

The birds of Parati, south-east Brazil

P.W. P. Browne

Cotinga 24 (2005): 85–98

Este estudo tem por objetivo compilar todas as informações prontamente acessíveis a respeito das aves do município de Parati, na floresta Atlântica do sudeste do Brasil, a partir de observações pessoais a dados de outros. Um total de nove fontes foi utilizado para estabelecer uma lista de 379 espécies. Cada espécie é comentada, quando adequado, de acordo com sua abundância, hábitat e altitude, *status* de ameaça ou endemismo, fontes dos registros e tipos de evidências. Os dados também foram obtidos das observações pessoais, a partir do diferencial entre a detecção de espécies florestais pelos métodos auditivos e visuais, bem como novas datas de reprodução para algumas poucas espécies. Espécies endêmicas da floresta Atlântica respondem por 31% de todas as espécies registradas em Parati e 42% de todas as espécies florestais. Nos habitats florestais, a porcentagem de espécies endêmicas aumentou conforme a altitude, sendo c.27% ao nível do mar, até c.47% nos 1.000 m. Os níveis de endemismo em Parati foram acentuadamente maiores do que os relatados na região vizinha de Ubatuba. Até o momento, a riqueza de espécies não foi adequadamente medida, mas um novo procedimento permite isto. Uma vez que c.90% das aves florestais foram detectadas através das suas vocalizações, equipamentos para gravação e arquivos sonoros apropriados são mais úteis do que instrumentos ópticos e guias de campo, em tais habitats. Aumentos de distribuição, tanto para migrantes Neárticos, quanto para espécies residentes são listados. Houve mudanças nos níveis de abundância para muitas aves desde 1941, com uma tendência de reduções relativas para as aves maiores e aumentos, talvez como resultado de um maior nível do conhecimento das vocalizações, para as espécies menores. Aproximadamente 52% da área de Parati está protegida por um parque nacional e por uma reserva ecológica, as quais, combinadas com a alta proporção de endêmicos fazem de Parati um excelente centro para a pesquisa sobre aves da floresta Atlântica.

Parati is a historic town on the coast of Brazil, c.150 km west-southwest of Rio de Janeiro, at 23°12'S 44°43'W. Here, Parati refers to the municipality and Parati town to the urban centre of that name. Numerous tourists holiday here but few ornithologists visit the area, despite the Atlantic Forest being a very popular region for birding due to the large number of endemic species found there (it is the third richest region for endemics in the Neotropics and the richest in Brazil²³). Parati has been neglected as a birding destination in favour of better known nearby sites such as Itatiaia National Park and Ubatuba because of lack of both knowledge of the avifauna and a birding infrastructure. Recent ornithological exploration of Parati, described below, reveals that the avifauna compares well with better-known areas. What is now missing is a birding infrastructure, and I hope that this paper will encourage its creation.

The study area is shown in Fig. 1. The municipality of Parati covers c.93,000 ha on the western side of Baía da Isla Grande. It contains the southernmost point in Rio de Janeiro state, which is c.10 km north of the Tropic of Capricorn. Parati has a c.100 km land border, c.80 km with São Paulo state and c.20 km with the municipality of Angra dos Reis. Coastline is very irregular and is c.200 km in length. Altitude varies between 0 and c.1,850 m and c.47% of the municipality is above 500 m. A large percentage is covered by Atlantic Forest. At lower

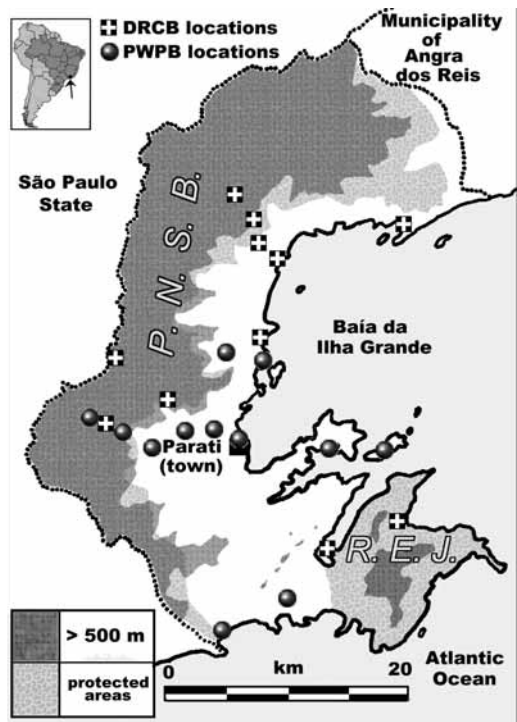


Figure 1. The municipality of Parati showing highland and protected areas and the main observation locations. The boundaries of the PNSB and the REJ are approximate.

altitudes, this is much degraded, especially near Parati town, but at higher altitudes extensive relatively undisturbed forest remains. Berla¹ described the secondary forest at Pedra Branca as being 60 years old in 1941, and Buzzetti³ the forest at most of the sites he visited in 1997 as dense tropical rain forest, but it is unknown if primary forest remains in Parati.

Approximately 40% of the municipality is within the southern part of the Serra da Bocaina National Park (PNSB) and another 12% within Joatinga Ecological Reserve (REJ). The entire REJ lies in Parati and c.34% of PNSB. Nearly all land above 500 m and all that above 1,000 m lie within these protected areas. In view of the serious threats to regional avifauna from deforestation^{4,22}, Parati, with 52% of its land area already protected, is well situated to play a leading role in the advancement of knowledge of Atlantic Forest birds.

Methods

I was present in Parati in the second half of March 1997 and January to mid-March 2001, during which periods I made 176 hours of observations in the municipality. Field work focused on localities within c.15 km of the town, accessible on foot, by bike, car, bus and boat, and usually commenced between 06h00 and 07h00, and continued c.4 hours, but I also made numerous short opportunistic observations.

Sight identification, using binoculars and telescope, was based principally on del Hoyo *et al.*¹⁰ for non-passerines and Ridgely & Tudor¹⁸ for passerines, with reference to Souza²⁴, and to Ruschi²⁰ for hummingbirds. I developed the ability to identify birds by voice in Parati area during my stay. Prior to my arrival, I was already reasonably familiar with the vocalisations of some species. From the outset, I tape-recorded unknown or uncertain vocalisations. Using field observations (some prompted by playback), cassettes of birds of south-east Brazil and the Remold CD-ROM¹⁷, I was able to learn their identity. Geographical positions were established using a Garmin GPS and altitudes also with this unit, as well as, more accurately, from 1:50,000 topographic maps (Ministério do Planejamento e Coordenação Geral, 1972) with contours at 20-m intervals, using GPS-established horizontal coordinates. I kept field notes on all birds detected and, each evening, entered the data for that day on spreadsheets.

I also obtained information from other ornithologists who had visited Parati by personal referrals, making contact through the internet and searching standard works (Collar *et al.*⁴, Paynter & Traylor¹⁶ and Sick^{21,22}). I was thus able to accumulate much additional information. These data were subjected to various statistical analyses (association between endemism and habitat, low altitude, high altitude

and threatened status; regression of endemism on altitude; regression of change in abundance ratings since 1941 on body length).

Data sources

Information on birds in Parati was obtained from nine sources. These were (in descending order of number of species recorded by each).

1. DRCB: 302 species detected during a study in February–November 1997 at 11 locations in Parati by Buzzetti³. These sites are marked in Fig. 1, and were scattered throughout forested areas in the municipality, from north to south. The study also embraced seven sites in neighbouring Angra dos Reis, but only Parati records are used here. The total number of hours of observation in both municipalities was 210 but the number in Parati is unknown (if proportional to the number of sites investigated it was c.130 hours).
 2. PWPB: 206 species during 176 hours in March 1997 and January–March 2001 by myself and described in the methodology section above. The 12 main locations were all in the south of the municipality and encompassed varied habitats. They are marked in Fig. 1.
- Other locations: JM, HR and DB (sources 3, 4 and 6) made most of their observations in Parati town and up to c.10 km along the Cunha road that extends west from the town (precise locations unknown). This area corresponds roughly to the six PWPB locations west of Parati town (Fig. 1). In addition, JM made observations at Patrimônio, c.10 km south of Parati town, and HR at a location near the most northerly of the PWPB sites. The localities of observations in sources 7–9 are unknown.
3. JM: 156 species detected by J. Minns (pers. comm.) during seven days in the years 1995–2003.
 4. HR: 140 species detected by Remold¹⁷ (pers. comm.) during three days in 1994.
 5. HFB: 107 species known from specimens collected at Pedra Branca (a montane area between and just to the north of the two DRCB sites, situated 7 and 12 km north-west of Parati town), by H. F. Berla between 1940 and 1968. Skins of 101 of these species are in the Museu Nacional do Rio de Janeiro^{1,12} and those of 28 species in the Natural History Museum of Los Angeles county (Paynter & Traylor¹⁶, K. Garrett pers. comm.).
 6. DB: 74 species detected by Don & Peg Burlett (pers. comm.), with Ricardo Parrini as guide, on 15–17 April 2000.
 7. JFP: 73 species recorded from Parati by J. F. Pacheco, R. Parrini, D. R. C. Buzzetti, B. M.

Whitney, C. Bauer & P. S. M. Fonseca, in addition to those listed in Buzzetti³ (50 species in Pacheco *et al.*¹² and 23 species by J. F. Pacheco pers. comm.).

8. RDB (Red Data Book)⁴: seven threatened species recorded in Parati by diverse observers up to 1992.
9. HS: five species mentioned for Parati in the English version of Sick²².

The total effort expended in the ornithological exploration of Parati by these sources probably amounts to c.500 hours or what could comfortably be devoted to such work by one observer during one year.

Results

The total number of species recorded in Parati is 379 (listed in Appendix 1). Nomenclature and taxonomy follow the Comitê Brasileiro de Registros Ornitológicos (CBRO) list (augmented with Portuguese names). Each species is annotated according to apparent abundance, habitat, altitude (except 11) and sources. Some also have indications if they are threatened or endemic, and if evidence categories are known. Annotations were determined as follows.

A. Apparent abundance

This required some consideration as so many sources of information were used. Three measures of species abundance were calculated, then weighted, averaged and scaled to acquire an overall apparent abundance index whose value (lowest abundance to highest) was 1, 2, 3, 4 or 5. The adjective 'apparent' was used, as the index is neither an absolute, nor a valid comparative indication of species density. The index was compiled from the observations of many individuals, without common methodology to estimate abundance, and some did not record commonly detected species. Recording all species encountered is important to avoid bias. However, the index does provide an indication of the relative ease with which a species may be located in Parati, within its preferred habitat and altitudinal range.

