transition dress" by Adolf Neunteufel at Cambyretá (though no details of the specimen were provided).

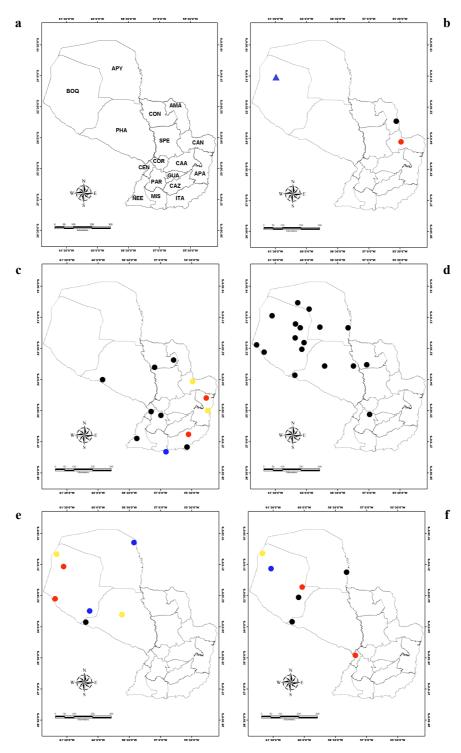


Figure 1. a) Paraguayan political departments: Chaco region: APY (Alto Paraguay), BOQ (Boquerón), PHA (Presidente Hayes). Oriental Region: AMA (Amambay), APA (Alto Paraná), CAA (Caaguazú), CAN (Canindeyú), CAZ (Caazapá), CEN (Central), CON (Concepción), COR (Cordillera), GUA (Guairá), ITA (Itapúa), MIS (Misiones), ÑEE (Ñeembucú), PAR (Paraguarí), SPE (San Pedro). b) Distribution map of Crested Black-Tyrant K. bophotes (circles) and Rufous-tailed Tyrant K. poecilurus in Paraguay (triangle); c) distribution map of Blue-billed Black-Tyrant K. cyanirostris in Paraguay; d) collection localities for Cinereous Tyrant K. striaticeps in Paraguay; e) distribution map of White-winged Black-Tyrant K. aterrimus in Paraguay; f) distribution map of Hudson's Black-Tyrant K. hudsoni in Paraguay. Specimen record black; reliable observation red; photograph blue; published unverified record yellow.

**Table 1**. Paraguayan specimens of Blue-billed Black-Tyrant *Knipolegus cyanirostris*. Departmental acronyms: APY Alto Paraguay; BOQ Boquerón; CEN Central; CON Concepción; ÑEE Ñeembucú; PAR Paraguarí; PHA Presidente Hayes.

Museum	Catalogue number	Sex/Age	Locality	Date	Source
AMNH	495528	female	Sapucay (PAR)	4 July 1900 (not 4 April as	Hayes <i>et al</i> . 1994
				per Hayes et al. 1994 and	
				Hayes 1995)	
AMNH	495529	female	Sapucay (PAR)	26 July 1900	VertNet.org
AMNH	495526	male	Sapucay (PAR)	16 July 1900	VertNet.org
AMNH	495527	male	Sapucay (PAR)	18 July 1900	VertNet.org
AMNH	319762	male	Ñu-Porá (CON)	25 July 1930	VertNet.org
AMNH	319763	male	Belém (CON)	6 August 1930	VertNet.org
AMNH	748776	male	Colonia Nueva	3 July 1940	VertNet.org
			Italia (CEN)		
NHM	_	2 males and 1	Sapucay (PAR)	April 1904	Chubb 1910 (identity confirmed by
		female			Hein van Grouw 7 December 2017)
NHM	_	1 male and 2	Sapucay (PAR)	May 1904	Chubb 1910 (identity confirmed by
		females			Hein van Grouw 7 December 2017)
NHM	_	3 males and 4	Sapucay (PAR)	June 1904	Chubb 1910 (identity confirmed by
		females			Hein van Grouw 7 December 2017)
NHM	_	juvenile male	Sapucay (PAR)	13 August 1904	Chubb 1910
NHM	_	female	Sapucay (PAR)	1 September 1904	(identity confirmed by Hein van
					Grouw 7 December 2017)
UMMZ	111408		Estero Patiño	15 July 1939	VertNet.org
			(PHA)		
UNP	CE008603	female	Arroyo Montuoso	15 September 1993	Smith et al. (in prep.)
			at Ruta 4 (ÑEE)		
USNM	173400	male	Sapucay (PAR)	3 July 1900	Oberholser 1902
USNM	173401	female	Sapucay (PAR)	8 July 1900	Oberholser 1902

