PESQUISA EM FOCO

Bird blitz: rapid survey of birds from Perau de Janeiro, Arvorezinha, Rio Grande do Sul, Brazil

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Abstract: The admirable red-belly toad, *Melanophryniscus admirabilis,* is a critically endangered species, a micro endemism of the Perau do Janeiro region, Arvorezinha, Rio Grande do Sul, Brazil. A joint initiative by the Non-Governmental Organization Instituto Curicaca and researchers of the Universidade Federal do Rio Grande do Sul aimed at increasing the knowledge on the biodiversity of the toad occurrence region, including information of the other biological groups. Here we aim to present the methodology and the results of this initiative regarding the bird fauna. We used an adaptation of the Bioblitz method, which we called Acadebioblitz, referring to the fact that the species inventory was done exclusively by biology students supported by teachers and biology professionals. We sampled six sites divided into four groups of six researchers, consisting of four undergraduate students and two specialists. The groups covered trails for approximately 8 hours a day, for 3 days consecutive, during the Austral Spring in 2017. Birds were sampled by visual or acoustic inspection. We registered 144 species of birds, including two endangered: *Xanthopsar flavus* and *Triclaria malachitacea;* two endemic species and 19 migratory species. We conclude that this method was suitable for a quick survey of the study area, as the sampling effort was concentrated in a few days in the field. The Acadebioblitz was important in training students to detect and identify birds. In addition, we sampled a range of avifauna in the region, from different environments and with different degrees of threat, showing the importance of conservation of the region.

Keywords: Bioblitz, Citizen science, conservation, fauna survey, priority area

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Abstract: *O admirável sapinho-de-barriga-vermelha, Melanophryniscus admirabilis, é uma espécie criticamente ameaçada de extinção, microendêmica da região do Perau do Janeiro, Arvorezinha, Rio Grande do Sul, Brasil. Uma iniciativa conjunta da organização não-governamental (ONG) Instituto Curicaca e de pesquisadores da Universidade Federal do Rio Grande do Sul ampliou o conhecimento sobre a biodiversidade da região de ocorrência do sapinho, incluindo informações dos demais grupos biológicos. Aqui pretendemos apresentar a metodologia e os resultados desta iniciativa no que diz respeito à avifauna. Utilizamos uma adaptação do método Bioblitz, ao qual denominamos Acadebioblitz, referindo-se ao fato de o inventário das espécies ter sido feito exclusivamente por alunos de biologia apoiados por professores e profissionais de biologia. Foram amostrados seis locais e a equipe foi dividida em quatro grupos de seis pessoas, formados por quatro alunos de graduação e um ou dois especialistas. Os grupos percorreram trilhas por aproximadamente 8 horas por dia, durante 3 dias consecutives, na Primavera Austral em 2017. As aves foram amostradas por inspeção visual ou acústica. Registramos 144 espécies de aves, incluindo duas ameaçadas de extinção:* Xanthopsar flavus *e* Triclaria malachitacea*; duas espécies endêmicas e 19 migratórias. Ao comparar a lista de espécies registradas por estudantes e especialistas, pouca discrepância foi observada. Concluímos que este método foi adequado para um rápido levantamento da área de estudo, visto que o esforço amostral se concentrou em poucos dias no campo. A Acadebioblitz teve um papel significativo no treinamento dos alunos para detecção e identificação de aves, além da aprendizagem, amostramos uma gama da avifauna da região, de diferentes ambientes e com diferentes graus de ameaça, mostrando a importância da conservação da região, que é o lar do admirável sapinho-da-barriga-vermelha.*

Keywords: *Bioblitz, áreas prioritárias, Ciência cidadã, conservação, levantamento de fauna*

Introduction

It has been estimated that there are just under 11.000 living birds, a group that has high diversification and has successfully conquered different habitats[1]. The tropical region is megadiverse in bird fauna, particularly in Brazil, according to the Comitê Brasileiro de Registros Ornitológicos (CBRO), that lists 1971 species [2]. The majority of this diversity occurs in tropical regions in the Brazilian territory, but high diversity has also been found in subtropical regions[3]. Indeed, in Rio Grande do Sul (RS), the southernmost state in Brazil, 704 species have been found, which represents almost 36% of Brazilian diversity of birds, and this number can increase with new registers. This was the case of the 48 new records in the last review for the state, according to Franz and collaborators (2018)[3].

Regarding other taxonomic groups, in Rio Grande do Sul, the admirable red-belly toad, *Melanophryniscus admirabilis* Di Bernardo, Maneyro and Grillo, 2006, was recently described. This amphibian occurs exclusively in a short stretch of approximately 700 m in the Forqueta River, specifically in the region of Perau de Janeiro, and uses the puddles formed in the river bank for its reproduction; in non-reproductive periods, its detection is difficult, but the species is likely to take

shelter somewhere within the riparian forest[4]. Due to its endemism, the admirable red-belly toad is sensitive to any changes that the river may undergo. However, in 2010, a preliminary license was granted for the construction of a small hydroelectric power plant, which would certainly lead to the destruction of the habitat of this newly described and endemic species of toad. A combined action of scientists from the Institute of Biosciences of the Universidade Federal do Rio Grande do Sul (UFRGS) and the Non-Governmental Organization (NGO) Instituto Curicaca stopped the construction of the hydroelectric power plant[5] and in 2014, the species was categorized as Critically Endangered (CR)[6,7].

