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Birds collected and captured during the PROVEPA ornithological fieldwork in Paraguay 1993-1999

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Abstract. Between 1993 and 1999 the Swedish Museum of Natural History and the Dirección de Parques Nacionales y Vida Silvestre in Paraguay collaborated in a biodiversity training program (PROVEPA, Proyecto Vertebrados del Paraguay) focusing on vertebrate systematics and taxonomy, biological diversity estimation, and natural history museum practices. The program was partly funded by the Swedish International Development Agency (SIDA) and included the ornithological fieldwork that is reported here. The purpose of the fieldwork was to expose participating Paraguayan trainees to various aspects of ornithological fieldwork (estimating size and diversity of local bird faunas by means of standardized inventory methods, sound recordings, bird ringing, collecting and preparation of voucher specimens, etc.). Another aim was to gather data on the geographic distribution of Paraguayan bird species. We here present an annotated list of birds collected or captured and released during the PROVEPA ornithological fieldwork.

Introduction

This is an annotated list of birds collected or captured and released during the PROVEPA (Proyecto Vertebrados del Paraguay) fieldwork in Paraguay during the period 1993 to 1999. The ornithological fieldwork was part of a biodiversity training program focusing on vertebrate systematics and taxonomy, biological diversity estimation, and natural history museum practices. The training program was outlined in cooperation between the Dirección de Parques Nacionales y Vida Silvestre in Paraguay and the Swedish Museum of Natural History. The program was partly funded by the Swedish International Development Agency (SIDA).

The purpose of the fieldwork reported on here was twofold. The first was to expose the participating Paraguayan trainees to various aspects of ornithological fieldwork aiming at estimating the number and diversity of the local bird fauna by means of standardized inventory methods, sound recordings, bird ringing, collecting and preparation of voucher specimens, etc. The second goal was to gather data on the geographic and temporal distribution of Paraguayan bird species. In this report, detailed data on the birds obtained are presented in order to augment the knowledge of the distribution and taxonomy of the Paraguayan avifauna. Each species' account includes a remark about its occurrence in the biogeographical region(s) from where the PROVEPA specimens were collected. That information is based mainly on del Castillo and Clay (2004).

Methods

Collecting techniques and specimen preparation. In the course of the fieldwork bird specimens were collected to complement the existing ornithological collections of Museo Nacional de Historia Natural (MNHNP) in San Lorenzo and the Swedish Museum of Natural History (NRM) in Stockholm. Most specimens of larger species, generally non-passerines, were shot while smaller species mostly were mistnetted. Mistnets are particularly useful to obtain the many secretive, skulking understorey and forest species. The presence of several species, of which no sighting or aural records were made, were documented only after they had been caught in the nets. Especially canopy-living birds and some larger species were collected with shotgun or rifle.

Data on the collected specimens are given below, together with data on those birds that were released after having been studied. From some of the latter birds blood was extracted. Upon their release, the tip of one of the outer rectrices was cut in order to ascertain recognition if netted again in the immediate future.

The birds obtained were prepared in the field as study skins, skeletons or alcohol specimen. The gizzard and blood or tissue samples were collected from most individuals. The former were preserved in formaldehyde and stored in alcohol, while the blood and tissue samples were mostly put in 90% alcohol and later stored frozen. The skins, skeletons and alcohol specimens were divided between the Museo Nacional de Historia Natural del Paraguay and the Swedish Museum of Natural History. All gizzards and blood/tissue samples are stored at the museum in Stockholm. Museum accession numbers are given for all specimens.

Bird ringing. Birds were ringed at Estancia Santa Ana, Departamento Misiones, between 7 and 17 April 1998 and between 5 and 15 November 1998. We used rings from the Bird Ringing Centre at the Swedish Museum of Natural History labeled “RIKSMUSEUM STOCKHOLM”. A total of 255 individuals of 59 species were ringed (Appendices 1 and 2). The birds were measured and the fat deposition and moulting status noted (for methods see below).

Measurements. The total length was measured from the tip of the bill to the end of the tail when the bird is laying on its back in as a natural position as possible. Because this measurement maybe difficult to take and has a rather low repeatability, the figures given must thus be considered as approximates. Wing length was measured with the maximum length method, i.e. with the wing flattened against the ruler and the primaries straightened sideways (cf. Svensson 1992). The wing span was measured between the tips of the wings when the bird lays at its back with the wings spread in an as natural position as possible. Tail length was measured from the root of the central pair of rectrices. The length of the bill was measured as the distance from the tip to the base of the foremost feathers of the forehead. Bill depth was measured where the calipers rest comfortably or, on wedge-shaped bills, at the feathering with the calipers oriented at 90 degrees against the cutting edge of the bill. For passerines, the tarsus was measured from the intertarsal joint to the last complete leg scale before the toes diverge. In other taxa this measurement was taken with the toes bent to about 90 degrees.

Weights are given in grams (g) and all linear measurements are given in millimeters (mm). The precision of the measurements are 0.1 for values up to 10, 0.5 for those ranging from 10 to 30, and 1.0 for larger values.

Colors. When possible, the colors of the bill, tarsus, iris, and various unfeathered parts, were scored in daylight on the living bird, or immediately upon its death. The color descriptions of Smithe (1974, 1981) were used. When two or more hues in the color guide bear the same name, the code number is given within parentheses after the English name of the color. Otherwise, only the English name is given. Color descriptions that do not refer to Smithe's color guide are given within brackets.

Subcutaneous fat status, feather moult and feather wear. The documentation of the subcutaneous fat status is useful in order to determine if the bird is accumulating more energy than is needed for surviving the nearest 24h. This is normally done as a pre-migration preparation or at stop-overs during migration. The amount of subcutaneous fat is traditionally observed in the interclavicular region and the abdomen. We scored the fat classes 0 (leanest) to 6 (fattest) using a reference card (Pettersson and Hasselquist 1985).

Feather moult status was noted for wing, tail and body using the classes None, Light, Moderate and Heavy, while feather wear for primaries (wing) and rectrices (tail) were scored using four classes:

Fresh – the feathers are new and almost unused.

Slightly worn – the feathers might still look fresh but the outermost parts are worn showing they have been in use for a time.

Moderately worn – the feathers have been in use for a long time. This wear class covers the longest period of a feather's "life", almost until it is about to be moulted.

Very worn – the feathers are extremely worn and overdue to be moulted.

DNA analyses. We obtained DNA barcode sequences (708 basepairs of the mitochondrial CO1 region) for species that could be potentially difficult to identify. We compared the sequences with CO1 sequences for the relevant taxa deposited in BOLD (Barcoding of Life Data Base) and GenBank. The new sequences were deposited in GenBank (accession numbers MT003561-MT003663 and MT010398-MT010416) (Appendix 3).

Taxonomy. The taxonomy and the listing order of the species follows the fourth edition of the *Howard & Moore Complete Checklist of the Birds of the World* (Dickinson and Remsen 2013, Dickinson and Christidis 2014). The understanding of systematic relationships among South American birds is steadily increasing. This has inevitably led to taxonomic changes since the publication of the Howard & Moore checklist. We have made comments about this in the individual species' account when relevant. Subspecific determinations for species of the families Tinamidae to Scolopacidae follow Blake (1977). No consistent attempts to assign individuals of the other families to subspecies were made.

Study sites. Longer periods of fieldwork were conducted at 19 localities throughout Paraguay and covering all biogeographical regions except one, Alto Paraná (Figs. 1 and 2). The *biogeographical regions* used follow Hayes (1995), but it should be mentioned that these have since been redefined and often renamed. The rationale for using Hayes' definitions is that these were used in *Guyra Paraguay* (del Castillo and Clay 2004) when estimating species's abundance in various parts of Paraguay.

Today, the concept of *ecoregions* is typically applied when describing different Paraguayan biomes (most of the information in this paragraph stem from Paul Smith, pers. comm). Although some ecoregions roughly correspond to Hayes' (1995) biogeographical regions, there are also differences. A major ecoregion is the Chaco, which is often divided into the Dry Chaco and Humid Chaco ecoregions (corresponding to Alto Chaco and Bajo Chaco, respectively). The Humid Chaco

ecoregion also extends to the east of Rio Paraguay and includes parts of the biogeographical region Ñeembucú of Hayes. The ecoregion Pantanal corresponds to the biogeographical region Matogrosense of Hayes. A major difference from Hayes (1995) is that his biogeographical region Campos Cerrados was made up by both pure Cerrado biomes and forests with a strong influence of Cerrado vegetation in their make up. These forests, located in central eastern Paraguay (Dptos Paraguari, Cordillera, San Pedro, etc.), are today viewed as transitional to Atlantic Forest as they do not have their own endemic fauna. Furthermore, Cerrado biomes are present also in the northernmost parts of the Chaco (Mereles 2012). The subtropical forest biome in Oriente is called the Alto Paraná Atlantic Forest ecoregion, which is regarded as being slightly different from the Atlantic Forest proper. Finally, the seasonally flooded natural grasslands of much of Dpto Misiones, and patchily into Dptos Itapua and Caazapa, are called the Mesopotamian Grasslands ecoregion.

ALTO CHACO BIOGEOGRAPHICAL REGION (FIG. 3A, C)

Departamento Boquerón

1. Dr Pedro P. Peña (22°27'S; 62°21'W), visited by five ornithologists 9-13 Oct. 1996.
2. Parque Nacional Tte Enciso (21°15'S; 61°39'W), visited by three ornithologists 4-5 Dec. 1997.

Departamento Alto Paraguay

3. Parque Nacional Defensores del Chaco, Cerro León (20°26'44''S; 60°19'28''W), visited by four ornithologists 27 Oct.-1 Nov. 1999.
4. Parque Nacional Defensores del Chaco, Madrejón (20°41'S; 59°52'W), visited by four ornithologists 23-30 March 1995.

Departamento Presidente Hayes

5. Estancia Palo Santo (22°14'19"S; 59°09'45"W), visited by six ornithologists 12-15 Oct. 1993, 5 ornithologists 14-20 Oct. 1996, and three ornithologists 30 Nov.-3 Dec. 1997.
6. Estancia Karanda (23°13'07'S; 59°16'42"W), visited by two ornithologists 14-15 Sept. 1993.

MATOGROSENSE BIOGEOGRAPHICAL REGION (FIG. 3D)

Departamento Alto Paraguay

7. Estancia Doña Júlia (20°11'00"S; 58°09'24"W), visited by four ornithologists 10-21 Sept. 1994.
8. Rio Negro (20°10'S; 58°10'W), visited by four ornithologists 15 and 20 Sept. 1994.

BAJO CHACO BIOGEOGRAPHICAL REGION (FIG. 3B)

Departamento Presidente Hayes

9. Estancia Guazú (23°32'36"S; 58°14'12"W), visited by five ornithologists 21-24 Sept. 1993.
10. San José (24°50'S; 57°56'W), visited by three ornithologists 28 Sept. 1994, and six ornithologists 19 March 1995.



Figure 1: Localities visited for fieldwork between 1993 and 1999.

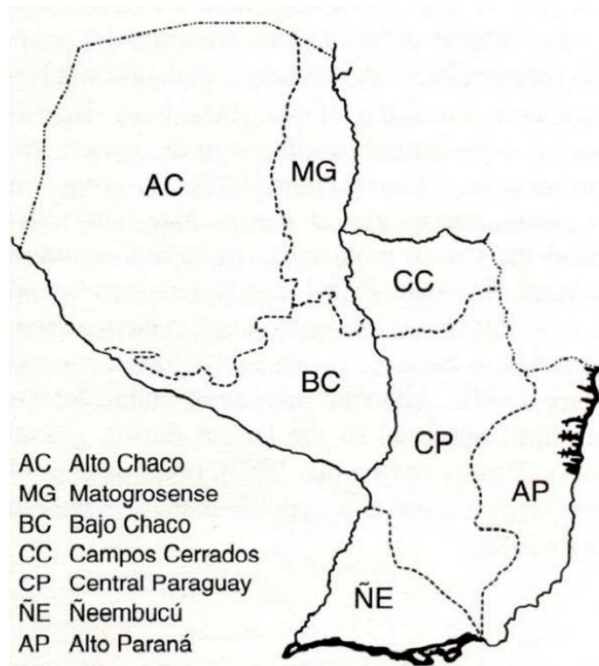


Figure 2: Biogeographic regions referred to herein (from Hayes 1995: figure 7).

CAMPOS CERRADOS BIOGEOGRAPHICAL REGION (FIG. 4C)

Departamento Concepción

11. San Antonio (22°42'38"S; 57°22'57" W), visited by three ornithologists 19-21 Nov. 1997.
12. Parque Nacional Serranía San Luís (22°35'S; 57°28'W), visited by five ornithologists 30 Oct.-6 Nov. 1996.

Departamento Amambay

13. Estancia Apami (22°08'35"S; 56°31'04"W), visited by three ornithologists 6-13 Oct. 1994.
14. Parque Nacional Cerro Corá (22°42'S; 56°00'W), visited by five ornithologists 7-13 Nov. 1996, and three ornithologists 13-17 Nov. 1997.

CENTRAL PARAGUAY BIOGEOGRAPHICAL REGION (FIG. 4B)

Departamento Paraguari

15. Parque Nacional Ybycuí (26°07'S; 56°50'W), visited by five ornithologists 26 Oct. 1996.

Departamento Itapúa

16. Estancia Nueva Gambach (26°30'53"S; 55°45'33"W), visited by four ornithologists 8-9 March 1995.

Departamento Caazapá

17. Parque Nacional Caaguazú, Sector Cristal (26°07'S; 55°43'W), visited by seven ornithologists 30 Sept.-8 Oct. 1993.
18. Parque Nacional Caaguazú, Sector Enramadita (26°07'S; 55°43'W), visited by four ornithologists 11-15 March 1995.

ÑEEMBUCÚ BIOGEOGRAPHICAL REGION (FIG. 4A)

Departamento Misiones

19. Estancia Santa Ana (27°18'48"S; 56°56'00"W), visited by six ornithologists 7-16 April 1998, and by three ornithologists 4-16 Nov. 1998.

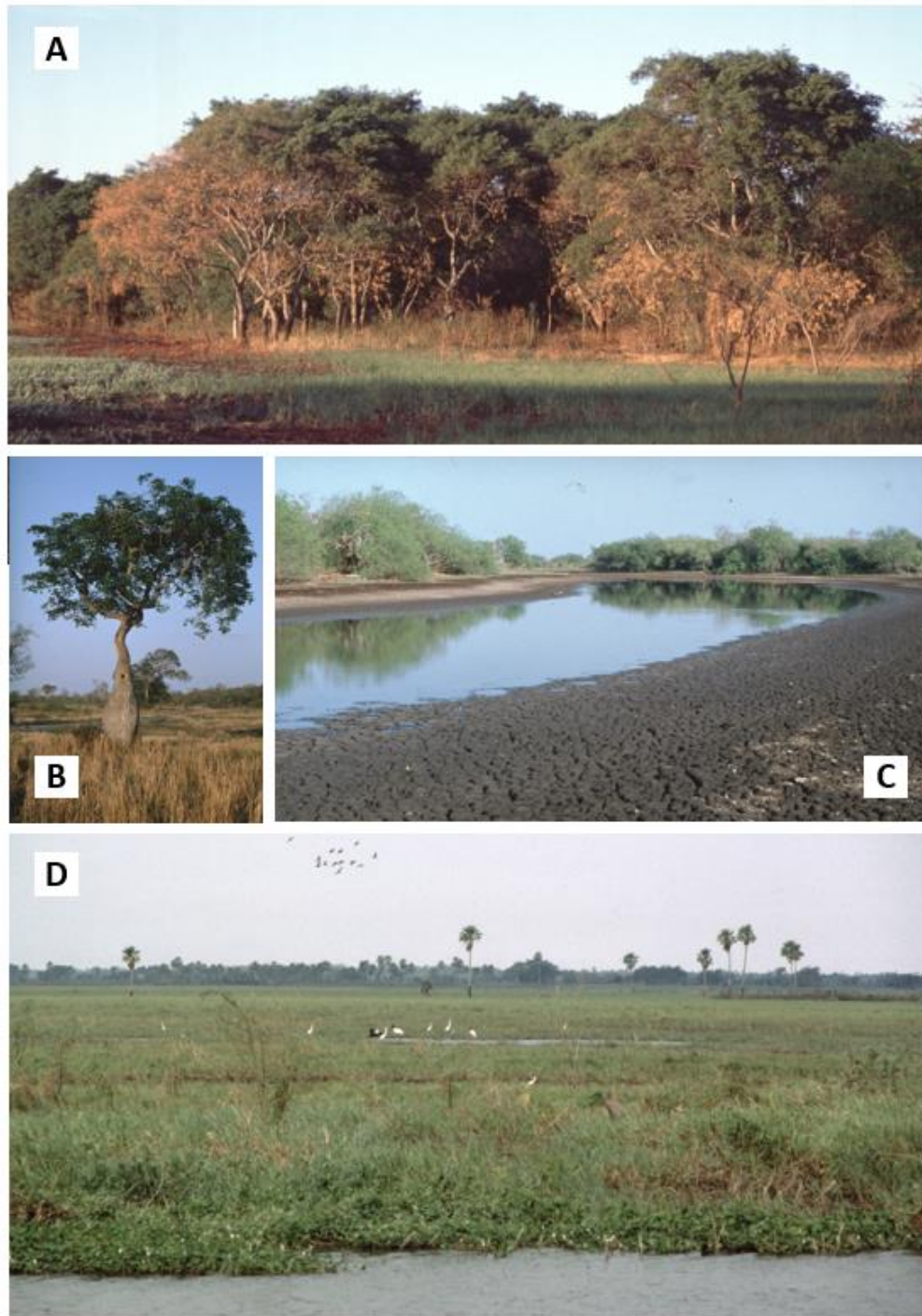


Figure 3. A. Dry scrub forest in Dpto. Alto Paraguay (Alto Chaco biogeographical region), B. Bottle tree (*Ceiba* sp.) in Dpto. Presidente Hayes (Bajo Chaco biogeographical region), C. Seasonally dried out lake in Dpto. Presidente Hayes (Alto Chaco biogeographical region), D. Wetlands close to Rio Negro in Dpto. Alto Paraguay (Matogrosense biogeographical region).
Photo: PROVEPA, Swedish Museum of Natural History.

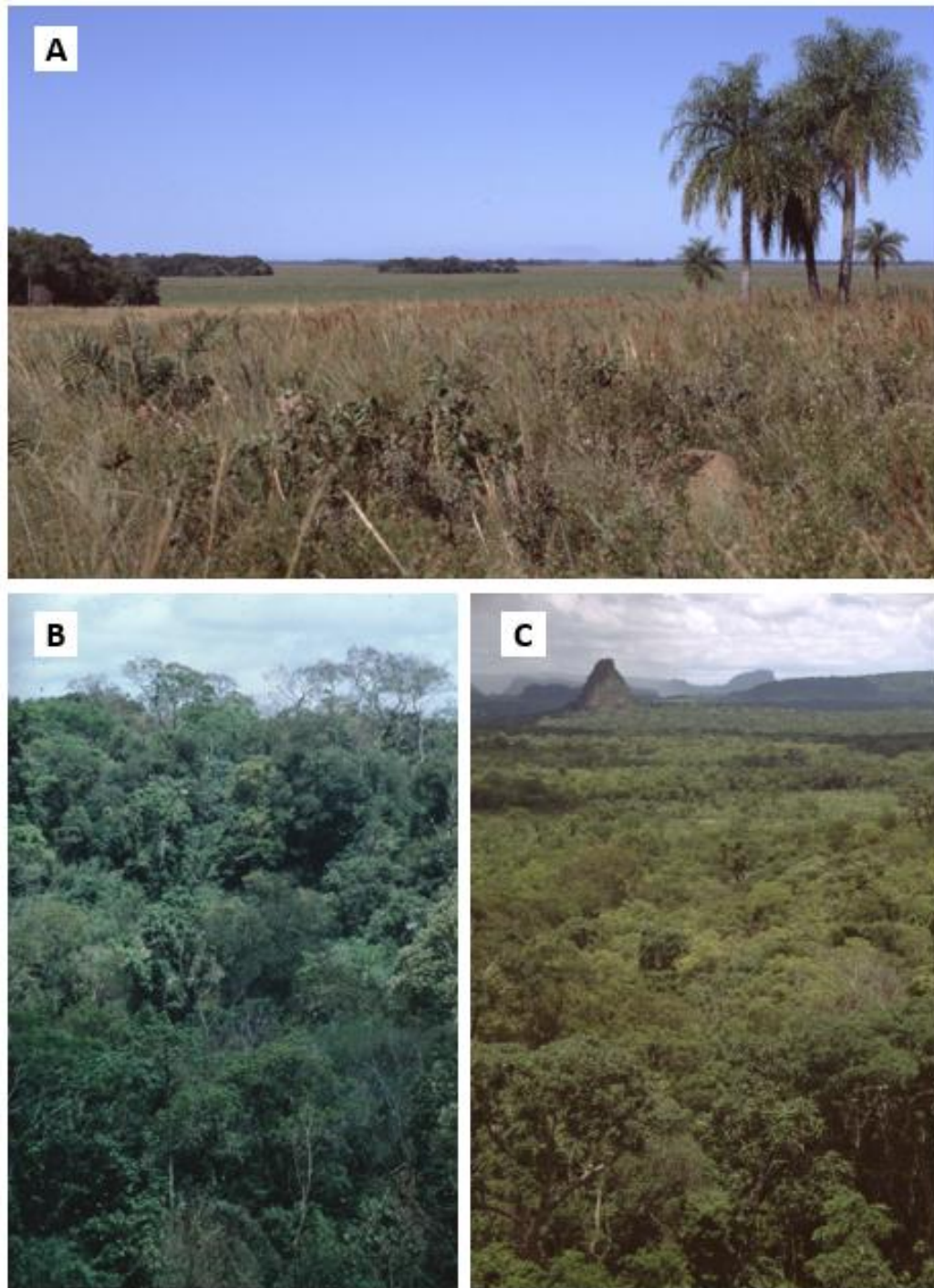


Figure 4. A. Mesopotamian grasslands in Dpto. Misiones (Ñeembucú biogeographical region), B. Subtropical forest in Dpto. Caazapá (Central Paraguay biogeographical region), C. Forest overview, Dpto. Amambay (Campos Cerrados biogeographical region). Photo: PROVEPA, Swedish Museum of Natural History.

Abbreviations

ad	adult
bill br.	bill breadth in millimeter
bill d.	bill depth in millimeters
bill l.	bill length in millimeters
Dpto	Departamento
Est.	Estancia
imm	immature
juv	juvenile
Meas.	Measurements
MNHNP	Museo Nacional de Historia Natural, San Lorenzo, Paraguay
NRM	Swedish Museum of Natural History, Stockholm, Sweden
plum.	sex determined based on plumage characters
P.N.	Parque Nacional
Prep.	Preparation
Pres.	Presidente
skel	complete skeleton
subad	subadult
tail	tail length in millimeters
tarsus	tarsus length in millimeters
tot.l.	total length in millimeters
wing	wing length in millimeters
wt	weight in grams
1Y	first year of life

Annotated list of specimens

We here present data on 1442 individuals of 325 species studied in the PROVEPA project. In addition to biological information and collecting details, we also give museum registration numbers for material kept at the respective institution.

Estimates of a species' abundance in the ecogeographical regions from where the PROVEPA specimens derive follow del Castillo and Clay (2004). The abundance codes are: *abundant* (>15 records per day in the right habitat), *common* (5-15 records per day), *fairly common* (<5 records per day), *uncommon* (usually recorded daily), *scarce* (one record every 2-3 days), and *rare* (only one or two records in total). Also the information on a species' breeding status in Paraguay follows del Castillo and Clay (2004).

TINAMIDAE

Crypturellus undulatus (Temminck, 1815). Undulated Tinamou

1. Male, ad. NRM 967153, MNHNP uncat. P.N. San Lu s, Dpto Concepci n, 4 Nov. 1996. Meas.: wt 580, tot.l. 360, wing 183, wing span 570, tail 65, bill l. 30, bill d. 8.5, tarsus 53. Colors: bill blackish neutral gray, iris orange-rufous, tarsus bunting green. Plumage: primaries fresh. Prep.: study skin (MNHNP), skel. (NRM), blood or tissue sample (NRM).

Remarks: The Undulated Tinamou is resident in Paraguay. It is common in Campos Cerrados (del Castillo and Clay 2004).

Crypturellus tataupa (Temminck, 1815). Tatapua Tinamou (Fig. 6B)

1. ssp. *tataupa*. Male, ad. NRM 937281, MNHNP 2000. P.N. Caaguaz  (Sector Cristal), Dpto Caazap , 3 Oct. 1993. Meas.: wt 240, tot.l. 245, wing 129, tail 43, bill l. 23.5, bill d. 7.5, tarsus 36. Colors: bill peach red, iris tawny, tarsus deep vinaceous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *tataupa*. Male, ad. NRM 947248. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 145, tot.l. 210, wing 112, wing span 325, tail 37, bill d. 5.5, tarsus 27. Colors: bill geranium pink, tarsus geranium pink. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *tataupa*. Male, ad. NRM 966832. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 192, tot.l. 240, wing 131, wing span 380, tail 47, bill l. 22, bill d. 7.0, tarsus 36. Colors: bill spinel red, iris chestnut, tarsus mauve (no. 172C). Plumage: slight body moult, primaries fresh, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *tataupa*. Female, ad. NRM 967100. P.N. Cerro Cor , Dpto Amambay, 9 Nov. 1996. Meas.: wt 230, tot.l. 220, wing 132, wing span 390, tail 24, bill l. 24, bill d. 7.5, tarsus 38. Colors: bill peach red, iris cinnamon-brown, tarsus deep vinaceous. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Tatapua Tinamou is resident in Paraguay. It is common in Central Paraguay and uncommon in Campos Cerrados (del Castillo and Clay 2004). The weight variation among these individuals is striking. This species is known to exhibit considerable intra-sexual variation in weight (Cabot 1992). Davies (2002) gives the range for 38 males to 169-229 g (the same range

was given by Cabot and is likely to refer to the same sample). Given the large sample size it is remarkable that two of the PROVEPA specimens fall outside this range.

***Nothura maculosa* (Temminck, 1815). Spotted Nothura**

1. Female, ad. NRM 966952. P.N. San Luís, Dpto Concepción, 30 Oct. 1996. Meas.: wt 232, tot.l. 250, wing 127, bill l. 18, bill d. 9.0, tarsus 34. Colors: eye-ring blackish neutral gray, iris orange-rufous, tarsus light russet vinaceous. Plumage: body moult, primaries moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 966974, MNHNP 1992. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 215, tot.l. 265, wing 130, wing span 440, bill l. 20, bill d. 7.0, tarsus 39. Plumage: primaries fresh. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 966975. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 230, tot.l. 250, wing 132, wing span 430, bill l. 21, bill d. 8.0, tarsus 39. Plumage: primaries fresh. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 986743. Est. Santa Ana, Dpto Misiones, 14 April 1998. Meas.: wt 270, tot.l. 237, wing 139, wing span 385, bill l. 18, bill d. 8, tarsus 43. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Spotted Tinamou is resident in Paraguay. It is common in Campos Cerrados and Ñeembucú (del Castillo and Clay 2004).

ANHIMIDAE

***Chauna torquata* (Oken, 1816). Southern Screamer**

1. Male, ad. NRM 937363. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 3450, tot.l. 790, wing 524, tail 196, bill l. 38, bill d. 18, tarsus 130. Colors: bill, upper jaw light neutral gray, lower jaw blackish neutral gray, tarsus vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937379, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 3600, tot.l. 830, wing 534, tail 214, bill l. 40, bill d. 19, tarsus 130. Colors: bill, upper jaw light neutral gray, lower jaw blackish neutral gray, iris mahogany red, tarsus vinaceous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 966850. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 4000, tot.l. 880, wing 540, wing span 1800, tail 220, bill l. 31, bill d. 22.0, tarsus 135. Colors: bill blackish neutral gray, naked parts around eye peach red, iris buff (no. 24), tarsus ruby. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Southern Screamer is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

ANATIDAE

***Amazonetta brasiliensis* (J.F. Gmelin, 1789). Brazilian Teal**

1. ssp. *ipecutiri*. Male, ad. NRM 937401. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 510, tot.l. 446, wing 216, tail 89, bill l. 39, tarsus 36. Colors: bill maroon, tarsus crimson (no. 108). Prep.: skel. (NRM), blood or tissue sample (NRM).
2. ssp. *ipecutiri*. Female, ad. NRM 956663, MNHNP uncat. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: tot.l. 420, wing 192, wing span 570, tail 75, bill l. 38, bill d. 17.5, tarsus 35. Colors: bill blackish neutral gray, iris fuscous, tarsus flesh ocher. Plumage: wing and tail worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. ssp. *ipecutiri*. Male (plum.), ad. NRM 966834, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 540, tot.l. 440, wing 212, wing span 640, tail 87, bill l. 38, tarsus 35. Colors: bill crimson, iris dark grayish brown, tarsus poppy red. Prep.: skel. (MNHNP).
4. ssp. *ipecutiri*. Male, ad. NRM 966897. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 620, tot.l. 445, wing 213, wing span 630, tail 90, bill l. 40, tarsus 42. Colors: bill deep vinaceous, iris raw umber (no. 223), tarsus ruby. Plumage: primaries fresh, tail moderately worn. Prep.: skel. (NRM).
5. ssp. *ipecutiri*. Female, ad. NRM 966898. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 615, tot.l. 438, wing 200, wing span 595, tail 82, bill l. 42, tarsus 43. Colors: bill jet black, iris raw umber (no. 223), tarsus ruby. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (NRM).
6. ssp. *ipecutiri*. Female, ad. NRM 986771. Est. Santa Ana, Dpto Misiones, 10 Nov. 1998. Meas.: wt 480, wing 202, wing span 680, bill l. 39, bill d. 17, tarsus 35. Plumage: tail growing, primaries slightly worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Brazilian Teal is resident in Paraguay. It is abundant in Bajo Chaco, and common in both Alto Chaco and Ñeembucú (del Castillo and Clay 2004). The female collected in March 1995 had fully developed eggs in the ovary.

***Cairina moschata* (Linnaeus, 1758). Muscovy Duck**

1. Female, ad. NRM 956708. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 26 March 1995. Meas.: wt 1300, tot.l. 635, wing 309, wing span 970, tail 157, bill l. 52, bill d. 23, tarsus 38. Colors: bill sepia (no. 119) (lower rim of upper bill, and tip of lower bill col. 108D), tarsus olive-brown. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Muscovy Duck is resident in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004).

***Callonetta leucophrys* (Vieillot, 1816). Ringed Teal**

1. Male, ad. NRM 937372. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 355, tot.l. 365, wing 181, tail 60, bill l. 39, tarsus 32. Colors: bill lavender blue, tarsus flesh color. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Ringed Teal is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004).

CRACIDAE

Ortalis canicollis (Wagler, 1830). Chaco Chachalaca

1. ssp. *canicollis*. Female, ad. NRM 937180, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: tot.l. 559, wing 225, tail 225, bill l. 25, bill d. 11.5, tarsus 56. Colors: bill salmon color, iris antique brown, eye-ring fawn color, tarsus Vandyke brown (no.121). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *canicollis*. Female, ad. NRM 937200. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 550, tot.l. 570, wing 215, tail 225, bill l. 21, bill d. 10, tarsus 56. Colors: bill pale pinkish brown, iris Brussels brown, tarsus pale pinkish brown. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *canicollis*. Male, ad. NRM 937201. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 520, tot.l. 565, wing 223, tail 228, bill l. 22, bill d. 11, tarsus 57. Colors: bill tawny olive, iris mars brown, tarsus pale pinkish brown. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *canicollis*. Female, ad. NRM 937217. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 530, wing 215, tail 230, bill l. 20, bill d. 10, tarsus 57. Colors: bill salmon color, iris antique brown, throat vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *canicollis*. Female, juv? NRM 956752, MNHNP 1079. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 555, tot.l. 570, wing 212, wing span 690, tail 228, bill l. 24, bill d. 11, tarsus 67. Colors: bill, upper jaw dark drab, lower jaw drab-gray, iris antique brown, tarsus cinnamon. Plumage: body, wing and tail growing. Prep.: study skin (MNHNP).

6. ssp. *canicollis*. Male, ad. NRM 996670. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 27 Oct. 1999. Meas.: wt 570, tot.l. 580, wing 230, wing span 700, tail 245, bill l. 24.5, bill d. 12, tarsus 73. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Chaco Chachalaca is resident in Paraguay. It is abundant in both Alto Chaco and Bajo Chaco (del Castillo and Clay 2004).

COLUMBIDAE

Patagioenas picazuro (Temminck, 1813). Picazuro Pigeon

1. Male, ad. NRM 947075, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 335, tot.l. 348, wing 221, wing span 620, tail 111, bill l. 18.5, bill d. 6.5, tarsus 31. Plumage: wing, tail and body moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, age undetermined. NRM 956712. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 232, tot.l. 340, wing 210, wing span 640, bill l. 20, bill d. 5.5, tarsus 32. Colors: bill light neutral gray, iris flesh color, eye-ring ruby, tarsus deep vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, age undetermined. NRM 956744, MNHNP 1076. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 350, tot.l. 360, wing 210, wing span 530, tail 120, bill l. 16, bill d. 6.0, tarsus 33. Colors: bill Pratt's Payne's gray, iris spectrum orange, tarsus spinel pink. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 976791. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 355, tot.l. 350, wing 220, wing span 640, tail 108, bill l. 17.5, bill d. 7, tarsus 31. Colors: bill medium plumbeous, iris spectrum yellow, eye-ring spinel pink, tarsus spinel pink. Plumage: tail and body moulting, primaries slightly worn, tail slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Picazuro Pigeon is abundant in both Alto Chaco and Matogrosense (del Castillo and Clay 2004). Part of the population is made up by birds that are resident in Paraguay, while another part consists of austral migrants that breed further south (op. cit). The species is thus more common in the Chaco during the austral winter.

***Leptotila verreauxi* Bonaparte, 1855. White-tipped Dove**

1. Unsexed, ad. NRM 937187. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 186, wing 156, tail 110, bill l. 17, bill d. 5.0, tarsus 31. Colors: bill dusky brown, iris orange yellow, eye-ring spinel red, tarsus spinel red. Prep.: blood sample (NRM). Released.

2. Male, ad. NRM 937382. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 149, tot.l. 272, wing 142, tail 108, bill l. 17, bill d. 4.0, tarsus 30. Colors: bill blackish neutral gray, iris orange yellow, eye-ring sky blue, tarsus deep vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 937383. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 169, tot.l. 280, wing 146, tail 116, bill l. 19, bill d. 5.0, tarsus 32. Colors: bill blackish neutral gray, iris orange yellow, eye-ring sky blue, tarsus deep vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 937387, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 156, tot.l. 279, wing 142, tail 121, bill l. 18, bill d. 4.8, tarsus 31. Colors: bill blackish neutral gray, iris spectrum orange, tarsus magenta. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 956576, MNHNP uncat. Est. Nueva Gambach, Dpto Itapúa, 7 March 1995. Meas.: wt 202, tot.l. 291, wing 152, wing span 450. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 956664, MNHNP uncat. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 180, tot.l. 300, wing 154, wing span 420, tail 119, bill l. 17, bill d. 5.0, tarsus 28. Colors: bill jet black, iris yellow ocher, tarsus gem ruby. Plumage: moult in wing and tail, tail worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Male, age undetermined. NRM 956741. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 156, tot.l. 285, wing 152, wing span 390, tail 117, bill l. 16, bill d. 5.0, tarsus 30. Colors: iris spectrum orange. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 966837. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 163, tot.l. 295, wing 149, wing span 430, tail 115, bill l. 17, bill d. 5.0, tarsus 29. Colors: bill plumbeous, iris salmon color (no. 6), tarsus deep vinaceous. Plumage: primaries fresh, tail slightly worn. Fat score 5. Prep.: skel. (NRM).

9. Unsexed, ad. NRM 976649. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 171, tot.l. 295, wing 148, wing span 450, tail 108, bill l. 16, bill d. 5, tarsus 32. Colors: bill blackish neutral gray, tarsus deep vinaceous. Plumage: wing moulting, primaries moderately worn, tail moderately worn. Prep.: alcohol specimen (NRM).

10. Unsexed, ad. NRM 996671. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 27 Oct. 1999. Meas.: wt 150, tot.l. 280, wing 148, wing span 420, tail 110, bill l. 19, bill d. 5.5, tarsus 30. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-tipped Dove is resident in Paraguay. It is abundant in Alto Chaco and common in Bajo Chaco, Campos Cerrados and Ñeembucú (del Castillo and Clay 2004).

***Columbina squammata* (Lesson, 1831). Scaled Dove (Fig. 8E)**

1. Unsexed, ad. NRM 956715. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 48, tot.l. 198, wing 98, tail 86, bill l. 12.5, bill d. 4.5, tarsus 17. Colors: bill blackish neutral gray, iris yellow ocher, eye-ring pale horn color, tarsus deep vinaceous. Plumage: body and wing moult, tail worn. Prep.: alcohol specimen (NRM).

2. Unsexed, age undetermined. NRM 956728, MNHNP 1060. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 March 1995. Meas.: wt 58, tot.l. 220, wing 96, tail 90, bill l. 13, bill d. 4.0, tarsus 19. Colors: bill blackish neutral gray, iris burnt orange, eye-ring pearl gray, tarsus flesh color. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Female, ad. NRM 967004. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 51, tot.l. 207, wing 95, wing span 290, tail 94, bill l. 12, bill d. 4.0, tarsus 18. Colors: bill dusky brown, eye-ring pearl gray, iris warm sepia, tarsus light russet vinaceous. Plumage: primaries moderately worn, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Scaled Dove is resident in Paraguay. It is scarce in Alto Chaco, but is fairly common in Campos Cerrado (del Castillo and Clay 2004).

***Columbina talpacoti* (Temminck, 1810). Ruddy Ground Dove**

1. Female, ad. NRM 937241. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 50, tot.l. 184, wing 86, tail 68, bill l. 12.5, bill d. 3.5, tarsus 17.5. Colors: bill natal brown, iris sepia (no. 119), tarsus light russet vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937255, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wing 88, bill l. 11.5, bill d. 4.0, tarsus 17. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Female, ad. NRM 937256. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 44, tot.l. 170, wing 89, tail 65, bill l. 11, bill d. 3.2, tarsus 13. Prep.: skel. (NRM).

4. Female, juv. NRM 956605. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 60, tot.l. 183, wing 90, wing span 230, tail 75, bill l. 12, bill d. 4.0, tarsus 17. Colors: bill, upper jaw sepia (no. 219), lower jaw sepia (no. 119), iris flesh ocher, tarsus flesh color. Prep.: skel. (NRM), blood or tissue sample (NRM).
5. Female, ad. NRM 956743. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 41, tot.l. 175, wing 85, wing span 245, tail 63, bill l. 11, bill d. 3.0, tarsus 16. Colors: bill Vandyke brown (no. 221), tarsus rose pink. Prep.: study skin (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 966990, MNHNP 1424. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 57, tot.l. 182, wing 92, wing span 280, tail 66, bill l. 13.5, bill d. 4.0, tarsus 16. Colors: bill natal brown, tarsus flesh color. Plumage: primaries fresh, tail slightly worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
7. Unsexed, ad. NRM 966991. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 45, tot.l. 177, wing 92, tail 68, bill l. 14, bill d. 4.0, tarsus 16. Colors: bill natal brown, tarsus flesh color. Plumage: primaries fresh, tail slightly worn. Prep.: alcohol specimen (NRM).
8. Unsexed, ad. NRM 967038. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 46, tot.l. 179, wing 90, wing span 275, tail 67, bill l. 14, bill d. 4.5, tarsus 15. Colors: bill light drab, eye-ring cream color, iris buff (no. 24), tarsus flesh color. Plumage: primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (NRM).
9. Unsexed, ad. NRM 967039. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 48, tot.l. 173, wing 92, wing span 275, tail 66, bill l. 13, bill d. 4.0, tarsus 16. Colors: bill light drab, eye-ring cream color, iris buff (no. 24), tarsus flesh color. Plumage: primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (NRM).
10. Male, ad. NRM 976727, MNHNP uncat. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 49, tot.l. 185, wing 92, wing span 270, tail 69, bill l. 11.5, bill d. 4.5, tarsus 14. Plumage: tail and body moulting, primaries slightly worn, tail slightly to very worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Ruddy Ground Dove is resident in Paraguay. It is uncommon in Alto Chaco, common in Campos Cerrados, and fairly common in Central Paraguay (del Castillo and Clay 2004).

***Columbina picui* (Temminck, 1813). Picui Ground Dove**

1. Male, ad. NRM 947018. Est. Doña Júlia, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 43, tot.l. 190, wing 94, wing span 275, tail 81, bill l. 13, bill d. 4.0, tarsus 17.5. Colors: bill jet black, tarsus bluish violet. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 947033, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 48, tot.l. 191, wing 91, wing span 275, tail 74, bill l. 13, bill d. 5.0, tarsus 17. Colors: bill jet black, eye-ring pale horn color, tarsus deep vinaceous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 947070, MNHNP 1978. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 47, tot.l. 195, wing 97, wing span 285, tail 80, bill l. 13.5, bill d. 4.5, tarsus 17. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 947109. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 35, tot.l. 176, wing 89, wing span 275, tail 77, bill l. 12, bill d. 4.5, tarsus 16.5. Colors: bill jet black, iris blush violet, eye-ring cream color. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
5. Female, ad. NRM 947118. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 40, tot.l. 185, wing 89, wing span 250, tail 74, bill l. 15, bill d. 3.4, tarsus 16. Colors: bill jet black, iris mauve, eye-ring burnt umber, tarsus chrome orange. Plumage: body moulting. Prep.: alcohol specimen (NRM).
6. Male, ad. NRM 947260, MNHNP uncat. Est. Apami, Dpto Amambay, 9 Oct. 1994. Meas.: wt 52, tot.l. 185, wing 94, wing span 270, tail 78, bill l. 16, bill d. 3.0, tarsus 17. Plumage: tail and body moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Unsexed, age undetermined. NRM 956717. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 36, tot.l. 175, wing 88, wing span 265, tail 69, bill l. 12, bill d. 3.0, tarsus 19. Colors: bill blackish neutral gray, iris sky blue, tarsus deep vinaceous. Prep.: alcohol specimen (NRM).
8. Unsexed, age undetermined. NRM 956718. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 40, tot.l. 184, wing 90, wing span 240, tail 72, bill l. 10, bill d. 3.0, tarsus 18. Colors: bill blackish neutral gray, iris sky blue, tarsus deep vinaceous. Prep.: alcohol specimen (NRM).
9. Male, age undetermined. NRM 956725. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 49, tot.l. 195, wing 87, wing span 260, tail 73, bill l. 11, bill d. 3.0, tarsus 20. Colors: bill blackish neutral gray, tarsus maroon. Prep.: study skin (NRM), blood or tissue sample (NRM).
10. Male, ad. NRM 966760, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 9 Oct. 1996. Meas.: wt 40, wing 92, wing span 265, bill l. 13, bill d. 4.2, tarsus 16.5. Colors: bill jet black, eye-ring white, tarsus deep vinaceous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
11. Female, ad. NRM 976794. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 37, tot.l. 166, wing 94, wing span 270, tail 75, bill l. 12.5, bill d. 4.5, tarsus 17. Colors: bill jet black, iris true blue, tarsus carmine. Plumage: two generations wing and tail feathers, primaries fresh to slightly worn, tail fresh to slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Picui Ground Dove is resident in Paraguay. It is abundant in Alto Chaco and Matogrosense, and fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Claravis pretiosa* (Ferrari-Pérez, 1886). Blue Ground Dove**

1. Male, ad. NRM 967002. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 61, tot.l. 198, wing 115, wing span 325, tail 70, bill l. 15, bill d. 5.0, tarsus 16. Colors: bill smoke gray (no. 44), tarsus vinaceous. Plumage: primaries slightly worn, tail heavy. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male (plum.), ad. NRM 967006, MNHNP uncat. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Prep.: wing and tail (MNHNP).

3. Male, ad. NRM 967025, MNHNP uncat. P.N. San Lu s, Dpto Concepci n, 3 Nov. 1996. Meas.: wt 63, tot.l. 200, wing 114, wing span 335, tail 75, bill l. 14, bill d. 3.5, tarsus 19. Plumage: primaries moderately worn, tail heavy. Prep.: skel. (MNHNP).
4. Male, ad. NRM 967041. P.N. San Lu s, Dpto Concepci n, 4 Nov. 1996. Meas.: wt 66, wing 117, tail 78, bill l. 11, bill d. 4.0, tarsus 17. Colors: bill upper jaw blackish neutral gray, bill lower jaw smoke gray (no. 44), tarsus salmon color (no. 6). Prep.: study skin (NRM), blood or tissue sample (NRM), blood or tissue sample (NRM).
5. Male (plum.), ad. NRM 967057, MNHNP 1425. P.N. San Lu s, Dpto Concepci n, 5 Nov. 1996. Meas.: wt 56, tot.l. 215, wing 119, wing span 345, tail 82, bill l. 12, bill d. 4.0. Colors: bill upper jaw blackish neutral gray, bill lower jaw smoke gray (no. 44), tarsus light russet vinaceous. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
6. Female, ad. NRM 967061. P.N. San Lu s, Dpto Concepci n, 6 Nov. 1996. Meas.: wt 70, tot.l. 198, wing 114, wing span 335, tail 78, bill l. 14, bill d. 4.5, tarsus 16. Colors: bill upper jaw Vandyke brown (no. 121), bill lower jaw pale neutral gray, tarsus beige. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).
7. Unsexed, ad. NRM 967064, MNHNP uncat. P.N. San Lu s, Dpto Concepci n, 6 Nov. 1996. Meas.: wt 55, tot.l. 117, wing 112, wing span 327, tail 75, bill l. 15, bill d. 4.0, tarsus 17. Colors: bill upper jaw dark neutral gray, bill lower jaw pearl gray, tarsus beige. Plumage: primaries slightly worn, tail slightly worn. Prep.: alcohol specimen (MNHNP).
8. Female, ad. NRM 967071, MNHNP uncat. P.N. San Lu s, Dpto Concepci n, 6 Nov. 1996. Meas.: wt 55, tot.l. 212, wing 114, wing span 345, tail 80, bill l. 14.5, bill d. 5.5, tarsus 18. Colors: bill smoke gray (no. 44), tarsus vinaceous. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
9. Male (plum.), ad. NRM 967072. P.N. San Lu s, Dpto Concepci n, 6 Nov. 1996. Meas.: wt 59, tot.l. 210, wing 118, wing span 350, tail 82, bill l. 13, bill d. 3.5, tarsus 17. Colors: bill upper jaw brownish olive, bill lower jaw olive-gray, eye-ring olive-gray, tarsus vinaceous. Prep.: alcohol specimen (NRM).

Remarks: The Blue Ground Dove is resident in Paraguay. It is common in Campos Cerrados (del Castillo and Clay 2004).

NYCTIBIIDAE

Nyctibius griseus (J.F. Gmelin, 1789). Common Potoo

1. Male, ad. NRM 967026. P.N. San Lu s, Dpto Concepci n, 3 Nov. 1996. Meas.: wt 220, tot.l. 360, wing 283, tail 92, bill l. 21, bill d. 5.0, tarsus 11. Colors: bill jet black, iris cream color, tarsus olive-gray. Prep.: study skin (NRM), skel. (NRM), blood or tissue sample (NRM).

Remarks: The Common Potoo is resident in Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004).

CAPRIMULGIDAE

***Chordeiles nacunda* (Vieillot, 1817). Nacunda Nightjar**

1. Female, ad. NRM 947016. Est. Doña Júlía, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 194, tot.l. 295, wing 245, wing span 760, tail 108, bill l. 11, bill d. 5.0, tarsus 22. Colors: bill jet black, iris chestnut, eye-ring straw yellow, tarsus smoke gray (no. 45). Plumage: slight body moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, second year plumage. NRM 947017, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 190, tot.l. 305, wing 255, wing span 790, tail 115, bill l. 12, bill d. 4.0, tarsus 25. Colors: bill jet black, iris chestnut, eye-ring straw yellow, tarsus smoke gray (no. 45). Plumage: tail moulting (spots on the rectrices changing from gray-brown to white). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Female (plum.), ad. NRM 956703. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 26 March 1995. Meas.: wt 139, tot.l. 275, wing 236, wing span 730, tail 111, bill l. 11, bill d. 5.0, tarsus 23.5. Colors: bill blackish neutral gray, iris amber, eye-ring straw yellow, tarsus drab-gray. Plumage: slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Nacunda Nightjar is scarce in Alto Chaco and uncommon in Matogrosense (del Castillo and Clay 2004). Part of the population breeds in Paraguay while many individuals breed further south and only spend the austral winter here. However, the seasonally movements of this species are seemingly complex and poorly known (Salvador and Bodrati 2017).

***Stellura longirostris* (Bonaparte, 1825). Band-winged Nightjar**

1. Male (plum.), juv? NRM 956685, MNHNP uncat. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 35, tot.l. 204, wing 136, wing span 405, tail 101, bill l. 9.0, bill d. 3.0, tarsus 15.5. Colors: bill dusky brown, tarsus light russet vinaceous. Plumage: wing and tail worn (due to ground-living behavior?), one tail feather has a white spot. Prep.: alcohol specimen (MNHNP).

2. Unsexed, juv? NRM 956686. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 34, tot.l. 203, wing 137, wing span 405, tail 98, bill l. 10, bill d. 3.0, tarsus 16.5. Colors: bill dusky brown, tarsus light russet vinaceous. Plumage: one tail feather moulted (darker with white spot on tip). Prep.: alcohol specimen (NRM).

Remarks: The Band-winged Nightjar is an austral migrant that breed in the south and just migrates through Paraguay, some may spend their winters here. The species is scarce in Alto Chaco (del Castillo and Clay 2004).

***Nyctidromus albicollis* (J.F. Gmelin, 1789). Common Pauraque**

1. Female, ad. NRM 937268. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 82, tot.l. 300, wing 176, tail 165, bill l. 12, bill d. 5.0, bill breadth 30, tarsus 30. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937277, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 80, tot.l. 300, wing 180, tail 165, bill l. 10.0, bill d. 3.0, bill breadth 28.5, tarsus 27.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 966988. P.N. San Lu s, Dpto Concepci n, 1 Nov. 1996. Meas.: tot.l. 305, wing 181. Prep.: blood or tissue sample (NRM).

4. Male, ad. NRM 967076. P.N. Cerro Cor , Dpto Amambay, 8 Nov. 1996. Meas.: wt 73, tot.l. 315, wing 180, wing span 525, tail 168, bill l. 7.0, bill d. 3.0, tarsus 29. Colors: bill blackish neutral gray, tarsus army brown. Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 986730. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: tot.l. 314, wing 185, wing span 480, tail 163, bill l. 6, bill d. 2.4, tarsus 28.5. Colors: bill pale pinkish buff, tip blackish neutral gray, tarsus beige. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 986760. Est. Santa Ana, Dpto Misiones, 7 Nov. 1998. Meas.: wt 83, tot.l. 288, wing 179, wing span 510, tail 161, bill l. ca 7, bill d. 3.5, tarsus 29. Colors: bill dusky brown, tarsus beige. Plumage: wing moulting, primaries fresh, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Common Pauraque is resident in Paraguay. It is common in Central Paraguay, fairly common in Campos Cerrdos, but uncommon in the  eembuc  biogeographical region (del Castillo and Clay 2004).

***Eleothreptus anomalus* (Gould, 1838). Sickle-winged Nightjar**

1. Male, 1Y. NRM 986709, MNHNP 1636. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 45, tot.l. 170, wing 132, wing span 380, tail 71, bill l. 5.7, bill d. 2.8, tarsus 22. Colors: bill jet black, tarsus beige. Plumage: body moulting, primaries slightly worn, tail slightly worn. Fat score 0. Prep.: study skin (MNHNP), partial skel. (NRM), blood or tissue sample (NRM). Remarks: very fat inside skin.

2. Male, ad. NRM 986737. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 50, tot.l. 180, wing 138, wing span 440, tail 75, bill l. 6.9, bill d. 2.7, tarsus 20. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: study skin (NRM), partial skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 986749. Est. Santa Ana, Dpto Misiones, 5 Nov. 1998. Meas.: wt 66, tot.l. 208, wing 139, wing span 455, tail 84, bill l. 12, bill d. 4, tarsus 18.5. Plumage: primaries moderately worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), partial skel. (NRM), blood or tissue sample (NRM).

Remarks: The Sickle-winged Nightjar is scarce in  eembuc  (del Castillo and Clay 2004). The individual collected in November had a considerable fat deposit, seemingly in preparation for migration. In April 1998 the PROVEPA team observed up to eight individuals every night during nine days. Another PROVEPA team banded one individual on 9 November 1998 and it was retrapped at the same locality on 21 October 1999 by a team from Kansas University (Kristof Zyskowski pers. comm.). In daytime we several times flushed Sickle-winged Nightjars in the grasslands in the area and they seem to spend the days on the ground in the same fields as where they search for food in the night. The observation that the Sickle-winged Nightjar most likely has a resident population in  eembuc  is consistent with new data on the behavior of this species (Paul Smith pers. comm.).

***Setopagis parvula* (Gould, 1837). Little Nightjar (Fig. 8F)**

1. Female, ad. NRM 947259, MNHNP uncat. Est. Apami, Dpto Amambay, 9 Oct. 1994. Meas.: wt 43, tot.l. 201, wing 143, wing span 420, tail 103, bill l. 9.5, bill d. 3.0, tarsus 12.5. Colors: bill indigo blue, iris indigo blue, tarsus lilac. Remarks: incubation patch present. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 956702. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 37, tot.l. 213, wing 137, wing span 405, tail 101, bill d. 3.0, tarsus 15. Colors: iris raw umber (no. 223), eye-ring cinnamon, tarsus cinnamon-drab. Plumage: moult in wing and tail. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 986746. Est. Santa Ana, Dpto Misiones, 4 Nov. 1998. Meas.: wt 44, tot.l. 202, wing 140, wing span 415, tail 99, bill l. 10, bill d. 3, tarsus 14.5. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 986797. Est. Santa Ana, Dpto Misiones, 15 Nov. 1998. Meas.: wt 33, wing 141, bill l. 10.5. Prep.: blood or tissue sample (NRM).

5. Male, ad. NRM 986798. Est. Santa Ana, Dpto Misiones, 15 Nov. 1998. Meas.: wt 39, wing 143, bill l. 11. Prep.: blood or tissue sample (NRM).

Remarks: The Little Nightjar is resident in Paraguay. It is abundant in Alto Chaco, fairly common in Ñeembucú and uncommon in Central Paraguay (del Castillo and Clay 2004). Similar to some other species of nightjars, the Little Nightjar undertakes seasonal movements outside the breeding period and has been observed to aggregate in huge numbers for feeding (Smith 2016).

***Hydropsalis torquata* (J.F. Gmelin, 1789). Scissor-tailed Nightjar**

1. Male, ad. NRM 937156, MNHNP uncat. Est. Karanda, Dpto Pres. Hayes, 14 Sept. 1993. Meas.: wt 54, tot.l. 420, wing 187, tail 293, bill l. 10.0, bill d. 4.0, tarsus 20. Prep.: skel. (MNHNP), blood or tissue sample (NRM)

2. Male, ad. NRM 966866, MNHNP 2117. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 50, tot.l. 415, wing 193, wing span 500, tail 300, bill l. 13, bill d. 2.4, tarsus 21.5. Colors: bill dark neutral gray, tarsus natal brown. Plumage: primaries fresh, tail moderately worn. Fat score 0. Prep.: skel. (MNHNP).

3. Male, ad. NRM 966867, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 50, tot.l. 490, wing 189, wing span 500, tail 365, bill l. 7.5, bill d. 2.3, tarsus 20. Colors: bill dark neutral gray, tarsus natal brown. Plumage: primaries fresh, tail slightly worn. Fat score 0. Prep.: skel. (MNHNP).

4. Female, ad. NRM 966868. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 50, tot.l. 285, wing 175, wing span 485, tail 155, bill l. 7.5, bill d. 2.1, tarsus 17.5. Colors: bill dark neutral gray, tarsus natal brown. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 966876. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 47, tot.l. 293, wing 178, wing span 495, tail 170, bill l. 7.4, bill d. 2.5, tarsus 18. Colors: bill dark neutral gray, tarsus natal brown. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 966877. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 47, tot.l. 270, wing 174, wing span 480, tail 172, bill l. 7.0, bill d. 2.4, tarsus 22.5. Colors: bill dark neutral gray, tarsus natal brown. Plumage: primaries slightly worn, tail heavy. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Female, ad. NRM 966878. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 48, tot.l. 265, wing 172, wing span 475, tail 138, bill l. 8.0, bill d. 2.0, tarsus 20. Colors: bill dark neutral gray, tarsus natal brown. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM).

8. Female, ad. NRM 966881. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 48, tot.l. 270, wing 178, wing span 470, tail 148, bill l. 7.5, bill d. 2.4, tarsus 18.5. Plumage: primaries fresh, tail slightly worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Scissor-tailed Nightjar is resident in Paraguay. It is common in Alto Chaco but scarce in Bajo Chaco (del Castillo and Clay 2004). It is assumed that many of the birds observed in the Chaco outside the breeding season, sometimes in large flocks, may not breed in Paraguay (Paul Smith pers. comm.). The migration and seasonal movements of the Scissor-tailed Nightjar are however poorly known (Smith 2106).

***Antrostomus rufus* (Boddaert, 1783). Rufous Nightjar**

1. Unsexed, ad. NRM 967040, MNHNP 2098. P.N. San Lu s, Dpto Concepci n, 4 Nov. 1996. Meas.: wt 64, tot.l. 270, wing 157, tail 141, bill l. 12, bill d. 4.0, tarsus 25. Plumage: primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (MNHNP).

2. Female, ad. NRM 967113. P.N. Cerro Cor , Dpto Amambay, 10 Nov. 1996. Meas.: wt 61, tot.l. 275, wing 172, wing span 470, tail 158, bill l. 12.5, bill d. 3.0, tarsus 25. Colors: bill deep vinaceous, tarsus deep vinaceous. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Rufous Nightjar is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

TROCHILIDAE

***Phaethornis pretrei* (Lesson & De Lattre, 1839). Planalto Hermit**

1. Female, ad. NRM 967122. P.N. Cerro Cor , Dpto Amambay, 11 Nov. 1996. Meas.: wt 4.8, tot.l. 138, wing 59, wing span 140, tail 52, bill l. 30, bill d. 3.0, tarsus 5.0. Colors: bill upper jaw jet black, bill lower jaw peach red, tarsus deep vinaceous. Prep.: study skin (NRM).

2. Male, ad. NRM 967134, MNHNP 1430. P.N. Cerro Cor , Dpto Amambay, 12 Nov. 1996. Meas.: wt 5.1, tot.l. 145, wing 60, wing span 140, tail 68, bill l. 29, bill d. 2.0, tarsus 4.5. Colors: bill upper jaw sepia (no. 119), bill lower jaw geranium, tarsus russet. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 967135. P.N. Cerro Cor , Dpto Amambay, 12 Nov. 1996. Meas.: wt 4.6, tot.l. 157, wing 58, wing span 145, tail 75, bill l. 31, bill d. 2.0, tarsus 5.0. Colors: bill upper jaw sepia (no. 119), bill lower jaw orange-rufous, iris sepia (no. 119), tarsus deep vinaceous. Plumage: primaries fresh, tail fresh. Prep.: skel. (NRM).

Remarks: The Planalto Hermit is resident in Paraguay. It is rare in Campos Cerrados (del Castillo and Clay 2004).

***Phaetornis eurynome paraguayensis* (Lesson, 1832). Scale-throated Hermit**

1. Female (?), juv. NRM 956579, MNHNP 1058. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 4.4, tot.l. 122, wing 50, wing span 115, tail 40, bill l. 31, bill d. 2.0, tarsus 4.0. Colors: bill, upper jaw sepia (no. 119), lower jaw raw umber (no. 223), iris burnt sienna, tarsus dark neutral gray. Plumage: body, wing and tail moult. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Scale-throated Hermit is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004). The individuals are referred to the subspecies *paraguayensis* because of their small size.

***Chlorostilbon lucidus* (Shaw, 1812). Glittering-bellied Emerald (Fig. 6E)**

1. Male, ad. NRM 937356, MNHNP 995. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 3.2, tot.l. 90, wing 52, tail 30, bill l. 16.5, bill d. 2.0, tarsus 4.0. Colors: bill deep vinaceous, iris jet black, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966871. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 3.0, tot.l. 90, wing 49, wing span 115, tail 27, bill l. 18, bill d. 1.6, tarsus 6.0. Colors: bill ferruginous (outer 1/3 of bill black), iris chestnut, tarsus jet black. Plumage: primaries fresh, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male (plum.), ad. NRM 966909. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 3.2, tot.l. 85, wing 47, wing span 110, tail 29, bill l. 17, bill d. 1.3, tarsus 4.9. Colors: bill greenish olive (outer 1/3 of bill black), iris chestnut, tarsus jet black. Plumage: primaries fresh, tail fresh. Prep.: alcohol specimen (NRM).

4. Male, ad. NRM 976801. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 2.8, tot.l. 88, wing 50, wing span 120, tail 30, bill l. 17, bill d. 2, tarsus 5. Colors: bill tip blackish neutral gray, base vinaceous, tarsus jet black. Plumage: primaries slightly worn, tail slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 996685. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 3, tot.l. 85, wing 48, wing span 110, tail 29, bill l. 18, bill d. 1.5, tarsus 4.5. Colors: bill [red w. black tip], iris [black], tarsus [black]. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 996689. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 4.6, tot.l. 80, wing 47, wing span 110, tail 27, bill l. 18.3, bill d. 1.4, tarsus 5.5. Colors: bill [red w. black tip], iris [black], tarsus [black]. Plumage: primaries slightly worn, tail moderately worn.

Remarks: The Glittering-bellied Emerald is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004).

***Thalurania furcata* (J.F. Gmelin, 1788). Fork-tailed Woodnymph**

1. Male, ad. NRM 937299. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 5.1, tot.l. 110, wing 62, tail 41, bill l. 21.5, bill d. 2.0, tarsus 4.0. Colors: bill jet black, iris jet black, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 937300. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 4.9, tot.l. 100, wing 61, tail 42, bill l. 19.5, bill d. 2.0, tarsus 4.0. Colors: bill jet black, iris jet black, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Female (plum.), ad. NRM 937303, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 4.6, tot.l. 111, wing 59, tail 44, bill l. 20, bill d. 2.0. Colors: bill jet black, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
4. Unsexed, ad. NRM 967043. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 4.5, wing 63, wing span 145, bill l. 21, bill d. 2.0, tarsus 5.0. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
5. Unsexed, ad. NRM 967066, MNHNP 2101. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 5.0, tot.l. 109, wing 68, wing span 145, tail 38, bill l. 18, bill d. 2.5, tarsus 5.0. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail slightly worn. Prep.: alcohol specimen (MNHNP).
6. Unsexed, ad. NRM 976712, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 4, tot.l. 100, wing 55, wing span 135, bill l. 19.5, bill d. 3, tarsus 6. Colors: iris dark brownish olive. Plumage: primaries fresh, tail fresh. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Male, ad. NRM 976741, MNHNP 1671. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 5.3, tot.l. 116, wing 61, wing span 150, tail 43, bill l. 20, bill d. 2. Colors: bill jet black, tarsus jet black. Plumage: wing and body moulting, primaries fresh to moderately worn, tail fresh to moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Fork-tailed Woodnymph is resident in Paraguay. It is rare in Campos Cerrados and Central Paraguay (del Castillo and Clay 2004). There are indications of seasonal movements in this species where some individuals spend their winters in the southern part of the country (Paul Smith pers. comm.). Species identifications of individuals nos. 1, 2 and 6 have been verified by DNA barcoding.

***Hylocharis chrysura* (Shaw, 1812). Gilded Hummingbird**

1. Male, ad. NRM 937161. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 3.8, tot.l. 96, wing 56, tail 30, bill l. 19, bill d. 2.0. Colors: bill carmine [tip black], tarsus [black]. Prep.: study skin (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 937162. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 4.2, tot.l. 95, wing 56, tail 31, bill l. 19.5, bill d. 2.5. Colors: bill carmine [tip black], tarsus [black]. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 937199, MNHNP 996. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 4.2, tot.l. 97, wing 53, tail 29, bill l. 19, bill d. 2.5, tarsus 5.5. Colors: bill rose [tip black], tarsus [black]. Prep.: study skin (MNHNP).

4. Unsexed, ad. NRM 937208. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 3.7, tot.l. 87, wing 53, tail 32, bill l. 20, bill d. 2.0. Colors: iris raw umber (no. 223). Prep.: blood sample (NRM). Released.
5. Female, ad. NRM 937371, MNHNP 1092. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 3.8, tot.l. 96, wing 50, tail 30, bill l. 20.5, bill d. 2.0, tarsus 5.0. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
6. Female, ad. NRM 937385. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 3.6, tot.l. 91, wing 52, tail 28, bill l. 19, bill d. 2.1, tarsus 5.0. Prep.: skel. (NRM)
7. Male, ad. NRM 947165, MNHNP 1027. Est. Doña Júlía, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 3.8, tot.l. 91, wing 51, wing span 130, tail 32, bill l. 20, bill d. 3.0. Colors: tarsus jet black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
8. Unsexed, juv? NRM 956745. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 4.0, tot.l. 91, wing 56, wing span 130, tail 32, bill l. 19, bill d. 2.2, tarsus 6.0. Colors: bill deep vinaceous (tip of bill dusky brown), tarsus burnt umber. Plumage: fresh. Prep.: alcohol specimen (NRM).
9. Male, ad. NRM 966907. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 4.5, tot.l. 95, wing 52, wing span 125, tail 31, bill l. 18.5, bill d. 1.5, tarsus 6.0. Colors: bill walnut brown, iris Hooker's green, tarsus Vandyke brown (no. 121). Plumage: primaries fresh, tail fresh. Prep.: skel. (NRM).
10. Female, NRM 966918. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 3.5, tot.l. 91, wing 52, wing span 122, tail 28, bill l. 20, bill d. 1.5, tarsus 5.0. Colors: bill walnut brown, iris Hooker's green, tarsus Vandyke brown (no. 121). Plumage: primaries fresh, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).
11. Unsexed, ad. NRM 966983, MNHNP 2095. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 3.6, tot.l. 94, wing 53, wing span 130, tail 32, bill l. 22, bill d. 2.5, tarsus 5.5. Colors: bill vinaceous (tip of bill jet black), tarsus burnt umber. Plumage: primaries fresh, tail fresh. Prep.: alcohol specimen (MNHNP).
12. Unsexed, ad. NRM 976693. P.N. Cerro Corá, Dpto Amambay, 17 Nov. 1997. Meas.: wt 4, tot.l. 97, wing 55, tail 30, bill l. 19, bill d. 2.5. Colors: bill spinel red tip black, tarsus jet black. Plumage: primaries fresh, tail fresh. Prep.: skel. (NRM), blood or tissue sample (NRM).
13. Male, ad. NRM 996701. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 3.5, tot.l. 90, wing 54, wing span 124, tail 19, bill l. 18.9, bill d. 2, tarsus 3.8. Plumage: primaries fresh, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Gilded Hummingbird is resident in Paraguay. It is common in Campos Cerrados, fairly common in Alto Chaco and uncommon in Matogrosense and Bajo Chaco (del Castillo and Clay 2004).

***Helimaster furcifer* (Shaw, 1812). Blue-tufted Starthroat**

1. Female, ad. NRM 966823. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 4.5, tot.l. 120, wing 66, tail 38, bill l. 29, tarsus 5.5. Colors: bill jet black, tarsus jet black. Plumage: primaries fresh, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female (plum.), ad. NRM 966911, MNHNP 1431. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 4.8, tot.l. 120, wing 57, wing span 130, tail 38, bill l. 30, bill d. 1.2, tarsus 6.2. Colors: bill jet black, tarsus jet black. Plumage: primaries fresh, tail heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Blue-tufted Starthroat is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species undertakes seasonal movements resulting in increasing number of individuals in, e.g., Asunción, in winter, but the details of these movements are unclear (Paul Smith pers. comm.).

CUCULIDAE

Crotophaga major J.F. Gmelin, 1788. Greater Ani

1. Female, ad. NRM 976737, MNHNP 1657. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 156, tot.l. 485, wing 202, wing span 575, tail 249, bill l. 45, bill d. 23, tarsus 43. Colors: bill jet black, tarsus jet black. Plumage: wing moulting, primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 976738. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 242, tot.l. 495, wing 201, tail 248, bill l. 45, bill d. 22, tarsus 43. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Greater Ani is a northern austral migrant that fairly common in Campos Cerrados (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America.

Crotophaga ani Linnaeus, 1758. Smooth-bellied Ani

1. Male, age undetermined. NRM 956701, MNHNP 1055. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 96, tot.l. 350, wing 152, wing span 405, tail 178, bill l. 31, bill d. 22, tarsus 37. Colors: bill sepia (no. 119), iris sepia (no. 219), tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 956704. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 26 March 1995. Meas.: wt 85, tot.l. 340, wing 148, tail 175, bill l. 29.5, bill d. 21, tarsus 33. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: moult in wing and tail. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 956737. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 90, tot.l. 355, wing 146, wing span 435, tail 182, bill l. 32, bill d. 21, tarsus 39. Plumage: body, wing and tail moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, NRM 966860. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: tot.l. 320, wing 145, wing span 375, tail 166, bill l. 27. Colors: bill dark neutral gray, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 967136, MNHNP 2091. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 126, tot.l. 346, wing 145, wing span 429, tail 170, bill l. 33, bill d. 21, tarsus 35. Colors:

bill blackish neutral gray, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Prep.: alcohol specimen (MNHNP).

Remarks: The Smooth-bellied Ani is resident in Paraguay. It is abundant in Campos Cerrados, and is also common in Alto Chaco (del Castillo and Clay 2004).