The first two of the three measures were given equal weight and were based on the data of DRCB and PWPB, who were the only observers to provide complete locality data and to record all species encountered. Location data enabled records to be tied, in most cases, to habitat and altitude, each of which has a critical effect upon species occurrence. These abundance measures were calculated based upon the preferred habitat and altitude of each species. In the case of DRCB, the measure was the percentage of localities in the preferred habitat and altitudinal range at which the species was recorded. For PWPB, it was the percentage of days

Table 1. Number of species in altitudinal ranges (of 368 for which altitude is known).

Altitudinal range	Total number of species in range	Number of species exclusively in this range
<500 m	323	167
>500 m	200	44
Both <500 m and >500 m	156	156

that the species was recorded in the preferred habitat and altitudinal range. The third measure was the number of the other sources reporting a species. Because of unquantifiable biases in this measure, arising from the non-recording of common species, this measure was given half the weight of the other two. However, it ensured that all species, even those not recorded by DRCB or PWPB, contributed to the index.

B. Habitat

In Appendix 1, the habitats in which each species was found are indicated. Mostly only one habitat is given, but when more than one is listed, they are presented in order of frequency. Habitat codes in parentheses indicate presumed habitats, when I possessed no indication of actual habitat from the source. Habitat classification is based on Parker *et al.*¹⁵, with four designations: forest, non-forest, aquatic and built-up. Each is described further in Appendix 1. Buzzetti³ provided detailed descriptions of forest habitats at his sites in Parati.

C. Altitude

Altitude exerts great influence on the avifauna of Parati, and was the main topic addressed by Buzzetti³. For all personal observations, I recorded altitude at which they were made. Such data were available for some, but not all, observations from other sources (Buzzetti³ presented sites at which each species was recorded and the altitudinal range of each site, but some of these ranges are considerable making it impossible to be precise concerning the altitude of some of his observations). However, I have determined for all but 11 species of the 379 if they were detected above or below 500 m, and this information is presented in Appendix 1. Table 1 shows the totals found in each altitudinal range.

D. Threatened species

The threat classification for each species is shown in Appendix 1, as defined in the list of globally threatened bird species on BirdLife International's website (http://www.birdlife.net/action/science/species/globally_tbu/), wherein 14 species are considered threatened and 19 near threatened.

E. Endemic species

Also indicated are species endemic to the Atlantic Forest region based on Parker *et al.*¹⁵, modified

Table 2. Percentage of individual birds detected only by vocalisations.

Species	Total number detected	Number heard only	% heard only
Red-eyed Vireo <i>Vireo chivi</i>	67	56	84
Spot-breasted Antwren <i>Dysithamnus stictothorax</i>	39	34	87
Ferruginous Antbird <i>Drymophila ferruginea</i>	28	22	79
White-shouldered Fire-eye <i>Pyriglena leucoptera</i>	26	22	85
Rufous-browed Peppershrike <i>Cyclarhis guianensis</i>	17	15	88
Lemon-chested Greenlet <i>Hylophilus thoracicus</i>	16	14	88
Blue Manakin <i>Chiroxiphia caudata</i>	13	12	92

where necessary to bring taxonomy in line with the CBRO list. Endemics numbered 116, 31% of the total number of species detected in Parati. However, all endemic species are also entirely or primarily forest species (according to habitat as indicated in Appendix 1), and forest species numbered 274, making 42% of them endemic.

F. Sources

The source numbers listed above are presented in Appendix 1 for each species. The maximum number of sources reporting a species was seven (of nine). A total 86 species was recorded by only a single source.

G. Evidence categories

A description of each category is presented in Appendix 1. Categories are given for all species, except those included solely on the basis of one or more of the four literature sources (1, 7, 8 and 9), apart from a few specimens mentioned therein. Evidence categories were thus determined for c.80% of species. Categories given for a species are those reported by all sources, except that category H (vocalisation heard but not recorded) is used only when it was the sole evidence category.

Detection

During my stay in Parati (January–March 2001), I identified 308 individual birds of 54 species by vocalisation alone (i.e. heard but not seen). Table 2 shows figures for the seven commonest forest species of the 54.

Discussion

Rare species

Of the 379 species reported in Parati, 48% (182) are classed as rare, scarce or local (apparent abundance = 1 in Appendix 1). This is unsurprising in view of Goerck's⁵ finding that 68% of species in the Atlantic Forest of Brazil are rare, and that 86 of the 379 species known in Parati were identified by only one of the nine sources. Of course, there is the

possibility that some single-source species were misidentified, and these species are most needing confirmation from Parati. A probable occurrence of the Harpy Eagle *Harpia harpyja* has been reported in Parati¹³ but is not included in the appendix because of uncertainty expressed by the observer.

It is noteworthy that, as is clear from Fig. 1, only a small part of the municipality has been explored ornithologically, and only c.500 observation hours have been devoted to this work. Some 682 species are known from the Atlantic Forest region²³; thus we can assume that further exploration will yield more species.

Endemism

The Atlantic Forest region has the highest number (199) of endemics of any region in Brazil and the third most in the Neotropics, after the Central Andes with 216 and Northern Andes with 222²³. Because of the interest of visiting birders in endemics and because of their intrinsic biological interest, I have undertaken my most detailed analysis on these species. Some 31% of all species and 42% of forest species in Parati are endemic, compared to 40% endemic species in a forest study at Ubatuba⁶.

Table 3 reveals the association between endemism and four other biological factors (habitat, low altitude, high altitude, threatened status) in Appendix 1, obtained by cross-tabulating endemism with each of these factors in turn, and testing the resulting contingency table for statistically significant departure from chance distribution by the Chi-squared test. All were highly significant ($p < .0001$).

Of the effects connected with endemism in Table 3, two are quite expected: those of habitat and threatened status. Regarding habitat, since endemic species are those restricted to the Atlantic Forest region, it is unsurprising that they occur in forest. However, the very close relationship is perhaps unexpected. Only 11 of the 116 endemics (9.5%) appeared to occur outside forest: Maroon-

Table 3. Association of endemism with the other biological factors in Appendix 1.

Annotation	Observed effect on endemism
Habitat	Endemics were found only or primarily in forest (all in habitats f, (f), and fn except for l in b).
Low altitude (<500 m)	Endemic species were fewer at low altitudes than would be expected if endemism were independent of altitude.
High altitude (>500 m)	Endemic species were more numerous at high altitudes than would be expected if endemism were independent of altitude.
Threatened species	Threatened species were nearly all endemics (32 of 33).

Table 4. Endemism and altitude at Parati: own data.

Altitude (m)	All species	Endemic species	% endemic
Lowland forest (0–200)	119	35	29
Higher forest (900–1,100)	49	23	47

Table 5. Endemism and altitude at Parati: DRCB's³ data.

Site number	Mean altitude (m)	All species	Endemic species	% endemic
1	1	33	1	3
2	10	68	5	7
5	15	115	38	33
6	1	98	25	26
8	230	108	36	33
10	165	82	41	50
11	600	107	40	37
15	380	80	32	40
16	1,000	92	43	47
17	875	106	50	47
18	1,650	50	29	58

bellied Parakeet *Pyrrhura frontalis*, Plain Parakeet *Brotogeris tirica*, Black Jacobin *Melanotrochilus fuscus*, Sombre Hummingbird *Aphantochroa cirrhochloris*, Yellow-fronted Woodpecker *Melanerpes flavifrons*, Spot-breasted Antwren *Dysithamnus stictothorax*, Ferruginous Antbird *Drymophila ferruginea*, White-shouldered Fire-eye *Pyriglena leucoptera*, Red-eyed Thornbird *Phacellodomus erythrophthalmus*, Blue Manakin *Chiroxiphia caudata* and Brazilian Tanager *Ramphocelus bresilius*. All of these except *A. cirrhochloris* were fairly common to abundant and the majority I detected were in forest, but I also detected some in open country with scattered trees or scrub, perhaps indicating adaptation to deforestation. Goerck⁵ discovered that 8.5% of endemics in the Atlantic Forest region used disturbed habitats. *A. cirrhochloris* were found at feeders within an open-plan restaurant (hence in a built-up area) but the restaurant is surrounded by forest.

That threatened status is associated with endemic species is well known, because endemism is itself associated with risk indicators such as small range size, ancient isolates, small population size, habitat choice and habitat sensitivity^{5,10}.

The effects of low and high altitudes on endemism are interesting, as they appear at first to contradict the findings of the only comparable

study of which I am aware: Goerck⁶ in Ubatuba, which is c.45 km south-west of Parati town, on the coast of São Paulo state. Using point count data, she found larger numbers of endemic species at low altitudes than at high altitudes, which seems opposite to Table 3. I have no similar data from Parati, as the only source to use point count data was Buzzetti³, and, in relation to this, he did not separate endemic species in his published analysis. However, in comparing percentages, rather than numbers, of endemic species at different altitudes, it is apparent that my results correspond to those from Ubatuba. In both areas, the percentage of endemics increased with altitude. I have calculated percentage of endemic species in lowland and highland forest from my own data (Table 4), and the percentage of endemic species in relation to all forest species at each of Buzzetti's³ 11 sites (Table 5).

Both tables reveal a higher degree of endemism at higher altitudes than lower. Regression analysis, performed upon the data in Table 5, estimated that at sea level degree of species endemism was 24% and that it increased by 2.3% over every 100-m increase in altitude. The rate of increase was statistically significant ($t = 3.17$, d. f. = 9, $.01 < p < .02$).

Goerck's⁶ Ubatuba data, as shown in Table 6, corresponds. It shows that the effect of altitude on percentage of endemic species occurred even in primary forest, where Goerck's study was conducted, and was not just an artefact of greater forest disturbance at lower altitudes.

The increase in percentage of endemic birds with altitude in the Neotropics was remarked by Stotz *et al.*²³. For the Atlantic Forest region, they found 34% endemic species in lowland and 55% in montane forests, corresponding well with the two independent estimates from Parati: Buzzetti's data³ gave 24% at sea level and 47% at 1,000 m, whilst mine gave 29% in lowland forest and 47% in montane forest. At Ubatuba, in contrast, although percentages increased with altitude, they did so to a lesser extent (24% to 32%).