Due to the engagement of the Instituto Curicaca and the interest of teachers and researchers at UFRGS, an initiative to deepen the knowledge about the local biodiversity of the region of Perau de Janeiro was born. The idea was to survey the vertebrate fauna of the region, involving not only specialists in the different taxonomic groups, but also undergraduate students of Ichthyology, Herpetology, Ornithology and Mastozoology courses of the BSc in Biological Sciences at UFRGS. For a quick vertebrate survey, an adaptation of the Bioblitz method was used, consisting of a rapid assessment of biodiversity carried out by volunteers (experienced or not, in any of the taxa) that could quickly record the vertebrate species present in the region. Because Bioblitz is neither a registered method nor protected by copyright, the original methodology or its modifications can be freely used[8].

Here, our objective is to document our procedure for the avifauna survey in the Perau de Janeiro region, in the municipality of Arvorezinha, Rio Grande do Sul, Brazil, and to present its results. Ultimately, we expect this list to subsidize a future management plan for the Perau de Janeiro area, in view of the region's sustainability and ultimately, the preservation of the admirable red-belly toad.

Material and methods

Study area

The bird survey was executed in the Perau de Janeiro region (-28.852°; -52.306°), in the municipalities of Arvorezinha and Soledade, inland RS, Brazil (**Figure 1**). The area is located at the southernmost limit of the Atlantic Forest biome, in the transition between the Mixed Ombrophilous Forest and the Deciduous Seasonal Forest[9,10]. As an ecotonal landscape, the region is characterized by a heterogeneity of habitats, including areas of pristine and modified forests and altitude grasslands interspersed with patches of *Araucaria angustifolia* (Bertol.) Kuntze. Even though the region still maintains several fragments of native vegetation, it likely has low resilience for

regeneration[11]. The grasslands occur in the Central Western Plateau, the area with the lowest proportion of native remnants in the region[12].