***Guira guira* (J.F. Gmelin, 1788). Guira Cuckoo**

1. Male, ad. NRM 937391, MNHNP 1996. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 128, tot.l. 401, wing 177, tail 210, bill l. 30, bill d. 12, tarsus 37. Colors: bill spectrum orange, iris chrome orange, bare parts around eye lime green, tarsus grayish olive. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947169. Est. Doña Júlía, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 132, tot.l. 415, wing 187, wing span 510, tail 230, bill l. 29.5, bill d. 15, tarsus 39. Colors: bill orange yellow, iris spectrum orange, eye-ring straw yellow, tarsus glaucous (no. 80). Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 966833. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 113, tot.l. 415, wing 175, wing span 495, tail 210, bill l. 29, bill d. 12, tarsus 39. Colors: bill orange yellow, eye-ring sulphur yellow, iris spectrum orange, tarsus olive-gray. Plumage: slight body moult, primaries slightly worn, tail heavy. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 967112. P.N. Cerro Corá, Dpto Amambay, 10 Nov. 1996. Meas.: wt 118, tot.l. 375, wing 170, wing span 490, tail 209, bill l. 29, bill d. 14, tarsus 38. Colors: bill upper jaw cinnamon-brown, bill lower jaw salmon color (no. 6). Plumage: wing moult, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Guira Cuckoo is resident in Paraguay. It is abundant in Alto Chaco, and common in both Matogrosense and Campos Cerrados (del Castillo and Clay 2004).

***Piaya cayana* (Linnaeus, 1766). Squirrel Cuckoo**

1. Male, ad. NRM 937230, MNHNP 987. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 118, tot.l. 525, wing 160, tail 332, bill l. 29, bill d. 11, tarsus 41. Colors: bill olive-gray, iris carmine, eye-ring carmine, tarsus medium plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, NRM 956581. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 104, tot.l. 480, wing 160, wing span 390, tail 315, bill l. 31, bill d. 10, tarsus 40. Colors: bill olive-yellow, iris brick red, eye-ring gem ruby, tarsus Pratt's Payne's gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 956590. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 120, tot.l. 480, wing 156, wing span 420, tail 274, bill l. 37, tarsus 42. Colors: bill opaline green, iris crimson, tarsus Pratt's Payne's gray. Plumage: heavy moult in body and tail. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 966945, MNHNP 2029. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 124, wing 165, bill l. 33, bill d. 11, tarsus 42. Colors: bill olive-gray, eye-ring gem ruby, iris

crimson, tarsus medium neutral gray. Plumage: primaries slightly worn, tail heavy. Fat score 0. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Female, ad. NRM 966946. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: tot.l. 498, wing 171, tail 325, bill l. 32, tarsus 39. Colors: bill olive-gray, eye-ring gem ruby, iris crimson, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 967044. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 120, tot.l. 460, wing 160, wing span 465, tail 290, bill l. 30, bill d. 11, tarsus 40. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: alcohol specimen (NRM).

Remarks: The Squirrel Cuckoo is resident in Paraguay. It is fairly common in Campos Cerrados and Central Paraguay (del Castillo and Clay 2004).

***Coccyzus americanus* (Linnaeus, 1758). Yellow-billed Cuckoo**

1. Unsexed, ad. NRM 976743. Est. Palo Santo, Dpto Pres. Hayes, 30 Nov. 1997. Meas.: wt 48, tot.l. 292, wing 143, wing span 400, tail 138, bill l. 25, bill d. 8, tarsus 27. Colors: bill, upper jaw blackish neutral gray, lower jaw orange yellow, iris Brussels brown, eye-ring spectrum yellow, tarsus light neutral gray. Plumage: tail coverts moulting, primaries slightly worn, tail very worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 976782, MNHNP 1665. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 59, tot.l. 286, wing 150, wing span 435, tail 142, bill l. 27, bill d. 9, tarsus 28. Colors: bill, upper jaw dusky brown, lower jaw orange yellow, iris amber, eye-ring orange yellow, tarsus dark neutral gray. Plumage: tail moulting, primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 976785. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 55, tot.l. 280, wing 140, wing span 400, tail 144, bill l. 26, bill d. 8, tarsus 25. Colors: bill, upper jaw dusky brown, lower jaw orange yellow, iris amber, eye-ring orange yellow, tarsus dark neutral gray. Plumage: body moulting, primaries moderately worn, tail very worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976792. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 65, tot.l. 295, wing 146, wing span 410, tail 139, bill l. 29, bill d. 9, tarsus 27. Colors: bill, upper jaw blackish neutral gray, lower jaw orange yellow, iris Brussels brown, eye-ring spectrum yellow, tarsus light neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Yellow-billed Cuckoo is a Nearctic migrant that breeds in North America and winters in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004). It may be locally common, however. The area around Parque Nacional Tte Enciso in Dpto Boquerón seems to be a key wintering area for the Yellow-billed Cuckoo between December and early February (Paul Smith pers. comm.).

***Coccyzus melacoryphus* Vieillot, 1817. Dark-billed Cuckoo**

1. Female, ad. NRM 966956, MNHNP 1433. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 48, tot.l. 253, wing 118, wing span 335, tail 142, bill l. 25, bill d. 9.0, tarsus 27. Colors:

bill blackish neutral gray, tarsus dark neutral gray. Plumage: primaries fresh, tail moderately worn. Fat score 5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 967009. P.N. San Lu s, Dpto Concepci n, 2 Nov. 1996. Meas.: wt 45, tot.l. 262, wing 115, wing span 325, tail 130, bill l. 22, bill d. 9.0, tarsus 25.5. Colors: bill jet black, tarsus dark neutral gray. Remarks: incubation patch. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 976789. P.N. Tte Enciso, Dpto Boquer n, 5 Dec. 1997. Meas.: wt 58, tot.l. 725, wing 115, wing span 335, tail 132, bill l. 23, bill d. 8, tarsus 25. Colors: bill jet black, iris jet black, eye-ring jet black, tarsus olive-gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, juv. NRM 986711. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: tot.l. 250, wing 110, wing span 320, tail 118, bill l. 22.5, bill d. 9, tarsus 27. Colors: bill jet black. Plumage: body moulting, primaries moderately worn, tail very worn. Fat score 0. Prep.: alcohol specimen (NRM).

Remarks: The Dark-billed Cuckoo breeds in Paraguay but it most likely is a northern austral migrant of which the majority of individuals spends the austral winter further north in South America (Paul Smith pers. comm.). It is uncommon in Alto Chaco, Campos Cerrados and  neembuc  (del Castillo and Clay 2004). The species is partly migratory (Payne and Kirwan 2020) and the individual with fat score 5 collected in Dpto Concepci n during the austral spring is likely a migrator.

RALLIDAE

Aramides ypecaha (Vieillot, 1819). Giant Wood Rail (Fig. 7E)

1. Female, ad. NRM 937169. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: tot.l. 500, wing 226, tail 92, bill l. 71, bill d. 15, tarsus 81. Colors: bill olive-yellow, iris scarlet, eye-ring geranium pink, tarsus ruby. Prep.: study skin (NRM)

2. Female, ad. NRM 937389. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 835, tot.l. 478, wing 232, tail 86, bill l. 71, bill d. 16.5, tarsus 83. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 976768. Est. Palo Santo, Dpto Pres. Hayes, 3 Dec. 1997. Meas.: wt 750, wing 220, wing span 760, bill l. 55, bill d. 22, tarsus 82. Colors: bill olive-yellow, iris peach red, eye-ring vinaceous, tarsus vinaceous. Plumage: body moulting, primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Giant Wood Rail is resident in Paraguay. It is abundant in Bajo Chaco, but uncommon in Bajo Chaco (del Castillo and Clay 2004).

Aramides cajaneus cajaneus (Statius Muller, 1776). Grey-necked Wood Rail

1. Female, age undetermined. NRM 956688, MNHNP 1077. Madrej n 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 390, tot.l. 385, wing 180, wing span 570, tail 66, bill l. 53, bill d. 20, tarsus 77. Colors: bill parrot green, iris spinel red, eye-ring ferruginous, tarsus deep vinaceous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966914. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 315, tot.l. 340, wing 188, wing span 530, tail 67, bill l. 49, bill d. 10.5, tarsus 65. Colors: bill lime green, eye-ring ferruginous, iris spinel pink, tarsus deep vinaceous. Plumage: primaries moderately worn, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Grey-necked Wood Rail is resident in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004).

ARAMIDAE

Aramus guarauna (Linnaeus, 1766). Limpkin

1. ssp. *guarauna*. Male, ad. NRM 947123. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 1250, tot.l. 735, wing 355, tail 165, wing span 1220, bill l. 110, bill d. 21, tarsus 133. Colors: bill, upper jaw blackish neutral gray, lower jaw yellow ocher, eye-ring yellow ocher, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *guarauna*. Male, ad. NRM 947126, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 1200, tot.l. 745, wing 365, wing span 1220, tail 170, bill l. 117, bill d. 21, tarsus 127. Colors: bill warm buff, tarsus glaucous (no. 79), eye-ring yellow ocher. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Limpkin is resident in Paraguay. It is common in Matogrosense (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

CICONIIDAE

Mycteria americana Linnaeus, 1758. Wood Stork

1. Male, ad. NRM 956665. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 3000, tot.l. 970, wing 500, wing span 1630, tail 165, bill l. 234, bill d. 50, tarsus 200. Colors: bill, upper jaw dark brownish olive, lower jaw citrine, tarsus medium plumbeous. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 966864. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 2500, tot.l. 905, wing 477, wing span 1600, tail 142, bill l. 215, bill d. 45, tarsus 192. Prep.: gizzard (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 976747, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 1 Dec. 1997. Meas.: wt 3500, tot.l. 975, wing 515, wing span 1840, tail 160, bill l. 235, bill d. 52, tarsus 215. Colors: bill see photo, iris blackish neutral gray, tarsus glaucous (no.79). Plumage: wing, tail and body moulting, two generations wing and tail pens, primaries fresh to moderately worn, tail fresh to moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Male, juv. NRM 976751. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 2300, tot.l. 910, wing 460, wing span 1620, tail 155, bill l. 210, bill d. 52, tarsus 205. Colors: bill pale horn color, iris drab, tarsus jet black. Plumage: body moulting, primaries moderately worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Wood Stork is resident in Paraguay. It is abundant in Bajo Chaco and fairly common in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

***Ciconia maguari* (J.F. Gmelin, 1789). Maguari Stork**

1. Female, ad. NRM 966920. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 4100, tot.l. 1130, wing 580, wing span 2140, tail 210, bill l. 210, bill d. 45, tarsus 243. Colors: bill crimson, iris cream color, tarsus crimson. Plumage: slight wing moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Maguari Stork is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

***Jabiru mycteria* (M.H.C. Lichtenstein, 1819). Jabiru**

1. Female, ad. NRM 947119. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 7000, tot.l. 1330, wing 625, wing span 2300, tail 205, bill l. 302, bill d. 74, tarsus 290. Colors: bill jet black, iris maroon, eye-ring jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 947193, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 9200, tot.l. 1450, wing 680, wing span 2520, tail 225, bill l. 340, bill d. 75, tarsus 330. Colors: bill jet black, iris dusky brown, eye-ring jet black, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Unsexed, imm. NRM 966908. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 5000, tot.l. 1440, wing 630, wing span 2230, tail 215, bill l. 210, bill d. 63, tarsus 285. Colors: bill jet black, eye-ring jet black, iris dusky brown, tarsus dark neutral gray. Plumage: partly prenuptial, primaries fresh, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976749. Est. Palo Santo, Dpto Pres. Hayes, 1 Dec. 1997. Meas.: wt 6750, tot.l. 1360, wing 635, wing span 2260, tail 225, bill l. 301, bill d. 66, tarsus 295. Colors: bill jet black, iris burnt sienna, tarsus jet black. Plumage: wing and body moulting, primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Jabiru is resident in Paraguay. It is uncommon in Alto Chaco, and is fairly common in Matogrosense (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

ARDEIDAE

***Tigrisoma lineatum* (Boddaert, 1783). Rufescent Tiger Heron**

1. ssp. *marmoratum*. Male, ad. NRM 937362, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 1200, tot.l. 898, wing 354, tail 146, bill l. 113, tarsus 108. Colors: bill, upper jaw jet black, lower jaw sulfur yellow (no. 157). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *marmoratum*. Female, ad. NRM 937380. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 1200, tot.l. 835, wing 353, tail 135, bill l. 105, bill d. 26, tarsus 103. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *marmoratum*. Male, ad. NRM 966863. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 1170, tot.l. 900, wing 340, tail 128, bill l. 112, bill d. 24, tarsus 113. Colors: bill jet black, iris orange yellow, tarsus brownish olive. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *marmoratum*. Male, ad. NRM 976757. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 1200, tot.l. 900, wing 330, wing span 1060, tail 135, bill l. 115, bill d. 23, tarsus 105. Colors: bill blackish neutral gray, iris sulphur yellow (no.157)/gem ruby, tarsus grayish horn color. Plumage: wing and body moulting, primaries moderately worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Rufescent Tiger Heron is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). The large size of these specimens prove them to belong to subspecies *marmoratum*. The only other subspecies of this species, nominate *lineatum*, occurs nearest immediately north of Paraguay in Mato Grosso (Brazil) and northeastern Bolivia.

***Nycticorax nycticorax* (Linnaeus, 1758). Black-crowned Night Heron**

1. ssp. *hoactli*. Male, ad. NRM 947120. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 850, tot.l. 670, wing 337, wing span 1040, tail 123, bill l. 77, bill d. 23, tarsus 84. Colors: bill, upper jaw jet black, lower jaw olive-yellow, iris Pratt's ruby, eye-ring sulphur yellow. Remarks: a snake was found in the gizzard. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *hoactli*. Male, ad. NRM 947122, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 770, tot.l. 639, wing 305, wing span 1180, tail 112, bill l. 72, bill d. 24. Colors: bill, upper jaw jet black, lower jaw pistachio, iris burnt sienna, eye-ring chartreuse, tarsus olive-yellow. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Black-crowned Night Heron is resident in Paraguay. It is common in Matogrosense (del Castillo and Clay 2004). The light plumage of the two specimens shows they doubtless belong to the northern and central South American subspecies *N. n. hoactli*, and not to the considerably darker southern subspecies *obscurus* (Blake 1977). The short wing lengths reported for *hoactli* (Blake 1977) proves to be a sampling artefact (only five individuals studied). After measuring 12 additional specimens in the collection of the NRM, the size ranges for the wing length of *hoactli* becomes 290-345 (mean 310), thus approaching that of *obscurus* 322-355 (mean 336) (Blake 1977, with the addition of three NRM specimens). Individual variation may complicate the matter further as there seems to be some individuals of the *hoactli* population with unusually dark plumage (Paul Smith pers. comm.).

***Butorides striata* (Linnaeus, 1758). Striated Heron**

1. ssp. *striata*. Male, ad. NRM 947130. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 188, tot.l. 480, wing 182, wing span 645, tail 62, bill l. 65, bill d. 13, tarsus 50. Colors: bill jet black, iris orange yellow, eye-ring jet black, tarsus olive ventrally and orange yellow dorsally. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *striata*. Male, ad. NRM 947195, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 198, tot.l. 440, wing 175, wing span 620, tail 67, bill l. 75, bill d. 11, tarsus 50. Colors: bill, upper jaw jet black, lower jaw sulphur yellow, iris orange yellow, eye-ring sepia (no. 119), bare parts in front of eye sulfur yellow (no. 157), tarsus dark brownish olive ventrally and spectrum yellow dorsally. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. ssp. *striata*. Male, juv. NRM 956722, MNHNP 1073. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 208, tot.l. 415, wing 180, wing span 530, tail 58, bill l. 56, bill d. 13, tarsus 50. Colors: bill, upper jaw jet black, lower jaw smoke gray (no. 44), iris spectrum yellow, tarsus olive-green (no. 47). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. ssp. *striata*. Male, ad. NRM 966900. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 204, tot.l. 460, wing 184, wing span 700, tail 64, bill l. 64, bill d. 13, tarsus 51. Colors: bill jet black, naked parts around eye spectrum orange, iris spectrum orange, tarsus olive-yellow. Plumage: primaries fresh, tail fresh. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *striata*. Male, ad. NRM 966967, MNHNP 1417. P.N. San Lu s, Dpto Concepci n, 31 Oct. 1996. Meas.: wt 182, tot.l. 430, wing 180, wing span 630, tail 61, bill l. 62, bill d. 13, tarsus 49. Colors: bill jet black, tarsus vinaceous pink. Plumage: moult in wing and tail. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. ssp. *striata*. Male, ad. NRM 986758. Est. Santa Ana, Dpto Misiones, 7 Nov. 1998. Meas.: wt 188, tot.l. 440, wing 180, wing span 600, tail 65, bill l. 63, bill d. 12, tarsus 49. Colors: bill jet black, lower jaw sulphur yellow, bare parts around eye sulphur yellow, iris orange yellow, tarsus yellow ocher. Plumage: wing and tail moulting, primaries slightly worn, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Striated Heron is supposed to resident in Paraguay (del Castillo and Clay 2004), but the status seems unclear as very few individuals are observed in winter (Paul Smith pers. comm.). It is common in Ñeembuc , it is fairly common in Matogrosense, uncommon in Alto Chaco, and scarce in Campos Cerrados (del Castillo and Clay 2004).

***Bubulcus ibis* (Linnaeus, 1758). Cattle Egret**

1. Male, ad. NRM 996706. Cerro Le n, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 30 Oct. 1999. Meas.: wt 250, tot.l. 510, wing 350, wing span 900, tail 91, bill l. 57, bill d. 13, tarsus 75. Colors: bill [orange], iris [yellow], tarsus [yellowish green]. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Cattle Egret is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004).

***Ardea cocoi* Linnaeus, 1766. Cocoi Heron**

1. Female, ad. NRM 947128, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 1850, tot.l. 1120, wing 467, wing span 1640, tail 175, bill l. 137, bill d. 31, tarsus 177. Colors: bill, upper jaw sepia (no. 119), lower jaw spectrum yellow, iris sulfur yellow (no. 157), eye-ring blackish neutral gray, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Cocoi Heron is resident in Paraguay. It is abundant in Bajo Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

***Ardea alba* Linnaeus, 1758. Great Egret**

1. ssp. *egretta*. Female, ad. NRM 947121, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 850, tot.l. 950, wing 383, wing span 1400, tail 145, bill l. 111, bill d. 20, tarsus 145. Colors: bill orange yellow, iris straw yellow, eye-ring olive-yellow, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *egretta*. Female, ad. NRM 976756. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 750, tot.l. 960, wing 370, wing span 1300, tail 139, bill l. 105, bill d. 20, tarsus 150. Colors: bill orange yellow, iris sulphur yellow (no.157), tarsus jet black. Plumage: body moulting, primaries very worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *egretta*. Female, ad. NRM 986770. Est. Santa Ana, Dpto Misiones, 10 Nov. 1998. Meas.: wt 855, tot.l. 900, wing 375, wing span 1320, tail 142, bill l. 103, bill d. 21, tarsus 135. Colors: bill orange yellow, bare parts around eye spectrum yellow, iris [ivory], tarsus jet black. Plumage: primaries slightly worn, tail slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Great Egret is resident in Paraguay. It is abundant in Ñeembucú, common in Matogrosense and fairly common in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding. The very long scapular plumes and coloration of the facial area and legs show that the Rio Negro bird is in full breeding plumage.

***Syrigma sibilatrix* (Temminck, 1824). Whistling Heron**

1. Male, ad. NRM 966851. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 520, tot.l. 650, wing 305, wing span 1020, tail 113, bill l. 70, bill d. 18, tarsus 93. Colors: bill jet black, naked parts around eye sky blue, iris [ivory], tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 986794. Est. Santa Ana, Dpto Misiones, 15 Nov. 1998. Meas.: wt 500, tot.l. 580, wing 300, wing span 990, tail 115, bill l. 65, tarsus 90. Colors: bill vinaceous, tip jet black, bare parts around eye sky blue, iris [white], tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Whistling Heron is resident in Paraguay. It is common in Ñeembucú and is fairly common in Alto Chaco (del Castillo and Clay 2004).

***Egretta thula* (G.I. Molina, 1782). Snowy Egret**

1. Female, ad. NRM 947127, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 320, tot.l. 553, wing 250, wing span 870, tail 92, bill l. 77, bill d. 14, tarsus 87. Colors: bill jet black, iris spectrum yellow, eye-ring spectrum yellow, tarsus jet black/spectrum yellow. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Snowy Egret is resident in Paraguay. It is common in Matogrosense (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding. The lack of long occipital crest feathers indicates the non-breeding status of this individual, although it does have at least some scapular plumes.

THRESKIORNITHIDAE

Platalea ajaja Linnaeus, 1758. Roseate Spoonbill

1. Male, ad. NRM 976742, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 30 Nov. 1997. Meas.: wt 1550, tot.l. 795, wing 380, wing span 1200, tail 108, bill l. 185, bill d. 21, tarsus 110. Colors: bill olive-gray, iris chrome orange, tarsus vinaceous. Plumage: wing and tail moulting, two generations wing pens, primaries slightly to very worn, tail slightly worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 976748. Est. Palo Santo, Dpto Pres. Hayes, 1 Dec. 1997. Meas.: wt 1650, tot.l. 775, wing 372, wing span 1320, tail 96, bill l. 176, bill d. 20, tarsus 113. Colors: bill olive-gray, iris chrome orange, tarsus vinaceous. Plumage: wing and body moulting, two generations of wing pens, primaries slightly to moderately worn, tail fresh to moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM). Remarks: see field notes for tail.

Remarks: The Roseate Spoonbill is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

Theristicus caerulescens (Vieillot, 1817). Plumbeous Ibis

1. Female, ad. NRM 937350. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 1500, tot.l. 690, wing 395, tail 180, bill l. 130, bill d. 27, tarsus 80. Colors: [black], iris [red], tarsus [orange]. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937381, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 1950, tot.l. 745, wing 408, tail 180, bill l. 153, bill d. 28, tarsus 82. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 966848. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 1600, tot.l. 770, wing 413, wing span 1300, tail 195, bill l. 152, bill d. 25, tarsus 88. Colors: bill jet black, iris spectrum orange, tarsus flesh ocher. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 966861. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 1500, tot.l. 730, wing 395, wing span 1200, tail 185, bill l. 142, bill d. 25, tarsus 79. Colors: bill jet black, iris spectrum orange, tarsus flesh ocher. Remarks: white in front. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 976755, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 1800, tot.l. 760, wing 410, wing span 1300, tail 180, bill l. 150, bill d. 26, tarsus 85. Colors: bill jet black, iris spectrum orange, tarsus salmon color. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Plumbeous Ibis is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

***Theristicus caudatus* (Boddaert, 1783). Buff-necked Ibis (Fig. 10H)**

1. ssp. *hyperorius*. Male, ad. NRM 966880. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 1350, tot.l. 770, wing 425, wing span 1340, tail 205, bill l. 157, bill d. 25, tarsus 91. Colors: bill parrot green, iris spectrum red, tarsus spinel red. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Buff-necked Ibis is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Phimosus infuscatus* (M.H.C. Lichtenstein, 1823). Bare-faced Ibis**

1. Female, ad. NRM 966855. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 520, tot.l. 560, wing 270, wing span 760, tail 120, bill l. 127, bill d. 18, tarsus 68. Colors: bill yellow ocher, iris mars brown, tarsus yellow ocher. Plumage: heavy moult (growing?) all over, primaries slightly worn, tail fresh. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Bare-faced Ibis is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

PHALACROCORIIDAE

***Phalacrocorax brasilianus* (J.F. Gmelin, 1789). Neotropic Cormorant**

1. Male, ad. NRM 937348. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 1500, tot.l. 740, wing 285, tail 178, bill l. 58, bill d. 17, tarsus 60. Colors: bill, upper jaw spectrum yellow, lower jaw blackish neutral gray, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937360, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 1300, tot.l. 712, wing 289, tail 165, bill l. 49, bill d. 15, tarsus 56. Colors: bill, upper jaw blackish neutral gray, lower jaw cream color, iris plumbeous, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Neotropic Cormorant is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

ANHINGIDAE

***Anhinga anhinga* (Linnaeus, 1766). Anhinga**

1. ssp. *anhinga*. Male, ad. NRM 947129, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 1250, tot.l. 925, wing 385, wing span 1220, tail 257, bill l. 89, bill d. 15, tarsus

40. Colors: bill, upper jaw grayish olive, lower jaw trogon yellow, iris crimson (no. 108), tarsus dark brownish olive. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *anhinga*. Unsexed, imm. NRM 966852. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 1350, tot.l. 915, wing 333, wing span 1126, tail 250, bill l. 89, bill d. 14.5, tarsus 44. Colors: bill citrine, iris chestnut. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Anhinga is resident in Paraguay. It is uncommon in Matogrosense, and scarce in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

RECURVIROSTRIDAE

Himantopus himantopus (Linnaeus, 1758). Black-winged Stilt

1. ssp. *melanurus*. Male, ad. NRM 966883. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 204, tot.l. 375, wing 236, wing span 680, tail 78, bill l. 65, bill d. 4.5, tarsus 116. Colors: bill jet black, iris scarlet, tarsus vinaceous. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *melanurus*. Male, ad. NRM 966891, MNHNP 1428. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 216, tot.l. 350, wing 236, wing span 650, tail 72, bill l. 63, bill d. 5.0, tarsus 127. Colors: bill jet black, iris scarlet, tarsus vinaceous. Plumage: slight body moult, primaries slightly worn, tail slightly worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *melanurus*. Female, ad. NRM 966892. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 172, tot.l. 370, wing 230, wing span 660, tail 74, bill l. 61, bill d. 4.0, tarsus 114. Colors: bill jet black, iris scarlet, tarsus vinaceous. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Black-winged Stilt is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004). This species belong to the many waterbirds with a nomadic lifestyle during the non-breeding season in search for suitable habitats for feeding.

CHARADRIIDAE

Pluvialis dominica (Statius Muller, 1776). American Golden Plover

1. Male, ad. NRM 947050, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 110, tot.l. 226, wing 182, wing span 545, tail 68, bill l. 23, bill d. 7.0, tarsus 42. Colors: bill jet black, iris Prout's brown, eye-ring jet black, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 947101. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 100, tot.l. 252, wing 184, wing span 563, tail 64, bill l. 22, bill d. 8.0, tarsus 43. Colors: bill dark grayish brown, iris dark grayish brown, tarsus greenish olive. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The American Golden Plover is a northern migrant that winters in Paraguay. It is scarce in Matogrosense (del Castillo and Clay 2004).

***Vanellus chilensis* (G.I. Molina, 1782). Southern Lapwing (Fig. 10A)**

1. ssp. *lampronotus*. Female, ad. NRM 937157. Est. Karanda, Dpto Pres. Hayes, 15 Sept. 1993. Meas.: wt 220, tot.l. 325, wing 230, tail 96, bill l. 33, bill d. 9.0, tarsus 68. Colors: bill [pink-black], iris [pinkishred], eye-ring [pinkishred], tarsus [pinkishred-black]. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *lampronotus*. Male, ad. NRM 937375, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 245, tot.l. 340, wing 230, tail 95, bill l. 30, bill d. 8.0, tarsus 71. Colors: iris ruby, tarsus deep vinaceous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. ssp. *lampronotus*. Female, ad. NRM 947031. Est. Doña Júlía, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 228, tot.l. 330, wing 232, wing span 760, tail 97, bill l. 31, bill d. 12, tarsus 73. Colors: bill deep vinaceous (tip jet black), iris carmine, eye-ring spinel red, tarsus deep vinaceous (front of tarsus blackish neutral gray). Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *lampronotus*. Male, ad. NRM 947037, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 250, tot.l. 340, wing 228, wing span 745, tail 94, bill l. 32, bill d. 11, tarsus 75. Colors: bill lilac (tip blackish neutral gray), iris carmine, eye-ring deep vinaceous, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. ssp. *lampronotus*. Male, ad. NRM 947204. Est. Doña Júlía, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 241, tot.l. 330, wing 232, wing span 720, tail 99, bill l. 33, bill d. 10.5, tarsus 75. Plumage: body moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. ssp. *lampronotus*. Unsexed, ad. NRM 966921, MNHNP 2099. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 272, tot.l. 355, wing 230, wing span 720, tail 100, bill l. 33, bill d. 11, tarsus 77. Colors: bill rose pink, eye-ring spinel pink, iris gem ruby, tarsus spinel pink. Plumage: primaries fresh, tail moderately worn. Prep.: alcohol specimen (MNHNP).

Remarks: The Southern Lapwing is resident in Paraguay. It is abundant in Alto Chaco, and common in Matogrosense (del Castillo and Clay 2004).

JACANIDAE

***Jacana jacana* (Linnaeus, 1766). Wattled Jacana**

1. ssp. *jacana*. Male, ad. NRM 937346, MNHNP uncat. Km 160, Trans-Chaco Highway, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 79, tot.l. 246, wing 131, tail 48, bill l. 28.5, bill d. 7.0, tarsus 49. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *jacana*. Female, ad. NRM 937364. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: tot.l. 270, wing 145, tail 45, bill l. 32, bill d. 8.0, tarsus 58. Colors: bill orange yellow, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *jacana*. Male, ad. NRM 947131. Est. Doña Júlía, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 91, tot.l. 241, wing 124, wing span 430, tail 50, tarsus 56. Colors: bill orange yellow, iris cinnamon-brown, eye-ring grayish olive, tarsus olive-green. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *jacana*. Male, ad. NRM 947196. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 107, tot.l. 243, wing 129, wing span 420, tail 44, bill l. 29.5, bill d. 6.0, tarsus 59. Colors: bill

orange yellow, forehead vinaceous, iris natal brown, eye-ring grayish horn color, tarsus citrine. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *jacana*. Female, juv. NRM 956589, MNHNP 1085. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 82, tot.l. 225, wing 134, wing span 420, tail 43, bill l. 34, bill d. 8.0, tarsus 54. Colors: bill, upper jaw brownish olive, lower jaw olive-yellow, iris citrine, tarsus smoke gray (no. 44). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. ssp. *jacana*. Male, ad. NRM 966879, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 96, tot.l. 232, wing 130, wing span 415, tail 45, bill l. 26, bill d. 8.0, tarsus 52. Colors: bill orange yellow, frontal shield and lobes carmine, iris chestnut, tarsus olive. Plumage: primaries slightly worn, tail fresh. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Wattled Jacana is resident in Paraguay. It is abundant in Alto Chaco, Matogrosense and Central Paraguay (del Castillo and Clay 2004).

SCOLOPACIDAE

Bartramia longicauda (Bechstein, 1812). Upland Sandpiper

1. Female, ad. NRM 996717, MNHNP 1672. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 1 Nov. 1999. Meas.: wt 110, tot.l. 300, wing 172, wing span 550, tail 85, bill l. 28, bill d. 6, tarsus 46. Colors: bill, upper jaw [blackish], lower jaw [yellow, dark tip], iris [brown], tarsus [yellow]. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), partial skel. (NRM), blood or tissue sample (NRM).

Remarks: The Upland Sandpiper is a northern migrant that winters in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004).

Calidris fuscicollis (Vieillot, 1819). White-rumped Sandpiper

1. Female, ad. NRM 937393, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 32, tot.l. 183, wing 121, tail 50, bill l. 24.5, bill d. 4.5, tarsus 25. Colors: bill blackish neutral gray, tarsus greenish olive. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 996721. Dpto Boquerón, Filadelfia, 20 km N, 2 Nov. 1999. Meas.: wt 24, tot.l. 170, wing 119, wing span 325, tail 47, bill l. 21.5, bill d. 4.5, tarsus 22. Plumage: primaries slightly worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The White-rumped Sandpiper is a northern migrant that winters in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004). Most individuals of this species breed in their first year of life but observations of White-rumped Sandpipers year-round in Paraguay show that some may skip breeding one year (Paul Smith pers. comm.).

Calidris melanotos (Vieillot, 1819). Pectoral Sandpiper

1. Male, ad. NRM 937390, MNHNP 1006. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 59, tot.l. 217, wing 146, tail 59, bill l. 32, bill d. 6.0, tarsus 29.5. Colors: bill, upper jaw dusky brown, lower jaw buff-yellow, tarsus sulphur yellow. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937394, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: tot.l. 232, wing 147, tail 62, bill l. 29, bill d. 5.0, tarsus 29. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 937395. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 55, tot.l. 216, wing 149, tail 58, bill l. 34, bill d. 7.0, tarsus 31. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 937396. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 43, tot.l. 205, wing 135, tail 50, bill l. 24, bill d. 4.5, tarsus 26.5. Prep.: skel. (NRM)
5. Female, ad. NRM 937398. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 47, tot.l. 200, wing 125, tail 52, bill l. 26, bill d. 5.5, tarsus 26.5. Colors: bill dusky brown, iris burnt sienna, tarsus olive-yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 986768. Est. Santa Ana, Dpto Misiones, 8 Nov. 1998. Meas.: wt 54.5, tot.l. 220, wing 142, wing span 420, tail 59, bill l. 28, bill d. 5.5, tarsus 28.5. Prep.: skel. (NRM), blood or tissue sample (NRM).
7. Male, ad. NRM 996722. Dpto Boquerón, Filadelfia, 20 km N, 2 Nov. 1999. Meas.: wt 45, tot.l. 180, wing 128, wing span 360, tail 52, bill l. 28, bill d. 5.7, tarsus 27. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Pectoral Sandpiper is a northern migrant that winters in Paraguay. It is abundant in Alto Chaco but scarce in Ñeembucú (del Castillo and Clay 2004). Most individuals of this species breed in their first year of life but observations of Pectoral Sandpipers year-round in Paraguay show that some may skip breeding one year (Paul Smith pers. comm.).

***Tringa solitaria* A. Wilson, 1813. Solitary Sandpiper**

1. ssp. *solitaria*. Female, ad. NRM 937374, MNHNP 2037. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 46, tot.l. 205, wing 130, tail 54, bill l. 30, bill d. 4.0, tarsus 33. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. ssp. *solitaria*. Male, juv? NRM 956747. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 47, tot.l. 205, wing 135, wing span 376, tail 55, bill l. 29, bill d. 4.0, tarsus 32. Colors: bill sepia (no. 219), tarsus buff-yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. ssp. *solitaria*. Female, age undetermined. NRM 956748, MNHNP 1061. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 63, tot.l. 197, wing 137, wing span 360, tail 155, bill l. 29, bill d. 5.0, tarsus 32. Colors: bill sepia (no. 119), tarsus grayish olive. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
4. ssp. *solitaria*. Male, ad. NRM 966836. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 42, tot.l. 210, wing 132, wing span 400, tail 55, bill l. 30, bill d. 4.0, tarsus 33. Colors: bill yellowish olive-green, tarsus yellowish olive-green. Plumage: primaries fresh, tail moderately worn. Fat score 4. Remarks: very lean. Prep.: skel. (NRM).
5. ssp. *solitaria*. Unsexed, ad. NRM 976744, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 30 Nov. 1997. Meas.: wt 42, wing 128, wing span 380, bill l. 29, bill d. 5, tarsus 31. Colors: bill jet black, iris burnt sienna, tarsus citrine. Plumage: wing and body moulting, primaries moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Solitary Sandpiper is a northern migrant that winters in Paraguay. It is fairly common in Alto Chaco (del Castillo and Clay 2004). Assigned to subspecies *solitaria* based on small wing sizes.

***Tringa flavipes* (J.F. Gmelin, 1789). Lesser Yellowleg**

1. Male, ad. NRM 937392, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 70, tot.l. 260, wing 154, tail 60, bill l. 36, bill d. 4.5, tarsus 51. Colors: bill blackish neutral gray, tarsus orange yellow. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966882. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 72, tot.l. 260, wing 164, wing span 445, tail 60, bill l. 36, bill d. 4.0, tarsus 51. Colors: bill jet black (inner 1/3 of bill straw yellow), iris dusky brown, tarsus cream color. Plumage: primaries fresh, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 966884, MNHNP 1422. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 74, tot.l. 255, wing 148, wing span 425, tail 55, bill l. 35, bill d. 4.0, tarsus 51. Colors: bill jet black (inner 1/3 of bill straw yellow), iris dusky brown, tarsus cream color. Plumage: slight body moult, primaries moderately worn, tail heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 966885. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 76, tot.l. 265, wing 155, wing span 450, tail 57, bill l. 40, bill d. 4.0, tarsus 52. Colors: bill jet black (inner 1/3 of bill straw yellow), iris dusky brown, tarsus cream color. Plumage: primaries fresh, tail moderately worn. Prep.: skel. (NRM).

5. Male, ad. NRM 996720. Dpto Boquerón, Filadelfia, 20 km N, 2 Nov. 1999. Meas.: wt 68, tot.l. 250, wing 158, wing span 420, tail 59, bill l. 36, bill d. 6, tarsus 46. Plumage: primaries slightly worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Lesser Yellowlegs is a northern migrant that winters in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004). Most individuals of this species breed in their first year of life but observations of Lesser Yellowlegs year-round in Paraguay show that some may skip breeding one year (Paul Smith pers. comm.).

***Steganopus tricolor* Vieillot, 1819. Wilson's Phalarope**

1. Male, ad. NRM 966888. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 43, tot.l. 200, wing 115, wing span 330, tail 46, bill l. 30, bill d. 3.0, tarsus 31. Colors: bill jet black, iris dark grayish brown, tarsus trogon yellow. Plumage: heavy body moult, primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 966889, MNHNP 1423. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 46, tot.l. 220, wing 128, wing span 380, tail 49, bill l. 34, bill d. 3.0, tarsus 32. Colors: bill jet black, iris dark grayish brown, tarsus trogon yellow. Plumage: primaries fresh, tail slightly worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 966890. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 43, tot.l. 210, wing 118, wing span 350, tail 50, bill l. 33, bill d. 2.9, tarsus 31. Colors: bill jet black, iris dark grayish brown, tarsus trogon yellow. Plumage: heavy body and slight wing moult, primaries fresh, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Wilson's Phalarope is a Nearctic migrant that winters in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004) where large flocks may sometimes be observed (Paul Smith pers. comm.).

CATHARTIDAE

Cathartes aura (Linnaeus, 1758). Turkey Vulture

1. ssp. *ruficollis*. Male, imm. NRM 956726. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 800, tot.l. 545, wing 503, wing span 1033, tail 220, bill l. (36), bill d. 20, tarsus 56. Colors: bill blackish neutral gray, iris grayish horn color, tarsus drab-gray. Plumage: moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *ruficollis*. Male, imm. NRM 956732, MNHNP uncat. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 March 1995. Meas.: wt 850, tot.l. 580, wing 505, wing span 1600, tail 228, bill l. (36), bill d. 22, tarsus 63. Colors: bill dark grayish brown, iris army brown, tarsus drab-gray. Plumage: tail worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Turkey Vulture is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004). The bill lengths may have been measured in a wrong way.

Cathartes burrovianus Cassin, 1845. Lesser Yellow-headed Vulture

1. ssp. *urubutinga*. Female, ad. NRM 937386, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 1050, tot.l. 577, wing 514, tail 228, bill l. 22, bill d. 14.5, tarsus 53. Prep.: skel. (MNHNP).

2. ssp. *urubutinga*. Male, ad. NRM 937388. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 1050, tot.l. 554, wing 493, tail 215, bill l. 22, bill d. 15.5, tarsus 61. Colors: bill cream color. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Lesser Yellow-headed Vulture is resident in Paraguay. It is fairly common in Alto Chaco (del Castillo and Clay 2004).

Coragyps atratus (Bechstein, 1793). Black Vulture

1. Male, ad. NRM 947124, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 1750, tot.l. 630, wing 412, wing span 1400, tail 170, bill l. (83), bill d. 23, tarsus 166. Colors: bill grayish olive, iris warm sepia, eye-ring jet black, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Black Vulture is resident in Paraguay. It is abundant in Matogrosense (del Castillo and Clay 2004). The bill length measurement is clearly wrong.

ACCIPITRIDAE

Gampsonyx swainsonii Vigors, 1825. Pearl Kite

Unsexed, ad. NRM 976654, MNHNP 1659. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 92, tot.l. 218, wing 150, wing span 472, tail 90, bill l. 14, bill d. 9, tarsus 31. Colors:

bill blackish neutral gray, iris plumbeous, tarsus orange yellow. Plumage: primaries moderately worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Pearl Kite is resident in Paraguay. It is rare in Campos Cerrados (del Castillo and Clay 2004).

***Leptodon cayanensis* (Latham, 1790). Gray-headed Kite**

1. Female, ad. NRM 947125. Rio Negro, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: tot.l. 530, wing 359, wing span 1100, tail 252, bill l. (33), bill d. 18, tarsus 43. Colors: bill, upper jaw jet black, lower jaw light sky blue, iris medium plumbeous, eye-ring light sky blue, tarsus light sky blue. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Gray-headed Kite is resident in Paraguay. It is scarce in Matogrosense (del Castillo and Clay 2004).

***Harpagus diodon* (Temminck, 1823). Rufous-thighed Kite**

1. Male, ad. NRM 967089, MNHNP 1420. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 164, tot.l. 311, wing 216, wing span 660, tail 155, bill l. 15, bill d. 12, tarsus 32. Colors: bill upper jaw jet black, bill lower jaw glaucous (no. 80), eye-ring sulphur yellow, iris gem ruby, tarsus trogon yellow. Plumage: moult in wing and tail. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Rufous-thighed Kite is a northern austral migrant, but part of the population may stay in Paraguay during their breeding season. It is scarce in Campos Cerrados (del Castillo and Clay 2004).

***Accipiter bicolor* (Vieillot, 1817). Bicolored Hawk**

1. ssp. *guttifer*. Male, imm. NRM 967028, MNHNP 1419. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 220, tot.l. 363, wing 210, wing span 640, tail 165, bill l. 14.5, bill d. 15, tarsus 57. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, iris cream color, tarsus cream color. Plumage: primaries heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *guttifer*. Unsexed, ad. NRM 996709, MNHNP 1675. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 Oct. 1999. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *guttifer*. Female (plum.), juv. NRM 996708. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 30 Oct. 1999. Meas.: tot.l. 445, wing 255, tail 210, bill l. 16, bill d. 12, tarsus 65. Colors: bill, upper jaw [light gray], lower jaw [light gray], iris [yellow], tarsus [yellow]. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Bicolored Hawk is resident in Paraguay. It is scarce in both Alto Chaco and Campos Cerrados (del Castillo and Clay 2004). It has been reported as fairly frequent in Dpto Alto Paraguay (Paul Smith pers. comm.).

***Busarellus nigricollis* (Latham, 1790). Black-collared Hawk**

1. Male, ad. NRM 966841, MNHNP 1421. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 840, tot.l. 540, wing 410, wing span 1220, tail 195, bill l. 27, bill d. 17, tarsus 92. Colors: bill jet black, iris burnt umber, tarsus pearl gray. Plumage: wing moult, primaries slightly worn, tail slightly worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Black-collared Hawk is resident in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004).

***Geranospiza caerulescens* (Vieillot, 1817). Crane Hawk**

1. Female, ad. NRM 996678. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 540, tot.l. 555, wing 345, wing span 1100, tail 260, bill l. 30, bill d. 16, tarsus 103. Colors: bill, upper jaw [dark gray], lower jaw [bluish gray], iris [light yellow], tarsus [orange]. Plumage: primaries moderately worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Crane Hawk is resident in Paraguay. It is fairly common in Alto Chaco (del Castillo and Clay 2004).

***Ictinia plumbea* (J.F. Gmelin, 1788). Plumbeous Kite**

1. Male, ad. NRM 967104, MNHNP 1418. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 250, tot.l. 350, wing 290, wing span 830, tail 139, bill l. 16, bill d. 13, tarsus 37. Colors: bill jet black, tarsus salmon color (no. 106). Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 967105. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 257, tot.l. 362, wing 302, wing span 875, tail 150, bill l. 16, bill d. 13, tarsus 40. Colors: bill jet black, tarsus salmon color (no. 106). Plumage: moult in wing and tail. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 976640, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 265, tot.l. 335, wing 302, wing span 930, tail 130, bill l. 16, bill d. 12, tarsus 38. Colors: bill jet black, iris crimson, tarsus spectrum orange. Plumage: primaries slightly worn, tail slightly worn-moderate. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 976641. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 266, tot.l. 353, wing 317, wing span 945, tail 147, bill l. 17, bill d. 12, tarsus 38. Colors: bill jet black, iris crimson, tarsus spectrum orange. Plumage: two generations tail feathers, primaries slightly worn, tail moderately to very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 976642. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 238, tot.l. 345, wing 313, wing span 920, tail 140, bill l. 16.5, bill d. 12. Colors: bill jet black, iris crimson, tarsus chrome orange. Plumage: two generations tail feathers, primaries slightly worn, tail slightly to very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Plumbeous Kite is a northern austral migrant that winters north of Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Rostrhamus sociabilis* (Vieillot, 1817). Snail Kite**

1. ssp. *sociabilis*. Male, imm. NRM 937349, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 310, tot.l. 370, wing 310, tail 153, bill l. (30), bill d. 11, tarsus 45. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *sociabilis*. Female, ad. NRM 947192. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 315, tot.l. 400, wing 345, wing span 950, tail 179, bill l. (34), bill d. 10, tarsus 49. Colors: bill jet black, iris brick red, eye-ring blackish neutral gray, tarsus yellow ocher. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *sociabilis*. Male, imm. NRM 956660. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 420, tot.l. 415, wing 340, wing span 1000, tail 157, bill l. (34), bill d. 11.5, tarsus 48. Colors: bill blackish neutral gray, iris crimson, tarsus sayal brown. Prep.: skel. (NRM).

Remarks: The Snail Kite is a southern austral migrant. Although Paraguay has a breeding population, many Snail Kites breeds further south and only spend the austral winter here. It is abundant in Bajo Chaco, and common in both Alto Chaco and Matogrosense (del Castillo and Clay 2004).

***Rupornis magnirostris* (J.F. Gmelin, 1788). Roadside Hawk**

1. ssp. *saturatus*. Male, imm. NRM 956700. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: tot.l. 380, wing 265, wing span 750, tail 183, bill l. 19, bill d. 14, tarsus 67. Colors: bill light neutral gray, iris drab-gray, bare parts around eye spectrum yellow, tarsus spectrum yellow. Prep.: study skin (NRM).

2. ssp. *saturatus*. Male, ad. NRM 956727, MNHNP 1075. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 March 1995. Meas.: wt 275, tot.l. 395, wing 255, wing span 810, tail 173, bill l. 18, bill d. 12.5, tarsus 71. Colors: bill Pratt's Payne's gray (tip of bill blackish neutral gray), bare parts around eye spectrum yellow, tarsus buff-yellow. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *saturatus*. Female, ad. NRM 966862. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 705, tot.l. 510, wing 415, wing span 1220, tail 202, bill l. 20, bill d. 16, tarsus 100. Colors: bill jet black, iris raw sienna, tarsus sulphur yellow. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *magniplumis*. Male, ad. NRM 967150. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 285, tot.l. 380, wing 245, wing span 770, tail 163, bill l. 17.5, bill d. 12.5, tarsus 63. Colors: bill orange yellow, iris cream color, tarsus buff (no. 124). Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), skel. (NRM), blood or tissue sample (NRM).

5. ssp. *magniplumis*. Male, ad. NRM 976679, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 262, tot.l. 355, wing 234, wing span 700, tail 152, bill l. 18.5, bill d. 12.5, tarsus 63. Colors: bill Pratt's Payne's gray, tarsus spectrum yellow. Plumage: wing moulting, primaries moderately worn, tail very worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. ssp. *saturatus*. Male, ad. NRM 976716, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 310, tot.l. 385, wing 252, wing span 780, tail 170, bill l. 18, bill d. 10, tarsus 72. Colors: bill, upper jaw blackish neutral gray, lower jaw light neutral gray, iris sulphur yellow (no.157), tarsus orange yellow, Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. *ssp. saturatus*. Female, ad. NRM 996712. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 31 Oct. 1999. Meas.: wt 350, tot.l. 415, wing 275, wing span 810, tail 185, bill l. 19.5, bill d. 13, tarsus 65. Colors: bill [bluish gray, tip dark gray], iris [yellowish white], tarsus [yellow]. Plumage: primaries very worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM). Remarks: two lizards in stomach.

Remarks: The Roadside Hawk is resident in Paraguay. It is fairly common in both Alto Chaco and Campos Cerrados (del Castillo and Clay 2004). The subspecies *saturatus* seems to be the most widespread in Paraguay, but the specimens from Cerro Corá show *magniplumis* to be present in at least the northeastern parts of the country.

***Buteogallus meridionalis* (Latham, 1790). Savanna Hawk**

1. Male, ad. NRM 947034, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: tot.l. 550, wing 405, wing span 700, tail 210, bill l. (36), bill d. 22, tarsus 110. Colors: bill jet black, eye-ring jet black, tarsus trogon yellow. Plumage: slight wing moult. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 986725. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 860, tot.l. 530, wing 435, wing span 1250, tail 210, bill l. 24.5, bill d. 17, tarsus 116. Colors: bill jet black, cere orange yellow, iris burnt orange, tarsus orange yellow. Plumage: slight wing moult. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Savanna Hawk is resident in Paraguay. It is common in Ñeembucú and is uncommon in Matogrosense (del Castillo and Clay 2004).

***Buteogallus urubitinga* (J.F. Gmelin, 1788). Great Black Hawk**

1. *ssp. cf. urubitinga*. Male, ad. NRM 947194. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 1220, tot.l. 590, wing 433, wing span 1230, tail 244, bill l. 31, bill d. 25.5, tarsus 140. Colors: bill jet black, iris mars brown, eye-ring sepia (no. 119), tarsus trogon yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Great Black Hawk is resident in Paraguay. It is fairly common in Matogrosense (del Castillo and Clay 2004). This individual is considerably larger than the size range for males of the subspecies *B. u. urubitinga* given by Blake (1977). There is no question considering the correctness of the sexing, the gonads were active and enlarged. A small sample of individuals from the Amazonian Brazil kept at the NRM closely matches the sizes given by Blake (1977). In a female from Tucuman in Argentina, however, these measurements are greatly exceeded (wing length 435, culmen to cere 33, and tail 255 mm). Seemingly, birds in the southern part of the distribution of this species are considerably larger than those further north, to which Blake's statistics presumably apply. Further investigations are needed to determine whether this is part of a clinal variation, or if the southern populations best should be referred to a new subspecies.

STRIGIDAE

***Glaucidium brasilianum* (J.F. Gmelin, 1788). Ferruginous Pygmy Owl (Fig. 6D)**

1. Male, ad. NRM 937343. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 8 Oct. 1993. Meas.: wt 62, tot.l. 170, wing 94, tail 58, bill l. 13, bill d. 11, tarsus 20. Colors: bill lime green, iris spectrum yellow, tarsus lime green. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 937345, MNHNP 2031. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 8 Oct. 1993. Meas.: wt 60, tot.l. 164, wing 93, tail 63, bill l. 15, bill d. 9.0, tarsus 21. Colors: bill sulphur yellow, iris spectrum yellow, tarsus straw yellow. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Female, ad. NRM 956623. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 79, tot.l. 180, wing 96, wing span 300, tail 65, bill l. 14.5, bill d. 11, tarsus 22. Colors: bill lime green, iris spectrum yellow, tarsus sulphur yellow. Plumage: slight body moult, hand and tail partly moulted. Prep.: round skin and complete skel. (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 967008. P.N. San Lu s, Dpto Concepci n, 2 Nov. 1996. Meas.: wt 66, tot.l. 164, wing span 96, tail 63, bill l. 10.5, bill d. 9.0, tarsus 18. Colors: bill straw yellow, iris cream color, tarsus sulphur yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Male, ad. NRM 976668. P.N. Cerro Cor , Dpto Amambay, 14 Nov. 1997. Meas.: wt 66, tot.l. 178, wing 96, wing span 350, tail 66, bill l. 14, bill d. 12, tarsus 21. Colors: bill sulphur yellow (no.57), tarsus straw yellow. Plumage: primaries slightly worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 976745, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 30 Nov. 1997. Meas.: wt 60, tot.l. 168, wing 97, wing span 341, tail 64, bill l. 14, bill d. 7, tarsus 11. Colors: bill straw yellow, iris spectrum yellow, tarsus straw yellow. Plumage: body moulting, primaries slightly worn, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Unsexed, ad. NRM 996697. Cerro Le n, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 Oct. 1999. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Ferruginous Pygmy Owl is resident in Paraguay. It is fairly common in Campos Cerrados and Central Paraguay, and uncommon in Alto Chaco (del Castillo and Clay 2004). Both the gray and rufous color morphs were observed at P.N. Caaguaz .

***Athene cunicularia* (G.I. Molina, 1782). Burrowing Owl (Fig. 7B)**

1. Male, ad. NRM 967128, MNHNP uncat. P.N. Cerro Cor , Dpto Amambay, 11 Nov. 1996. Meas.: wt 192, tot.l. 235, wing 175, wing span 555, tail 78, bill l. 17, bill d. 12.5, tarsus 45. Plumage: primaries moderately worn, tail heavy. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Unsexed, ad. NRM 967152. P.N. Cerro Cor , Dpto Amambay, 12 Nov. 1996. Meas.: wt 189, tot.l. 230, wing 183, wing span 550, tail 75, bill l. 19, bill d. 12, tarsus 47. Colors: bill pearl gray, tarsus pearl gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Burrowing Owl is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Megascops choliba* (Vieillot, 1817). Tropical Screech Owl**

1. Male, ad. NRM 967110, MNHNP 1434. P.N. Cerro Corá, Dpto Amambay, 10 Nov. 1996. Meas.: wt 145, tot.l. 237, wing 165, wing span 530, tail 95, bill l. 13.5, bill d. 11, tarsus 33. Colors: bill clay color (no. 123B), iris cream color, tarsus smoke gray (no. 45). Plumage: primaries heavy, tail heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Tropical Screech Owl is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Bubo virginianus* (J.F. Gmelin, 1788). Great Horned Owl**

1. Male, ad. NRM 966853, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 975, tot.l. 470, wing 365, wing span 1080, tail 190, bill l. 29, bill d. 22.5, tarsus 60. Colors: bill blackish neutral gray, iris chamois. *Remarks:* one rodent and insects in gizzard. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Great Horned Owl is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Ciccaba huhula* (Daudin, 1800). Black-banded Owl**

1. Female, ad. NRM 937224. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 560, tot.l. 390, wing 260, bill l. 33, bill d. 20.5, tarsus 44. Colors: bill orange yellow, iris raw umber, foot orange yellow. *Remarks:* gonads active. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Black-banded Owl has a wide distribution in forests of northern and eastern South America and occur nearest to Paraguay in eastern Brazil (Meyer de Schauensee 1966). At the time of the fieldwork the only previous report of the Black-banded Owl from Paraguay was based on calls attributed to this species at the Estancia Itabó, Dpto Canindeyú (Brooks *et al.* 1993, 1995). On 30 Sept. 1993 a female Black-banded Owl was collected in Parque Nacional Caaguazú, Dpto Caazapá. The owl was in breeding condition, shown by an almost fully developed egg present in the uterus with additional eggs under development. Two bats of different species were found in the stomach. Previous information on the food preferences of the Black-banded Owl lists insects as its primary food (König *et al.* 2008), but its allospecies, the Black-and-white Owl (*Ciccaba nigrolineata*), frequently captures bats (Ibañez *et al.* 1992). Despite rather high ornithological activity in areas where the Black-banded Owl could be expected to occur, it had never been unanimously recorded before (*contra* Meyer de Schauensee 1966). Since the first documented occurrence the species has been observed or heard at several locations in the Oriente, but the Paraguayan population seems rather small and local (del Castillo and Clay 2004).

TROGONIDAE

***Trogon curucui* Linnaeus, 1766. Blue-crowned Trogon**

1. Male (plum.), ad. NRM 937172, MNHNP 1968. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: wt 48, wing 125, tarsus 9.0. Colors: bill pearl gray, eye-ring orange yellow, tarsus medium neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947100, MNHNP 2006. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 37, tot.l. 270, wing 128, wing span 380, tail 137, bill l. 17, bill d. 10, tarsus 15. Colors: bill glaucous (no. 80), iris burnt sienna, eye-ring spectrum yellow, tarsus light neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 947104. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 47, tot.l. 270, wing 128, tail 140, bill l. 19, bill d. 9.0, tarsus 14.5. Colors: bill smoke gray (no. 44), iris chestnut, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 947143. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 47, tot.l. 255, wing 130, wing span 390, tail 130, bill l. 15.5, bill d. 9.0, tarsus 14. Colors: bill, upper jaw glaucous (no. 79), lower jaw glaucous (no. 80), iris hazel, eye-ring brownish olive, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Male, ad. NRM 947166. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 48, tot.l. 255, wing 128, wing span 360, tail 135, bill l. 17, bill d. 10, tarsus 14.5. Colors: bill pale neutral gray, iris brick red, eye-ring orange yellow, tarsus medium neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 947209, MNHNP 2013. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 51, tot.l. 266, wing 133, wing span 403, tail 138, bill l. 18, bill d. 10, tarsus 14. Colors: bill pearl gray, iris buff (no. 24), eye-ring orange yellow, tarsus medium plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Male (plum.), ad. NRM 947230. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 60, tot.l. 270, wing 134, tail 145, bill l. 17, bill d. 11.5, tarsus 14. Colors: bill smoke gray (no. 44), tarsus light neutral gray. Prep.: alcohol specimen (NRM).
8. Female, ad. NRM 966859, MNHNP 2052. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 50, tot.l. 240, wing 128, wing span 365, tail 108, bill l. 16.5, bill d. 10.5, tarsus 16. Colors: bill upper jaw plumbeous, bill lower jaw pearl gray, iris kingfisher rufous, tarsus medium neutral gray. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
9. Female, ad. NRM 966899. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 44, tot.l. 252, wing 125, wing span 345, tail 128, bill l. 18, bill d. 10, tarsus 19. Colors: bill olive-gray, iris mars brown, tarsus light neutral gray. Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).
10. Male, ad. NRM 967014. P.N. San Lu s, Dpto Concepci n, 3 Nov. 1996. Meas.: wt 57, tot.l. 260, wing 125, wing span 380, tail 138, bill l. 17, bill d. 9.5, tarsus 12. Colors: bill pearl gray, eye-ring hazel, iris spectrum orange, tarsus plumbeous. Plumage: moult in body and wing, primaries moderately worn, tail heavy. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Blue-crowned Trogon is resident in Paraguay. It is common in Campos Cerrados, it is uncommon in Matogrosense and scarce in both Alto Chaco and Bajo Chaco (del Castillo and Clay 2004).

***Trogon surrucura* Vieillot, 1817. Surucua Trogon (Fig. 6A)**

1. Female, ad. NRM 937248, MNHNP 1970. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 70, tot.l. 260, wing 143, tail 152, bill l. 18, bill d. 10, tarsus 16.5. Colors: bill dark neutral gray, iris raw umber, tarsus pale neutral gray. Prep.: skel. (MNHNP).
2. Male, ad. NRM 956646. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 70, tot.l. 280, wing 137, wing span 360, tail 161, bill l. 17, bill d. 8.8, tarsus 15.5. Colors: bill pearl gray with culmen dark neutral gray, iris dark grayish brown, tarsus medium neutral gray. Plumage: tail worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 967125. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 70, tot.l. 273, wing 132, wing span 400, tail 140, bill l. 16, bill d. 12, tarsus 17. Colors: bill pearl gray, eye-ring spectrum orange, iris tawny, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Unsexed, ad. NRM 967127. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 70, tot.l. 275, wing 140, wing span 407, tail 120, bill l. 18, bill d. 10, tarsus 16. Colors: bill pearl gray, tarsus medium neutral gray. Plumage: tail moult, primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (NRM).
5. Male, ad. NRM 986712. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 70, tot.l. 266, wing 145, tail 148, bill l. 13.5, bill d. 10, tarsus 15. Colors: eye-ring flame scarlet, tarsus medium neutral gray. Plumage: moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. Female, ad. NRM 986761. Est. Santa Ana, Dpto Misiones, 7 Nov. 1998. Meas.: wt 81.5, tot.l. 299, wing 145, wing span 415, tail 142, bill l. 18.5, bill d. 9.5, tarsus 16. Colors: bill pearl gray, tip jet black, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
7. Male (plum.), ad. NRM 986738. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 67, tot.l. 293, wing 141, wing span 412, tail 156, bill l. 14, bill d. 12, tarsus 14.9. Colors: bill light sky, tarsus dark neutral gray. Plumage: moulting. Prep.: alcohol specimen (NRM).

Remarks: The Surucua Trogon is resident in Paraguay. It is common in Central Paraguay, uncommon in Ñeembucú and rare in Campos Cerrados (del Castillo and Clay 2004).

BUCCONIDAE***Nystalus chacuru* (Vieillot, 1816). White-eared Puffbird**

1. Male, ad. NRM 967117. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 54, tot.l. 200, wing 88, wing span 285, tail 74, bill l. 36, bill d. 15, tarsus 19. Colors: bill chrome orange, iris tawny, tarsus kingfisher rufous. Plumage: primaries fresh, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).
2. Female, ad. NRM 967142, MNHNP 1432. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 59, tot.l. 221, wing 88, wing span 310, tail 71, bill l. 36, bill d. 15, tarsus 18. Plumage: primaries fresh, tail moderately worn. Fat score 5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 967144. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 54, tot.l. 250, wing 82, wing span 280, tail 66, bill l. 33, bill d. 15, tarsus 19. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The White-eared Puffbird is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004). The high fat score in two individuals suggest these birds may undertake seasonal movements, as has been assumed for this population (Rasmussen *et al.* 2020).

***Nystalus maculatus* (J.F. Gmelin, 1788). Spot-backed Puffbird (Fig. 10B)**

1. Female, ad. NRM 947240, MNHNP uncat. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 44, wing 79, bill l. 33, bill d. 11.5, tarsus 19.5. Colors: bill, upper jaw dark grayish brown, lower jaw bunt orange, iris cream color, tarsus grayish olive. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947256. Est. Apami, Dpto Amambay, 9 Oct. 1994. Meas.: wt 38, tot.l. 190, wing 77, wing span 275, tail 65, bill l. 26, bill d. 10, tarsus 18. Colors: bill, upper jaw dark grayish brown, lower jaw bunt orange, iris buff-yellow, tarsus grayish olive. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 967147. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 41, tot.l. 199, wing 83, wing span 270, tail 69, bill l. 34, bill d. 12.5, tarsus 17. Colors: bill burnt orange (culmen blackish neutral gray), tarsus citrine. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976653. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 44, tot.l. 201, wing 87, wing span 283, tail 70, bill l. 37, bill d. 16, tarsus 19. Colors: bill peach red (culmen fuscous), iris cream color, tarsus citrine. Plumage: primaries fresh, tail slightly worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 976677, MNHNP 1655. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 42, tot.l. 200, wing 75, wing span 277, tail 65, bill l. 36, bill d. 12, tarsus 20. Colors: iris ivory, tarsus russet. Plumage: wing moulting, primaries fresh, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Spot-backed Puffbird is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

PICIDAE

***Picumnus cirratus* Temminck, 1825. White-barred Piculet (Fig. 8B)**

1. ssp. *pilcomayensis*. Female, ad. NRM 947133. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 6.6, tot.l. 95, wing 47, wing span 150, tail 29, bill l. 11, bill d. 4.5, tarsus 11. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. ssp. *pilcomayensis*. Female (plum.), ad. NRM 947148, MNHNP 1026. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 6.7, wing 48, wing span 162, bill l. 9.0, bill d. 4.5, tarsus 11.5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *pilcomayensis*. Male, ad. NRM 956692. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 6.5, tot.l. 91, wing 47, wing span 157, tail 30, bill

1. 10, bill d. 4.5, tarsus 12. Colors: bill pale neutral gray (tip of bill blackish neutral gray), tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *pilcomayensis*. Male, ad. NRM 966840. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 7.0, tot.l. 90, wing 50, wing span 150, tail 31, bill l. 9.7, bill d. 3.8, tarsus 12. Colors: bill upper jaw blackish neutral gray, bill lower jaw light neutral gray, iris raw umber (no. 223), tarsus dark neutral gray. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM).

5. ssp. *pilcomayensis*. Unsexed, ad. NRM 967094, MNHNP 2102. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 9.4, tot.l. 89, wing 50, wing span 158, tail 28, bill l. 11, bill d. 5.0, tarsus 12. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, iris russet, tarsus dark neutral gray. Plumage: primaries slightly worn, tail heavy. Prep.: alcohol specimen (MNHNP).

6. ssp. *pilcomayensis*. Female, ad. NRM 976666, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 9, tot.l. 100, wing 51, wing span 165, tail 30.5, bill l. 12, bill d. 5, tarsus 13. Colors: bill blackish neutral gray, iris burnt umber, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. ssp. *pilcomayensis*. Male (plum.), ad. NRM 976678. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 8.8, tot.l. 93, wing 49, wing span 160, tail 30, bill l. 12, bill d. 5, tarsus 12. Colors: bill, upper jaw jet black, lower jaw dark neutral gray, iris warm sepia, tarsus dark neutral gray. Plumage: two generations tail feathers, primaries fresh, tail fresh to very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. ssp. *pilcomayensis*. Female, juv. NRM 996676. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 27 Oct. 1999. Meas.: wt 6.5, wing 47, wing span 140, bill l. 9.7, bill d. 4.4, tarsus 12. Colors: bill [bluish gray], tarsus [bluish gray]. Plumage: tail moulting, primaries moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

9. ssp. *pilcomayensis*. Female, juv. NRM 996693. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 7, tot.l. 85, wing 47, wing span 155, tail 32, bill l. 9.7, bill d. 3.4, tarsus 11.5. Colors: bill [dark gray], iris [dark brown], tarsus [dark gray]. Plumage: primaries slightly worn, tail slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-barred Piculet is resident in Paraguay. It is common in Alto Chaco, but is uncommon in both Matogrosense and Campos Cerrados (del Castillo and Clay 2004).

***Picumnus temminckii* Lafresnaye, 1845. Ochre-collared Piculet**

1. Female (plum.), ad. NRM 936599, MNHNP 1072. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 10.5, wing 53, wing span 150, bill l. 10.5, bill d. 4.5, tarsus 12.5. Colors: bill, upper jaw blackish neutral gray, lower jaw Pratt's Payne's gray, iris sepia (no. 219), tarsus sky blue. Plumage: slight body moult, tail heavily. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 956638. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 9.9, tot.l. 92, wing 57, wing span 175, tail 33, bill l. 11, bill d. 4.5, tarsus 12. Colors: bill dusky brown, iris fuscous, tarsus medium plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Ochre-collared Piculet is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Dryocopus lineatus* (Linnaeus, 1766). Lineated Woodpecker**

1. ssp. *lineatus*. Male, ad. NRM 937309, MNHNP 981. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 175, tot.l. 345, wing 192, tail 117, bill l. 39, bill d. 11, tarsus 29. Colors: bill dark neutral gray, iris white, tarsus medium plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *lineatus*. Male, ad. NRM 947257. Est. Apami, Dpto Amambay, 9 Oct. 1994. Meas.: wt 195, tot.l. 330, wing 195, wing span 570, tail 123, bill l. 35, bill d. 9.5, tarsus 28. Colors: bill, upper jaw dark neutral gray, lower jaw pale neutral gray, iris white, tarsus medium plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *lineatus*. Male, ad. NRM 967106. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 158, tot.l. 330, wing 183, wing span 480, tail 116, bill l. 37, bill d. 10, tarsus 27. Colors: bill upper jaw blackish neutral gray, bill lower jaw pearl gray, tarsus glaucous (no. 79). Plumage: wing moult, tail heavy. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *lineatus*. Female, ad. NRM 976682. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 196, tot.l. 345, wing 203, wing span 570, tail 131, bill l. 40, bill d. 13, tarsus 29. Colors: bill pale horn color, tarsus medium plumbeous. Plumage: wing and tail moulting, primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Lineated Woodpecker is resident in Paraguay. It is uncommon in Campos Cerrados and Central Paraguay (del Castillo and Clay 2004).

***Celeus lugubris* (Malherbe, 1851). Pale-crested Woodpecker**

1. Female, ad. NRM 947231, MNHNP 1051. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 130, tot.l. 280, wing 145, wing span 445, tail 85, bill l. 28.5, bill d. 10, tarsus 25. Colors: bill, upper jaw medium neutral gray, lower jaw pale neutral gray, tarsus medium neutral gray. Remarks: incubation patch present. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947279. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 133, tot.l. 285, wing 153, wing span 450, tail 84, bill l. 28.5, bill d. 10, tarsus 27.5. Colors: bill, upper jaw dark neutral gray, lower jaw pearl gray, iris Pratt's rufous, tarsus dark neutral gray. Remarks: incubation patch present. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 986736. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 122, tot.l. 150, wing 138, wing span 415, tail 74, bill l. 27.5, bill d. 10, tarsus 26. Plumage: primaries fresh, tail fresh. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Pale-crested Woodpecker is resident in Paraguay. It is uncommon in Campos Cerrados and is scarce in Ñeembucú (del Castillo and Clay 2004).

***Piculus chrysochloros* (Vieillot, 1818). Golden-green Woodpecker**

1. Male, ad. NRM 937354, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 57, tot.l. 232, wing 120, tail 74, bill l. 22.5, tarsus 22. Colors: bill dusky brown, iris light sky blue, tarsus olive-gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, age undetermined. NRM 956740, MNHNP 1063. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 65, tot.l. 230, wing 128, wing span 360, tail 75, bill l. 26, bill d. 8.0, tarsus 20. Colors: bill blackish neutral gray, iris lavender blue, tarsus grayish olive. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Female, ad. NRM 966934. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 54, tot.l. 210, wing 115, wing span 350, tail 69, bill l. 20, bill d. 6.5, tarsus 20. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (NRM).