Species richness

Other than degree of endemism, species richness is an important biological parameter in deciding on measures for environmental protection²⁵. Thus far, there are no good measures of species richness in Parati, which is a common problem in the Neotropics²⁵. Statistical software packages are now available that can utilise point count data, such as those collected by Buzzetti³ and Goerck⁶ to make many kinds of estimates (including error estimates) of species richness. The comparative merits of these estimates were analysed by Walther & Martin²⁵. I recommend that future studies of avian

Table 6. Endemism and altitude at Ubatuba: Goerck's⁶ data.

Altitude (m)	Mean number of species during point counts		
	All	Endemic	% endemic
0–100	11.2	2.7	24
100–950	7.0	2.0	29
950–1,150	3.7	1.2	32

communities in the region incorporate such estimates.

Detection

The majority of birds in Parati inhabit forest and, among commoner species, I detected c.90% of individuals by vocalisation rather than sight, a common phenomenon in forests. Tape-recordings that can be replayed later for identification are valuable adjuncts to immediate field recognition. Parker¹⁴ recounted that, during a forest survey in Amazonian Bolivia in which 287 species were found by seven experienced ornithologists during 54 days of intensive field work (including 36,804 mist-net hours), he tape-recorded 85% of the species within one week, and presented guidelines for conducting such work. Buzzetti³ and Goerck⁶ utilised such methods in their surveys.

For identifying forest birds at Parati, bird sound archives are much more useful than field guides, and a tape-recorder more useful than binoculars. I have not found descriptions of vocalisations in field guides and other publications particularly useful compared to sound-recordings. South-east Brazil has not been especially well served with publically available material of this type until very recently. Buzzetti³ used private archives for identifying his field recordings. However, the first Remold CD-ROM¹⁷ was published in 2001 and covers c.50% of species likely to be heard in the region, including some of the most difficult to identify. Other CDs or CD-ROMs have been⁷ or are in the process of being prepared (e.g. the second Remold disk, covering the remainder of the passerines, was expected to be published in May 2005: H. Remold pers. comm.).

Breeding data

The following dates extend the known breeding season of four species in south-east Brazil. **Rufous-tailed Jacamar** *Galbula ruficauda*: an apparently occupied nest, 26 February, compared with 'Sept–Dec in Brazil (Minas Gerais)¹⁰'; **Yellow-chinned Spinetail** *Certhiaxis cinnamomea*: an apparently occupied nest February–March compared with 'eggs in Oct in S Brazil⁹'; **Red-eyed Thornbird** *Phacellodomus erythrophthalmus*: two certainly and one probably occupied nests January–March, compared with 'breeding season probably during austral spring–summer⁹'; and **Black-cheeked Gnateater** *Conopophaga melanops*: male carrying food, 7 February, compared with 'breeding Oct and Nov in S half of range⁹'.

Range extensions

Buzzetti³ reported range extensions for several species, of which perhaps the most notable was the globally threatened Black-hooded Antwren

Formicivora erythronotos, formerly known only from Angra dos Reis but now also from Parati.

Range extensions I recorded were as follows.

Picazuro Pigeon *Columba picazuro*: up to 110 roosted in mangroves by Parati town, 7 January–3 March 2001. This species invades deforested areas and exploits urban areas¹⁰, which may explain its apparent recent arrival in Parati. **Band-winged Nightjar** *Caprimulgus longirostris*: calling at dawn in high grassland at c.1,100 m on the Cunha road, on 17 February 2001. **Minute Hermit** *Phaethornis idaliae*: one in forest, at 100 m, near Laranjeiras, on 1 February 2001. Sick²² depicted the species' distribution as penetrating Rio de Janeiro state, but not as far south as Parati. **Tail-banded Hornero** *Furnarius figulus*: one at Trindade beside a sandy freshwater lagoon c.100 m from the sea, on 16 February 2001. According to Ridgely & Tudor¹⁸ this species has spread to Rio de Janeiro state from the north. My record is just 2 km from the São Paulo state border.

The occurrence of highland birds at low altitudes in Parati had already been remarked by Buzzetti³ for five species, and I noted three further examples: **Blue-billed Black-tyrant** *Knipolegus cyanirostris* (10 January 2001, 100 m), **Rufous-capped Antshrike** *Thamnophilus ruficapillus* (2 February 2001, 150 m) and **Fawn-breasted Tanager** *Pipraeidea melanonota* (10 March 2001, 50 m).

Migration

Nearctic migrants. Spotted Sandpiper *Actitis macularia* was the only northern winter resident shorebird, being fairly common on rocky shores and in mangrove channels. Passage migrant shorebirds were Semipalmated Plover *Charadrius semipalmatus*, White-rumped Sandpiper *Calidris fuscicollis* and Ruddy Turnstone *Arenaria interpres*. Parati (and much of the coast between Rio de Janeiro and São Paulo) was not included in aerial shorebird surveys conducted 1982–86 in coastal South America, because the precipitous coastline was considered unlikely to host many wintering shorebirds¹¹.

Common Tern *Sterna hirundo* was seen 18 January–17 March 2001 in groups of up to 150 offshore and on flats at low tide at Parati town. Though this species has not been recorded at Parati by other observers, its presence is not surprising as southern Brazil and Argentina are the most important wintering grounds in the Western Hemisphere for adult Common Terns².

Olive-sided Flycatcher *Contopus borealis*—three observations of singles: on 3 February 2001 in open forest at 150 m (PWPB); 10 March 1994 (HR) and 10 November 1990 (JFP), the latter two below 500 m. These observations tie in well with c.10 records in São Paulo and Rio de Janeiro states

between 10 November and 18 March (1983–90) at altitudes of 100–1,400 m²⁶. Although there are records for all months November–March, c.70% occurred in November or March, perhaps indicating passage.

Purple Martin *Progne subis*—one on a roof in Parati town 6 February 2001. The large concentrations noted in northern São Paulo state^{8,18} are not a feature in Parati, and this appears to be the sole February record in Rio de Janeiro state²².

Barn Swallow *Hirundo rustica*—six on passage along the shore at Parati town 6 March 2001.

Cliff Swallow *Hirundo pyrrhonota*—reported¹² on 23 September 1992, and by Buzzetti³ (date unknown).

Austral migrants. As my observations were made during the austral summer, I did not obtain personal exposure to austral migrants, nor to altitudinal movements downslope, which occur in the austral winter at Parati (e.g. Blue-bellied Parrot *Triclarina malachitacea*²², Black-and-gold Cotinga *Tijuca atra*^{1,22} and Yellow-legged Thrush *Platycichla flavipes*¹).

Abundance rating changes since 1941

I compared the abundance of various species presented in the present paper (rare, fairly common, common, very common, abundant) to those reported by Berla¹ over 60 years ago. Of 93 species in Berla's paper, he rated abundance of 43 using similar descriptors (*raro*, *bastante comun*, *comun*, *muito comun*, *abundante*). These ratings have been allocated the same numerical values of 1–5 respectively as used in Appendix 1.

There is no statistically significant correlation between the two abundance ratings for the 43 species ($t = 0.98$, d. f. = 41, $.5 < p < .2$). However, there were many changes in abundance ratings for

individual species. These have been calculated numerically: e.g. a change from *abundante* to fairly common is -3, and from *raro* to common is +2. Table 7 lists the species for each change.

On average, as is evident from Table 7, abundance ratings changed by -1. This could be real or due to different methods of assessment used by Berla and myself. However, the change of abundance rating varies from -4 to +2 in different species. To explain this broad spread, I used three variables: threatened status, endemic status and body size. Threatened or near-threatened species are indicated by * and endemic species by +. Threatened and endemic species do not seem to be have been obviously impacted, as indicated by their broad spread in Table 7. However, larger species appeared, on average, to have been negatively affected. This was confirmed by a statistically significant regression ($t = 2.87$, d. f. = 41, $p < .01$) of the (negative) change in abundance ratings on the length of the bird (taken from del Hoyo *et al.*¹⁰ and Ridgely & Tudor¹⁸). Species with negative changes in abundance ratings, among this sample of 43 species, included all three tinamous, one wood-quail, one wood-rail and one quail-dove, perhaps indicating that hunting has been a factor in these changes. In 1941, Parati was difficult of access from the rest of the state, but a highway was constructed in the 1970s³, perhaps resulting in increased hunting pressure. Another factor tending to give smaller species increased abundance ratings (e.g. *Iodopleura pipra* and *Hemitriccus furcatus*) is almost certainly likely to be the much-increased knowledge of vocalisations compared to 1941.

Acknowledgements

To the sources that kindly permitted me access to their records. To my friends in Parati: Sabina Wenzel for

Table 7. Species showing various changes in abundance ratings since 1941.

		Change in abundance ratings					
-4	-3	-2	-1	0	+1	+2	
- <i>Chamaeza campanisona</i>	- <i>Tinamus solitarius</i> *+	- <i>Micrastur ruficollis</i>	- <i>Crypturellus obsoletus</i>	- <i>Batara cinerea</i>	- <i>Megarynchus pitangua</i>	- <i>Hemitriccus furcatus</i> *+	
	- <i>Crypturellus tataupa</i>	- <i>Aramides saracura</i> +	- <i>Rupornis magnirostris</i>	- <i>Drymophila ferruginea</i> +	- <i>Notiochelidon cyanoleuca</i>	- <i>Myiozetetes similis</i>	
	- <i>Geotrygon montana</i>	- <i>Lochmias nematura</i>	- <i>Knipolegus cyanirostris</i>	- <i>Myiodynastes maculatus</i>	- <i>Euphonia pectoralis</i> +		
	- <i>Bailloniopsis bailloni</i> *+	- <i>Mionectes rufiventris</i> +	- <i>Odontophorus capueira</i> +	- <i>Iodopleura pipra</i> *+			
	- <i>Tijuca atra</i> *+	- <i>Platycichla flavipes</i>	- <i>Piaya cayana</i>	- <i>Cyclarhis gujanensis</i>			
		- <i>Geothlypis aequinoctialis</i>	- <i>Phaethornis ruber</i>	- <i>Hemitraupis ruficapilla</i> +			
		- <i>Cacicus haemorrhous</i>	- <i>Trogon viridis</i>	- <i>Ramphocelus bresilius</i>			
			- <i>Notharchus macrorhynchus</i>	- <i>Thraupis sayaca</i>			
			- <i>Synallaxis ruficapilla</i> +				
			- <i>Automolus leucophthalmus</i> +				
			- <i>Dendrocincla turdina</i> +				
			- <i>Colonia colonus</i>				
			- <i>Oxyruncus cristatus</i>				
			- <i>Turdus albicollis</i>				
			- <i>Tachyphonus coronatus</i> +				
			- <i>Tangara cyanocephala</i> +				
			- <i>Sporophila caerulescens</i>				

hospitality during 1997 and 2001, and access to her hummingbird book; Edmund & Martha Raas for consistent help and encouragement, including access to their property; Hans & Adaline König for advice on birding areas near Parati, permitting me to park my bike in their shed and for many cold drinks following my walks; Werner Ploch for trips in his yacht and detours for birds; Christophe Collet for his topographic maps of Parati which are out of print; Ney Pinto Fuanya, director of IBAMA in Parati, for introducing me to some excellent birding locations and to a knowledgeable guide; Luiz Eduardo Pontual Marx for sharing his knowledge of the birds of Parati; and Rachel Ribas for access to her garden. Jeremy Minns, Fernando Pacheco and Kimball Garrett sent important reference material. My wife Shirley suffered, with understanding, my early risings and protracted absences whilst in Parati.