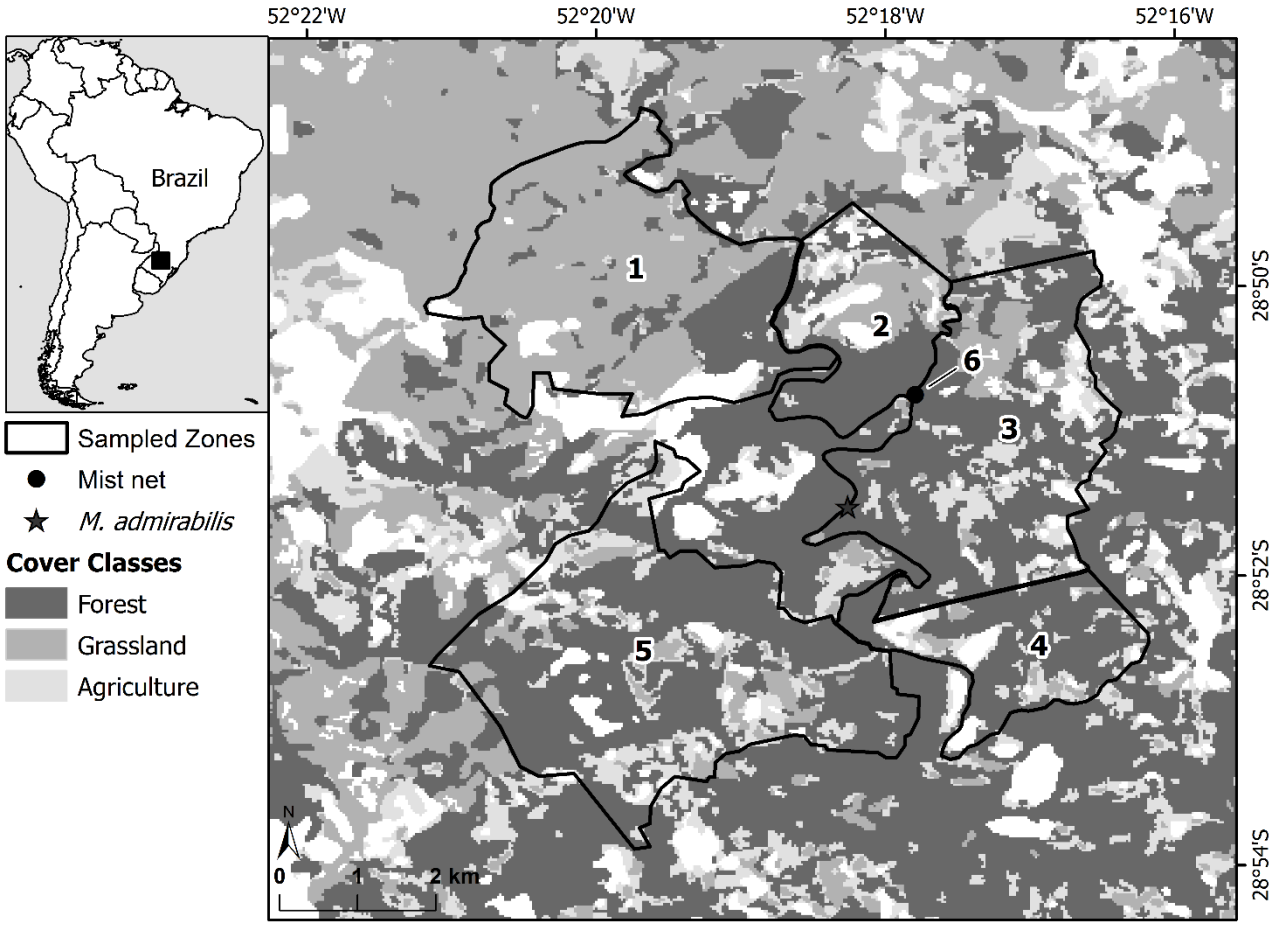

Figura 1. Location of the study area and the sampled areas: Igrejinha (1), Costa do Forqueta (2), Perau de Janeiro (3), Guabiroba (4), Campos Soledade (5), Alojamento (6) (located between areas 2 and 3). The area of occurrence of *Melanophryniscus admirabilis* is indicated with a star.

We surveyed six areas surrounding the occurrence area of *M. admirabilis* (**Figure 1**): 1) Igrejinha: a mosaic of forest and small agricultural properties (mainly tobacco, *Nicotiana* sp.) (**Figure 2.A**); 2) Costa do Forqueta: the slope close to the Forqueta river, consisting of a mosaic of riparian vegetation and cluttered mixed rainforest (**Figure 2.B**); 3) Perau de Janeiro: a forest area of steep slopes near the Forqueta River (**Figure 2.C**); 4) Guabiroba: secondary forest with tobacco plantations in the surroundings, (**Figure 2.D**); 5) Campos Soledade: grassland with rocky outcrops used as pasture (**Figure 2.E**); and 6) Alojamento: secondary forest area with a few buildings and two small reservoirs (**Figure 2.F**).

Figure 2. Landscape configuration in the sampled areas: A) Igrejinha, B) Costa do Forqueta, C) Perau de Janeiro, D) Guabiroba, E) Campos Soledade and F) Alojamento. Photos: Heitor Jardim.

Data collection

During the academic semester of 2017, students enrolled in the Ornithology and Mastozoology course at UFRGS wrote the previous list of potential birds for the region, using databases such as Wikiaves[13] and eBird[14], using data from the surrounding municipalities (Arvorezinha, Soledade,

Nova Alvorada, Itapuca, Fontoura Xavier, Ilópolis, Putinga, São José do Herval, Barros Cassal, Coqueiro Baixo, Pouso Novo, Nova Bréscia, Progresso, Boqueirão do Leão, Marques de Souza, Travesseiro, Lajeado, Arroio do Meio, Santa Clara do Sul, Encantado, Capitão, Roca Sales and Venâncio Aires) and management plans of protected areas within a 100 km radius of Perau de Janeiro: Floresta Nacional de Passo Fundo[15] has a register of 195 bird species, Parque Natural Municipal de Sagrisa has no list available, Parque Natural Municipal Sertão[16] has a register of 154 specie, and Reserva Particular do Patrimônio Natural Maragato[17] has a register of 110 species. The list served as a first indication of species that could be possibly be observed in the field, so that the students were trained to identify them.

We used an adaptation of the Bioblitz method for sampling, which we named Acadebioblitz, because it was to be set up by biology students and professionals in the field. In contrast to traditional Bioblitzes that occur every 24 hours, the survey was conducted on the 15th, 16th and 17th of November in 2017, in the Austral Spring, and solely during the day. For the survey, we formed four groups of six people, consisting of four undergraduate students and one or two specialists (professors and/or Phd students at UFRGS) (**Figure 3.A).** The groups covered trails for approximately 8 hours a day, starting at almost sunrise and ending before sunset. Species were registered through direct visual or acoustic record (with or without playback) in Igrejinha, Costa do Forqueta, Perau de Janeiro, Guabiroba and Campos Soledade. In addition to recording all species found, unidentified species were also documented for later identification[8] through photographs or acoustic recordings using personal cell phones. In the Alojamento area, birds were sampled using five mist nets (using 3mx15m, 22mm nests). The mist nets were supervised by a specialist in the three days of sampling, and each morning a different group was in this site (**Figure 3.B, C**). The same methods of the active search were used for other groups of terrestrial vertebrates, which should be published separately. Additionally, an inventory of freshwater fishes was done by Ferrer et al. (2018; results not shown here)[18].