4. Female, ad. NRM 966938. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: tot.l. 216, wing 126, wing span 350, tail 75, bill l. 23, bill d. 8.0, tarsus 21. Colors: bill blackish neutral gray, iris light neutral gray, tarsus olive-gray. Plumage: primaries fresh, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 976750, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 1 Dec. 1997. Meas.: wt 55, tot.l. 21, wing 120, wing span 370, tail 70, bill l. 21, bill d. 7, tarsus 20. Colors: bill sepia (no.119), tarsus olive-green (no.46). Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Golden-green Woodpecker is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Colaptes melanochloros* (J.F. Gmelin, 1788). Green-barred Woodpecker**

1. ssp. indet. Female, ad. NRM 937177, MNHNP 1018. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 110, tot.l. 290, wing 155, tail 95, bill l. 31, bill d. 8.0, tarsus 27. Colors: bill blackish neutral gray, iris raw umber, eye-ring blackish neutral gray, tarsus glaucous (no. 80). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *nigroviridis*. Unsexed, ad. NRM 947025. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 93, tot.l. 275, wing 145, wing span 440, tail 89, bill l. 31, bill d. 10, tarsus 26. Colors: bill blackish neutral gray, iris maroon, eye-ring blackish neutral gray, tarsus olive-gray. Plumage: tail moulting. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *nigroviridis*. Female, ad. NRM 947029. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 82, tot.l. 270, wing 142, wing span 430, tail 91, bill l. 27, bill d. 8.0, tarsus 25. Colors: bill blackish neutral gray, iris blackish neutral gray, eye-ring maroon, tarsus olive-gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *nigroviridis*. Male, ad. NRM 947052. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 105, tot.l. 273, wing 149, wing span 450, tail 85, bill l. 31, bill d. 9.5, tarsus 27. Colors: bill hair brown, tarsus bunting green. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *nigroviridis*. Male, ad. NRM 947174, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 93, tot.l. 265, wing 136, wing span 410, tail 89, bill l. 29.5, bill d. 9.0, tarsus 23.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. ssp. *nigroviridis*. Female, ad. NRM 976655, MNHNP 1658. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 101, tot.l. 242, wing 145, tail 94, bill l. 26, bill d. 10.5, tarsus 25. Colors: bill sepia (no.119), tarsus olive-green (no.46). Plumage: wing and tail moulting, primaries moderately worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

7. ssp. indet. Female, ad. NRM 986741. Est. Santa Ana, Dpto Misiones, 14 April 1998. Meas.: wt 133, tot.l. 290, wing 153, wing span 440, tail 105, bill l. 32, bill d. 8.3, tarsus 28. Plumage: body moulting, primaries slightly worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Green-barred Woodpecker is resident in Paraguay. Some taxonomic lists, e.g. *Handbook of the Birds of the World Alive*, divide this species into the Green-barred Woodpecker (*Colaptes melanochloros*) and the Golden-breasted Woodpecker (*Colaptes melanolaimus*). Both these forms occur in Paraguay. Following the taxonomy of the *Howard & Moore Complete Checklist of the Birds of the World* (Dickinson and Remsen 2013, Dickinson and Christidis 2014) the subspecies *melanochloros* is present in southeastern Paraguay, while the subspecies *nigroviridis* occurs in western Paraguay. All PROVEPA specimens identified to subspecies level are *nigroviridis*. This complex of species and subspecies is clearly in need for a taxonomic revision, especially as there is emerging evidence that the form *melanochloros* may be a distinct small, greenish Atlantic Forest species (Paul Smith pers. comm.).

***Colaptes campestris* (Vieillot, 1818). Campo Flicker**

1. Male (plum.), age undetermined. NRM 956658, MNHNP uncat. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 164, tot.l. 320, wing 163, wing span 505, tail 102, bill l. 37, bill d. 9.0, tarsus 31. Colors: bill, upper jaw dusky brown, lower jaw dark grayish brown, iris brick red, tarsus grayish olive. Plumage: tail moult. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 967116. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 165, tot.l. 305, wing 161, tail 100, bill l. 36, bill d. 12, tarsus 29. Colors: bill blackish neutral gray, tarsus olive-gray. Plumage: primaries moderately worn, tail moderately worn. Prep.: alcohol specimen (NRM).

3. Female, ad. NRM 976643. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 178, tot.l. 235, wing 165, wing span 535, tail 109, bill l. 40, bill d. 10, tarsus 32. Colors: bill jet black, iris maroon, tarsus russet. Plumage: two generations tail feathers, primaries moderately worn, tail slightly to very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, juv. NRM 986726. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 157, tot.l. 310, wing 171, wing span 480, tail 125, bill l. 34, bill d. 9, tarsus 27.5. Colors: bill jet black, iris sepia, tarsus grayish olive. Plumage: one outer primary growing. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 986748. Est. Santa Ana, Dpto Misiones, 5 Nov. 1998. Meas.: wt 184, tot.l. 335, wing 170, wing span 525, tail 114, bill l. 35, bill d. 11, tarsus 33. Colors: bill blackish neutral gray, iris maroon, tarsus glaucous (no. 80). Plumage: primaries very worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 986727, MNHNP 1643. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 170, tot.l. 305, wing 152, wing span 460. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Campo Flicker is resident in Paraguay. It is abundant in Ñeembucú and common in Bajo Chaco, but uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Campephilus melanoleucos* (J.F. Gmelin, 1788). Crimson-crested Woodpecker**

1. Male, ad. NRM 966949, MNHNP 1429. P.N. San Luís, Dpto Concepción, 30 Oct. 1996. Meas.: wt 222, tot.l. 350, wing 200, tail 116, bill l. 46, bill d. 13, tarsus 32. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966993. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 240, tot.l. 335, wing 192, wing span 540, tail 103, bill l. 47, bill d. 13.5, tarsus 32. Colors: bill smoke gray (no. 44), tarsus smoke gray (no. 44). Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Crimson-crested Woodpecker is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Melanerpes candidus* (Otto, 1796). White Woodpecker**

1. Male, ad. NRM 947040, MNHNP 1981. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 122, wing 165, wing span 490, bill l. 32, bill d. 10, tarsus 26. Colors: bill jet black, iris white, eye-ring spectrum yellow, tarsus olive-gray. Plumage: body moulting, tail very worn worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947041, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 114, tot.l. 285, wing 160, wing span 480, tail 91, bill l. 32, bill d. 10, tarsus 24. Colors: bill jet black, iris white, eye-ring spectrum yellow, tarsus olive-gray. Plumage: moulting all over except in wings. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 947042. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 118, tot.l. 290, wing 167, wing span 505, tail 95, bill l. 32, bill d. 10, tarsus 26. Colors: bill jet black, iris white, eye-ring spectrum yellow, tarsus olive-gray. Plumage: moulting all over except in wings. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 947212. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 116, tot.l. 295, wing 161, wing span 480, tail 97, tarsus 25. Colors: bill plumbeous, eye-ring spectrum yellow, tarsus lime green. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 947213. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 108, tot.l. 301, wing 162, wing span 505, tail 99, bill l. 41, bill d. 9.0, tarsus 23.5. Colors: bill plumbeous, eye-ring spectrum yellow, tarsus lime green. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White Woodpecker is resident in Paraguay. It is uncommon in Matogrosense (del Castillo and Clay 2004).

***Melanerpes flavifrons* (Vieillot, 1818). Yellow-fronted Woodpecker**

1. Female, ad. NRM 967085, MNHNP 1464. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 55, tot.l. 192, wing 112, wing span 320, tail 57, bill l. 22, bill d. 6.5, tarsus 18. Colors: bill blackish neutral gray, eye-ring olive-yellow, iris warm sepia, tarsus olive-gray. Remarks: incubation patch. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Yellow-fronted Woodpecker is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is rare in Campos Cerrados (del Castillo and Clay 2004).

***Melanerpes cactorum* (d'Orbigny, 1839). White-fronted Woodpecker**

1. Female (plum.), ad. NRM 947065. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 36, tot.l. 186, wing 108, wing span 325, tail 64, bill l. 20, bill d. 6.0, tarsus 18. Colors: bill jet black, eye-ring jet black, tarsus olive-gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 947066, MNHNP 2026. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 37, tot.l. 186, wing 111, wing span 345, tail 67, bill l. 19, bill d. 7.0, tarsus 19. Colors: bill jet black, eye-ring jet black, tarsus olive-gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 947160. Est. Doña Júlia, Dpto Alto Paraguay, 17 Sept. 1994. Meas.: wt 42, tot.l. 186, wing 115, wing span 350, tail 65, bill l. 22, bill d. 7.0, tarsus 21. Colors: bill jet black, iris chestnut, eye-ring olive-brown, tarsus glaucous (no. 79). Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 966875. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 31, tot.l. 165, wing 98, wing span 300, tail 60, bill l. 18.5, bill d. 5.5, tarsus 18.5. Colors: bill jet black, iris chestnut, tarsus olive-gray. Plumage: primaries moderately worn, tail fresh. Fat score 4(?). Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 966895. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 34, tot.l. 180, wing 99, wing span 280, tail 62, bill l. 17, bill d. 5.0, tarsus 18. Colors: bill jet black, iris chestnut, tarsus olive-gray. Plumage: primaries fresh, tail fresh. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 966937, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 33, tot.l. 177, wing 103, wing span 310, tail 62, bill l. 21, tarsus 18.5. Colors: bill blackish neutral gray, iris ferruginous, tarsus grayish olive. Plumage: primaries fresh, tail fresh. Prep.: skel. (MNHNP).

7. Female (plum.), ad. NRM 976759, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 27.5, tot.l. 175, wing 101, wing span 315, tail 63, bill l. 19, bill d. 6, tarsus 17. Colors: bill sepia (no.119), iris ground cinnamon, tarsus hair brown. Plumage: wing and tail moulting, two generations wing and tail pens, primaries fresh to moderately worn, tail fresh to moderately worn. Prep.: alcohol specimen (MNHNP).

8. Male, ad. NRM 976761, MNHNP 1663. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 34.5, tot.l. 174, wing 104, wing span 325, tail 61, bill l. 19, bill d. 6.5, tarsus 19.5. Colors: bill jet black, iris walnut brown, tarsus olive. Plumage: primaries very worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

9. Male, ad. NRM 976764. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 35, tot.l. 185, wing 115, wing span 335, tail 65, bill l. 21, bill d. 6, tarsus 20. Colors: bill blackish neutral gray, tarsus spectrum violet. Plumage: primaries moderately worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The White-fronted Woodpecker is resident in Paraguay. It is common in Matogrosense and fairly common in Also Chaco (del Castillo and Clay 2004). The three birds taken at Est. Doña Júlia in the Chaco are all of the yellow-throated morph typical of western Argentina and Bolivia (Winkler *et al.* 1995). It is assumed that this species undertake seasonal movements, which is also indicated by the high fat scores for two individuals collected in Alto Chaco during the austral spring.

***Veniliornis mixtus* (Boddaert, 1783). Checkered Woodpecker (Fig. 11A)**

1. Female, ad. NRM 937174, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: wt 26, tot.l. 160, wing 86, tail 50, bill l. 17.5, bill d. 6.0, tarsus 16. Colors: bill blackish neutral gray, iris maroon, tarsus glaucous (no. 79). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937175. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: wt 29, tot.l. 165, wing 89, tail 49, bill l. 20, bill d. 6.0, tarsus 17. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 937403. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 28.5, tot.l. 157, wing 85, tail 45, bill l. 20, bill d. 6.2, tarsus 16. Prep.: skel. (NRM).

4. Male, ad. NRM 966790. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 27.5, bill l. 21, bill d. 7.0, tarsus 16.5. Colors: bill blackish neutral gray, tarsus olive-gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Prep.: gizzard (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 966870. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 30, tot.l. 150, wing 85, wing span 360, tail 50, bill l. 19, bill d. 6.2, tarsus 16. Colors: bill blackish neutral gray, iris crimson, tarsus glaucous (no. 79). Plumage: primaries moderately worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 976765, MNHNP 1669. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 26, tot.l. 155, wing 85, wing span 262, tail 47, bill l. 19, bill d. 6, tarsus 17. Colors: bill dark neutral gray, tarsus medium neutral gray. Plumage: body moulting, primaries moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Checkered Woodpecker is resident in Paraguay. It is common in Alto Chaco and uncommon in Bajo Chaco (del Castillo and Clay 2004).

***Veniliornis passerinus* (Linnaeus, 1766). Southern Little Woodpecker**

1. ssp. *olivinus*. Male, ad. NRM 947249, MNHNP uncat. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 32, tot.l. 165, wing 93, tail 49, bill l. 19, bill d. 7.0, tarsus 17. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *olivinus*. Female, ad. NRM 967020. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 32, tot.l. 165, wing 97, wing span 298, tail 52, bill l. 19, bill d. 6.0, tarsus 18. Colors: bill upper

jaw sepia (no. 219), bill lower jaw blackish neutral gray, tarsus medium neutral gray. Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *olivinus*. Male, ad. NRM 976732. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 34, tot.l. 160, wing 92, wing span 280, tail 50, bill l. 19.5, bill d. 7.5, tarsus 18. Colors: bill, upper jaw geranium, lower jaw Pratt's Payne's gray, iris chestnut, tarsus medium plumbeous. Plumage: primaries slightly worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. ssp. *olivinus*. Male, ad. NRM 986757. Est. Santa Ana, Dpto Misiones, 7 Nov. 1998. Meas.: wt 35.5, tot.l. 160, wing 95, wing span 280, tail 53, bill l. 21, tarsus 17.5. Colors: bill dark brownish olive, tarsus glaucous (no. 79). Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *olivinus*. Male, ad. NRM 986713, MNHNP 1639. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 36.5, tot.l. 162, wing 98, wing span 297, tail 50, bill l. 19.5, bill d. 5.5, tarsus 17. Colors: bill, upper jaw olive-brown, lower jaw pale neutral gray, iris fuscous, tarsus dark neutral gray. Plumage: moulting all over, primaries moderately worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. ssp. *olivinus*. Unsexed, ad. NRM 986800. Est. Santa Ana, Dpto Misiones, 16 Nov. 1998. Meas.: wt 37.5, tot.l. 168, wing 95, tail 53, bill l. 20, bill d. 7, tarsus 17.5. Colors: bill medium neutral gray, lower jaw pale neutral gray, tarsus plumbeous. Prep.: alcohol specimen (NRM).

Remarks: The Southern Little Woodpecker is resident in Paraguay. It is fairly common in Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). These specimens are assigned to *olivinus* based on their large size.

RAMPHASTIDAE

Ramphastos toco Statius Muller, 1776. Toco Toucan

1. Male, ad. NRM 947071, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 575, tot.l. 690, wing 250, wing span 800, tail 150, bill l. 176, bill d. 60, tarsus 53. Colors: bill, upper jaw spectrum yellow, lower jaw flame scarlet, iris bunting green, bare parts around eye spectrum orange with eye-ring smalt blue, tarsus sky blue. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Toco Toucan is resident in Paraguay. It is fairly common in Matogrosense (del Castillo and Clay 2004).

Ramphastos dicolorus Linnaeus, 1766. Red-breasted Toucan

1. Male, age undetermined. NRM 956610. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 410, tot.l. 500, wing 195, wing span 550, tail 160, bill l. 109, tarsus 46. Colors: bill yellow-green, iris chartreuse, eye-ring sky blue, bare parts around eye flame scarlet, tarsus sky blue. Plumage: slight body moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 956611, MNHNP 1078. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 370, tot.l. 505, wing 193, tail 165, bill l. 102, tarsus 46. Colors: bill yellow-green, iris chartreuse, eye-ring sky blue, bare parts around eye flame scarlet, tarsus sky

blue. Plumage: moult in body and wing coverts, wing and tail feathers worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 956612. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 320, tot.l. 485, wing 193, tail 162, bill l. 95, tarsus 42. Colors: bill yellow-green, iris chartreuse, eye-ring sky blue, bare parts around eye flame scarlet, tarsus sky blue. Plumage: moult in body and wing coverts, tail feathers worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Red-breasted Toucan is resident in Paraguay and endemic to the Atlantic Forest (Vale et al. 2018). It is uncommon in Central Paraguay (del Castillo and Clay 2004).

***Selenidera maculirostris* (M.H.C. Lichtenstein, 1823). Spot-billed Toucanet**

1. Female, ad. NRM 937233, MNHNP 985. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 150, tot.l. 335, wing 136, tail 108, bill l. 49, bill d. 22, tarsus 31. Colors: tarsus opaline green. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937234. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 152, tot.l. 336, wing 140, tail 113, bill l. 52, bill d. 23, tarsus 32. Colors: bill, upper jaw olive-green (no. 47), lower jaw spectrum yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Spot-billed Toucanet is resident in Paraguay and endemic to the Atlantic Forest (Vale et al. 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Pteroglossus castanotis* Gould, 1834. Chestnut-eared Aracari**

1. Female, ad. NRM 937285, MNHNP 984. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 242, tot.l. 435, wing 157, tail 145, bill l. 93, bill d. 32, tarsus 36. Colors: bill jet black, iris dark neutral gray, tarsus bunting green. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947238. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 240, tot.l. 400, wing 161, wing span 470, tail 150, bill l. 100, bill d. 32, tarsus 36. Colors: bill jet black, iris white, eye-ring jet black, tarsus parrot green (no. 260). Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 967088. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 255, tot.l. 410, wing 155, wing span 470, tail 130, bill l. 90, bill d. 30. Colors: bill upper jaw blackish neutral gray/raw umber (no. 123), bill lower jaw blackish neutral gray, tarsus medium plumbeous. Prep.: study skin (NRM), skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 967131, MNHNP 2087. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 228, tot.l. 421, wing 147, wing span 460, tail 126, bill l. 106, bill d. 32, tarsus 38. Colors: tarsus olive. Plumage: moult in wing and tail. Prep.: alcohol specimen (MNHNP).

5. Male, ad. NRM 967132. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 206, tot.l. 415, wing 140, wing span 458, tail 145, bill l. 98, bill d. 32, tarsus 33. Colors: tarsus olive. Plumage: primaries heavy, tail heavy. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Chestnut-eared Aracari is resident in Paraguay. It is fairly common in Central Paraguay but scarce in Campos Cerrados (del Castillo and Clay 2004).

MOMOTIDAE

Momotus momota (Linnaeus, 1766). Blue-crowned Motmot (Fig. 5A)

1. ssp. *pilcomajensis*. Male, ad. NRM 947281, MNHNP 1052. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 112, tot.l. 420, wing 137, wing span 425, tail 235, bill l. 34, bill d. 12, tarsus 22.5. Colors: bill sepia (no. 119), iris geranium, eye-ring jet black, tarsus dark drab. Remarks: testis black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *pilcomajensis*. Unsexed, ad. NRM 956707. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 26 March 1995. Meas.: wt 105, tot.l. 360, wing 130, tail 170, bill l. 35, tarsus 30. Colors: bill jet black, iris chrome orange, tarsus dark neutral gray. Plumage: moulting all over, except wing. Prep.: alcohol specimen (NRM).

3. ssp. *pilcomajensis*. Male, ad. NRM 956724. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 106, tot.l. 425, wing 135, wing span 335, tail 245, bill l. 36, bill d. 13, tarsus 31. Colors: bill blackish neutral gray, iris Pratt's rufous, tarsus ruby. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. ssp. *pilcomajensis*. Female, ad. NRM 976686. P.N. Cerro Corá, Dpto Amambay, 16 Nov. 1997. Meas.: wt 112, tot.l. 420, wing 135, wing span 445, tail 228, bill l. 38, bill d. 14, tarsus 30. Colors: bill jet black, iris orange-rufous. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *pilcomajensis*. Unsexed, ad. NRM 996682, MNHNP 1674. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 Oct. 1999. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. ssp. *pilcomajensis*. Female, ad. NRM 996699. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 110, tot.l. 395, wing 135, wing span 430, tail 230, bill l. 41, bill d. 13, tarsus 29.5. Colors: bill [black], iris [orange], tarsus [dark gray]. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM). Remarks: egg in uterus; in pair w. NRM 996700.

7. ssp. *pilcomajensis*. Male, ad. NRM 996700. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 120, tot.l. 430, wing 142, wing span 450, tail 240, bill l. 40, bill d. 13, tarsus 29. Colors: bill [black], iris [orange], tarsus [dark gray]. Plumage: primaries slightly worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM). Remarks: in pair w. NRM 996699.

Remarks: At the time of the fieldwork the Blue-crowned Motmot had not previously been recorded in the Alto Chaco and Campos Cerrados biogeographic regions (Hayes 1995). Although widely distributed in tropical South America, the Blue-crowned Motmot had only been sighted twice before in Paraguay, both times in the northeastern Chaco (Hayes *et al.* 1990). The male obtained near the city Bella Vista in Dpto Amambay, one of two birds observed to cross the Río Apa from Brazil, was the first record from the Oriente. The two additional specimens, one unsexed and one male, collected at the Parque Nacional Defensores del Chaco constituted the first from Alto Paraguay biogeographical region. From their distribution, these specimens are most likely to

belong to the subspecies *pilcomajensis*, which occurs in southern Bolivia, northern Argentina, and eastward to Urucúm and possibly western São Paulo in Brazil (Chapman 1923). The subspecies *pilcomajensis* is distinguished by its bluish green throat and greenish underparts. The Paraguayan specimens are however much less bluish green on throat than typical *pilcomajensis* from Argentina in the NRM collection, thus approaching the more rufous condition of some NRM specimens of the subspecies *simplex* from Amazonian Brazil. Also the breast and underparts are more cinnamon than typical *pilcomajensis*. It thus seems probable that these specimens represent intergrades between *pilcomajensis* and *simplex*.

***Baryphthengus ruficapillus* (Vieillot, 1818). Rufous-capped Motmot**

1. Male, ad. NRM 937319, MNHNP 983. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 137, tot.l. 420, wing 150, tail 223, bill l. 45, bill d. 13, tarsus 34. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937325. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 138, tot.l. 383, wing 145, tail 200, bill l. 38, bill d. 11.5, tarsus 29.5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Rufous-capped Motmot is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004).

ALCEDINIDAE

***Megaceryle torquata* (Linnaeus, 1766). Ringed Kingfisher**

1. Male, ad. NRM 976697, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 282, tot.l. 430, wing 210, wing span 730, tail 121, bill l. 79, bill d. 23, tarsus 16. Colors: bill jet black, iris mars brown, tarsus olive-yellow. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Ringed Kingfisher is resident in Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Chloroceryle americana* (J.F. Gmelin, 1788). Green Kingfisher**

1. Male, ad. NRM 937351, MNHNP 2004. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 30, tot.l. 210, wing 81, tail 63, bill l. 46, bill d. 8.0, tarsus 9.0. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947138. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 32, tot.l. 210, wing 81, wing span 265, tail 57, bill l. 43, bill d. 10, tarsus 8.0. Colors: bill jet black, iris pink, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947179. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 36, tot.l. 214, wing 84, wing span 285, tail 60, bill l. 38, bill d. 9.0, tarsus 9.0. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 966854, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 32, tot.l. 205, wing 80, wing span 260, tail 61, bill l. 40, bill d. 8.6, tarsus 8.0. Colors:

bill jet black, iris fuscous, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail slightly worn. Prep.: skel. (MNHNP).

5. Female, ad. NRM 967029, MNHNP 1436. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 34, tot.l. 203, wing 84, wing span 265, tail 63, bill l. 43, bill d. 8.5. Colors: bill dusky brown, iris raw umber (no. 223), tarsus medium neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. Female, ad. NRM 967149. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 36, tot.l. 210, wing 83, wing span 280, tail 63, bill l. 42, bill d. 11, tarsus 9.0. Colors: bill jet black, iris chestnut, tarsus dark neutral gray. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Green Kingfisher is resident in Paraguay. It is uncommon in Matogrosense and Campos Cerrados, but rare in Alto Chaco (del Castillo and Clay 2004).

***Chloroceryle inda* (Linnaeus, 1766). Green-and-rufous Kingfisher**

1. Female, ad. NRM 967036, MNHNP 1435. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 64, tot.l. 250, wing 102, wing span 355, tail 71, bill l. 52, bill d. 14, tarsus 13. Colors: bill dusky brown, iris warm sepia, tarsus olive-gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Green-and-rufous Kingfisher is resident in Paraguay. It is rare in Campos Cerrados (del Castillo and Clay 2004).

CARIAMIDAE

***Cariama cristata* (Linnaeus, 1766). Red-legged Seriema**

1. Unsexed, ad. NRM 967151. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. *Remarks:* part of wing recovered from a bird found dead in August 1996. Prep.: wing (NRM).

Remarks: The Red-legged Seriema is resident in Paraguay. It is common in Campos Cerrados (del Castillo and Clay 2004).

FALCONIDAE

***Micrastur ruficollis* (Vieillot, 1817). Barred Forest Falcon**

1. ssp. *ruficollis*. Male, imm. NRM 937326, MNHNP 979. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 138, tot.l. 330, wing 161, tail 168, bill l. 12.5, bill d. 11, tarsus 60. Colors: bill, upper jaw jet black, lower jaw sulfur yellow (no. 157), iris dark brownish olive, tarsus trogon yellow. Prep.: skel. (MNHNP), study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Barred Forest Falcon is resident in Paraguay. It is uncommon in Central Paraguay (del Castillo and Clay 2004).

***Caracara plancus* (J.F. Miller, 1777). Southern Caracara**

1. Male, ad. NRM 937176, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 980, tot.l. 555, wing 396, tail 210, bill l. 33, bill d. 22, tarsus 92. Colors: bill Pratt's Payne's gray, iris raw umber, bare parts around bill orange yellow, tarsus orange yellow. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937400. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 850, tot.l. 516, wing 364, tail 190, bill l. 32, bill d. 20.5, tarsus 88. Colors: bill cream color, tarsus orange yellow. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947044. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 860, tot.l. 570, wing 450, wing span 1200, tail 215, bill l. 36, bill d. 24, tarsus 90. Colors: bill Pratt's Payne's gray, iris chestnut, eye-ring orange yellow, tarsus orange yellow. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, imm. NRM 947200. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 740, tot.l. 545, wing 378, wing span 1080, tail 210. Colors: bill Pratt's Payne's gray, iris cinnamon-brown, eye-ring pale horn color, tarsus pale horn color. Plumage: wing and tail very worn, central rectrices moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Southern Caracara is resident in Paraguay. It is abundant in Alto Chaco and Bajo Chaco, and common in Matogrosense (del Castillo and Clay 2004).

***Phalcoboenus chimango* (Vieillot, 1816). Chimango Caracara**

1. ssp. *chimango*. Female, ad. NRM 986729. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 250, tot.l. 368, wing 278, wing span 840, tail 156, bill l. 18.5, bill d. 12, tarsus 58. Colors: bill pale horn color, iris mars brown, tarsus light sky blue. Plumage: primaries slightly worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. ssp. *chimango*. Male, ad. NRM 986724, MNHNP 1648. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 270, tot.l. 370, wing 290, wing span 750, tail 161, bill l. 18.5, bill d. 12.3, tarsus 61. Colors: bill sulphur yellow, iris amber, tarsus trogon yellow. Plumage: slight body moulting, primaries fresh, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM). *Remarks:* earth worms in crop.

3. ssp. *chimango*. Female, ad. NRM 986732. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 260, tot.l. 360, wing 277, tail 158, bill l. 20.5, bill d. 13.5, tarsus 60. Colors: bill grayish horn color, iris mars brown, tarsus light sky blue. Plumage: slight body moulting, primaries moderately worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *chimango*. Female, ad. NRM 986733, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 265, tot.l. 340, wing 257, tail 145, bill l. 18.8, bill d. 12.2, tarsus 61. Colors: bill grayish horn color, iris mars brown, tarsus light sky blue. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Chimango Caracara is resident in Paraguay. It is abundant in Ñeembucú (del Castillo and Clay 2004).

***Milvago chimachima* (Vieillot, 1816). Yellow-headed Caracara**

1. ssp. *chimachima*. Unsexed, imm. NRM 947028, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 270, tot.l. 400, wing 285, wing span 900, tail 175, bill l. 20, bill d. 14, tarsus 55. Colors: bill smoke gray (no. 44), iris maroon, tarsus olive-gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *chimachima*. Female, ad. NRM 967129. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 370, tot.l. 420, wing 292, wing span 840, tail 190, bill l. 20, bill d. 14, tarsus 54. Colors: bill pale neutral gray, tarsus pale neutral gray. Plumage: moult in wing and tail, primaries moderately worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *chimachima*. Unsexed, ad. NRM 967130, MNHNP 2100. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 278, tot.l. 385, wing 278, wing span 768, tail 173, bill l. 20, bill d. 14, tarsus 46. Colors: bill pale neutral gray, tarsus pale neutral gray. Prep.: alcohol specimen (MNHNP).

Remarks: The Yellow-headed Caracara is resident in Paraguay. It is fairly common in Campos Cerrados, but scarce in Matogrosense (del Castillo and Clay 2004).

***Falco sparverius* Linnaeus, 1758. American Kestrel**

1. ssp. *cinnamominus*. Male, ad. NRM 956616. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 12 March 1995. Meas.: wt 114, tot.l. 265, wing 196, wing span 520, tail 132, bill l. 12, bill d. 9.5, tarsus 37. Colors: bill plumbeous, iris dusky brown, tarsus orange yellow. Plumage: slight body moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *cinnamominus*. Female, ad. NRM 967086. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 130, tot.l. 265, wing 195, wing span 360, tail 125, bill l. 15, bill d. 9.0, tarsus 37. Colors: bill blackish neutral gray, tarsus orange yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *cinnamominus*. Unsexed, ad. NRM 976645. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 98, tot.l. (270), wing (188), wing span (570), tail (118), bill l. 12.5, bill d. 9.5, tarsus 37. Colors: bill medium neutral gray, iris mars brown, eye-ring jet black, tarsus yellow ocher. Plumage: wing and body moulting, primaries very worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The American Kestrel is resident in Paraguay. It is common in Campos Cerrados and fairly common in Central Paraguay (del Castillo and Clay 2004).

PSITTACIDAE

***Myiopsitta monachus* (Boddaert, 1783). Monk Parakeet**

1. Male, ad. NRM 937168, MNHNP 1997. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 96, tot.l. 292, wing 151, tail 140, bill l. 18, bill d. 18, tarsus 16. Colors: bill tawny olive, iris blackish neutral gray, eye-ring grayish horn color, tarsus medium neutral gray. Prep.: skel. (MNHNP).

2. Male, ad. NRM 937352. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 81, tot.l. 260, wing 140, tail 116, bill l. 18, bill d. 18, tarsus 15. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947014. Est. Doña Júlia, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 90, tot.l. 280, wing 139, wing span 415, tail 121, bill l. 18, bill d. 19, tarsus 16. Colors: iris olive-brown, eye-ring glaucous (no. 80), tarsus glaucous (no. 79). Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 947015. Est. Doña Júlia, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 78, tot.l. 265, wing 131, wing span 390, tail 120, bill l. 17, bill d. 18, tarsus 15. Colors: iris olive-brown, eye-ring glaucous (no. 80), tarsus glaucous (no. 79). Plumage: tail very worn worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Monk Parakeet is resident in Paraguay. It is abundant in Alto Chaco, Matogrosense and Bajo Chaco (del Castillo and Clay 2004).

***Brotogeris versicolurus* (Statius Muller, 1776). White-winged Parakeet**

1. Male, ad. NRM 947102, MNHNP 1969. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 68, tot.l. 233, wing 128, tail 94, bill l. 17.5, bill d. 16.5, tarsus 12.5. Colors: bill tawny, iris dark grayish brown, tarsus beige. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947103. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 63, tot.l. 235, wing 125, wing span 370, tail 101, bill l. 12.5, bill d. 11.5, tarsus 12. Colors: bill tawny, iris dark grayish brown, tarsus beige. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-winged Parakeet is resident in Paraguay. It is fairly common in Matogrosense (del Castillo and Clay 2004). Often treated as conspecific with the Yellow-chevroned Parakeet (*Brotogeris chiriri*).

***Amazona aestiva* (Linnaeus, 1758). Turquoise-fronted Parrot**

1. Male, ad. NRM 966842, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 460, tot.l. 394, wing 255, wing span 650, tail 144, bill l. 34, tarsus 27. Colors: bill plumbeous, tarsus plumbeous. Plumage: primaries fresh, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 976790. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt (320), tot.l. 375, wing 235, wing span 720, tail 125, bill l. 29, bill d. 30, tarsus 25. Colors: bill blackish neutral gray, iris spectrum orange, tarsus glaucous (no.79). Plumage: body moulting, primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM). *Remarks:* weight measured with only half of plumage left.

Remarks: The Turquoise-fronted Parrot is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004).

***Forpus xanthopterygius* (von Spix, 1824). Blue-winged Parrotlet**

1. Male, ad. NRM 947286. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 26.5, tot.l. 125, wing 91, wing span 250, tail 43, bill l. 12, bill d. 14, tarsus 11. Colors: bill, upper jaw Pratt's Payne's gray, lower jaw pearl gray, iris sepia (no. 219), tarsus light neutral gray. Plumage: body moulting. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 947294, MNHNP 1044. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 26.5, tot.l. 135, wing 87, wing span 255, tail 44, bill l. 13, bill d. 13, tarsus 11. Colors: bill, upper jaw Pratt's Payne's gray, lower jaw pearl gray, iris olive-brown, eye-ring olive, tarsus medium neutral gray. Plumage: body moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 986799, MNHNP 1681. Est. Santa Ana, Dpto Misiones, 15 Nov. 1998. Meas.: wt 26.75, tot.l. 135, wing 89, wing span 265, tail 43, bill l. 13, bill d. 13.2, tarsus 11.5. Colors: bill Pratt's Payne's gray, iris fuscous, tarsus medium plumbeous. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Blue-winged Parrotlet is resident in Paraguay. It is uncommon in Ñeembucú, but scarce in Campos Cerrados (del Castillo and Clay 2004).

***Pyrhura frontalis* (Vieillot, 1818). Maroon-bellied Parakeet**

1. Male, ad. NRM 966969. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 68, tot.l. 268, wing 138, wing span 380, tail 135, bill l. 16, bill d. 18.5, tarsus 13. Colors: bill upper jaw dark neutral gray, bill lower jaw light neutral gray, iris chestnut/dark neutral gray, tarsus plumbeous. Plumage: primaries slightly worn, tail heavy. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 966979. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 67, bill l. 17, bill d. 19, tarsus 14. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 966980, MNHNP 1427. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 66, tot.l. 270, wing 138, tail 130, bill l. 15, bill d. 18, tarsus 11.5. Colors: bill dark neutral gray, tarsus cinnamon-drab. Plumage: primaries slightly worn, tail heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 966989. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 68, tot.l. 265, wing 135, wing span 375, tail 135, bill l. 17, bill d. 19, tarsus 13. Colors: bill dark neutral gray, tarsus cinnamon-drab. Plumage: primaries slightly worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 976658, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 82, tot.l. 273, wing 135, wing span 400, tail 131, bill l. 17, bill d. 19, tarsus 15. Colors: bill blackish neutral gray, tarsus dark neutral gray. Plumage: primaries very worn, tail very worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 976661. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 75, tot.l. 255, wing 130, wing span 365, tail 125, bill l. 16, bill d. 18, tarsus 13. Colors: bill blackish neutral gray, eye-ring bare part ivory, tarsus dark neutral gray. Plumage: primaries fresh, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Maroon-bellied Parakeet is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is abundant in Campos Cerrados (del Castillo and Clay 2004).

***Eupsittula aurea* (J.F. Gmelin, 1788). Peach-fronted Parakeet**

1. Male, ad. NRM 947232, MNHNP 1047. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 90, tot.l. 272, wing 154, tail 135, bill l. 18, bill d. 20, tarsus 16.5. Colors: bill blackish neutral gray, iris orange yellow, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947233. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 96, tot.l. 253, wing 153, tail 113, bill l. 18.5, bill d. 19. Colors: bill blackish neutral gray, iris orange yellow, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM). *Remarks:* egg in oviduct.

3. Female, ad. NRM 976646. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 90, tot.l. (290), wing 160, wing span 465, tail (140), bill l. 19, bill d. 21, tarsus 15. Colors: bill jet black, iris spectrum orange/raw umber (no.23), eye-ring jet black, tarsus jet black (matt). Plumage: body moulting, primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Peach-fronted Parakeet is resident in Paraguay. It is common in Campos Cerrados (del Castillo and Clay 2004).

***Aratinga nenday* (Vieillot, 1823). Nanday Parakeet (Fig. 9D)**

1. Male, ad. NRM 937167, MNHNP 1016. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 128, tot.l. 346, wing 184, tail 171, bill l. 23, bill d. 21, tarsus 17. Colors: bill blackish neutral gray, iris jet black, eye-ring raw sienna, tarsus tawny olive. Prep.: study skin (MNHNP).

2. Male, ad. NRM 947021. Est. Doña Júlia, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 126, tot.l. 348, wing 181, wing span 525, tail 171, bill l. 22.5, bill d. 21.5, tarsus 17.5. Colors: bill sepia (no. 119), iris chestnut, tarsus glaucous (no. 80). Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947022, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 114, tot.l. 320, wing 178, wing span 505, tail 163, bill l. 23, bill d. 22.5, tarsus 17.5. Colors: bill sepia (no. 119), iris chestnut, tarsus glaucous (no. 80). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 947067. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 108, tot.l. 330, wing 172, wing span 480, tail 162, bill l. 23, bill d. 18, tarsus 17. Colors: bill jet black, iris burnt sienna, eye-ring jet black, tarsus beige. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 947214, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 120, tot.l. 325, wing 182, wing span 450, tail 161, bill l. 27.5, bill d. 21, tarsus 18. Colors: bill blackish neutral gray, iris mahogany red, eye-ring jet black, tarsus beige. Plumage: moulting all over. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 947215. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 109, tot.l. 310, wing 171, wing span 450, tail 149, bill l. 28, bill d. 21, tarsus 17.5. Colors: bill blackish neutral gray, iris mahogany red, eye-ring jet black, tarsus beige. Plumage: moulting all over. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Male, ad. NRM 976802. Ruta Trans Chaco ca km 500, 6 Dec. 1997. Meas.: wt 148, tot.l. 385, wing 220, wing span 580, tail 200, bill l. 26, bill d. 25, tarsus 20. Colors: bill jet black. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Nanday Parakeet is resident in Paraguay. It is abundant in both Matogrosense and Bajo Chaco, but uncommon in Alto Chaco (del Castillo and Clay 2004). It has been suggested that individuals occurring in the drier Chaco during the nonbreeding season breed in Pantanal (Short 1975).

***Psittacara acuticaudatus* (Vieillot, 1818). Blue-crowned Parakeet**

1. Male, ad. NRM 966886. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 168, tot.l. 355, wing 194, wing span 520, tail 172, bill l. 27, bill d. 32, tarsus 16. Colors: bill upper jaw true cinnamon, bill lower jaw jet black, iris spectrum orange, tarsus orange yellow. Plumage: primaries fresh, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 966887, MNHNP 1426. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 184, tot.l. 345, wing 192, wing span 515, tail 173, bill l. 26, bill d. 31.0, tarsus 16. Colors: bill upper jaw true cinnamon, bill lower jaw jet black, iris spectrum orange, tarsus orange yellow. Plumage: primaries fresh, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 966935. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 178, tot.l. 350, wing 190, wing span 490, tail 175, bill l. 26, bill d. 30, tarsus 18. Colors: bill upper jaw true cinnamon, bill lower jaw jet black, iris spectrum orange, tarsus orange yellow. Plumage: primaries fresh, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 996672, MNHNP 1774. Dpto. Alto Paraguay, P.N. Defensores del Chaco, Cerro León, 27 Oct. 1999. Prep.: alcohol specimen (MNHNP).

Remarks: The Blue-crowned Parakeet is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004).

***Psittacara leucophthalmus* (Statius Muller, 1776). White-eyed Parakeet**

1. Female, ad. NRM 947272, MNHNP 1046. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 164, tot.l. 330, wing 180, wing span 510, tail 149, bill l. 23.5, bill d. 27, tarsus 17. Colors: bill buff (no. 124), iris chrome orange, tarsus glaucous (no. 79). Remarks: incubation patch present. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 967053. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 164, tot.l. 320, wing 175, wing span 500, tail 160, bill l. 26, bill d. 26, tarsus 18. Colors: bill tawny, iris spectrum orange, tarsus sepia (no. 219). Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-eyed Parakeet is resident in Paraguay. It is abundant in Campos Cerrados (del Castillo and Clay 2004).

PIPRIDAE

***Pipra fasciicauda* Hellmayr, 1906. Band-tailed Manakin (Fig. 10C)**

1. Female, ad. NRM 937314, MNHNP 2033. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 18, tot.l. 110, wing 74, tail 29, bill l. 10.0, bill d. 3.7, tarsus 15. Colors: bill deep vinaceous, tarsus flesh color. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Male, juv. NRM 947271. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 13, tot.l. 107, wing 67, wing span 210, tail 32, tarsus 16. Colors: bill, upper jaw dark grayish brown, lower jaw lavender, iris white, tarsus burnt sienna. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 967096, MNHNP 1456. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 16.0, tot.l. 103, wing 66, wing span 195, tail 32, bill l. 10, bill d. 5.0, tarsus 15. Colors: bill sepia (no. 219), iris hazel (note dark eye, not white!), tarsus mauve (no. 75). Plumage: primaries fresh, tail fresh. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
4. Female, ad. NRM 967097, MNHNP 1455. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 15.0, tot.l. 110, wing 63, wing span 195, tail 32, bill l. 12, bill d. 4.0, tarsus 16. Colors: bill upper jaw blackish neutral gray, bill lower jaw medium neutral gray, iris chestnut, tarsus plumbeous. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
5. Unsexed, ad. NRM 967099. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 14.5, tot.l. 99, wing 62, wing span 195, tail 32, bill l. 10, bill d. 4.0, tarsus 16. Colors: bill blackish neutral gray, iris glaucous (no. 79) (note dark eye, not white!), tarsus deep vinaceous. Plumage: primaries moderately worn, tail slightly worn. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
6. Female, ad. NRM 967108. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 14.0, tot.l. 109, wing 65, wing span 210, tail 29, bill l. 10.5, bill d. 5.0, tarsus 15. Colors: bill upper jaw blackish neutral gray, bill lower jaw medium neutral gray, iris pearl gray, tarsus mauve (no. 75). Plumage: primaries fresh, tail slightly worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).
7. Male, ad. NRM 967111. P.N. Cerro Corá, Dpto Amambay, 10 Nov. 1996. Meas.: wt 15.5, tot.l. 95, wing 62, wing span 200, tail 28, bill l. 9.5, bill d. 3.5, tarsus 14.5. Colors: bill dusky brown, iris [white], tarsus royal purple. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).
8. Female (plum.), ad. NRM 967123, MNHNP 2104. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 17.0, tot.l. 105, wing 64, wing span 206, tail 30, bill l. 11, bill d. 5.0, tarsus 15. Colors: bill upper jaw sepia (no. 119), bill lower jaw light neutral gray, iris salmon color (no. 6), tarsus mauve (no. 75). Plumage: primaries fresh, tail moderately worn. Prep.: alcohol specimen (MNHNP).
9. Male, ad. NRM 967126. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 16.0, tot.l. 97, wing 67, wing span 200, tail 31, bill l. 9.5, bill d. 3.5, tarsus 14.5. Colors: bill upper jaw sepia (no. 119), bill lower jaw light mauve, iris [white], tarsus mauve (no. 172C). Plumage: primaries fresh, tail fresh. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).
10. Male, ad. NRM 967146. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 13.5, tot.l. 105, wing 64, wing span 200, tail 32, bill l. 9.5, bill d. 4.5, tarsus 14. Colors: bill upper jaw

hair brown, bill lower jaw beige, iris [white], tarsus mauve (no. 75). Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Band-tailed manakin is resident in Paraguay. It is scarce in Campos Cerrados and is uncommon in Central Paraguay (del Castillo and Clay 2004). No seasonal movements have been reported for this species (Snow 2020) but the fat score 4 in two individuals collected in Dpto Amambay in the austral spring suggest these are migrants.

***Chiroxophia caudata* (Shaw, 1793). Swallow-tailed Manakin**

1. Female, ad. NRM 937316, MNHNP 1005. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 22.5, tot.l. 142, wing 79, tail 59, bill l. 11, bill d. 5.0, tarsus 20. Colors: bill cinnamon-brown, iris burnt umber, tarsus walnut brown. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, juv. NRM 956620. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 23.5, tot.l. 144, wing 75, tail 53, bill l. 10, bill d. 4.5, tarsus 20. Colors: bill, upper jaw dark grayish brown, lower jaw drab, iris mars brown, tarsus cinnamon-drab. Plumage: body moult (or growing). Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, age undetermined. NRM 956651. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 22.5, tot.l. 145, wing 70, wing span 210, tail 51, bill l. 9.0, bill d. 4.4, tarsus 20.5. Colors: bill flesh color (culmen hair brown), iris raw umber (no. 23), tarsus vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Swallow-tailed Manakin is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004).

COTINGIDAE

***Pyroderus scutatus* (Shaw, 1792). Red-ruffed Fruitcrow**

1. ssp. *scutatus*. Female, ad. NRM 937228, MNHNP 980. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 330, tot.l. 430, wing 245, tail 180, bill l. 39, bill d. 13, tarsus 42. Colors: bill Pratt's Payne's gray, tarsus blackish neutral gray. Prep.: skel. (MNHNP), study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *scutatus*. Female, ad. NRM 937290. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 320, tot.l. 425, wing 240, tail 176, bill l. 42, bill d. 14, tarsus 40. Colors: bill pale neutral gray, iris blackish neutral gray, tarsus dark neutral gray. Prep.: skel. (NRM), study skin (NRM), blood or tissue sample (NRM).

3. ssp. *scutatus*. Male, ad. NRM 967030. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 390, tot.l. 445, wing 250, wing span 760, tail 180, bill l. 41, bill d. 18, tarsus 43. Colors: bill pale neutral gray, tarsus dark neutral gray. Plumage: moult in body and wing, primaries heavy, tail moderately worn. Fat score 0. Prep.: study skin (NRM), skel. (NRM), blood or tissue sample (NRM).

Remarks: The Red-ruffed Fruitcrow is resident in Paraguay. It is scarce in Campos Cerrados and is uncommon in Central Paraguay (del Castillo and Clay 2004). The subspecies *scutatus* is endemic to the Atlantic Forest (Vale *et al.* 2018).

OXYRUNCIDAE

***Oxyruncus cristatus* Swainson, 1821. Sharpbill**

1. Female, ad. NRM 967078, MNHNP 1454. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 46, tot.l. 170, wing 92, wing span 300, tail 53, bill l. 18, bill d. 7.0, tarsus 21. Colors: bill upper jaw blackish neutral gray, bill lower jaw medium neutral gray, tarsus medium neutral gray. Plumage: primaries fresh, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 967091. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 43, tot.l. 182, wing 99, wing span 290, tail 65, bill l. 16, bill d. 7.0, tarsus 21. Colors: bill upper jaw blackish neutral gray, bill lower jaw medium neutral gray, iris tawny, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), skel. (NRM), blood or tissue sample (NRM).

Remarks: The Sharpbill is resident in Paraguay. It is rare in Campos Cerrados (del Castillo and Clay 2004).

TITYRIDAE

***Tityra inquisitor* (M.H.C. Lichtenstein, 1823). Black-crowned Tityra**

1. Male, ad. NRM 947244, MNHNP uncat. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 41, tot.l. 180, wing 105, wing span 310, tail 68, bill l. 22, bill d. 10, tarsus 22. Colors: bill blue black, tarsus medium plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male (plum.), ad. NRM 967083. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 46, tot.l. 195, wing 105, tail 65, bill l. 26.5, bill d. 10, tarsus 21. Colors: bill upper jaw jet black, bill lower jaw plumbeous, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Black-crowned Tityra is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Tityra cayana* (Linnaeus, 1766). Black-tailed Tityra**

1. ssp. *braziliensis*. Female, juv. NRM 956584. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 74, tot.l. 221, wing 122, wing span 250, tail 70, bill l. 27, bill d. 10, tarsus 25. Colors: bill sepia (no. 119), iris russet, tarsus plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. ssp. *braziliensis*. Male, juv. NRM 956617, MNHNP 1086. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 12 March 1995. Meas.: wt 67, tot.l. 220, wing 125, wing span 340, tail 74, bill l. 25, bill d. 11, tarsus 24.5. Colors: bill, upper jaw jet black, lower jaw medium plumbeous, iris warm sepia, tarsus plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *braziliensis*. Female?, age undetermined. NRM 956639. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 74, tot.l. 215, wing 125, wing span 340, tail 68, bill l. 26, bill d. 11.5, tarsus 26.5. Colors: bill jet black, iris hair brown, tarsus plumbeous. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *braziliensis*. Unsexed, ad. NRM 967081. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 84, tot.l. 225, wing 124, wing span 390, tail 273, tarsus 24.5. Colors: bill medium neutral gray, eye-ring deep vinaceous, iris warm sepia, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. *braziliensis*. Male, ad. NRM 976672, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 77.5, tot.l. 205, wing 130, wing span 275, tail 74, bill l. 25, bill d. 12.5, tarsus 25. Colors: bill tip jet black, base crimson, iris burnt umber, tarsus dark neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Black-tailed Tityra has been supposed to be resident in Paraguay (del Castillo and Clay 2004), but recent observations suggest it is a northern austral migrant leaving the country in winter (Paul Smith pers. comm.). It is fairly common in Campos Cerrados, but is uncommon in Central Paraguay (del Castillo and Clay 2004).

***Tityra semifasciata* (von Spix, 1825). Masked Tityra**

1. Male, ad. NRM 976667. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 88, tot.l. 210, wing 132, wing span 415, tail 79, bill l. 29, bill d. 13, tarsus 27. Colors: iris Pratt's rufous, eye-ring spinel pink, tarsus medium neutral gray. Plumage: body moulting, primaries fresh, tail moderately worn. Fat score 0. Prep.: study skin (NRM), partial skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 976676, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 96, tot.l. 230, wing 126, wing span 170, tail 74, bill l. 29.5, bill d. 13.5, tarsus 27. Colors: iris Pratt's rufous, eye-ring spinel pink, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: Hayes (1995) did not include the Masked Tityra in his list of birds from Paraguay. The species was first observed in Dptos Amambay and Canindeyú in 1995 (Lowen *et al.* 1997) and has later been reported as uncommon in Campos Cerrados biogeographical region (Smith *et al.* 2005, 2014). Recent observations suggest the Masked Tityra is now quite widespread across eastern Paraguay (Paul Smith pers. comm.)

***Pachyramphus validus* (M.H.C. Lichtenstein, 1823). Crested Becard**

1. Male, ad. NRM 947250. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 40, tot.l. 185, wing 102, tail 70, bill l. 16, bill d. 8.0, tarsus 21. Prep.: study skin (NRM), blood or tissue sample (NRM). *Remarks:* NE subspecies.

2. Female, ad. NRM 947282, MNHNP 1045. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 50, tot.l. 190, wing 105, wing span 320, tail 71, bill l. 16, bill d. 8.5, tarsus 21.5. Colors: bill, upper jaw dusky brown, lower jaw medium plumbeous, tarsus plumbeous. *Remarks:* incubation patch present. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Crested Becard is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Pachyrampus castaneus* (Jardine & Selby, 1827). Chestnut-crowned Becard**

1. Male, ad. NRM 976709, MNHNP 1666. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 20, tot.l. 158, wing 83, wing span 255, tail 67, bill l. 13.5, bill d. 6, tarsus 20. Colors: bill blackish neutral gray, iris cinnamon-brown, tarsus plumbeous. Plumage: wing, tail coverts and body moulting, primaries moderately worn, tail very worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 976715. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 20, tot.l. 155, wing 76, wing span 235, tail 63, bill l. 11.5, bill d. 6, tarsus 19. Colors: bill sepia (no.119), iris cinnamon-brown, tarsus blackish neutral gray. Plumage: primaries fresh, tail very worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Chestnut-crowned Becard is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004). The species is considered stationary throughout its distribution area (Mobley 2020a) but the fat deposited in the two collected individuals suggests that some seasonal movements occur.

***Pacyramphus polycopterus* (Vieillot, 1818). White-winged Becard**

1. Male, ad. NRM 937221, MNHNP 1013. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 20.5, tot.l. 156, wing 83, tail 61, bill l. 15, bill d. 6.0, tarsus 19. Colors: bill Pratt's Payne's gray, tarsus medium plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947035. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 17, wing 74, wing span 195, bill l. 16, bill d. 5.5, tarsus 25. Colors: bill blackish neutral gray, tarsus medium neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, juv. NRM 956713. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 18, tot.l. 160, wing 79, wing span 245, tail 59, bill l. 12.5, bill d. 5.5, tarsus 18.5. Colors: bill dark grayish brown, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, juv. NRM 956716. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 21, tot.l. 165, wing 80, wing span 240, tail 60, bill l. 14, bill d. 6.3, tarsus 19. Plumage: central tail feathers worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 967032, MNHNP uncat. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 21.0, tot.l. 149, wing 82, tail 64, bill l. 15, bill d. 6.5. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 986762. Est. Santa Ana, Dpto Misiones, 7 Nov. 1998. Meas.: wt 23, tot.l. 160, wing 81, wing span 255, tail 66, bill l. 15, bill d. 6.5, tarsus 19. Colors: bill blackish neutral gray, lower jaw light neutral gray, iris olive-brown, tarsus plumbeous. Plumage: primaries slightly worn, tail slightly worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The White-winged Becard is a northern austral migrant that is scarce in Alto Chaco, Matogrosense, Central Paraguay and Ñeembucú, while it is uncommon in Campos Cerrados (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America.

It is not documented to breed in the Chaco, it may be that it only migrates through there (Paul Smith pers. comm.).

***Schiffornis virescens* (Lafresnaye, 1838). Greenish Schiffornis**

1. Male, ad. NRM 937261, MNHNP 1984. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 19.5, tot.l. 149, wing 78, tail 63, bill l. 11, bill d. 5.0, tarsus 21. Colors: bill, upper jaw dark grayish brown, lower jaw light neutral gray, iris raw umber, tarsus dark neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Male, ad. NRM 937264, MNHNP 1015. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 22, tot.l. 145, wing 79, tail 63, bill l. 11.5, bill d. 5.0, tarsus 22. Colors: bill dusky brown, iris raw umber, tarsus dark neutral gray. Prep.: study skin (MNHNP).
3. Male, ad. NRM 937315. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 20, tot.l. 145, wing 76, tail 63, bill l. 10.5, bill d. 4.6, tarsus 20. Prep.: study skin (NRM), blood or tissue sample (NRM).
4. Unsexed. NRM 937330. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 22, tot.l. 160, wing 79, tail 67, bill l. 11, bill d. 5.0, tarsus 24. Colors: iris cinnamon-brown. Released.
5. Unsexed. NRM 937331. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 23, tot.l. 150, wing 81, tail 65, bill l. 11, bill d. 5.0, tarsus 22. Colors: iris cinnamon-brown. Released.
6. Unsexed. NRM 937332. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 22, tot.l. 150, wing 77, tail 64, bill l. 10.0, bill d. 4.5, tarsus 21. Colors: iris warm sepia. Released.
7. Male, ad. NRM 937333. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 21, tot.l. 158, wing 82, tail 65, bill l. 12, bill d. 5.0, tarsus 21. Prep.: study skin (NRM),
8. Female, ad. NRM 937337. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 19.5, tot.l. 155, wing 81, tail 65, bill l. 11, bill d. 4.9, tarsus 22. Prep.: skel. (NRM), blood or tissue sample (NRM).
9. Unsexed, juv. NRM 956649, MNHNP uncat. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 19.5, tot.l. 155, wing 79, wing span 230, tail 67, bill l. 12, bill d. 4.0, tarsus 21. Colors: bill sepia (no. 119), iris cinnamon-brown, tarsus blackish neutral gray. Prep.: alcohol specimen (MNHNP).
10. Male (plum.), ad. NRM 966940. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 24.0, tot.l. 160, wing 82, wing span 250, tail 65, bill l. 13, bill d. 5.0, tarsus 23. Colors: bill jet black, eye-ring blackish neutral gray, iris natal brown, tarsus plumbeous. Plumage: slight wing moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Greenish Schiffornis is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004).

PLATYRINCHIDAE

***Platyrinchus mystaceus* Vieillot, 1818. White-throated Spadebill (Fig. 11E)**

1. ssp. *mystaceus*. Male, ad. NRM 937236. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 9.5, tot.l. 105, wing 56, tail 34, bill l. 10.0, bill d. 3.0, tarsus 18. Colors: bill, upper jaw smoke gray (no. 45), lower jaw dark grayish brown, iris dark grayish brown, tarsus beige. Prep.: skel. (NRM)

2. ssp. *mystaceus*. Male, ad. NRM 937275, MNHNP 2041. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 9.4, tot.l. 90, wing 51, tail 30, bill l. 7.0, bill d. 3.0, bill breadth 8.6, tarsus 18.5. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *mystaceus*. Male, ad. NRM 937284, MNHNP 1647. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 8.2, tot.l. 95, wing 55, tail 32, bill l. 8.0, bill d. 2.5, tarsus 17. Colors: bill, upper jaw drab-gray, lower jaw dusky brown, iris sepia (no. 219), tarsus cinnamon-drab. Prep.: study skin (MNHNP).

4. ssp. *mystaceus*. Male, ad. NRM 967033, MNHNP 2047. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 8.7, tot.l. 99, wing 54, wing span 170, tail 27, bill l. 11, bill d. 3.0, tarsus 15. Colors: bill upper jaw blackish neutral gray, bill lower jaw beige, tarsus beige. Plumage: primaries moderately worn, tail heavy. Fat score 0. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. ssp. *mystaceus*. Unsexed, ad. NRM 967069, MNHNP 2093. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 9.5, tot.l. 95, wing 56, wing span 175, tail 31, bill l. 10.5, bill d. 3.5, tarsus 17. Colors: bill upper jaw blackish neutral gray, bill lower jaw beige, iris army brown, tarsus deep vinaceous. Plumage: primaries fresh, tail heavy. Prep.: alcohol specimen (MNHNP).

6. ssp. *mystaceus*. Male, ad. NRM 967075. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 6.5, tot.l. 90, wing 52, wing span 169, tail 32, bill l. 10, bill d. 3.0, tarsus 17. Colors: bill upper jaw sepia (no. 119), bill lower jaw pale horn color, iris burnt umber, tarsus beige. Plumage: primaries fresh, tail slightly worn. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

7. ssp. *mystaceus*. Unsexed, ad. NRM 967103. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 9.9, tot.l. 90, wing 53, wing span 168, tail 26, bill l. 10, bill d. 3.0, tarsus 19. Colors: bill lower jaw, bill lower jaw sepia (no. 119), iris beige, tarsus drab-gray. Plumage: primaries fresh, tail moderately worn. Prep.: alcohol specimen (NRM).

8. ssp. *mystaceus*. Male, ad. NRM 976724. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 9.6, tot.l. 103, wing 57, wing span 180, tail 32, bill l. 10, bill d. 3.5, bill breadth 9.0, tarsus 17. Colors: bill, upper jaw jet black, lower jaw beige, iris cinnamon-brown, tarsus beige. Plumage: wing moulting. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-throated Spadebill is resident in Paraguay. It is uncommon in Campos Cerrados and Central Paraguay (del Castillo and Clay 2004). No female White-throated Spadebill has been caught in the mistnets. A similar skew sex ratio was observed by Brooks *et al.* (1993) who suggested that the females' smaller size prevented them from being caught in the nets. This explanation does not seem very likely. Admittedly, the White-throated Spadebill is sexual dimorphic in size, but the size ranges of males and females overlap considerably. It is far more likely the dominance of mistnetted males could be explained by a yet undescribed behavioral difference between the sexes.

***Platyrinchus leucoryphus* zu Wied, 1831. Russet-winged Spadebill**

1. Male, ad. NRM 937323. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 14.5, tot.l. 113, wing 75, tail 41, bill l. 9.5, bill d. 4.0, tarsus 14.5. Colors: bill sepia (no. 119), iris raw umber (no. 223), tarsus lavender. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Russet-winged Spadebill is endemic to the Atlantic Forest (Vale *et al.* 2018) with a very restricted distribution in southeastern Brazil, eastern Paraguay and northeastern Argentina. Hayes (1995) lists it as a rare resident in Central Paraguay. It is regarded as vulnerable by Collar *et al.* (1992), who stressed the need for further field studies of its population dynamics and habitat requirements, which are have only recently began to be known (Clay and Madroño 1997).

On 6 Oct. 1993 an adult male Russet-winged Spadebill was mist-netted by a PROVEPA team in primary forest at Parque Nacional Caaguazú in Dpto Caazapá, Paraguay. Its testes were enlarged indicating breeding condition. The stomach contained invertebrates in the following proportions by weight: 15% Hymenoptera, 5% Araneae, 5% Coleoptera, 4% Diptera? (eggs), 1% Arthropoda (eggs), and 70% undetermined. At the same site several individuals of the smaller, congeneric White-throated Spadebill (*P. mystaceus*) were obtained. Comparisons of the stomach contents of these few individuals could reveal no significant differences in food choice between the species. The Russet-winged Spadebill is a rather inconspicuous bird occurring in the understory of subtropical forests. Albeit never in large numbers, the species has been collected and sighted at several localities in the Oriente where it may be more common than previously thought. For example, after this first find of the species it has been found that the Parque Nacional Caaguazú holds a small population (Madroño *et al.* 1997).

PIPROMORPHIDAE

***Corythopis delalandi* (Lesson, 1831). Southern Antpiper**

1. Male, ad. NRM 937282, MNHNP 1019. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: tot.l. 135, wing 69, tail 52, bill l. 14, bill d. 3.7, tarsus 24. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Unsexed, age undetermined. NRM 956592. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 14.5, tot.l. 128, wing 65, wing span 195. Colors: bill natal brown, iris olive-brown, tarsus beige. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, NRM 956608. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 16, tot.l. 135, wing 71, wing span 210, tail 52, bill l. 14, bill d. 3.5, tarsus 22. Colors: bill, upper jaw fuscous, lower jaw pale pinkish brown, iris Prout's brown, tarsus cinnamon-drab. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Unsexed, juv. NRM 956652. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 16, tot.l. 125, wing 64, wing span 180, bill l. 13, bill d. 3.4, tarsus 23. Colors: bill, upper jaw burnt umber, lower jaw flesh color, iris Prout's brown, tarsus medium plumbeous. Plumage: central tail feathers growing. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 967027, MNHNP 2069. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 12.0, tot.l. 122, wing 58, bill l. 15, bill d. 4.5, tarsus 23. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Southern Antpipit is resident in Paraguay. It is uncommon in Campos Cerrados, but is fairly common Central Paraguay (del Castillo and Clay 2004).

***Mionectes rufiventris* Cabanis, 1846. Gray-hooded Flycatcher**

1. Female, ad. NRM 937244, MNHNP 1004. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 13.5, tot.l. 136, wing 68, tail 56, bill l. 11, bill d. 4.0, tarsus 17. Colors: bill blackish neutral gray-buff yellow, iris Vandyke brown (no. 221), tarsus medium plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, NRM 956627. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 12, tot.l. 125, wing 65, wing span 170, tail 52, bill l. 9.5, bill d. 3.5, tarsus 15.5. Colors: bill, upper jaw dusky brown, lower jaw dark grayish brown, iris raw umber (no. 223), tarsus plumbeous. Plumage: fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966944. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 14.4, tot.l. 137, wing 70, wing span 225, tail 53, bill l. 10, bill d. 3.5, tarsus 16.5. Colors: iris jet black, tarsus medium neutral gray. Plumage: primaries fresh, tail fresh. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Gray-hooded Flycatcher is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004). The species is considered stationary throughout its distribution area (Fitzpatrick 2020a) but the fat deposited in the individual collected in Central Paraguay during the austral spring suggests that some seasonal movements occur.

***Leptopogon amaurocephalus* von Tschudi, 1846. Sepia-capped Flycatcher**

1. Unsexed, ad. NRM 937226. P.N. Caaguazú (Sector Cristal), 30 Sept. 1993. Dpto Caazapá. Meas.: wt 13, tot.l. 132, wing 74, tail 62, bill l. 14, bill d. 4.0, tarsus 14. Colors: iris cinnamon-brown. Prep.: blood sample (NRM). Released.

2. Male, ad. NRM 937308, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 12, tot.l. 145, wing 68, tail 63, bill l. 11, bill d. 4.0, tarsus 16. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 937317. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 12.5, tot.l. 135, wing 72, tail 63, bill l. 12, bill d. 4.0, tarsus 16. Colors: bill, upper jaw pale neutral gray, lower jaw dusky brown, iris cinnamon-brown, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Sepia-capped Flycatcher is resident in Paraguay. It is uncommon in Central Paraguay (del Castillo and Clay 2004).

***Tolmomyias sulphurescens* (von Spix, 1825). Yellow-olive Flycatcher**

1. Male, ad. NRM 956719, MNHNP 1096. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 14.5, tot.l. 137, wing 68, tail 58, bill l. 11, bill d. 4.0, tarsus 18. Colors: bill, upper jaw [dark], lower jaw [flesh]. Plumage: body and wing moult. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Yellow-olive Flycatcher is resident in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Myiornis auricularis* (Vieillot, 1818). Eared Pygmy Tyrant**

1. Female (?) (plum.), ad. NRM 967077, MNHNP 1443. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 5.3, tot.l. 80, wing 40, tail 27, bill l. 10.5, bill d. 2.8, tarsus 14. Colors: bill sepia (no. 219), tarsus light russet vinaceous. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Eared Pygmy Tyrant is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is uncommon in Campos Cerrados (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Hemitriccus diops* (Temminck, 1822). Drab-breasted Pygmy Tyrant**

1. Male, age undetermined. NRM 956601, MNHNP 1069. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 10, tot.l. 110, wing 53, wing span 140, tail 50, bill l. 10, bill d. 3.0, tarsus 18.5. Colors: bill, upper jaw dusky brown, lower jaw lavender, iris brick red, tarsus lavender. *Remarks:* two parasites found in the intestines. Plumage: tail feathers very pointed. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Drab-breasted Pygmy Tyrant is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Hemitriccus margaritaceiventer* (d'Orbigny & Lafresnaye, 1837). Pearly-vented Tyrant (Fig. 8D)**

1. Female, imm. NRM 937202. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 5.5, tot.l. 107, wing 46, tail 37, bill l. 12.5, bill d. 3.2, tarsus 18.5. Prep.: skel. (NRM)

2. Female, ad. NRM 937213. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 7.4, tot.l. 100, wing 48, tail 39, bill l. 11, bill d. 3.0, tarsus 18. Colors: bill fuscous, iris straw yellow, tarsus deep vinaceous. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 937214, MNHNP 990. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 6.5, tot.l. 93, wing 48, tail 40, bill l. 12, bill d. 3.0, tarsus 19. Colors: bill fuscous, iris pale horn color, tarsus deep vinaceous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 947147, MNHNP 2043. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 8.5, tot.l. 122, wing 53, wing span 175, tail 45, bill l. 12, bill d. 4.0, tarsus 20. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 947242. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 8.2, tot.l. 105, wing 49, wing span 160, tail 41, bill l. 12, bill d. 3.5, tarsus 19. Colors: bill army brown, iris chamois, tarsus mauve. Prep.: alcohol specimen (NRM).

6. Unsexed, ad. NRM 947243. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 8.3, tot.l. 107, wing 50, wing span 165, tail 42, bill l. 12, bill d. 3.7, tarsus 20. Colors: bill army brown, iris chamois, tarsus mauve. Prep.: alcohol specimen (NRM).
7. Male, ad. NRM 947265. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 9.4, tot.l. 102, wing 48, wing span 150, tail 41, bill l. 12, bill d. 3.0, tarsus 18. Colors: bill army brown, iris cream color, tarsus mauve. Prep.: skel. (NRM), blood or tissue sample (NRM).
8. Unsexed, juv. NRM 956672. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: tot.l. 109, wing 50, wing span 163, tail 43, bill l. 12.5, bill d. 3.5, tarsus 19. Plumage: growing all over. Prep.: study skin (NRM), blood or tissue sample (NRM).
9. Male, juv. NRM 956697. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 7.0, tot.l. 108, wing 47, wing span 160, tail 39, bill l. 11, bill d. 3.0, tarsus 19. Colors: bill fawn color, iris trogon yellow, tarsus deep vinaceous. Plumage: growing, fresh. Prep.: skel. (NRM), blood or tissue sample (NRM).
10. Unsexed, ad? NRM 956736, MNHNP uncat. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 8.2, tot.l. 111, wing 50, wing span 165, tail 42, bill l. 13.5, bill d. 3.3, tarsus 20. Plumage: body moult, tail worn. Prep.: alcohol specimen (MNHNP).
11. Female, ad. NRM 966805. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 7.5, tot.l. 100, wing 48, wing span 150, tail 41, bill l. 11.5, bill d. 3.4, tarsus 18. Colors: bill burnt umber, iris trogon yellow, tarsus deep vinaceous. Plumage: primaries fresh, tail fresh. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).
12. Male, ad. NRM 966810. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 7.8, tot.l. 112, wing 52, wing span 165, tail 46, bill l. 10, tarsus 17. Colors: bill sepia (no. 219), iris raw umber (no. 123), tarsus deep vinaceous. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM).
13. Female, ad. NRM 966959. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 7.0, tot.l. 102, wing 46, wing span 152, tail 38, bill l. 12, bill d. 2.5, tarsus 17. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).
14. Unsexed, ad. NRM 967019. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 9.5, tot.l. 110, wing 53, wing span 165, tail 46, bill l. 14, bill d. 4.0, tarsus 19. Colors: bill upper jaw natal brown, bill lower jaw drab-gray, tarsus hazel. Plumage: primaries fresh, tail moderately worn. Prep.: alcohol specimen (NRM).
15. Male, ad. NRM 967120, MNHNP 1444. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 6.4, tot.l. 101, wing 47, wing span 145, tail 44, bill l. 9.0, bill d. 3.0, tarsus 18. Colors: bill dark grayish brown, tarsus lavender. Plumage: primaries slightly worn, tail heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
16. Female, ad. NRM 976800. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 6.8, tot.l. 99, wing 47, wing span 158, tail 39, bill l. 13, bill d. 3, tarsus 18. Colors: bill fuscous, iris buff-yellow, tarsus hazel. Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).
17. Female, ad. NRM 986693. Est. Santa Ana, Dpto Misiones, 7 April 1998. Meas.: wt 8.3, tot.l. 95, wing 47, wing span 149, tail 40, bill l. 11, tarsus 18. Colors: bill raw umber, iris warm buff, tarsus deep vinaceous. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Pearly-vented Tyrant is resident in Paraguay. It is abundant in Alto Chaco, and common in Matogrosense, Bajo Chaco, Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). Although this species is considered resident the fat score 5 in one individual collected in Dpto Misiones in the austral autumn suggests some seasonal movements. This is further supported by two individuals ringed at Est. Santa Ana, Dpto Misiones, on 7 April 1998 having fat scores 4 and 5, respectively.

