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Xingu River's Big Bend: great diversity of birds in the Brazilian Amazon rainforest

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ABSTRACT

This report is a photographic summary of a study carried out during 2019 in a region called Xingu River's Big Bend, in the Brazilian Amazon. There were a total of five scientific expeditions to study the environmental impacts of a project in the region and more specifically the possible interferences in the life of the indigenous inhabitants of the region and those who live in harmony with the environment. The photos show the Xingu River, the riparian forest where the study was carried out and some of the bird species registered.

Keywords: Amazon rainforest, avifauna, Brazil, ecology, Xingu river, birds in the Brazilian Amazon rainforest

INTRODUCTION

The Amazon Rainforest is one of the principal Brazilian biomes and is formed by dense tropical forests and associated ecosystems, and represents over half of the planet's remaining rainforests, and comprises the largest and most biodiverse tract of tropical rainforest in the world. An immense number of bird species live in the Amazon rainforest, with over 1,300 species, which accounts for one-third of all bird species in the world. Many scientific researches carried out in the Amazon demonstrate its richness in avifauna [1-19]

Among the many factors thought to contribute to the high bird species richness in the Neotropics is the high diversity of habitat and microhabitat types, some of which are unique to tropical regions [20, 21]. The increase in structural complexity of the vegetation on various vertical levels makes new forms of occupancy of the environment possible [22]. The increase in the number of bird species is principally due to the increase of both the new food guilds and the number of species in the existing guilds [23].

The Xingu River is a southeast tributary of the Amazon River and one of the largest clearwater rivers in the Amazon basin, accounting for about 5% of its water [24]. It rises on the Planalto (plateau) do Mato Grosso, in the drainage basin framed by the Serra do Roncador and the Serra Formosa mountain ranges. Formed by several rivers and streams, the Xingu meanders generally northward for approximately 1,300 mi (2,100 km), emptying into the Amazon River just south of the Ilha (island) Grande de Gurupá. South of Altamira city it receives its main tributary, the Iriri (800 mi long).

The study was carried out in Amazon Rainforest areas, situated in the State of the Pará, Brazil, located at latitude 03°23' S to 03°38' S and longitude 51°33' W to 52°00' W, in the municipality of Senador José Porfirio (**Figure 1**), along the seasons of 2019. The study region is known as "Volta Grande do Xingu" (Xingu River's Big Bend), a 130 km stretch of rapids and braided channels on the Xingu River that is known for its rich endemic fauna and importance to indigenous groups [25] (**Photos 1-10**).

It is in the demarcated territories of the indigenous Arara and Juruna, who live in the Xingu River's Big Bend region, that forests are best conserved. Unfortunately, these lands that should be protected, suffer permanent pressure from gold digging, invasions, clandestine occupation, and the advancement of pasture areas for cattle breeding with river poisoning and devastation of the surrounding natural forests.

The Ciliary Forest that follows the Xingu River, where bird studies were conducted, is a very well preserved forest (**Photos 11-20**). Among the registered bird species, 80 are presented through photographs (**Photos 21-100**).

All photos presented in this report were realized by Fabio Rossano Dario, using a digital photo camera Canon PowerShot SX30 IS. The birds' photos are presented in taxonomic order according to the new systematic list of CBRO [26].