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P. W. P. Browne

115 Crichton Street, Ottawa, K1M 1V8, Canada.

Appendix I. Consolidated observations.

App. Abu.:	Hab.:	Alt.:	Status	Sources:	Evi. Cat.:
apparent abundance in preferred habitat	observed habitats with preferred habitat first; parentheses indicate presumed habitat.	X indicates altitude range in which the species occurred		the sources responsible for inclusion of a species in the Parati list. Numbers relating to source are as follows (see Data sources):	evidence categories for inclusion when known
1 rare, scarce or local	f forest	L below 500 m	Thr.	End.	S sight record
2 fairly common	n non-forest: open country with scrub, scattered trees, fields	H above 500 m	N Near threatened	E Endemic to Atlantic Forest region	R vocalisation recorded
3 common	a aquatic: rocky coast, river, beaches, mudflats and sea	Blank in both columns	T Threatened		H vocalisation heard but not recorded
4 very common	b built up: buildings and gardens				P photographed
5 abundant and conspicuous					M specimen

Name	App.	Hab.	Alt.	Status	Sources	Evi.
Scientific	Abu.	L H	L H	Thr. End.		Cat.
<i>Tinamus solitarius</i>	2	f	X X	N E	1,5	M
<i>Crypturellus obsoletus</i>	2	f	X X		1,3,4,5	M
<i>Crypturellus tataupa</i>	1	f	X		1,5	M
<i>Sula leucogaster</i>	2	a	X		1,2	S
<i>Phalacrocorax brasilianus</i>	3	a	X		1,2,3,4	S
<i>Fregata magnificens</i>	4	abf	X		1,2,3	S
<i>Ardea cocoi</i>	2	a	X		1,2	S
<i>Casmerodius albus</i>	4	a	X		1,2,3,4	S
<i>Egretta thula</i>	3	a	X		1,2,3,4	S
<i>Egretta caerulea</i>	3	a	X		1,2,3,7	S
<i>Bubulcus ibis</i>	1	(n)	X		1	
<i>Butorides striatus</i>	1	a	X		1,2	S
<i>Syrigma sibilatrix</i>	1	a	X		7	
<i>Nycticorax nycticorax</i>	2	a	X		1,2	S
<i>Nyctanassa violacea</i>	1	a	X		2	S
<i>Tigrisoma lineatum</i>	1	(a)	X		1	
<i>Platalea ajaja</i>	1	a	X		2,6	S
<i>Coragyps atratus</i>	5	abfn	X X		1,2,3,4	S
<i>Cathartes aura</i>	2	fbn	X		1,2,3,4	S
<i>Elanoides forficatus</i>	1	f	X		2,4	S
<i>Harpagus diodon</i>	1	f	X		2,3,4	S
<i>Accipiter polygaster</i>	1	f	X		4	S
<i>Buteo brachyurus</i>	1	f	X		3	S
<i>Rupornis magnirostris</i>	3	n	X X		1,2,3,4,5	SRM
<i>Leucopternis lacernulata</i>	1	f	X	T E	1,3,8	S
<i>Buteogallus meridionalis</i>	1	n	X		1,2,7	S
<i>Spizaetus tyrannus</i>	1	f	X X		1	S
<i>Geranospiza caerulescens</i>	1	f	X		2	S
<i>Herpetotheres cachinnans</i>	1	f	X		1	
<i>Micrastur semitorquatus</i>	1	f	X X		1,2,7	S
<i>Micrastur ruficollis</i>	2	f	X X		1,3,5	SM
<i>Mivago chimachima</i>	3	abfn	X		1,2,4	S
<i>Caracara plancus</i>	3	an	X		1,2,4	S
<i>Falco ruficularis</i>	1	ba	X		2	S
<i>Falco femoralis</i>	1	(n)	X		1	
<i>Penelope supercilialis</i>	1	(f)			7	
<i>Penelope obscura</i>	2	f	X		1,5	M
<i>Pipile jacutinga</i>	1	(f)		T E	7,8	
<i>Odontophorus capueira</i>	1	f		X E	1,5	M
<i>Amaurolimnas concolor</i>	1	(f)	X		1	
<i>Aramides mangle</i>	1	(f)	X		1	
<i>Aramides cajanea</i>	1	(f)	X		1	
<i>Aramides saracura</i>	2	f	X X	E	1,2,3,5	SM
<i>Porzana albicollis</i>	1	(n)	X		1	
<i>Laterallus exilis</i>	1	(a)	X		7	S

Name Scientific	English	Portuguese	App.	Hab.	Alt.	Status		Sources	Evi. Cat.
			Abu.		L	H	Thr.		
<i>Laterallus melanophaius</i>	Rufous-sided Crane	Pinto-d'água-comum	1	n	X			1,2	S
<i>Gallinula chloropus</i>	Common Moorhen	Frango-d'água-comun	1	(a)	X			7	
<i>Jacana jacana</i>	Wattled Jacana	Jaçanã, Cafezinho	1	(a)	X			7	S
<i>Haematopus palliatus</i>	American Oystercatcher	Pirupiru	1	a	X			2,3	S
<i>Vanellus chilensis</i>	Southern Lapwing	Quero-quero	3	an	X			1,2	S
<i>Charadrius semipalmatus</i>	Semipalmated Plover	Batuira-de-bando	1	a	X			1,2	S
<i>Arenaria interpres</i>	Ruddy Turnstone	Agachadeira	1	a	X			7	
<i>Actitis macularia</i>	Spotted Sandpiper	Maçarico-pintado	2	a	X			1,2	S
<i>Calidris fuscicollis</i>	White-rumped Sandpiper	Maçarico-de-sobre-branco	1	a	X			3	S
<i>Gallinago paraguaiæ</i>	South American Snipe	Narceja, Batuira	1	(a)	X			7	
<i>Larus dominicanus</i>	Kelp Gull	Gaivotão	4	a	X			1,2,3,4	S
<i>Sterna hirundinacea</i>	South American Tern	Trinta-réis-de-bico-vermelho	1	a	X			1	
<i>Sterna hirundo</i>	Common Tern	Trinta-réis-boreal	1	a	X			2	S
<i>Sterna superciliaris</i>	Yellow-billed Tern	Trinta-réis-anão	1	a	X			3	S
<i>Sterna maxima</i>	Royal Tern	Trinta-réis-real	3	a	X			1,2,3,7	S
<i>Sterna eurygnatha</i>	Cayenne Tern	Trinta-réis-de-bico-amarelo	3	a	X			1,2	S
<i>Rynchops niger</i>	Black Skimmer	Talha-mar	1	a	X			3,7	S
<i>Columba livia</i>	Rock Pigeon		2	ba	X			2,7	S
<i>Columba picazuro</i>	Picazuro Pigeon	Asa-branca, Pomba-trocal	1	f	X			2	S
<i>Columba cayennensis</i>	Pale-vented Pigeon	Pomba-galega	2	nf	X			1,2,4	S
<i>Columba plumbea</i>	Plumbeous Pigeon	Pomba-amargosa	3	f	X	X		1,3,5	SRM
<i>Zenaida auriculata</i>	Eared Dove	Pomba-de-bando, Avoante	1	n	X			2	S
<i>Columbina talpacoti</i>	Ruddy Ground-dove	Rolinha-caldo-de-feijão	3	nf	X			1,2,3,4	S
<i>Leptotila verreauxi</i>	White-tipped Dove	Juriti-pupu	2	f	X	X		1,2,3	SR
<i>Leptotila rufaxilla</i>	Grey-fronted Dove	Juriti-gemeadeira	1	f	X			2,3,5	SRM
<i>Geotrygon montana</i>	Ruddy Quail-dove	Pariri	1	f	X	X		1,5	M
<i>Pyrhura frontalis</i>	Maroon-bellied Parakeet	Tiriba-de-testa-vermelha	4	fn	X	X	E	1,2,3,4,5,6	SM
<i>Forpus xanthopterygius</i>	Blue-winged Parrotlet	Tuim	3	fn	X	X		1,2,3	S
<i>Brotogeris tirica</i>	Plain Parakeet	Periquito-rico	4	fn	X	X	E	1,2,3,4,5,6	SRM
<i>Touit surda</i>	Golden-tailed Parrotlet	Apuim-de-cauda-amarela	1	(f)			T E	7	
<i>Pionopsitta pileata</i>	Pileated Parakeet	Cuiú-cuiú	2	f	X	X	E	1,7	
<i>Pionus maximiliani</i>	Scaly-headed Parrot	Maitaca-bronzeada	3	f	X	X		1,3,4,6	SR
<i>Tricharia malachitacea</i>	Blue-bellied Parrot	Sabiá-cica	2	f	X	X	T E	1,3,8,9	S
<i>Coccyzus melacoryphus</i>	Dark-billed Cuckoo	Papa-lagarta	1	f	X			7	
<i>Piaya cayana</i>	Squirrel Cuckoo	Alma-de-gato	3	fn	X	X		1,2,3,5,6	SM
<i>Crotophaga ani</i>	Smooth-billed Ani	Anu-preto	3	n	X	X		1,2,4	S
<i>Guirra guirra</i>	Guirra Cuckoo	Anu-branco	2	f	X			1,2,4	S
<i>Tapera naevia</i>	Striped Cuckoo	Saci, Sem-fim	1	f	X			1,2,4	S
<i>Tyto alba</i>	Barn Owl	Suindara	1	b	X			1,2	S
<i>Otus choliba</i>	Tropical Screech-owl	Corujinha-do-mato	1	f	X			7	S
<i>Pulsatrix koenigswaldiana</i>	Tawny-browed Owl	Murucutu-de-barriga-amarela	1	f	X		E	1	
<i>Glaucidium minutissimum</i>	Least Pygmy-owl	Caburé-miudinho	1	(f)	X			7	
<i>Speotyto cunicularia</i>	Burrowing Owl	Buraqueira	1	n	X			1,2	SP
<i>Rhinoptyx clamator</i>	Striped Owl	Coruja-orelhuda	1	(n)	X			1,7	
<i>Nyctibius aethereus</i>	Long-tailed Potoo	Mãe-da-lua-parda	1	(f)	X			7	
<i>Nyctibius griseus</i>	Common Potoo	Urutau, Mãe-da-lua	1	f	X	X		1,4	H
<i>Lycocalis semitorquatus</i>	Short-tailed Nighthawk	Tuju	1	f	X			1	
<i>Chordeiles acutipennis</i>	Lesser Nighthawk	Bacurau-de-asa-fina	1	(n)	X			1,7	
<i>Nyctidromus albicollis</i>	Pauraque	Curiango	1	(f)	X			1	
<i>Caprimulgus longirostris</i>	Band-winged Nightjar	Bacurau-da-telha	1	n		X		2	R
<i>Hydropsalis torquata</i>	Scissor-tailed Nightjar	Bacurau-tesoura	1	f	X			7	S
<i>Macropsalis creagra</i>	Long-trained Nightjar	Bacurau-tesoura-gigante	1	f		X	E	1	
<i>Streptoprocne zonaris</i>	White-collared Swift	Andorinhão-de-coleira, Taperuçu	2	f	X	X		1,2,3,4	S
<i>Cypseloides senex</i>	Great Dusky Swift	Andorinhão-velho-da-cascata	1	(f)				7	
<i>Cypseloides fumigatus</i>	Sooty Swift	Andorinhão-preto-da-cascata	1	f		X		1	
<i>Chaetura cinereiventris</i>	Grey-rumped Swift	Andorinhão-de-sobre-cinzento	3	f	X	X		1,2,3,4	S
<i>Chaetura meridionalis</i>	Sick's Swift	Andorinhão-do-temporal	4	bnf	X	X		1,2,4,9	S
<i>Panyptila cayennensis</i>	Lesser Swallow-tailed Swift	Andorinhão-estofador	1	f	X			1,2,4	S
<i>Ramphodon naevius</i>	Saw-billed Hermit	Beija-flor-grande-do-mato	3	f	X	X	N E	1,2,3,4,5,6	SM
<i>Glaucis hirsuta</i>	Rufous-breasted Hermit	Balança-rabo-de-bico-torto	1	f	X			1,2,5	SM
<i>Phaethornis eurynome</i>	Scale-throated Hermit	Rabo-branco-de-garganta-rajada	2	f	X	X	E	1,3	SR
<i>Phaethornis squalidus</i>	Dusky-throated Hermit	Rabo-branco-miúdo	1	f	X		E	3,6	S
<i>Phaethornis pretrei</i>	Planalto Hermit	Rabo-branco-de-sobre-amarelo	1	b	X	X		2	S
<i>Phaethornis ruber</i>	Reddish Hermit	Besourinho-da-mata	3	fn	X			1,2,3,5,6	SM
<i>Phaethornis idaliae</i>	Minute Hermit	Besourinho	1	f	X		E	2	S
<i>Eupetomena macroura</i>	Swallow-tailed Hummingbird	Tesourão	2	bnf	X			2,4,7	S
<i>Melanotrochilus fuscus</i>	Black Jacobin	Beija-flor-preto-e-branco	3	fn	X	X	E	1,2,4,5	SM