***Todirostrum cinereum* (Linnaeus, 1766). Common Tody Flycatcher (Fig. 9G)**

1. Unsexed, ad. NRM 947036, MNHNP 1023. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 7.2, tot.l. 113, wing 48, wing span 140, tail 39, bill l. 15, bill d. 3.0, bill br. 5.0, tarsus 20. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, iris sulfur yellow (no. 157), tarsus medium neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947055. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 7.5, tot.l. 112, wing 47, wing span 145, tail 34, bill l. 14, bill d. 3.5, bill br. 5.0, tarsus 19. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, iris spectrum yellow, tarsus dark neutral gray, Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947072. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 8.5, tot.l. 113, wing 44, wing span 145, tail 35, bill l. 13.5, bill d. 3.0, bill br. 5.5, tarsus 20. Colors: bill blackish neutral gray, iris spectrum yellow, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 947084, MNHNP 1990. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 9.2, tot.l. 98, wing 47, tail 39, bill l. 16, bill d. 2.0, tarsus 20. Colors: bill jet black, iris sulfur yellow (no. 157), eye-ring jet black, tarsus plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Female, ad. NRM 947142. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 8.4, tot.l. 115, wing 45, wing span 148, tail 35, bill l. 15, bill d. 3.0, bill br. 6.0, tarsus 20. Prep.: alcohol specimen (NRM).

6. Female, ad. NRM 947208, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 7.1, tot.l. 95, wing 46, wing span 147, tail 35, bill l. 13, bill d. 3.0, bill br. 4.5, tarsus 18.5. Colors: bill jet black, iris orange yellow, tarsus medium neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Common Tody Flycatcher is resident in Paraguay. It is uncommon in Matogrosense (del Castillo and Clay 2004).

TYRANNIDAE

***Stigmatura budytoides* (d'Orbigny & Lafresnaye, 1837). Greater Wagtail Tyrant (Fig. 9F)**

1. Female, ad. NRM 966780. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 10.5, tot.l. 135, wing 54, wing span 165, tail 70, bill l. 10, bill d. 2.8, tarsus 19. Colors: bill sepia (no. 119), iris Brussels brown, tarsus medium plumbeous. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, NRM 966786. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 10.5, tot.l. 131, wing 51, wing span 180, tail 70, bill l. 11, bill d. 3.0, tarsus 24. Colors: bill sepia (no. 119), iris Brussels brown, tarsus medium plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966804, MNHNP 1440. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: tot.l. 145, wing 59, wing span 180, tail 74, bill l. 9.4, bill d. 3.0, tarsus 21. Colors: bill sepia (no. 119), iris Brussels brown, tarsus medium plumbeous. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 966807. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 10.0, tot.l. 135, wing 57, wing span 170, tail 70, bill l. 10.5, bill d. 2.5, tarsus 20. Colors: bill jet black, iris Brussels brown, tarsus medium plumbeous. Plumage: replacement(?) of three outermost tail feathers on one side, primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 966811, MNHNP 2107. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 10.5, tot.l. 147, wing 60, wing span 175, tail 72, bill l. 10, bill d. 3.0, tarsus 21. Colors: bill jet black, iris burnt umber, tarsus dark neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 2. Prep.: alcohol specimen (MNHNP).

Remarks: The Greater Wagtail Tyrant is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004). It is believed that birds breeding in the southern part of the distribution area (central Argentina) winters in the northern Chaco (Short 1975), but the low fat deposition in the individuals collected in mid-October does not suggest these are in migration. Kratter *et al.* (1993) made a similar observation for individuals collected in September at a locality in the Bolivian Chaco ca 300 km north of Dr Pedro P. Peña. Smith *et al.* (2008) published tail measurements for birds that were also captured in the dry Chaco (at Parque Nacional Tte Enciso, ca 56 km NE from our collecting locality). They pointed out that two specimens had considerably longer tails (78 and 80 mm, respectively) than the other five (69.5-72 mm) and suggested this may be due to sexual dimorphism. As their specimens were not sexed they could not verify this. However, our data does not support this hypothesis. Only one female was collected but the tail length of this individual is 70 mm, while the tail length of the four males ranges between 70 and 74 mm.

***Inezia inornata* (Salvadori, 1897). Plain Tyrannulet**

1. Male, ad. NRM 947139, MNHNP 1646. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 5.4, tot.l. 111, wing 50, wing span 145, tail 46, bill l. 10, bill d. 3.0, tarsus 15.5. Colors: bill jet black, iris natal brown, eye-ring hair brown, tarsus plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 996688. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 5, tot.l. 95, wing 46, wing span 140, tail 42, bill l. 9, bill d. 2, tarsus 16. Colors: bill [dark gray], tarsus [dark gray]. Plumage: primaries slightly worn, tail very worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Plain Tyrannulet is a northern austral migrant that is uncommon in Alto Chaco and scarce in Matogrosense (del Castillo and Clay 2004). After breeding it spends the austral winter

further north in South America. Species identifications of no. 1 and 2 have been verified by DNA barcoding. This is an abundant species in the Chaco in the summer, but is probably underrecorded because of similarity to other tyrannid flycatchers and unfamiliarity with the voice (Paul Smith pers. comm.).

***Euscarthmus meloryphus* zu Wied, 1831. Tawny-crowned Pygmy Tyrant**

1. Male, ad. NRM 937197, MNHNP 2011. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 6.8, tot.l. 114, wing 48, tail 44, bill l. 10.0, bill d. 3.5, tarsus 19. Colors: iris cinnamon-brown, tarsus medium neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 956680. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 7.0, tot.l. 105, wing 49, wing span 150, tail 42, bill l. 9.0, bill d. 4.0, tarsus 18.5. Colors: bill plumbeous, iris burnt sienna, tarsus light neutral gray. Plumage: body, wing and tail moult, tail feathers very worn. Prep.: alcohol specimen (NRM).

3. Male, juv. NRM 956681. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 8.0, tot.l. 115, wing 45, wing span 145, tail 41, bill l. 10, bill d. 3.0, tarsus 19.5. Colors: bill plumbeous, iris burnt sienna, tarsus light neutral gray. Plumage: body, wing and tail growing. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976685. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 7, tot.l. 109, wing 45, wing span 130, tail 44, bill l. 11.5, bill d. 3.5, tarsus 19. Colors: bill, upper jaw burnt umber, lower jaw flesh color, tarsus plumbeous. Plumage: primaries fresh, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 996691, MNHNP uncat. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 6.5, tot.l. 100, wing 45, wing span 145, tail 42, bill l. 10, bill d. 2.4, tarsus 17.6. Colors: bill, upper jaw [black], lower jaw [flesh], iris [dark brown], tarsus [black]. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Tawny-crowned Pygmy Tyrant is resident in Paraguay. It is uncommon in Campos Cerrados, scarce in Alto Chaco and rare in Bajo Chaco (del Castillo and Clay 2004). The specimen collected in Campos Cerrados represents the earliest documented record from this biogeographical region. This species is easily overlooked and may be more common than normally believed (Paul Smith pers. comm.).

***Camptostoma obsoletum* (Temminck, 1824). Southern Beardless Tyrannulet**

1. Male, ad. NRM 937368, MNHNP 1001. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 8.0, tot.l. 114, wing 59, tail 49, bill l. 8.0, bill d. 3.0, tarsus 9.0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 947111. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 6.2, tot.l. 104, wing 53, wing span 160, tail 40, bill l. 7.5, bill d. 3.5, tarsus 13. Colors: bill sepia (no. 119), iris walnut brown, eye-ring hair brown, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Southern Beardless Tyrannulet is resident in Paraguay. It is uncommon in Alto Chaco and is fairly common in Matogrosense (del Castillo and Clay 2004). Species identification of individuals nos. 1 and 2 have been verified by DNA barcoding.

***Elaenia flavogaster* (Thunberg, 1822). Yellow-bellied Elaenia**

1. Male, ad. NRM 947235. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 24.5, tot.l. 165, wing 83, wing span 245, tail 70, bill l. 13, bill d. 4.0, tarsus 20.5. Colors: bill jet black, iris burnt umber, eye-ring dark brownish olive, tarsus sepia (no. 119). Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 966970. P.N. San Lu s, Dpto Concepci n, 31 Oct. 1996. Meas.: wt 21.0, tot.l. 157, wing 80, wing span 220, tail 61, bill l. 12, bill d. 5.0, tarsus 20. Colors: bill upper jaw sepia (no. 219), bill lower jaw cinnamon-drab, tarsus sepia (no. 119). Plumage: primaries heavy, tail heavy. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Yellow-bellied Elaenia is resident in Paraguay. It is common in Campos Cerrados (del Castillo and Clay 2004). Species identification of individuals nos. 1 and 2 have been verified by DNA barcoding.

***Elaenia parvirostris* von Pelzeln, 1868. Small-billed Elaenia**

1. Unsexed, ad. NRM 966777. Dr Pedro P. Pe a, 7 km W, Dpto Boquer n, 10 Oct. 1996. Prep.: blood or tissue sample (NRM).

2. Female, ad. NRM 966783. Dr Pedro P. Pe a, 7 km W, Dpto Boquer n, 10 Oct. 1996. Meas.: wt 16.0, tot.l. 140, wing 67, wing span 200, tail 60, bill l. 10.5, bill d. 3.4, tarsus 18. Colors: bill sepia (no. 119), iris burnt sienna, tarsus jet black. Plumage: primaries fresh, tail fresh. Fat score 6. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966789. Dr Pedro P. Pe a, 7 km W, Dpto Boquer n, 11 Oct. 1996. Meas.: wt 14.0, tot.l. 144, wing 72, wing span 210, tail 63, bill l. 10.5, bill d. 4.0, tarsus 18.5. Plumage: primaries moderately worn, tail slightly worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 966808, MNHNP uncat. Dr Pedro P. Pe a, 7 km W, Dpto Boquer n, 11 Oct. 1996. Meas.: wt 12.5, tot.l. 147, wing 71, wing span 210, tail 63, bill l. 9.0, bill d. 3.5, tarsus 15. Colors: bill upper jaw sepia (no. 219), bill lower jaw beige, eye-ring [yellowish], iris [brown], tarsus sepia (no. 119). Plumage: primaries fresh, tail fresh. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 966822, MNHNP uncat. Dr Pedro P. Pe a, 7 km W, Dpto Boquer n, 12 Oct. 1996. Meas.: wt 15.0, tot.l. 135, wing 81, wing span 200, tail 61, bill l. 9.5, bill d. 3.5, tarsus 16. Colors: bill sepia (no. 119), iris burnt sienna, tarsus jet black. Plumage: primaries fresh, tail slightly worn. Fat score 5. Prep.: study skin (MNHNP).

6. Female, ad. NRM 986756, MNHNP 1686. Est. Santa Ana, Dpto Misiones, 6 Nov. 1998. Meas.: wt 14.5, tot.l. 140, wing 68.5, tail 59, bill l. 10, bill d. 3, tarsus 17. Colors: bill, upper jaw sepia (no.119), lower jaw beige, iris, sepia (no. 219), tarsus sepia (no. 119). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

7. Unsexed, ad. NRM 996698. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 Oct. 1999. Prep.: study skin (NRM), blood or tissue sample (NRM).

8. Female, ad. NRM 996707. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 30 Oct. 1999. Meas.: wt 15.5, tot.l. 147, wing 70, wing span 220, tail 59, bill l. 10, bill d. 4.2, tarsus 18. Colors: bill [dark brown], tarsus [black]. Plumage: primaries slightly worn, tail moderately worn. Fat score 6. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Small-billed Elaenia has both a resident population in Paraguay, but the species also breeds south of the country and many individuals migrate through the country to winter further north. It is uncommon in Alto Chaco (del Castillo and Clay 2004) but the high fat loads of many individuals collected in Dpto Alto Paraguay in the austral spring suggest these are migrating birds. The species spends the austral winter (April-October) across all of Amazonia, mainly in northern South America (Hosner 2020). During ten days of fieldwork at Est. Santa Ana, Dpto Misiones, in April 1998 we ringed 14 individuals of this species but did not retrap a single of them. This suggests a high turn-over of individuals in the nearby area, possibly due to migration. Species identification of individuals nos. 2-4 and 6-8 have been verified by DNA barcoding.

***Elaenia spectabilis* von Pelzeln, 1868. Large Elaenia**

1. Male, ad. NRM 937399, MNHNP 1011. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: tot.l. 180, wing 91, tail 77, bill l. 14.5, bill d. 3.5, tarsus 21. Colors: bill, upper jaw dusky brown, lower jaw vinaceous, iris burnt umber, tarsus sepia (no. 119). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947255. Est. Apami, Dpto Amambay, 9 Oct. 1994. Meas.: wt 27, tot.l. 180, wing 89, wing span 255, tail 78, bill l. 9.5, bill d. 4.0, tarsus 19.5. Colors: bill dark neutral gray, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947270, MNHNP 1031. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 26, tot.l. 177, wing 89, wing span 275, tail 81, bill l. 9.5, bill d. 4.5, tarsus 19.5. Colors: bill dark neutral gray, tarsus blackish neutral gray. Remarks: incubation patch present. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 986773. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 24.5, tot.l. 185, wing 87, wing span 275, tail 77, bill l. 12, bill d. 7, tarsus 19. Colors: bill jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 986792, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 14 Nov. 1998. Meas.: wt 29.8, tot.l. 181, wing 90, wing span 290, tail 76, bill l. 12.8, bill d. 5.8, tarsus 21. Colors: bill dusky brown, lower jaw beige, iris cinnamon-brown, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 986766. Est. Santa Ana, Dpto Misiones, 8 Nov. 1998. Meas.: wt 36, tot.l. 189, wing 94, wing span 290, tail 85, bill l. 11.5, bill d. 5, tarsus 20.5. Colors: bill jet black, base flesh color, iris burn sienna, cere orange yellow, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

7. Male, ad. NRM 996710. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 30 Oct. 1999. Meas.: wt 28, tot.l. 175, wing 91, wing span 270, tail 78, bill l. 11.1, bill d. 3.5, tarsus 21.6.

Colors: bill [dark brown], iris [dark brown], tarsus [black]. Plumage: primaries moderately worn, tail moderately worn. Fat score 6. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Large Elaenia is a northern austral migrant that is uncommon in Alto Chaco and Campos Cerrados, but fairly common in Ñeembucú (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America. The individual with fat score 6 collected in Alto Chaco during the austral spring is clearly a migrant. Species identification of individuals nos. 1-3 and 5-7 have been verified by DNA barcoding.

?*Elaenia mesoleuca* (Deppe, 1830). Olivaceous Elaenia

1. Male, ad. NRM 937336, MNHNP 1645. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 24.5, tot.l. 159, wing 82, tail 66, bill l. 8.5, bill d. 3.9, tarsus 17.5. Prep.: study skin (MNHNP).

Remarks: The Olivaceous Elaenia is resident in Paraguay. It is scarce in Central Paraguay (del Castillo and Clay 2004). The identification of this species is a bit doubtful as there is no consensus on how to distinguish *Elaenia mesoleuca* and *E. parvirostris* and all the published records are being questioned (Straube 2013). No tissue sample was preserved but a future DNA confirmation may be based on a toepad sample.

***Myiopagis caniceps* (Swainson, 1835). Gray Elaenia**

1. Unsexed, ad. NRM 976683. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 11, tot.l. 121, wing 60, wing span 180, tail 51, bill l. 11, bill d. 4, tarsus 17. Colors: bill blackish neutral gray, iris cinnamon-brown, tarsus plumbeous. Plumage: wing moulting, primaries moderately worn, tail very worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 976684, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 10.5, tot.l. 119, wing 58, tail 49, bill l. 11, bill d. 4.5, tarsus 16.5. Colors: bill jet black, iris cinnamon-brown, tarsus blackish neutral gray. Plumage: wing moulting, primaries moderately worn, tail very worn. Fat score 0(?). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Gray Elaenia is resident in Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004). Species identification of individual no. 1 has been verified by DNA barcoding.

***Myiopagis viridicata* (Vieillot, 1817). Greenish Elaenia**

1. Male, ad. NRM 937267, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 12.5, tot.l. 125, wing 68, tail 59, bill l. 9.5, bill d. 4.0, tarsus 16.5. Colors: bill hair brown, iris sepia (no. 219), tarsus dark neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947269. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 12, tot.l. 125, wing 68, wing span 200, tail 63, bill l. 8.5, bill d. 3.5, tarsus 16.5. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 967050. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 12.3, tot.l. 128, wing 58, wing span 190, tail 53, bill l. 9.0, bill d. 3.3, tarsus 14. Colors: bill upper jaw dusky

brown, bill lower jaw smoke gray (no. 45), iris 144, tarsus plumbeous. Plumage: primaries fresh, tail slightly worn. Fat score 4. Remarks: Nine ectoparasites (larvae) found. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 986779. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 10.9, tot.l. 128, wing 62, wing span 200, tail 56, bill l. 10, bill d. 4.3, tarsus 14.5. Colors: bill blackish neutral gray, iris chestnut, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 996718. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 1 Nov. 1999. Meas.: wt 8, tot.l. 120, wing 59, wing span 180, tail 52, bill l. 8.7, bill d. 3, tarsus 14.5. Colors: bill, upper jaw [black], lower jaw [flesh at base], iris [brown], tarsus [black]. Plumage: primaries fresh, tail fresh. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Greenish Elaenia is a northern austral migrant that is fairly common in Campos Cerrados and uncommon in Central Paraguay, while it is scarce in Ñeembucú (del Castillo and Clay 2004). The specimen from Cerro León is the first from Alto Chaco biogeographical region. After breeding the Greenish Elaenia spends the austral winter further north in South America. Species identification of individuals nos. 1-5 have been verified by DNA barcoding.

***Suiriri suiriri* (Vieillot, 1818). Suiriri Flycatcher**

1. ssp. *burmeisteri*. Male, ad. NRM 976734, MNHNP 1667. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 19.5, tot.l. 163, wing 85, wing span 263, tail 73, bill l. 12.5, bill d. 7, tarsus 21. Colors: bill sepia (no.119), iris sepia, tarsus plumbeous. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *suiriri*. Male, ad. NRM 976762. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 13, tot.l. 146, wing 75, wing span 225, tail 68, bill l. 10.5, bill d. 4, tarsus 18.5. Colors: bill jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *suiriri*. Unsexed, ad. NRM 976763. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 13.5, tot.l. 143, wing 71, wing span 213, tail 64, bill l. 9, bill d. 4, tarsus 18.5. Colors: bill jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *suiriri*. Male, ad. NRM 976767. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 13.5, tot.l. 138, wing 72, wing span 227, tail 65, bill l. 12, bill d. 4, tarsus 19. Colors: bill jet black. Plumage: primaries moderately worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Suiriri Flycatcher is resident in Paraguay. It is fairly common in Alto Chaco and uncommon in Campos Cerrados (del Castillo and Clay 2004). The yellow-bellied subspecies of the Suiriri Flycatcher in Paraguay has long been named *S. s. affinis*, but the name was recently corrected to *S. s. burmeisteri* (Kirwan *et al.* 2014). Species identification of individuals nos. 1-4 have been verified by DNA barcoding. The previously reported large (4.6%) genetic distance in the COI gene between the white-bellied and yellow-bellied subspecies (Chaves *et al.* 2008) was not observed here. The specimen from San Antonio differs on average by 0.1% from the three individuals collected at Est. Palo Santo. It is highly desirable to augment Hayes' (2001) study of the Suiriri Flycatcher complex with extensive molecular sampling.

***Phaeomyias murina* (von Spix, 1825). Mouse-colored Tyrannulet**

1. Female, ad. NRM 947263. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 10, tot.l. 111, wing 56, wing span 180, tail 49, bill l. 7.5, bill d. 3.0, tarsus 17. Colors: bill sepia (no. 219), tarsus Vandyke brown (no.121). Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Mouse-colored Tyrannulet is a northern austral migrant that is common in Campos Cerrados (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America. Species identification of this individual has been verified by DNA barcoding.

***Culicivora caudacuta* (Vieillot, 1818). Sharp-tailed Tyrant (Fig. 8A)**

1. Male, ad. NRM 986699, MNHNP 1641. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 6.6, tot.l. 110, wing 42, wing span 130, tail 45, bill l. 9, bill d. 3, tarsus 14. Colors: bill jet black, iris [brown], tarsus jet black. Plumage: wing moulting, primaries moderately worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Sharp-tailed Tyrant is resident in Paraguay. It is scarce in Ñeembucú (del Castillo and Clay 2004).

***Pseudocolopteryx sclateri* (Oustalet, 1892). Crested Doradito**

1. Male, ad. NRM 947043, MNHNP 1030. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 6.2, tot.l. 108, wing 43, wing span 140, tail 43, bill l. 11, bill d. 3.0, tarsus 17. Colors: bill jet black, iris maroon, eye-ring jet black, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Crested Doradito is resident in Paraguay. It is scarce in Matogrosense (del Castillo and Clay 2004). Smith *et al.* (2014) suggest that the distribution of the Crested Doradito in Paraguay to some degree is associated with the Río Paraguay, with most records in the western half of the Oriental region and fewer in the Humid Chaco and Pantanal regions.

***Serpophaga subcristata* (Vieillot, 1817). White-crested Tyrannulet**

1. Unsexed, ad. NRM 996686. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 6, tot.l. 95, wing 47, wing span 145, tail 43, bill l. 8, bill d. 2.4, tarsus 17. Colors: bill [dark gray], iris [dark brown], tarsus [dark gray]. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Remarks: full of parasites, discarded.

Remarks: The White-crested Tyrannulet is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Serpophaga munda* von Berlepsch, 1893. White-bellied Tyrannulet**

1. Unsexed, ad. NRM 947061, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 5.8, tot.l. 100, wing 50, tail 47, tarsus 16.5. Colors: bill jet black, iris warm sepia, tarsus sepia (no. 119). Plumage: head moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947171, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: tot.l. 113, wing 48, wing span 153, tail 47, bill l. 8.5, bill d. 2.8, tarsus 17.5. Colors: bill blackish neutral gray, iris chestnut, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 947187, MNHNP 1691. Est. Doña Júlía, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 5.8, tot.l. 114, wing 49, wing span 145, tail 46, bill l. 9.5, bill d. 3.0, tarsus 16. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 956738. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 7.0, tot.l. 104, wing 44, tail 38, bill l. 12, bill d. 3.5, tarsus 18.5. Plumage: moult in wing coverts, wing and tail worn. Prep.: alcohol specimen (NRM).

Remarks: The White-bellied Tyrannulet is resident in Paraguay. It is rare in Alto Chaco and scarce in Matogrosense (del Castillo and Clay 2004). Species identification of individuals nos. 1-3 have been verified by DNA barcoding to be close to *Serpophaga subcristata* (no reference sequence of *Serpophaga munda* was available). *Serpophaga munda* may be just a color morph of *S. subcristata* (Paul Smith pers. comm.) and is lumped with this species in some classifications, e.g. *Handbook to the Birds of the World Alive* (Fitzpatrick 2020b).

***Attila phoenicurus* von Pelzeln, 1868. Rufous-tailed Attila**

1. Female, ad. NRM 986796, MNHNP 1677. Est. Santa Ana, Dpto Misiones, 15 Nov. 1998. Meas.: wt 39.8, tot.l. 193, wing 101, wing span 310, tail 69, bill l. 18, bill d. 9.5, tarsus 22. Colors: bill jet black, lower jaw light neutral gray, iris cinnamon-brown, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Rufous-tailed Attila is an austral migrant that winters in Paraguay. It has not been recorded from Ñeembucú previously (del Castillo and Clay 2004), and has in fact been documented only a handful times in the whole country (del Castillo and Castillo 2016).

***Legatus leucophaeus* (Vieillot, 1818). Piratic Flycatcher**

1. Female, ad. NRM 947239. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 25, tot.l. 145, wing 82, wing span 250, tail 57, bill l. 10, bill d. 4.5, tarsus 14.5. Colors: bill sepia (no. 119), iris sepia (no. 119), tarsus sepia (no. 119). Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 947268, MNHNP 1029. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 25.5, tot.l. 155, wing 85, wing span 240, tail 64, bill l. 10.5, bill d. 5.0, tarsus 15.5. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 947285. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 23, tot.l. 145, wing 77, wing span 230, tail 58, bill l. 10.5, bill d. 5.0, tarsus 15. Colors: bill jet black, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Piratic Flycatcher is a northern austral migrant that is uncommon in Campos Cerrados (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America.

***Pitangus sulphuratus* (Linnaeus, 1766). Great Kiskadee**

1. Male, ad. NRM 937355, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 57, tot.l. 228, wing 120, tail 84, bill l. 23.5, bill d. 8.5, tarsus 24.5. Colors: bill jet black, iris warm sepia, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Male, ad. NRM 947163. Est. Doña Júlía, Dpto Alto Paraguay, 17 Sept. 1994. Meas.: wt 50, tot.l. 234, wing 119, wing span 380, tail 85, bill l. 31, bill d. 11.5, tarsus 25.5. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 947205. Est. Doña Júlía, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 53, tot.l. 230, wing 115, wing span 350, tail 80, bill l. 26, bill d. 10, tarsus 25. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Unsexed, juv. NRM 956705. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 26 March 1995. Meas.: wt 52, tot.l. 230, wing 113, wing span 350, tail 88, bill l. 27, bill d. 9.5, tarsus 26.5. Colors: bill jet black, iris natal brown, tarsus jet black. Plumage: growing, fresh. Prep.: alcohol specimen (NRM).
5. Unsexed, juv. NRM 956711, MNHNP uncat. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 44, tot.l. 218, wing 113, wing span 365, tail 84, bill l. 28, bill d. 9.5, tarsus 25.5. Colors: bill jet black, iris cinnamon-brown, tarsus blackish neutral gray. Prep.: alcohol specimen (MNHNP).
6. Male, age undetermined. NRM 956723, MNHNP 1059. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 52, tot.l. 230, wing 119, wing span 230, tail 85, bill l. 31, bill d. 9.5, tarsus 26.5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
7. Male, ad. NRM 976752. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 50, tot.l. 245, wing 111, wing span 345, tail 84, bill l. 28, bill d. 9, tarsus 27. Colors: bill jet black, iris burnt sienna, tarsus jet black. Plumage: tail moulting, two generations of tail feathers, primaries very worn, tail fresh to very worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Great Kiskadee is resident in Paraguay. It is abundant in Alto Chaco and Matogrosense (del Castillo and Clay 2004).

***Machetornis rixosa* (Vieillot, 1819). Cattle Tyrant**

1. Male, ad. NRM 947020. Est. Doña Júlía, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 29, tot.l. 205, wing 96, wing span 290, tail 80, bill l. 19, bill d. 5.0, tarsus 28. Colors: bill jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Unsexed, ad. NRM 947054. Est. Doña Júlía, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 31, bill l. 19.5, bill d. 6.0, tarsus 28. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: blood or tissue sample (NRM).
3. Male, ad. NRM 947069, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 30, tot.l. 197, wing 95, wing span 300, tail 76, bill l. 20, bill d. 6.0, tarsus 29. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 947076, MNHNP 1976. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 29.5, tot.l. 197, wing 93, wing span 290, tail 75, bill l. 19.5, bill d. 5.0, tarsus 30. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 947077. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 26, tot.l. 198, wing 95, wing span 300, tail 79, bill l. 19, bill d. 5.0, tarsus 29. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 947078. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 27, tot.l. 185, wing 95, wing span 290, tail 75, bill l. 18, bill d. 5.5, tarsus 28.5. Plumage: tail moulting. Prep.: gizzard (NRM), blood or tissue sample (NRM).

7. Male, ad. NRM 947080, MNHNP 1973. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 30, tot.l. 191, wing 92, wing span 305, tail 78, bill l. 20, bill d. 5.5, tarsus 29. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

8. Female, ad. NRM 947191. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 27, tot.l. 190, wing 93, wing span 270, tail 79, bill l. 22.5, bill d. 4.5, tarsus 29. Prep.: skel. (NRM), blood or tissue sample (NRM).

9. Male, ad. NRM 967068. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 29.5, tot.l. 202, wing 90, wing span 285, tail 75, bill l. 19, bill d. 5.5, tarsus 27. Colors: bill blackish neutral gray, iris amber, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Cattle Tyrant is resident in Paraguay. It is abundant in Matogrosense and fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Megarhynchus pitangua* (Linnaeus, 1766). Boat-billed Flycatcher**

1. Male, ad. NRM 966976, MNHNP 1450. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 59, tot.l. 222, wing 120, wing span 385, tail 82, bill l. 29, bill d. 11, tarsus 18. Colors: bill jet black, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966981. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 65, tot.l. 215, wing 115, wing span 360, tail 80, bill l. 35, bill d. 11, tarsus 20. Colors: bill sepia (no. 119), tarsus sepia (no. 119). Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Boat-billed Flycatcher is resident in Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Myiodynastes maculatus* (Statius Muller, 1776). Streaked Flycatcher**

1. Female, ad. NRM 947245, MNHNP 1041. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 55, tot.l. 220, wing 112, wing span 320, tail 87, bill l. 28.5, bill d. 8.5, tarsus 20. Colors: bill sepia (no. 119), iris natal brown, eye-ring Vandyke brown (no. 221), tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947252. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 46, tot.l. 195, wing 111, wing span 310, tail 87, bill l. 22, bill d. 8.5, tarsus 19. Colors: bill blue black, tarsus plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 947258. Est. Apami, Dpto Amambay, 9 Oct. 1994. Meas.: wt 45, tot.l. 218, wing 110, wing span 340, tail 88, bill l. 20, bill d. 8.0, tarsus 19. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 966928. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 41, tot.l. 215, wing 107, wing span 320, tail 85, bill l. 23, bill d. 8.3, tarsus 21. Colors: bill jet black (base of mandible pale horn color), iris warm sepia, tarsus blackish neutral gray. Plumage: primaries fresh, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Male, ad. NRM 966929, MNHNP 1451. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 46, tot.l. 205, wing 112, wing span 310, tail 90, bill l. 23, bill d. 8.0, tarsus 19. Colors: bill jet black (base of mandible pale horn color), iris warm sepia, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail slightly worn. Fat score 6. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
6. Female, ad. NRM 966955. P.N. San Lu s, Dpto Concepci n, 31 Oct. 1996. Meas.: wt 55, tot.l. 215, wing 109, wing span 345, tail 86, bill l. 21, bill d. 9.0, tarsus 20. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
7. Unsexed, ad. NRM 966996. P.N. San Lu s, Dpto Concepci n, 2 Nov. 1996. Meas.: wt 46, tot.l. 215, wing 110, wing span 340, tail 85, bill l. 21, bill d. 9.0, tarsus 20. Colors: bill sepia (no. 119), tarsus medium plumbeous. Plumage: primaries fresh, tail slightly worn. Fat score 1. Prep.: skel. (NRM).
8. Unsexed, ad. NRM 967017, MNHNP 2088. P.N. San Lu s, Dpto Concepci n, 3 Nov. 1996. Meas.: wt 42, tot.l. 220, wing 107, wing span 340, tail 87, bill l. 25, bill d. 8.0, tarsus 18. Colors: bill sepia (no. 119), tarsus campanula. Plumage: primaries fresh, tail fresh. Fat score 3. Prep.: alcohol specimen (MNHNP).
9. Unsexed, ad. NRM 967109. P.N. Cerro Cor , Dpto Amambay, 10 Nov. 1996. Meas.: wt 49, tot.l. 207, wing 102, wing span 302, tail 88, bill l. 24, bill d. 9.0, tarsus 19. Colors: bill sepia (no. 119), iris burnt umber, tarsus sepia (no. 119). Plumage: primaries moderately worn, tail moderately worn. Prep.: alcohol specimen (NRM).
10. Male, ad. NRM 976659. P.N. Cerro Cor , Dpto Amambay, 14 Nov. 1997. Meas.: wt 47, tot.l. 226, wing 113, wing span 355, tail 91, bill l. 23.5, bill d. 8, tarsus 20. Colors: bill jet black, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Streaked Flycatcher is a northern austral migrant that is fairly common in Alto Chaco and common in Campos Cerrados (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America. The individual with fat score 6 collected in Alto Chaco during the austral spring is clearly a migrant.

***Myiozetetes similis* (von Spix, 1825). Social Flycatcher**

1. Female, ad. NRM 976708, MNHNP 1670. San Antonio, Dpto Concepci n, 19 Nov. 1997. Meas.: wt 29, tot.l. 175, wing 91, wing span 280, tail 72, bill l. 15.5, bill d. 6, tarsus 18. Colors:

bill jet black, iris cinnamon-brown, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Social Flycatcher is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Empidonomus varius* (Vieillot, 1818). Variegated Flycatcher**

1. Female, ad. NRM 956628. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 27, tot.l. 182, wing 103, wing span 310, tail 83, bill l. 12.5, bill d. 5.0, tarsus 15.5. Colors: bill dusky brown, tarsus dark grayish brown. Plumage: wing worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, age undetermined. NRM 956634, MNHNP 1066. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 28, tot.l. 195, wing 105, wing span 295, tail 82, bill l. 14, bill d. 5.0, tarsus 17. Colors: bill Hooker's green, tarsus jet black. Prep.: study skin (MNHNP).

Remarks: The Variegated Flycatcher is a northern austral migrant that is scarce in Central Paraguay (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America. Species identification of individual no. 1 has been verified by DNA barcoding.

***Griseotyrannus aurantioatrocristatus* (d'Orbigny & Lafresnaye, 1837).
Crowned Slaty Flycatcher**

1. Female, ad. NRM 947092. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 22, tot.l. 180, wing 96, wing span 290, tail 76, bill l. 15, bill d. 6.0, tarsus 15. Colors: bill jet black, iris burnt umber, eye-ring olive-brown, tarsus jet black. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 947135. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 23, tot.l. 185, wing 96, wing span 290, tail 76, bill l. 16, bill d. 6.0, tarsus 16. Colors: bill jet black, iris sepia (no. 219), eye-ring jet black, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947159, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 17 Sept. 1994. Meas.: wt 24.5, tot.l. 184, wing 99, wing span 295, tail 81, bill l. 15, bill d. 5.0, tarsus 15. Colors: bill jet black, iris sepia (no. 219), eye-ring jet black, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 947168, MNHNP 1043. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 24.5, tot.l. 181, wing 100, wing span 290, tail 79, bill l. 16.5, bill d. 5.5, tarsus 15. Colors: bill jet black, iris natal brown, eye-ring jet black, tarsus jet black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 947176. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 24, tot.l. 188, wing 99, wing span 295, tail 80, bill l. 15, bill d. 5.0, tarsus 15. Colors: bill jet black, iris natal brown, eye-ring jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 947220, MNHNP uncat. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 22, tot.l. 188, wing 100, wing span 285, tail 78, bill l. 13, bill d. 5.0, tarsus 15. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Female, ad. NRM 947266. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 23, tot.l. 166, wing 91, wing span 285, tail 75, bill l. 13, bill d. 5.0, tarsus 14.5. Colors: bill blackish neutral gray, tarsus dark neutral gray. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Female, juv. NRM 966766, MNHNP 2044. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 26.0, tot.l. 183, wing 95, wing span 290, tail 76, bill l. 15, bill d. 5.0, tarsus 15. Colors: bill jet black, eye-ring jet black, iris burnt sienna, tarsus jet black. Plumage: slight tail moult, primaries fresh, tail slightly worn. Fat score 6. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

9. Male, ad. NRM 966769, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 22.0, tot.l. 184, wing 100, wing span 275, tail 83, bill l. 13, bill d. 5.0, tarsus 15. Colors: bill medium plumbeous, iris dusky brown, tarsus medium plumbeous. Plumage: primaries fresh, tail slightly worn. Fat score 5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

10. Female, ad. NRM 966787. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 21.5, tot.l. 171, wing 94, wing span 280, bill l. 14, bill d. 5.5, tarsus 21. Colors: bill jet black, eye-ring jet black, iris burnt sienna, tarsus jet black. Plumage: primaries slightly worn, tail fresh. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

11. Male, ad. NRM 966792. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 25.5, tot.l. 180, wing 99, wing span 290, tail 77, bill l. 14, bill d. 5.0, tarsus 15. Colors: bill jet black, iris burnt umber, tarsus jet black. Plumage: primaries fresh, tail fresh. Fat score 6. Prep.: skel. (NRM).

12. Unsexed. NRM 966797. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 21.0, tot.l. 175, wing 101, wing span 275, tail 80, bill l. 14.5, bill d. 4.5, tarsus 15. Prep.:

13. Female, NRM 966799. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 23.5, tot.l. 174, wing 96, wing span 292, tail 78, bill l. 15.5, bill d. 5.0, tarsus 15.5. Plumage: primaries fresh, tail fresh. Fat score 6. Prep.: skel. (NRM).

14. Unsexed, ad. NRM 966820. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 21.5, tot.l. 175, wing 94, wing span 270, tail 77, bill l. 16, bill d. 5.0, tarsus 16. Colors: bill medium plumbeous, iris dusky brown, tarsus medium plumbeous. Plumage: primaries fresh, tail fresh. Fat score 5. Prep.: gizzard (NRM), blood or tissue sample (NRM).

Remarks: The Crowned Slaty Flycatcher is a northern austral migrant that is abundant in Alto Chaco, common in Matogrosense and Campos Cerrados, and fairly common in Bajo Chaco (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America. The individuals collected in collected in Dpto Boquerón during the austral spring with fat scores of 4-6 clearly are migrants.

***Tyrannus melanocholicus* Vieillot, 1819. Tropical Kingbird**

1. Female, NRM 966835, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 37, tot.l. 210, wing 115, wing span 355, tail 95, bill l. 22, bill d. 7.0, tarsus 19. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966873. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 34, tot.l. 210, wing 110, wing span 330, tail 95, bill l. 24, bill d. 7.5. Colors: bill jet black, iris dark brownish olive, tarsus jet black. Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 976691. P.N. Cerro Corá, Dpto Amambay, 16 Nov. 1997. Meas.: wt 42.5, tot.l. 220, wing 120, wing span 365, tail 99, bill l. 25, bill d. 9, tarsus 18.5. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976707. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 50, tot.l. 204, wing 113, wing span 350, tail 88, bill l. 22, bill d. 8, tarsus 17. Colors: bill jet black, iris cinnamon-brown, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM). Remarks: fully developed egg in oviduct.

5. Male, ad. NRM 986742. Est. Santa Ana, Dpto Misiones, 14 April 1998. Meas.: wt 44, tot.l. 205, wing 109, tail 34, bill l. 22, bill d. 6.5, tarsus 19. Colors: bill, upper jaw jet black, tarsus jet black. Plumage: primaries slightly worn, tail slightly worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Tropical Kingbird is a northern austral migrant that is abundant in Alto Chaco, Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America. All individuals with fat scores of 4-6 clearly are migrants.

***Tyrannus savana* Daudin 1802. Fork-tailed Flycatcher (Fig. 7C)**

1. Male, ad. NRM 937164, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 36, tot.l. 385, wing 117, tail 258, bill l. 15.5, bill d. 6.0, tarsus 18. Colors: bill blackish neutral gray, iris chestnut, eye-ring [black], tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937291. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 44, tot.l. 350, wing 112, tail 235, bill l. 15, bill d. 5.2, tarsus 18.5. Colors: bill blackish neutral gray, iris dusky brown, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947030, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 36, tot.l. 415, wing 123, wing span 185, tail 299, bill l. 17, bill d. 6.0, tarsus 18. Colors: bill jet black, iris burnt sienna, eye-ring jet black, tarsus jet black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 966843. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: tot.l. 294, wing 103, wing span 310, tail 181, bill l. 15, bill d. 5.5, tarsus 17. Plumage: primaries fresh, tail fresh. Prep.: study skin (NRM).

5. Female, ad. NRM 966905, MNHNP 1448. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 22.0, tot.l. 255, wing 98, wing span 275, tail 155, bill l. 14, bill d. 4.4, tarsus 15. Colors: bill jet black, iris warm sepia, tarsus jet black. Plumage: primaries fresh, tail fresh. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 966906, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 26.0, tot.l. 360, wing 112, wing span 320, tail 250, bill l. 14.5, bill d. 5.0, tarsus 17. Colors: bill jet black, iris warm sepia, tarsus jet black. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: skel. (MNHNP).

7. Male, ad. NRM 976722. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 35, tot.l. 377, wing 113, wing span 345, tail 265, bill l. 16, bill d. 6, tarsus 18.5. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail slightly worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Fork-tailed Flycatcher is a northern austral migrant that is common in Alto Chaco, and fairly common in Matogrosense and Central Paraguay (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America and the individuals collected are thus most likely in migration.

***Casiornis rufus* (Vieillot, 1816). Rufous Casiornis (Fig. 10D)**

1. Female, ad. NRM 947254. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 22.5, tot.l. 181, wing 84, wing span 260, tail 73, bill l. 15, bill d. 5.5, tarsus 19. Colors: bill Vandyke brown (no.121), iris cinnamon (no. 123A), tarsus plumbeous. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 947278, MNHNP 2009. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 22, tot.l. 190, wing 89, wing span 250, tail 85, bill l. 17.5, bill d. 5.0, tarsus 21.5. Colors: bill jet black, iris olive-brown, eye-ring brownish olive, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Female, ad. NRM 947293. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 24, tot.l. 174, wing 82, wing span 255, tail 74, bill l. 14, bill d. 6.0. Colors: bill Vandyke brown (no.121), iris cinnamon (no. 123A), tarsus plumbeous. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 956709. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 19.5, tot.l. 158, wing 80, wing span 255, tail 67, bill l. 13.5, bill d. 5.0, tarsus 19. Colors: bill salmon color (tip of bill blackish neutral gray), iris olive-brown, tarsus plumbeous. Plumage: tail moult. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 966764. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 25.0, tot.l. 191, wing 90, wing span 280, tail 83, bill l. 16, bill d. 5.0, tarsus 21. Colors: eye-ring Verona brown, iris burnt umber, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 966781. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 20.5, tot.l. 170, wing 83, wing span 250, tail 77, bill l. 15.5, bill d. 5.0, tarsus 17.5. Colors: bill beige (outer part of bill olive-brown), iris russet, tarsus medium neutral gray. Plumage: primaries fresh, tail fresh. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Male, ad. NRM 966948, MNHNP 1447. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 23.5, tot.l. 180, wing 84, tail 79, bill l. 14.5, bill d. 5.0, tarsus 19.5. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
8. Unsexed, ad. NRM 967016. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 24.0, tot.l. 175, wing 85, wing span 250, tail 75, bill l. 16, bill d. 5.0, tarsus 19. Colors: bill upper jaw sepia (no. 119), bill lower jaw light russet vinaceous, iris raw umber, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: alcohol specimen (NRM).
9. Unsexed, ad. NRM 967018, MNHNP uncat. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 23.5, tot.l. 178, wing 88, wing span 259, tail 82, bill l. 16, bill d. 5.0, tarsus 20. Colors: bill upper jaw sepia (no. 119), bill lower jaw beige, tarsus medium plumbeous. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: alcohol specimen (MNHNP).
10. Female, ad. NRM 976656, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 21.5, tot.l. 175, wing 81, wing span 255, tail 75. Colors: bill dusky brown, iris raw umber (no.23), tarsus dusky brown. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
11. Unsexed, ad. NRM 976787, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 21, tot.l. 167, wing 82, wing span 262, tail 75, bill l. 16, bill d. 6, tarsus 20. Colors: bill dusky brown, iris cinnamon-brown, tarsus plumbeous. Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
12. Male, ad. NRM 976788. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 22, tot.l. 179, wing 86, wing span 275, tail 79, bill l. 15, bill d. 5, tarsus 20. Colors: bill dusky brown, iris cinnamon-brown, tarsus plumbeous. Plumage: primaries slightly worn, tail slightly worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).
13. Unsexed, ad. NRM 996723. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 Oct. 1999. Prep.: blood or tissue sample (NRM).

Remarks: The Rufous Casiornis is resident in Paraguay. It is common in Alto Chaco and Campos Cerrados, while it is fairly common in Central Paraguay (del Castillo and Clay 2004).

***Sirystes sibilator* (Vieillot, 1818). Sibilant Sirystes**

1. Male, ad. NRM 956578. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 29, tot.l. 198, wing 102, wing span 310, tail 89, bill l. 21, tarsus 18.5. Prep.: study skin (NRM), blood or tissue sample (NRM).
2. Male, age undetermined. NRM 956656, MNHNP 1067. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 32, tot.l. 205, wing 95, wing span 230, tail 83, bill l. 29, bill d. 12, tarsus 20. Colors: bill sepia (no. 119), iris natal brown, tarsus sepia (no. 119). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Sibilant Sirystes is resident in Paraguay. It is common in Central Paraguay (del Castillo and Clay 2004). Species identifications of individuals nos. 1-2 have been verified by DNA barcoding.

***Myiarchus swainsoni* Cabanis & F. Heine, Sr., 1860. Swainson's Flycatcher (Fig. 11B)**

1. ssp. indet. Male, ad. NRM 937370. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 29.5, tot.l. 190, wing 100, tail 81, bill l. 18, bill d. 5.8, tarsus 21.5. Colors: bill Vandyke brown (no.121), tarsus Vandyke brown (no.121). Prep.: study skin (NRM), blood or tissue sample (NRM).
2. ssp. indet. Male, ad. NRM 956587. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 29, tot.l. 195, wing 93, wing span 240, tail 82, bill l. 19, bill d. 6.0, tarsus 19. Colors: bill, upper jaw jet black, lower jaw dark brownish olive, iris Prout's brown, tarsus blackish neutral gray. Plumage: some wing and tail feathers very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. ssp. *swainsoni*. Unsexed, ad. NRM 956591. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 26, tot.l. 185, wing 96, wing span 240, tail 85, bill l. 17, bill d. 5.5, tarsus 19. Colors: bill jet black, iris burnt sienna, tarsus jet black. Plumage: tail worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. ssp. indet. Female, juv. NRM 956602. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 23, tot.l. 187, wing 87, wing span 245, tail 80, bill l. 18, bill d. 5.0, tarsus 20. Colors: bill, upper jaw sepia (no. 119), lower jaw sepia (no. 219), iris cinnamon-brown, tarsus sepia (no. 119). Prep.: study skin (NRM), blood or tissue sample (NRM).
5. ssp. *ferocior*. Male, ad. NRM 966896. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 26.0, tot.l. 185, wing 96, wing span 290, tail 85, bill l. 17, bill d. 6.0, tarsus 22. Colors: bill raw umber (no. 223), iris raw umber (no. 123), tarsus raw umber (no. 223). Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. ssp. indet. Male, ad. NRM 966942. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 26.0, tot.l. 200, wing 95, wing span 290, tail 85, bill l. 18, bill d. 5.0, tarsus 22. Colors: bill jet black, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).
7. ssp. indet. Male, NRM 966950. P.N. San Luis, Dpto Concepción, 30 Oct. 1996. Meas.: wt 27.0, tot.l. 192, wing 94, wing span 310, tail 82, bill d. 6.0, tarsus 20. Colors: bill upper jaw dark grayish brown, bill lower jaw fuscous, tarsus dark grayish brown. Plumage: primaries fresh, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).
8. ssp. indet. Female, ad. NRM 967060, MNHNP 1446. P.N. San Luis, Dpto Concepción, 6 Nov. 1996. Meas.: wt 30, tot.l. 191, wing 92, wing span 295, tail 83, bill l. 18.5, bill d. 6.5, tarsus 19.5. Colors: bill hair brown, iris russet, tarsus blackish neutral gray. Plumage: tail moult, primaries moderately worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
9. ssp. indet. Female, ad. NRM 976753, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 29, tot.l. 202, wing 97, wing span 290, tail 84, bill l. 18, bill d. 6, tarsus 21. Colors: bill, upper jaw dusky brown, lower jaw paler than upper, iris drab, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM). Remarks: no black in bill.

Remarks: The Swainson's Flycatcher is a northern austral migrant that is uncommon in Alto Chaco and Central Paraguay, fairly common in Campos Cerrados, but scarce in Matogrosense (del Castillo and Clay 2004). After breeding it spends the austral winter further north in South America

and the two individuals collected in October are thus in migration. Species identifications of individuals nos. 1-9 have been verified by DNA barcoding. Two subspecies occur in Paraguay, *swainsoni* and *ferocior*, separated mainly by subtle differences in plumage coloration. No attempts of subspecies identification were made in field but in two cases it has been possible to use photos (NRM 956591 and NRM 966896). Mitochondrial DNA data clusters the nine individuals into two groups that on average differs by 3.2% (the within-group variation of these groups are 0.2% and 0.5%, respectively). The large genetic difference between the groups suggest a deep split between them. The samples in the first group (including an individual assigned to *swainsoni*) are all collected in Dptos Itapúa and Paraguari, while those in the other group (that includes the individual assigned to *ferocior*) are from Dptos Concepción and Presidente Hayes. Hypothetically, these two groups correspond to the two subspecies *swainsoni* and *ferocior*. This is supported by their geographic distributions within Paraguay: *swainsoni* is supposed to occur in the southeastern part and *ferocior* in the western part (Joseph 2020).

***Myiarchus ferox* (J.F. Gmelin, 1789). Short-crested Flycatcher**

1. Female, ad. NRM 967098. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 26.0, tot.l. 188, wing 85, wing span 275, tail 85, bill l. 20, bill d. 6.0, tarsus 22. Colors: bill sepia (no. 119), iris antique brown, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail heavy. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Short-crested Flycatcher is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Myiarchus tyrannulus* (Statius Muller, 1776). Brown-crested Flycatcher (Fig. 9C)**

1. Male, ad. NRM 937173, MNHNP 989. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: wt 28, tot.l. 207, wing 96, tail 90, bill l. 17, bill d. 7.0, tarsus 21.5. Colors: bill dusky brown, iris cinnamon-brown, tarsus sepia (no. 219). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937377. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 24.5, tot.l. 204, wing 92, tail 84, bill l. 16, bill d. 6.5, tarsus 20. Colors: bill sepia (no. 119), iris raw umber (no. 223), tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 937402. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: tot.l. 207, wing 92, tail 84. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 947253. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 32, wing 99, wing span 285, bill l. 18.5, bill d. 6.5, tarsus 22. Colors: bill blue black, tarsus plumbeous. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 947287, MNHNP uncat. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 30, tot.l. 197, wing 99, wing span 285, tail 91, bill l. 17, bill d. 6.5, tarsus 22. Colors: bill dark grayish brown, iris burnt umber, tarsus dark grayish brown. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Unsexed, age undetermined. NRM 956739. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 29.5, tot.l. 202, wing 99, tail 90, bill l. 22, bill d. 7.0, tarsus 22.5. Plumage: body and wing moult. Prep.: alcohol specimen (NRM).

7. Male, ad. NRM 966779. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 28.0, tot.l. 200, wing 95, wing span 330, tail 90, bill l. 20.5, bill d. 6.6, tarsus 19.5. Colors: bill jet black, iris raw umber (no. 223), tarsus jet black. Plumage: primaries fresh, tail fresh. Fat score 0. Remarks: intestinal parasites found. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 966795. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 27.5, tot.l. 205, wing 96, wing span 280, tail 87. Colors: bill jet black, tarsus jet black. Plumage: primaries fresh, tail fresh. Fat score 3. Prep.: skel. (NRM).

9. Female, ad. NRM 966872. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 24.5, tot.l. 190, wing 89, wing span 275, tail 82, bill l. 19, bill d. 6.0, tarsus 21.5. Colors: bill sepia (no. 119), iris burnt umber, tarsus sepia (no. 119). Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM).

10. Male, ad. NRM 976776, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 26.5, tot.l. 202, wing 96, wing span 300, tail 84, bill l. 19, bill d. 6, tarsus 21.5. Colors: bill jet black, iris raw umber (no.223), tarsus jet black. Plumage: tail coverts moulting, primaries very worn, tail very worn. Fat score 1. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

11. Unsexed, ad. NRM 976786, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 25, tot.l. 192, wing 97, wing span 305, tail 92, bill l. 21, bill d. 6, tarsus 21. Colors: bill dusky brown, iris raw umber (no.23), tarsus dusky brown. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: alcohol specimen (MNHNP).

12. Unsexed, ad. NRM 976798. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 26, tot.l. 200, wing 93, wing span 303, tail 90, bill l. 22, bill d. 6, tarsus 20. Colors: bill dusky brown, iris raw umber (no.23), tarsus dusky brown. Plumage: primaries moderately worn, tail moderately worn. Fat score 1. Prep.: alcohol specimen (NRM).

13. Unsexed, ad. NRM 996724. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 Oct. 1999. Prep.: blood or tissue sample (NRM).

14. Male, ad. NRM 996677. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 28, tot.l. 200, wing 98, wing span 290, tail 90, bill l. 20.5, bill d. 6.5, tarsus 22.5. Colors: bill [dark gray], tarsus [blackish]. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Brown-crested Flycatcher is resident in Paraguay. It is common in Alto Chaco, Bajo Chaco and Campos Cerrados (del Castillo and Clay 2004). Species identification of individual no. 3 has been verified by DNA barcoding.

***Colonia colonus* (Vieillot, 1818). Long-tailed Tyrant**

1. Male, juv? NRM 956582, MNHNP 2003. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 16, tot.l. 230, tail 150, bill l. 10, bill d. 3.0, tarsus 14.5. Colors: bill jet black, iris sepia (no. 219), tarsus jet black. Plumage: outermost primaries, central tail feathers and body moult. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 976648. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 15, tot.l. 236, wing 84, tail 160, bill l. 10.5, bill d. 3.5, tarsus 15. Colors: bill blackish neutral gray, tarsus jet black. Plumage: primaries moderately worn, tail fresh-moderate. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Long-tailed Tyrant is resident in Paraguay. It is rare in Campos Cerrados, but fairly common in Central Paraguay (del Castillo and Clay 2004). Oriente is close to the southern part of the distribution area of the Long-tailed Tyrant and it is supposed that birds from here migrate north in the austral winter (Mobley 2020b). It is thus possible that the bird collected in Dpto Itapúa on 8 March is a migrant (Paul Smith pers. comm.).

***Myiophobus fasciatus* (Stadius Muller, 1776). Bran-colored Flycatcher**

1. Male, ad. NRM 937278, MNHNP 2036. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 11.5, tot.l. 137, wing 60, tail 56, bill l. 13, bill d. 4.0, tarsus 18. Colors: bill, upper jaw blackish neutral gray, lower jaw true cinnamon (no. 39), iris burnt umber, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female (plum.), juv? NRM 956696. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 9.5, tot.l. 131, wing 57, wing span 185, tail 53, bill l. 10.5, bill d. 4.0, tarsus 15.5. Colors: bill, upper jaw burnt sienna, lower jaw cream color, iris cinnamon-brown, tarsus blackish neutral gray. Plumage: fresh all over. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Bran-colored Flycatcher is a northern austral migrant that is uncommon in Central Paraguay and scarce in Alto Chaco (del Castillo and Clay 2004). The record from Madrejón is the earliest from Alto Chaco. After breeding the Bran-colored Flycatcher spends the austral winter further north in South America. Species identifications of individuals nos. 1 and 2 have been verified by DNA barcoding. The Bran-colored Flycatcher has a wide, almost circum-Amazonian distribution in South America. Contrary to the map in Ridgely and Tudor (1994) this species has previously not been thoroughly documented from the Paraguayan Chaco (Hayes 1995). The species has been reported once before in the Chaco (Contreras 1989) but the female obtained on 25 March 1995 in Parque Nacional Defensores del Chaco, Dpto Alto Paraguay, constitutes the first documented record of the Bran-colored Flycatcher west of the Río Paraguay. The subspecific allocation of this individual is somewhat problematic. The subspecies mainly differ in size and amount of rufous in dorsal coloration. In the collections of NRM we compared the PROVEPA bird with samples of *M. f. auriceps* and *M. f. flammiceps* taken in Bolivia, Argentina and Brazil. Although a considerable geographic variation in the dorsal coloration and size can be observed between the samples, this does not co-vary with the subspecific allocations of the samples. It is suggested from the NRM sample that the southern populations of the Bran-colored Flycatcher is in need for a taxonomic revision. Since the PROVEPA individual is inseparable from a series of birds taken at the type locality of *M. f. auriceps* (Buenos Aires, Argentina), and given the fact that it was collected close to northwestern Argentina and eastern Bolivia, where the subspecies *M. f. auriceps* is known to occur (Traylor 1979), we tentatively refer it to this subspecies. Paraguay east of Rio Paraguay is inhabited of the subspecies *M. f. flammiceps*.

***Sublegatus modestus* (zu Wied, 1831). Southern Scrub Flycatcher (Fig. 9A)**

1. Female, ad. NRM 947079. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 10.5, tot.l. 135, wing 67, wing span 205, tail 60, bill l. 8.0, bill d. 3.5, tarsus 15.5. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 947098, MNHNP 1032. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 12.5, tot.l. 144, wing 74, tail 64, bill l. 10, bill d. 3.0, tarsus 17. Colors: bill blackish neutral gray, iris cinnamon-brown, eye-ring fawn color, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 966774. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Colors: bill sepia (no. 119), iris burnt sienna, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 966776. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 10.0, tot.l. 130, wing 64, wing span 200, tail 61, bill l. 8.0, bill d. 3.0, tarsus 17. Colors: bill sepia (no. 119), iris burnt sienna, tarsus jet black. Plumage: primaries fresh, tail moderately worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Female, ad. NRM 966763. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 9.6. Colors: bill blackish neutral gray, eye-ring burnt sienna, iris brick red, tarsus jet black. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).
6. Female, ad. NRM 966778, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 10.0, tot.l. 125, wing 66, wing span 190, tail 58, bill l. 8.0, bill d. 2.4, tarsus 17.5. Colors: bill sepia (no. 119), iris burnt sienna, tarsus jet black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
7. Male, NRM 966785. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 10.0, tot.l. 128, wing 70, wing span 200, tail 51, bill l. 8.0, bill d. 3.0, tarsus 19. Colors: bill Vandyke brown (no. 121), iris cinnamon (no. 123A, tarsus Vandyke brown (no. 121). Prep.: study skin (NRM), blood or tissue sample (NRM).
8. Female, ad. NRM 966809, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 9.0, tot.l. 124, wing 65, wing span 190, tail 57, bill l. 6.0, bill d. 3.0, tarsus 15.5. Colors: bill sepia (no. 119), eye-ring [faint light], iris [brown], tarsus Vandyke brown (no. 121). Plumage: primaries fresh, tail slightly worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
9. Male, ad. NRM 966816. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 11.5, tot.l. 125, wing 69, wing span 200, tail 62, bill l. 8.7, bill d. 3.0, tarsus 18. Colors: bill sepia (no. 119), iris burnt sienna, tarsus jet black. Plumage: primaries fresh, tail moderately worn. Fat score 4. Prep.: study skin (NRM).
10. Female, NRM 966827, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 9.0, tot.l. 134, wing 61, wing span 210, tail 60, bill l. 7.0, bill d. 3.0, tarsus 19. Colors: bill blackish neutral gray, iris raw sienna, tarsus sepia (no. 119). Fat score 0. Prep.: study skin (MNHNP).
11. Female, ad. NRM 996668. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 27 Oct. 1999. Meas.: wt 10, tot.l. 133, wing 65, wing span 203, tail 59, bill l. 9, bill d. 3.3, tarsus 16.5. Colors: bill [black], tarsus [black]. Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Southern Scrub Flycatcher is a northern austral migrant that is uncommon in Alto Chaco and scarce in Matogrosense (del Castillo and Clay 2004). After breeding the Southern Scrub Flycatcher spends the austral winter further north in South America. Species identifications of individuals nos. 1-8 and 11 have been verified by DNA barcoding.

***Pyrocephalus rubinus* (Boddaert, 1783). Vermilion Flycatcher**

1. Male, ad. NRM 937163. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 14, tot.l. 136, wing 75, tail 51, bill l. 13, bill d. 4.0, tarsus 16. Colors: bill [black], iris raw umber, eye-ring [black], tarsus [black]. Prep.: gizzard (NRM)
2. Male, ad. NRM 947182, MNHNP 2012. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 13, tot.l. 146, wing span 245, tail 56, bill l. 13.5, bill d. 3.9, tarsus 15.5. Colors: bill blackish neutral gray, tarsus jet black, iris russet, eye-ring drab. Plumage: moulting all over except in wings. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 947211. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 15.5, tot.l. 145, wing 78, tail 59, bill l. 15, bill d. 4.0, tarsus 15. Colors: bill jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Unsexed, juv. NRM 947241. Est. Apami, Dpto Amambay, 7 Oct. 1994. Meas.: wt 12.5, bill l. 10, bill d. 3.5, tarsus 14.5. Colors: bill sepia (no. 119), tarsus sepia (no. 119). Prep.: alcohol specimen (NRM).
5. Male (plum.), juv. NRM 956730. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 March 1995. Meas.: wt 12, tot.l. 138, wing 75, tail 54, bill l. 12.5, bill d. 4.5, tarsus 16. Colors: bill dusky brown, eye-ring fuscous, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 966902, MNHNP 1442. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 13.0, tot.l. 128, wing 79, wing span 233, tail 55, bill l. 10.5, bill d. 4.0, tarsus 15.5. Colors: bill blackish neutral gray, eye-ring chestnut, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
7. Male, ad. NRM 966904, MNHNP 1441. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 13.0, tot.l. 135, wing 75, wing span 210, tail 54, bill l. 11.5, bill d. 3.4. Colors: bill jet black, tarsus jet black. Plumage: slight body moult, primaries slightly worn, tail slightly worn. Fat score 6. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
8. Unsexed, ad. NRM 996683. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 Oct. 1999. Prep.: study skin (NRM), blood or tissue sample (NRM).
9. Male, ad. NRM 986745. Est. Santa Ana, Dpto Misiones, 16 April 1998. Meas.: wt 15, tot.l. 145, wing 78, wing span 230, tail 58, bill l. 12, bill d. 3.6, tarsus 15.5. Colors: bill jet black, iris raw umber, tarsus jet black. Plumage: slight moulting in head, primaries fresh, tail fresh. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Vermilion Flycatcher is a southern austral migrant that also has a breeding population in Paraguay. In the austral winter many birds that breeds further south winters in Paraguay. It is common in Alto Chaco, and fairly common in Matogrosense, Bajo Chaco and Campos Cerrados (del Castillo and Clay 2004). All three individuals for which the fat deposition

was estimated had high fat scores indicating they are in migration. The bird taken in Dpto Amambay is a barely fledged individual that shows the species breeds in eastern Paraguay as early as in September-October.

***Fluvicola pica* (Boddaert, 1783). Pied Water-tyrant (Fig. 8C)**

1. Female, ad. NRM 947090, MNHNP 1637. Est. Doña Júlía, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 12, tot.l. 140, wing 67, wing span 205, tail 53, bill l. 12, bill d. 4.0, tarsus 21. Colors: bill jet black, iris mars brown, eye-ring jet black, tarsus jet black. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
2. Male, age undetermined. NRM 956706, MNHNP 1977. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 26 March 1995. Meas.: wt 10.5, tot.l. 123, wing 65, wing span 195, bill l. 14.5, bill d. 3.5, tarsus 21. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Female, age undetermined. NRM 956714. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 12.5, tot.l. 139, wing 65, wing span 210, tail 50, bill l. 16, tarsus 22. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: worn all over. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Unsexed, ad. NRM 996673. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 Oct. 1999. Prep.: blood or tissue sample (NRM). Prep.: blood or tissue sample (NRM).
5. Unsexed, ad. NRM 996713. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 31 Oct. 1999. Meas.: wt 14.5, tot.l. 145, wing 75, wing span 230, tail 58, bill l. 14.5, bill d. 3.5, tarsus 23. Colors: bill [black], iris [reddish], tarsus [black]. Plumage: primaries moderately worn, tail moderately worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Pied Water-tyrant is resident in Paraguay. It is uncommon in Alto Chaco and fairly common in Matogrosense (del Castillo and Clay 2004). It is often treated as conspecific with the Black-backed Water-tyrant (*Fluvicola albiventer*).

***Arundinicola leucocephala* (Linnaeus, 1764). White-headed Marsh Tyrant**

1. Male, ad. NRM 947198, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 15.5, tot.l. 144, wing 67, wing span 220, tail 49, bill l. 18, bill d. 4.9, tarsus 17. Colors: bill, upper jaw sepia (no. 119), lower jaw yellow ocher, iris natal brown, eye-ring hair brown, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The White-headed Marsh Tyrant is resident in Paraguay. It is fairly common in Matogrosense (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Gubernetes yetapa* (Vieillot, 1818). Streamer-tailed Tyrant (Fig. 6F)**

1. Male, ad. NRM 966977, MNHNP 1452. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 67, tot.l. 375, wing 131, wing span 375, tail 235, bill l. 23, bill d. 9.0, tarsus 29. Colors: bill Vandyke brown (no. 221), iris Prout's brown, tarsus Vandyke brown (no. 121). Plumage: primaries heavy, tail heavy. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966997. P.N. San Lu s, Dpto Concepci n, 2 Nov. 1996. Meas.: wt 65, tot.l. 350, wing 122, wing span 370, tail 253, bill l. 22, bill d. 10, tarsus 29. Colors: bill upper jaw fuscous, bill lower jaw drab, tarsus dusky brown. Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 967055. P.N. San Lu s, Dpto Concepci n, 5 Nov. 1996. Meas.: wt 63, tot.l. 400, wing 123, wing span 371, tail 259, bill l. 22, bill d. 9.0, tarsus 25. Colors: bill fuscous, iris Verona brown, tarsus jet black. Remarks: incubation patch. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 976700. San Antonio, Dpto Concepci n, 19 Nov. 1997. Meas.: wt 58, tot.l. 390, wing 128, wing span 380, tail 250, bill l. 20, bill d. 9, tarsus 27. Colors: bill blackish neutral gray, iris mars brown, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Streamer-tailed Tyrant is resident in Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Alectrurus risora* (Vieillot, 1824). Strange-tailed Tyrant**

1. Female, ad. NRM 947222. Est. San Jos , Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 21, tot.l. 214, wing 72, wing span 235, tail 111, bill l. 15, bill d. 5.5, tarsus 21. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 947224, MNHNP 1028. Est. San Jos , Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 24, tot.l. 325, wing 75, wing span 240, tail 210, bill l. 17, bill d. 6.0, tarsus 22. Prep.: study skin (MNHNP).

3. Male, ad. NRM 947227. Est. San Jos , Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 24.5, tot.l. 301, wing 75, wing span 235, tail 50, bill l. 15, bill d. 6.0, tarsus 22. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Strange-tailed Tyrant is resident in Paraguay. It is rare in Bajo Chaco (del Castillo and Clay 2004). The species is declining or has become extinct in large areas of its former distribution in southern Brazil, Paraguay, Uruguay and northern Argentina, mainly due to alterations of the land management (Collar *et al.* 1992). The present Paraguayan distribution is mainly in the southernmost part of the Oriente and the humid Chaco where it is local and uncommon (Collar *et al.* 1992, Hayes 1995), although it may be locally common in Bajo Chaco (Per Ericson pers. obs.).

***Knipolegus cyanirostris* (Vieillot, 1818). Blue-billed Black Tyrant**

1. Male, ad. NRM 937153, MNHNP uncat. Est. Karanda, Dpto Pres. Hayes, 14 Sept. 1993. Meas.: wt 13.5, tot.l. 136, wing 56, tail 60, bill l. 14, bill d. 4.0, tarsus 21. Colors: bill [blue, tip black], iris [orange]. Prep.: skel. (MNHNP).

Remarks: The Blue-billed Black Tyrant is an austral migrant that breeds in SE Brazil, Uruguay and extreme NW Argentina, extending its range to eastern Paraguay in winter (Ridgely and Tudor 1994:624). It has been hypothesized to occur in Bajo Chaco (Hayes 1995, del Castillo and Clay 2004) and this specimen confirms this. It is regarded a rare migrant in the Orient (Butchart 1992, Hayes *et al.* 1994). The present finding is only the second vouchered record of the Blue-billed Black-tyrant from the Paraguayan Chaco (Smith and Easley 2019).

***Knipolegus striaticeps* (d'Orbigny & Lafresnaye, 1837). Cinereous Tyrant (Fig. 9B)**

1. Unsexed, ad. NRM 937212. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 10, tot.l. 120, wing 58, tail 57, bill l. 12, bill d. 3.5, tarsus 19.5. Colors: bill dark neutral gray, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Female (plum.), ad. NRM 966761. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 9 Oct. 1996. Meas.: wt 11.5, tot.l. 127, wing 58, tail 58, bill l. 11, tarsus 20. Colors: bill [grayish] (tip of bill jet black), iris [orange-red]. Plumage: primaries fresh, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 966893, MNHNP 1453. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 11.0, tot.l. 135, wing 58, wing span 175, tail 60, bill l. 10, bill d. 3.0, tarsus 19. Colors: bill Pratt's Payne's gray (tip of bill jet black), iris flame scarlet, tarsus jet black. Plumage: primaries fresh, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
4. Female, ad. NRM 966782. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 11.5, tot.l. 130, wing 56, wing span 185, tail 55, bill l. 12, bill d. 3.4, tarsus 18.5. Colors: bill Pratt's Payne's gray (outer part of bill blackish neutral gray), iris burnt sienna, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Cinereous Tyrant is a southern austral migrant that also has a breeding population in Paraguay. In the austral winter many birds that breeds further south winters in Paraguay. It is uncommon in Alto Chaco and scarce in Bajo Chaco (del Castillo and Clay 2004, Smith and Easley 2019). Species identifications of individuals nos. 1-4 have been verified by DNA barcoding.