An individual was observed at Itabó Rivas, Alto Paraná department on 12 April 2001 (Hugo del Castillo in litt.), but the only other published report from Alto Paraná department is that the species is "rare" at Refugio Biológico Tatí Yupí (Pérez Villamayor & Colman Jara 2011). Mazar Barnett & Madroño (2003) considered the species an "extremely rare passage migrant" to the Reserva Bosque Mbaracayú, Canindeyú department probably based on the observation during 9-16 September 1992 at Lagunita (Lowen et al. 1996).

A supposed nest from Sapucai, Paraguarí department mentioned by Chubb (1910) is in reference to a clutch of four eggs in the BMNH 1905.10.13.718-721 (specimens examined) dated 29 October 1904. Two of these eggs belong to Shiny Cowbird *Molothrus bonariensis*. The remaining two eggs measure 22.09 x 16.03

(BMNH 1905.10.13.720) and 22.09 x 15.74 mm (BM-NH 1905.10.13.721), which is within the known range for this species (Narosky & Salvador 1998). However upon direct comparison with other confirmed eggs of *K. cyanirostris* the reddish markings on the obtuse end of the eggs are much smaller and more numerous and "probably do not belong to this species" (Douglas Russell in litt.). The authors tentatively suggest that they may be eggs of Barred Antshrike *Thamnophilus doliatus*. Breeding of the species in Paraguay thus remains unconfirmed.

Hayes et al. (1994) considered the species a rare migrant to the Oriental region, and it is apparently an uncommon winter visitor to Paraguay occurring through the Oriental region and marginally in the Humid Chaco. Extreme dates are April to 27 September.

### Cinereous Tyrant Knipolegus striaticeps

(Fig. 1d, Tab. 2)

Much the most commonly encountered member of the genus in Paraguay, this is a Chaco endemic species that is locally common throughout that region, particularly in drier areas (Neris & Colman 1991). Bertoni (1914, 1939) suggested that Azara's No 174 Tachuri del ala extraña may refer to this species, and this was repeated by Laubmann (1939) and Pereyra (1945). The description indeed clearly refers to a male.

Berlepsch (1887) considered the species of possible occurrence in Paraguay, but the first concrete record after Azara appears to be that of Kerr (1892) who collected the species along the Lower Pilcomayo River, Presidente Hayes department (listed as Cnipolegus cinereus). Chubb (1910) then reported on a female specimen in the Natural History Museum London from Sapucai, Paraguarí department collected by William Foster on 25 April 1903 (one of the few records from the Oriental region of Paraguay). Bertoni (1914, 1939) repeated this locality and also listed the species for Asunción, Central department, but provided no supporting details for the latter. Additional reliable published localities unsupported by specimens or photographs are from Boquerón department in the Chaco including 48km west of Colonia Neuland (Neris & Colman 1991), Estancia Coë Pyahú (Contreras 1989) and General Eugenio A. Garay (Contreras 1989). Smith (2008) provided morphometrics of 1 male and 3 females captured at Parque Nacional Tte Enciso, Boquerón department.