Name			App.	Hab.	Alt.	Status	Sources	Evi.
Scientific	English	Portuguese	Abu.		L H	Thr. End.		Cat.
<i>Colibri serrirostris</i>	White-vented Violetear	Beija-flor-de-orelha-violeta	1	(f)			5,7	M
<i>Anthracothorax nigricollis</i>	Black-throated Mango	Beija-flor-preto	1	bf	X X		1,2,4	S
<i>Stephanoxis lalandi</i>	Plovercrest	Beija-flor-de-topete	1	f		X	1	
<i>Chlorostilbon aureoventris</i>	Glittering-bellied Emerald	Besourinho-de-bico-vermelho	1	f	X		2	S
<i>Thalurania glaucopis</i>	Violet-capped Woodnymph	Tesoura-de-fronte-violeta	3	f	X X		E 1,2,3,4,5,6	SM
<i>Hyocharis cyanus</i>	White-chinned Sapphire	Beija-flor-roxo	1	f	X		1	
<i>Leucochloris albicollis</i>	White-throated Hummingbird	Papo-branco	1	f	X X		E 1	
<i>Amazilia versicolor</i>	Versicoloured Emerald	Beija-flor-de-banda-branca	2	f	X X		1,2	S
<i>Amazilia fimbriata</i>	Glittering-throated Emerald	Beija-flor-de-garganta-verde	2	bn	X		1,2	S
<i>Aphantochroa cirrhochloris</i>	Sombre Hummingbird	Beija-flor-cinza	1	b	X		E 2,6,7	S
<i>Clytolaema rubricauda</i>	Brazilian Ruby	Beija-flor-rubi, Papo-de-fogo	1	f		X	E 1	
<i>Helioamaster squamosus</i>	Stripe-breasted Starthroat	Bico-reto-verde	1	f		X	1	
<i>Trogon viridis</i>	White-tailed Trogon	Surucua-grande-de-barriga-amarela	3	f	X X		1,3,4,5,6	SM
<i>Trogon rufus</i>	Black-throated Trogon	Surucua-de-barriga-amarela	2	f	X X		1,3,5	RM
<i>Trogon surrucura</i>	Surucua Trogon	Surucua-de-peito-azul, João-tolo	2	f	X X		E 1,2,3,5	SM
<i>Ceryle torquata</i>	Ringed Kingfisher	Martim-pescador-matraca	2	ab	X		1,2,4	S
<i>Chloroceryle amazona</i>	Amazon Kingfisher	Martim-pescador-verde	2	a	X		2,3,4,6,7	S
<i>Chloroceryle americana</i>	Green Kingfisher	Martim-pescador-pequeno	2	af	X		1,2	S
<i>Chloroceryle inda</i>	Green-and-rufous Kingfisher	Martim-pescador-da-mata	1	(a)	X		7	
<i>Baryphthengus ruficapillus</i>	Rufous-capped Motmot	Juruva	2	f	X X		E 1,3,5	RM
<i>Galbula ruficauda</i>	Rufous-tailed Jacamar	Bico-de-agulha-de-rabo-vermelho	2	nf	X		1,2,3,5,6	SRM
<i>Notharchus macrorhynchus</i>	White-necked Puffbird	Capitão-do-mato	1	f	X		1,4,5	SM
<i>Malacoptila striata</i>	Crescent-chested Puffbird	João-barbudo	1	f	X		E 1,5	M
<i>Selenidera maculirostris</i>	Spot-billed Toucanet	Araçari-poca	2	f	X X		E 1,3,4,5	M
<i>Baillonius bailloni</i>	Saffron Toucanet	Araçari-banana	1	(f)	X		N E 5,6,7	SM
<i>Ramphastos vitellinus</i>	Channel-billed Toucan	Tucano-de-bico-preto	2	f	X		1,3,5,6	SM
<i>Ramphastos dicolorus</i>	Red-breasted Toucan	Tucano-de-bico-verde	1	f		X	E 1	
<i>Picumnus cirratus</i>	White-barred Piculet	Pica-pau-anão-barrado	4	fn	X X		1,2,3,4,5,6	SM
<i>Colaptes campestris</i>	Campo Flicker	Pica-pau-do-campo	1	(n)	X		1,4	S
<i>Colaptes melanochlorus</i>	Green-barred Woodpecker	Pica-pau-verde-barrado	1	f	X X		1,2,4	S
<i>Piculus flavigula</i>	Yellow-throated Woodpecker	Pica-pau-bufador	1	f	X		1,5	M
<i>Piculus aurulentus</i>	Yellow-browed Woodpecker	Pica-pau-dourado	1	f	X		N E 1	
<i>Ceelus flavescens</i>	Blond-crested Woodpecker	Pica-pau-de-cabeça-amarela	2	f	X X		1,3,6	S
<i>Dryocopus lineatus</i>	Lineated Woodpecker	Pica-pau-de-banda-branca	1	f	X		1,2	S
<i>Melanerpes flavifrons</i>	Yellow-fronted Woodpecker	Benedito-de-testa-amarela	3	fn	X X		E 1,2,4,5,6	SM
<i>Melanerpes candidus</i>	White Woodpecker	Birro	1	n	X		1,2	S
<i>Veniliornis spilogaster</i>	White-spotted Woodpecker	Pica-pauzinho-verde-carijó	2	f	X X		E 1,5	M
<i>Campephilus robustus</i>	Robust Woodpecker	Pica-pau-rei	1	f	X X		E 1,5	M
<i>Psilorhamphus guttatus</i>	Spotted Bamboowren	Tapaculo-pintado	1	f	X		N E 1,7	
<i>Merulaxis ater</i>	Slaty Bristlefront	Entufado	2	f	X X		N E 1,2,3,4,6	SR
<i>Scytalopus speluncae</i>	Mouse-coloured Tapaculo	Tapaculo-preto	2	f	X X		E 1,3,4	H
<i>Hypodaleus guttatus</i>	Spot-backed Antshrike	Chocão-carijó	3	f	X X		E 1,2,3,4,5,6	SRM
<i>Batara cinerea</i>	Giant Antshrike	Matracaõ	3	f	X		1,2,3,5	SRM
<i>Mackenziaena leachii</i>	Large-tailed Antshrike	Borralhara-assobiadora	1	f	X		E 1,7	
<i>Mackenziaena severa</i>	Tufted Antshrike	Borralhara	2	f	X X		E 1,4	S
<i>Thamnoptilus palliatus</i>	Chestnut-backed Antshrike	Choca-listrada	1	f	X		1	
<i>Thamnoptilus caeruleus</i>	Variable Antshrike	Choca-da-mata	1	f	X		1,3	R
<i>Thamnoptilus ruficapillus</i>	Rufous-capped Antshrike	Choca-de-chapéu-vermelho	1	n	X		2,7	R
<i>Dysithamnus stictothorax</i>	Spot-breasted Antwren	Choquinha-de-peito-pintado	4	fn	X X		N E 1,2,3,4,5,6	SRM
<i>Dysithamnus mentalis</i>	Plain Antwren	Choquinha-lisa	2	f	X X		1,2,3,4,6	SR
<i>Dysithamnus xanthopterus</i>	Rufous-backed Antwren	Choquinha-de-asa-ferrugem	2	f	X		E 1,3	SR
<i>Myrmotherula gularis</i>	Star-throated Antwren	Choquinha-da-garganta-pintada	3	f	X X		E 1,2,3,6	SR
<i>Myrmotherula minor</i>	Salvador's Antwren	Choquinha	1	f	X		T E 1,3,4	SR
<i>Myrmotherula unicolor</i>	Unicoloured Antwren	Choquinha-cinzenta	2	f	X		T E 1,2,3,4	SR
<i>Herpsilochmus rufimarginatus</i>	Rufous-winged Antwren	Chororozinho-de-asa-vermelha	3	f	X		1,2,3,4,6,7	SR
<i>Formicivora erythronotos</i>	Black-hooded Antwren		1	f	X		T E 1	
<i>Drymophila ferruginea</i>	Ferruginous Antbird	Trovoada	4	fn	X X		E 1,2,3,4,5,6	SRM
<i>Drymophila rubricollis</i>	Bertoni's Antbird	Choquinha-de-Bertoni	1	f	X		E 1,7	
<i>Drymophila genei</i>	Rufous-tailed Antbird	Choquinha-da-serra	1	f	X X		N E 1,3	SR
<i>Drymophila ochropyga</i>	Ochre-rumped Antbird	Choquinha-de-dorso-vermelho	1	f	X X		N E 1	
<i>Drymophila squamata</i>	Scaled Antbird	Pintadinho	2	f	X X		E 1,2,3,4,6	SR
<i>Terenura maculata</i>	Streak-capped Antwren	Zidede	2	f	X X		E 1,3,4,6	SR
<i>Pyrgilena leucoptera</i>	White-shouldered Fire-eye	Borralhara	4	fn	X X		E 1,2,3,4,5,6	SRM
<i>Myrmeciza squamosa</i>	Squamate Antbird	Papa-formigas-de-grota	3	f	X X		E 1,2,3,4,5	RM
<i>Chamaeza campanisona</i>	Short-tailed Anthrush	Tovaca-campainha	1	f	X X		1,3,5	RM
<i>Chamaeza meruloides</i>	Such's Anthrush	Tovaca-cantador	3	f	X		E 1,2,3	R
<i>Chamaeza ruficauda</i>	Brazilian Anthrush	Tovaca-de-rabo-vermelho	3	f	X		E 1,3,5,7	M