***Satrapa icterophrys* (Vieillot, 1818). Yellow-browed Tyrant**

1. Male, ad. NRM 996681, MNHNP 1682. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 18.9, tot.l. 167, wing 91, wing span 255, tail 69, bill l. 16.5, bill d. 5, tarsus 19.5. Colors: bill [black], iris [brown], tarsus [black]. Plumage: primaries slightly worn, tail moderately worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Yellow-browed Tyrant has a resident population in Paraguay (in northern Chaco), but in winter the country also houses wintering individuals from the south (Smith pers. comm.). It is scarce in Alto Chaco (del Castillo and Clay 2004).

***Xolmis cinereus* (Vieillot, 1816). Gray Monjita**

1. Female, ad. NRM 986739, MNHNP 1638. Est. Santa Ana, Dpto Misiones, 14 April 1998. Meas.: wt 60, tot.l. 235, wing 139, wing span 390, tail 111, bill l. 23, bill d. 5.9, tarsus 30. Colors: bill, upper jaw jet black, iris [yellow-orange], tarsus jet black. Plumage: wing moulting in final phase. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Gray Monjita is resident in Paraguay. It is fairly common in Ñeembucú (del Castillo and Clay 2004).

***Xolmis velatus* (M.H.C. Lichtenstein, 1823). White-rumped Monjita**

1. Female, ad. NRM 966982, MNHNP 1458. P.N. San Lu s, Dpto Concepci n, 1 Nov. 1996. Meas.: wt 34, tot.l. 189, wing 114, wing span 325, tail 80, bill l. 20, bill d. 6.5, tarsus 24. Colors: bill dark grayish brown, tarsus dark grayish brown. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 976705, MNHNP 1661. San Antonio, Dpto Concepci n, 19 Nov. 1997. Meas.: wt 40, tot.l. 200, wing 130, wing span 375, tail 85, bill l. 21, bill d. 8.5, tarsus 27.5. Colors: bill blackish neutral gray, iris russet, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The White-rumped Monjita is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Xolmis irupero* (Vieillot, 1823). White Monjita**

1. Male, ad. NRM 937154. Est. Karanda, Dpto Pres. Hayes, 14 Sept. 1993. Meas.: wt 23, tot.l. 185, wing 108, tail 76, bill l. 15, bill d. 4.0, tarsus 22. Colors: bill [black], iris [brown], tarsus [black]. Prep.: skel. (NRM), study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937384, MNHNP 991. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1993. Meas.: wt 26, tot.l. 176, wing 113, tail 79, bill l. 14.5, bill d. 5.0, tarsus 23.5. Colors: bill jet black, tarsus jet black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 947038. Est. Do a J lia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 23, tot.l. 184, wing 102, wing span 295, tail 75, bill l. 17, bill d. 5.0, tarsus 22. Colors: bill jet black, iris burnt sienna, eye-ring jet black, tarsus jet black. Plumage: body moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 947225. Est. San Jos , Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 28, tot.l. 195, wing 115, wing span 335, tail 83, bill l. 15, bill d. 5.0, tarsus 24. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The White Monjita is resident in Paraguay. It is common in Alto Chaco, uncommon in Matogrosense, and abundant in Bajo Chaco (del Castillo and Clay 2004).

***Cnemotriccus fuscatus* (zu Wied, 1831). Fuscous Flycatcher**

1. Female, juv. NRM 956678, MNHNP 1100. Madrej n 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 10.5, tot.l. 140, wing 66, wing span 205, tail 64, bill l. 13, bill d. 4.0, tarsus 17. Colors: bill blackish neutral gray, iris cinnamon-brown, eye-ring russet, tarsus dark neutral gray. Plumage: fresh all over. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, age undetermined. NRM 956699. Madrej n 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 10.5, tot.l. 145, wing 65, wing span 200, tail 62, bill l. 12, bill d. 4.0, tarsus 16. Colors: bill burnt umber (base of lower bill beige), iris raw sienna, tarsus plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966767. Dr Pedro P. Pe a, 7 km W, Dpto Boquer n, 10 Oct. 1996. Meas.: wt 12.5, tot.l. 152, wing 73, wing span 225, tail 70, bill l. 13, bill d. 4.0, tarsus 19. Colors: bill sepia

(no. 119), iris cinnamon-brown, tarsus sepia (no. 119). Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 966965, MNHNP 2021. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 13.5, tot.l. 136, wing 67, wing span 210, tail 62, bill l. 14, bill d. 4.5. Colors: bill sepia (no. 119), tarsus medium neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 967012. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 13.3, tot.l. 132, wing 69, wing span 210, tail 64, bill l. 12.5, bill d. 3.5, tarsus 17. Colors: bill upper jaw blackish neutral gray, bill lower jaw cinnamon-drab, iris Verona brown, tarsus plumbeous. Plumage: primaries fresh, tail moderately worn. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 967052, MNHNP uncat. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 13.5, tot.l. 140, wing 72, wing span 225, tail 67, bill l. 10.5, bill d. 4.0, tarsus 18. Colors: bill sepia (no. 119), iris russet, tarsus dark grayish brown. Plumage: primaries slightly worn, tail slightly worn. Fat score 1. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Male, ad. NRM 986769. Est. Santa Ana, Dpto Misiones, 9 Nov. 1998. Meas.: wt 13.8, tot.l. 140, wing 71, wing span 210, tail 65, bill l. 12, bill d. 4.9, tarsus 18. Colors: bill dark grayish, iris burnt umber, tarsus plumbeous. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Unsexed, ad. NRM 996702. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 10.5, tot.l. 130, wing 65, wing span 195, tail 64, bill l. 10.7, bill d. 3.5, tarsus 16.6. Colors: bill [black], iris [dark brown], tarsus [black]. Plumage: primaries moderately worn, tail slightly worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Fuscous Flycatcher is resident in Paraguay. It is scarce in Alto Chaco, but uncommon in both Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). Species identifications of individuals nos. 1-8 have been verified by DNA barcoding.

***Lathrotriccus euleri* (Cabanis, 1868). Euler's Flycatcher**

1. Male, ad. NRM 937310, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 13, tot.l. 129, wing 67, tail 56, bill l. 14.5, bill d. 3.5, tarsus 15.5. Colors: bill, upper jaw pale horn color, lower jaw sepia (no. 119), iris natal brown, tarsus fuscous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 966825. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 11.0, tot.l. 125, wing 66, tail 63, bill l. 11.5, bill d. 3.9, tarsus 16. Plumage: primaries fresh, tail fresh. Fat score 4. Remarks: specimen lost.

3. Male, ad. NRM 967011. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 11.0, tot.l. 128, wing 69, wing span 200, tail 59, bill l. 13, bill d. 3.5, tarsus 14.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw beige, iris mars brown, tarsus plumbeous. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 967013, MNHNP 1445. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 11.5, tot.l. 130, wing 62, wing span 195, tail 55, bill l. 13, bill d. 4.2, tarsus 15. Colors: bill upper jaw dusky brown, bill lower jaw light russet vinaceous, tarsus burnt umber. Plumage:

primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 967045. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 11.5, tot.l. 145, wing 68, wing span 207, tail 60, bill l. 12, bill d. 4.0, tarsus 14.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw beige, tarsus natal brown. Plumage: primaries fresh, tail slightly worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 976710. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 14, tot.l. 130, wing 63, wing span 192, tail 140, bill l. 11, bill d. 4, tarsus 15. Colors: bill, upper jaw dusky brown, lower jaw pale horn color, tarsus drab. Plumage: primaries slightly worn, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Euler's Flycatcher is a southern austral migrant (Farnsworth and Lebbin 2020). It also has a small breeding population in Paraguay where it is a scarce resident in Alto Chaco, but is fairly common in both Campos Cerrados and Central Paraguay (del Castillo and Clay 2004). Individuals with considerable fat deposits (fat scores 4 and 5) were collected in November in Dpto Concepción together with individuals with no fat deposits (fat score 0). It is likely the former are migrants while the latter may be resident birds. Species identification of individual no. 1 and 3-6 have been verified by DNA barcoding.

***Empidonax alnorum* Brewster, 1895. Alder Flycatcher (Fig. 11D)**

1. Female, ad. NRM 976796, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 12, tot.l. 130, wing 69, wing span 205, tail 52, bill l. 10, bill d. 4, tarsus 16. Colors: bill, upper jaw blackish neutral gray, lower jaw yellow ocher, iris mars brown, tarsus jet black. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 986795, MNHNP 1689. Est. Santa Ana, Dpto Misiones, 15 Nov. 1998. Meas.: wt 11.6, tot.l. 125, wing 66, wing span 200, tail 51, bill l. 12, bill d. 4.8, tarsus 16.5. Colors: bill dusky brown, lower jaw buff, iris russet, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 996714. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 31 Oct. 1999. Meas.: wt 12.5, tot.l. 130, wing 70, wing span 200, tail 55, bill l. 11.4, bill d. 3.6, tarsus 16. Colors: bill, upper jaw [black], lower jaw [dark brown], iris [dark brown], tarsus [black]. Plumage: primaries moderately worn, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: DNA barcoding of individuals nos. 1-3 have verified these to be either Alder Flycatcher or Willow Flycatcher (*Empidonax traillii*). These two species are difficult to separate in the field and can also not be separated based on the mitochondrial CO1 gene. The Willow Flycatcher has not been reported from Paraguay, while the Alder Flycatcher (*Empidonax alnorum*) is known from a handful observations, the first made in 1995 (Zyskowski *et al.* 2003). The observation of three individuals at localities from both the northernmost and southernmost parts of the country and in widely different habitats during three different years makes it highly likely that the Alder Flycatcher is a not uncommon winter visitor in Paraguay. The scattered records of Alder Flycatchers in Paraguay may be explained by it being a passage migrant (Paul Smith pers. comm.). The fat score 5 in the individual collected in late October in Dpto. Alto Paraguay suggests it is in migration.

***Contopus cinereus* (von Spix, 1825). Tropical Pewee**

1. ssp. *cinereus*. Male, juv. NRM 956575. Est. Nueva Gambach, Dpto Itapúa, 7 March 1995. Meas.: wt 11.5, tot.l. 142, wing 75, wing span 220, tail 65, bill l. 12, bill d. 3.5, tarsus 13. Colors: bill sepia (no. 119), iris fuscous, tarsus sepia (no. 119). Prep.: study skin (NRM), blood or tissue sample (NRM).

2. ssp. *cinereus*. Female, juv. NRM 956577, MNHNP 1095. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 12.5, tot.l. 144, wing 74, wing span 210, tail 62, bill l. 13, bill d. 3.5, tarsus 11.5. Colors: bill sepia (no. 119), iris fuscous, tarsus sepia (no. 119). Plumage: wing and tail growing. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *cinereus*. Male, ad. NRM 967010. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 12.0, tot.l. 135, wing 74, wing span 232, tail 60, bill l. 13, bill d. 3.0, tarsus 13. Colors: bill upper jaw sepia (no. 119), bill lower jaw chamois, iris mars brown, tarsus sepia (no. 119). Plumage: primaries fresh, tail fresh. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Tropical Pewee is resident in Paraguay. It is uncommon in Campos Cerrados and scarce in Central Paraguay (del Castillo and Clay 2004). Species identifications of individuals nos. 1 and 2 have been verified by DNA barcoding.

THAMNOPHILIDAE

***Myrmorchilus strigilatus* (zu Wied, 1831). Stripe-backed Antbird**

1. ssp. Male, ad. NRM 956742, MNHNP 1054. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 26, tot.l. 158, wing 71, wing span 200, tail 64, bill l. 17, bill d. 5.0, tarsus 29. Plumage: body and tail moult. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 996703. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 22, tot.l. 150, wing 66, wing span 195, tail 59, bill l. 17, bill d. 4.5. Colors: bill [black], iris [dark brown], tarsus [light gray]. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Stripe-backed Antbird is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004).

***Formicivora rufa* (zu Wied, 1831). Rusty-backed Antwren**

1. ssp. *rufa*. Male, ad. NRM 947144. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 11, tot.l. 142, wing 51, wing span 172, tail 57, bill l. 14.5, bill d. 5.5, tarsus 22. Colors: bill blackish neutral gray, iris army brown, tarsus medium neutral gray. Plumage: tail moulting. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. ssp. *rufa*. Male, ad. NRM 947236. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 11.5, tot.l. 140, wing 55, wing span 155, tail 58, bill l. 16, bill d. 4.0, tarsus 21.5. Colors: bill sepia (no. 119), iris natal brown, eye-ring sepia (no. 119), tarsus medium plumbeous. Plumage: moulting all over except in wings. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *rufa*. Male, ad. NRM 947237, MNHNP 1025. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 11.5, tot.l. 140, wing 55, wing span 150, tail 55, bill l. 15, bill d. 4.0, tarsus 21.5. Colors: bill jet black, iris natal brown, eye-ring sepia (no. 119), tarsus plumbeous. Plumage: head and tail moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. ssp. *rufa*. Female, ad. NRM 947264. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 10, tot.l. 131, wing 48, wing span 150, tail 60, bill l. 12.5, bill d. 4.5, tarsus 22. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, tarsus plumbeous. Remarks: incubation patch present. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. ssp. *rufa*. Male (plum.), ad. NRM 996711. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 30 Oct. 1999. Meas.: wt 10.5, tot.l. 130, wing 51, wing span 160, tail 60, bill l. 12.4, bill d. 3.5, tarsus 21. Colors: bill [black], iris [dark brown], tarsus [dark gray]. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Rusty-backed Antwren has a wide distribution in central South America (Ridgely and Tudor 1994). In Paraguay, it is a rare and local resident in northern and central Oriente (Hayes 1995, del Castillo and Clay 2004). One previous record from the Chaco exists: Villa Hayes in Dpto Pres. Hayes (Bertoni 1930, Hayes 1995). Its closest breeding areas outside Paraguay are in northeastern Bolivia and southern central Brazil (Meyer de Schauensee 1966). The male collected on 16 Sept. 1994 5 km north of Bahia Negra, Dpto Alto Paraguay is the first documented occurrence of the Rusty-backed Antwren in the Matogrosense biogeographical region. It was mistnetted in open forest with high scrub vegetation, only a couple of meters from the Río Paraguay, indicating this might be a stray individual from the Mato Grosso do Sul of Brazil, where it is known to breed. It is, however, considered to occur regularly in Matogrosense although its behavior makes it hard to find (Paul Smith pers. comm).

***Dysithamnus mentalis* (Temminck, 1823). Plain Antwreno**

1. ssp. *mentalis*. Male, ad. NRM 937238, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 11.5, tot.l. 125, wing 59, tail 42, bill l. 14, bill d. 4.5, tarsus 19. Colors: bill medium plumbeous, iris cinnamon-brown, tarsus Pratt's Payne's gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *mentalis*. Male, ad. NRM 937329. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 11, tot.l. 115, wing 60, tail 42, bill l. 14.5, bill d. 4.5, tarsus 19. Colors: bill, upper jaw medium neutral gray, lower jaw blackish neutral gray, iris russet, tarsus buff-yellow. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *mentalis*. Female, age undetermined. NRM 956629. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 11.5, tot.l. 115, wing 55, wing span 160, tail 41, bill l. 12.5, bill d. 4.0, tarsus 17.5. Colors: bill, upper jaw dark grayish brown, lower jaw light neutral gray, tarsus grayish olive. Plumage: body growing. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. ssp. *mentalis*. Male, ad. NRM 956636, MNHNP 1056. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 13, tot.l. 110, wing 57, wing span 169, tail 42, bill l. 12, bill d. 5.0, tarsus 18. Colors: bill, upper jaw sepia (no. 119), lower jaw Pratt's Payne's gray, tarsus

medium plumbeous. Plumage: moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. ssp. *mentalis*. Unsexed, age undetermined. NRM 956654. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 13.5, tot.l. 121, wing 57, wing span 172, tail 42, bill l. 13, bill d. 4.0, tarsus 19. Colors: bill, upper jaw sepia (no. 119), lower jaw medium plumbeous, iris Brussels brown, tarsus glaucous (no. 79). Prep.: alcohol specimen (NRM).

Remarks: The Plain Antvireo is resident in Paraguay. It is common in Central Paraguay (del Castillo and Clay 2004).

***Taraba major* (Vieillot, 1816). Great Antshrike**

1. Male, ad. NRM 956675. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 46, tot.l. 200, wing 90, wing span 240, tail 83, bill l. 23, bill d. 9.0, tarsus 30. Colors: bill pale neutral gray, iris Pratt's ruby, tarsus medium plumbeous. Plumage: wing and tail feathers worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 956676, MNHNP 1084. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 48, tot.l. 203, wing 88, tail 86, bill l. 24, bill d. 10, tarsus 33. Colors: bill, upper jaw blackish neutral gray (tip of bill blackish neutral gray), lower jaw medium neutral gray, iris flesh ocher, tarsus light neutral gray. Plumage: tail very worn worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 956694. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 50, tot.l. 211, wing 97, tail 86, bill l. 23, bill d. 10, tarsus 34. Colors: bill blackish neutral gray, iris Pratt's ruby, tarsus lavender. Plumage: moult in wing and tail, worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male (plum.), ad. NRM 966936. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 46, tot.l. 210, wing 91, wing span 280, tail 85, bill l. 24, bill d. 9.0, tarsus 35. Colors: bill jet black, iris Pratt's ruby, tarsus light neutral gray. Plumage: primaries slightly worn, tail slightly worn. Prep.: alcohol specimen (NRM).

5. Male, ad. NRM 986717. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 58, tot.l. 200, wing 64, wing span 280, tail 85, bill l. 24, bill d. 11, tarsus 35. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris flame scarlet, tarsus Pratt's Payne's gray. Plumage: moulting all over. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 986708. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 56, tot.l. 210, wing 94, wing span 270, tail 92, bill l. 24.5, bill d. 10, tarsus 37. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris flame scarlet, tarsus Pratt's Payne's gray. Plumage: heavy moulting all over. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Female, ad. NRM 996696. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 50.5, tot.l. 227, wing 96, wing span 290, tail 89, bill l. 25, bill d. 11, tarsus 35. Colors: bill, upper jaw [black], lower jaw [base bluish gray], iris [red], tarsus [grayish blue]. Plumage: primaries moderately worn, tail moderately worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Great Antshrike is resident in Paraguay. It is common in Alto Chaco but uncommon in Ñeembucú (del Castillo and Clay 2004).

***Mackenziaena severa* (M.H.C. Lichtenstein, 1823). Tufted Antshrike**

1. Female, age undetermined. NRM 956630, MNHNP 1083. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 53, tot.l. 212, wing 92, wing span 285, tail 95, bill l. 21, bill d. 8.5, tarsus 32. Colors: bill, upper jaw dusky brown, lower jaw medium plumbeous, iris chestnut, tarsus medium plumbeous. Plumage: body moult, tail very worn worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Tufted Antshrike is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is supposed to be uncommon in Central Paraguay (del Castillo and Clay 2004), but may be locally common in well-preserved patches of forest (Paul Smith pers. comm.).

***Thamnophilus doliatus* (Linnaeus, 1764). Barred Antshrike (Fig. 10G)**

1. Male, ad. NRM 947057, MNHNP 1042. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 24, tot.l. 165, wing 76, wing span 235, tail 64, bill l. 19, bill d. 8.0, tarsus 29. Colors: bill medium neutral gray, iris smoke gray (no. 44), tarsus medium neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947063, MNHNP 2001. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 23.5, tot.l. 140, wing 77, tail 64, bill l. 19, bill d. 6.0, tarsus 27.5. Colors: bill jet black, iris burnt umber, tarsus plumbeous. Plumage: body moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Female, ad. NRM 947081, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 21, tot.l. 175, wing 76, wing span 240, tail 65, bill l. 19, bill d. 7.0, tarsus 27.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 947089, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 24, tot.l. 170, wing 75, wing span 220, tail 63, bill l. 19, bill d. 7.0, tarsus 27. Colors: bill blackish neutral gray, iris sulphur yellow, eye-ring cream color, tarsus plumbeous. Plumage: body moulting. Prep.: alcohol specimen (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 947106. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 20, tot.l. 166, wing 76, tail 66, bill l. 16, bill d. 6.2, tarsus 27.5. Colors: bill jet black, iris cream color, eye-ring sepia (no. 119), tarsus plumbeous. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 947117. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 23, tot.l. 163, wing 75, wing span 225, tail 67, bill l. 18, bill d. 6.5, tarsus 26. Colors: bill sepia (no. 119), iris straw yellow, eye-ring Vandyke brown (no. 221), tarsus medium plumbeous. Prep.: alcohol specimen (NRM).

7. Male, ad. NRM 947172. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 23, tot.l. 159, wing 70, tail 61, wing span 228, tail 61, bill l. 19, bill d. 7.0, tarsus 25. Colors: bill, upper jaw medium neutral gray, lower jaw light neutral gray, iris cream color, eye-ring medium neutral gray, tarsus medium neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Female, ad. NRM 947178. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 24.5, tot.l. 168, wing 76, wing span 225, tail 66, bill l. 18, bill d. 7.0, tarsus 27. Prep.: study skin (NRM), blood or tissue sample (NRM).

9. Male, ad. NRM 956670. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 24, tot.l. 160, wing 78, wing span 215, tail 70, bill l. 16.5, bill d. 6.5, tarsus 26.5. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, iris spectrum yellow, tarsus plumbeous. Plumage: moulting all over. Prep.: skel. (NRM), blood or tissue sample (NRM).

10. Male, ad. NRM 956674, MNHNP 2023. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 23, tot.l. 166, wing 76, wing span 235, tail 67, bill l. 17.5, bill d. 6.5, tarsus 26. Colors: bill, upper jaw blackish neutral gray, lower jaw Pratt's Payne's gray, iris jet black, eye-ring cream color, tarsus plumbeous. Plumage: moult in wing and tail. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

11. Male, ad. NRM 956691. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 24, tot.l. 170, wing 74, wing span 240, tail 67, bill l. 18, bill d. 7.0, tarsus 25.5. Colors: bill, upper jaw blackish neutral gray, lower jaw light neutral gray, iris cream color, tarsus lavender. Plumage: moult in wing and tail. Prep.: skel. (NRM), blood or tissue sample (NRM).

12. Male (plum.), ad. NRM 996674. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 Oct. 1999. Meas.: wt 23.5, tot.l. 170, wing 75, wing span 225, tail 70, bill l. 20, bill d. 6.3, tarsus 26.3. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

13. Female, ad. NRM 996669. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 27 Oct. 1999. Meas.: wt 28, tot.l. 173, wing 76, wing span 243, tail 70, bill l. 17.5, bill d. 7.6, tarsus 26. Colors: bill [gray, culmen dark brown], iris [whitish], tarsus [grayish blue]. Plumage: tail moulting, primaries moderately worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Barred Antshrike is resident in Paraguay. It is common in Alto Chaco and fairly common in Matogrosense (del Castillo and Clay 2004).

***Thamnophilus caerulescens* Vieillot, 1816. Variable Antshrike (Fig. 5C)**

1. ssp. *paraguayensis*. Female, ad. NRM 937210. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 16, tot.l. 145, wing 71, tail 67, bill l. 15, tarsus 21.5. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, tarsus medium neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *paraguayensis*. Male, ad. NRM 937211, MNHNP 988. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 17, tot.l. 145, wing 69, tail 65, bill l. 13, bill d. 5.5, tarsus 24. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, iris burnt sienna, tarsus medium neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. ssp. *gilviger*. Female, ad. NRM 937301. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: tot.l. 140, wing 68, tail 61, bill l. 14.5, bill d. 5.0, tarsus 23. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris burnt umber, tarsus lavender. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. ssp. indet. Female, age undetermined. NRM 956603, MNHNP 2030. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 18.5, tot.l. 145, wing 70, wing span 180, tail 60, bill l. 15, bill d. 6.0, tarsus 23. Colors: bill, upper jaw blackish neutral gray, lower jaw medium plumbeous,

iris greenish olive, tarsus medium neutral gray. Plumage: moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. ssp. *gilviger*. Male, age undetermined. NRM 956607, MNHNP 1093. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 19.5, tot.l. 152, wing 70, wing span 200, tail 65, bill l. 14.5, bill d. 5.5, tarsus 22. Colors: bill, upper jaw dusky brown, lower jaw medium plumbeous, iris burnt umber, tarsus medium neutral gray. Plumage: body moult. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. ssp. *paraguayensis*. Female, age undetermined. NRM 956667. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 23.5, tot.l. 157, wing 72, wing span 190, tail 62, bill l. 18, bill d. 6.0, tarsus 26. Colors: bill, upper jaw blackish neutral gray, lower jaw light neutral gray, iris smoke gray (no. 44), tarsus light neutral gray. Plumage: body moult. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. ssp. *paraguayensis*. Male, juv. NRM 956734. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 16.5, tot.l. 138, wing 64, tail 53, bill l. 14.5, bill d. 5.5, tarsus 20. Plumage: no growing, fresh. Prep.: study skin (NRM).

8. ssp. *paraguayensis*. Male, ad. NRM 966770. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 17.0, tot.l. 155, wing 71, wing span 220, tail 67, bill l. 14.5, bill d. 6.0, tarsus 23.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw plumbeous, iris fuscous, tarsus plumbeous. Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

9. ssp. *paraguayensis*. Female, ad. NRM 966771. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 17.0, tot.l. 150, wing 70, wing span 215, tail 68. Colors: bill upper jaw blackish neutral gray, bill lower jaw plumbeous, iris fuscous, tarsus plumbeous. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

10. ssp. *paraguayensis*. Male, NRM 966828. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 19.0, tot.l. 150, wing 70, wing span 220, tail 61, bill l. 15, bill d. 6.0, tarsus 27. Plumage: tail slightly worn. Fat score 3. Prep.: study skin (NRM).

11. ssp. *paraguayensis*. Male, ad. NRM 967007, MNHNP uncat. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 21.5, tot.l. 142, wing 69, tail 60, bill l. 14, bill d. 6.0, tarsus 23. Colors: iris mars brown. Fat score 1. Remarks: slight incubation patch. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

12. ssp. *paraguayensis*. Female, ad. NRM 967059. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 20.0, tot.l. 142, wing 68, wing span 200, tail 59, bill l. 15.5, bill d. 7.0, tarsus 22. Colors: bill upper jaw blackish neutral gray, bill lower jaw lavender, iris fawn color, tarsus plumbeous. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

13. ssp. *paraguayensis*. Male, ad. NRM 967101. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 20.0, tot.l. 140, wing 65, wing span 197, tail 62, bill l. 14, bill d. 6.0, tarsus 23. Colors: bill upper jaw jet black, bill lower jaw Pratt's Payne's gray, iris russet, tarsus plumbeous. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

14. ssp. *caerulescens*. Male, ad. NRM 986694, MNHNP 1650. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 20, tot.l. 154, wing 72, wing span 220, tail 68, bill l. 14.5, bill d. 5.5. Colors: bill, upper jaw jet black, lower jaw plumbeous, iris raw umber, tarsus plumbeous. Plumage: body and wing moulting, primaries moderately worn, tail fresh. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

15. ssp. *gilvigaster*. Male, ad. NRM 986716. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 18.5, tot.l. 155, wing 72, wing span 210, tail 69, bill l. 14, bill d. 5.5, tarsus 23.5. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris warm sepia, tarsus Pratt's Payne's gray. Plumage: heavy body moulting, primaries fresh, tail fresh. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

16. ssp. *gilvigaster*. Female, ad. NRM 986784. Est. Santa Ana, Dpto Misiones, 12 Nov. 1998. Meas.: wt 21, tot.l. 155, wing 70, wing span 215, tail 62, bill l. 15.5, bill d. 6, tarsus 23. Colors: bill jet black, lower jaw medium plumbeous, iris burnt umber, tarsus plumbeous. Plumage: two tail feathers growing, all wing coverts new, primaries moderately worn, tail fresh. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

Remarks: The Variable Antshrike is resident in Paraguay. It is uncommon in Alto Chaco and Bajo Chaco, fairly common in Campos Cerrados and Ñeembucú, and common Central Paraguay (del Castillo and Clay 2004). The males of the subspecies *Thamnophilus caerulescens paraguayensis* are characterized by being very lightly gray on the ventral side with lower belly and undertail coverts entirely white or tinged buff (Zimmer and Isler 2019). In Paraguay this subspecies occurs in the Chaco region and in northern Oriente (Dptos. Concepción, Amambay and San Pedro) and the PROVEPA specimens taken in these areas agree well morphologically with subspecies *paraguayensis*. Southeastern Oriente is inhabited by the nominate subspecies *caerulescens*, while the subspecies *gilvigaster* occurs in southeastern Brazil and northeastern Argentina (Zimmer and Isler 2019). However, a male obtained by PROVEPA in the Oriente (Dpto. Misiones) conforms more closely to the subspecies *gilvigaster* by having lower underparts washed cinnamon-tawny instead of being whitish gray. Also a female collected at the same locality are more grayish in crown and upperparts, and with lower underparts more cinnamon-tawny than typical females of the nominate subspecies. Another male collected in Dpto. Misiones conforms fully to the nominate subspecies *caerulescens*, however. It thus seems as the population of the southeastern Oriente might be an integrade between the subspecies *caerulescens* and *gilvigaster*. The individuals collected in Dpto Boquerón in October had fat scores 3 and 4 suggesting they are in migration.

***Cercomacra melanaria* (Ménétries, 1835). Mato Grosso Antbird**

1. Female, ad. NRM 947099, MNHNP 1022. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 14, wing 70, wing span 210, bill l. 17, bill d. 4.0, tarsus 25. Colors: bill blackish neutral gray, iris warm sepia, eye-ring jet black, tarsus medium plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947136. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 16, wing 68, wing span 195, bill l. 16, bill d. 5.0, tarsus 23. Colors: bill, upper jaw dark neutral gray, lower jaw light neutral gray, iris cinnamon-brown, tarsus medium neutral gray. Plumage: tail and body moulting. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947141. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 18, tot.l. 188, wing 71, wing span 215, tail 84, bill l. 17, bill d. 5.0, tarsus 21.5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Mato Grosso Antbird is resident in Paraguay. It is common in Matogrosense (del Castillo and Clay 2004).

***Drymophila malura* (Temminck, 1825). Dusky-tailed Antbird**

1. Female, ad. NRM 956650. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 12.5, tot.l. 150, wing 52, wing span 160, tail 71, bill l. 12, bill d. 3.0, tarsus 20. Colors: bill blackish neutral gray, iris raw umber (no. 23), tarsus light neutral gray. Plumage: heavy moult in body and tail, slight in wing, some tail feathers worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, age undetermined. NRM 956655. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 11, tot.l. 148, wing 55, wing span 152, tail 77, bill l. 13, bill d. 4.0, tarsus 21. Colors: bill, upper jaw blackish neutral gray, lower jaw light neutral gray, iris russet, tarsus medium neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 956657, MNHNP 1071. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 11.5, tot.l. 150, wing 56, wing span 154, tail 68, bill l. 11, bill d. 3.0, tarsus 22. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, iris natal brown, tarsus Pratt's Payne's gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Dusky-tailed Antbird is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004), but may be locally very common in bamboo tangles (Paul Smith pers. comm.).

***Pyriglena leucoptera* (Vieillot, 1818). White-shouldered Fire-eye**

1. Male, ad. NRM 956631, MNHNP 1070. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 29.5, tot.l. 175, wing 185, wing span 230, tail 80, bill l. 16, bill d. 5.5, tarsus 32. Colors: bill sepia (no. 119), iris carmine, tarsus sepia (no. 119). Plumage: moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 956632. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 26.5, tot.l. 165, wing 73, wing span 210, tail 71, bill l. 16.5, tarsus 31. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris carmine, tarsus medium plumbeous. Plumage: heavy moult all over, wing and tail very worn worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, age undetermined. NRM 956637. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 28.5, tot.l. 185, wing 75, wing span 230, tail 75. Colors: bill jet black, iris Vandyke brown (no. 121), tarsus plumbeous. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-shouldered Fire-eye is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is uncommon in Central Paraguay (del Castillo and Clay 2004).

CONOPOPHAGIDAE

***Conopophaga lineata* (zu Wied, 1831). Rufous Gnateater**

1. ssp. *vulgaris*. Male, ad. NRM 937259, MNHNP 1012. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 24, wing 72, tail 49, bill l. 12, bill d. 4.0, tarsus 30. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. *vulgaris*. Female, ad. NRM 937287. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 22.5, tot.l. 115, wing 70, tail 45, bill l. 11.5, bill d. 3.3, tarsus 28. Colors: bill, upper jaw jet black, lower jaw flesh color, iris chestnut, tarsus sulphur yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *vulgaris*. Female, ad. NRM 937306. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 21.5, tot.l. 126, wing 72, tail 45, bill l. 13, bill d. 4.0, tarsus 28.5. Colors: bill, upper jaw dusky brown, lower jaw beige, iris raw umber, tarsus greenish olive. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *vulgaris*. Male, age undetermined. NRM 956614. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: tot.l. 126, wing 70, wing span 180, tail 48, bill l. 12, bill d. 4.0, tarsus 29. Colors: bill, upper jaw jet black, lower jaw pale horn color, iris raw umber (no. 23), tarsus light drab. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. ssp. *vulgaris*. Unsexed, age undetermined. NRM 956635, MNHNP uncat. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 18, tot.l. 128, wing 68, wing span 190, tail 50, bill l. 14, bill d. 4.0, tarsus 30. Colors: bill, upper jaw Hooker's green, lower jaw buff, tarsus yellow ocher. Plumage: moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. ssp. *vulgaris*. Female, age undetermined. NRM 956653, MNHNP uncat. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 23.5, tot.l. 125, tail 45, bill l. 12.5, bill d. 4.0, tarsus 30. Colors: bill, upper jaw dusky brown, lower jaw flesh color, iris russet, tarsus olive-yellow. Plumage: outermost primaries growing. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Rufous Gnateater is resident in Paraguay. It is uncommon in Central Paraguay (del Castillo and Clay 2004). The subspecies *vulgaris* is endemic to the Atlantic Forest (Vale *et al.* 2018).

RHINOCRYPTIDAE

***Rhinocrypta lanceolata* (I. Geoffroy Saint-Hilaire, 1832). Crested Gallito**

1. Unsexed, ad. NRM 966793, MNHNP 2078. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: bill l. 16, bill d. 7.0, tarsus 30. Colors: bill blackish neutral gray, iris raw sienna, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail slightly worn. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966794. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 58, tot.l. 229, wing 87, wing span 270, tail 92. Colors: bill blackish neutral gray, iris raw sienna, tarsus blackish neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Crested Gallito is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004), and even very common in Dpto Boquerón (Paul Smith pers. comm.).

SCLERURIDAE

Sclerurus scansor (Ménétries, 1835). Rufous-breasted Leaf-tosser

1. Male, ad. NRM 937258. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 35, tot.l. 189, wing 88, tail 64, bill l. 23, bill d. 5.0, tarsus 21. Colors: bill [black], iris [brown], tarsus [black]. Prep.: skel. (NRM), study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937342, MNHNP 1020. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 8 Oct. 1993. Meas.: wt 30, tot.l. 165, wing 86, tail 65, bill l. 24, bill d. 5.0, tarsus 22. Colors: bill Vandyke brown (no.121), iris warm sepia, tarsus sepia (no. 119). Prep.: skel. (MNHNP), study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Rufous-breasted Leaf-tosser is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

DENDROCOLAPTIDAE

Sittasomus griseicapillus (Vieillot, 1818). Olivaceous Woodcreeper (Figs. 5B, 11F)

1. ssp. *griseicapillus*. Male, ad. NRM 947273, MNHNP uncat. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 14.5, tot.l. 165, wing 80, wing span 240, tail 76, bill l. 12.5, bill d. 3.5, tarsus 17. Colors: bill, upper jaw dark grayish brown, lower jaw medium neutral gray, tarsus dark neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *sylviellus*. Unsexed, age undetermined. NRM 936598, MNHNP uncat. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 12, tot.l. 150, wing 72, wing span 180, tail 75, bill l. 11, bill d. 3.0, tarsus 18. Colors: bill dark neutral gray, iris dusky brown, tarsus medium plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. ssp. *sylviellus*. Unsexed, age undetermined. NRM 956642. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 11, tot.l. 153, wing 67, wing span 170, tail 75, bill l. 12, bill d. 3.0, tarsus 16. Colors: bill, upper jaw plumbeous, lower jaw Pratt's Payne's gray, iris raw umber (no. 223), tarsus medium plumbeous. Prep.: alcohol specimen (NRM).

4. ssp. *griseicapillus*. Male, juv? NRM 956673. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: tot.l. 165, wing 78, wing span 230, tail 77, bill l. 14, bill d. 4.0, tarsus 17. Colors: bill plumbeous, tarsus plumbeous. Plumage: growing all over. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. ssp. *griseicapillus*. Male, ad? NRM 956677. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 11, tot.l. 145, wing 74, wing span 200, tail 73, bill l. 14.5, bill d. 3.0, tarsus 17. Colors: bill Vandyke brown (no. 121), iris Prout's brown, tarsus plumbeous. Plumage: body growing. Prep.: alcohol specimen (NRM).

6. ssp. indet. Female, ad. NRM 967031, MNHNP 1462. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 12.0, tot.l. 155, wing 74, wing span 218, tail 67, bill l. 14, bill d. 4.0, tarsus 17. Colors: bill upper jaw sepia (no. 219), bill lower jaw Pratt's Payne's gray, tarsus dark neutral gray.

Plumage: primaries slightly worn, tail fresh. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

7. ssp. indet. Male, ad. NRM 976733. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 13, tot.l. 160, wing 80, wing span 240, tail 75, bill l. 13.5, bill d. 5.5, tarsus 18. Colors: iris chestnut. Plumage: wing and tail moulting, primaries fresh-moderate, tail fresh-moderate. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Olivaceous Woodcreeper is resident in Paraguay. It is uncommon in Alto Chaco, but common in both Campos Cerrados and Central Paraguay (del Castillo and Clay 2004). Subspecies *sylviellus* is considered to occur in SE Paraguay and nearby Argentina (Dpto Misiones and NE Dpto Corrientes) and the individuals collected in Atlantic Forest habitats agree with this subspecies in having head, neck and most of underparts olivaceous.

***Dendrocincla fuliginosa* (Vieillot, 1818). Plain-brown Woodcreeper**

1. Male, ad. NRM 937225. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 40, tot.l. 224, wing 114, bill l. 27, bill d. 7.0, tarsus 26. Colors: bill dark-light neutral gray, iris clay color, tarsus dark neutral gray. Prep.: skel. (NRM), study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937286, MNHNP 1010. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 38, tot.l. 200, wing 108, tail 90, bill l. 24.5, bill d. 7.0, tarsus 24. Colors: bill dusky brown, iris raw umber, tarsus dusky brown. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Female, ad. NRM 976662. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 34, tot.l. 215, wing 102, wing span 310, tail 85, bill l. 26, bill d. 7, tarsus 23.5. Colors: bill blackish neutral gray, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Plain-brown Woodcreeper is resident in Paraguay. It is rare in Campos Cerrados and scarce in Central Paraguay (del Castillo and Clay 2004). It is often considered conspecific with Plain-winged Woodcreeper (*Dendrocincla turdina*).

***Dendrocolaptes platyrostris* von Spix, 1824. Planalto Woodcreeper (Fig. 7F)**

1. ssp. *intermedius*. Female, ad. NRM 967048, MNHNP 1463. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 54, tot.l. 261, wing 120, wing span 365, tail 112, bill l. 36, bill d. 8.5, tarsus 27. Colors: bill fuscous, iris russet, tarsus olive. Plumage: wing moult, primaries heavy, tail heavy. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. ssp. indet. Male, ad. NRM 967058. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 60, tot.l. 255, wing 120, wing span 340, tail 106, bill l. 35, bill d. 9.0, tarsus 27. Colors: bill sepia (no. 119), tarsus light drab. Plumage: primaries slightly worn, tail heavy. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. ssp. *intermedius*. Female, ad. NRM 976681. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 67, tot.l. 288, wing 124, wing span 360, tail 111, bill l. 37, bill d. 10, tarsus 29. Colors: bill dark grayish brown, tarsus olive. Plumage: primaries slightly worn, tail (slight-)moderate. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. indet. Male, ad. NRM 976713. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 59, tot.l. 256, wing 120, wing span 365, tail 105, bill l. 34, bill d. 10, tarsus 28. Colors: bill sepia (no.119), iris russet, tarsus russet. Plumage: primaries moderately worn, tail very worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. ssp. indet. Female, ad. NRM 976714, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 64, tot.l. 262, wing 125, wing span 365, tail 115, bill l. 33.5, bill d. 9, tarsus 27. Colors: bill sepia (no.119), iris russet, tarsus russet. Plumage: primaries moderately worn, tail moderately worn. Fat score 5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. ssp. *platyrostris*. Female, ad. NRM 986714. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 65, tot.l. 270, wing 120, wing span 350, tail 111, bill l. 36.5, bill d. 9, tarsus 30. Colors: bill jet black, iris mars brown, tarsus citrine. Plumage: body and wing moulting. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Planalto Woodcreeper is resident in Paraguay. It is fairly common in Campos Cerrados, but is rare in Ñeembucú (del Castillo and Clay 2004).

***Xiphocolaptes major* (Vieillot, 1818). Great Rufous Woodcreeper**

1. Male, ad. NRM 937170, MNHNP 1009. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: tot.l. 330, wing 156, tail 108, bill l. 59, bill d. 11, tarsus 32. Colors: bill pale neutral gray, iris brick red, eye-ring greenish olive, tarsus greenish olive. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937216. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 145, tot.l. 320, wing 150, tail 105, bill l. 55, bill d. 12, tarsus 32. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 966998. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 168, tot.l. 350, wing 158, wing span 470, tail 115, bill l. 60, bill d. 15.5, tarsus 33. Colors: bill lavender, tarsus citrine. Plumage: primaries slightly worn, tail heavy. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 966847. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 150, tot.l. 320, wing 157, wing span 460, tail 105, bill l. 56, bill d. 13.5, tarsus 33. Colors: bill lavender, iris Pratt's rufous, tarsus olive-gray. Plumage: primaries fresh, tail heavy. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Great Rufous Woodcreeper is resident in Paraguay. It is fairly common in Bajo Chaco and common in Campos Cerrados (del Castillo and Clay 2004).

***Xiphorhynchus fuscus* (Vieillot, 1818). Lesser Woodcreeper**

1. Male, ad. NRM 937283, MNHNP 1014. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 18, tot.l. 167, wing 74, tail 64, bill l. 22.5, bill d. 5.0, tarsus 18.5. Colors: bill, upper jaw beige, lower jaw dusky brown, iris dark grayish brown, tarsus dark neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Lesser Woodcreeper is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is uncommon in Central Paraguay (del Castillo and Clay 2004), but may be overlooked as it is shy (Paul Smith pers. comm.).

***Campylorhamphus trochilirostris* (M.H.C. Lichtenstein, 1820).
Red-billed Scythebill (Fig. 5D)**

1. Female, ad. NRM 947039. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 40, tot.l. 275, wing 107, wing span 320, tail 88, bill l. 77, bill d. 7.0, tarsus 22. Colors: bill russet, iris maroon, tarsus grayish horn color. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Female, ad. NRM 947183, MNHNP 2040. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 44, tot.l. 285, wing 105, wing span 400, tail 84, bill l. 77, bill d. 5.5, tarsus 22. Plumage: moulting all over. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Female, ad. NRM 966865. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 44, tot.l. 295, wing 110, wing span 325, tail 89, bill l. 81, bill d. 7.0, tarsus 23. Colors: bill cinnamon-rufous, iris mars brown, tarsus olive. Plumage: primaries slightly worn, tail moderately worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 986790. Est. Santa Ana, Dpto Misiones, 13 Nov. 1998. Meas.: wt 50, wing 109, bill l. 74, bill d. 7.5, tarsus 20. Plumage: primaries slightly worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Red-billed Scythebill is resident in Paraguay. It is common in Alto Chaco and uncommon in Bajo Chaco and Ñeembucú (del Castillo and Clay 2004).

***Drymornis bridgesii* (Eyton, 1849). Scimitar-billed Woodcreeper**

1. Female, age undetermined. NRM 956749, MNHNP 1082. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 80, tot.l. 325, wing 130, tail 101, bill l. 67, bill d. 7.0, tarsus 34. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
2. Female, ad. NRM 966930. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 81, tot.l. 305, wing 136, wing span 390, tail 105, bill l. 66, bill d. 6.5, tarsus 33. Colors: bill jet black (base of mandible pale horn color), iris salmon color (no. 106), tarsus medium plumbeous. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Unsexed, ad. NRM 976746. Est. Palo Santo, Dpto Pres. Hayes, 30 Nov. 1997. Meas.: wt 84, tot.l. 320, wing 136, wing span 410, tail 104, bill l. 65, bill d. 8, tarsus 35. Plumage: primaries slightly to moderately worn, tail very worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Scimitar-billed Woodcreeper is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004).

***Lepidocolaptes angustirostris* (Vieillot, 1818). Narrow-billed Woodcreeper**

1. Male, ad. NRM 937155, MNHNP uncat. Est. Karanda, Dpto Pres. Hayes, 14 Sept. 1993. Meas.: wt 26, tot.l. 208, wing 102, tail 85, bill l. 32, bill d. 5.0, tarsus 21. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Male, ad. NRM 937166, MNHNP 994. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 28, tot.l. 195, wing 94, tail 70, bill l. 37, bill d. 5.0, tarsus 21. Colors: bill pale neutral gray, iris sepia (no. 119), eye-ring burnt sienna, tarsus dark neutral gray. Prep.: study skin (MNHNP).
3. Male, ad. NRM 937179. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 25, tot.l. 220, wing 95, tail 57, bill l. 31, bill d. 5.0, tarsus 20. Colors: bill mix between light neutral gray and pale neutral gray, iris maroon, tarsus dark neutral gray. Prep.: gizzard (NRM)
4. Male, ad. NRM 937181. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 27.5, tot.l. 200, wing 97, tail 76, bill l. 34, tarsus 21. Colors: bill, lower jaw pale neutral gray, iris russet, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
5. Male, ad. NRM 937184. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 26.5, tot.l. 210, wing 99, tail 83, bill d. 5.0, tarsus 21. Colors: bill, lower jaw pale neutral gray, iris cinnamon-brown, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 937347. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 27.5, tot.l. 193, wing 95, tail 65, bill l. 31, bill d. 5.0, tarsus 20.5. Colors: iris army brown. Prep.: study skin (NRM), blood or tissue sample (NRM).
7. Male, ad. NRM 947073. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 28, tot.l. 210, wing 98, wing span 300, tail 73, bill l. 33, bill d. 5.0, tarsus 21. Colors: bill drab-gray, tarsus glaucous (no. 79). Prep.: skel. (NRM), blood or tissue sample (NRM).
8. Male, ad. NRM 947095. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 27, wing 88, wing span 275, bill l. 31, bill d. 5.0, tarsus 19. Colors: bill light drab, iris burnt sienna, eye-ring hair brown, tarsus blackish neutral gray. Plumage: w. very worn. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
9. Male, ad. NRM 947162, MNHNP 2005. Est. Doña Júlia, Dpto Alto Paraguay, 17 Sept. 1994. Meas.: wt 29, tot.l. 206, wing 96, wing span 297, tail 75, bill l. 31, bill d. 5.2, tarsus 20.5. Colors: bill drab, iris raw umber (no. 223), tarsus brownish olive. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
10. Female, ad. NRM 966775, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 23.0, tot.l. 177, wing 86, wing span 260, tail 57, bill l. 30, bill d. 5.0, tarsus 18. Colors: bill drab-gray, iris sepia (no. 219), tarsus dark neutral gray. Plumage: primaries slightly worn, tail heavy. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
11. Male, ad. NRM 966813. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 23.5, tot.l. 200, wing 95, wing span 280, tail 69. Colors: iris burnt sienna, tarsus brownish olive. Prep.: alcohol specimen (NRM).
12. Female, ad. NRM 966818. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 26.0, tot.l. 180, wing 91, wing span 250, tail 65, bill l. 33, bill d. 5.0, tarsus 19.5. Colors: bill drab-gray, iris sepia (no. 219), tarsus dark neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 2. Prep.: skel. (NRM).

13. Female, ad. NRM 976695. P.N. Cerro Corá, Dpto Amambay, 17 Nov. 1997. Meas.: wt 30, tot.l. 208, wing 92, wing span 290, tail 76, bill l. 35, bill d. 6, tarsus 21. Colors: bill pale neutral gray, tarsus dark neutral gray. Plumage: wing moulting, primaries very worn, tail very worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

14. Unsexed, ad. NRM 976760. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 28, tot.l. 195, wing 95, wing span 285, tail 70, bill l. 32, bill d. 6, tarsus 21. Colors: bill, upper jaw yellow ocher, lower jaw light mauve, iris chestnut, tarsus medium plumbeous. Plumage: primaries moderately worn, tail moderately worn. Fat score 3. Prep.: alcohol specimen (NRM).

15. Female, ad. NRM 988526. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 27.5, tot.l. 200, wing 96, wing span 260, tail 77, bill l. 34, bill d. 4.8, tarsus 21. Colors: bill beige, iris warm sepia, tarsus medium neutral gray. Plumage: primaries fresh, tail fresh. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Narrow-billed Woodcreeper is resident in Paraguay. It is abundant in Alto Chaco and Matogrosense, common in Bajo Chaco and Campos Cerrados, and fairly common in Ñeembucú (del Castillo and Clay 2004).

***Lepidocolaptes squamatus* (M.H.C. Lichtenstein, 1822). Scaled Woodcreeper**

1. Unsexed, age undetermined. NRM 936588. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 28.5, tot.l. 200, wing 90, wing span 240, tail 80, bill l. 30, bill d. 5.5, tarsus 19.5. Colors: bill, upper jaw burnt umber, lower jaw pink, tarsus dark neutral gray. Plumage: slight moult in body, wing and tail. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Scaled Woodcreeper is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

FURNARIIDAE

***Furnarius rufus* (J.F. Gmelin, 1788). Rufous Hornero**

1. Male, ad. NRM 937165. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 41, tot.l. 201, wing 93, tail 69, bill l. 22, bill d. 5.5, tarsus 30. Colors: bill, upper jaw fuscous, lower jaw beige, iris mahogany red, eye-ring sepia (no. 219), tarsus dark brownish olive. Prep.: study skin (NRM)

2. Male, ad. NRM 937171, MNHNP 992. Est. Guazu, Dpto Pres. Hayes, 22 Sept. 1993. Meas.: wt 38, tot.l. 197, wing 92, tail 66, bill l. 22, bill d. 5.0, tarsus 29. Colors: bill, upper jaw fuscous, lower jaw smoke gray (no. 44), iris brick red, tarsus fuscous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 937182. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 41, tot.l. 200, wing 100, tail 68, bill l. 19.5, bill d. 5.0, tarsus 30. Colors: bill, upper jaw dark neutral gray, lower jaw light neutral gray, iris maroon, tarsus pale neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 937204. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 33, tot.l. 169, wing 94, tail 68, bill l. 20, bill d. 5.0, tarsus 31. Colors: iris amber. Released.

5. Unsexed, ad. NRM 937207. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 34, tot.l. 168, wing 96, tail 66, bill l. 20.5, bill d. 5.0, tarsus 32. Colors: iris brick red. Released.

6. Female, ad. NRM 947087. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 43, tot.l. 200, wing 93, wing span 305, tail 65, bill l. 21, bill d. 6.0, tarsus 29.5. Colors: bill, upper jaw dark grayish brown, lower jaw pale neutral gray, iris mahogany red, tarsus dark neutral gray, eye-ring grayish olive. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
7. Female, ad. NRM 947993. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 40, tot.l. 200, wing 97, wing span 300, tail 66, bill l. 20, bill d. 6.0, tarsus 31. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, iris chestnut, eye-ring olive-brown, tarsus sepia (no. 219). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
8. Female, ad. NRM 947207, MNHNP 1983. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 38, tot.l. 196, wing 93, wing span 290, tail 62, bill l. 21, bill d. 5.5, tarsus 32. Colors: bill, upper jaw olive-brown, lower jaw drab-gray, iris mahogany red. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
9. Male, ad. NRM 956659. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 42, tot.l. 205, wing 95, wing span 295, tail 69, bill l. 20.5, bill d. 5.0, tarsus 27.5. Colors: bill, upper jaw fuscous, lower jaw olive-brown, iris amber, tarsus hair brown. Prep.: skel. (NRM), blood or tissue sample (NRM).
10. Unsexed, ad. NRM 966919. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: tot.l. 190, wing 98, wing span 295, tail 72, bill l. 17, bill d. 5.0, tarsus 27. Colors: bill upper jaw dark brownish olive, bill lower jaw beige, iris Pratt's rufous, tarsus drab. Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: alcohol specimen (NRM).
11. Female, ad. NRM 976711. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 44, tot.l. 181, wing 88, wing span 285, tail 62, bill l. 20, bill d. 6, tarsus 28. Plumage: wing and tail moulting, primaries fresh-slight, tail very worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Rufous Hornero is resident in Paraguay. It is abundant in Matogrosense, Bajo Chaco and uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Furnarius cristatus* Burmeister, 1888. Crested Hornero**

1. Male, ad. NRM 937376. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 22.5, tot.l. 170, wing 80, tail 60, bill l. 15, bill d. 3.5, tarsus 25. Colors: bill burnt umber, iris amber, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Female, ad. NRM 937361. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 23, tot.l. 142, wing 81, tail 56, bill l. 17, bill d. 3.5, tarsus 25. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 937365, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 25.5, tot.l. 164, wing 79, tail 59, bill l. 13, bill d. 3.5, tarsus 25. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
4. Male, ad. NRM 966762. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 24.0, tot.l. 170, wing 76, wing span 240, tail 55, bill l. 16, bill d. 4.8, tarsus 26. Colors: bill dark brownish olive, eye-ring olive-brown, iris raw sienna, tarsus dark brownish olive. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 966772. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 23.5, tot.l. 145, wing 86, wing span 230, tail 60, bill l. 17, bill d. 4.0, tarsus 26.5. Colors: bill upper jaw Vandyke brown (no. 121), bill lower jaw beige, iris brick red, tarsus sepia (no. 219). Plumage: primaries fresh, tail slightly worn. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 966773. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: tot.l. 162, wing 78, wing span 240, tail 57, bill l. 18, bill d. 4.5, tarsus 26. Colors: bill upper jaw Vandyke brown (no. 121), bill lower jaw beige, iris brick red, tarsus sepia (no. 219). Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Remarks: bill abnormal. Prep.: alcohol specimen (NRM).

7. Female, ad. NRM 966800. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 23.5, tot.l. 145, wing 73, wing span 230, tail 60, bill l. 17, bill d. 4.0, tarsus 26. Colors: bill upper jaw Vandyke brown (no. 121), bill lower jaw beige, iris brick red, tarsus sepia (no. 219). Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 966802, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 24.0, tot.l. 155, wing 74, wing span 235, tail 56, bill l. 16, bill d. 3.6, tarsus 26.5. Colors: bill upper jaw Vandyke brown (no. 121), bill lower jaw beige, iris brick red, tarsus sepia (no. 219). Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Remarks: intestinal parasite. Prep.: skel. (MNHNP).

9. Male, ad. NRM 966926, MNHNP 2090. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 25.0, tot.l. 165, wing 82, wing span 230, tail 58, bill l. 15, bill d. 4.0, tarsus 26. Colors: bill glaucous (no. 79), iris orange-rufous, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (MNHNP), blood or tissue sample (NRM).

Remarks: The Crested Hornero is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004).

***Philydor atricapillus* (zu Wied-Neuwied, 1821). Black-capped Foliage-gleaner**

1. Female, ad. NRM 937334, MNHNP 1007. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 17, tot.l. 143, wing 76, tail 66, bill l. 17.5, bill d. 5.5, tarsus 18.5. Colors: bill, upper jaw smoke gray (no. 45), lower jaw dusky brown, tarsus citrine. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Black-capped Foliage-gleaner is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Philydor rufum* (Vieillot, 1818). Buff-fronted Foliage-gleaner**

1. Male, age undetermined. NRM 936594. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 19.5, tot.l. 165, wing 83, wing span 200, tail 75, bill l. 14.5, bill d. 6.0, tarsus 18.5. Colors: bill dark neutral gray, iris raw umber (no. 223), tarsus olive-yellow. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, age undetermined. NRM 936595. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 17.5, tot.l. 155, wing 71, wing span 190, tail 72, bill l. 15, bill d. 5.5, tarsus 17.5. Colors:

bill dark neutral gray, iris raw umber (no. 223), tarsus olive-yellow. Plumage: some tail feathers very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Buff-fronted Foliage-gleaner is resident in Paraguay. It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Syndactyla rufosuperciliata* (Lafresnaye, 1832). Buff-browed Foliage-gleaner**

1. Female, ad. NRM 956633, MNHNP 1065. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 14 March 1995. Meas.: wt 24, tot.l. 155, wing 69, wing span 190, tail 72, bill l. 16, bill d. 6.0, tarsus 21. Colors: bill, upper jaw dusky brown, lower jaw flesh color, iris burnt umber, tarsus olive-green (no. 47). Plumage: slight body moult, one tail feather worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 986802. Est. Santa Ana, Dpto Misiones, 16 Nov. 1998. Meas.: wt 28.8, tot.l. 175, wing 78, wing span 240, tail 71, bill l. 17.5, bill d. 7.3. Colors: bill blackish neutral gray, lower jaw lavender, iris burnt umber, tarsus greenish olive. Plumage: primaries slightly worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Buff-browed Foliage-gleaner is resident in Paraguay. It is scarce in both Central Paraguay and Ñeembucú (del Castillo and Clay 2004).

***Automolus leucothalmus* (zu Wied-Neuwied, 1821). White-eyed Foliage-gleaner (Fig. 5E)**

1. Female, ad. NRM 937251, MNHNP 1017. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 30, tot.l. 177, wing 84, tail 74, bill l. 23, bill d. 6.0, tarsus 22. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937269. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 31, tot.l. 160, wing 83, bill l. 20.5, bill d. 6.5, tarsus 22. Colors: bill dark brownish olive-olive-gray, iris white, tarsus grayish olive. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 937327. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 31, tot.l. 193, wing 83, tail 82, bill l. 21, bill d. 6.5, tarsus 24. Colors: bill, upper jaw drab-gray, lower jaw Vandyke brown (no.121), iris pearl gray, tarsus citrine. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 937328. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 26, tot.l. 185, wing 80, tail 73, bill l. 22, bill d. 6.5, tarsus 22.5. Colors: bill, upper jaw glaucous (no. 79), lower jaw Vandyke brown (no.121), iris pearl gray, tarsus citrine. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-eyed Foliage-gleaner is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004).

***Phacellodomus rufifrons* (zu Wied-Neuwied, 1821). Rufous-fronted Thornbird**

1. Unsexed, ad. NRM 937190. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 24, tot.l. 160, wing 71, tail 75, bill l. 14, bill d. 5.5, tarsus 21. Colors: bill, upper jaw blackish neutral gray,

lower jaw Pratt's Payne's gray, iris light neutral gray, tarsus medium neutral gray. Prep.: blood sample (NRM). Released.

2. Male, ad. NRM 937192, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 23, bill l. 15, bill d. 5.3, tarsus 21.5. Prep.: skel. (MNHNP).

3. Female, ad. NRM 947062. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 23, tot.l. 160, wing 69, tail 78, bill l. 16, bill d. 5.0, tarsus 21. Colors: bill blackish neutral gray, iris fuscous, tarsus medium neutral gray. Plumage: upper tail coverts moulting. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 947107. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 19.5, tot.l. 159, wing 69, wing span 215, tail 75, bill l. 14.5, bill d. 5.5, tarsus 20.5. Colors: bill sepia (no. 119), iris glaucous (no. 79), eye-ring dark brownish olive, tarsus glaucous (no. 79). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 947186, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 21.5, tot.l. 173, wing 70, wing span 221, tail 74, bill l. 15, bill d. 5.5, tarsus 20. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 947188. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 23, tot.l. 169, wing 67, wing span 217, tail 75, bill l. 16, bill d. 5.3. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Female, ad. NRM 947190, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 23, tot.l. 173, wing 67, wing span 200, tail 74, bill l. 16, bill d. 5.0, tarsus 20. Colors: bill dusky brown, tarsus light neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Rufous-fronted Thornbird is resident in Paraguay. It is fairly common in Matogrosense and uncommon in Bajo Chaco (del Castillo and Clay 2004). Species identification of individuals no. 6 has been verified by DNA barcoding.

***Phacellodomus ruber* (Vieillot, 1817). Greater Thornbird**

1. Male, ad. NRM 947105. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 27.5, tot.l. 200, wing 75, wing span 240, tail 97, bill l. 17.5, bill d. 6.2, tarsus 21. Colors: bill sepia (no. 119), iris orange yellow, eye-ring dark brownish olive, tarsus dark neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 947206, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 28.5, tot.l. 180, wing 72, wing span 237, tail 84, bill l. 16.3, bill d. 6.1, tarsus 21. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, iris orange yellow, eye-ring drab, tarsus plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Greater Thornbird is resident in Paraguay. It is uncommon in Matogrosense (del Castillo and Clay 2004).

***Anumbius annumbi* (Vieillot, 1817). Firewood-gatherer**

1. Male, ad. NRM 966903, MNHNP 1460. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 33, tot.l. 180, wing 78, wing span 245, tail 79, bill l. 17, bill d. 5.0, tarsus 23. Colors: bill upper jaw mars brown, bill lower jaw Pratt's Payne's gray, iris raw sienna, tarsus pale horn color.

Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 986791. Est. Santa Ana, Dpto Misiones, 14 Nov. 1998. Meas.: tot.l. 183, wing 83, wing span 265, tail 75, bill l. 15.5, bill d. 6.2, tarsus 24. Colors: bill fawn color, lower jaw lavender, tarsus glaucous (no. 79). Plumage: primaries moderately worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Firewood-gatherer is resident in Paraguay. It is uncommon in Alto Chaco, but is fairly common in Ñeembucú (del Castillo and Clay 2004).

***Coryphistera alaudina* Burmeister, 1860. Lark-like Brushrunner**

1. Female, ad. NRM 966910, MNHNP 1459. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 34, tot.l. 165, wing 75, wing span 230, tail 69, bill l. 15, bill d. 4.4, tarsus 25. Colors: bill upper jaw flame scarlet, bill lower jaw, tarsus fawn color. Plumage: primaries slightly worn, tail heavy. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966927. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 27.5, tot.l. 170, wing 72, wing span 210, tail 64, bill l. 16, bill d. 6.0, tarsus 26. Colors: bill upper jaw beige, bill lower jaw jet black, iris burnt umber, tarsus yellow ocher. Plumage: slight wing and body moult, primaries slightly worn, tail heavy. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 976754. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 23, tot.l. 165, wing 75, wing span 225, tail 65, bill l. 15, bill d. 6, tarsus 24. Colors: bill salmon color, iris clay color (no.123B), tarsus clay color (no.123B). Plumage: tail and body moulting, primaries moderately worn, tail very worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976771, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 35, tot.l. 172, wing 72, wing span 230, tail 66, bill l. 15, bill d. 6, tarsus 21. Colors: iris russet, tarsus yellow ocher. Plumage: wing and body moulting, primaries moderately worn, tail very worn. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 976772. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 33, tot.l. 172, wing 76, wing span 240, tail 66, bill l. 14.5, bill d. 6, tarsus 24.5. Colors: iris russet, tarsus yellow ocher. Plumage: body moulting, primaries moderately worn, tail very worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 976773, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 30, tot.l. 173, wing 75, wing span 235, tail 68, bill l. 15, bill d. 6, tarsus 21. Colors: iris russet, tarsus yellow ocher. Plumage: tail and body moulting, primaries moderately worn, tail very worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Unsexed, ad. NRM 976780. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 33.5, tot.l. 165, wing 75, wing span 230, tail 69, bill l. 14.5, bill d. 5.5, tarsus 27. Colors: bill natal brown, iris dark drab, tarsus buff. Plumage: wing and body moulting, primaries moderately worn, tail very worn. Fat score 1. Prep.: alcohol specimen (NRM).

Remarks: The Lark-like Brushrunner is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004).

***Cranioleuca pyrrhopia* (Vieillot, 1818). Stripe-crowned Spinetail**

1. Male, ad. NRM 966821, MNHNP 1457. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 10.5, tot.l. 140, wing 62, wing span 180, tail 69, bill l. 14, bill d. 3.3, tarsus 17. Colors: bill dusky brown, iris chestnut, tarsus olive-green (no. 48). Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Stripe-crowned Spinetail is resident in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004).

***Pseudoseisura lophotes* (Reichenbach, 1853). Brown Cachalote**

1. Male, ad. NRM 966814, MNHNP 1461. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 78, tot.l. 275, wing 127, wing span 385, tail 110, bill l. 29, bill d. 9.0, tarsus 35. Colors: bill jet black, iris yellow ocher, tarsus grayish olive. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966830. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 61, tot.l. 250, wing 125, wing span 345, tail 105, bill l. 19, tarsus 33. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, iris pale horn color. Plumage: primaries heavy, tail heavy. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 976799. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 75, tot.l. 247, wing 121, wing span 379, tail 101, bill l. 24, bill d. 8, tarsus 33. Colors: bill, upper jaw dusky brown, lower jaw pale neutral gray, iris buff-yellow, tarsus dark neutral gray. Plumage: wing and body moulting, two generations wing pens, primaries slightly to moderately, tail very worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Brown Cachalote is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Schoeniophylax phryganophilus* (Vieillot, 1817). Chotoy Spinetail**

1. Male, ad. NRM 937160, MNHNP 1003. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 17, tot.l. 197, wing 62, tail 114, bill l. 12.5, bill d. 5.0, tarsus 21. Colors: bill, upper jaw Pratt's Payne's gray, lower jaw medium plumbeous, tarsus light neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947184. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 16.5, tot.l. 218, wing 63, wing span 202, tail 115, bill l. 13, bill d. 4.5, tarsus 21.5. Colors: bill, upper jaw plumbeous, lower jaw Pratt's Payne's gray, tarsus light neutral gray, iri buff (no. 124). Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966932. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 16.0, tot.l. 205, wing 59, wing span 180, tail 120, bill l. 12, bill d. 4.0, tarsus 21. Colors: bill jet black, iris mahogany red, tarsus plumbeous. Plumage: slight body moult, primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Chotoy Spinetail is resident in Paraguay. It is abundant in Matogrosense and is common in Bajo Chaco (del Castillo and Clay 2004).

***Certhiaxis cinnamomeus* (J.F. Gmelin, 1788). Yellow-chinned Spinetail**

1. Female, ad. NRM 937358, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 14.5, tot.l. 150, wing 62, tail 55, bill l. 13.5, bill d. 3.5, tarsus 18. Colors: bill dusky brown, tarsus brownish olive. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937397. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1993. Meas.: wt 14.5, tot.l. 150, wing 60, tail 56, bill l. 13, bill d. 3.5, tarsus 19. Colors: bill dusky brown, tarsus plumbeous. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 966931. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 13.0, tot.l. 155, wing 56, wing span 180, tail 62, bill l. 15, bill d. 2.7, tarsus 19. Colors: bill jet black, tarsus plumbeous. Plumage: primaries slightly worn, tail heavy. Fat score 4. Prep.: blood or tissue sample (NRM).

Remarks: The Yellow-chinned Spinetail is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Synallaxis ruficapilla* Vieillot, 1819. Rufous-capped Spinetail**

1. Male, ad. NRM 956643, MNHNP 1099. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 14.5, tot.l. 150, wing 58, wing span 155, tail 78, bill l. 13, bill d. 3.9, tarsus 21. Colors: bill sepia (no. 119), iris chestnut, tarsus citrine. Plumage: slight tail moult, some worn tail feathers. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 956644. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 13, tot.l. 135, wing 53, wing span 145, tail 64, bill l. 12.5, bill d. 3.4, tarsus 19. Colors: bill sepia (no. 119), iris antique brown, tarsus citrine. Plumage: slight moult in body and wing, heavy in tail, some tail feathers worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Rufous-capped Spinetail is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004).

***Synallaxis spixi* P.L. Sclater, 1856. Spix's Spinetail**

1. Male, ad. NRM 937231. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 13.5, tot.l. 145, wing 53, tail 65, bill l. 11, bill d. 4.0, tarsus 18. Colors: bill blackish neutral gray, iris cinnamon-rufous, tarsus glaucous (no. 80). Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937257. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 11.5, tot.l. 150, wing 52, tail 72, bill l. 11, bill d. 4.0, tarsus 18. Colors: bill, upper jaw blackish neutral gray, lower jaw Pratt's Payne's gray, iris mahogany red, tarsus greenish olive. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 937288, MNHNP 993. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 12, tot.l. 148, wing 57, tail 66, bill l. 11, bill d. 3.5, tarsus 18. Colors: bill blackish neutral gray, iris salmon color, tarsus grayish olive. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 937298. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 14, tot.l. 135, wing 53, tail 65, bill l. 11, bill d. 3.7, tarsus 19.5. Colors: bill blackish neutral

gray, iris chrome orange, tarsus olive-green (no. 48). Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, age undetermined. NRM 956600, MNHNP 2032. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 12.5, wing 58, wing span 150, bill l. 13, bill d. 3.4, tarsus 20. Colors: bill, upper jaw dusky brown, lower jaw Pratt's Payne's gray, iris brick red, tarsus olive-yellow. Plumage: slight moult in body and tail. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Spix's Spinetail is resident in Paraguay. It is scarce in Central Paraguay (del Castillo and Clay 2004). Species identification of individual no. 2 has been verified by DNA barcoding.

***Synallaxis albescens* Temminck, 1823. Pale-breasted Spinetail**

1. Female, ad. NRM 956720. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 10.5, wing 55, wing span 175, bill l. 11, bill d. 3.5, tarsus 17.5. Plumage: tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 986698. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 10.5, tot.l. 145, wing 55, wing span 150, tail 75, bill l. 11, bill d. 3.5, tarsus 18.5. Colors: bill dark grayish, iris true cinnamon, tarsus olive-yellow. Plumage: primaries fresh, tail moderately worn. Fat score 0. Prep.: blood or tissue sample (NRM).