Short (1976) noted that specimens taken in January had enlarged gonads suggestive of breeding, but no Paraguayan nest has yet been found. Hayes et al. (1994) considered the species to be a rare breeder and uncommon migrant to the Chaco, but field data collected since then confirms that the species is at least partially resident in Paraguay. Though widespread and sometimes common throughout the Chaco region, distribution east of the Paraguay River is marginal and perhaps irregular.

A list of the specimens of which we are aware is provided in Tab. 2 and localities are mapped in Fig. 1d.

# White-winged Black-Tyrant Knipolegus aterrimus (Fig. 1e)

Known from very few confirmed records and a handful of largely undocumented published reports. First listed for Paraguay (as *Cnipolegus anthracinus*) by Berlepsch (1887) as of possible occurrence, but it was omitted by Bertoni (1914, 1939) in his reviews of the country's avifauna. The only specimen we are aware of, and presumably the first record of the species in Paraguay, is an immature male (FMNH 152530, specimen examined) from La-

guna General Díaz, Presidente Hayes department collected on 13 July 1945 by Jakob Unger (Hayes et al., 1994).

An undated female specimen in the Museum of Comparative Zoology (MCZ 77330) with the locality "Paraguay" and the name "d'Orbigny" was part of the Lafresnaye collection but dates from a time when the borders of Paraguay were much greater than they are today. Lafresnaye is known to have annotated his specimen labels with references to literature or other information relevant to the species that is not directly related to the specimen in question (Jeremiah Trimble in litt.) and in fact he coauthored an earlier description of the species with the name Fluvicola nigerrima, Lafresnaye & D'Orbigny, 1837 (name preoccupied). It is far from clear what the annotations on the labels refer to, thus the specimen should be treated with caution. Robert Ridgely observed a male west of Fortín Teniente Agripino Enciso, Boquerón department on 1 September 1982 (Hayes et al. 1994) and Hugo del Castillo observed an adult along the Pilcomayo River close to Estancia La Dorada, Boquerón department (23°01'40"S, 61°47'39"W) on 21 July 2003. A report without details from Las Delicias, Presidente Hayes department by Peris et al. (1987) was treated as questionable by Hayes (1995), and the species has also been reported, again without details, during September 1989 from Estancia Coë Pyahú and General Eugenio A. Garay (Contreras 1989), both Boquerón department. A series of photographs of a female from Estación Biológica Tres Gigantes, Alto Paraguay department, was taken on 13 July 2007 by Teatske Nieuborg (FPAVE2222-2224PH) and a male was photographed by Oscar Rodriguez on 20 July 2016 at Estancia San Jorge, Boquerón department.

The subspecies *K. aterrimus anthracinus* occurs in Bolivia, and the limited data for Paraguayan birds is also consistent with that subspecies. The species does not occur below 2000 m in summer in Bolivia, and is rare in the low-lands of the Bolivian Chaco during winter, suggestive of possible altitudinal migration (Herzog et al. 2016). Paraguayan birds can presumably also be assumed to be rare altitudinal winter migrants from the north. Extreme dates 13 July to September.

### Hudson's Black-Tyrant Knipolegus hudsoni (Fig. 1f)

Bertoni (1939) gave the distribution as "SW Paraguay", but provided no data to support the affirmation. Indeed a male specimen had already been collected by that point on 2 September 1931 at Puerto Sastre, Alto Paraguay department (Laubmann 1933, 1940: ZSM 32.672), though the locality is inconsistent with Bertoni's text. Further specimens are a female collected at Laguna Escalante, Presidente Hayes department on 30 September 1960 (Stein-

**Table 2**. Paraguayan specimens of Cinereous Tyrant *Knipolegus striaticeps*. Museum acronyms clarified in methods. Departmental acronyms: APY Alto Paraguay; BOQ Boquerón; CEN Central; CON Concepción; ÑEE Ñeembucú; PAR Paraguarí; PHA Presidente Hayes.

AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	number	Sex/Age	Locality	Date	Source
AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	803247	male	near Lichtenau (PHA)	8 June 1970	Short 1976
AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	803248	male	near Lichtenau (PHA)	8 June 1970	Short 1976
AMNH 8032 AMNH 8032 AMNH 8032 AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	803249	male	near Lichtenau (PHA)	8 January 1971	Short 1976
AMNH 8032 AMNH 8032 AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	803250	male	near Lichtenau (PHA)	2 January 1971	Short 1976
AMNH 8032 AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	803251	male	near Lichtenau (PHA)	19 January 1971	Short 1976
AMNH 8114 AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FM	803252	male	near Lichtenau (PHA)	16 May 1970	Short 1976
AMNH 8119 CLO ML 5789 CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1529 FMNH 1528 KU 8789 KU 930 LSUMZ 2570 LSUMZ 6473 MHNG 1937. MNHNP 0000	803253	female	near Lichtenau (PHA)	16 May 1970	Short 1976
CLO ML 5789  CLO ML 1434  FMNH 1525  FMNH 1526  FMNH 1529  KU 8789  KU 8789  KU 8789  KU 930  LSUMZ 2570  LSUMZ 6473  MHNG 1937.  MNHNP 0000	811438	male	near Lichtenau (PHA)	12 January 1974	Short 1976
CLO ML 1434 FMNH 1525 FMNH 1526 FMNH 1526 FMNH 1529 KU 8789 KU 8789 KU 930 LSUMZ 2570 LSUMZ 6473 MHNG 1937. MNHNP 0000	811957	female	near Lichtenau (PHA)	2 January 1971	Short 1976
FMNH         1525           FMNH         1525           FMNH         1526           FMNH         1526           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1558           FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         6473           MHNG         1726           MHNG         1937           MNHNP         0000	57897	female	Estancia Tres Palmas, Filadelfia (BOQ)	21 August 1990	VertNet.org
FMNH 1525 FMNH 1526 FMNH 1526 FMNH 1529 FMNH 1520 FMNH 1529 FMNH 1	143496	unsexed	Madrejón (APY)	29 October 1995	VertNet.org
FMNH 1526 FMNH 1526 FMNH 1529 FMNH 1528 KU 8789 KU 8789 KU 930 LSUMZ 2570 LSUMZ 6473 MHNG 1937. MNHNP 0000	152531	female	Orloff (BOQ)	15 November 1945	VertNet.org
FMNH 1526 FMNH 1529 FMNH 1528 KU 8789 KU 8789 KU 930 LSUMZ 2570 LSUMZ 6473 MHNG 1937. MNHNP 0000	152532	female	Orloff (BOQ)	15 November 1945	VertNet.org
FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1558           FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         6473           MHNG         1726           MHNG         1937           MNHNP         0000	152619	male	Orloff (BOQ)	26 November 1945	VertNet.org
FMNH 1529 FMNH 1558 FMNH 1852 KU 8789 KU 8789 KU 930 LSUMZ 2570 LSUMZ 647: MHNG 1726. MHNG 1937.	152620	male	Orloff (BOQ)	20 November 1945	VertNet.org
FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1558           FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         6473           MHNG         1726           MHNG         1937           MNHNP         0000	152980	male	Puerto Casado (APY)	7 June 1945	VertNet.org
FMNH 1529 FMNH 1529 FMNH 1529 FMNH 1558 FMNH 1558 FMNH 1852 KU 8789 KU 930 LSUMZ 2570 LSUMZ 6473 MHNG 1937. MNHNP 0000	152981	male	Puerto Casado (APY)	12 June 1945	VertNet.org