Results and discussion

In total, 144 species of birds were registered, distributed in 46 families (**Appendix 1**). Of the recorded species, 53 were formally documented: 13 captured in the mist nets, 31 registered with photographs obtained during direct observation and 22 registered with vocalization recordings obtained in the acoustic survey. The remaining 91 species were recorded by direct observation and/or vocalization, without documentation. Of these species, 42 species were previously unknown for the municipality of Arvorezinha, according to the Wikiaves and Táxeus databases, which included 99 and 93 species for the area, respectively. Note that these databases only include records made since 2009.

Figure 3. A) Interdisciplinary team, B) Mist net sampling and B) *Chloroceryle americana* (female) captured in the mist nets. Photos: Instituto Curicaca (A) and Heitor Jardim (B, C).

Among the new records for the region, the most endangered species are: *Xanthopsar flavus* (Gmelin, 1788), categorized as vulnerable (VU) nationally and in RS and endangered (EN) globally, and *Triclaria malachitacea* (Spix, 1824), categorized as near threatened (NT) in RS and globally[6,7]. Of the species already registered, we highlight *Picumnus nebulosus* Sundevall, 1866, *Leptasthenura setaria* (Temminck, 1824), *Cyanocorax caeruleus* (Vieillot, 1818) and *Euphonia chalybea* (Mikan, 1825), all categorized as near threatened (NT) globally,[7,] and *Myiozetetes similis* (Spix, 1825) which has not been regionally evaluated yet[6].

Besides the threatened species, we registered species endemic for Brazil, *Ortalis squamata* (Lesson, 1829) and *Triclaria malachitacea* (Spix, 1824), and species that are migratory for RS:

Butorides striata (Linnaeus, 1758), *Elanoides forficatus* (Linnaeus, 1758), *Lurocalis semitorquatus* (Gmelin, 1789), *Tityra inquisitor* (Lichtenstein, 1823), *Tityra cayana* (Linnaeus, 1766), *Pachyramphus polychopterus* (Vieillot,1818), *Pachyramphus validus* (Lichtenstein, 1823), *Elaenia mesoleuca* (Deppe, 1830), *Legatus leucophaius* (Vieillot, 1818), *Myiodynastes maculatus* (Statius Muller, 1776), *Megarynchus pitangua* (Linnaeus, 1766), *Empidonomus varius* (Vieillot, 1818), *Vireo chivi* Swainson, 1837, *Stelgidopteryx ruficollis* (Vieillot, 1817), *Progne tapera* (Vieillot, 1817), *Progne chalybea* (Gmelin, 1789), *Riparia riparia* (Linnaeus, 1758), *Turdus subalaris* (Seebohm, 1887) and *Tersina viridis* (Illiger, 1811).

The results show the high diversity in the region, with 144 species surveyed, corresponding to 20.4% the diversity of Rio Grande do Sul state and 7.3% of the Brazilian diversity. When we consider some species in particular, we see the importance of the region: a considerable number of species are endemic of Atlantic Forest, such as *T. malachitacea* and *O. squamata*, both with a restricted distribution in the southern half of Atlantic Forest, until its southern limit. This biome represents 13% of the Brazilian territory but only 33% of its original vegetation remains[21]. Importantly, the Atlantic Forest is a mosaic of different vegetation types and in the region of occurrence of *M. admirabilis* occurrence, we included forest to grassland areas, with presence of endangered species as *T. malachitacea* and *X. flavus*, respectively.

There was some, although small, discrepancy between the species registered by specialists and those registered by students: 130 and 101 respectively, with 46 registered exclusively by specialists and 17 exclusively by students. The most striking difference was that the species detected exclusively by specialists included the endangered and rare species, while those detected by students were mostly the common species. We concur with Farmers et al.'s (2012)[22] suggestion that perhaps the specialists inadvertently bias their detection efforts for those species more difficult to detect, while simultaneously the more common species go unnoticed.

Although bioblitzes are known as quick surveys done by volunteers[8], they can be adapted to the needs of each area or research group and the target audience. In the state of Georgia (USA), a competitive Bioblitz between two universities yielded increased knowledge of the distribution of species of amphibians and reptiles with declining population trends[23]. Also, bioblitzes have been widely used to survey conservation units[24] and even to increase knowledge on ecological interactions[25]. Since its origin in the 90s, bioblitzes have been used as a method for data collection and mainly as a tool for developing citizen science[24], as they bring people closer to science and local biodiversity. The use of Acadebioblitz clearly played a significant role in the training of biology undergraduate students. Learning on biodiversity patterns and data collection methods was achieved in an interdisciplinary way, in direct contact with that biodiversity and field specialists and conservationists, potentially increasing information assimilation and engagement in conservation practices[26].