3. Male, ad. NRM 996715. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 31 Oct. 1999. Meas.: wt 11, tot.l. 135, wing 54, wing span 170, tail 68, bill l. 11, bill d. 3.5, tarsus 17. Colors: bill [dark horn], iris [light red], tarsus [olivaceous]. Plumage: tail moulting, primaries slightly worn, tail moderately worn. Fat score 1. Prep.: blood or tissue sample (NRM).

Remarks: The Pale-breasted Spinetail is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004). Species identification of individual no. 2 has been verified by DNA barcoding.

***Synallaxis frontalis* von Pelzeln, 1859. Sooty-fronted Spinetail**

1. Unsexed, ad. NRM 937209. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 10, tot.l. 138, wing 53, tail 68, bill l. 11, bill d. 3.0, tarsus 18. Colors: iris cinnamon-brown. Prep.: blood sample (NRM). Released.

2. Female, ad. NRM 947137, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 12.5, wing 54, wing span 175, bill l. 11, bill d. 4.0, tarsus 18. Colors: bill, upper jaw dark neutral gray, lower jaw light neutral gray, iris cinnamon (no. 39), tarsus opaline green. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 956682. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 13, wing 58, wing span 180, bill l. 10.5, bill d. 4.5, tarsus 18.5. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, iris tawny, tarsus citrine. Plumage: moult in wing and tail. Prep.: alcohol specimen (NRM).

4. Unsexed, age undetermined. NRM 956684. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 12.5, wing 55, wing span 175, bill l. 11.5, bill d. 4.0, tarsus 17.5. Prep.: alcohol specimen (NRM).

5. Male, ad. NRM 956721, MNHNP 1098. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 14, tot.l. 152, wing 57, wing span 186, tail 74, bill l. 11.5, bill d. 3.8, tarsus 20. Plumage: body and wing moult, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. Female (?), ad? NRM 956731, MNHNP 2028. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 March 1995. Meas.: wt 13, tot.l. 147, wing 56, wing span 175, tail 75, bill l. 10.5, bill d. 4.0, tarsus 17. Colors: bill, upper jaw dark neutral gray, lower jaw beige, iris drab, tarsus medium neutral gray. Plumage: body moult, tail worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Male, ad. NRM 986787. Est. Santa Ana, Dpto Misiones, 12 Nov. 1998. Meas.: wt 14.8, tot.l. 165, wing 58, wing span 191, tail 80, bill l. 11, bill d. 4.5, tarsus 20. Colors: bill blackish neutral gray, lower jaw light neutral gray, iris clay color, tarsus drab. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Female, ad. NRM 986750, MNHNP 1687. Est. Santa Ana, Dpto Misiones, 5 Nov. 1998. Meas.: wt 16, tot.l. 151, wing 61, wing span 185, tail 79, bill l. 11.5, bill d. 4.5, tarsus 20.5. Plumage: primaries moderately worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

9. Female, ad. NRM 986789. Est. Santa Ana, Dpto Misiones, 12 Nov. 1998. Meas.: wt 14.5, tot.l. 151, wing 58.5, wing span 180, tail 75, bill l. 10, tarsus 20. Colors: bill, upper jaw blackish neutral gray, lower jaw light neutral gray, iris fuscous. Prep.: study skin (NRM), blood or tissue sample (NRM).

10. Female, ad. NRM 996687. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 12, tot.l. 145, wing 56, wing span 150, tail 75, bill l. 10.5, bill d. 3.7, tarsus 19. Colors: bill, upper jaw [black], lower jaw [gray], iris [light brown], tarsus [olivaceous]. Plumage: primaries slightly worn, tail very worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Sooty-fronted Spinetail is resident in Paraguay. It is common in Alto Chaco, fairly common in Matogrosense and Ñeembucú, and uncommon in Bajo Chaco (del Castillo and Clay 2004). Species identification of individual no. 9 has been verified by DNA barcoding.

VIREONIDAE

Cyclarhis gujanensis (J.F. Gmelin, 1789). Rufous-browed Peppershrike (Fig. 10F)

1. ssp. *?ochrocephala*. Unsexed, ad. NRM 937247, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 29, tot.l. 150, wing 80, tail 70, bill l. 16, bill d. 8.6, tarsus 21. Colors: bill flesh color, iris spectrum orange, tarsus light neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *viridis*. Female, ad. NRM 947284. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 32, tot.l. 149, wing 74, wing span 230, tail 63, bill l. 16, bill d. 10.5, tarsus 25. Colors: bill, upper jaw lavender, iris orange yellow, tarsus lavender. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. ssp. *viridis*. Female, ad. NRM 947288. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 29.5, tot.l. 145, wing 77, wing span 230, tail 63, bill l. 15, bill d. 9.5, tarsus 21. Colors: bill

olive-brown, iris orange yellow, tarsus medium neutral gray. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. ssp. *viridis*. Unsexed, ad. NRM 947289. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 29, tot.l. 150, wing 79, wing span 240, tail 64, bill l. 15, bill d. 9.0, tarsus 23. Colors: bill olive-brown, iris orange yellow, tarsus medium neutral gray. Remarks: incubation patch present. Prep.: alcohol specimen (NRM).

5. ssp. indet. Male, age undetermined. NRM 956604, MNHNP uncat. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 28.5, tot.l. 166, wing 79, wing span 210, tail 70, bill l. 18, bill d. 8.0, tarsus 24. Colors: bill, upper jaw fuscous, lower jaw cinnamon-drab, iris Pratt's ruby, tarsus medium neutral gray. Plumage: moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. ssp. *viridis*. Male, ad. NRM 966964, MNHNP 1482. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 30, tot.l. 152, wing 79, wing span 230, tail 62, bill l. 16, bill d. 10, tarsus 22. Colors: bill upper jaw cinnamon-drab, bill lower jaw Pratt's Payne's gray, iris orange yellow, tarsus light neutral gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

7. ssp. *ochrocephala*(?). Male, ad. NRM 986702. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 33, tot.l. 156, wing 77, wing span 231, tail 64, bill l. 14, bill d. 9, tarsus 23. Colors: bill, upper jaw sepia, lower jaw beige, iris flame scarlet, tarsus light neutral gray. Plumage: moulting. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. ssp. indet. Male, ad. NRM 986778, MNHNP 1678. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 29.5, tot.l. 165, wing 81, wing span 230, tail 70, bill l. 17.5, bill d. 9.5, tarsus 24. Colors: bill medium neutral gray, lower jaw pale neutral gray, iris Pratt's rufous, tarsus light neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

9. ssp. *viridis*. Male, ad. NRM 996694. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 24, tot.l. 160, wing 83, wing span 250, tail 68, bill l. 17, bill d. 9.6, tarsus 24.5. Colors: bill, upper jaw [light beige], lower jaw [tip light beige], iris [orange]. Plumage: primaries slightly worn, tail very worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

10. ssp. indet. Unsexed, ad. NRM 996704. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 30, tot.l. 160, wing 81, wing span 245, tail 70, bill l. 17.4, bill d. 10, tarsus 23. Colors: bill [bluish gray], iris [orange], tarsus [bluish gray]. Plumage: primaries slightly worn, tail moderately worn. Fat score 3. Prep.: alcohol specimen (NRM).

Remarks: The Rufous-browed Peppershrike is resident in Paraguay. It is common in Alto Chaco and Central Paraguay, and fairly common in Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). The species is supposed to be sedentary in Paraguay (Brewer *et al.* 2020) but the individuals with fat score 4 collected in April and October may indicate that there are some seasonal movements in the region.

***Vireo olivaceus* (Linnaeus, 1766). Red-eyed Vireo**

1. Male, ad. NRM 937369, MNHNP 998. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 12.5, tot.l. 125, wing 68, tail 48, bill l. 12, bill d. 4.0, tarsus 18. Colors: bill, upper jaw blackish

neutral gray, lower jaw pearl gray, iris grayish horn color, tarsus medium plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937378. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Meas.: wt 12.6, tot.l. 122, wing 70, tail 49, bill l. 12.5, bill d. 4.0, tarsus 17. Colors: bill, upper jaw dusky brown, lower jaw pale neutral gray, iris fuscous, tarsus medium neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947276. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 20, tot.l. 140, wing 74, wing span 225, tail 55, bill l. 12, bill d. 5.0, tarsus 18. Colors: bill, upper jaw dark brownish olive, lower jaw mauve, tarsus medium neutral gray. Plumage: moulting all over. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 947277. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 17.5, tot.l. 132, wing 68, wing span 215, tail 50, bill l. 11.5, bill d. 5.0, tarsus 18. Colors: bill, upper jaw dark brownish olive, lower jaw mauve, tarsus medium neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 956618, MNHNP 1064. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 12 March 1995. Meas.: wt 15, tot.l. 140, wing 68, wing span 185, tail 52, bill l. 13.5, bill d. 4.4, tarsus 17.5. Colors: bill, upper jaw dark grayish brown, lower jaw Pratt's Payne's gray, iris chestnut, tarsus Pratt's Payne's gray. Plumage: worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. Female, juv. NRM 956669. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 12, tot.l. 125, wing 65, wing span 200, tail 46, bill l. 12, bill d. 4.0, tarsus 18.5. Colors: bill, upper jaw dark neutral gray, lower jaw medium neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Female, age undetermined. NRM 956671, MNHNP 1967. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

8. Female, ad. NRM 956735. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 14.5, tot.l. 130, wing 66, wing span 208, tail 51, bill l. 12.5, bill d. 4.3, tarsus 18. Plumage: primaries worn. Prep.: alcohol specimen (NRM).

9. Male, ad. NRM 966784, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 16.0, tot.l. 130, wing 69, wing span 205, tail 51, bill l. 12.5, bill d. 4.4, tarsus 17. Colors: bill upper jaw blackish neutral gray, bill lower jaw Pratt's Payne's gray, iris burnt sienna, tarsus medium neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 6. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

10. Male, ad. NRM 966801. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 15.0, tot.l. 125, wing 67, wing span 205, tail 50, bill l. 12.5, bill d. 4.0, tarsus 17. Colors: bill upper jaw blackish neutral gray, bill lower jaw Pratt's Payne's gray, iris burnt sienna, tarsus medium neutral gray. Plumage: primaries fresh, tail fresh. Fat score 6. Prep.: skel. (NRM), blood or tissue sample (NRM).

11. Male, ad. NRM 966915. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 13.0, tot.l. 130, wing 68, wing span 190, tail 51, bill l. 11.5, bill d. 3.8, tarsus 18. Plumage: primaries fresh, tail fresh. Fat score 4. Prep.: skel. (NRM).

12. Unsexed, ad. NRM 966994. P.N. San Lu s, Dpto Concepci n, 2 Nov. 1996. Meas.: wt 11.5, tot.l. 129, wing 70, wing span 200, tail 48, bill l. 12, bill d. 4.0, tarsus 17.5. Colors: bill upper jaw olive-brown, bill lower jaw light neutral gray, tarsus medium neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: alcohol specimen (NRM).

13. Female, ad. NRM 976726, MNHNP uncat. San Antonio, Dpto Concepci n, 20 Nov. 1997. Meas.: wt 13.5, tot.l. 141, wing 68, wing span 205, tail 62, bill l. 12.5, bill d. 4.5, tarsus 24. Colors: iris cinnamon-brown. Plumage: primaries fresh, tail slightly worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

14. Female, ad. NRM 976766. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 13, tot.l. 117, wing 66, wing span 208, tail 48, bill l. 13, bill d. 4, tarsus 17. Colors: bill, upper jaw glaucous (no.79), lower jaw pale neutral gray, tarsus light neutral gray. Plumage: primaries slightly worn, tail slightly worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

15. Male, ad. NRM 976795. P.N. Tte Enciso, Dpto Boquer n, 5 Dec. 1997. Meas.: wt 13, tot.l. 123, wing 65, wing span 195, tail 46, bill l. 11, bill d. 4.5, tarsus 18. Colors: bill, upper jaw sepia (no.119), lower jaw Pratt's Payne's gray, iris dark drab, tarsus plumbeous. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

16. Female, ad. NRM 996705. Cerro Le n, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 13, tot.l. 130, wing 66, wing span 200, tail 49, bill l. 11.7, bill d. 3.8, tarsus 18. Plumage: primaries fresh, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: Many Red-eyed Vireos in Paraguay are wintering individuals breeding further north, but it also breeds in the Oriente. It is common in Campos Cerrados and uncommon in Alto Chaco and Central Paraguay (del Castillo and Clay 2004). Most individuals with fat scores had considerable amounts of fat deposited indicating they are in migration.

CORVIDAE

Cyanocorax cyanomelas (Vieillot, 1818). Purplish Jay

1. Male, ad. NRM 937196. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 200, tot.l. 360, wing 192, tail 170, bill l. 32, bill d. 14, tarsus 50. Colors: bill jet black, iris fuscous, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 967082. P.N. Cerro Cor , Dpto Amambay, 8 Nov. 1996. Meas.: wt 188, tot.l. 375, wing 195, wing span 530, tail 165, bill l. 32, bill d. 15, tarsus 53. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 967118. P.N. Cerro Cor , Dpto Amambay, 11 Nov. 1996. Meas.: wt 165, tot.l. 340, wing 170, wing span 500, tail 155, bill l. 32, bill d. 18, tarsus 45. Colors: bill jet black, tarsus jet black. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 976647. P.N. Cerro Cor , Dpto Amambay, 13 Nov. 1997. Meas.: wt 220, tot.l. 385, wing 191, wing span 580, tail 161, bill l. 33, bill d. 16, tarsus 39. Colors: bill jet black, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Prep.: alcohol specimen (NRM).

5. Male, ad. NRM 976650, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 190, tot.l. 330, wing 170, wing span 540, tail 149, bill l. 35, bill d. 18, tarsus 43. Colors: bill jet black, tarsus jet black. Plumage: wing moulting, primaries moderately worn, tail very worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Female, ad. NRM 976652. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 173, tot.l. 345, wing 175, wing span 530, tail 152, bill l. 32, bill d. 15, tarsus 44. Colors: bill jet black, tarsus jet black. Plumage: wing moulting, primaries very worn, tail very worn. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Purplish Jay is resident in Paraguay. It is common in Bajo Chaco and Campos Cerrados (del Castillo and Clay 2004).

***Cyanocorax chrysops* (Vieillot, 1818). Plush-crested Jay (Fig. 6C)**

1. Female, ad. NRM 937295, MNHNP 982. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 145, tot.l. 338, wing 150, tail 155, bill l. 27, bill d. 12.5, tarsus 44. Colors: bill dusky brown, iris orange yellow, tarsus dusky brown. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937340. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 8 Oct. 1993. Meas.: wt 159, tot.l. 315, wing 153, tail 162, bill l. 28, bill d. 12.5, tarsus 48. Colors: bill jet black, iris spectrum yellow, tarsus sepia (no. 219). Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Unsexed, juv. NRM 956615, MNHNP uncat. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 12 March 1995. Meas.: wt 145, tot.l. 330, tail 162, bill l. 31, bill d. 12.5, tarsus 45. Colors: bill jet black, iris spectrum yellow, tarsus jet black. Plumage: body, wing and tail growing. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Male, age undetermined. NRM 956624. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 165, tot.l. 358, tail 166, bill l. 28, bill d. 14, tarsus 46. Colors: bill jet black, iris spectrum yellow, tarsus jet black. Remarks: metal ring around left tarsus. Plumage: tail growing. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 956625. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 156, tot.l. 335, wing 154, tail 160, bill l. 27.5, bill d. 11.5, tarsus 46. Colors: bill jet black, iris spectrum yellow, tarsus jet black. Plumage: body moult, some tail feathers very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Female, age undetermined. NRM 956690, MNHNP uncat. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 124, tot.l. 326, wing 146, wing span 440, tail 155, bill l. 29, bill d. 12, tarsus 42. Colors: bill jet black, iris spectrum yellow, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Male, ad. NRM 966845. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 130, tot.l. 340, wing 150, wing span 450, tail 157, bill l. 27.5, bill d. 12, tarsus 44. Colors: bill jet black, iris cream color, tarsus jet black. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: alcohol specimen (NRM).

8. Unsexed, ad. NRM 967114. P.N. Cerro Corá, Dpto Amambay, 10 Nov. 1996. Meas.: wt 175, tot.l. 330, wing 155, wing span 450, tail 155, bill l. 30, bill d. 15, tarsus 40. Colors: bill jet black, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (NRM).

9. Unsexed, ad. NRM 967121. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 142, tot.l. 344, wing 145, wing span 435, tail 152, bill l. 27, bill d. 14, tarsus 45. Colors: bill jet black, iris cream color, tarsus jet black. Plumage: primaries moderately worn, tail heavy. Prep.: alcohol specimen (NRM).

10. Unsexed, ad. NRM 976644, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 148, tot.l. 350, wing 150, wing span 480, tail 158, bill l. 29, bill d. 13, tarsus 47. Colors: bill jet black, iris spectrum yellow, tarsus jet black. Plumage: wing moulting, primaries moderately worn, tail very worn. Fat score 1. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Plush-crested Jay is resident in Paraguay. It is uncommon in Alto Chaco, but common in Campos Cerrados and Central Paraguay (del Castillo and Clay 2004).

MOTACILLIDAE

Anthus furcatus d'Orbigny & Lafresnaye, 1837. Short-billed Pipit

1. Male, ad. NRM 986793, MNHNP 1680. Est. Santa Ana, Dpto Misiones, 14 Nov. 1998. Meas.: wt 17.8, tot.l. 150, wing 74, wing span 240, tail 53, bill l. 13.5, bill d. 4.9, tarsus 23.5. Plumage: primaries moderately worn, tail very worn. Prep.: study skin (MNHNP), partial skel. (NRM), blood or tissue sample (NRM).

Remarks: The Short-billed Pipit is resident in Paraguay. It is scarce in Ñeembucú (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding. This may be the first vouchered observation from Paraguay.

Anthus lutescens Pucheran, 1855. Yellowish Pipit

1. Male, ad. NRM 966857, MNHNP 1439. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 14.0, tot.l. 125, wing 65, wing span 200, tail 47, bill l. 12.5, bill d. 3.5, tarsus 17.5. Colors: bill dusky brown, tarsus buff (no. 24). Plumage: primaries fresh, tail moderately worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Yellowish Pipit is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

FRINGILLIDAE

Chlorophonia cyanea (Thunberg, 1822). Blue-naped Chlorophonia

1. Female, ad. NRM 937305. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 15, tot.l. 118, wing 59, tail 37, bill l. 8.5, bill d. 4.0, tarsus 15. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, tarsus medium plumbeous. Prep.: study skin (NRM)

Remarks: The Blue-naped Chlorophonia is resident in Paraguay. It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Euphonia chlorotica* (Linnaeus, 1766). Purple-throated Euphonia**

1. Male, ad. NRM 937188, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 10, tot.l. 95, wing 58, tail 33, bill l. 7.0, bill d. 4.0, tarsus 13. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947292. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 9.6, tot.l. 100, wing 56, wing span 165, tail 34, bill l. 6.5, bill d. 4.5, tarsus 13. Colors: bill, upper jaw indigo blue, lower jaw lavender, tarsus plumbeous. Remarks: incubation patch present. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 956750. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 12.5, tot.l. 101, wing 58, wing span 174, tail 34, bill l. 8.0, bill d. 5.0, tarsus 13. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, tarsus blackish neutral gray. Plumage: moult in body and wing coverts. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 956751. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: wt 11, tot.l. 101, wing 58, wing span 175, tail 34, bill l. 8.0, bill d. 5.0, tarsus 13. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 976687, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 16 Nov. 1997. Meas.: wt 10.5, tot.l. 111, wing 55, wing span 190, tail 34, bill l. 8, bill d. 4, tarsus 14. Colors: bill jet black, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM). Remarks: in pair with NRM 976688.

6. Female, ad. NRM 976688, MNHNP 1664. P.N. Cerro Corá, Dpto Amambay, 16 Nov. 1997. Meas.: wt 13, tot.l. 115, wing 61, wing span 190, tail 35, bill l. 8.5, bill d. 5, tarsus 14. Colors: bill, upper jaw jet black, lower jaw medium neutral gray, tarsus plumbeous. Plumage: primaries moderately worn, tail moderately worn. Fat score 1. Prep.: skel. (MNHNP), blood or tissue sample (NRM). Remarks: in pair with NRM 976687.

Remarks: The Purple-throated Euphonia is resident in Paraguay. It is uncommon in Bajo Chaco and fairly common in Campos Cerrados, but scarce in Alto Chaco (del Castillo and Clay 2004).

***Euphonia violacea* (Linnaeus, 1758). Violaceous Euphonia**

1. Male, ad. NRM 966943, MNHNP 1478. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: tot.l. 111, wing 62, tail 38, bill l. 11, bill d. 6.0, tarsus 12. Colors: bill upper jaw jet black, bill lower jaw Pratt's Payne's gray, iris jet black, tarsus plumbeous. Plumage: primaries fresh, tail fresh. Fat score 5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Violaceous Euphonia is resident in Paraguay. It is fairly common in Central Paraguay (del Castillo and Clay 2004). The species is typically resident but may undertake seasonal movements in search for fruits (Hilty 2020a). The individual collected had fat score 5, which suggests it is undertaking movements, possibly in search for food resources (Paul Smith perss. comm.), although not a proper migration.

***Euphonia cyanocephala* (Vieillot, 1819). Golden-rumped Euphonia**

1. Male (plum.), ad. NRM 976696, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 17 Nov. 1997. Meas.: wt 15, tot.l. 115, wing 64, wing span 200, tail 38, bill l. 7.5, bill d. 6.5, tarsus 14. Colors: bill tip jet black base Pratt's Payne's gray, iris natal brown, tarsus dark neutral gray. Plumage: wing and tail moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: There are only a dozen records of the Golden-rumped Euphonia from Paraguay, and only one from the period between November to January (Areta and Bodrati 2010). The species is not previously recorded from Campos Cerrados (del Castillo and Clay 2004). The vast majority of individuals observed in Paraguay breed in southeastern Brazil and spend the austral autumn-winter here.

***Spinus magellanicus* (Vieillot, 1805). Hooded Siskin**

1. Female, ad. NRM 947140, MNHNP 1038. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 10.5, tot.l. 112, wing 65, wing span 196, tail 39, bill l. 10, bill d. 6.5, tarsus 13. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947161. Est. Doña Júlia, Dpto Alto Paraguay, 17 Sept. 1994. Meas.: wt 10.5, tot.l. 116, wing 69, wing span 210, tail 42, bill l. 10.5, bill d. 7.0, tarsus 12. Colors: bill blackish neutral gray, iris chestnut, eye-ring greenish olive, tarsus dusky brown. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 966995, MNHNP 2063. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 12.0, tot.l. 105, wing 65, wing span 200, tail 39, bill l. 11, bill d. 7.0, tarsus 15. Colors: bill medium neutral gray, tarsus dark neutral gray. Plumage: primaries moderately worn, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 967073. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 10.5, tot.l. 110, wing 67, wing span 200, tail 40, bill l. 10, bill d. 7.0, tarsus 13. Colors: bill upper jaw sepia (no. 219), bill lower jaw light neutral gray, iris sepia (no. 219), tarsus sepia (no. 119). Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male (plum.), ad. NRM 967074. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 11.0, tot.l. 105, wing 68, wing span 205, tail 39, bill l. 10. Colors: bill upper jaw sepia (no. 219), bill lower jaw light neutral gray, iris sepia (no. 219), tarsus sepia (no. 219). Prep.: alcohol specimen (NRM).

6. Unsexed, ad. NRM 986735. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 13, tot.l. 105, wing 68, wing span 200, tail 42, bill l. 9.5, bill d. 6.5, tarsus 14. Plumage: body moulting, primaries slightly worn, tail slightly worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Unsexed. NRM 986806. Est. Santa Ana, Dpto Misiones, 17 April 1998. Prep.: blood or tissue sample (NRM).

8. Unsexed. NRM 986807. Est. Santa Ana, Dpto Misiones, 17 April 1998. Prep.: blood or tissue sample (NRM).

Remarks: The Hooded Siskin is resident in Paraguay. It is uncommon in Matogrosense and fairly common in Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). The fat score 4 observed in an individual collected in April is matched in two other birds with fat scores 4 and 5

ringed a few days later at the same locality. These fat scores suggests the Hooded Siskin is in migration in Ñeembucú in April.

PASSERELLIDAE

Ammodramus humeralis (Bosc, 1792). Grassland Sparrow

1. Male, ad. NRM 966958. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 18.0, tot.l. 131, wing 61, wing span 202, tail 49, bill l. 12, bill d. 6.5, tarsus 18. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 966963. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 17.0, tot.l. 120, wing 59, wing span 190, tail 45, bill l. 12.5, bill d. 6.5, tarsus 18.5. Colors: bill upper jaw dark neutral gray, bill lower jaw pale neutral gray, iris raw umber, tarsus light russet vinaceous. Plumage: primaries slightly worn, tail heavy. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Unsexed, ad. NRM 966971. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 18.5, tot.l. 122, wing 60, wing span 195, tail 45, bill l. 12, bill d. 7.0, tarsus 18. Plumage: primaries moderately worn, tail heavy. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 966973, MNHNP uncat. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 15.5, tot.l. 122, wing 58, wing span 195, tail 45, bill l. 12, bill d. 6.0, tarsus 18. Colors: bill upper jaw sepia (no. 219), bill lower jaw light russet vinaceous, tarsus cinnamon-drab. Plumage: primaries slightly worn, tail heavy. Fat score 1. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
5. Female, ad. NRM 966992, MNHNP 2079. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 20.5, tot.l. 122, wing 57, wing span 190, tail 45, bill l. 11, bill d. 7.0, tarsus 18. Colors: bill upper jaw natal brown, bill lower jaw light neutral gray, tarsus beige. Plumage: primaries moderately worn, tail heavy. Fat score 4. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
6. Male, ad. NRM 966999, MNHNP 1474. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 17.5, tot.l. 118, wing 57, wing span 193, tail 39, bill l. 12.5, bill d. 6.0, tarsus 18.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw light neutral gray, tarsus beige. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
7. Female, ad. NRM 976651, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 13 Nov. 1997. Meas.: wt 19, tot.l. 120, wing 57, wing span 193, tail 44, bill l. 12, tarsus 18. Colors: bill, upper jaw sepia, lower jaw beige, tarsus beige. Plumage: primaries fresh, tail very worn. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
8. Male, ad. NRM 976701. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 18.5, tot.l. 126, wing 57, wing span 195, tail 45, bill l. 12, bill d. 7, tarsus 18. Colors: bill blackish neutral gray, iris mars brown, tarsus flesh color. Plumage: primaries slightly worn, tail moderately worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).
9. Female, ad. NRM 976702. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 17.5, tot.l. 121, wing 57, wing span 185, tail 42, bill l. 11.5, bill d. 6.5, tarsus 18. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).
10. Male, ad. NRM 976725. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 15.5, tot.l. 116, wing 61, wing span 195, tail 44, bill l. 12, bill d. 7.5, tarsus 20. Colors: bill, upper jaw blackish

neutral gray (ventral part pale neutral gray), lower jaw pale neutral gray, tarsus cinnamon-drab. Plumage: primaries moderately worn, tail very worn. Fat score 6. Prep.: skel. (NRM), blood or tissue sample (NRM).

11. Female, ad. NRM 986710. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 14.2, tot.l. 115, wing 53, wing span 173, tail 38, bill l. 10.5, bill d. 6, tarsus 17. Colors: bill, upper jaw fuscous, lower jaw pale pinkish buff, iris raw umber, tarsus beige. Plumage: wing and tail moulting, primaries fresh, tail very worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Grassland Sparrow is resident in Paraguay. It is common in Campos Cerrados and Ñeembucú (del Castillo and Clay 2004). The population in Paraguay is supposed to be resident while that in central Argentina possibly undertakes some short-distance migrations (Jaramillo 2020a). Many of the individuals collected in PROVEPA have medium (3-4) to high (5) fat scores indicating that some of them may be in migration.

***Arremon flavirostris* Swainson, 1838. Saffron-billed Sparrow**

1. Male, ad. NRM 947283, MNHNP uncat. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 25, tot.l. 150, wing 72, wing span 210, tail 65, bill l. 14, bill d. 8.5, tarsus 24. Colors: bill, upper jaw indigo blue, lower jaw orange yellow, iris sepia (no. 219), tarsus lilac. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966947. P.N. Ybucuí, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 25.5, tot.l. 165, wing 77, wing span 225, tail 74, bill l. 18, bill d. 8.0, tarsus 23. Colors: bill upper jaw blackish neutral gray, bill lower jaw orange yellow, tarsus beige. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 967005. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 25.0, tot.l. 155, wing 77, wing span 215, tail 66, bill l. 13, bill d. 7.0, tarsus 24. Colors: bill upper jaw jet black, bill lower jaw spectrum orange, iris burnt umber, tarsus lavender. Plumage: primaries moderately worn, tail moderately worn. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 967015. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 26.0, tot.l. 165, wing 72, wing span 230, tail 67, bill l. 15, bill d. 7.5, tarsus 24. Colors: bill upper jaw blackish neutral gray, bill lower jaw orange yellow, iris chestnut, tarsus deep vinaceous. Plumage: primaries fresh, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 967023, MNHNP 2096. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 25.0, tot.l. 175, wing 79, wing span 250, tail 73, bill l. 15, bill d. 8.0, tarsus 22. Plumage: primaries slightly worn, tail heavy. Fat score 0. Prep.: alcohol specimen (MNHNP).

6. Male, ad. NRM 976698, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 26, tot.l. 170, wing 80, wing span 245, tail 65, bill l. 15, bill d. 8, tarsus 24. Colors: bill, upper jaw jet black, lower jaw spectrum orange, iris burnt umber, tarsus non of above. Plumage: primaries moderately worn, tail moderately worn. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Female, ad. NRM 976729. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 26.5, tot.l. 153, wing 71, wing span 230, tail 66, bill l. 14.5, bill d. 8, tarsus 23.5. Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 986801, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 16 Nov. 1998. Meas.: wt 31, tot.l. 171, wing 84, tail 75, bill l. 15.5, bill d. 9.1, tarsus 26.5. Colors: bill blackish neutral gray, lower jaw spectrum orange, iris russet, tarsus glaucous (no. 80). Plumage: tail moulting, primaries slightly worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

9. Unsexed, ad. NRM 986723, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 27.5, tot.l. 155, wing 80, wing span 135, tail 75, bill l. 14, bill d. 8, tarsus 22. Colors: bill, upper jaw sepia, lower jaw orange yellow, iris warm sepia, tarsus medium plumbeous. Plumage: primaries fresh, tail fresh. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Saffron-billed Sparrow is resident in Paraguay. It is uncommon in Campos Cerrados, Central Paraguay and Ñembucú (del Castillo and Clay 2004). One individual ringed by PROVEPA at Est. Santa Ana, Dpto Misiones, on 11 April 1998 was trapped at the same locality by a team from University of Kansas on 20 October 1999.

Zonotrichia capensis (Statius Muller, 1776). Rufous-collared Sparrow

1. Male, ad. NRM 937193, MNHNP 2024. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 19, tot.l. 140, wing 65, tail 60, bill l. 11, bill d. 6.4, tarsus 20. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937194. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 18.5, tot.l. 135, wing 66, tail 58, bill l. 11.5, bill d. 6.3, tarsus 20. Prep.: skel. (NRM)

3. Female, ad. NRM 937195. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 18, tot.l. 128, wing 63, tail 53, bill l. 11, bill d. 6.1, tarsus 19.5. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed. NRM 937203. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 20, tot.l. 124, wing 63, tail 54, bill l. 11, bill d. 6.0, tarsus 19. Colors: iris cinnamon-rufous. Prep.: blood sample (NRM). Released.

5. Unsexed, ad. NRM 937205. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 15, tot.l. 130, wing 66, tail 53, bill l. 11, bill d. 6.5, tarsus 21. Colors: iris antique brown. Released.

6. Unsexed. NRM 937240. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: tot.l. 140, wing 69, tail 59, bill l. 11.5, tarsus 21. Colors: iris warm sepia. Released.

7. Unsexed, ad. NRM 947053. Est. Doña Júlía, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 18, tot.l. 141, wing 76, wing span 200, tail 57, bill l. 11, bill d. 7.0, tarsus 19.5. Colors: bill glaucous (no. 79), iris chestnut, tarsus smoke gray (no. 45). Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Female, ad. NRM 966806, MNHNP 2020. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 20.0, tot.l. 140, wing 68, wing span 205, tail 57, bill l. 11.5, bill d. 6.4, tarsus 20. Colors: bill glaucous (no. 79), iris chestnut, tarsus cinnamon (no. 39). Plumage: primaries fresh, tail heavy. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

9. Male, ad. NRM 986740. Est. Santa Ana, Dpto Misiones, 14 April 1998. Meas.: wt 21.5, tot.l. 135, wing 67, wing span 205, tail 60, bill l. 12, bill d. 6.5, tarsus 20. Plumage: body moulting,

primaries fresh, tail moderately worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Rufous-collared Sparrow is resident in Paraguay. It is uncommon in Alto Chaco, and common in Matogrosense, Bajo Chaco, Central Paraguay and Ñeembucú (del Castillo and Clay 2004).

PARULIDAE

Geothlypis aequinoctialis (J.F. Gmelin, 1789). Masked Yellowthroat

1. Female, ad. NRM 937229. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 11, tot.l. 125, wing 57, tail 51, bill l. 11, bill d. 4.0, tarsus 21. Colors: bill jet black, tarsus army brown. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937245, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 12, tot.l. 121, wing 60, tail 54, bill l. 12, bill d. 4.0, tarsus 21. Colors: iris Vandyke brown (no. 221). Prep.: skel. (MNHNP).

3. Male (plum.), ad. NRM 937262. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 10, tot.l. 110, wing 58, tail 48, bill l. 9.0, bill d. 4.5, tarsus 19. Colors: iris raw umber. Prep.: blood sample (NRM). Released.

4. Female (plum.), ad. NRM 937263. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 11.5, tot.l. 128, wing 55, tail 49, bill l. 11, bill d. 4.0, tarsus 21. Colors: iris raw umber. Prep.: blood sample (NRM). Released.

5. Female (plum.), ad. NRM 937322. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 12, tot.l. 110, wing 57, tail 50, bill l. 11, bill d. 3.6, tarsus 20. Colors: iris sepia (no. 219). Released.

6. Female, ad. NRM 937338, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 9.3, tot.l. 108, wing 55, bill l. 10.5, bill d. 3.5, tarsus 20.5. Colors: bill, upper jaw Vandyke brown (no. 221), iris cinnamon-brown, tarsus fawn color. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Female, juv. NRM 956574. Est. Nueva Gambach, Dpto Itapúa, 7 March 1995. Meas.: wt 11.5, tot.l. 125, wing 57, wing span 165, tail 52, bill l. 10, bill d. 3.5, tarsus 20. Colors: bill dusky brown, iris burnt umber, tarsus fawn color. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Masked Yellowthroat is resident in Paraguay. It is fairly common in Central Paraguay (del Castillo and Clay 2004).

Setophaga pitiayumi (Vieillot, 1817). Tropical Parula

1. Unsexed, ad. NRM 947170, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 7.9, tot.l. 124, wing 52, wing span 162, tail 41, bill l. 10, bill d. 3.2, tarsus 11. Colors: bill, upper jaw blackish neutral gray, lower jaw straw yellow, iris burnt sienna, tarsus olive-brown. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Tropical Parula is resident in Paraguay. It is fairly common in Matogrosense (del Castillo and Clay 2004).

***Myiothlypis flaveola* S.F. Baird, 1865. Flavescent Warbler**

1. Male, ad. NRM 967022. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 13.5, tot.l. 131, wing 64, wing span 200, tail 61, bill l. 12, bill d. 4.0, tarsus 22.5. Colors: bill dusky brown, tarsus 118. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 967046, MNHNP 1483. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 12.5, tot.l. 138, wing 61, wing span 190, tail 60, bill l. 12, bill d. 4.0, tarsus 21. Colors: bill dusky brown, iris burnt umber, tarsus flesh color. Plumage: primaries heavy, tail heavy. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 967145. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 13.5, tot.l. 140, wing 65, wing span 205, tail 67, bill l. 11, bill d. 4.0, tarsus 21. Colors: bill dusky brown, iris cinnamon-brown, tarsus cinnamon (no. 123A). Plumage: primaries fresh, tail moderately worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976699, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 18, tot.l. 150, wing 63, wing span 200, tail 62, bill l. 12.5, bill d. 4, tarsus 23. Colors: bill sepia (no.119), iris mars brown, tarsus trogon yellow. Plumage: primaries fresh, tail moderately worn. Fat score 4. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Flavescent Warbler is resident in Paraguay. It is common in Campos Cerrados (del Castillo and Clay 2004).

***Myiothlypis leucoblephara* (Vieillot, 1817). White-browed Warbler**

1. Male, ad. NRM 937237. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 15, tot.l. 142, wing 67, tail 58, bill l. 13, bill d. 3.8, tarsus 23. Colors: bill dark neutral gray, iris Vandyke brown (no.121), tarsus yellow ocher. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937320, MNHNP 1021. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 14.5, tot.l. 131, wing 63, tail 55, bill l. 11, bill d. 3.5, tarsus 23. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 937335. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 15, tot.l. 145, wing 63, tail 57, bill l. 11, bill d. 3.6, tarsus 24. Colors: bill blackish neutral gray, tarsus chamois. Prep.: skel. (NRM)

4. Female, age undetermined. NRM 936596. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 15, tot.l. 130, wing 62, wing span 170, tail 58, bill l. 11, bill d. 4.5, tarsus 23.5. Colors: bill jet black, iris raw umber (no. 223), tarsus clay color. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Male, age undetermined. NRM 956609, MNHNP uncat. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 14.5, tot.l. 138. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 986751. Est. Santa Ana, Dpto Misiones, 5 Nov. 1998. Meas.: wt 16.2, tot.l. 136, wing 64, wing span 195, tail 58, bill l. 12, bill d. 3.8, tarsus 23. Plumage: tail moulting 1-6 from right, primaries moderately worn, tail moderately worn. Prep.: alcohol specimen (NRM).

Remarks: The White-browed Warbler is resident in Paraguay. It is fairly common in Central Paraguay and Ñeembucú (del Castillo and Clay 2004). Two individual ringed by PROVEPA at Est. Santa Ana, Dpto Misiones, in early April 1998 were trapped at the same locality by a team from University of Kansas on 20-21 October 1999 (Kristof Zyskowski pers. comm.).

***Basileuterus hypoleucus* Bonaparte, 1850. White-bellied Warbler**

1. Male, ad. NRM 937254. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 9.5, wing 58, tail 55. Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 937273. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 9.0, tot.l. 117, wing 60, tail 54, bill l. 9.5, bill d. 3.8, tarsus 18.5. Colors: bill hair brown, iris sepia (no. 219), tarsus mikado brown. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 937279, MNHNP 1002. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 9.5, tot.l. 125, wing 55, tail 50, bill l. 11, bill d. 4.0, tarsus 19. Colors: bill dark grayish brown, iris mars brown, tarsus yellow ocher. Prep.: study skin (MNHNP).
4. Male, ad. NRM 937292. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 10, tot.l. 120, wing 59, tail 56, bill l. 10.0, bill d. 3.6, tarsus 19. Colors: bill hair brown, tarsus raw umber (no. 123). Prep.: skel. (NRM)
5. Unsexed, age undetermined. NRM 956606. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 7.9, wing 57, bill l. 9.5, bill d. 3.5. Prep.: NRM), blood or tissue sample (NRM).
6. Unsexed, age undetermined. juv. NRM 956648, MNHNP 1994. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 9.0, tot.l. 130, wing 55, wing span 160, tail 59, bill l. 10.5, bill d. 3.4, tarsus 17. Colors: bill dusky brown, iris burnt umber, tarsus buff. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Female, ad. NRM 967037, MNHNP 1481. P.N. San Luís, Dpto Concepción, 4 Nov. 1996. Meas.: wt 10.0, wing 57, wing span 170, bill l. 12, bill d. 4.0. Colors: bill upper jaw natal brown, bill lower jaw beige, tarsus light drab. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
8. Male, ad. NRM 986728, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 10.5, tot.l. 120, wing 57, wing span 170, tail 57, bill l. 10, bill d. 3.3, tarsus 18.3. Colors: bill dusky brown, tarsus antique brown. Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The White-bellied Warbler is resident in Paraguay. It is abundant in Central Paraguay and uncommon Ñeembucú, but scarce in Campos Cerrados (del Castillo and Clay 2004). The Paraguayan populations of the White-bellied Warbler belong to the *Basileuterus culicivorus* species-complex and is not recognized as a separate species in the Howard & Moore Complete Checklist of the Birds of the World (Dickinson and Remsen 2013, Dickinson and Christidis 2014). Furthermore, the phylogeographic patterns revealed by genetic data are complicated (Vilaça & Santos 2010), and it is unclear how they can be related to the current divisions into subspecies. This is also true for the collected specimens. One individual ringed by PROVEPA at Est. Santa Ana, Dpto Misiones, on 10 April 1998 was trapped at the same locality by a team from University of Kansas on 20 October 1999 (Kristof Zyskowski pers. comm.).

ICTERIDAE

***Leistes superciliaris* (Bonaparte, 1850). White-browed Blackbird**

1. Male, ad. NRM 947221, MNHNP 1034. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 48, tot.l. 185, wing 105, wing span 315, tail 65, bill l. 19, bill d. 12, tarsus 30. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
2. Male, juv. NRM 986767. Est. Santa Ana, Dpto Misiones, 8 Nov. 1998. Meas.: wt 50.5, tot.l. 175, wing 99, wing span 305, tail 55, bill l. 19, bill d. 13, tarsus 30. Colors: bill jet black, lower jaw Pratt's Payne's gray, iris cinnamon-brown, tarsus olive green (no. 48). Plumage: primaries moderately worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 996692. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 44, tot.l. 160, wing 94, wing span 250, tail 50, bill l. 17.3, bill d. 9.4, tarsus 27. Colors: iris [dark brown]. Plumage: primaries fresh, tail very worn. Fat score 6. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 996695. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 29 Oct. 1999. Meas.: wt 31, tot.l. 178, wing 101, wing span 285, tail 67, bill l. 15.7, bill d. 8.6, tarsus 27.5. Colors: bill [dark gray, tip light gray], tarsus [horn]. Plumage: primaries slightly worn, tail very worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-browed Blackbird is resident in Paraguay. It is fairly common in Alto Chaco and Bajo Chaco, and common in Ñeembucú (del Castillo and Clay 2004). It is supposed to be stationary in most parts of its tropical and subtropical distribution, but it may undertake seasonal movements during very dry or cold winters (Fraga 2020a). The two individuals collected in Dpto. Alto Paraguay in October both have much fat deposited suggesting they are in migration. The White-browed Blackbird can be locally abundant in Alto Chaco, especially in the Mennonite areas (Paul Smith pers. comm.).

***Procacicus solitarius* (Vieillot, 1816). Solitary Cacique**

1. Female, ad. NRM 947113, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 65, tot.l. 250, wing 120, wing span 345, tail 113, bill l. 32, bill d. 12, tarsus 31. Colors: bill sulphur yellow, iris brick red, eye-ring dark neutral gray, tarsus blackish neutral gray. Plumage: body moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Male, ad. NRM 966831. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 80, tot.l. 295, wing 130, wing span 400, tail 125, bill l. 34, bill d. 12, tarsus 33. Colors: bill ivory, iris maroon, tarsus dark neutral gray. Plumage: primaries fresh, tail heavy. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 966939. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 57, tot.l. 239, wing 111, wing span 320, tail 108, bill l. 30, bill d. 15.5, tarsus 33. Colors: bill lime green, iris crimson, tarsus dark drab. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Solitary Cacique is resident in Paraguay. It is fairly common in Alto Chaco and is uncommon in Matogrosense (del Castillo and Clay 2004).

***Cacicus chrysopterus* (Vigors, 1825). Golden-winged Cacique**

1. Unsexed. NRM 937183, MNHNP 1993. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 36, tot.l. 225, wing 99, tail 82, bill l. 23, tarsus 26. Colors: bill pale neutral gray, iris pale horn color, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. Male, ad. NRM 937198. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 37, tot.l. 219, wing 104, tail 91, bill l. 23, tarsus 25. Colors: bill Pratt's Payne's gray, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 947246. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 40, tot.l. 218, wing 109, wing span 315, tail 97, bill l. 21, bill d. 8.0, tarsus 24. Colors: bill Pratt's Payne's gray, iris white, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 947247. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 41, tot.l. 197, wing 98, tail 89, bill d. 8.5, tarsus 23. Colors: bill Pratt's Payne's gray, iris white, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Unsexed, ad. NRM 986718. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 38, tot.l. 195, wing 100, wing span 180, tail 88, bill l. 21, bill d. 9, tarsus 25. Colors: bill Pratt's Payne's gray, iris pale horn color, tarsus jet black. Plumage: slight body moulting, primaries fresh, tail fresh. Fat score 1. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 986772. Est. Santa Ana, Dpto Misiones, 10 Nov. 1998. Meas.: wt 45.8, tot.l. 205, wing 103, wing span 300, tail 90, bill l. 21, bill d. 11, tarsus 24. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
7. Male, ad. NRM 986701, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 49, tot.l. 215, wing 107, wing span 322, tail 94, bill l. 19, bill d. 11, tarsus 26. Colors: bill light sky blue, iris [white], tarsus blackish neutral gray. Plumage: body and wing moulting, primaries fresh, tail fresh. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Golden-winged Cacique is resident in Paraguay. It is fairly common in Bajo Chaco and Campos Cerrados, but uncommon in Ñeembucú (del Castillo and Clay 2004).

***Cacicus haemorrhous* (Linnaeus, 1766). Red-rumped Cacique**

1. Male, ad. NRM 956626, MNHNP 1074. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 112, tot.l. 305, wing 178, wing span 482, tail 115, bill l. 37, bill d. 12, tarsus 33. Colors: bill opaline green, iris cobalt blue, tarsus Hooker's green. Plumage: moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
2. Male, ad. NRM 976657. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 84, tot.l. 280, wing 145, wing span 450, tail 102, bill l. 35, bill d. 16, tarsus 30. Colors: bill olive-yellow, iris campanula, tarsus jet black. Plumage: wing moulting, primaries moderately worn, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Male, ad. NRM 976660. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 88, tot.l. 285, wing 146, wing span 450, tail 103, bill l. 35, bill d. 17, tarsus 33. Colors: bill olive-yellow, iris campanula, tarsus jet black. Plumage: primaries fresh-very, tail fresh-very. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Red-rumped Cacique is resident in Paraguay. It is fairly common in Campos Cerrados and is common in Central Paraguay (del Castillo and Clay 2004).

***Icterus croconotus* (Wagler, 1829). Orange-backed Troupial**

1. ssp. *strictifrons*. Male, ad. NRM 947164. Est. Doña Júlia, Dpto Alto Paraguay, 17 Sept. 1994. Meas.: wt 51, tot.l. 255, wing 109, wing span 315, tail 108, bill l. 24.5, bill d. 12.5, tarsus 27.5. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. ssp. *strictifrons*. Female, ad. NRM 966858. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 40, tot.l. 155, wing 86, wing span 270, tail 86, bill l. 23, bill d. 9.0, tarsus 27. Colors: bill jet black, iris orange yellow, tarsus medium plumbeous. Plumage: primaries moderately worn, tail heavy. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: In Paraguay, the Orange-backed Troupial is an uncommon resident in Alto Chaco and rare in Matogrosense (del Castillo and Clay 2004). The individual collected in Dpto Pres. Hayes in October has fat score 5 indicating it is migrating. This fits with the observation of local movements at edge of range in the nearby Argentinian Chaco (Fraga 2020b).

***Icterus pyrrhopterus* (Vieillot, 1819). Variable Oriole**

1. Female, ad. NRM 937218, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 28, tot.l. 190, wing 90, tail 93, bill l. 15.5, bill d. 6.0, tarsus 24.5. Colors: bill jet black, iris brick red, tarsus dark neutral gray. Prep.: skel. (MNHNP), blood or tissue sample collected (NRM).

2. Male, ad. NRM 947049. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 23, tot.l. 205, wing 93, wing span 280, tail 91, bill l. 19, bill d. 7.0, tarsus 22. Colors: bill jet black, iris maroon, eye-ring jet black, tarsus blackish neutral gray. Plumage: tail moulting. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947064. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 28.5, tot.l. 185, wing 89, tail 91, bill l. 19, bill d. 6.0, tarsus 23. Colors: bill blackish neutral gray, iris chestnut, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 947096. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: tot.l. 198, wing 91, wing span 280, tail 92, bill l. 19, bill d. 7.5, tarsus 24. Colors: bill jet black, iris brick red, eye-ring jet black, tarsus dark neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 947185, MNHNP 1995. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 23.5, tot.l. 200, wing 90, wing span 272, tail 92, bill l. 18.5, bill d. 6.0, tarsus 23. Colors: bill blackish neutral gray, tarsus glaucous (no. 79). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 956661, MNHNP 1062. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 27, tot.l. 182, wing 83, tail 89, bill l. 19, bill d. 5.5, tarsus 20. Colors: bill jet black, iris chestnut, tarsus dark neutral gray. Plumage: body and tail moult. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

7. Unsexed, ad. NRM 956662. Est. San José, Dpto Pres. Hayes, 19 March 1995. Meas.: wt 28, tot.l. 200, wing 87, tail 94, bill l. 18, bill d. 6.5, tarsus 20. Colors: bill jet black, iris chestnut, tarsus jet black. Plumage: body and tail moult. Prep.: skel. (NRM), blood or tissue sample (NRM).
8. Male, ad. NRM 967119, MNHNP 2118. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 34, tot.l. 196, wing 95, wing span 290, tail 93, bill l. 20, bill d. 9.0, tarsus 26. Colors: bill blackish neutral gray, tarsus dark neutral gray. Plumage: primaries fresh, tail heavy. Fat score 0. Prep.: alcohol specimen (MNHNP).
9. Female, ad. NRM 967139, MNHNP 2058. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 31, tot.l. 204, wing 83, wing span 260, tail 90, bill l. 17, bill d. 7.5, tarsus 22. Colors: bill jet black, tarsus dark neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
10. Male, ad. NRM 967141. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 33, tot.l. 201, wing 91, wing span 285, tail 94, bill l. 18, bill d. 8.0, tarsus 24. Colors: bill jet black, tarsus dark neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).
11. Unsexed, ad. NRM 996716. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 31 Oct. 1999. Meas.: wt 33, tot.l. 200, wing 87, wing span 260, tail 92, bill l. 18.6, bill d. 5.7, tarsus 23. Colors: bill [black], iris [light brown], tarsus [gray]. Plumage: primaries moderately worn, tail moderately worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM). Remarks: caterpillars in stomach.

Remarks: The Epaulet Oriole is resident in Paraguay. It is common in Matogrosense and Bajo Chaco, and fairly common in Alto Chaco and Campos Cerrados (del Castillo and Clay 2004).

***Molothrus rufoaxillaris* Cassin, 1866. Screaming Cowbird**

1. Male, ad. NRM 967143, MNHNP 1472. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 62, tot.l. 198, wing 114, wing span 352, tail 85, bill l. 17, bill d. 12, tarsus 25. Plumage: primaries moderately worn, tail moderately worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
2. Female, ad. NRM 976663, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 54, tot.l. 200, wing 110, wing span 325, tail 76, bill l. 17, bill d. 11, tarsus 25. Colors: bill jet black, tarsus jet black. Plumage: tail moulting, primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 976664. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 64, tot.l. 215, wing 119, wing span 360, tail 80, bill l. 18, bill d. 10, tarsus 28. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 976730. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 51, tot.l. 195, wing 113, wing span 340, tail 79, bill l. 17, bill d. 10.5, tarsus 26. Plumage: wing moulting, primaries slightly worn, tail moderately worn. Fat score 1. Prep.: gizzard (NRM), blood or tissue sample (NRM).
5. Female, ad. NRM 976731. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 51, tot.l. 186, wing 106, wing span 310, tail 75, bill l. 17.5, bill d. 10.5, tarsus 26. Plumage: primaries

moderately worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Screaming Blackbird is resident in Paraguay. It is fairly common in Campos Cerrados (del Castillo and Clay 2004). Species identification of individual no. 3 has been verified by DNA barcoding.

***Molothrus bonariensis* (J.F. Gmelin, 1789). Shiny Cowbird**

1. Female, ad. NRM 966838, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 30, tot.l. 170, wing 82, wing span 250, tail 64, bill l. 16.5, bill d. 8.0. Colors: bill blackish neutral gray, iris blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 4. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female (plum.), ad. NRM 966839. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 29.0, tot.l. 160, wing 86, wing span 250, tail 62, bill l. 15, bill d. 7.5, tarsus 26. Colors: bill blackish neutral gray, iris blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail heavy. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 976720. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 41, tot.l. 180, wing 100, wing span 310, tail 66, bill l. 17, bill d. 9, tarsus 28. Colors: bill jet black, tarsus jet black. Plumage: primaries moderately worn, tail very worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 976778. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 55, tot.l. 210, wing 115, wing span 340, tail 78, bill l. 19, bill d. 10.5, tarsus 27. Colors: bill jet black, iris drab, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Shiny Blackbird is resident in Paraguay. It is abundant in Alto Chaco and uncommon in Campos Cerrados (del Castillo and Clay 2004). Species identification of individuals nos. 3-4 have been verified by DNA barcoding.

***Amblyramphus holocericeus* (Scopoli, 1786). Scarlet-headed Blackbird**

1. Male, ad. NRM 947223. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 72, tot.l. 251, wing 114, wing span 340, tail 97, bill l. 28, bill d. 12, tarsus 30. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 947228, MNHNP 1049. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 76, tot.l. 251, wing 116, wing span 340, tail 95, bill l. 28, bill d. 10, tarsus 32. Plumage: body moulting. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 966856, MNHNP 2007. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 62, tot.l. 225, wing 108, wing span 320, tail 96, bill l. 29, bill d. 12, tarsus 31. Colors: bill jet black, iris dusky brown, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Scarlet-headed Blackbird is resident in Paraguay. It is uncommon in Bajo Chaco, but scarce in Alto Chaco (del Castillo and Clay 2004).

***Gnorimopsar chopi* (Vieillot, 1819). Chopi Blackbird**

1. ssp. *chopi*. Male, ad. NRM 947019, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 68, tot.l. 220, wing 123, wing span 355, tail 89, bill l. 24, bill d. 11.5, tarsus 29. Colors: bill jet black, tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
2. ssp. *chopi*. Female, ad. NRM 947051. Est. Doña Júlía, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 55, tot.l. 210, wing 111, tail 86, bill l. 22.5, bill d. 10.5, tarsus 30. Colors: bill jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. ssp. *chopi*. Female, ad. NRM 966957. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 65, tot.l. 215, wing 112, wing span 353, tail 80, bill l. 23, bill d. 10, tarsus 30. Colors: bill jet black, iris ground cinnamon, tarsus jet black. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).
4. ssp. *chopi*. Male, ad. NRM 967148. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 74, tot.l. 230, wing 121, wing span 340, tail 89, bill l. 25, bill d. 13, tarsus 30. Colors: bill jet black, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. ssp. *chopi*. Female, ad. NRM 966922. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 59, tot.l. 223, wing 120, span 355, tail 83, bill l. 23, bill d. 12, tarsus 30. Colors: bill jet black, iris burnt umber, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).
6. ssp. *chopi*. Female, ad. NRM 976670, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 81, tot.l. 225, wing 116, wing span 360, tail 85, bill l. 21.5, bill d. 11, tarsus 32. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. ssp. *chopi*. Male, ad. NRM 976680. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 73, tot.l. 235, wing 128, wing span 385, tail 90, bill l. 25, bill d. 12, tarsus 31. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
8. ssp. *chopi*. Female, ad. NRM 976718, MNHNP uncat. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 74, tot.l. 225, wing 116, wing span 350, tail 82, bill l. 23, bill d. 10, tarsus 29. Colors: bill jet black, iris warm sepia, tarsus jet black. Plumage: primaries moderately worn, tail moderately worn. Fat score 5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Chopi Blackbird is resident in Paraguay. It is scarce in Alto Chaco, but abundant in Matogrosense and common in Campos Cerrados (del Castillo and Clay 2004). The small size of these specimens indicates that they belong to the subspecies *G. c. chopi*. It should be noted that the single Argentinian (Formosa, Chaco Austral) specimen in the NRM collection is a much larger individual.

***Agelaioides badius* (Vieillot, 1819). Baywing Blackbird**

1. Unsexed, age undetermined. NRM 956733. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 29 March 1995. Meas.: wt 43, tot.l. 190, wing 87, wing span 275, tail 72, bill l. 14, bill d. 9.0, tarsus 25.5. Plumage: heavy body moult. Prep.: alcohol specimen (MNHNP).

2. Male, ad. NRM 976770. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 40, tot.l. 185, wing 94, wing span 900, tail 74, bill l. 17, bill d. 8, tarsus 25. Colors: bill jet black, iris burnt umber, tarsus blackish neutral gray. Plumage: tail moulting, primaries slightly worn, tail very worn. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 976783, MNHNP 1653. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 36, tot.l. 173, wing 85, wing span 270, tail 73, bill l. 16, bill d. 9, tarsus 25. Colors: bill blackish neutral gray, iris chestnut, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 976784. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 41, tot.l. 188, wing 89, wing span 285, tail 71, bill l. 18, bill d. 9, tarsus 26. Colors: bill blackish neutral gray, iris chestnut, tarsus dark neutral gray. Plumage: body moulting, primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Baywing Blackbird is resident in Paraguay. It is abundant in Alto Chaco (del Castillo and Clay 2004). Species identification of individual no. 2 has been verified by DNA barcoding.

***Agelasticus cyanopus* (Vieillot, 1819). Unicolored Blackbird**

1. Male, ad. NRM 966916, MNHNP 1465. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 42, tot.l. 195, wing 90, wing span 270, tail 83, bill l. 23, bill d. 8.0, tarsus 25.5. Colors: bill jet black, iris [dark brown], tarsus jet black. Plumage: slight wing moult, primaries fresh, tail moderately worn. Fat score 6. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Unicolored Blackbird is resident in Paraguay. It is uncommon in Alto Chaco (del Castillo and Clay 2004). It is supposed to be stationary (Fraga 2020c) but the collected individual had a maximum fat deposition (fat score 6) suggesting it is in migration.

***Chrysomus ruficapillus* (Vieillot, 1819). Chestnut-capped Blackbird**

1. Male, ad. NRM 966923. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 35, tot.l. 180, wing 90, wing span 295, tail 70, bill l. 18, bill d. 7.0, tarsus 31. Colors: bill jet black, iris burnt umber, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 966924, MNHNP 1466. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 40, tot.l. 175, wing 80, wing span 280, tail 70, bill l. 18, bill d. 9.0, tarsus 27. Colors: bill jet black, iris burnt umber, tarsus jet black. Plumage: primaries fresh, tail moderately worn. Fat score 5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Chestnut-capped Blackbird is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004). Although little is known about population movements in this species some seasonal movements related to precipitation in the austral winter seem to occur in the Chaco region (Fraga 2020d). The fat scores observed in the two individuals collected in Dpto Pres. Hayes suggest they are in migration and may reflect such seasonal movements.

***Pseudoleistes guirahuro* (Vieillot, 1819). Yellow-rumped Marshbird**

1. Female, ad. NRM 976719. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 74, tot.l. 245, wing 120, wing span 360, tail 89, bill l. 29, bill d. 12, tarsus 32. Colors: bill jet black, iris Brussels brown, tarsus blackish neutral gray. Plumage: two generations wing pens and coverts, primaries very worn, tail very worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 976736, MNHNP 1654. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 73, tot.l. 240, wing 129, wing span 360, tail 93, bill l. 29, bill d. 12, tarsus 31. Colors: bill jet black, iris drab, tarsus blackish neutral gray. Plumage: primaries very worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 976740. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 73.5, tot.l. 220, wing 125, wing span 390, tail 91, bill l. 28, bill d. 14, tarsus 33. Colors: bill jet black, tarsus plumbeous. Plumage: primaries moderately worn, tail very worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Yellow-rumped Marshbird is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

CARDINALIDAE

***Pheucticus aureoventris* (d'Orbigny & Lafresnaye, 1837). Black-backed Grosbeak**

1. Male, ad. NRM 976777, MNHNP 1660. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 49, tot.l. 222, wing 105, wing span 315, tail 88, bill l. 27, bill d. 16, tarsus 24. Colors: bill, upper jaw blackish neutral gray, lower jaw Pratt's Payne's gray, tarsus plumbeous. Plumage: primaries moderately worn, tail moderately worn. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Black-backed Grosbeak is resident in Paraguay. It is scarce in Alto Chaco (del Castillo and Clay 2004).

***Cyanoloxia brissonii* (M.H.C. Lichtenstein, 1823). Ultramarine Grosbeak**

1. ssp. *argentina*. Male (plum.), ad. NRM 947024. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 21, tot.l. 171, wing 81, wing span 235, tail 76, bill l. 15, bill d. 12, tarsus 21. Colors: bill blackish neutral gray, iris burnt sienna, eye-ring jet black, tarsus Vandyke brown (no. 221). Prep.: skel. (NRM), blood or tissue sample (NRM).

2. ssp. *argentina*. Male, ad. NRM 947152, MNHNP 1971. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 20.5, tot.l. 173, wing 82, wing span 253, tail 75, bill l. 15, bill d. 13.5, tarsus 21.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. ssp. *argentina*. Male (plum.), ad. NRM 947291. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 23, tot.l. 152, wing 80, wing span 240, tail 75, bill l. 14.5, bill d. 13, tarsus 19. Colors: bill dark neutral gray, tarsus medium neutral gray. Prep.: alcohol specimen (NRM).

4. ssp. *argentina*. Male (plum.), NRM 966798, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 24.0, tot.l. 175, wing 85, wing span 250, tail 82, bill l. 13, bill d. 12, tarsus 22. Plumage: primaries fresh, tail slightly worn. Fat score 3. Prep.: skel. (MNHNP).

5. ssp. *argentina*. Female, ad. NRM 966812, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 20.5, tot.l. 167, wing 79, wing span 245, tail 75, bill l. 15, bill d. 13, tarsus 21. Colors: bill jet black, iris dusky brown, tarsus dark brownish olive. Plumage: primaries slightly worn, tail heavy. Fat score 3. Prep.: skel. (MNHNP).

6. ssp. *argentina*. Male (plum.), ad. NRM 966925. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 20.0, tot.l. 175, wing 84, wing span 240, tail 78, bill l. 15, bill d. 13, tarsus 21. Colors: bill jet black, eye-ring medium neutral gray, iris burnt umber, tarsus jet black. Plumage: primaries fresh, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

7. ssp. *argentina*. Unsexed, ad. NRM 996675. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 27 Oct. 1999. Meas.: wt 24.5, tot.l. 160, wing 78, wing span 230, tail 78, bill l. 14.6, bill d. 12.6, tarsus 20.9. Colors: bill [blackish], iris [dark gray], tarsus [black]. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Prep.: blood or tissue sample (NRM).

Remarks: The Ultramarine Grosbeak is resident in Paraguay. It is uncommon in Alto Chaco and Matogrosense, but rare in Campos Cerrados (del Castillo and Clay 2004). The specimen obtained near the city of Bella Vista, Dpto Amambay, may be the earliest documented record from the Campos Cerrados biogeographical region. It resembles in all aspects the Chaco specimens and is referred to the subspecies *C. b. argentina*.

***Cyanoloxia glaucocaerulea* (d'Orbigny & Lafresnaye, 1837). Glaucous-blue Grosbeak**

1. Male, ad. NRM 937307, MNHNP 999. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 18.5, tot.l. 148, wing 70, tail 63, bill l. 12, bill d. 10.0, tarsus 19. Colors: bill [gray, upper jaw black], iris [brownish], tarsus [brownish]. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Glaucous-blue Grosbeak is resident in Paraguay. It is scarce Central Paraguay (del Castillo and Clay 2004). It is an austral migrant that breeds in SE Brazil, Uruguay and extreme NW Argentina, extending its range to eastern Paraguay in winter (Brewer 2019).

***Habia rubica* (Vieillot, 1817). Red-crowned Ant Tanager**

1. Male, ad. NRM 937265, MNHNP 2025. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 34, tot.l. 205, wing 95, tail 91, bill l. 17, bill d. 9.0, tarsus 26. Colors: bill sepia (no. 119), iris sepia (no. 219), tarsus army brown. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937266. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 32, tot.l. 194, wing 86, tail 81, bill l. 19, bill d. 7.0, tarsus 25. Colors: bill sepia (no. 219), iris Prout's brown, tarsus Prout's brown. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 937270. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 31, tot.l. 180, wing 85, tail 80, bill l. 16.5, bill d. 9.5, tarsus 24. Colors: bill dusky brown-drab, iris cinnamon-brown, tarsus clay color-cinnamon-brown. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 937280. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 3 Oct. 1993. Meas.: wt 30, tot.l. 190, wing 87, tail 83, bill l. 17, bill d. 9.0, tarsus 26. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 937313, MNHNP 986. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 32, tot.l. 185, wing 85, tail 84, bill l. 16.5, bill d. 8.8, tarsus 24.5. Colors: bill dusky brown, iris dark brownish olive, tarsus buff. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Red-crowned Ant Tanager is resident in Paraguay. It is uncommon in Central Paraguay (del Castillo and Clay 2004).

***Piranga flava* (Vieillot, 1822). Hepatic Tanager**

1. Male, ad. NRM 937158, MNHNP 1008. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 32, tot.l. 185, wing 98, tail 76, bill l. 18, bill d. 10.0, tarsus 23. Colors: bill Pratt's Payne's gray, tarsus glaucous (no. 79). Prep.: study skin (MNHNP).

2. Male, ad. NRM 967051. P.N. San Lu s, Dpto Concepci n, 5 Nov. 1996. Meas.: wt 36, tot.l. 175, wing 100, wing span 275, tail 76, bill l. 18.5, bill d. 9.0, tarsus 21. Colors: bill upper jaw blackish neutral gray, bill lower jaw light neutral gray, iris burnt umber, tarsus dark neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Hepatic Tanager is a southern austral migrant that also has a breeding population in Paraguay. It is uncommon in Campos Cerrados and scarce in Bajo Chaco (del Castillo and Clay 2004).

THRAUPIDAE

***Nemosia pileata* (Boddaert, 1783). Hooded Tanager**

1. Male, ad. NRM 947290, MNHNP 1039. Est. Apami, Dpto Amambay, 13 Oct. 1994. Meas.: wt 18, tot.l. 144, wing 80, wing span 235, tail 48, bill l. 12, bill d. 6.0, tarsus 17.5. Colors: bill dusky brown, iris spectrum yellow, tarsus buff (no. 24). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 967137. P.N. Cerro Cor , Dpto Amambay, 12 Nov. 1996. Meas.: wt 17.5, tot.l. 132, wing 78, wing span 22, tail 50, bill l. 12, bill d. 5.5, tarsus 17. Colors: bill sepia (no. 119), iris cream color, tarsus clay color (no. 123B). Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 967138, MNHNP 1469. P.N. Cerro Cor , Dpto Amambay, 12 Nov. 1996. Meas.: wt 18.0, tot.l. 125, wing 72, wing span 255, tail 45, bill l. 14, bill d. 5.0, tarsus 19. Colors: bill upper jaw jet black, bill lower jaw pale horn color, iris cream color, tarsus 53. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 976673, MNHNP uncat. P.N. Cerro Cor , Dpto Amambay, 15 Nov. 1997. Meas.: wt 18, tot.l. 145, wing 79, wing span 240, tail 50, bill l. 14, bill d. 6, tarsus 19. Colors: bill

jet black, iris spectrum yellow, tarsus yellow ocher. Plumage: primaries slightly worn, tail slightly worn-moderate. Fat score 0. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Female, ad. NRM 976674. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 16.5, tot.l. 140, wing 76, wing span 236, tail 51, bill l. 13, bill d. 6, tarsus 18.5. Colors: bill, upper jaw jet black, lower jaw pale horn color, iris spectrum yellow, tarsus chamois. Plumage: primaries slightly worn, tail slightly worn. Fat score 2(?). Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 986695, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 18.2, tot.l. 137, wing 79, wing span 240, tail 51, bill l. 13, bill d. 5.5, tarsus 19. Colors: bill jet black, iris spectrum yellow, tarsus buff. Plumage: primaries fresh, tail fresh. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Hooded Tanager is resident in Paraguay. It is uncommon in Campos Cerrados and Ñeembucú (del Castillo and Clay 2004).

***Hemithraupis guira* (Linnaeus, 1766). Guira Tanager**

1. Male, ad. NRM 947280. Est. Apami, Dpto Amambay, 12 Oct. 1994. Meas.: wt 12, tot.l. 125, wing 66, wing span 190, tail 50, bill l. 10.5, bill d. 4.5, tarsus 15. Colors: bill, upper jaw dark brownish olive, lower jaw orange yellow, tarsus Vandyke brown (no.121). Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 986744. Est. Santa Ana, Dpto Misiones, 15 April 1998. Meas.: wt 14, tot.l. 130, wing 71, wing span 110, tail 56, bill l. 12.3, bill d. 4.5, tarsus 15.5. Colors: bill, upper jaw jet black, lower jaw orange yellow, iris burnt umber, tarsus medium plumbeous. Plumage: primaries fresh, tail fresh. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Guira Tanager is resident in Paraguay. It is fairly common in Campos Cerrados, but scarce in Ñeembucú (del Castillo and Clay 2004).

***Conirostrum speciosum* (Temminck, 1824). Chestnut-vented Conebill**

1. Male, age undetermined. NRM 956585, MNHNP uncat. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 9.0, tot.l. 90, wing 56, wing span 150, tail 23, bill l. 11, bill d. 3.0, tarsus 15.5. Colors: bill medium plumbeous, iris raw umber (no. 223), tarsus medium plumbeous. Plumage: heavy moult in body, wing and tail. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 967042. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 8.0, tot.l. 110, wing 60, wing span 167, tail 44, bill l. 10, bill d. 4.5, tarsus 14.5. Colors: bill medium neutral gray, tarsus plumbeous. Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female (plum.), ad. NRM 976671. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 9, tot.l. 100, wing 55, wing span 170, tail 35, bill l. 9, bill d. 4, tarsus 15. Colors: bill, upper jaw sepia (no.119), lower jaw plumbeous, iris fuscous, tarsus plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Chestnut-vented Conebill is resident in Paraguay. It is uncommon in Campos Cerrados, but fairly common in Central Paraguay (del Castillo and Clay 2004).