FMNH       1529         FMNH       1529         FMNH       1529         FMNH       1558         FMNH       1852         KU       8789         KU       8789         KU       930         LSUMZ       2570         LSUMZ       6473         MHNG       1726         MHNG       1937         MNHNP       0000	152982	female	Colonia Fernheim 16 km W of	6 August 1945	VertNet.org
FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1529           FMNH         1558           FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         647:           MHNG         1726.           MHNG         1937.           MNHNP         0000			Filadelfia (BOQ)		
FMNH 1529 FMNH 1529 FMNH 1558 FMNH 1852 KU 8789 KU 8789 KU 930 LSUMZ 2570 LSUMZ 6473 MHNG 1726. MHNG 1937.	152983	male	Fortin Guachalla (BOQ)	16 August 1945	VertNet.org
FMNH         1529           FMNH         1558           FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         6473           MHNG         1726           MNHNP         0000	152984	male	Fortin Guachalla (BOQ)	21 August 1945	VertNet.org
FMNH         1558           FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         6473           MHNG         1726           MNHNP         0000	152985	female	Fortin Guachalla (BOQ)	16 August 1945	VertNet.org
FMNH         1852           KU         8789           KU         930           LSUMZ         2570           LSUMZ         647:           MHNG         1726.           MNHNP         0000	152986	female	Fortin Guachalla (BOQ)	9 September 1945	VertNet.org
KU     8789       KU     8789       KU     930       LSUMZ     2570       LSUMZ     6473       MHNG     1726       MHNG     1937       MNHNP     0000	155842	female	Orloff (BOQ)	20 June 1946	VertNet.org
KU     8789       KU     930       LSUMZ     2570       LSUMZ     6473       MHNG     1726       MHNG     1937       MNHNP     0000	185207	male	Orloff (BOQ)	13 December 1945	VertNet.org
KU     930       LSUMZ     2570       LSUMZ     647:       MHNG     1726.       MHNG     1937.       MNHNP     0000	87896	unsexed	Estancia Zalazar (PHA)	29 November 1995	VertNet.org
LSUMZ 2570 LSUMZ 647: MHNG 1726. MHNG 1937. MNHNP 0000	87898	unsexed	Madrejón (APY)	27 October 1995	VertNet.org
LSUMZ 647: MHNG 1726.  MHNG 1937.  MNHNP 0000	93010	female	Madrejón (APY)	26 October 1995	VertNet.org
MHNG 1726.  MHNG 1937.  MNHNP 0000	25763	unsexed	APY	No date	VertNet.org
MHNG 1937.  MNHNP 0000	64751	unsexed	APY	No date	VertNet.org
MNHNP 0002	726.074	male	Ruta Transchaco km 702 Fortin Teniente Agripino Enciso (BOQ)	30 August1984	Vallotton & Smith (in prep.)
	1937.033	female	Estancia La Dorada, Pilcomayo (BOQ)	1 August 1984	Vallotton & Smith (in prep.)
	00028	male	Filadelfia (BOQ)	29 August 1982	Amarilla & Etcheverry 1996
MNHNP 0002	00029	male	Parque Nacional Teniente Enciso (BOQ)	21 June 1982	Amarilla & Etcheverry 1996
MNHNP 0000	00030	female	Cerro León, Parque Nacional Defensores del Chaco (APY)	11 August 1983	Amarilla & Etcheverry 1996
MNHNP 0000	00031	female	Filadelfia (BOQ)	25 August 1982	Amarilla & Etcheverry 1996
	00032	female	Parque Nacional Teniente Enciso	29 August 1982	Amarilla & Etcheverry 1996