Knowledge of the fauna and specifically the bird fauna of Perau de Janeiro is crucial to understand the scenario of occurrence of the threatened and endemic *Melanophryniscus admirabilis*[4]. Our Acadebioblitz methodology obviously presented limitations for a complete inventory of fauna diversity in the region, especially by lacking nocturnal surveys and seasonal replicates. However, it delivered a large and robust list of species in a very limited period of time. We conclude that Acadebioblitz was effective in its proposal for a rapid sampling, providing solid results, including the updated list of the avifauna of Perau de Janeiro with 144 species. Additionally, it promoted the acquisition of biological knowledge and student engagement towards biodiversity conservation.

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Appendix 1. Bird list of the Perau de Janeiro region, Arvorezinha, Rio Grande do Sul, Brazil. The classification adopted follows CBO[(2)] and the conservation status at the state level is according to State Decree[(6)], nacional list of MMA 2018[(19)], and international status of IUCN 2021[(7)]. Caption: * Vulnerable species (VU); ** Near threatened (NT); *** Not Evaluated in RS; [1] Endemic species in RS; [2] Migrant in RS; [3] Exotic in RS[(3,20)].

Complete taxa	Portuguese name	English Name
Tinamiformes Huxley, 1872		
Tinamidae Gray, 1840		
Crypturellus obsoletus (Temminck, 1815)	Inambuguaçu	Brown tinamou
Rhynchotus rufescens (Temminck, 1815)	Perdiz	Red-winged tinamou
Galliformes Linnaeus, 1758		
Cracidae Rafinesque, 1815		
Penelope obscura Temminck, 1815	Jacuguaçu	Dusky-legged guan
Ortalis squamata (Lesson, 1829)[1]	Aracuã-escamoso	Scaled chachalaca
Pelecaniformes Sharpe, 1891		
Ardeidae Leach, 1820		
Butorides striata (Linnaeus, 1758)[2]	Socozinho	Striated heron
Ardea alba Linnaeus, 1758	Garça-branca-grande	Great egret
Syrigma sibilatrix (Temminck, 1824)	Maria-faceira	Whistling heron
Threskiornithidae Poche, 1904		
Phimosus infuscatus (Lichtenstein, 1823)	Tapicuru	Bare-faced ibis
Cathartiformes Seebohm, 1890		
Cathartidae Lafresnaye, 1839		
Coragyps atratus (Bechstein, 1793)	Urubu-preto	Black vulture
Cathartes aura (Linnaeus, 1758)	Urubu-de-cabeça-vermelha	Turkey vulture
Accipitriformes Bonaparte, 1831		
Accipitridae Vigors, 1824		
Elanoides forficatus (Linnaeus, 1758)[2]	Gavião-tesoura	Swallow-tailed kite
*Accipiter striatus*Vieillot, 1808	Tauató-miúdo	Sharp-shinned hawk
Heterospizias meridionalis (Latham, 1790)	Gavião-caboclo	Savanna hawk
Rupornis magnirostris (Gmelin, 1788)	Gavião-carijó	Roadside hawk

Complete taxa	Portuguese name	English Name
Gruiformes Bonaparte, 1854		
Rallidae Rafinesque, 1815		
Aramides saracura (Spix, 1825)	Saracura-do-mato	Slaty-breasted wood-rail
Charadriiformes Huxley, 1867		
Charadriidae Leach, 1820		
Vanellus chilensis (Molina, 1782)	Quero-quero	Southern lapwing
Jacanidae Chenu& Des Murs, 1854		
Jacana jacana (Linnaeus, 1766)	Jaçanã	Wattled jacana
Columbiformes Latham, 1790		
Columbidae Leach, 1820		
Patagioenas picazuro (Temminck, 1813)	Pomba-asa-branca	Picazuro pigeon
Patagioenas cayennensis (Bonnaterre, 1792)	Pomba-galega	Pale-vented pigeon
Leptotila verreauxi Bonaparte, 1855	Juriti-pupu	White-tipped dove
Leptotila rufaxilla (Richard & Bernard, 1792)	Juriti-de-testa-branca	Gray-fronted dove
Zenaida auriculata (Des Murs, 1847)	Avoante	Eared dove
Columbina picui (Temminck, 1813)	Rolinha-picuí	Picui ground-dove
Cuculiformes Wagler, 1830		
Cuculidae Leach, 1820		
Guira guira (Gmelin, 1788)	Anu-branco	Guira cuckoo
Piaya cayana Leach, 1820	Alma-de-gato	Squirrel cuckoo
Strigiformes Wagler, 1830		
Strigidae Leach, 1820		
*Megascops*sp. (Brünnich, 1772)	Corujinha-do-mato	Tropical screech-owl
Athene cunicularia (Molina, 1782)	Coruja-buraqueira	Burrowing owl
Caprimulgiformes Ridgway, 1881		
Caprimulgidae Vigors, 1825		
Lurocalis semitorquatus (Gmelin, 1789)[2]	Tuju	Short-tailed nighthawk
Apodiformes Peters, 1940		
Apodidae Olphe-Galliard, 1887		