***Sicalis flaveola* (Linnaeus, 1766). Saffron Finch**

1. Male, ad. NRM 937311. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 17, tot.l. 120, wing 66, tail 50, bill l. 9.0, bill d. 6.8, tarsus 16. Colors: bill, upper jaw dark brownish olive, lower jaw buff-yellow, iris jet black, tarsus light neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937312. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 14.5, tot.l. 120, wing 65, tail 50, bill l. 9.0, bill d. 6.6, tarsus 16.5. Colors: bill, upper jaw dark brownish olive, lower jaw buff-yellow, iris jet black, tarsus light neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947180, MNHNP 2010. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 14, tot.l. 130, wing 68, wing span 195, tail 49, bill l. 10, bill d. 7.0, tarsus 17. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, juv. NRM 956586. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 17, tot.l. 130, wing 66, wing span 190, tail 46, bill l. 10.5, bill d. 6.5, tarsus 17.5. Colors: bill Pratt's Payne's gray, iris Vandyke brown (no. 121), tarsus Pratt's Payne's gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 966894. Est. Palo Santo, Dpto Pres. Hayes, 17 Oct. 1996. Meas.: wt 15.0, tot.l. 130, wing 65, wing span 190, tail 49, bill l. 10, bill d. 6.0, tarsus 16.5. Colors: bill upper jaw medium plumbeous, bill lower jaw Pratt's Payne's gray, iris natal brown, tarsus grayish horn color. Plumage: primaries fresh, tail moderately worn. Fat score 4. Prep.: skel. (NRM).

6. Male, juv. NRM 966933, MNHNP 2056. Est. Palo Santo, Dpto Pres. Hayes, 19 Oct. 1996. Meas.: wt 13.5, tot.l. 130, wing 63, wing span 190, tail 48, bill l. 9.0, bill d. 6.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, tarsus army brown. Plumage: primaries slightly worn, tail heavy. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

7. Male, ad. NRM 976769. Est. Palo Santo, Dpto Pres. Hayes, 3 Dec. 1997. Meas.: wt 14, tot.l. 125, wing 67, wing span 216, tail 50, bill l. 10, bill d. 7, tarsus 18. Colors: bill medium neutral gray, iris burnt umber, tarsus cinnamon (no.39). Plumage: primaries moderately worn, tail moderately worn-very. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Female, ad. NRM 976774. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 15.5, tot.l. 136, wing 68, wing span 210, tail 52, bill l. 10, bill d. 7, tarsus 17. Colors: bill medium plumbeous, iris burnt umber, tarsus medium plumbeous. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Saffron Finch is resident in Paraguay. It is abundant in Alto Chaco, common in Matogrosense and uncommon in Central Paraguay (del Castillo and Clay 2004).

***Volatinia jacarina* (Linnaeus, 1766). Blue-backed Grassquit**

1. Male, ad. NRM 947275, MNHNP 2027. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 9.4, tot.l. 102, wing 51, wing span 160, tail 46, bill l. 9.5, bill d. 6.0, tarsus 15. Colors: bill, upper

jaw blackish neutral gray, lower jaw lavender, iris dark brownish olive, tarsus plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966961. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 9.3, tot.l. 113, wing 55, wing span 180, tail 45, bill l. 10.5, bill d. 6.5, tarsus 14. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, tarsus sepia (no. 219). Plumage: primaries slightly worn, tail heavy. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966962, MNHNP 1485. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 9.0, tot.l. 108, wing 50, wing span 165, tail 46, bill l. 10, bill d. 6.0, tarsus 14. Colors: bill upper jaw jet black, bill lower jaw medium plumbeous, iris burnt umber, tarsus dusky brown. Plumage: primaries slightly worn, tail heavy. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 967000. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 10.0, tot.l. 108, wing 50, wing span 158, tail 45, bill l. 10, bill d. 6.0, tarsus 15. Colors: bill upper jaw dark grayish brown, bill lower jaw pale neutral gray, tarsus cinnamon-drab. Plumage: primaries fresh, tail moderately worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 967065, MNHNP 2106. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 10.0, tot.l. 104, wing 51, wing span 165, tail 42, bill l. 10, bill d. 6.5, tarsus 15. Colors: bill upper jaw blackish neutral gray, bill lower jaw light neutral gray, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (MNHNP).

6. Male, ad. NRM 967067. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 10.5, tot.l. 112, wing 50, wing span 172, tail 44, bill l. 10, bill d. 6.0, tarsus 16. Colors: bill upper jaw blackish neutral gray, bill lower jaw drab-gray, tarsus Vandyke brown (no. 121). Plumage: primaries slightly worn, tail heavy. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Unsexed, ad. NRM 986780. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 11.25, tot.l. 110, wing 52, wing span 168, tail 43, bill l. 10, bill d. 5.8, tarsus 18. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Female, ad. NRM 986788. Est. Santa Ana, Dpto Misiones, 12 Nov. 1998. Meas.: wt 11, tot.l. 112, wing 51, wing span 167, tail 46, bill l. 10, bill d. 6, tarsus 15. Colors: bill blackish neutral gray, lower jaw pale neutral gray, tarsus plumbeous. Plumage: tail moulting, primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Blue-backed Grassquit is resident in Paraguay. It is common in Campos Cerrados and is uncommon in Ñeembucú (del Castillo and Clay 2004).

***Tachyphonus rufus* (Boddaert, 1783). White-lined Tanager**

1. Male, ad. NRM 947274, MNHNP uncat. Est. Apami, Dpto Amambay, 11 Oct. 1994. Meas.: wt 32, tot.l. 200, wing 91, wing span 280, tail 85, bill l. 16, bill d. 7.5, tarsus 22.5. Remarks: incubation patch present. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966869. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 29.5, tot.l. 185, wing 85, wing span 250, tail 82, bill l. 17, bill d. 8.0, tarsus 20. Colors: bill jet black, iris Vandyke brown (no. 121), tarsus Vandyke brown (no. 121). Plumage: primaries slightly worn, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 966901. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 30, tot.l. 185, wing 87, wing span 240, tail 93, bill l. 18, bill d. 7.5, tarsus 23.5. Colors: bill jet black, tarsus blackish neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 966960. P.N. San Lu s, Dpto Concepci n, 31 Oct. 1996. Meas.: wt 29.0, tot.l. 185, wing 88, wing span 245, tail 82, bill l. 19, bill d. 10, tarsus 22. Colors: bill upper jaw jet black, bill lower jaw Pratt's Payne's gray, tarsus dark neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Female, ad. NRM 986759. Est. Santa Ana, Dpto Misiones, 7 Nov. 1998. Meas.: wt 33.9, tot.l. 200, wing 86, wing span 275, tail 85, bill l. 19, bill d. 9. Colors: bill blackish neutral gray, lower jaw pale neutral gray, iris russet, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. Female, ad. NRM 986707, MNHNP 1652. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 31, tot.l. 180, wing 88, wing span 250, tail 84, bill l. 19, bill d. 8.5, tarsus 22.5. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
7. Male (plum.). NRM 986805. Est. Santa Ana, Dpto Misiones, 17 April 1998. Meas.: wt 29.2, wing 92, tail 87, bill l. 16.2, tarsus 23.9. Prep.: blood or tissue sample (NRM).

Remarks: The White-lined Tanager is resident in Paraguay. It is uncommon in Alto Chaco, Campos Cerrados and  eembuc  (del Castillo and Clay 2004). This species is presumed to be stationary throughout its distribution (Hilty 2020b), but the fat scores 4 and 5 for two individuals collected in Dpto Pres. Hayes in October suggests they are migrating birds. Species identification of individual no. 2 has been verified by DNA barcoding.

***Tachyphonus coronatus* (Vieillot, 1822). Ruby-crowned Tanager**

1. Male, ad. NRM 937242. P.N. Caaguaz  (Sector Cristal), Dpto Caazap , 1 Oct. 1993. Meas.: wt 23, tot.l. 180, wing 85, tail 75, bill l. 16.5, bill d. 8.0, tarsus 21. Colors: bill, upper jaw Pratt's Payne's gray, lower jaw blackish neutral gray, iris warm sepia, tarsus medium neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).
2. Female, ad. NRM 937246, MNHNP 1040. P.N. Caaguaz  (Sector Cristal), Dpto Caazap , 1 Oct. 1993. Meas.: wt 28, tot.l. 169, wing 83, tail 77, bill l. 19, bill d. 7.6, tarsus 21. Colors: iris fuscous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
3. Female, ad. NRM 937235. P.N. Caaguaz  (Sector Cristal), Dpto Caazap , 1 Oct. 1993. Meas.: wt 24.5, tot.l. 165, wing 80, tail 74, bill l. 16, bill d. 9.0, tarsus 21. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris raw umber, tarsus dark neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Female, ad. NRM 936597. Est. Nueva Gambach, Dpto Itap a, 9 March 1995. Meas.: wt 23, tot.l. 170, wing 77, wing span 210, tail 79, bill l. 14.5, bill d. 7.0, tarsus 21. Colors: bill jet black, iris raw umber (no. 223), tarsus jet black. Plumage: tail feathers worn. Prep.: skel. (NRM), blood or tissue sample (NRM).
5. Unsexed, ad. NRM 966941. P.N. Ybucui, Dpto Paraguari, 26 Oct. 1996. Meas.: wt 26.0, tot.l. 185, wing 98, wing span 255, tail 77, bill l. 16, bill d. 7.5, tarsus 21.5. Colors: bill jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Ruby-crowned Tanager is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is fairly common in Central Paraguay (del Castillo and Clay 2004). Species identification of individuals nos. 1 and 3 have been verified by DNA barcoding.

***Eucometis penicillata* (von Spix, 1825). Gray-headed Tanager (Fig. 11C)**

1. Male, ad. NRM 966968, MNHNP 1479. P.N. San Lu s, Dpto Concepci n, 31 Oct. 1996. Meas.: wt 29.5, tot.l. 182, wing 92, wing span 280, tail 79, bill l. 16, bill d. 7.5, tarsus 21. Colors: bill upper jaw vinaceous pink, bill lower jaw beige, iris cinnamon-brown /beige, tarsus sepia (no. 219). Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966987. P.N. San Lu s, Dpto Concepci n, 1 Nov. 1996. Meas.: wt 31, tot.l. 185, wing 95, wing span 285, tail 83, bill l. 18, bill d. 8.5, tarsus 21. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 967034. P.N. San Lu s, Dpto Concepci n, 4 Nov. 1996. Meas.: wt 26.0, tot.l. 175, wing 91, wing span 275, tail 80, bill l. 18, bill d. 8.5, tarsus 20. Colors: bill upper jaw natal brown, bill lower jaw lavender, eye-ring drab, iris cinnamon-brown, tarsus light russet vinaceous. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 967035. P.N. San Lu s, Dpto Concepci n, 4 Nov. 1996. Meas.: wt 25.5, tot.l. 181, wing 87, wing span 295, tail 79, bill l. 17.5, bill d. 9.0, tarsus 20. Colors: bill upper jaw natal brown, bill lower jaw beige, tarsus Vandyke brown (no. 221). Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 967062, MNHNP 2094. P.N. San Lu s, Dpto Concepci n, 6 Nov. 1996. Meas.: wt 30, tot.l. 184, wing 90, wing span 272, tail 82, bill l. 17, bill d. 8.0, tarsus 21. Colors: bill upper jaw burnt umber, bill lower jaw pale horn color, tarsus beige. Plumage: primaries fresh, tail slightly worn. Prep.: alcohol specimen (MNHNP).

5. Male, ad. NRM 967070, MNHNP uncat. P.N. San Lu s, Dpto Concepci n, 6 Nov. 1996. Meas.: wt 27.5, tot.l. 191, wing 85, wing span 280, tail 85, bill l. 16, bill d. 8.0, tarsus 21. Colors: bill upper jaw cinnamon-drab, bill lower jaw beige, iris true cinnamon, tarsus lavender. Prep.: skel. (MNHNP).

6. Unsexed, ad. NRM 967124. P.N. Cerro Cor , Dpto Amambay, 11 Nov. 1996. Meas.: wt 30, tot.l. 172, wing 82, wing span 260, tail 76, bill l. 17, bill d. 8.0, tarsus 22. Colors: bill upper jaw burnt umber, bill lower jaw light russet vinaceous, iris raw sienna, tarsus cinnamon-drab. Plumage: primaries slightly worn, tail moderately worn. Prep.: alcohol specimen (NRM).

Remarks: The Gray-headed Tanager is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004), but may be locally common (Paul Smith pers. comm.).

***Trichothraupis melanops* (Vieillot, 1818). Black-goggled Tanager**

1. Male, ad. NRM 937249, MNHNP uncat. P.N. Caaguaz  (Sector Cristal), Dpto Caazap , 1 Oct. 1993. Meas.: wt 20.5, bill l. 14, bill d. 6.2, tarsus 19. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937250. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 21, tot.l. 155, wing 79, tail 74, bill l. 11.5, bill d. 6.2, tarsus 20. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 937252. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Male (plum.), ad. NRM 937271. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 20, wing 83, bill l. 16, bill d. 5.4, tarsus 20. Colors: iris burnt umber. Released.
5. Female (plum.), ad. NRM 937272. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 21, tot.l. 162, wing 75, tail 70, bill l. 16, bill d. 5.4, tarsus 20. Colors: iris burnt umber. Released.
6. Male, ad. NRM 937293, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 22, tot.l. 167, wing 80, tail 74, bill l. 14, bill d. 6.1, tarsus 19.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Male (plum.), ad. NRM 937296. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 23, tot.l. 180, wing 88, tail 75, bill l. 12.5, bill d. 6.0, tarsus 17. Colors: iris burnt sienna. Released.
8. Female (plum.), ad. NRM 937297. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 19.5, tot.l. 153, wing 75, tail 65, bill l. 11.5, bill d. 5.5, tarsus 20. Colors: iris natal brown. Released.
9. Female, ad. NRM 937324. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 24, tot.l. 165, wing 82, tail 73, bill l. 12, bill d. 6.0, tarsus 20.5. Colors: bill dark neutral gray-medium neutral gray, iris burnt sienna, tarsus medium neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
10. Male (plum.), ad. NRM 937321. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 20, tot.l. 165, wing 83, tail 76, bill l. 12, bill d. 6.0, tarsus 21. Colors: iris natal brown. Released.
11. Female (plum.), ad. NRM 937341. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 8 Oct. 1993. Meas.: wt 22.5, tot.l. 160, wing 79, tail 72, bill l. 12.5, bill d. 6.5, tarsus 19. Colors: iris burnt umber. Released.
12. Male (plum.), ad. NRM 937344. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 8 Oct. 1993. Meas.: wt 20, tot.l. 150, wing 79, tail 75, bill l. 11.5, bill d. 6.5, tarsus 19. Colors: iris burnt umber. Released.
13. Unsexed, ad. NRM 956583, MNHNP uncat. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 25, tot.l. 170, wing 78, wing span 230, tail 74, bill l. 14, bill d. 6.0, tarsus 20.5. Colors: bill medium plumbeous, iris maroon, tarsus medium plumbeous. Plumage: slight body moult. Prep.: alcohol specimen (MNHNP).
14. Unsexed, age undetermined. NRM 956621. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 22.5, tot.l. 155, wing 80, wing span 245, tail 73, bill l. 13.5. Colors: bill, upper jaw 111, lower jaw medium plumbeous, iris dark grayish brown, tarsus plumbeous. Prep.: alcohol specimen (NRM).
15. Male, age undetermined. NRM 956622. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 23, tot.l. 160, wing 80, wing span 240, tail 70, bill l. 13, bill d. 6.5,

tarsus 20. Colors: bill, upper jaw dusky brown, lower jaw medium plumbeous. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Black-goggled Tanager is resident in Paraguay. It is fairly common in Central Paraguay (del Castillo and Clay 2004).

***Coryphospingus cucullatus* (Statius Muller, 1776). Red-crested Finch**

1. Male, ad. NRM 937232. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 13.5, tot.l. 142, wing 66, tail 60, bill l. 12, bill d. 6.0, tarsus 18. Colors: bill, upper jaw blackish neutral gray, lower jaw pale neutral gray, iris cinnamon-brown, eye-ring dark neutral gray, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937243. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 15, tot.l. 135, wing 65, tail 55, bill l. 10.5, bill d. 6.0, tarsus 17.5. Colors: bill dark neutral gray-pale neutral gray, iris Brussels brown, eye-ring pale pinkish brown, tarsus dark neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 937260, MNHNP uncat. Loc. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 14, tot.l. 148, wing 62, tail 53, bill l. 11, bill d. 6.5, tarsus 19.5. Colors: bill, upper jaw Vandyke brown (no. 221), lower jaw light neutral gray, iris cinnamon-brown, tarsus fawn color. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 966768, MNHNP 1480. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 13.0, tot.l. 135, wing 62, wing span 190, tail 60, bill l. 12, bill d. 6.0, tarsus 18. Colors: bill upper jaw blackish neutral gray, bill lower jaw Pratt's Payne's gray, iris burnt umber, tarsus medium neutral gray. Plumage: primaries slightly worn, tail slightly worn. Fat score 5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 966803. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 12.5, tot.l. 130, wing 61, wing span 200, tail 61, bill l. 12, bill d. 6.0, tarsus 18. Colors: bill upper jaw blackish neutral gray, bill lower jaw Pratt's Payne's gray, iris burnt umber, tarsus medium neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 966954. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 15.0, tot.l. 135, wing 64, wing span 200, tail 58, bill l. 12.5, bill d. 6.5, tarsus 18. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM).

7. Male, ad. NRM 967001, MNHNP 1473. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 15.5, tot.l. 130, wing 65, wing span 205, tail 57, bill l. 12, bill d. 7.0, tarsus 18. Plumage: moult in wing and tail, primaries moderately worn, tail heavy. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

8. Unsexed, ad. NRM 967079, MNHNP 2092. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: tot.l. 132, wing 67, wing span 200, tail 60, bill l. 12.5, bill d. 6.5, tarsus 17.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, tarsus medium neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 4. Prep.: alcohol specimen (MNHNP).

9. Female (plum.), ad. NRM 967084. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 16.5, tot.l. 135, wing 67, wing span 195, tail 56, bill l. 12.5, bill d. 6.5, tarsus 17.5. Colors: bill

upper jaw dusky brown, bill lower jaw smoke gray (no. 44), tarsus sepia (no. 219). Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

10. Male (plum.), ad. NRM 967087. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 16.5, tot.l. 145, wing 69, wing span 210, tail 60, bill l. 12, bill d. 7.0, tarsus 19. Colors: bill upper jaw sepia (no. 119), bill lower jaw lavender blue, tarsus sepia (no. 119). Prep.: alcohol specimen (NRM).

11. Female, ad. NRM 967090. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 13.0, tot.l. 130, wing span 198, tail 58, bill l. 12, bill d. 6.0, tarsus 28. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, iris raw umber, tarsus dark grayish brown. Plumage: primaries fresh, tail slightly worn. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

12. Unsexed, ad. NRM 967092. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 14.5, tot.l. 139, wing 63, tail 60, bill l. 12, bill d. 7.0, tarsus 18.5. Colors: bill upper jaw blackish neutral gray, bill lower jaw pale neutral gray, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 2. Prep.: alcohol specimen (NRM).

13. Unsexed, ad. NRM 967140. P.N. Cerro Corá, Dpto Amambay, 12 Nov. 1996. Meas.: wt 17.0, tot.l. 139, wing 67, wing span 210, tail 62, bill l. 13, bill d. 7.0, tarsus 18. Plumage: primaries moderately worn, tail heavy. Fat score 3. Prep.: alcohol specimen (NRM).

14. Unsexed, ad. NRM 976689. P.N. Cerro Corá, Dpto Amambay, 16 Nov. 1997. Meas.: wt 15.5, tot.l. 141, wing 67, wing span 205, tail 59, bill l. 11, bill d. 7, tarsus 19. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, tarsus dark neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

15. Male, ad. NRM 996690. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 15.5, tot.l. 130, wing 64, wing span 185, tail 58, bill l. 11.6, bill d. 6, tarsus 18. Colors: bill, upper jaw [black], lower jaw [grayish], iris [dark brown], tarsus [gray]. Plumage: primaries slightly worn, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

16. Unsexed, ad. NRM 996684. Cerro León, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 Oct. 1999. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Red-crested Finch is resident in Paraguay. It is common in Alto Chaco, Campos Cerrados and Central Paraguay (del Castillo and Clay 2004). It is mostly resident but during austral winter, some birds in the southern part of the distribution (Argentina and Uruguay, maybe Paraguay) apparently move north (Jaramillo 2020b). This may be true for the individuals collected in the Chaco region in October with fat scores 4 and 5, as well as the bird with fat score 4 was collected in Campos Cerrados in November. Two individuals with fat scores 4 and 5 were ringed in Ñeembucú in April 1998, possibly indicating they are in migration.

***Tersina viridis* (Illiger, 1811). Swallow Tanager**

1. Male, ad. NRM 967080. P.N. Cerro Corá, Dpto Amambay, 8 Nov. 1996. Meas.: wt 33, tot.l. 163, wing 95, wing span 280, tail 57, bill l. 9.0, bill d. 5.0, tarsus 17. Colors: bill sepia (no. 119), iris Brussels brown, tarsus hair brown. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 967133, MNHNP 1477. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 34, tot.l. 159, wing 114, wing span 280, tail 56, bill l. 9.0, bill d. 6.0, tarsus 17. Colors: bill upper jaw jet black, bill lower jaw olive-brown, tarsus kingfisher rufous. Plumage: primaries fresh, tail slightly worn. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 976669. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 32, tot.l. 159, wing 93, wing span 280, tail 59, bill l. 11, bill d. 7, tarsus 17.5. Colors: bill blackish neutral gray, tarsus dark drab. Plumage: primaries slightly worn, tail slightly worn. Fat score 4. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, juv. NRM 976675, MNHNP uncat. P.N. Cerro Corá, Dpto Amambay, 15 Nov. 1997. Meas.: wt 32, tot.l. 155, wing 87, wing span 270, tail 48, bill l. 9, bill d. 5, tarsus 17. Colors: bill blackish neutral gray, iris warm sepia, tarsus dark neutral gray. Plumage: primaries moderately worn, tail very worn. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Swallow Tanager is a northern austral migrant that winters north of Paraguay. It is rare in Campos Cerrados (del Castillo and Clay 2004).

***Dacnis cayana* (Linnaeus, 1766). Blue Dacnis**

1. Female, ad. NRM 937304. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 17, tot.l. 133, wing 69, tail 48, bill l. 12.5, bill d. 5.0, tarsus 17. Colors: bill, upper jaw blackish neutral gray, lower jaw light neutral gray, iris carmine, tarsus true cinnamon (no. 39). Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Blue Dacnis is resident in Paraguay. It is fairly common in Central Paraguay (del Castillo and Clay 2004).

***Sporophila lineola* (Linnaeus, 1758). Lined Seedeater**

1. Female, ad. NRM 956679, MNHNP 1097. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 11.5, tot.l. 113, wing 60, wing span 190, tail 45, bill l. 7.5, bill d. 6.5, tarsus 15. Colors: bill cinnamon-drab, tarsus blackish neutral gray. Plumage: tail moult, some worn tail feathers. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Lined Seedeater is an northern austral migrant that breeds in Paraguay in summer. It is uncommon in Alto Chaco (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Sporophila leucoptera* (Vieillot, 1817). White-bellied Seedeater**

1. Male, ad. NRM 947088, MNHNP 1033. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 12, tot.l. 135, wing 62, wing span 190, tail 55, bill l. 12, bill d. 10, tarsus 16. Colors: bill cinnamon (no. 39), iris natal brown, eye-ring blackish neutral gray, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The White-bellied Seedeater is resident in Paraguay. It is scarce in Matogrosense (del Castillo and Clay 2004). Species identification of this individual has been verified by DNA barcoding.

***Sporophila pileata* (P.L. Sclater, 1865). Pearly-bellied Seedeater**

1. Male, 2Y. NRM 986721, MNHNP 1642. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 9, tot.l. 105, wing 65, wing span 160, tail 42, bill l. 8.5, bill d. 6, tarsus 13. Plumage: primaries moderately worn, tail very worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 986747. Est. Santa Ana, Dpto Misiones, 4 Nov. 1998. Meas.: wt 7.8, wing 56, tail 42, tarsus 14. Colors: bill jet black, tarsus chestnut. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 986753, MNHNP 1688. Est. Santa Ana, Dpto Misiones, 6 Nov. 1998. Meas.: wt 8, tot.l. 109, wing 55, wing span 171, tail 40, bill l. 7.5, bill d. 6, tarsus 13. Colors: bill jet black, iris brownish olive. Plumage: primaries fresh, tail moderately worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 986764. Est. Santa Ana, Dpto Misiones, 8 Nov. 1998. Meas.: wt 8.2, tot.l. 105, wing 54, wing span 165, tail 40, bill l. 8.2, bill d. 6.8, tarsus 13. Colors: bill blackish neutral gray, iris burnt umber, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 986765. Est. Santa Ana, Dpto Misiones, 8 Nov. 1998. Meas.: wt 9.25, tot.l. 105, wing 55, wing span 171, tail 39, bill l. 8.2, bill d. 7.5, tarsus 13. Colors: bill blackish neutral gray, iris burnt umber, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 986763. Est. Santa Ana, Dpto Misiones, 8 Nov. 1998. Meas.: wt 8.7, tot.l. 107, wing 56, wing span 175, tail 39, bill l. 8.9, bill d. 7, tarsus 14. Colors: bill blackish neutral gray, iris burnt umber, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: Previously considered conspecific with *Sporophila bouvreuil*, but see Machado and Silveira (2011) and Campagna *et al.* (2013). The Pearly-bellied Seedeater is an uncommon summer visitor in Ñeembucú (Paul Smith pers. comm.).

***Sporophila hypoxantha* Cabanis, 1851. Tawny-bellied Seedeater**

1. Male, ad. NRM 947199, MNHNP uncat. Rio Negro, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 10.5, tot.l. 114, wing 59, wing span 180, tail 43, bill l. 8.5, bill d. 7.5, tarsus 14. Colors: bill hair brown, iris natal brown, eye-ring hair brown, tarsus sepia (no. 219). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 956683. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 7.3, tot.l. 100, wing 52, wing span 170, tail 40, bill l. 8.5, bill d. 6.0, tarsus 14.5. Colors: bill, upper jaw grayish olive, lower jaw olive-yellow. Plumage: moult in wing and tail. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Tawny-bellied Seedeater is resident in Paraguay. It is scarce in Alto Chaco and Matogrosense (del Castillo and Clay 2004).

cf. *Sporophila hypoxantha* Cabanis, 1851. Tawny-bellied Seedeater

1. Unsexed, ad. NRM 996679. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 10.1, tot.l. 105, wing 54, wing span 172, tail 43, bill l. 8, bill d. 6.5, tarsus 13. Colors: bill [dark gray], tarsus [dark gray]. Plumage: primaries moderately worn, tail very worn. Fat score 5. Prep.: alcohol specimen (NRM).

2. Unsexed, ad. NRM 996680. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 28 Oct. 1999. Meas.: wt 9, tot.l. 98, wing 52, wing span 165, tail 40, bill l. 8, bill d. 6.5, tarsus 13.5. Colors: bill [dark gray], tarsus [dark gray]. Plumage: primaries slightly worn, tail moderately worn.

***Sporophila ruficollis* Cabanis, 1851. Dark-throated Seedeater**

1. Unsexed, ad. NRM 996719, MNHNP 1685. Cerro León, P.N. Defensores del Chaco, Dpto. Alto Paraguay, 1 Nov. 1999. Meas.: wt 8.5, tot.l. 110, wing 66, wing span 170, tail 42, bill l. 8.5, bill d. 5.5, tarsus 14. Colors: iris [dark brown]. Plumage: primaries slightly worn, tail slightly worn. Fat score 6. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Dark-throated Seedeater is a northern migrant that winters in Paraguay. It is rare in Alto Chaco (del Castillo and Clay 2004). The fat score 6 of the collected individual suggests this is a migrating bird.

***Sporophila angolensis* (Linnaeus, 1766). Chestnut-bellied Seed Finch**

1. Male, ad. NRM 947261, MNHNP 1037. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 14, tot.l. 128, wing 63, wing span 187, tail 55, bill l. 11, bill d. 8.5, tarsus 12.5. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947262. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 13.5, tot.l. 122, wing 62, wing span 190, bill l. 10.5, bill d. 9.5, tarsus 15. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Chestnut-bellied Seed Finch is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004).

***Sporophila caerulescens* (Vieillot, 1823). Double-collared Seedeater**

1. Male, ad. NRM 937302, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 5 Oct. 1993. Meas.: wt 10, tot.l. 122, wing 60, tail 49, bill l. 9.0, bill d. 7.0, tarsus 9.0. Colors: bill sulphur yellow, iris burnt umber, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Unsexed. NRM 937339, MNHNP 1689. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 7 Oct. 1993. Meas.: wt 8.9, tot.l. 103, wing 57, tail 44. Colors: bill dusky brown, iris mars brown, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, age undetermined. NRM 956668, MNHNP 1057. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 12, tot.l. 120, wing 60, tail 49, bill l.

9.0, bill d. 7.0, tarsus 14. Colors: bill light neutral gray, tarsus Vandyke brown (no. 221). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, age undetermined. NRM 956687. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 11, tot.l. 110, wing 60, wing span 170, tail 46, bill l. 10, bill d. 7.0, tarsus 13.5. Colors: bill light neutral gray, iris burnt umber, tarsus sepia (no. 119). Plumage: moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, juv. NRM 956695. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 9.5, tot.l. 115, wing 58, wing span 178, bill l. 9.0, bill d. 7.0, tarsus 14. Colors: bill light drab (lower parts of both upper and lower bill yellow ocher), iris cinnamon-brown, tarsus dark neutral gray. Plumage: some tail feathers very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 976694. P.N. Cerro Corá, Dpto Amambay, 17 Nov. 1997. Meas.: wt 11, tot.l. 115, wing 59, wing span 170, tail 49, bill l. 10, bill d. 7, tarsus 14. Colors: bill, upper jaw brownish olive, lower jaw greenish olive. Plumage: two generations tail feathers, primaries fresh, tail fresh-moderate. Fat score 6. Prep.: skel. (NRM), blood or tissue sample (NRM). Remarks: yellow around bill.

7. Female, ad. NRM 976704. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 11, tot.l. 115, wing 57, wing span 175, tail 45, bill l. 10, bill d. 7, tarsus 15. Plumage: two generations tail feathers, primaries fresh, tail slightly to very worn. Fat score 7. Prep.: study skin (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 976775, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 11.5, tot.l. 117, wing 59, wing span 188, tail 46, bill l. 10, bill d. 7, tarsus 14. Plumage: body moulting, primaries slightly worn, tail slightly worn. Fat score 6. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

9. Male, ad. NRM 986783. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 14.3, tot.l. 114, wing 61, wing span 183, tail 48, bill l. 9.5, bill d. 7.5, tarsus 14.5. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

10. Male (plum.), ad. NRM 986703. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 11.5, tot.l. 121, wing 59, wing span 171, tail 48, bill l. 8, bill d. 7, tarsus 14. Colors: bill olive-gray, tarsus fuscous. Plumage: moulting. Fat score 5. Prep.: alcohol specimen (NRM).

Remarks: The Double-collared Seedeater is resident in Paraguay. It is uncommon in Alto Chaco, but fairly common in Campos Cerrados, Central Paraguay and Ñeembucú (del Castillo and Clay 2004). It is supposed to have a resident population in Paraguay, but the seasonal movements of this species in the region have only recently begun to be understood (Ortiz and Capllonch 2007). Birds breeding south of Paraguay may winter here and some perhaps just pass on their way north (cf. Jaramillo 2020c). All collected individuals for which the fat score was documented have very high scores indicating they are migrating birds. Species identifications of individuals nos. 1-9 have been verified by DNA barcoding.

***Sporophila plumbea* (zu Wied, 1830). Plumbeous Seedeater**

1. Female, ad. NRM 966972. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 11.0, tot.l. 110, wing 58, wing span 170, tail 42, bill l. 8.5, bill d. 6.5, tarsus 13. Plumage: primaries fresh, tail slightly worn. Fat score 3. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 976703, MNHNP 1668. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 10.5, tot.l. 118, wing 65, wing span 200, tail 47, bill l. 9, bill d. 8, tarsus 13. Plumage: primaries slightly worn, tail moderately worn. Fat score 1. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 976721. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 10.5, tot.l. 120, wing 65, wing span 190, tail 47, bill l. 9, bill d. 8, tarsus 14. Colors: bill jet black. Plumage: body moulting, primaries moderately worn, tail moderately worn. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 976728. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 13.5, tot.l. 115, wing 61, wing span 190, tail 43, bill l. 10, bill d. 7.5, tarsus 13.5. Plumage: primaries slightly worn, tail moderately worn. Fat score 5. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Plumbeous Seedeater is resident in Paraguay. It is uncommon in Campos Cerrados (del Castillo and Clay 2004). This species is possibly migratory in southern part of its range (including eastern Paraguay). It has been reported to disappear from Paraguay in the austral winter (Jaramillo and Kirwan 2020), but this is not correct (Paul Smith pers. comm.). It may, however, be nomadic to some extent. Most individuals collected had high fat scores suggesting they are in migration. Species identifications of individuals nos. 1-4 have been verified by DNA barcoding.

***Sporophila collaris* (Boddaert, 1783). Rusty-collared Seedeater (Fig. 7D)**

1. Male, ad. NRM 986774, MNHNP 1673. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 13.5, tot.l. 131, wing 64, wing span 195, tail 55, bill l. 10.5, bill d. 9.2, tarsus 15. Colors: bill jet black, tarsus jet black. Plumage: tail moulting, primaries moderately worn, tail moderately worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 986775, MNHNP 1684. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 12.5, tot.l. 121, wing 55, wing span 180, tail 45, bill l. 11, bill d. 9, tarsus 16. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail very worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

3. Male, ad. NRM 986776. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 14.5, tot.l. 136, wing 58, wing span 185, tail 49, bill l. 9.5, bill d. 8.9, tarsus 16. Colors: bill jet black, tarsus jet black. Plumage: arm and tail moulting, primaries moderately worn, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 986777. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 14, tot.l. 127, wing 59, wing span 190, tail 51, bill l. 11, bill d. 9.7, tarsus 15. Colors: bill jet black, tarsus jet black. Plumage: primaries slightly worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 986781. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 13.5, tot.l. 120, wing 59, wing span 190, tail 49, bill l. 10.3, bill d. 9.2, tarsus 17. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 986782. Est. Santa Ana, Dpto Misiones, 11 Nov. 1998. Meas.: wt 12.5, tot.l. 120, wing 60, wing span 190, tail 59, bill l. 9.5, bill d. 8.2, tarsus 15.5. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Rusty-collared Seedeater is resident in Paraguay. It is common in Ñeembucú (del Castillo and Clay 2004). Species identifications of individuals nos. 1-6 have been verified by DNA barcoding.

***Saltatricula multicolor* (Burmeister, 1860). Many-colored Chaco Finch**

1. Male, ad. NRM 966815, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 23.0, tot.l. 165, wing 71, wing span 220, tail 82, bill l. 13, bill d. 8.3, tarsus 23. Colors: bill upper jaw orange yellow, bill lower jaw dusky brown, iris burnt umber, tarsus fawn color. Plumage: primaries fresh, tail heavy. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966817. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 21.0, tot.l. 155, wing 71, wing span 210, tail 79, bill l. 12, bill d. 8.0, tarsus 21.5. Colors: bill upper jaw orange yellow, bill lower jaw dusky brown, iris burnt umber, tarsus fawn color. Plumage: primaries slightly worn, tail heavy. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Many-colored Chaco Finch is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004).

***Saltatricula atricollis* (Vieillot, 1817). Black-throated Saltator**

1. Male, ad. NRM 966978, MNHNP 1467. P.N. San Lu s, Dpto Concepci n, 1 Nov. 1996. Meas.: wt 52, tot.l. 202, wing 88, wing span 255, tail 85, bill l. 21, bill d. 4.0. Colors: bill spectrum orange (culmen dusky brown), tarsus citrine. Plumage: primaries slightly worn, tail heavy. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 967102. P.N. Cerro Cor , Dpto Amambay, 9 Nov. 1996. Meas.: wt 51, tot.l. 205, wing 86, wing span 275, tail 89, bill l. 18, bill d. 13, tarsus 26. Colors: bill chrome orange (culmen dusky brown), tarsus citrine. Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 976690, MNHNP 1656. P.N. Cerro Cor , Dpto Amambay, 16 Nov. 1997. Meas.: wt 54, tot.l. 182, wing 87, wing span 275, tail 85, bill l. 20, bill d. 14, tarsus 28. Colors: bill dusky brown, tarsus olive-gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 976692. P.N. Cerro Cor , Dpto Amambay, 16 Nov. 1997. Meas.: wt 61, tot.l. 205, wing 92, wing span 300, tail 92, bill l. 20, bill d. 12.5, tarsus 26. Colors: bill chrome orange (culmen dusky brown), tarsus drab. Plumage: two generations tail feathers, primaries slightly worn, tail moderately to very worn. Fat score 6. Prep.: skel. (NRM?), blood or tissue sample (NRM).

5. Male, ad. NRM 976717. San Antonio, Dpto Concepci n, 20 Nov. 1997. Meas.: wt 50, tot.l. 205, wing 88, wing span 170, tail 84, bill l. 19, bill d. 13, tarsus 28. Colors: bill chrome orange (culmen sepia no.119), iris mars brown, tarsus yellow ocher. Plumage: body moulting, primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Black-throated Saltator is endemic to the Cerrado environment and a fairly common resident in Campos Cerrados (del Castillo and Clay 2004). This species is supposed to be

stationary (Brewer 2020) but one individual collected in Dpto Amambay in November was very fat (fat score 6) indicating it was in migration. Other individuals collected at more or less the same time and locality were much leaner (fat scores 0 and 2).

***Saltator coerulescens* Vieillot, 1817. Grayish Saltator (Fig. 9E)**

1. Female, ad. NRM 947023, MNHNP 1053. Est. Doña Júlia, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 63, tot.l. 230, wing 103, tail 94, bill l. 21.5, bill d. 12.5, tarsus 29.5. Colors: bill dark grayish brown, iris robin rufous, tarsus dark neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947046. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 53, tot.l. 245, wing 113, wing span 350, tail 114, bill l. 20, bill d. 28, tarsus 37. Colors: bill blackish neutral gray, iris vinaceous pink, eye-ring Vandyke brown (no. 221), tarsus Vandyke brown (no. 221). Plumage: body moulting. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947068, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 60, tot.l. 232, wing 106, wing span 330, tail 97, bill l. 21.5, bill d. 13, tarsus 27. Plumage: head moulting. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

4. Male, ad. NRM 947074, MNHNP 1972. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 55, tot.l. 235, wing 105, wing span 335, tail 99, bill l. 21, bill d. 16, tarsus 28.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Male, ad. NRM 947086. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 62, tot.l. 235, wing 108, wing span 335, tail 98, bill l. 21, bill d. 12, tarsus 25. Colors: bill blackish neutral gray, iris raw umber, eye-ring raw umber, tarsus dark neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 947094. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 58, tot.l. 225, wing 105, wing span 325, tail 92, bill l. 21, bill d. 13, tarsus 27. Colors: bill sepia (no. 119), iris warm sepia, eye-ring hair brown, tarsus Vandyke brown (no. 221). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

7. Male, ad. NRM 947108. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 46, tot.l. 220, wing 103, wing span 330, tail 92, bill l. 21.5, bill d. 12.5, tarsus 28. Colors: bill sepia (no. 119), iris walnut brown, eye-ring hair brown, tarsus Vandyke brown (no. 221). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 947114. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 63, tot.l. 235, wing 109, wing span 295, tail 103, bill l. 23, bill d. 11, tarsus 29. Colors: bill blackish neutral gray, iris russet, eye-ring olive-brown, tarsus olive-brown. Plumage: body moulting. Prep.: alcohol specimen (NRM).

9. Female, ad. NRM 947115. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 59, tot.l. 220, wing 101, wing span 295, tail 91, bill l. 20, bill d. 13, tarsus 29. Colors: bill blackish neutral gray, iris Prout's brown, eye-ring dark brownish olive, tarsus dark brownish olive. Plumage: body moulting. Prep.: alcohol specimen (NRM).

10. Male, ad. NRM 947132, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 15 Sept. 1994. Meas.: wt 66, tot.l. 235, wing 110, wing span 345, tail 100, bill l. 19, bill d. 13.5, tarsus 27.5.

Colors: bill blackish neutral gray, iris tawny, tarsus olive-green (no. 48). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

11. Male, ad. NRM 947216. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 60, tot.l. 230, wing 111, wing span 300, tail 100, bill l. 20.5, bill d. 12.5, tarsus 28. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Grayish Saltator is resident in Paraguay. It is abundant in Matogrosense and common in Ñeembucú (del Castillo and Clay 2004). One individual ringed by PROVEPA at Est. Santa Ana, Dpto Misiones, on 10 April 1998 was trapped at the same locality by a team from University of Kansas on 20 October 1999 (Kristof Zyskowski pers. comm.).

***Saltator similis* d'Orbigny & Lafresnaye, 1837. Green-winged Saltator**

1. Unsexed. NRM 937178, MNHNP 2035. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 44, tot.l. 218, wing 96, tail 92, bill l. 19, bill d. 12, tarsus 22. Colors: bill pearl gray, upper jaw blackish neutral gray, iris mars brown, tarsus glaucous (no. 80). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947048. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 40, tot.l. 222, wing 97, wing span 305, tail 95, bill l. 19, bill d. 13, tarsus 25. Colors: bill jet black, iris warm sepia, eye-ring jet black, tarsus grayish olive. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947189. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 38, tot.l. 200, wing 98, wing span 280, tail 90, bill l. 22, bill d. 13, tarsus 25. Colors: bill sepia (no. 119), iris mars brown, eye-ring sepia (no. 119), tarsus olive-brown. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 947218. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 37, tot.l. 215, wing 100, wing span 315, tail 94, bill l. 19, bill d. 13, tarsus 26.5. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Green-winged Saltator is resident in Paraguay. It is fairly common in Matogrosense, but uncommon in Bajo Chaco (del Castillo and Clay 2004).

***Saltator aurantirostris* Vieillot, 1817. Golden-billed Saltator**

1. ssp. *aurantirostris*. Male, ad. NRM 937366, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 44, tot.l. 206, wing 93, tail 89, bill l. 19, bill d. 12, tarsus 24. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. ssp. *aurantirostris*. Female, ad. NRM 947097. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 38, tot.l. 200, wing 89, wing span 280, tail 82, bill l. 18, bill d. 13, tarsus 27. Colors: bill blackish neutral gray, iris burnt sienna, eye-ring blackish neutral gray, tarsus blackish neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

3. ssp. *aurantirostris*. Male, ad. NRM 966788, MNHNP 1468. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 38, tot.l. 205, wing 96, wing span 285, tail 91, bill l. 18, bill d. 13, tarsus 25. Colors: bill spectrum orange, eye-ring jet black, iris chestnut, tarsus brownish olive.

Plumage: primaries fresh, tail moderately worn. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. ssp. *aurantiistrostris*. Male, NRM 966796. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 36, tot.l. 195, wing 95, wing span 275, tail 85, bill l. 19, bill d. 13, tarsus 26. Colors: bill chrome orange, iris buff (no. 124), tarsus sepia (no. 219). Prep.: study skin (NRM), blood or tissue sample (NRM).

5. ssp. *aurantiistrostris*. Female, ad. NRM 966874. Est. Palo Santo, Dpto Pres. Hayes, 16 Oct. 1996. Meas.: wt 41, tot.l. 195, wing 87, wing span 275, tail 90, bill l. 18, bill d. 13, tarsus 27. Colors: bill fuscous, iris warm sepia, tarsus medium neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. ssp. *aurantiistrostris*. Female, ad. NRM 966917, MNHNP 2071. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 43, tot.l. 205, wing 91, wing span 270, tail 90, bill l. 17.5, bill d. 12.5, tarsus 25. Colors: bill jet black, tarsus medium neutral gray. Plumage: primaries slightly worn, tail moderately worn. Fat score 3. Prep.: skel. (MNHNP).

7. ssp. *aurantiistrostris*. Female, ad. NRM 976793. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 24.25, tot.l. 160, wing 70, wing span 215, tail 77, bill l. 11, bill d. 7.5. Colors: bill, upper jaw jet black, lower jaw orange yellow, iris cinnamon-brown, tarsus pale neutral gray. Plumage: body moulting, all secondaries except one growing in right wing, no replacement in left wing, primaries slightly worn, tail moderately worn. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Golden-billed Saltator occurs in western Paraguay (Ridgely and Tudor 1989) and is abundant in Alto Chaco and rare in Matogrosense (del Castillo and Clay 2004). The record from Estancia Doña Júlia seems to be the earliest from the Matogrosense biogeographical region, but it has been observed there subsequently (Tierno de Figueroa and Padial 2005).

***Embernagra platensis* (J.F. Gmelin, 1789). Pampa Finch**

1. Unsexed, ad. NRM 947226, MNHNP 1048. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 48, tot.l. 225, wing 96, wing span 290, tail 98, bill l. 17, bill d. 10, tarsus 30. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947229. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 46, tot.l. 218, wing 90, wing span 285, tail 90, bill l. 18, bill d. 10, tarsus 29.5. Prep.: study skin (NRM), blood or tissue sample (NRM). *Remarks:* check sex at MNHNP.

Remarks: The Pampa Finch is resident in Paraguay. It is common in Bajo Chaco (del Castillo and Clay 2004).

***Emberizoides herbicola* (Vieillot, 1817). Wedge-tailed Grass Finch**

1. Male, ad. NRM 966986. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 25.0, tot.l. 188, wing 74, wing span 230, tail 92, bill l. 14, bill d. 7.0, tarsus 23. Colors: bill upper jaw blackish neutral gray, bill lower jaw orange yellow, tarsus buff (no. 24). Plumage: primaries moderately worn, tail heavy. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 967021, MNHNP 1475. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 30, tot.l. 197, wing 70, wing span 231, tail 100, bill l. 14, bill d. 7.0, tarsus 25. Colors: bill upper jaw Vandyke brown (no. 121), bill lower jaw chamois, tarsus clay color (no. 123B). Plumage: primaries slightly worn, tail heavy. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
3. Female, ad. NRM 967024, MNHNP 2048. P.N. San Luís, Dpto Concepción, 3 Nov. 1996. Meas.: wt 29.5, tot.l. 190, wing 75, wing span 225, tail 92, bill l. 15, bill d. 8.0, tarsus 22. Plumage: primaries moderately worn, tail heavy. Fat score 4. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
4. Unsexed, ad. NRM 967054. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 29.5, tot.l. 207, wing 76, tail 104, bill l. 13, bill d. 8.0, tarsus 21. Colors: bill upper jaw blackish neutral gray, bill lower jaw orange yellow, iris Brussels brown, tarsus chamois. Fat score 1. Prep.: alcohol specimen (NRM).
5. Female, ad. NRM 967056. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 27.5, tot.l. 194, wing 70, wing span 223, tail 94, bill l. 14, bill d. 7.0, tarsus 22. Colors: bill upper jaw blackish neutral gray, bill lower jaw orange yellow, iris Brussels brown, tarsus chamois. Fat score 1. Remarks: incubation patch. Prep.: skel. (NRM), blood or tissue sample (NRM).
6. Male, ad. NRM 976706, MNHNP uncat. San Antonio, Dpto Concepción, 19 Nov. 1997. Meas.: wt 28, tot.l. 185, wing 56, tail 95, bill l. 15, bill d. 8, tarsus 23. Colors: bill, upper jaw fuscous (base orange yellow), lower jaw orange yellow, tarsus yellow ocher. Plumage: primaries very worn, tail very worn. Fat score 4. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Male, ad. NRM 976723. San Antonio, Dpto Concepción, 20 Nov. 1997. Meas.: wt 28.5, tot.l. 192, wing 77, wing span 235, tail 94, bill l. 15, bill d. 8, tarsus 25. Colors: bill, upper jaw dusky brown, lower jaw orange yellow, iris pale pinkish buff, tarsus cinnamon-brown. Plumage: wing no moult, tail moulting, tail fresh to very worn. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).
8. Male, ad. NRM 976735. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 28.5, tot.l. 205, wing 78, wing span 240, tail 98, bill l. 15, bill d. 8, tarsus 24. Colors: bill, upper jaw blackish neutral gray, lower jaw orange yellow, iris burnt umber, tarsus yellow ocher. Plumage: primaries moderately worn, tail very worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).
8. Female, ad. NRM 986731. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 28, tot.l. 185, tail 110, bill l. 14, bill d. 6.4, tarsus 25. Colors: bill, upper jaw dusky brown, lower jaw orange yellow, iris fuscous, tarsus tawny olive. Plumage: heavy moulting all over. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).
9. Female, 1Y. NRM 986722. Est. Santa Ana, Dpto Misiones, 11 April 1998. Meas.: wt 30.5, tot.l. 195, wing 69, wing span 220, tail 98, bill l. 13, bill d. 7, tarsus 26.5. Colors: bill, upper jaw dark grayish, lower jaw orange yellow, iris Prout's brown, tarsus drab-gray. Plumage: moulting all over, primaries very worn, tail very worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).
10. Female, ad. NRM 988525, MNHNP uncat. Est. Santa Ana, Dpto Misiones, 7 April 1998. Meas.: wt 30, tot.l. 190, wing 69, wing span 225, tail 82, bill l. 12.5, bill d. 7, tarsus 25. Colors: bill, upper jaw sepia, lower jaw spectrum yellow, iris dark drab, tarsus flesh color. Plumage: post-

juvenile moulting, all over, primaries fresh, tail moderately worn. Fat score 2. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

11. Female, ad. NRM 986752, MNHNP 1683. Est. Santa Ana, Dpto Misiones, 5 Nov. 1998. Meas.: wt 38.5, tot.l. 198, wing 75, wing span 240, tail 102, bill l. 13.5, bill d. 7.5, tarsus 25. Colors: bill, upper jaw sepia (no.119), lower jaw orange yellow, tarsus light russet vinaceous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

12. Male, ad. NRM 986785. Est. Santa Ana, Dpto Misiones, 12 Nov. 1998. Meas.: wt 31, tot.l. 196, wing 74, wing span 230, tail 92, bill l. 16, bill d. 8.9, tarsus 23. Colors: bill dusky brown, lower jaw orange yellow, iris cinnamon-brown, tarsus beige. Plumage: primaries moderately worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

13. Female, ad. NRM 986786. Est. Santa Ana, Dpto Misiones, 12 Nov. 1998. Meas.: wt 26, tot.l. 189, wing 71, wing span 93, tail 14, bill l. 14, bill d. 7.5, tarsus 24. Colors: bill fuscous, lower jaw orange yellow, iris cinnamon-brown, tarsus beige. Plumage: primaries moderately worn, tail very worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Wedge-tailed Grass Finch is resident in Paraguay. It is fairly common in Campos Cerrados, and common in Ñeembucú (del Castillo and Clay 2004).

***Pyrrhocomma ruficeps* (Strickland, 1844). Chestnut-headed Tanager**

1. Male, ad. NRM 937289, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 14.5, tot.l. 143, wing 65, tail 59, bill l. 12, bill d. 6.0, tarsus 21. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris raw umber, tarsus Pratt's Payne's gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Chestnut-headed Tanager is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Thlypopsis sordida* (d'Orbigny & Lafresnaye, 1837). Orange-headed Tanager**

1. Male, ad. NRM 986720. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 15.5, tot.l. 135, wing 69, wing span 200, tail 67, bill l. 12.5, bill d. 4.6, tarsus 19. Plumage: primaries fresh, tail slightly worn. Fat score 0. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 986754. Est. Santa Ana, Dpto Misiones, 6 Nov. 1998. Meas.: wt 16.5, tot.l. 146, wing 72, wing span 200, tail 61, bill l. 13, bill d. 5, tarsus 18. Plumage: primaries slightly worn, tail moderately worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 986755. Est. Santa Ana, Dpto Misiones, 6 Nov. 1998. Meas.: wt 16, tot.l. 138, wing 69, wing span 205, tail 60, bill l. 12, bill d. 5.5, tarsus 20.5. Plumage: primaries moderately worn, tail very worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Female, 1Y. NRM 986705, MNHNP 1640. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 15, tot.l. 135, wing 66, wing span 180, tail 62, bill l. 12, bill d. 4.5, tarsus 20. Colors: bill, upper jaw sepia, lower jaw pale horn color, iris cinnamon-brown, tarsus plumbeous. Plumage: post-juvenile moulting in tail and body, primaries moderately worn, tail very worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. Female, ad. NRM 986700. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: tot.l. 140, wing 67, wing span 200, tail 61. Colors: bill, upper jaw medium plumbeous, lower jaw blackish neutral gray, eye-ring sulphur yellow, iris Prout's brown, tarsus medium plumbeous. Plumage: primaries fresh, tail moderately worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 986706. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 16, tot.l. 145, wing 74, wing span 190, tail 65, bill l. 11, bill d. 5, tarsus 21.5. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, iris chestnut, tarsus plumbeous. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Orange-headed Tanager is resident in Paraguay. It is uncommon in Ñeembucú (del Castillo and Clay 2004). In reality, the Orange-headed Tanager seems to be common in the gallery forests of Misiones (Paul Smith pers. comm.), but not in the Mesopotamian grasslands that are important parts of the biogeographical region Ñeembucú, *sensu* Hayes (1995).

***Microspingus melanoleucus* (d'Orbigny & Lafresnaye, 1837).
Black-capped Warbling Finch (Fig. 8F)**

1. Unsexed, ad. NRM 937189. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wing 63, tail 52, bill l. 9.0, bill d. 5.0, tarsus 17.5. Colors: bill blackish neutral gray, iris Pratt's rufous, tarsus dark neutral gray. Prep.: blood sample (NRM). Released.

2. Female, ad. NRM 937191, MNHNP 1979. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 10.5, tot.l. 110, wing 56, tail 55, bill l. 9.0, bill d. 5.0, tarsus 17. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

3. Unsexed, ad. NRM 947058. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 11.5, tot.l. 130, wing 60, wing span 185, tail 56, bill l. 10, bill d. 5.5, tarsus 20. Colors: bill blackish neutral gray, iris flame scarlet, tarsus dark neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 947059. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 10, tot.l. 122, wing 59, wing span 185, tail 55, bill l. 9.5, bill d. 5.5, tarsus 19. Colors: bill blackish neutral gray, iris flame scarlet, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 947082. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 11.5, tot.l. 135, wing 59, wing span 184, tail 56, bill l. 11, bill d. 6.0, tarsus 19. Prep.: gizzard (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 947083. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 10.5, tot.l. 130, wing 57, wing span 180, tail 55, bill l. 10.5, bill d. 5.0, tarsus 18. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Unsexed, ad. NRM 947110. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 11.5, tot.l. 132, wing 59, tail 55, bill l. 9.5, bill d. 5.0, tarsus 19. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 947149, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 12.5, tot.l. 132, wing 61, wing span 188, tail 52, bill l. 11, bill d. 5.5, tarsus 19.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

9. Male, ad. NRM 947150, MNHNP uncat. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 10.5, tot.l. 129, wing 61, wing span 176, tail 56, bill l. 10, bill d. 5.5, tarsus 18.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
10. Female, ad. NRM 947151, MNHNP 2034. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 12.5, tot.l. 133, wing 61, wing span 190, tail 56, bill l. 11, bill d. 5.5, tarsus 19. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
11. Male, ad. NRM 947153. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 15, tot.l. 133, wing 62, wing span 194, tail 56, bill l. 10, bill d. 5.5, tarsus 19. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
12. Female, ad. NRM 947155. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 12.5, tot.l. 133, wing 59, wing span 183, tail 54, bill l. 8.5, bill d. 5.5, tarsus 20. Colors: bill blackish neutral gray, iris mahogany red, eye-ring sepia (no. 119), tarsus blackish neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
13. Female, ad. NRM 947156. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 12, tot.l. 131, wing 59, wing span 190, tail 56, bill l. 9.9, bill d. 5.2, tarsus 18.5. Colors: bill jet black, iris mahogany red, eye-ring sepia (no. 219), tarsus sepia (no. 219). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
14. Male, ad. NRM 947157. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 11.5, tot.l. 132, wing 61, wing span 189, tail 55, bill l. 11.5, bill d. 5.4, tarsus 19.5. Colors: bill jet black, iris orange rufous, eye-ring sepia (no. 119), tarsus sepia (no. 119). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
15. Male, ad. NRM 947158. Est. Doña Júlía, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 11.5, tot.l. 125, wing 60, wing span 175, tail 55, bill l. 11, bill d. 5.0, tarsus 20. Colors: bill jet black, iris mahogany red, eye-ring sepia (no. 119), tarsus sepia (no. 119). Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
16. Unsexed, ad. NRM 966819. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 11.0, tot.l. 120, wing 61, wing span 180, tail 58, bill l. 11, bill d. 5.0, tarsus 18. Colors: bill jet black, iris mahogany red, tarsus sepia (no. 119). Plumage: primaries slightly worn, tail moderately worn. Fat score 0. Prep.: skel. (NRM).

Remarks: The Black-capped Warbling Finch is resident in Paraguay. It is common in Alto Chaco, it is fairly common in Bajo Chaco, but rare in Campos Cerrados (del Castillo and Clay 2004).

***Paroaria coronata* (J.F. Miller, 1776). Red-crested Cardinal**

1. Female, ad. NRM 937359. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 20.5, tot.l. 168, wing 73, tail 65, bill l. 12.5, bill d. 6.5, tarsus 19.5. Colors: bill orange yellow, tarsus true cinnamon (no. 39). Prep.: skel. (NRM), blood or tissue sample (NRM).
2. Male, ad. NRM 947013. Est. Doña Júlía, Dpto Alto Paraguay, 10 Sept. 1994. Meas.: wt 36, tot.l. 195, wing 94, wing span 290, tail 81, bill l. 15, bill d. 9.0, tarsus 24. Colors: bill plumbeous, iris antique brown, eye-ring plumbeous, tarsus plumbeous. Plumage: body moulting. Prep.: study skin (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 947032. Est. Doña Júlía, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 32, tot.l. 175, wing 92, wing span 275, tail 71, bill l. 14.0, bill d. 9.0, tarsus 23. Colors: bill medium

plumbeous, iris kingfisher rufous, tarsus blackish neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Male, ad. NRM 947177, MNHNP 1035. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 32, tot.l. 185, wing 95, wing span 285, tail 75, bill l. 14, bill d. 9.5, tarsus 24. Colors: bill blackish neutral gray, iris Pratt's rufous, eye-ring jet black, tarsus sepia (no. 219). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

5. Unsexed, ad. NRM 976779. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 35, tot.l. 180, wing 100, wing span 290, tail 80, bill l. 13, bill d. 8.5, tarsus 25. Colors: bill, upper jaw dark neutral gray, lower jaw pale neutral gray, iris cinnamon (no.123A), tarsus blackish neutral gray. Plumage: body moulting, primaries very worn, tail very worn. Fat score 3. Prep.: alcohol specimen (NRM).

6. Female, ad. NRM 976781, MNHNP uncat. P.N. Tte Enciso, Dpto Boquerón, 4 Dec. 1997. Meas.: wt 44, tot.l. 182, wing 92, wing span 270, tail 77, bill l. 14, bill d. 9, tarsus 24. Colors: bill cinnamon-brown, iris cinnamon (no.123A), tarsus blackish neutral gray. Plumage: body moulting, primaries very worn, tail moderately worn. Fat score 3. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Red-crested Cardinal is resident in Paraguay. It is abundant in Alto Chaco and Matogrosense (del Castillo and Clay 2004).

***Paroaria capitata* (d'Orbigny & Lafresnaye, 1837). Yellow-billed Cardinal**

1. Male, juv. NRM 937219, MNHNP 2039. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 18.5, tot.l. 135, wing 75, tail 67, bill l. 13, bill d. 6.0, tarsus 21. Colors: iris Pratt's rufous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937220. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 20, tot.l. 150, wing 73, tail 71, bill l. 13, bill d. 6.0, tarsus 21. Colors: iris Pratt's rufous. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 947045. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 21, tot.l. 171, wing 83, wing span 240, tail 72, bill l. 12.5, bill d. 6.3, tarsus 21. Colors: bill chrome orange, iris crimson (no. 108), eye-ring blackish neutral gray, tarsus raw sienna. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 947085. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 18, tot.l. 146, wing 80, tail 72, bill l. 15, bill d. 5.5, tarsus 19.5. Colors: bill salmon color, iris Pratt's ruby, eye-ring grayish horn color, tarsus flesh ocher. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

5. Female, ad. NRM 947145, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 21.5, tot.l. 170, wing 80, wing span 245, tail 70, bill l. 15, bill d. 6.0, tarsus 22.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Male, ad. NRM 947146. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 20.5, tot.l. 169, wing 81, wing span 255, tail 70, bill l. 13.5, bill d. 6.0, tarsus 21. Prep.: skel. (NRM), blood or tissue sample (NRM).

7. Male, ad. NRM 947154, MNHNP 2038. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 22, wing 81, wing span 255, bill l. 14, bill d. 6.5, tarsus 22. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

8. Male, ad. NRM 966844. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 21.0, tot.l. 163, wing 81, wing span 225, tail 71, bill l. 12, bill d. 6.0, tarsus 19. Colors: bill chrome orange, tarsus raw sienna. Plumage: primaries slightly worn, tail moderately worn. Fat score 6. Prep.: skel. (NRM).

9. Female, ad. NRM 966846. Est. Palo Santo, Dpto Pres. Hayes, 14 Oct. 1996. Meas.: wt 23.0, tot.l. 175, wing 80, wing span 230, tail 75, bill l. 13, bill d. 5.8, tarsus 20. Colors: bill chrome orange, tarsus raw sienna. Plumage: primaries moderately worn, tail moderately worn. Fat score 6. Prep.: study skin (NRM).

Remarks: The Yellow-billed Cardinal is resident in Paraguay. It is uncommon in Alto Chaco, but abundant in Matogrosense and common in Bajo Chaco (del Castillo and Clay 2004). This species is supposed to be stationary (Jaramillo 2020d) but the high fat scores (6) of two individuals collected in Dpto Pres. Hayes in October show that at least some birds occurring in Paraguay are in moving around after the breeding season.

***Cissopis leverianus* (J.F. Gmelin, 1788). Magpie Tanager**

1. ssp. *major*. Male, age undetermined. NRM 956619, MNHNP 1087. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 13 March 1995. Meas.: wt 76, tot.l. 290, wing 117, wing span 355, tail 140, bill l. 14, bill d. 10.5, tarsus 27.5. Colors: bill blackish neutral gray, iris spectrum yellow, tarsus glaucous (no. 80). Plumage: body and tail moult (or growing). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Magpie Tanager is resident in Paraguay. It is uncommon in Central Paraguay (del Castillo and Clay 2004).

***Pipraeidea bonariensis* (J.F. Gmelin, 1789). Blue-and-yellow Tanager**

1. Female, ad. NRM 966765, MNHNP 1470. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 10 Oct. 1996. Meas.: wt 32, tot.l. 188, wing 90, wing span 275, tail 71, bill l. 12, bill d. 7.5, tarsus 21. Colors: bill blackish neutral gray, eye-ring blackish neutral gray, iris maroon, tarsus [olive-gray]. Plumage: primaries slightly worn, tail slightly worn. Fat score 3. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 966824. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 26.0, tot.l. 165, wing 96, tail 70, bill l. 12, bill d. 6.4, tarsus 20. Plumage: primaries slightly worn, tail heavy. Fat score 3. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Blue-and-yellow Tanager is supposed to be an austral migrant that winters in Paraguay (Hayes 1995), but the movements of this species remains to be clarified (Paul Smith pers. comm.). It is uncommon in Alto Chaco (del Castillo and Clay 2004).

***Tangara seledon* (Statius Muller, 1776). Green-headed Tanager**

1. Female, age undetermined. NRM 956580. Est. Nueva Gambach, Dpto Itapúa, 8 March 1995. Meas.: wt 18.5, tot.l. 135, wing 67, wing span 180, tail 49, bill l. 10, bill d. 5.0, tarsus 17. Colors: bill jet black, iris maroon, tarsus medium plumbeous. Plumage: moult in wing and tail. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Male, age undetermined. NRM 956640, MNHNP 1068. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 19, tot.l. 130, wing 70, wing span 190, tail 47, bill l. 10, bill d. 5.0, tarsus 17. Colors: bill jet black, iris cinnamon-brown, tarsus plumbeous. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Green-headed Tanager is resident in Paraguay and endemic to the Atlantic Forest (Vale *et al.* 2018). It is scarce in Central Paraguay (del Castillo and Clay 2004).

***Tangara sayaca* (Linnaeus, 1766). Sayaca Tanager**

1. Female, ad. NRM 937185, MNHNP uncat. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Meas.: wt 34, tot.l. 176, wing 91, tail 63, bill l. 15, bill d. 8.0, tarsus 22. Colors: tarsus plumbeous. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 937186. Est. Guazu, Dpto Pres. Hayes, 23 Sept. 1993. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947047. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 32, tot.l. 172, wing 93, wing span 280, tail 62, bill l. 19, bill d. 7.5, tarsus 21. Colors: bill Pratt's Payne's gray, iris raw umber (no. 223), eye-ring blackish neutral gray, tarsus medium plumbeous. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 947217, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 31, tot.l. 163, wing 89, wing span 280, tail 59, bill l. 14, bill d. 8.5, tarsus 20. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

5. Female, ad. NRM 947234. Est. Apami, Dpto Amambay, 6 Oct. 1994. Meas.: wt 37, tot.l. 158, wing 89, wing span 285, tail 62, bill l. 15, bill d. 8.0, tarsus 20. Colors: bill lavender, tarsus lavender. Prep.: alcohol specimen (NRM).

6. Unsexed, age undetermined. NRM 956641. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 29, tot.l. 160, wing 83, wing span 230, tail 60, bill l. 13.5, bill d. 7.7, tarsus 18. Colors: bill Pratt's Payne's gray, iris dark grayish brown, tarsus medium plumbeous. Prep.: alcohol specimen (NRM).

7. Unsexed, juv. NRM 956645, MNHNP 1974. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: tot.l. 160, wing 90, wing span 240, tail 66, bill l. 13, bill d. 7.0, tarsus 19. Colors: bill Pratt's Payne's gray, iris dark grayish brown, tarsus medium plumbeous. Plumage: body heavily growing. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

8. Unsexed, ad. NRM 966951. P.N. San Luís, Dpto Concepción, 30 Oct. 1996. Meas.: wt 34, tot.l. 160, wing 93, wing span 275, tail 63, bill l. 13, bill d. 7.5, tarsus 19. Colors: bill blackish neutral gray, tarsus dark neutral gray. Plumage: primaries heavy, tail heavy. Fat score 6. Prep.: skel. (NRM).

9. Female, ad. NRM 966953, MNHNP 1476. P.N. San Luís, Dpto Concepción, 30 Oct. 1996. Meas.: wt 37, tot.l. 168, wing 92, tail 62, bill l. 14, bill d. 8.0, tarsus 22. Colors: bill upper jaw blackish neutral gray, bill lower jaw plumbeous, tarsus glaucous (no. 79). Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: study skin (MNHNP).

10. Male, ad. NRM 967003. P.N. San Luís, Dpto Concepción, 2 Nov. 1996. Meas.: wt 36, tot.l. 170, wing 93, wing span 285, tail 60, bill l. 15, bill d. 7.5, tarsus 20. Plumage: tail moult, primaries moderately worn, tail heavy. Fat score 5. Prep.: skel. (NRM), blood or tissue sample (NRM).

11. Female, ad. NRM 967093. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 44, tot.l. 160, wing 93, wing span 275, tail 64, bill l. 14.5, bill d. 8.5, tarsus 20.5. Colors: bill upper jaw medium plumbeous, bill lower jaw Pratt's Payne's gray, tarsus medium plumbeous. Plumage: primaries slightly worn, tail slightly worn. Fat score 6. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Sayaca Tanager is resident in Paraguay. It is abundant in Matogrosense and Campos Cerrados, common Central Paraguay and fairly common in Bajo Chaco (del Castillo and Clay 2004). This species is partially migratory in Paraguay (Hilty 2020c) and all collected individuals for which we have data (collected in October-November) have fat scores 4-6 suggesting they are in migration. However, the three individuals ringed in early April 1998 at Est. Santa Ana, Dpto Misiones, had fat scores 0 or 1.

***Tangara preciosa* (Cabanis, 1851). Chestnut-backed Tanager**

1. Female, ad. NRM 956647, MNHNP 1094. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 15 March 1995. Meas.: wt 13, tot.l. 130, wing 58, wing span 175, tail 55, bill l. 11.5, bill d. 5.2, tarsus 19. Colors: bill, upper jaw fuscous, lower jaw pale horn color, iris olive-brown, tarsus medium plumbeous. Plumage: slight body moult, tail worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Chestnut-backed Tanager is an austral migrant that breeds south of Paraguay. It is scarce in Central Paraguay (del Castillo and Clay 2004), and there are few reports in recent years - mainly in winter (Paul Smith pers.comm.).

***Tangara cayana* (Linnaeus, 1766). Burnished-buff Tanager**

1. Male, ad. NRM 986704, MNHNP 1651. Est. Santa Ana, Dpto Misiones, 9 April 1998. Meas.: wt 23.5, tot.l. 142, wing 80, wing span 243, tail 56, bill l. 10, bill d. 6, tarsus 18. Colors: bill, upper jaw sepia, lower jaw Pratt's Payne's gray, iris burnt umber, tarsus blackish neutral gray. Plumage: primaries fresh, tail fresh. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 986734. Est. Santa Ana, Dpto Misiones, 12 April 1998. Meas.: wt 21, tot.l. 135, wing 66, wing span 230, tail 57, bill l. 11.5, bill d. 5.5, tarsus 18. Plumage: primaries fresh, tail fresh. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Burnished-buff Tanager is resident in Paraguay. It is scarce in Ñeembucú (del Castillo and Clay 2004).