continued

Museum	Catalogue number	Sex/Age	Locality	Date	Source
MNHNP	00033	female	Parque Nacional Teniente Enciso (BOQ)	29 June 1982	Amarilla & Etcheverry 1996
MNHNP	00034	female	Parque Nacional Teniente Enciso (BOQ)	11 September 1981	Amarilla & Etcheverry 1996
MNHNP	001222	female	Madrejón, Parque Nacional Defensores del Chaco (APY)	26 October 1995	Amarilla & Etcheverry 1996
MNHNP	001453	male	Estancia Palo Santo (BOQ)	17 October 1997	Amarilla & Etcheverry 1996
MVZ	168131	female	Ruta Transchaco 52 km NW Benjamin Aceval (PHA)	16 September 1979	VertNet.org
NHM	1905-10-12-974	female	Sapucai (PAR)	25 April 1903	Chubb 1910
RBINS	455324	unsexed	Transchaco (PHA)	14 May 1984	VertNet.org
RBINS	465776	unsexed	Mariscal Estigarribia (BOQ)	18 May 1984	VertNet.org
RBINS	506284	unsexed	Tte Picco (BOQ)	7 June 1984	VertNet.org
RBINS	516921	unsexed	Tte Picco (BOQ)	5 June 1984	VertNet.org
RBINS	516922	unsexed	Tte Picco (BOQ)	5 June 1984	VertNet.org
RBINS	520773	unsexed	"Paraguay"	2 June 1984	VertNet.org
RBINS	520774	unsexed	Cerro León (APY)	2 June 1984	VertNet.org
RBINS	681378	unsexed	Transchaco (PHA)	14 May 1984	VertNet.org
RBINS	691556	unsexed	Cerro León (APY)	2 June 1984	VertNet.org
UMMZ	90404	female	Horqueta (CON)	28 August 1935	Hayes et al. 1994
UMMZ	90405	female	4 km E of Horqueta (CON)	18 August 1935	Hayes et al. 1994
UMMZ	90406	female	2 km E of Horqueta (CON)	28 August 1935	Hayes et al. 1994
UMMZ	90821	male	265 km W Puerto Casado (BOQ)	10 February 1936	VertNet.org
UMMZ	90932	female	265 km W Puerto Casado (BOQ)	29 June 1936	VertNet.org
UMMZ	92878	male	265 km W Puerto Casado (BOQ)	20 October 1936	VertNet.org
UMMZ	93007	female	265 km W Puerto Casado (BOQ)	21 October 1936	VertNet.org
UMMZ	96084	male	195-200 km W Puerto Casado	2 July 1937	VertNet.org
UMMZ	105132	female	(BOQ)	26 September 1936	VertNet.org
			265 km W Puerto Casado (BOQ)		
USNM	284355	female	80 km W of Puerto Pinasco (PHA)	10 September 1920	Wetmore 1926
USNM	390772	male	"Paraguay"	No date	VertNet.org
USNM	390773	male	"Paraguay"	No date	VertNet.org
USNM	390774	female	"Paraguay"	No date	VertNet.org
SMF	29211	male	Filadelfia (BOQ)	16 April 1959	Steinbacher 1962
SMF	29212	male	Orloff (BOQ)	21 August 1956	Steinbacher 1962
ZFMK	5667	female	Orloff (BOQ)	6 August 1955	(Steinbacher 1962)
ZFMK	56187	female	50km S of Orloff (BOQ)	15 October 1955	(Steinbacher 1962)
ZFMK	56931	male	50km S of Orloff (BOQ)	30 January 1956	(Steinbacher 1962)
ZFMK	57183	male	Orloff (BOQ)	4 June 1957	(Steinbacher 1962)
ZFMK	601542	male	Escalante (PHA)	8 August 1960	(Steinbacher 1962)
ZSM	32.666	male	Puerto Casado km145 (APY)	24 July 1931	Laubmann 1940
ZSM	32.667	female	Puerto Casado km145 (APY)	25 July 1931	Laubmann 1940

bacher 1962: ZFMK 611005) and a male near Lichtenau, Presidente Hayes department on 1 October 1973 (Short 1976: AMNH 810649). A supposed female specimen (MNHNP 001298) from Isla Talavera, Itapúa department on 10 April 1992 listed in Amarilla & Etcheverry (1996) is a Bran-coloured Flycatcher *Myipohobus fasciatus* (specimen examined).