Complete taxa	Portuguese name	English Name
Cypseloides fumigatus (Streubel, 1848)	Taperuçu-preto	Sooty swift
Trochilidae Vigors, 1825		
Chlorostilbon lucidus (Shaw, 1812)	Besourinho-de-bico-vermelho	Glittering-bellied emerald
Stephanoxis loddigesii (Gould, 1831)	Beija-flor-de-topete-azul	Violet-crowned plover crest
Thalurania glaucopis (Gmelin, 1788)	Beija-flor-de-fronte-violeta	Violet-capped woodnymph
Trogoniformes A. O. U., 1886		
Trogonidae Lesson, 1828		
*Trogon surrucura*Vieillot, 1817	Surucuá-variado	Surucua trogon
Coraciiformes Forbes, 1844		
Alcedinidae Rafinesque, 1815		
Megaceryle torquata (Linnaeus, 1766)	Martim-pescador-grande	Ringed kingfisher
Chloroceryle americana (Gmelin, 1788)	Martim-pescador-pequeno	Green kingfisher
Piciformes Meyer & Wolf, 1810		
Ramphastidae Vigors, 1825		
Ramphastos dicolorus Linnaeus, 1766	Tucano-de-bico-verde	Red-breasted toucan
Picidae Leach, 1820		
Picumnus nebulosus Sundevall, 1866**	Picapauzinho-carijó	Mottled piculet
Melanerpes candidus (Otto, 1796)	Pica-pau-branco	White woodpecker
Veniliornis spilogaster (Wagler, 1827)	Picapauzinho-verde-carijó	White-spotted woodpecker
Colaptes campestris (Vieillot, 1818)	Pica-pau-do-campo	Campo flicker
Cariamiformes Fürbringer, 1888		
Cariamidae Bonaparte, 1850		
Cariama cristata (Linnaeus, 1766)	Seriema	Red-legged seriema
Falconiformes Bonaparte, 1831		
Falconidae Leach, 1820		
Caracara plancus (Miller, 1777)	Carcará	Southern caracara
Milvago chimango (Vieillot, 1816)	Chimango	Chimango caracara
Psittaciformes Wagler, 1830		
Psittacidae Rafinesque, 1815		

Complete taxa	Portuguese name	English Name
Myiopsitta monachus (Boddaert, 1783)	Caturrita	Monk parakeet
Pionopsitta pileata (Scopoli, 1769)	Cuiú-cuiú	Pileated parrot
Triclaria malachitacea (Spix, 1824)**[1]	Sabiá-cica	Blue-bellied parrot
Pyrrhura frontalis (Vieillot, 1817)	Tiriba-de-testa-vermelha	Maroon-bellied parakeet
Passeriformes Linnaeus, 1758		
Thamnophilidae Swainson, 1824		
Dysithamnus mentalis (Temminck, 1823)	Choquinha-lisa	Plainant vireo
Thamnophilus caerulescens Vieillot, 1816	Choca-da-mata	Variable antshrike
Mackenziaena leachii (Such, 1825)	Borralhara-assobiadora, brujara-assobiadora	Large-tailed antshrike
Conopophagidae Sclater&Salvin, 1873		
Conopophaga lineata (Wied, 1831)	Chupa-dente	Rufous gnateater
Formicariidae Gray, 1840		
Chamaeza campanisona (Lichtenstein, 1823)	Tovaca-campainha	Short-tailed antthrush
Scleruridae Swainson, 1827		
Sclerurus scansor (Ménétriès, 1835)	Vira-folha	Rufous-breasted leaftosser
Dendrocolaptidae Gray, 1840		
Sittasomus griseicapillus (Vieillot, 1818)	Arapaçu-verde	Olivaceous woodcreeper
Xiphorhynchus fuscus (Vieillot, 1818)	Arapaçu-rajado	Lesser woodcreeper
Lepidocolaptes falcinellus (Cabanis& Heine, 1859)	Arapaçu-escamoso-do-sul	Scalloped woodcreeper
Furnariidae Gray, 1840		
Furnarius rufus (Gmelin, 1788)	João-de-barro	Rufous hornero
*Heliobletus contaminatus*Pelzeln, 1859	Trepadorzinho	Sharp-billed treehunter
Syndactyla rufosuperciliata (Lafresnaye, 1832)	Trepador-quiete	Buff-browed foliage-gleaner
Dendroma rufa (Vieillot, 1818)	Limpa-folha-de-testa-baia	Buff-fronted foliage-gleaner
Leptasthenura striolata (Pelzeln, 1856)	Grimpeirinho/Rabudinho	Striolated tit-spinetail
Leptasthenura setaria (Temminck, 1824) **	Grimpeiro	Araucaria tit-spinetail
Anumbius annumbi (Vieillot, 1817)	Cochicho	Firewood-gatherer
Cranioleuca obsoleta (Reichenbach, 1853)	Arredio-oliváceo	Olive spinetail
*Synallaxis cinerascens*Temminck, 1823	Pi-puí	Gray-bellied spinetail