DONACOBIIDAE

***Donacobius atricapilla* (Linnaeus, 1766). Donacobius**

1. Female, ad. NRM 966966, MNHNP 1437. P.N. San Luís, Dpto Concepción, 31 Oct. 1996. Meas.: wt 30, tot.l. 224, wing 78, wing span 240, tail 96, bill l. 25, bill d. 5.5, tarsus 29. Colors: bill blackish neutral gray, iris orange yellow, tarsus dark neutral gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The *Donacobius* is resident in Paraguay. It is scarce in Campos Cerrados (del Castillo and Clay 2004).

HIRUNDINIDAE

***Tachycineta albiventer* (Boddaert, 1783). White-winged Swallow**

1. Male, ad. NRM 947175, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 19.5, tot.l. 142, wing 116, wing span 305, tail 51, bill l. 9.5, bill d. 3.5, bill br. 9.5, tarsus 12. Colors: bill blackish neutral gray, tarsus blackish neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 947210. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 17.5, tot.l. 142, wing 110, bill l. 9.5, bill d. 3.0, bill br. 11.5, tarsus 11.5. Colors: bill jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-winged Swallow is resident in Paraguay. It is uncommon in Matogrosense (del Castillo and Clay 2004).

***Tachycineta leucorrhoa* (Vieillot, 1817). White-rumped Swallow**

1. Male, ad. NRM 947134, MNHNP 1024. Est. Doña Júlia, Dpto Alto Paraguay, 16 Sept. 1994. Meas.: wt 18.5, tot.l. 145, wing 120, wing span 300, tail 50, bill l. 12, bill d. 2.5, tarsus 11.5. Colors: bill jet black, iris warm sepia, eye-ring Vandyke brown (no. 221), tarsus sepia (no. 119). Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947197. Est. Doña Júlia, Dpto Alto Paraguay, 20 Sept. 1994. Meas.: wt 20, tot.l. 145, wing 116, wing span 313, tail 50, bill l. 8.5, bill d. 3.0, tarsus 12.5. Colors: bill jet black, iris Prout's brown, eye-ring olive-gray, tarsus warm sepia. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The White-rumped Swallow is a southern austral migrant that also has a breeding population in Paraguay. In the austral winter many birds that breeds further south winters in Paraguay. It is common in Matogrosense (del Castillo and Clay 2004). Species identification of individual no. 2 has been verified by DNA barcoding.

***Progne tapera* (Linnaeus, 1766). Brown-chested Martin**

1. Female, ad. NRM 937353. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 38, tot.l. 165, wing 132, tail 63, bill l. 11, bill d. 5.0. Prep.: skel. (NRM), blood or tissue sample (NRM).

2. Male, ad. NRM 937367, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 37, tot.l. 185, wing 135, tail 64, bill l. 11, bill d. 4.0, tarsus 13.5. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
3. Male, ad. NRM 947027. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 38, tot.l. 180, wing 135, wing span 360, tail 65, bill l. 13, bill d. 5.0, tarsus 13. Colors: bill jet black, iris natal brown, eye-ring jet black, tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 947201, MNHNP 1050. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 36, tot.l. 185, wing 137, wing span 370, tail 68, bill l. 11, bill d. 5.0, tarsus 13. Colors: bill jet black, eye-ring jet black, tarsus jet black. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
5. Unsexed, ad. NRM 947202, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 37, tot.l. 185, wing 140, wing span 375, tail 69, bill l. 11.5, bill d. 5.0, tarsus 14. Colors: bill jet black, iris army brown, eye-ring sepia (no. 219), tarsus jet black. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
6. Male, ad. NRM 947203. Est. Doña Júlia, Dpto Alto Paraguay, 21 Sept. 1994. Meas.: wt 34, tot.l. 182, wing 138, wing span 355, tail 62, bill l. 11, bill d. 4.5, tarsus 13. Colors: bill jet black, iris natal brown, eye-ring sepia (no. 219), tarsus jet black. Prep.: skel. (NRM), blood or tissue sample (NRM).
7. Male, ad. NRM 947219. Est. San José, Dpto Pres. Hayes, 28 Sept. 1994. Meas.: wt 33, tot.l. 185, wing 139, wing span 370, tail 66, bill l. 11, bill d. 5.5, tarsus 13.5. Prep.: study skin (NRM), blood or tissue sample (NRM).
8. Male, ad. NRM 966849. Est. Palo Santo, Dpto Pres. Hayes, 15 Oct. 1996. Meas.: wt 30, tot.l. 180, wing 136, wing span 360, tail 62, bill l. 11, bill d. 4.5, tarsus 13. Colors: bill jet black, iris burnt sienna, tarsus jet black. Plumage: primaries fresh, tail fresh. Prep.: skel. (NRM).
9. Male, ad. NRM 966913. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 36, tot.l. 180, wing 127, wing span 325, tail 66, bill l. 11, bill d. 4.0, tarsus 13. Colors: bill jet black, iris chestnut, tarsus jet black. Plumage: slight moult in wing and tail (growing?), primaries fresh, tail fresh. Prep.: skel. (NRM).
10. Female, ad. NRM 976758, MNHNP uncat. Est. Palo Santo, Dpto Pres. Hayes, 2 Dec. 1997. Meas.: wt 32, tot.l. 157, wing 127, wing span 340, tail 60, bill l. 10.5, bill d. 4.5, tarsus 13.5. Colors: bill sepia (no.119), iris russet, tarsus sepia. Plumage: primaries fresh, tail slightly worn. Fat score 4. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

Remarks: The Brown-chested Martin is resident in Paraguay. It is fairly common in Alto Chaco, common in Matogrosense and abundant in Bajo Chaco (del Castillo and Clay 2004).

***Progne subis* (Linnaeus, 1758). Purple Martin**

1. Male, ad. NRM 947026, MNHNP 1644. Est. Doña Júlia, Dpto Alto Paraguay, 11 Sept. 1994. Meas.: wt 55, tot.l. 20, wing 151, wing span 405, tail 74, bill l. 12, bill d. 5.0, tarsus 16. Colors: bill jet black, iris sepia (no. 219), eye-ring jet black, tarsus blackish neutral gray. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

Remarks: The Purple Martin is a northern migrant that winters in Paraguay. It is fairly common in Matogrosense (del Castillo and Clay 2004). This specimen was obtained from a large number of Martins roosting in a tree. Large flocks of Purple Martins have previously been reported in Matogrosense (Hayes 1995), but the species seem less common in recent years (Paul Smith pers. comm.). The species identification has been verified by DNA barcoding.

***Stelgidopteryx ruficollis* (Vieillot, 1817). Southern Rough-winged Swallow (Fig. 10E)**

1. Female, ad. NRM 966984, MNHNP 1449. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 16.5, tot.l. 141, wing 106, wing span 295, tail 50, bill l. 7.5, bill d. 2.5, tarsus 11. Colors: bill jet black, iris vinaceous pink, tarsus blackish neutral gray. Plumage: primaries fresh, tail slightly worn. Fat score 2. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 966985. P.N. San Luís, Dpto Concepción, 1 Nov. 1996. Meas.: wt 14.5, tot.l. 143, wing 116, wing span 305, tail 57, bill l. 6.5, bill d. 3.0, tarsus 9.5. Colors: bill jet black, iris vinaceous pink, tarsus sepia (no. 219). Plumage: primaries slightly worn, tail slightly worn. Fat score 0. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Male, ad. NRM 967049. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 16.5, tot.l. 133, wing 108, wing span 295, tail 52, bill l. 6.5, bill d. 3.0, tarsus 9.5. Colors: bill dusky brown, iris burnt umber, tarsus dusky brown. Plumage: primaries slightly worn, tail slightly worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

Remarks: The Southern Rough-winged Swallow is a northern austral migrant that is uncommon in Campos Cerrados (del Castillo and Clay 2004). After breeding parts of the population spends the austral winter further north in South America.

TROGLODYTIDAE

***Troglodytes aedon* Vieillot, 1809. House Wren**

1. Male, ad. NRM 937215, MNHNP 997. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 11, tot.l. 108, wing 51, tail 41, bill l. 13.5, bill d. 3.0, tarsus 18. Colors: bill dusky brown, iris raw umber, tarsus drab. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 937206. Est. Guazu, Dpto Pres. Hayes, 24 Sept. 1993. Meas.: wt 9.5, tot.l. 111, wing 53, tail 44, bill l. 13, bill d. 3.0, tarsus 17. Colors: iris raw umber. Released.

3. Female, ad. NRM 937227. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 10, tot.l. 110, wing 52, tail 46, bill l. 12, bill d. 3.0, tarsus 17.5. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Female, ad. NRM 937239. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Meas.: wt 11.5, tot.l. 125, wing 48, tail 39, bill l. 14, bill d. 3.5, tarsus 17.5. Colors: bill, upper jaw vinaceous pink, lower jaw warm sepia, iris raw umber (no. 223), tarsus cinnamon-drab. Prep.: skel. (NRM)

5. Male, ad. NRM 947056, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 11, tot.l. 125, wing 51, wing span 173, tail 45, bill d. 3.8, tarsus 17. Colors: iris chestnut, tarsus beige. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Female, ad. NRM 947060, MNHNP uncat. Est. Doña Júlia, Dpto Alto Paraguay, 12 Sept. 1994. Meas.: wt 11, tot.l. 110, wing 50, tail 40, bill l. 15, bill d. 3.0, tarsus 17. Colors: bill sepia (no. 119), iris walnut brown, tarsus medium neutral gray. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
7. Unsexed, ad. NRM 947091. Est. Doña Júlia, Dpto Alto Paraguay, 13 Sept. 1994. Meas.: wt 10, tot.l. 120, wing 51, wing span 160, tail 43, bill l. 14, bill d. 3.0, tarsus 16. Colors: bill blackish neutral gray, iris warm sepia, eye-ring drab-gray, tarsus medium neutral gray. Prep.: alcohol specimen (NRM), blood or tissue sample (NRM).
8. Unsexed, ad. NRM 947116. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 10.5, tot.l. 120, wing 53, wing span 160, tail 43, bill l. 14, bill d. 2.4, tarsus 17.5. Colors: bill sepia (no. 119), iris raw umber (no. 223), eye-ring Vandyke brown (no. 221), tarsus sepia (no. 219). Prep.: alcohol specimen (NRM).
9. Male, ad. NRM 947173. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 11, tot.l. 128, wing 59, wing span 176, tail 45, bill l. 14.5, bill d. 3.1, tarsus 17. Colors: iris verona brown, eye-ring buff (no. 124), tarsus light neutral gray. Prep.: skel. (NRM), blood or tissue sample (NRM).
10. Unsexed, age undetermined. NRM 956613, MNHNP uncat. P.N. Caaguazú (Sector Enramadita), Dpto Caazapá, 11 March 1995. Meas.: wt 12.5, tot.l. 120, wing 48, wing span 135, tail 40, bill l. 13, bill d. 3.0, tarsus 17. Colors: bill, upper jaw dark grayish brown, lower jaw smoke gray (no. 44), iris raw umber (no. 23), tarsus fawn color. Plumage: moulting. Prep.: alcohol specimen (MNHNP).
11. Male, juv. NRM 956693. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 9.5, tot.l. 114, wing 48, wing span 156, bill l. 13, bill d. 3.0, tarsus 40. Colors: bill plumbeous, tarsus olive. Plumage: growing all over. Prep.: skel. (NRM), blood or tissue sample (NRM).
12. Unsexed, juv. NRM 956698. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 25 March 1995. Meas.: wt 9.0, tot.l. 113, wing 49, wing span 160, tail 40, bill l. 13.5, bill d. 3.2, tarsus 16.5. Colors: bill, upper jaw dusky brown, lower jaw flesh color, iris walnut brown, tarsus cinnamon-drab. Plumage: body and wing growing, fresh. Prep.: alcohol specimen (NRM).

Remarks: The House Wren is resident in Paraguay. It is fairly common in Alto Chaco and Matogrosense, and common in Bajo Chaco and Central Paraguay (del Castillo and Clay 2004).

POLIOPTILIDAE

Polioptila dumicola (Vieillot, 1817). Masked Gnatcatcher

1. Male, ad. NRM 937159. Est. Guazu, Dpto Pres. Hayes, 21 Sept. 1993. Meas.: wt 6.5, tot.l. 123, wing 51, tail 55, bill l. 11, bill d. 2.5, tarsus 16.5. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, tarsus Pratt's Payne's gray. Specimen lost.
2. Male, ad. NRM 947167. Est. Doña Júlia, Dpto Alto Paraguay, 18 Sept. 1994. Meas.: wt 6.8, tot.l. 126, wing 54, wing span 155, tail 56, bill l. 11, bill d. 3.0, tarsus 17. Colors: bill, upper jaw jet black, lower jaw Pratt's Payne's gray, iris burnt sienna, eye-ring jet black, tarsus jet black. Prep.: study skin (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947267, MNHNP 1036. Est. Apami, Dpto Amambay, 10 Oct. 1994. Meas.: wt 7.6, tot.l. 125, wing 54, wing span 150, tail 59, bill l. 12, bill d. 2.0, tarsus 17. Colors: bill jet black, iris burnt umber, eye-ring jet black, tarsus plumbeous. Plumage: hail and body moulting. Remarks: incubation patch present. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

4. Female, ad. NRM 956666. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 23 March 1995. Meas.: wt 6.0, tot.l. 110, wing 45, wing span 130, tail 54, bill l. 10, bill d. 2.0, tarsus 17. Plumage: some tail feathers worn. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Female (plum.), age undetermined. NRM 956689. Madrejón 42 km W, P.N. Defensores del Chaco, Dpto Alto Paraguay, 24 March 1995. Meas.: wt 6.0, tot.l. 118, wing 49, wing span 125, tail 56, bill l. 10, bill d. 2.0, tarsus 17. Colors: bill, upper jaw blackish neutral gray, lower jaw medium neutral gray, iris blackish neutral gray. Plumage: moulting. Prep.: skel. (NRM), blood or tissue sample (NRM).

6. Male, ad. NRM 966791, MNHNP uncat. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 11 Oct. 1996. Meas.: wt 7.0, tot.l. 123, wing 53, wing span 150, tail 58, bill l. 11, bill d. 3.0, tarsus 18. Colors: bill jet black, tarsus blackish neutral gray. Plumage: primaries moderately worn, tail heavy. Fat score 4. Prep.: skel. (MNHNP).

7. Male, ad. NRM 966829. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 6.5, tot.l. 110, wing 50, wing span 160, tail 51, bill l. 10, bill d. 2.5, tarsus 19. Plumage: primaries heavy, tail heavy. Fat score 3. Prep.: skel. (NRM).

Remarks: The Masked Gnatcatcher is resident in Paraguay. It is common in Alto Chaco, Bajo Chaco and Campos Cerrados, and fairly common in Matogrosense (del Castillo and Clay 2004).

MIMIDAE

Mimus saturninus (M.H.C. Lichtenstein, 1823). Chalk-browed Mockingbird

1. Unsexed, juv? NRM 956746, MNHNP 1088. Madrejón, P.N. Defensores del Chaco, Dpto Alto Paraguay, 30 March 1995. Meas.: tot.l. 248, wing 114, wing span 340, tail 121, bill l. 20, bill d. 6.2, tarsus 33. Plumage: body and wing growing, central tail worn. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

2. Unsexed, ad. NRM 966912. Est. Palo Santo, Dpto Pres. Hayes, 18 Oct. 1996. Meas.: wt 54, tot.l. 245, wing 110, wing span 310, tail 114, bill l. 17, bill d. 6.0, tarsus 33. Colors: bill jet black, iris lime green, tarsus dusky brown. Plumage: primaries moderately worn, tail moderately worn. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Chalk-browed Mockingbird is resident in Paraguay. It is common in Alto Chaco (del Castillo and Clay 2004).

TURDIDAE

Turdus leucomelas Vieillot, 1818. Pale-breasted Thrush

1. Female, ad. NRM 937274. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 76, tot.l. 225, wing 121, tail 101, bill l. 24, bill d. 6.6, tarsus 33. Colors: bill dark neutral gray, iris chestnut, tarsus medium neutral gray. Prep.: study skin (NRM), blood or tissue sample (NRM).

2. Female, ad. NRM 937294. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 4 Oct. 1993. Meas.: wt 65, tot.l. 236, wing 127, tail 100, bill l. 17.5, bill d. 7.0, tarsus 31. Colors: bill Vandyke brown (no. 221)-smoke gray (no. 44), iris chestnut, tarsus medium plumbeous. Prep.: skel. (NRM)
3. Male, ad. NRM 937318, MNHNP 2002. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 6 Oct. 1993. Meas.: wt 69, tot.l. 235, wing 115, tail 95, bill l. 23, bill d. 7.0, tarsus 32. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
4. Male, ad. NRM 967095. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 69, tot.l. 225, wing 330, wing span 118, tail 99, bill l. 20.5, bill d. 8.5, tarsus 33. Colors: bill upper jaw hair brown, bill lower jaw grayish olive, iris ferruginous, tarsus Vandyke brown (no. 121). Plumage: primaries moderately worn, tail heavy. Prep.: study skin (NRM), blood or tissue sample (NRM).
5. Unsexed. ad. NRM 967107, MNHNP 2089. P.N. Cerro Corá, Dpto Amambay, 9 Nov. 1996. Meas.: wt 64, tot.l. 215, wing 116, tail 93, bill l. 20, bill d. 7.0, tarsus 32. Colors: bill brownish olive, tarsus olive-brown. Plumage: primaries moderately worn, tail heavy. Fat score 0. Prep.: alcohol specimen (MNHNP).
6. Unsexed, ad. NRM 967115, MNHNP 2097. P.N. Cerro Corá, Dpto Amambay, 11 Nov. 1996. Meas.: wt 67, tot.l. 230, wing 124, wing span 355, tail 103, bill l. 19, bill d. 7.0, tarsus 30. Colors: bill dark drab, iris mahogany red, tarsus dark drab. Prep.: alcohol specimen (MNHNP).
7. Male, juv. NRM 976665. P.N. Cerro Corá, Dpto Amambay, 14 Nov. 1997. Meas.: wt 61, tot.l. 245, wing 120, wing span 355, tail 98, bill l. 19, bill d. 7, tarsus 33. Colors: bill blackish neutral gray, tarsus tawny olive. Plumage: primaries fresh, tail fresh. Fat score 4. Prep.: study skin (NRM), blood or tissue sample (NRM).

Remarks: The Pale-breasted Thrush is resident in Paraguay. It is common in Central Paraguay and fairly common in Campos Cerrados (del Castillo and Clay 2004).

***Turdus albicollis* Vieillot, 1818. White-necked Thrush**

1. Female, ad. NRM 937222, MNHNP 1000. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 59, tot.l. 192, wing 108, tail 66, bill l. 19, bill d. 7.0, tarsus 29.5. Colors: bill, upper jaw sulphur yellow, lower jaw dusky brown, iris raw umber, eye-ring orange yellow, tarsus olive-brown. Prep.: study skin (MNHNP), blood or tissue sample (NRM).
2. Female, ad. NRM 937223. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 30 Sept. 1993. Meas.: wt 68, tot.l. 233, wing 113, tail 88, bill l. 21, bill d. 6.1, tarsus 29. Colors: bill, upper jaw buff yellow, lower jaw dark grayish brown, iris dusky brown, eye-ring spectrum orange, tarsus sayal brown. Prep.: skel. (NRM), blood or tissue sample (NRM).
3. Female, ad. NRM 937253. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 1 Oct. 1993. Prep.: study skin (NRM), blood or tissue sample (NRM).
4. Male, ad. NRM 967047, MNHNP 1980. P.N. San Luís, Dpto Concepción, 5 Nov. 1996. Meas.: wt 55, tot.l. 204, wing 110, wing span 340, tail 88, bill l. 21, bill d. 7.5, tarsus 27. Colors: bill upper jaw dark grayish brown, bill lower jaw orange yellow, iris hazel, tarsus light drab. Plumage: primaries slightly worn, tail heavy. Fat score 0. Prep.: skel. (MNHNP), blood or tissue sample (NRM).
5. Female, ad. NRM 967063. P.N. San Luís, Dpto Concepción, 6 Nov. 1996. Meas.: wt 61, tot.l. 217, wing 107, wing span 333, tail 82, bill l. 20, bill d. 7.0, tarsus 28. Colors: bill upper jaw

fuscous, bill lower jaw buff (no. 24), tarsus sepia (no. 219). Plumage: primaries fresh, tail moderately worn. Fat score 2. Prep.: study skin (NRM), blood or tissue sample (NRM).

6. Female, ad. NRM 976739, MNHNP uncat. San Antonio, Dpto Concepción, 21 Nov. 1997. Meas.: wt 62, tot.l. 215, wing 112, wing span 340, tail 87, bill l. 20, bill d. 7.0, tarsus 28. Plumage: primaries slightly worn, tail moderately worn. Fat score 6. Prep.: skel. (MNHNP), gizzard (NRM), blood or tissue sample (NRM).

Remarks: The White-necked Thrush is resident in Paraguay. It is scarce in Campos Cerrados, but fairly common in Central Paraguay (del Castillo and Clay 2004). This species is regarded as generally stationary (Collar *et al.* 2020), but an individual with fat score 6 collected in Dpto Concepción in November shows that Paraguay also houses some migratory birds.

***Turdus rufiventris* Vieillot, 1818. Rufous-bellied Thrush**

1. Male, ad. NRM 937276, MNHNP uncat. P.N. Caaguazú (Sector Cristal), Dpto Caazapá, 2 Oct. 1993. Meas.: wt 72, tot.l. 250, wing 120, tail 102, bill l. 22, bill d. 7.6, tarsus 37. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Female, ad. NRM 947112. Est. Doña Júlia, Dpto Alto Paraguay, 14 Sept. 1994. Meas.: wt 64.5, tot.l. 252, wing 120, wing span 365, tail 103, bill l. 24.5, bill d. 7.0, tarsus 35. Colors: bill dark brownish olive, iris burnt sienna, eye-ring orange yellow, tarsus glaucous (no. 79). Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Female, ad. NRM 947181. Est. Doña Júlia, Dpto Alto Paraguay, 19 Sept. 1994. Meas.: wt 70, tot.l. 250, wing 115, wing span 370, tail 100. Colors: iris walnut brown, eye-ring orange yellow. Prep.: skel. (NRM), blood or tissue sample (NRM).

4. Unsexed, ad. NRM 947251. Est. Apami, Dpto Amambay, 8 Oct. 1994. Meas.: wt 62, tot.l. 255, wing 120, wing span 365, tail 102, bill l. 21.5, bill d. 6.5, tarsus 32.5. Prep.: alcohol specimen (NRM).

5. Male, age undetermined. NRM 956593, MNHNP uncat. Est. Nueva Gambach, Dpto Itapúa, 9 March 1995. Meas.: wt 70, tot.l. 230, wing 123, tail 102, bill l. 20, bill d. 7.0, tarsus 34. Colors: bill, upper jaw olive-brown, lower jaw citrine, iris mars brown, tarsus raw umber (no. 223). Prep.: skel. (MNHNP), blood or tissue sample (NRM).

6. Female, ad. NRM 986692, MNHNP 1649. Est. Santa Ana, Dpto Misiones, 7 April 1998. Meas.: wt 68.5, tot.l. 245, wing 125, tail 106, bill l. 20.5, bill d. 7.5, tarsus 33. Plumage: primaries fresh, tail fresh. Fat score 5. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

7. Male, ad. NRM 986697. Est. Santa Ana, Dpto Misiones, 8 April 1998. Meas.: wt 63, tot.l. 245, wing 119, wing span 330, tail 106, bill l. 22, bill d. 6, tarsus 33.5. Colors: bill olive-yellow, iris russet, tarsus olive-green. Plumage: primaries fresh, tail slightly worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

8. Male, ad. NRM 986715. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 69, tot.l. 240, wing 114, wing span 320, tail 101, bill l. 22, bill d. 6.5, tarsus 35. Colors: bill greenish olive, iris Prout's brown, tarsus Vandyke brown. Plumage: primaries slightly worn, tail moderately worn. Fat score 2. Prep.: skel. (NRM), blood or tissue sample (NRM).

9. Male, ad. NRM 986719. Est. Santa Ana, Dpto Misiones, 10 April 1998. Meas.: wt 68, tot.l. 135, wing 121, wing span 350, tail 103, bill l. 21, bill d. 7, tarsus 33. Colors: bill greenish olive, iris

Prout's brown, tarsus Vandyke brown. Plumage: primaries fresh, tail fresh. Fat score 1. Prep.: study skin (NRM), blood or tissue sample (NRM).

10. Unsexed, juv? NRM 986803. Est. Santa Ana, Dpto Misiones, 17 April 1998. Meas.: wt 73.5, wing 120, tail 102, bill l. 16.6, tarsus 35. Prep.: blood or tissue sample (NRM).

Remarks: The Rufous-bellied Thrush is resident in Paraguay. It is fairly common in Matogrosense, Campos Cerrados and Ñeembucú, and common in Central Paraguay (del Castillo and Clay 2004). This species is supposed to be sedentary (Collar 2020) but one individual collected in Dpto Misiones in April had fat score 5 indicating it was in migration. Other individuals collected at the same occasion did not show any fat deposition, however. There were many Rufous-bellied Thrushes in the area during these days and we captured and ringed eleven of them. Only one was captured more than once, which suggests a high turn-over rate of individuals in the nearby area. This could in turn be explained by that these individuals were in migration just making a brief stop in the area. Interestingly, one individual ringed by PROVEPA at Est. Santa Ana, Dpto Misiones, on 12 November 1998 was trapped at the same locality by a team from University of Kansas one year later, on 22 October 1999 (Kristof Zyskowski pers. comm.).

***Turdus amaurochalinus* Cabanis, 1851. Creamy-bellied Thrush**

1. Male, ad. NRM 937357, MNHNP 1982. Est. Palo Santo, Dpto Pres. Hayes, 12 Oct. 1993. Meas.: wt 48, tot.l. 213, wing 116, tail 90, bill l. 20, bill d. 6.0, tarsus 31. Prep.: skel. (MNHNP), blood or tissue sample (NRM).

2. Male, ad. NRM 937373. Est. Palo Santo, Dpto Pres. Hayes, 13 Oct. 1993. Prep.: skel. (NRM), blood or tissue sample (NRM).

3. Male (?), age undetermined. NRM 956710. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 27 March 1995. Meas.: wt 59, tot.l. 225, wing 118, wing span 350, tail 92, bill l. 20, bill d. 6.5, tarsus 34. Prep.: study skin (NRM), blood or tissue sample (NRM).

4. Male (female plum.), juv. NRM 956729. Madrejón 5 km N, P.N. Defensores del Chaco, Dpto Alto Paraguay, 28 March 1995. Meas.: wt 60, tot.l. 215, wing 112, wing span 345, tail 84, bill l. 19, bill d. 6.5, tarsus 32. Colors: bill dusky brown, iris cinnamon-brown, tarsus glaucous (no. 79). Plumage: body and tail growing. Prep.: skel. (NRM), blood or tissue sample (NRM).

5. Male, ad. NRM 966826, MNHNP 1438. Dr Pedro P. Peña, 7 km W, Dpto Boquerón, 12 Oct. 1996. Meas.: wt 55, tot.l. 220, wing 111, wing span 340, tail 95, bill l. 20, bill d. 7.0, tarsus 32. Plumage: primaries fresh, tail fresh. Fat score 4. Prep.: study skin (MNHNP), blood or tissue sample (NRM).

6. Unsexed, ad. NRM 976797. P.N. Tte Enciso, Dpto Boquerón, 5 Dec. 1997. Meas.: wt 55, tot.l. 215, wing 118, wing span 356, tail 96, bill l. 21, bill d. 7, tarsus 32. Colors: bill buff-yellow, iris chestnut, tarsus medium neutral gray. Plumage: primaries moderately worn, tail moderately worn. Fat score 0. Prep.: alcohol specimen (NRM).

7. Unsexed. NRM 986804. Est. Santa Ana, Dpto Misiones, 17 April 1998. Meas.: wt 69.2, wing 124, tail 101, bill l. 17.9, tarsus 34. Prep.: blood or tissue sample (NRM).

Remarks: The Creamy-bellied Thrush is resident in Paraguay. It is common in Alto Chaco and is fairly common in Ñeembucú (del Castillo and Clay 2004). This species is regarded a partial migrant where parts of the population in the south (Argentina and Uruguay) move north in the

austral winter (Collar and de Juana 2020). This is also true for parts of the Paraguayan population (Paul Smith pers. comm.). During ten days of fieldwork at Est. Santa Ana, Dpto Misiones, in April 1998 we ringed 13 individuals of this species but did not recapture a single of these. This suggests a high turn-over of individuals in the nearby area, possibly due to migration.

Discussion

Although the knowledge of the Paraguayan bird fauna has increased tremendously during the last 30 years it is still far from satisfactory. Recent fieldwork constantly adds data on the geographic and temporal variation in faunal composition. The roles of various Paraguayan biomes for migrating and wintering birds are especially understudied. It has, for example, been shown that the bird fauna may vary also between nearby localities with seemingly similar habitats, as in the northernmost dry Chaco (Zyskowski *et al.* 2003). If such observations are the result of a species turn-over during migration, or if it reflects true differences in species' distributions remains to be clarified. As Paraguay consists of several distinct biogeographical regions, some bird species may exhibit a considerable geographic variation in plumage characters and/or biometry, or may even be represented by two or more distinct subspecies. In addition, through molecular techniques we know that several species consist of deeply divergent groups, which in some cases may even be regarded as separate species (e.g., Chaves *et al.* 2008; Kerr *et al.* 2009). Much taxonomic and systematic research remain on Neotropical birds and such studies rely on museum specimens, biometric data, and access to samples for molecular analyses. Systematic and biogeographic studies are increasingly using genetic information obtained from vouchered samples as those collected in the present study. An illustration of this is that we found that a large proportion of the blood or tissue samples collected by PROVEPA have already been used in systematic research. Until 2014, 160 (13%) of the ca 1230 PROVEPA samples had been included in 34 research papers published in international, peer-reviewed journals. Since then, several more have been used by researchers worldwide. The genetic information obtained from these specimens have been made available for subsequent studies through deposition in GenBank. Museum collections are widely acknowledged as an important infrastructure for biodiversity research (e.g., Bakker *et al.* 2020) and we hope that the publication of the PROVEPA specimens will serve as an impetus for continued research on the rich and highly interesting Paraguayan bird fauna.

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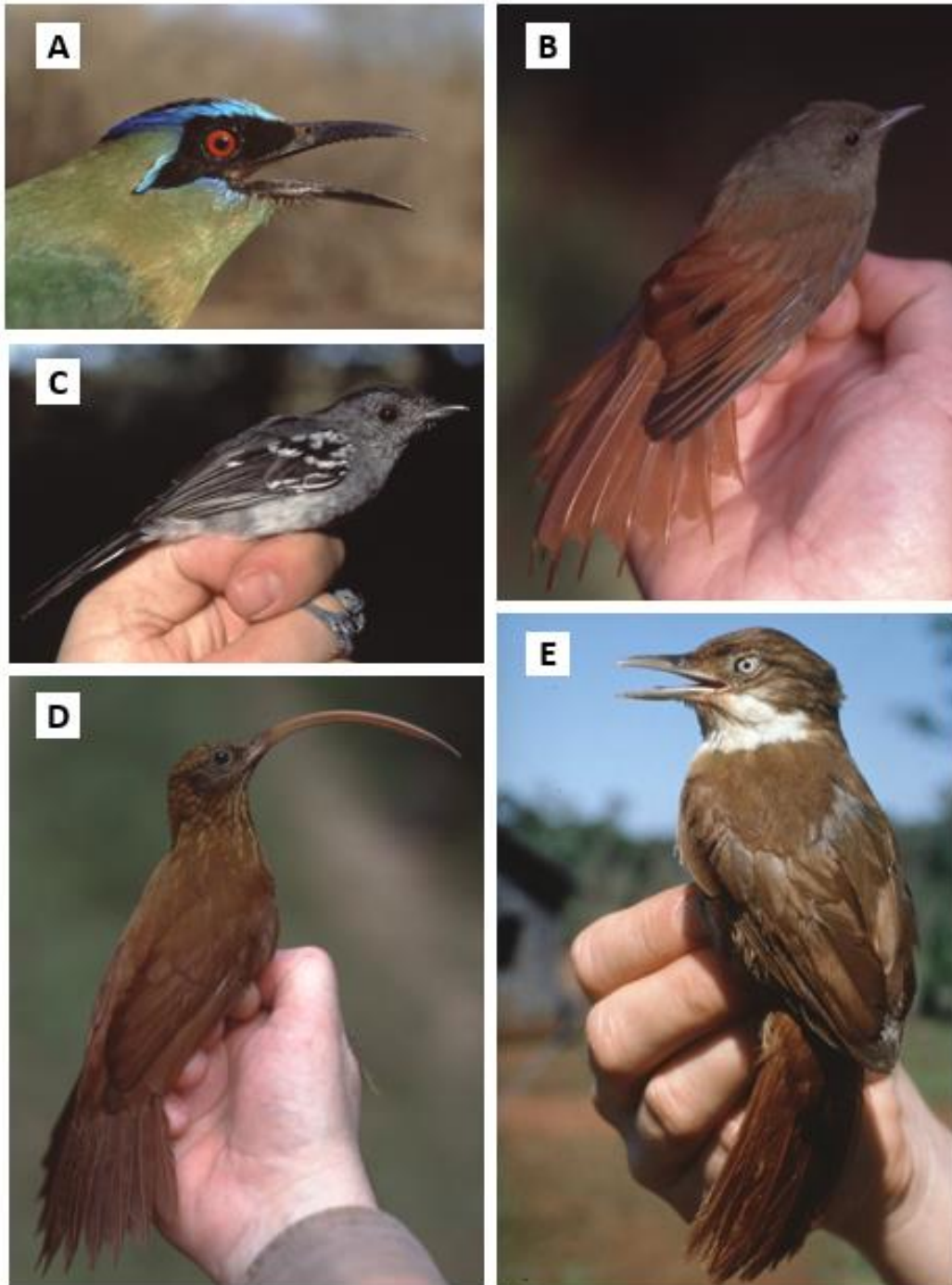


Figure 5. Selected species captured during the survey. A. Blue-crowned Motmot *Momotus momota pilcomajensis*, B. Olivaceous Woodcreeper *Sittasomus griseicapillus sylviellus*, C. Variable Antshrike *Thamnophilus caerulescens* cf. *gilvigaster* (Dpto. Misiones), D. Red-billed Scythebill *Campylorhamphus trochilirostris*, E. White-eyed Foliage-gleaner *Automolus leucothalmus*. Photo: PROVEPA, Swedish Museum of Natural History.

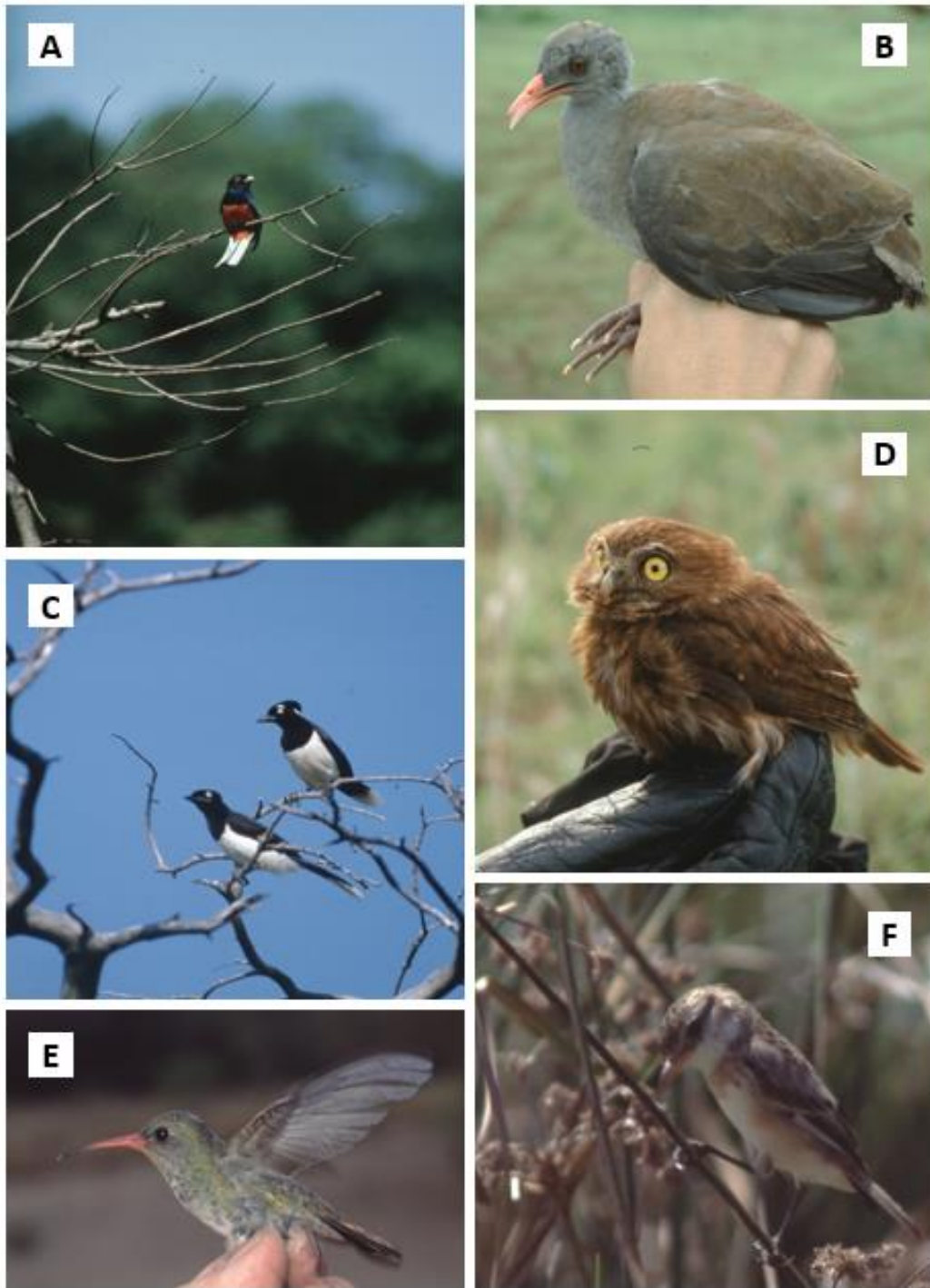


Figure 6. Selected species captured during the survey. A. Surucua Trogon *Trogon surrucura*, B. Tatapua Tinamou *Crypturellus tataupa*, C. Plush-crested Jay *Cyanocorax chrysops*, D. Ferruginous Pygmy Owl *Glaucidium brasilianum*, E. Glittering-bellied Emerald *Chlorostilbon lucidus*, F. Cock-tailed Tyrant *Alectrurus tricolor*. Photo: PROVEPA, Swedish Museum of Natural History.

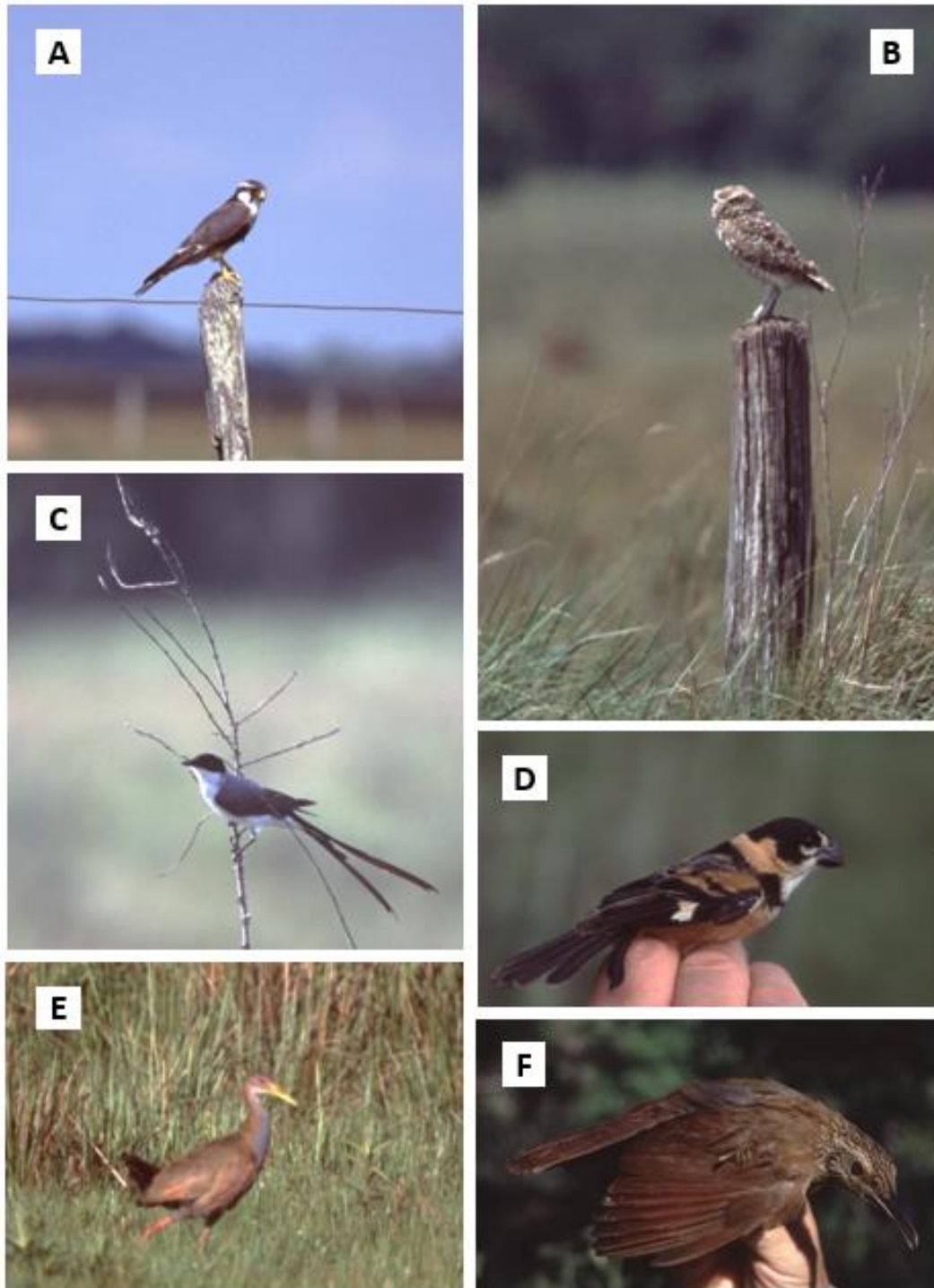


Figure 7. Selected species captured during the survey. A. Aplomado Falcon *Falco femoralis*, B. Burrowing Owl *Athene cunicularia*, C. Fork-tailed Flycatcher *Tyrannus savana*, D. Rusty-collared Seedeater *Sporophila collaris*, E. Giant Wood Rail *Aramides ypecaha*, F. Planalto Woodcreeper *Dendrocolaptes platyrostris*. Photo: PROVEPA, Swedish Museum of Natural History.



Figure 8. Selected species captured during the survey. A. Sharp-tailed Tyrant *Culicivora caudacuta*, B. Ochre-collared Piculet *Picumnus temminckii*, C. Pied Water-tyrant *Fluvicola pica*, D. Pearly-vented Tyrant *Hemitriccus margaritaceiventer*, E. Scaled Dove *Columbina squammata*, F. Little Nightjar *Setopagis parvula*, G. Black-capped Warbling-finch *Microspingus melanoleucus*. Photo: PROVEPA, Swedish Museum of Natural History.

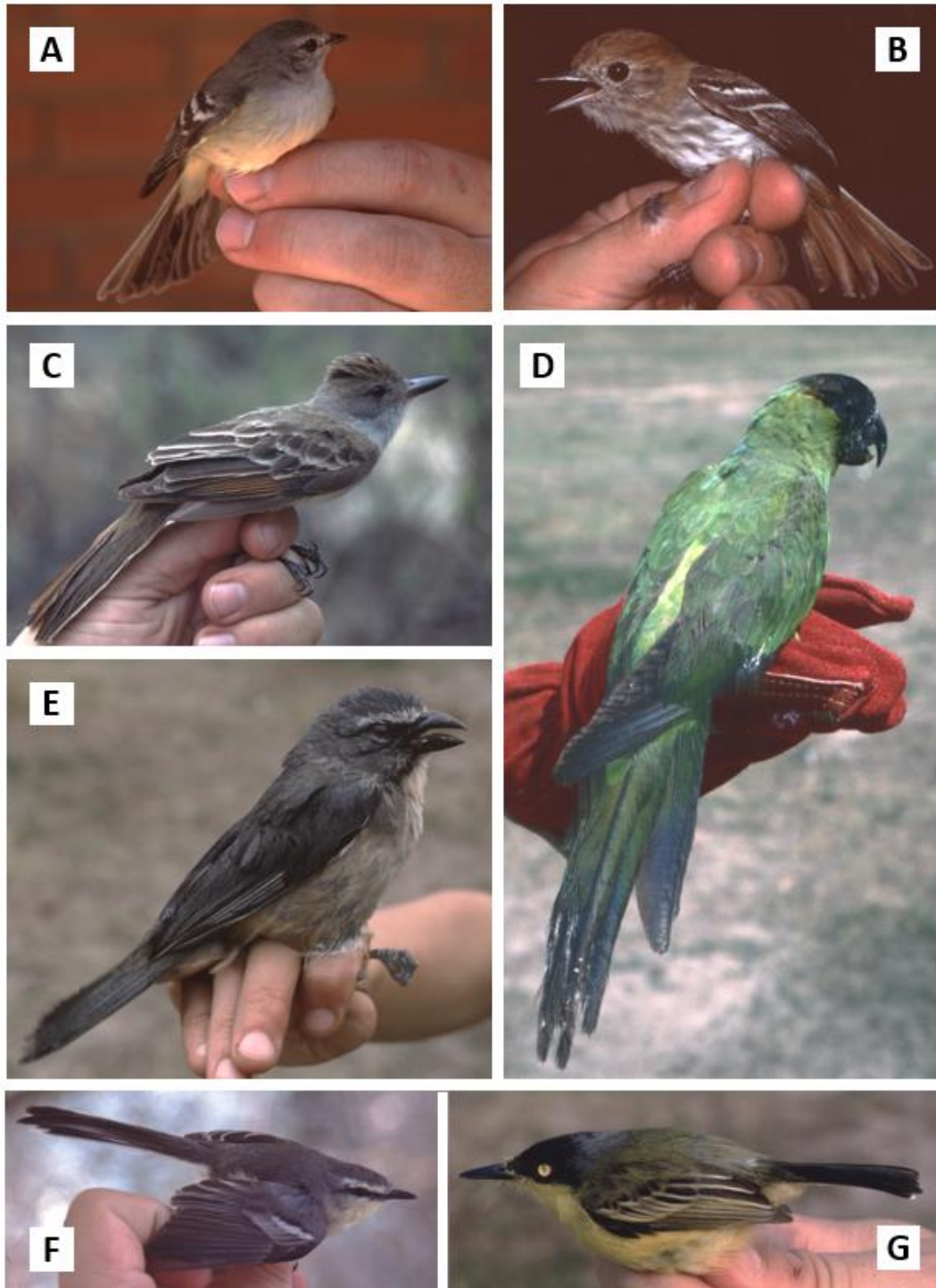


Figure 9. Selected species captured during the survey. A. Southern Scrub Flycatcher *Sublegatus modestus*, B. Cinereous Tyrant *Knipolegus striaticeps*, C. Brown-crested Flycatcher *Myiarchus tyrannulus*, D. Nanday Parakeet *Aratinga nenday*, E. Grayish Saltator *Saltator coerulescens*, F. Greater Wagtail Tyrant *Stigmatura budytoides*, G. Common Tody Flycatcher *Todirostrum cinereum*. Photo: PROVEPA, Swedish Museum of Natural History.

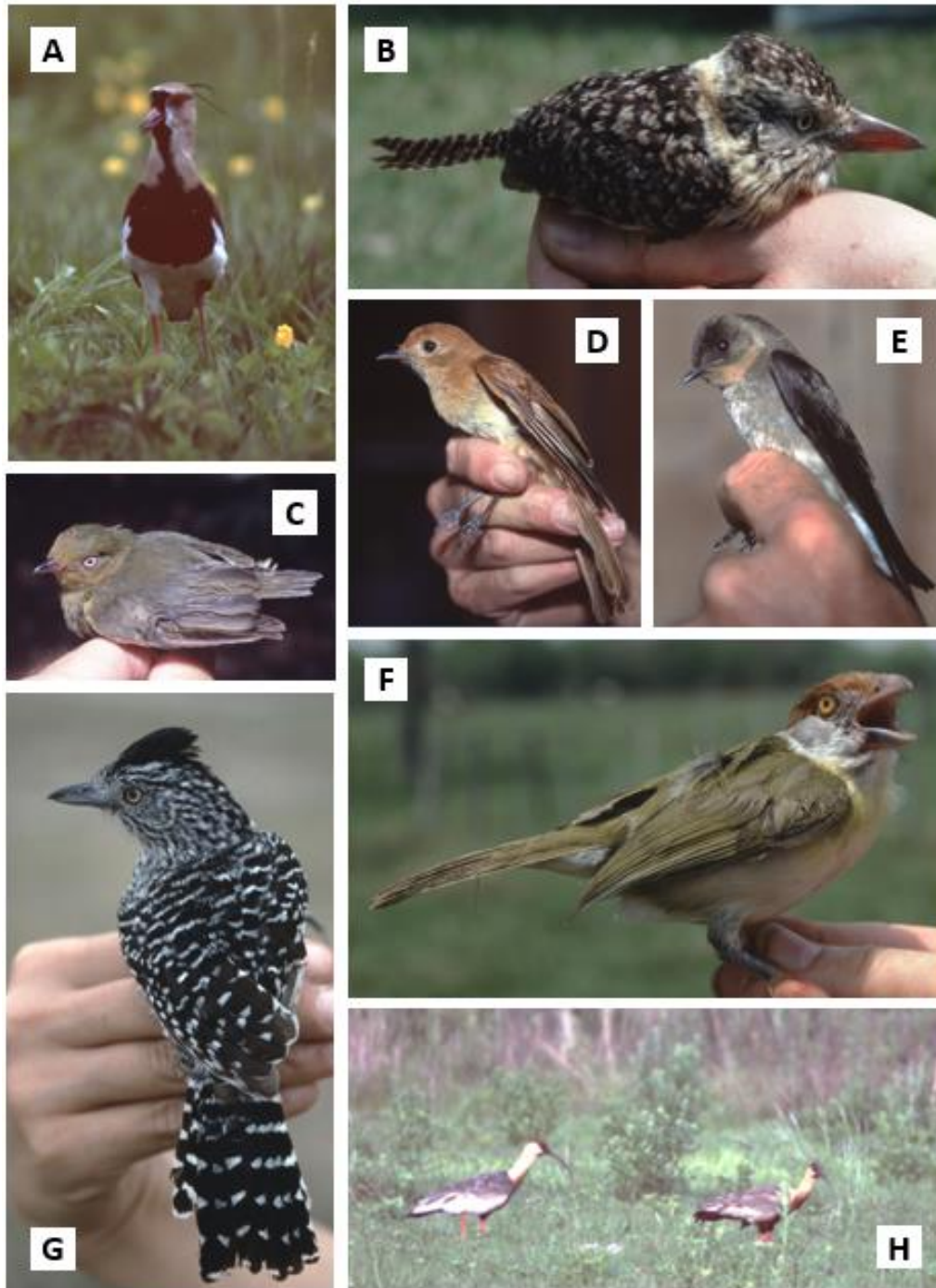


Figure 10. Selected species captured during the survey. A. Southern Lapwing *Vanellus chilensis*, B. Spot-backed Puffbird *Nystalus maculatus*, C. Band-tailed manakin *Pipra fasciicauda*, D. Rufous Casiornis *Casiornis rufa*, E. Southern Rough-winged Swallow *Stelgidopteryx ruficollis*, F. Rufous-browed Peppershrike *Cyclarhis gujanensis*, G. Barred Antshrike *Thamnophilus doliatus*, H. Buff-necked Ibis *Theristicus caudatus*. Photo: PROVEPA, Swedish Museum of Natural History.



Figure 11. Selected species captured during the survey. A. Checkered Woodpecker *Veniliornis mixtus*, B. Swainson's Flycatcher *Myiarchus swainsoni ferocior*, C. Gray-headed Tanager *Eucometis penicillata*, D. Alder Flycatcher *Empidonax alnorum*, E. White-throated Spadebill *Platyrinchus mystaceus*, F. Olivaceous Woodcreeper *Sittasomus griseicapillus* ssp. indet. Photo: PROVEPA, Swedish Museum of Natural History.

Appendix 1:

List of species ringed at Est. Santa Ana, Dpto Misiones, in April and November 1998.

Species	April	November	Total
<i>Cathartes burrovianus urubutinga</i>	1		1
<i>Leptotila verreauxi</i>	1		1
<i>Eleothreptus anomalus</i>		1	1
<i>Otus choliba</i>	1		1
<i>Eleothreptus anomalus</i>	1		1
<i>Nyctidromus albicollis</i>		3	3
<i>Dendrocolaptes platyrostris</i>	1		1
<i>Lepidocolaptes angustirostris</i>	2	4	6
<i>Campylorhamphus trochilirostris</i>	2	2	4
<i>Sittasomus griseicapillus</i>	3		3
<i>Furnarius rufus</i>	1		1
<i>Synallaxis frontalis</i>	9	1	10
<i>Phacellodromus ruber</i>	3	3	6
<i>Syndactyla rufosuperciliata</i>	1		1
<i>Taraba major</i>	2	1	3
<i>Pachyramphus viridis</i>	2		2
<i>Pachyramphus polychopterus</i>		1	1
<i>Myiarchus swainsoni</i>		2	2
<i>Cnemotriccus fuscatus</i>	1	1	2
cf. <i>Empidonax alnorum</i>	1		1
<i>Suiriri suiriri suiriri</i>	1		1
<i>Todirostrum margaritaceiventer</i>	4	2	6
<i>Euscarthmus meloryphus</i>	1		1
<i>Culicivora caudacuta</i>		1	1
<i>Elaenia spectabilis</i>		9	9
<i>Elaenia albiceps</i>	1	1	2
<i>Elaenia parvirostris</i>	14	1	15
<i>Elaenia</i> sp.	12		12
<i>Myiopagis viridicata</i>		1	1
<i>Leptopogon amaurocephalus</i>	2		2
<i>Camptostoma obsoletum</i>		2	2
<i>Cyanocorax chrysops</i>	1		1
<i>Troglodytes aedon</i>	4	2	6
<i>Turdus amaurochalinus</i>	13	3	16
<i>Turdus leucomelas</i>		1	1
<i>Turdus rufiventris</i>	11	8	19
<i>Vireo olivaceus</i>		1	1
<i>Cyclarhis gujanensis</i>		1	1
<i>Basileuterus (culicivora) hypoleucus</i>	11		11
<i>Basileuterus leucoblepharus</i>	11	2	13
<i>Trichothraupis melanops</i>	1		1
<i>Tachyphonus rufus</i>	2	1	3
<i>Thraupis sayaca</i>	3	1	4
<i>Nemosia pileata</i>		2	2
<i>Thlypopsis sordida</i>	4	1	5

Appendix 1: (cont.)

List of species ringed at Est. Santa Ana, Dpto Misiones, in April and November 1998.

Species	April	November	Total
<i>Saltator coerulescens</i>	5	3	8
<i>Arremon flavirostris</i>	6	3	9
<i>Volatinia jacarina</i>	2	2	4
<i>Sporophila palustris</i>		1	1
<i>Sporophila caerulescens</i>	4	2	6
<i>Sporophila collaris</i>		3	3
<i>Sporophila ruficollis</i>		1	1
<i>Sporophila</i> sp.		11	11
<i>Sporophila bouvreuli</i>		2	2
<i>Coryphospingus cucullatus</i>	2	3	5
<i>Zonotrichia capensis</i>	11	1	12
<i>Ammodramus humeralis</i>		3	3
<i>Carduelis magellanica</i>	2		2
<i>Cacicus chrysopterus</i>	1		1
Total	161	94	255

Appendix 2: (cont.)

Deposition of subcutaneous fat in birds ringed at Est. Santa Ana, Dpto Misiones, in April and November 1998. The amount of subcutaneous fat observed in the interclavicular region and the abdomen was scored from 0 (leanest) to 6 (fattest) following Pettersson and Hasselquist (1985).

Species	Ring no.	Month	Date	Fat	Retrap 1	Fat	Retrap 2	Fat	Retrap 3	Fat	Retrap 4	Fat
<i>Turdus amaurochalinus</i>	4431416	Apr	980410	2								
<i>Turdus amaurochalinus</i>	4431421	Apr	980411	0								
<i>Turdus amaurochalinus</i>	4431429	Apr	980412	0								
<i>Turdus amaurochalinus</i>	4431430	Apr	980412	2								
<i>Turdus amaurochalinus</i>	4431431	Apr	980412	0								
<i>Turdus amaurochalinus</i>	4431432	Apr	980414	4								
<i>Turdus amaurochalinus</i>	4431435	Apr	980416	0								
<i>Turdus amaurochalinus</i>	4431437	Apr	980417	n/a								
<i>Turdus rufiventris</i>	4431400	Apr	980407	1								
<i>Turdus rufiventris</i>	4431405	Apr	980408	1								
<i>Turdus rufiventris</i>	4431410	Apr	980409	0								
<i>Turdus rufiventris</i>	4431418	Apr	980410	1								
<i>Turdus rufiventris</i>	4431423	Apr	980411	0								
<i>Turdus rufiventris</i>	4431425	Apr	980412	0								
<i>Turdus rufiventris</i>	4431426	Apr	980412	0								
<i>Turdus rufiventris</i>	4431427	Apr	980412	0	980417	0						
<i>Turdus rufiventris</i>	4431428	Apr	980412	0								
<i>Turdus rufiventris</i>	4431434	Apr	980415	2								
<i>Turdus rufiventris</i>	4431436	Apr	980417	2								
<i>Basileuterus (culicivora) hypoleucus</i>	BM48000	Apr	980407	2								
<i>Basileuterus (culicivora) hypoleucus</i>	BM48007	Apr	980408	0	980409	0						
<i>Basileuterus (culicivora) hypoleucus</i>	BM48011	Apr	980408	2								
<i>Basileuterus (culicivora) hypoleucus</i>	BM48016	Apr	980408	0								
<i>Basileuterus (culicivora) hypoleucus</i>	BM48036	Apr	980409	1	980410	1	980416	3				
<i>Basileuterus (culicivora) hypoleucus</i>	BM48040	Apr	980409	0	980417	0						

Appendix 2: (cont.)

Deposition of subcutaneous fat in birds ringed at Est. Santa Ana, Dpto Misiones, in April and November 1998. The amount of subcutaneous fat observed in the interclavicular region and the abdomen was scored from 0 (leanest) to 6 (fattest) following Pettersson and Hasselquist (1985).

Species	Ring no.	Month	Date	Fat	Retrap 1	Fat	Retrap 2	Fat	Retrap 3	Fat	Retrap 4	Fat
<i>Thlypopsis sordida</i>	1EH57807	Apr	980414	1								
<i>Thlypopsis sordida</i>	1EH57808	Apr	980415	2								
<i>Saltator coerulescens</i>	4431412	Apr	980409	0								
<i>Saltator coerulescens</i>	4431413	Apr	980409	0								
<i>Saltator coerulescens</i>	4431417	Apr	980410	0								
<i>Saltator coerulescens</i>	4431419	Apr	980410	0								
<i>Saltator coerulescens</i>	4431433	Apr	980415	0								
<i>Arremon flavirostris</i>	2KJ14600	Apr	980407	3	980412	2						
<i>Arremon flavirostris</i>	2KJ14602	Apr	980408	0	980411	2						
<i>Arremon flavirostris</i>	2KJ14612	Apr	980411	2								
<i>Arremon flavirostris</i>	2KJ14613	Apr	980411	1								
<i>Arremon flavirostris</i>	2KJ14615	Apr	980409	2	980417	2						
<i>Arremon flavirostris</i>	2KJ14617	Apr	980411	4								
<i>Volatinia jacarina</i>	BM48014	Apr	980408	5								
<i>Volatinia jacarina</i>	BM48034	Apr	980409	0								
<i>Sporophila sp.</i>	BM48015	Apr	980408	1	980409	1						
<i>Sporophila sp.</i>	BM48048	Apr	980414	3								
<i>Sporophila sp.</i>	BM48055	Apr	980415	-								
<i>Sporophila sp.</i>	BM48066	Apr	980417	5								
<i>Coryphospingus cucullatus</i>	1EH57803	Apr	980408	5	980411	4						
<i>Coryphospingus cucullatus</i>	2KJ41606	Apr	980408	4	980411	4						
<i>Zonotrichia capensis</i>	1EH57802	Apr	980408	2								
<i>Zonotrichia capensis</i>	2KJ41604	Apr	980408	2	980415	2						
<i>Zonotrichia capensis</i>	2KJ41605	Apr	980408	3	980415	3						
<i>Zonotrichia capensis</i>	2KJ41607	Apr	980408	3	980412	2						

Appendix 3:

GenBank accession numbers for barcoded PROVEPA individuals.

Species	Voucher	GenBank acc. no.
<i>Anthus lutescens</i>	NRM 966857	MT010407
<i>Arundinicola leucocephala</i>	NRM 947198	MT010401
<i>Campostoma obsoletum</i>	NRM 937368	MT003601
<i>Campostoma obsoletum</i>	NRM 947111	MT003602
<i>Cnemotriccus fuscatus</i>	NRM 956678	MT003606
<i>Cnemotriccus fuscatus</i>	NRM 956699	MT003607
<i>Cnemotriccus fuscatus</i>	NRM 967012	MT003608
<i>Cnemotriccus fuscatus</i>	NRM 966767	MT003609
<i>Cnemotriccus fuscatus</i>	NRM 966965	MT003610
<i>Cnemotriccus fuscatus</i>	NRM 986769	MT003611
<i>Cnemotriccus fuscatus</i>	NRM 996702	MT003612
<i>Cnemotriccus fuscatus</i>	NRM 967052	MT003613
<i>Contopus cinereus</i>	NRM 956575	MT003630
<i>Contopus cinereus</i>	NRM 956577	MT003631
<i>Elaenia flavogaster</i>	NRM 947235	MT003573
<i>Elaenia flavogaster</i>	NRM 966970	MT003574
<i>Elaenia parvirostris</i>	NRM 966789	MT003561
<i>Elaenia parvirostris</i>	NRM 986756	MT003562
<i>Elaenia parvirostris</i>	NRM 996707	MT003563
<i>Elaenia parvirostris</i>	NRM 996698	MT003564
<i>Elaenia parvirostris</i>	NRM 966783	MT003565
<i>Elaenia parvirostris</i>	NRM 966808	MT003566
<i>Elaenia spectabilis</i>	NRM 947270	MT003567
<i>Elaenia spectabilis</i>	NRM 947255	MT003568
<i>Elaenia spectabilis</i>	NRM 937399	MT003569
<i>Elaenia spectabilis</i>	NRM 986766	MT003570
<i>Elaenia spectabilis</i>	NRM 996710	MT003571
<i>Elaenia spectabilis</i>	NRM 986792	MT003572
<i>Empidonax alnorum</i>	NRM 996714	MT003582
<i>Empidonax alnorum</i>	NRM 976796	MT003583
<i>Empidonax alnorum</i>	NRM 986795	MT003584
<i>Empidonax varius</i>	NRM 956628	MT003585
<i>Inezia inornata</i>	NRM 996688	MT003597
<i>Inezia inornata</i>	NRM 947139	MT003598
<i>Knipolegus striaticeps</i>	NRM 937212	MT003637
<i>Knipolegus striaticeps</i>	NRM 966782	MT003638
<i>Knipolegus striaticeps</i>	NRM 966761	MT003639
<i>Knipolegus striaticeps</i>	NRM 966893	MT003640
<i>Lathrotriccus euleri</i>	NRM 967011	MT003614
<i>Lathrotriccus euleri</i>	NRM 967045	MT003615
<i>Lathrotriccus euleri</i>	NRM 967013	MT003616
<i>Lathrotriccus euleri</i>	NRM 976710	MT003617
<i>Lathrotriccus euleri</i>	NRM 937310	MT003618
<i>Molothrus bonariensis</i>	NRM 976720	MT010409

Appendix 3: (cont.)

GenBank accession numbers for barcoded PROVEPA individuals.

Species	Voucher	GenBank acc. no.
<i>Molothrus bonariensis</i>	NRM 976778	MT010410
<i>Molothrus rufoaxillaris</i>	NRM 976664	MT010408
<i>Myiarchus ferox</i>	NRM 967098	MT003596
<i>Myiarchus swainsoni</i>	NRM 937370	MT003586
<i>Myiarchus swainsoni</i>	NRM 956587	MT003587
<i>Myiarchus swainsoni</i>	NRM 976753	MT003588
<i>Myiarchus swainsoni</i>	NRM 966942	MT003589
<i>Myiarchus swainsoni</i>	NRM 956591	MT003590
<i>Myiarchus swainsoni</i>	NRM 966950	MT003591
<i>Myiarchus swainsoni</i>	NRM 967060	MT003592
<i>Myiarchus swainsoni</i>	NRM 956602	MT003593
<i>Myiarchus swainsoni</i>	NRM 966896	MT003594
<i>Myiarchus tyrannulus</i>	NRM 937402	MT003595
<i>Myiopagis caniceps</i>	NRM 976683	MT003580
<i>Myiopagis viridicata</i>	NRM 986779	MT003575
<i>Myiopagis viridicata</i>	NRM 947269	MT003576
<i>Myiopagis viridicata</i>	NRM 937267	MT003577
<i>Myiopagis viridicata</i>	NRM 996718	MT003578
<i>Myiopagis viridicata</i>	NRM 967050	MT003579
<i>Myiophobus fasciatus</i>	NRM 956696	MT003599
<i>Myiophobus fasciatus</i>	NRM 937278	MT003600
<i>Myiornis auricularis</i>	NRM 967077	MT003628
<i>Myiozetetes similis</i>	NRM 976708	MT003629
<i>Phacellodomus rufifrons</i>	NRM 947188	MT010402
<i>Phaeomyias murina</i>	NRM 947263	MT003636
<i>Progne subis</i>	NRM 947026	MT010416
<i>Serpophaga munda</i>	NRM 947171	MT003603
<i>Serpophaga munda</i>	NRM 947187	MT003604
<i>Serpophaga munda</i>	NRM 947061	MT003605
<i>Sirystes sibilator</i>	NRM 956656	MT003641
<i>Sirystes sibilator</i>	NRM 956578	MT003642
<i>Sporophila caerulescens</i>	NRM 937302	MT003645
<i>Sporophila caerulescens</i>	NRM 937339	MT003646
<i>Sporophila caerulescens</i>	NRM 956668	MT003647
<i>Sporophila caerulescens</i>	NRM 956687	MT003648
<i>Sporophila caerulescens</i>	NRM 956695	MT003649
<i>Sporophila caerulescens</i>	NRM 976694	MT003650
<i>Sporophila caerulescens</i>	NRM 976704	MT003651
<i>Sporophila caerulescens</i>	NRM 976775	MT003652
<i>Sporophila caerulescens</i>	NRM 986783	MT003653
<i>Sporophila collaris</i>	NRM 986781	MT003658
<i>Sporophila collaris</i>	NRM 986782	MT003659
<i>Sporophila collaris</i>	NRM 986774	MT003660
<i>Sporophila collaris</i>	NRM 986775	MT003661
<i>Sporophila collaris</i>	NRM 986776	MT003662

Appendix 3: (cont.)

GenBank accession numbers for barcoded PROVEPA individuals.

Species	Voucher	GenBank acc. no.
<i>Sporophila collaris</i>	NRM 986777	MT003663
<i>Sporophila leucoptera</i>	NRM 947088	MT003644
<i>Sporophila lineola</i>	NRM 956679	MT003643
<i>Sporophila plumbea</i>	NRM 966972	MT003654
<i>Sporophila plumbea</i>	NRM 976703	MT003655
<i>Sporophila plumbea</i>	NRM 976721	MT003656
<i>Sporophila plumbea</i>	NRM 976728	MT003657
<i>Sublegatus modestus</i>	NRM 996668	MT003619
<i>Sublegatus modestus</i>	NRM 947079	MT003620
<i>Sublegatus modestus</i>	NRM 947098	MT003621
<i>Sublegatus modestus</i>	NRM 966763	MT003622
<i>Sublegatus modestus</i>	NRM 966785	MT003623
<i>Sublegatus modestus</i>	NRM 966776	MT003624
<i>Sublegatus modestus</i>	NRM 966809	MT003625
<i>Sublegatus modestus</i>	NRM 966778	MT003626
<i>Sublegatus modestus</i>	NRM 966774	MT003627
<i>Suiriri suiriri</i>	NRM 976734	MT003632
<i>Suiriri suiriri</i>	NRM 976762	MT003633
<i>Suiriri suiriri</i>	NRM 976763	MT003634
<i>Suiriri suiriri</i>	NRM 976767	MT003635
<i>Synallaxis albescens</i>	NRM 986698	MT010404
<i>Synallaxis frontalis</i>	NRM 986789	MT010405
<i>Synallaxis spixi</i>	NRM 937257	MT010403
<i>Tachycineta leucorrhoa</i>	NRM 947197	MT010415
<i>Tachyphonus coronatus</i>	NRM 937242	MT010413
<i>Tachyphonus coronatus</i>	NRM 937235	MT010414
<i>Tachyphonus rufus</i>	NRM 966869	MT010412
<i>Thalurania furcata</i>	NRM 937299	MT010398
<i>Thalurania furcata</i>	NRM 937300	MT010399
<i>Thalurania furcata</i>	NRM 976712	MT010400
<i>Tolmomyias sulphurescens</i>	NRM 956719	MT003581