Name Scientific	English	Portuguese	App.	Hab.	Alt.		Status		Sources	Evi. Cat.
			Abu.		L	H	Thr.	End.		
<i>Formicarius colma</i>	Rufous-capped Antthrush	Galinha-do-mato	2	f	X				1,2,3,5	RM
<i>Grallaria varia</i>	Variagated Antpitta	Tovacuçu	2	f	X	X			1,2,3,5	RM
<i>Hyllopezus nattereri</i>	Speckle-breasted Antpitta	Pinto-do-mato	2	f		X			1,2	H
<i>Conopophaga melanops</i>	Black-cheeked Gnatcatcher	Cuspidor-de-máscara-preta	2	f	X			E	1,2,6	SR
<i>Conopophaga lineata</i>	Rufous Gnatcatcher	Chupa-dente	1	f	X	X		E	1,3,6	SR
<i>Furnarius rufus</i>	Rufous Hornero	João-de-barro	1	n	X				2,6,7	S
<i>Furnarius figulus</i>	Tail-banded Hornero	Casaco-de-couro-da-lama	1	a	X				2	S
<i>Synallaxis spixi</i>	Spix's Spinetail	João-teneném	2	n	X	X			1,2	SR
<i>Synallaxis ruficapilla</i>	Rufous-capped Spinetail	Pichororé	3	f	X	X		E	1,2,3,4,5	SM
<i>Synallaxis albenscens</i>	Pale-breasted Spinetail	Uipi	1	(n)	X				7	
<i>Certhiaxis cinnamomea</i>	Yellow-chinned Spinetail	Curutié	2	n	X				1,2,6	SR
<i>Cranioleuca pallida</i>	Pallid Spinetail	Arredio-pálido	2	f	X	X		E	1,3,4	H
<i>Phacelodorus erythrophthalmus</i>	Red-eyed Thornbird	João-botina	2	fn	X			E	1,2,6	SR
<i>Anabazenops fuscus</i>	White-collared Foliage-gleaner	Trepador-coleira	2	f	X	X		E	1,4,5	M
<i>Syndactyla rufosupercilata</i>	Buff-browed Foliage-gleaner	Trepador-quiete	1	f		X			1	
<i>Anabacerthia amaurotis</i>	White-browed Foliage-gleaner	Limpa-folha-miuda	1	f		X		N	1	
<i>Philydor atricapillus</i>	Black-capped Foliage-gleaner	Limpa-folha-coroadá	3	f	X	X		E	1,2,3,4,5	SRM
<i>Philydor lichtensteini</i>	Ochre-breasted Foliage-gleaner	Limpa-folha-ochracea	3	f	X	X		E	1,2,3,4,5,6	SM
<i>Philydor rufus</i>	Buff-fronted Foliage-gleaner	Limpa-folha-testa-baia	2	f	X	X			1,2,3,4,5,6	SRM
<i>Automolus leucophthalmus</i>	White-eyed Foliage-gleaner	Barranqueiro-olho-branco	3	f	X	X		E	1,2,3,4,5,6	SRM
<i>Cichocolaptes leucophrys</i>	Pale-browed Treehunter	Trepador-sobrancelha	3	f	X	X		E	1,3,5,6	SRM
<i>Heliobletus contaminatus</i>	Sharp-billed Treehunter	Trepadorzinho	1	f		X		E	1	
<i>Xenops minutus</i>	Plain Xenops	Bico-virado-miudinho	2	f	X				1,2,4	S
<i>Xenops rutilans</i>	Streaked Xenops	Bico-virado-carrijó	1	f	X	X			1,2	SR
<i>Sclerurus scansor</i>	Rufous-breasted Leaf-tosser	Vira-folhas	2	f	X	X		E	1,3,5,6	SM
<i>Sclerurus mexicanus</i>	Tawny-throated Leaf-tosser	Vira-folhas	1	f	X				4,7	S
<i>Lochmias nematura</i>	Sharp-tailed Streamcreeper	João-porca	2	f		X			1,5	M
<i>Dendrocincla turdina</i>	Thrush-like Woodcreeper	Arapaçu-liso	3	f	X	X		E	1,3,4,5,6	SRM
<i>Sittasomus griseicapillus</i>	Olivaceous Woodcreeper	Arapaçu-verde	2	f	X	X			1,2,3,4,5	SRM
<i>Xiphocolaptes albicollis</i>	White-throated Woodcreeper	Arapaçu-de-garganta-branca	2	f	X	X			1,2,3,4,5,6	SRM
<i>Dendrocolaptes platyrostris</i>	Planalto Woodcreeper	Arapaçu-grande	2	f	X	X			1,4,5	SM
<i>Lepidocolaptes angustirostris</i>	Narrow-billed Woodcreeper	Arapaçu-do-cerrado	1	(f)	X	X			4	S
<i>Lepidocolaptes squamatus</i>	Scaled Woodcreeper	Arapaçu-escamado	2	f	X	X		E	1,4	S
<i>Lepidocolaptes fuscus</i>	Lesser Woodcreeper	Arapaçu-rajado	4	f	X	X		E	1,2,3,4,5,6	SRM
<i>Phylloscopus fasciatus</i>	Planalto Tyrannulet	Piolhinho	2	f	X	X			1,3,5	M
<i>Phylloscopus burmeisteri</i>	Rough-legged Tyrannulet	Poiaeiro-do-sul	1	f	X	X			1,2,6	S
<i>Phylloscopus virescens</i>	Greenish Tyrannulet	Poiaeiro-verde	1	(f)				E	7	
<i>Phylloscopus griseocapilla</i>	Grey-capped Tyrannulet	Poiaeiro-serrano	1	f				E	1,5	M
<i>Campostoma obsoletum</i>	Southern Beardless-tyrannulet	Risadinha	1	fbn	X	X			1,2	SR
<i>Myiopagis caniceps</i>	Grey Elaenia	Maria-de-copa	1	f	X				1,2,7	S
<i>Elaenia flavogaster</i>	Yellow-bellied Elaenia	Guaracava-de-barriga-amarela	2	n	X	X			1,2	S
<i>Elaenia mesoleuca</i>	Olivaceous Elaenia	Tuque	1	f	X	X			1,3,7	H
<i>Elaenia obscura</i>	Highland Elaenia	Guaracava-de-olhos	1	f		X			1	
<i>Serpophaga subcristata</i>	White-crested Tyrannulet	Alegriño	1	f	X				1	
<i>Mionectes rufiventris</i>	Grey-hooded Flycatcher	Abre-asas	2	f	X	X		E	1,2,3,4,5,6	SRM
<i>Leptopogon amaurocephalus</i>	Sepia-capped Flycatcher	Cabeçudo	2	f	X	X			1,2,3,4,6	S
<i>Phylloscartes sylvioilus</i>	Bay-ringed Tyrannulet	Maria-pequena	1	(f)	X			N	7	
<i>Phylloscartes ventralis</i>	Mottled-cheeked Tyrannulet	Borboletinha-do-mato	1	f		X			1,3	SR
<i>Phylloscartes oustaleti</i>	Oustalet's Tyrannulet	Papa-moscas-de-olheiras	2	f	X	X		N	1,4,5	SM
<i>Phylloscartes difficilis</i>	Serra do Mar Tyrannulet	Estalinho	1	f	X	X		N	1	
<i>Phylloscartes paulistus</i>	São Paulo Tyrannulet	Não-pode-parar	1	f	X			T	1,2,4	SR
<i>Capsiempis flaveola</i>	Yellow Tyrannulet	Marianinha-amarela	1	fn	X				1,2	SR
<i>Myiornis auricularis</i>	Eared Pygmy-tyrant	Miudinho	1	f	X	X			1,2,4,5	SM
<i>Hemitriccus diops</i>	Drab-breasted Bamboo-tyrant	Olho-falso	1	(f)				E	7	
<i>Hemitriccus obsoletus</i>	Brown-breasted Bamboo-tyrant	Catraca	2	f		X		E	1,2	R
<i>Hemitriccus furcatus</i>	Fork-tailed Tody-tyrant	Papa-moscas-estrela	3	f	X	X		T	1,2,4,5,6,8,9	SRM
<i>Hemitriccus nidipendulus</i>	Hangnest Tody-tyrant	Tachuri-campinha	2	f	X			E	1,7	
<i>Hemitriccus orbitatus</i>	Eye-ringed Tody-tyrant	Tiririzinho-do-mato	1	f	X			N	1,2,3,4	S
<i>Todirostrum poliocephalum</i>	Yellow-lored Tody-flycatcher	Teque-teque, Ferreirinho	2	f	X	X		E	1,2,3	SR
<i>Todirostrum plumbeiceps</i>	Ochre-faced Tody-flycatcher	Ferreirinho-de-cara-canela, Tororó	2	f	X	X			1,3,6	S
<i>Ramphotrigon megacephala</i>	Large-headed Flatbill	Maria-cabecuda	1	f	X	X			2	S
<i>Tolmomyias sulphureus</i>	Yellow-olive Flycatcher	Bico-chato-de-orelha-preta	3	f	X	X			1,2,3,4,5	RM
<i>Platyrinchus mystaceus</i>	White-throated Spadebill	Patinho	2	f	X	X			1,2,3,4,6	SR
<i>Platyrinchus leucorhynchus</i>	Russet-winged Spadebill	Patinho-gigante	1	(f)				N	7,8	
<i>Onychorhynchus coronatus</i>	Royal Flycatcher	Maria-leque	1	f	X				1	
<i>Myiobius barbatus</i>	Whiskered Flycatcher	Assanhadinho	2	f	X				1,3,4,6	S
<i>Myiobius atricaudus</i>	Black-tailed Flycatcher	Assanhadinho-de-cauda-preta	1	f		X			1	