Recent published records are from General Eugenio A. Garay, Boquerón department during September 1989 (Contreras 1989) and from the Bahía de Asunción, Central department on 22 August 2009 (Lesterhuis & Clay in prep.), the latter representing the only report from east (marginally) of the Paraguay River.

Additional unpublished records include two photographic records of male birds at Parque Nacional Teniente Enciso, Boquerón department on 18 October 2010 (Paul Smith, FPAVE220PH and FPAVE221PH) and 21 September 2014, and a sight record at Estancia Flor del Chaco, Boquerón department on 19 September 2014 (Fabrice Schmitt & Oscar Rodriguez).

The species is a rare passage migrant in Paraguay following the Paraguay River watershed and foothills of the Andes through the Chaco region. Extreme dates are 22 August to 18 October corresponding to the southbound migration. The authors note the extended gape line of this species (which gives the bird a "smiling" appearance) as a potential and hitherto unmentioned identification feature, the field utility of which is worthy of further investigation.

# **Rufous tailed Tyrant** *Knipolegus poecilurus* (Figs. 1b, 2)

Rufous-tailed Tyrant *K. poecilurus* is a widespread but uncommon species, distributed along the Andes between 900 and 2500 m from Venezuela to southern Peru (Fjeldsa & Krabbe 1990; Schulenberg et al. 2007). Four records from central Bolivia (Santa Cruz and Cochabamba departments) are considered to represent vagrancy (Herzog et al. 2016)), but possible unknown breeding grounds in the low mountains of eastern Bolivia or Andes of Santa Cruz have previously been speculated on (Fjeldsa & Krabbe 1990).

An adult of this species (based on the red iris) was photographed by Kevin Easley (Fig. 2) and observed by Paul Smith and Harry Barnard on 23 November 2017 approximately 100 m east along the trail from the tourist accommodation at Parque Nacional Teniente Enciso, Boquerón department. The bird was perched low in thorn forest typical of dry Chaco vegetation and reacted to recordings of Ferruginous Pygmy-owl *Glaucidium brasilianum*. Identification was based on the greyish overall appearance with dull wingbars, the distinctive colouration of the belly and rump and the characteristic pattern of rufous edges to the





**Figure 2**. Top: Rufous-tailed Tyrant *K. poecilurus*, Parque Nacional Tte Enciso, Boquerón department, Paraguay 23 November 2017; Bottom: Same individual dorsal view, showing the characteristic tail pattern that gives the species its common name (Photos K. Easley).

tail feathers. This is the first record of the species from Paraguay and represents a remarkable vagrancy from the sub-Andean habitat that this species typically prefers. The subspecies occurring in southern Peru and Bolivia is *K. p. peruanus*, and given that this is a variable taxon subject to wear we tentatively ascribe the Paraguayan individual to this subspecies based on geographic likelihood.

#### DISCUSSION AND CONCLUSION

The information presented here represents a summary of the little that is known about the distribution and seasonality of *Knipolegus* tyrants in Paraguay. Though some inferences can be made regarding movement patterns in Paraguay in reference to records in neighbouring countries, the scarcity of data available for many species, the confusion created by identification difficulties and the heterogenic seasonal movements that some species exhibit across their wide geographic ranges mean that further study is required to confirm these conclusions. At the local level clarification of the status of *K. aterrimus* and *K. lophotes* is a priority.

Positive identification of *Knipolegus* tyrants requires familiarity with the species. With bird watching still in its infancy in Paraguay, and very few experienced birders active in the field, the possibility of identification error remains high, seriously hampering our understanding of the distribution of these species in the country. We strongly urge field workers, even inexperienced ones, to document their records whenever possible so that they can be verified later

To date no *bona fide* nest of any species has been reported from Paraguay and, in general, much remains to be learned about the taxonomy, distribution, natural history, and movements of these distinctive but enigmatic flycatchers. It is hoped that this introductory paper will contribute to a better range-wide understanding of the biology and conservation requirements of this charismatic but complex group, whilst also highlighting the serious gaps in our knowledge.

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