Complete taxa	Portuguese name	English Name
*Synallaxis ruficapilla*Vieillot, 1819	Pichororé	Rufous-capped spinetail
Pipridae Rafinesque, 1815		
Chiroxiphia caudata (Shaw &Nodder, 1793)	Tangará	Swallow-tailed manakin
Tityridae Gray, 1840		
Schiffornis virescens (Lafresnaye, 1838)	Flautim	Greenish schiffornis
Tityra inquisitor (Lichtenstein, 1823)[2]	Anambé-branco-de-bochecha-parda	Black-crowned tityra
Tityra cayana (Linnaeus, 1766)[2]	Anambé-branco-de-rabo-preto	Black-tailed tityra
Pachyramphus castaneus (Jardine &Selby, 1827)	Caneleiro	Chestnut-crowned becard
Pachyramphus polychopterus (Vieillot,1818)[2]	Caneleiro-preto	White-winged becard
Pachyramphus validus (Lichtenstein, 1823)[2]	Caneleiro-de-chapéu-preto	Crested becard
Platyrinchidae Bonaparte, 1854		
*Platyrinchus mystaceus*Vieillot, 1818	Patinho	White-throated spadebill
Rhynchocyclidae Berlepsch, 1907		
Leptopogon amaurocephalus Tschudi, 1846	Cabeçudo	Sepia-capped flycatcher
Phylloscartes ventralis (Temminck, 1824)	Borboletinha-do-mato	Mottle-cheeked tyrannulet
Tolmomyias sulphurescens (Spix, 1825)	Bico-chato-de-orelha-preta	Yellow-olive flycatcher
Poecilotriccus plumbeiceps (Lafresnaye, 1846)	Tororó	Ochre-faced tody-flycatcher
Tyrannidae Vigors, 1825		
Camptostoma obsoletum (Temminck, 1824)	Risadinha	Southern beardless-tyrannulet
Elaenia parvirostris Pelzeln, 1868[2]	Guaracava-de-bico-curto/Tuque-pium	Small-billed elaenia
Elaenia mesoleuca (Deppe, 1830)[2]	Tuque	Olivaceous elaenia
Elaenia obscura (d'Orbigny&Lafresnaye, 1837)	Tucão	Highland elaenia
Phyllomyias virescens (Temminck, 1824)	Piolhinho-verdoso	Greenish tyrannulet
Phyllomyias fasciatus (Thunberg, 1822)	Piolhinho	Planalto tyrannulet
Serpophaga subcristata (Vieillot, 1817)	Alegrinho	White-crested tyrannulet
Legatus leucophaius (Vieillot, 1818)[2]	Bem-te-vi-pirata	Piratic flycatcher
Myiarchus swainsoni Cabanis& Heine, 1859[2]	Irré	Swainson's flycatcher

Complete taxa	Portuguese name	English Name
Pitangus sulphuratus (Linnaeus, 1766)	Bem-te-vi	Great kiskadee
Myiodynastes maculatus (Statius Muller, 1776)[2]	Bem-te-vi-rajado	Streaked flycatcher
Megarynchus pitangua (Linnaeus, 1766)[2]	Neinei	Boat-billed flycatcher
Myiozetetes similis (Spix, 1825)***	Bentevizinho-de-penacho-vermelho	Social flycatcher
Tyrannus melancholicus Vieillot, 1819[2]	Suiriri	Tropical kingbird
Tyrannus savana Daudin, 1802[2]	Tesourinha	Fork-tailed flycatcher
Empidonomus varius (Vieillot, 1818)[2]	Peitica	Variegated flycatcher
Muscipipra vetula (Lichtenstein, 1823)	Tesoura-cinzenta	Shear-tailed graytyrant
Vireonidae Swainson, 1837		
Cyclarhis gujanensis (Gmelin, 1789)	Pitiguari	Rufous-browed peppershrike
Vireo chivi (Vieillot, 1817)[2]	Juruviara	Chivivireo
Corvidae Leach, 1820		
Cyanocorax caeruleus (Vieillot, 1818)**	Gralha-azul	Azure jay
Hirundinidae Rafinesque, 1815		
Pygochelidon cyanoleuca (Vieillot, 1817)	Andorinha-pequena-de-casa	Blue-and-white swallow
Stelgidopteryx ruficollis (Vieillot, 1817)[2]	Andorinha-serradora	Southern rough-winged swallow
Progne tapera (Vieillot, 1817)[2]	Andorinha-do-campo	Brown-chested martin
Progne chalybea (Gmelin, 1789)[2]	Andorinha-doméstica-grande	Gray-breasted martin
Riparia riparia (Linnaeus, 1758)[2]	Andorinha-do-barranco	Bank swallow
Troglodytidae Swainson, 1831		
Troglodytes musculus Naumann, 1823	Corruíra	Southern house wren
Turdidae Rafinesque, 1815		
*Turdus leucomelas*Vieillot, 1818	Sabiá-barranco	Pale-breasted thrush
Turdus rufiventris Vieillot, 1818	Sabiá-laranjeira	Rufous-bellied thrush
Turdus amaurochalinus Cabanis, 1850	Sabiá-poca	Creamy-bellied thrush
Turdus subalaris (Seebohm, 1887)[2]	Sabiá-ferreiro	Eastern slaty thrush
Mimidae Bonaparte, 1853		