Name	Scientific	English	Portuguese	App.	Hab.	Alt.		Status		Sources	Evi.
				Abu.		L	H	Thr.	End.		
	<i>Myiophobus fasciatus</i>	Bran-coloured Flycatcher	Filipe	2	f	X	X			1,4	S
	<i>Contopus cinereus</i>	Tropical Pewee	Papa-moscas-cinzento	1	f	X				1	
	<i>Contopus borealis</i>	Olive-sided Flycatcher	Piui-boreal	1	f	X				2,4,7	S
	<i>Lathrotriccus euleri</i>	Euler's Flycatcher	Enferrujado	3	f	X	X			1,2,3,4	SR
	<i>Cnemotriccus fuscatus</i>	Fuscous Flycatcher	Guaracavuçu	2	f	X				1	
	<i>Pyrocephalus rubinus</i>	Vermilion Flycatcher	Verão	1	(n)	X				3	S
	<i>Xolmis velata</i>	White-rumped Monjita	Noivinha-branca	1	f	X				1,7	
	<i>Knipolegus nigerrimus</i>	Velvety Black-tyrant	Maria-preta-de-garganta-vermelha	2	f	X	X		E	1,3	S
	<i>Knipolegus cyanostris</i>	Blue-billed Black-tyrant	Maria-preta-de-bico-azulado	2	f	X	X			1,2,3,5	SM
	<i>Fluvicola nengeta</i>	Masked Water-tyrant	Lavadeira-mascarada	3	anf	X				1,2,4	S
	<i>Colonia colonus</i>	Long-tailed Tyrant	Viuvinha	3	fn	X	X			1,2,4,5,6	SM
	<i>Satrapa icterophrys</i>	Yellow-browed Tyrant	Suiriri-pequeno	1	n	X				2,7	S
	<i>Hirundinea ferruginea</i>	Cliff Flycatcher	Gibão-de-couro	2	n	X	X			1,2,4,6	S
	<i>Machetornis rixosus</i>	Cattle Tyrant	Bem-te-vi-do-gado	3	n	X				1,2,3,4,6	S
	<i>Muscipira vetula</i>	Shear-tailed Grey-tyrant	Tesoura-cinzenta	1	f		X		E	7	S
	<i>Attila rufus</i>	Grey-hooded Attila	Tinguauçu, Capitão-de-saíra	2	f	X	X		E	1,3,4,5	SRM
	<i>Attila phoenicurus</i>	Rufous-tailed Attila	Capitão-castanho	3	f	X	X			1,2,3,7	SR
	<i>Rhytipterna simplex</i>	Greyish Mourner	Wissá	1	(f)	X				3,7	H
	<i>Sirystes sibilator</i>	Syrstes	Gritador	1	f		X			2,7	R
	<i>Myiarchus ferox</i>	Short-crested Flycatcher	Maria-cavaleira	1	f	X				1,4	H
	<i>Myiarchus swainsoni</i>	Swainson's Flycatcher	Irrê	2	f		X			1,7	
	<i>Philohydor lictor</i>	Lesser Kiskadee	Bem-te-vizinho-do-brejo	1	(n)	X				7	
	<i>Pitangus sulphuratus</i>	Great Kiskadee	Bem-te-vi	4	nbf	X	X			1,2,3,4	SR
	<i>Megarynchus pitangua</i>	Boat-billed Flycatcher	Nei-nei	4	f	X				1,2,3,4,5,6	SRM
	<i>Myiozetetes similis</i>	Social Flycatcher	Bem-te-vizinho-penacho-vermelho	5	fn	X	X			1,2,3,4,5,6	SRM
	<i>Myiodynastes maculatus</i>	Streaked Flycatcher	Bem-te-vi-rajado	3	f	X	X			1,2,3,4,5	SRM
	<i>Legatus leucophaeus</i>	Piratic Flycatcher	Bem-te-vi-pirata	2	fn	X				1,2,3,4	SR
	<i>Empidonomus varius</i>	Variiegated Flycatcher	Peitica	2	f	X				1,5	M
	<i>Tyrannus savana</i>	Fork-tailed Flycatcher	Tesoura	1	bn	X				1,2,7	S
	<i>Tyrannus melancholicus</i>	Tropical Kingbird	Suiriri	4	nbf	X	X			1,2,3,4	SR
	<i>Pachyrhamphus viridis</i>	Green-backed Becard	Caneleirinho-verde	1	f	X	X			1,4	S
	<i>Pachyrhamphus castaneus</i>	Chestnut-crowned Becard	Caneleirinho	2	f	X	X			1,2,3,4,5,6	SM
	<i>Pachyrhamphus polychropterus</i>	White-winged Becard	Caleleirinho-preto	2	f	X	X			1,2,3,4	SR
	<i>Pachyrhamphus marginatus</i>	Black-capped Becard	Caneleiro-bordado	2	f	X				1,3,4,5,6	SRM
	<i>Pachyrhamphus validus</i>	Crested Becard	Caneleiro-de-chapéu-negro	1	f	X	X			1,2,4	S
	<i>Tityra cayana</i>	Black-tailed Tityra	Anambé-branco-de-rabo-preto	1	f	X	X			1,2,4	S
	<i>Tityra inquisitor</i>	Black-crowned Tityra	Anambé-branco-de-bochecha-parda	1	f	X				1,2	S
	<i>Chiroxiphia caudata</i>	Blue Manakin	Tangará-dançador	4	fn	X	X		E	1,2,3,4,5,6	SRM
	<i>Ilicura militaris</i>	Pin-tailed Manakin	Tangarazinho	2	f	X	X		E	1,3,6	S
	<i>Manacus manacus</i>	White-bearded Manakin	Rendeira	3	f	X				1,2,3	SR
	<i>Neopelma aurifrons</i>	Wied's Tyrant-manakin	Fruxu-baiano	1	f		X	T	E	1	
	<i>Schiffornis virescens</i>	Greenish Schiffornis	Flautim	3	f	X	X		E	1,3,4	R
	<i>Laniusoma elegans</i>	Shrike-like Cotinga	Chibante	1	f	X	X	T		1	
	<i>Tijua atra</i>	Black-and-gold Cotinga	Saudade, Assobiador	1	f		X	N	E	1,5,9	
	<i>Carpornis cucullatus</i>	Hooded Berryeater	Corocochó	2	f	X	X	N	E	1,2,3	R
	<i>Iodopleura pipra</i>	Buff-throated Purpletuft	Anambezinho	1	(f)	X		T	E	4,5,7,8	SM
	<i>Lipaugus lanioides</i>	Cinnamon-vented Piha	Tropeiro-da-serra	1	(f)	X		T	E	3,7	SR
	<i>Pyroderus scutatus</i>	Red-ruffed Fruitcrow	Pavão-do-mato	1	f		X			1,3	S
	<i>Procnias nudicollis</i>	Bare-throated Bellbird	Araponga	2	f	X	X	N	E	1,2,3	SR
	<i>Oxyruncus cristatus</i>	Sharpbill	Araponga-do-horto	2	f	X	X			1,2,5	M
	<i>Progne chalybea</i>	Grey-breasted Martin	Andorinha-doméstica-grande	4	bnaf	X				1,2	S
	<i>Progne subis</i>	Purple Martin	Andorinha-azul	1	b	X				2	S
	<i>Notiochelidon cyanoleuca</i>	Blue-and-white Swallow	Andorinha-azul-e-branca	4	bnf	X	X			1,2,4,5	SM
	<i>Neochelidon tibialis</i>	White-thighed Swallow	Calcinha-branca	1	f	X	X			1,2,9	S
	<i>Stelgidopteryx ruficollis</i>	Southern Rough-winged Swallow	Andorinha-serrador	3	nf	X	X			1,2,3,4	S
	<i>Hirundo rustica</i>	Barn Swallow	Andorinha-de-chaminé	1	n	X				2	S
	<i>Hirundo pyrrhonota</i>	Cliff Swallow	Andorinha-de-dorso-acanelado	1	(n)	X				1,7	
	<i>Thryothorus longirostris</i>	Long-billed Wren	Garrinchão-de-bico-grande	2	f	X				1,2	SR
	<i>Troglodytes musculus</i>	Southern House-wren	Corruira, Cambaxirra	3	fnb	X	X			1,2,4	SR
	<i>Ramphocaeus melanurus</i>	Long-billed Gnatwren	Bico-assoavelado	2	f	X	X			1,3,4,7	S
	<i>Platycichla flavipes</i>	Yellow-legged Thrush	Sabiáuna	3	f	X	X			1,2,3,4,5,6	SRM
	<i>Turdus rufiventris</i>	Rufous-bellied Thrush	Sabiá-laranjeira	4	fnb	X	X			1,2,3,4,5	SRM
	<i>Turdus leucomelas</i>	Pale-breasted Thrush	Capoeirão, Sabiá-barranco	1	f	X				1,2,6	S
	<i>Turdus amaurochalinus</i>	Creamy-bellied Thrush	Sabiapoca	2	fn	X	X			1,2,4,5	SM
	<i>Turdus albicollis</i>	White-necked Thrush	Sabiá-coleira	3	f	X	X			1,2,3,5,6	SRM
	<i>Mimus saturninus</i>	Chalk-browed Mockingbird	Sabiá-do-campo	1	n	X				1,2,4	S
	<i>Anthus lutescens</i>	Yellowish Pipit	Caminheiro-zumbidor	2	n	X	X			1,2,7	S

Name Scientific	English	Portuguese	App.	Hab.	Alt.		Status		Sources	Evi. Cat.
			Abu.		L	H	Thr.	End.		
<i>Cyclarhis gujanensis</i>	Rufous-browed Peppershrike	Pitiguari, Apará-bala	4	f	X	X			1,2,3,4,5,6	SRM
<i>Vireo chivi</i>	Red-eyed Vireo	Juruviara	4	fn	X	X			1,2,3,4,5	SRM
<i>Hylophilus poicilotis</i>	Rufous-crowned Greenlet	Verdinho-coroado	2	f		X		E	1,3	SR
<i>Hylophilus thoracicus</i>	Lemon-chested Greenlet	Vite-vite	1	fn	X				1,2	SR
<i>Parula pitayumi</i>	Tropical Parula	Mariquita	3	nf	X	X			1,2,3,4,6	SR
<i>Geothlypis aequinoctialis</i>	Masked Yellowthroat	Pia-cobra	3	nf	X	X			1,2,3,4,5	SRM
<i>Basileuterus culicivorus</i>	Golden-crowned Warbler	Pula-pula	3	f	X	X			1,2,3,4	SR
<i>Basileuterus leucoblepharus</i>	White-rimmed Warbler	Pula-pula-assobiador	2	f		X		E	1,3	H
<i>Phaethlypis rivularis</i>	Neotropical River Warbler	Pula-pula-ribeirinho	3	f	X	X			1,2,3,4,5,6	SRM
<i>Coereba flaveola</i>	Bananaquit	Cambacica, Caga-sebo, Sebinho	3	bfn	X	X			1,2,3,4	SR
<i>Orchesticis abeillei</i>	Brown Tanager	Sanhaço-pardo	1	f				E	5	M
<i>Cissopis leveriana</i>	Magpie Tanager	Tié-tinga	2	f	X	X			1,2,5	SM
<i>Hemithraupis ruficapilla</i>	Rufous-headed Tanager	Saira-da-mata	2	f	X	X		E	1,2,3,5,6	SRM
<i>Orthogonyx chloricterus</i>	Olive-green Tanager	Catirumbava	2	f	X	X		E	1,2,5,6	SM
<i>Tachyphonus cristatus</i>	Flame-crested Tanager	Tié-galo	3	f	X	X			1,2,3,4,6	SR
<i>Tachyphonus coronatus</i>	Ruby-crowned Tanager	Tié-preto	3	f	X	X		E	1,2,3,4,5,6	SM
<i>Trichothraupis melanops</i>	Black-goggled Tanager	Tié-de-topete	2	f	X	X			1,3,4,5	SM
<i>Habia rubica</i>	Red-crowned Ant-tanager	Tié-do-mato-grosso	3	f	X	X			1,3,5,6	SRM
<i>Piranga flava</i>	Hepatic Tanager	Sanhaço-de-fogo	1	f	X	X			2,4	S
<i>Ramphocelus bresilius</i>	Brazilian Tanager	Tié-sangue, Sangue-de-boi	5	fn	X			E	1,2,4,5,6	SM
<i>Thraupis sayaca</i>	Sayaca Tanager	Sanhaço-cinzento	3	fnb	X	X			1,2,4,5	SM
<i>Thraupis cyanopectera</i>	Azure-shouldered Tanager	Sanhaço-de-encontro-azul	3	f	X	X	N	E	1,2,4	S
<i>Thraupis ornate</i>	Golden-chevroned Tanager	Sanhaço-de-encontros	3	f	X	X		E	1,2,3,4,5,6	SM
<i>Thraupis palmarum</i>	Palm Tanager	Sanhaço-do-coqueiro	3	bfn	X	X			1,2,3	S
<i>Stephanophorus diadematus</i>	Diademed Tanager	Sanhaço-frade	2	f		X			1,3	S
<i>Pipraeidea melanonota</i>	Fawn-breasted Tanager	Viúva	1	fn	X	X			1,2	S
<i>Euphonia chlorotica</i>	Purple-throated Euphonia	Fi-fi-verdadeiro	2	f	X				1,2	S
<i>Euphonia violacea</i>	Violaceous Euphonia	Gaturamo-verdadeiro	2	f	X	X			1,2,3,6	S
<i>Euphonia cyanocephala</i>	Golden-rumped Euphonia	Gaturamo-rei	1	f		X			1,7	S
<i>Euphonia pectoralis</i>	Chestnut-bellied Euphonia	Ferro-velho	3	f	X	X		E	1,2,3,4,5	SM
<i>Tangara seledon</i>	Green-headed Tanager	Saira-sete-cores	3	f	X	X		E	1,2,3,4,5,6	SRM
<i>Tangara cyanocephala</i>	Red-necked Tanager	Saira-militar, Saira-lenço	3	f	X	X		E	1,2,3,4,5,6	SRM
<i>Tangara desmaresti</i>	Brassy-breasted Tanager	Saira-lagarta	2	f	X	X		E	1,3,4	SR
<i>Dacnis cayana</i>	Blue Dacnis	Sai-azul	3	fn	X	X			1,2,3,4,5,6	SM
<i>Chlorophanes spiza</i>	Green Honeycreeper	Sai-verde, Tem-tem	1	f	X				7	S
<i>Conirostrum bicolor</i>	Bicoloured Conebill	Figuiinha-do-mangue	1	f	X				1	S
<i>Tersina viridis</i>	Swallow Tanager	Sai-andorinha	2	f	X	X			1,2,5	SM
<i>Zonotrichia capensis</i>	Rufous-collared Sparrow	Tico-tico	3	nf	X	X			1,2,3,4	S
<i>Haplospiza unicolor</i>	Uniform Finch	Cigarra-bambu	1	(f)				E	1,7	S
<i>Poospiza thoracica</i>	Bay-chested Warbling-finch	Peito-pinhão	1	f		X		E	1	S
<i>Poospiza lateralis</i>	Red-rumped Warbling-finch	Quete	1	f		X			1,3	S
<i>Sicalis flaveola</i>	Saffron Finch	Canário-da-terra-verdadeiro	1	n	X				2	S
<i>Emberizoides herbicola</i>	Wedge-tailed Grass-finch	Canário-do-campo	1	f	X				7	S
<i>Volatinia jacarina</i>	Blue-black Grassquit	Tiziu	3	n	X	X			1,2,4	S
<i>Sporophila falcirostris</i>	Temminck's Seedeater	Cigarra-verdadeira	1	(f)	X		T	E	3,6,7,8	SR
<i>Sporophila lineola</i>	Lined Seedeater	Bigodinho, Boiadeiro	1	f	X				1	S
<i>Sporophila caeruleascens</i>	Double-collared Seedeater	Coleirinho	3	n	X	X			1,2,4,5	SM
<i>Sporophila leucoptera</i>	White-bellied Seedeater	Chorão	1	f	X				1	S
<i>Oryzoborus angolensis</i>	Chestnut-bellied Seed-finch	Curio	1	n	X				2,4,6	S
<i>Tiaris fuliginosa</i>	Sooty Grassquit	Cigarra-do-coqueiro	1	fn	X	X			1,3,7	SR
<i>Coryphospingus pileatus</i>	Pileated Finch	Galinho-da-serra	1	(n)	X				7	S
<i>Pitylus fuliginosus</i>	Black-throated Grosbeak	Pimentão	3	f	X	X		E	1,3,4,5,6	SRM
<i>Saltator maximus</i>	Buff-throated Saltator	Tempera-viola	1	f	X				1	S
<i>Saltator similis</i>	Green-winged Saltator	Trinca-ferro-verdadeiro	2	f	X	X			1,4	S
<i>Saltator maxillosus</i>	Thick-billed Saltator	Bico-grosso	1	f		X		E	1	S
<i>Passerina brissonii</i>	Ultramarine Grosbeak	Azulão, Azulão-verdadeiro	1	(f)					5	M
<i>Psarocolius decumanus</i>	Crested Oropendola	Japuguaçu	2	f	X	X			1,2,3	S
<i>Cacicus haemorrhous</i>	Red-rumped Cacique	Guaxe, Japira	3	f	X	X			1,2,3,4,5,6	SM
<i>Cacicus chrysopterus</i>	Golden-winged Cacique	Japuíra, Soldado, Tecelão	2	f		X			1,3	H
<i>Agelaius cyanopus</i>	Unicoloured Blackbird	Carretão	1	(a)	X				6,7	S
<i>Leistes superciliaris</i>	White-browed Blackbird	Polícia-inglesa	2	n	X				1,2,4,7	S
<i>Gnorimopsar chopi</i>	Chopi Blackbird	Pássaro-preto	1	n	X				2	S
<i>Molothrus bonariensis</i>	Shiny Cowbird	Chopim	1	n	X				1,2	S
<i>Scaphidura oryzivora</i>	Giant Cowbird	Iraúna-grande	1	n	X				1	S
<i>Passer domesticus</i>	House Sparrow	Pardal	3	bn	X				2,3,7	S
<i>Estrilda astrild</i>	Common Waxbill	Bico-de-lacre	1	nb	X				1,2	S