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Mimus saturninus (Lichtenstein, 1823)	Sabiá-do-campo	Chalk-browed mockingbird
Passeridae Rafinesque, 1815		
Passer domesticus (Linnaeus, 1758)[3]	Pardal	House sparrow
Motacillidae Horsfield, 1821		
Anthus chii Pucheran, 1855	Caminheiro-zumbidor	Yellowish pipit
Anthus hellmayri Hartert, 1909	Caminheiro-de-barriga-acanelada	Hellmayr's pipit
Fringillidae Leach, 1820		
Spinus magellanicus (Vieillot, 1805)	Pintassilgo	Hooded siskin
Euphonia chlorotica (Linnaeus, 1766)	Fim-fim	Purple-throated euphonia
Euphonia chalybea (Mikan, 1825)**	Cais-cais	Green-throated euphonia
Euphonia pectoralis (Latham, 1801)	Ferro-velho	Chestnut-bellied euphonia
Passerellidae Cabanis& Heine, 1850		
Ammodramus humeralis (Bosc, 1792)	Tico-tico-do-campo	Grassland sparrow
Zonotrichia capensis (Statius Muller, 1776)	Tico-tico	Rufous-collared sparrow
Icteridae Vigors, 1825		
Cacicus chrysopterus (Vigors, 1825)	Tecelão	Golden-winged cacique
Molothrus bonariensis (Gmelin, 1789)	Chupim	Shiny cowbird
Gnorimopsar chopi (Vieillot, 1819)	Pássaro-preto	Chopi blackbird
Agelaioides badius(Vieillot, 1819)	Asa-de-telha	Grayish bay wing
Xanthopsar flavus (Gmelin, 1788)**	Veste-amarela	Saffron-cowled blackbird
Pseudoleistes guirahuro (Vieillot, 1819)	Chopim-do-brejo	Yellow-rumped marshbird
Parulidae Wetmore, Friedmann, Lincoln, Miller, Peters, van Rossem, Van Tyne &Zimmer 1947		
Setophaga pitiayumi (Vieillot, 1817)	Mariquita	Tropical parula
Geothlypis aequinoctialis (Gmelin, 1789)	Pia-cobra	Masked yellowthroat
Basileuterus culicivorus (Deppe, 1830)	Pula-pula	Golden-crowned warbler
Myiothlypis leucoblephara (Vieillot, 1817)	Pula-pula-assobiador	White-browed warbler
Thraupidae Cabanis, 1847		
Embernagra platensis (Gmelin, 1789)	Sabiá-do-banhado	Great pampa-finch

Complete taxa	Portuguese name	English Name
Hemithraupis guira (Linnaeus, 1766)	Saíra-de-papo-preto	Guira tanager
Tersina viridis (Illiger, 1811)[2]	Saí-andorinha	Swallow tanager
Saltator similis d'Orbigny&Lafresnaye, 1837	Trinca-ferro	Green-winged saltator
Coereba flaveola (Linnaeus, 1758)	Cambacica	Bananaquit
Tachyphonus coronatus (Vieillot, 1822)	Tiê-preto	Ruby-crowned tanager
Sporophila caerulescens (Vieillot, 1823)	Coleirinho	Double-collared seedeater
Poospiza nigrorufa (d'Orbigny&Lafresnaye, 1837)	Quem-te-vestiu	Black-and-rufous warbling-finch
Microspingus cabanisi Bonaparte, 1850	Quete-do-sul	Gray-throated warbling-finch
Sicalis flaveola (Linnaeus, 1766)	Canário-da-terra	Saffron finch
Sicalis luteola (Sparrman, 1789)	Tipio	Grassland yellow-finch
Pipraeidea melanonota (Vieillot, 1819)	Saíra-viúva	Fawn-breasted tanager
Stephanophorus diadematus (Temminck, 1823)	Sanhaço-frade	Diademed tanager
Paroaria coronata (Miller, 1776)	Cardeal	Red-crested cardinal
Thraupis sayaca (Linnaeus, 1766)	Sanhaço-cinzento	Sayaca tanager
Stilpnia preciosa (Cabanis, 1850)	Saíra-preciosa	Chestnut-backed tanager