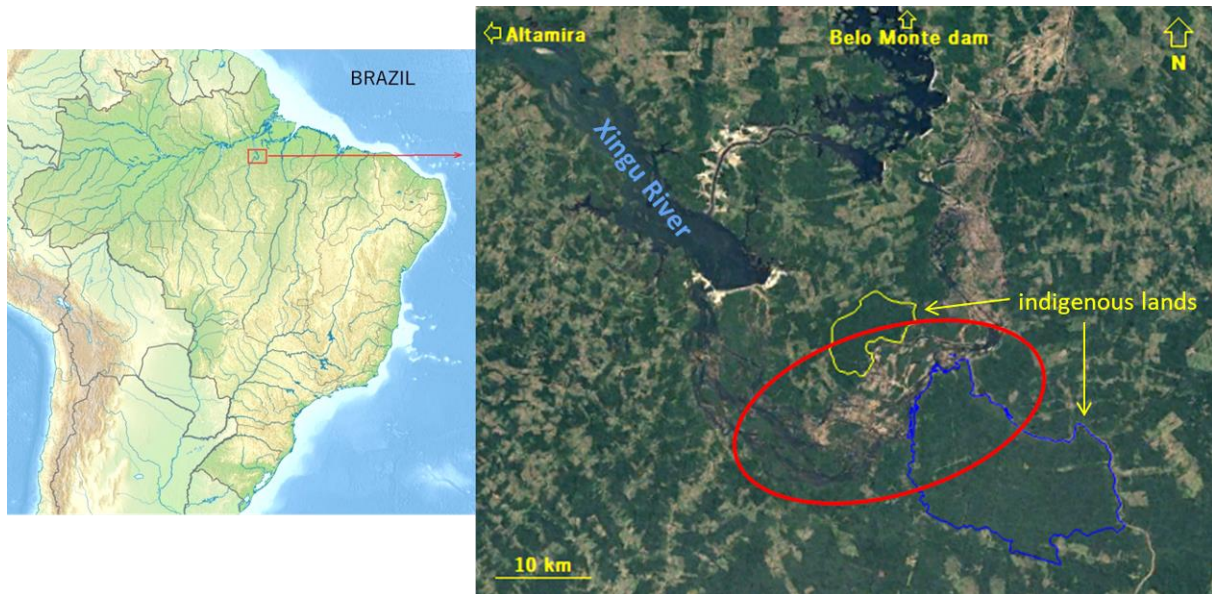


Figure 1. Localization of the studied area (red ellipse).

CONCLUSIONS

The Amazon rainforest and its rivers host an extraordinary variety of species, some endemic, others endangered, and many of which are still unknown. It is considered to be one of the areas on the planet with the most number of bird species. This biodiversity is very important globally, because as the largest biodiversity reserve in the world, this biome has a big amount of growing stock and carbon, and also a wide diversity of non-wood forest products. However, this region has experienced a continuing increase in anthropogenic pressures, mainly from deforestation, which implies a strong concern for the conservation of the biota of this region, and the security of indigenous communities who live in it.

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APPENDIX



Photo 1. Xingu River.



Photo 2. Riparian forest of the Xingu River.



Photo 3. Riparian forest of the Xingu River.



Photo 4. Riparian forest of the Xingu River.



Photo 5. Riparian forest of the Xingu River.



Photo 6. Riparian forest of the Xingu River.



Photo 7. Riparian forest of the Xingu River.



Photo 8. Riparian forest of the Xingu River.



Photo 9. Riparian forest of Bacajá River, one of the most important Xingu River's affluent.



Photo 10. Sunset at Xingu River.



Photo 11. "Açaizal" is the term used for a forest dominated by the açai palm tree (*Euterpe oleracea*).



Photo 12. Riparian forest of the Xingu River.



Photo 13. Riparian forest of the Xingu River.



Photo 14. Riparian forest of the Xingu River.



Photo 15. This is the trunk of the Brazil nut tree (*Bertholletia excelsa*), known as “castanheira-do-pará”. It is one of the largest trees in the Amazon rainforest, and some individuals have been recorded with heights of approximately 40 meters.



Photo 16. Riparian forest of the Xingu River, detail of a vine.



Photo 17. Riparian forest of the Xingu River featured for a cluster of the jauari palm (*Astrocaryum jauari*).



Photo 18. Riparian forest of the Xingu River.



Photo 19. Riparian forest of the Xingu River.



Photo 20. Riparian forest of the Xingu River.



Photo 21. *Anhima cornuta*, Anhimidae (anhuma; Horned Screamer).



Photo 22. *Dendrocygna viduata*, Anatidae (irerê; White-faced Whistling-Duck).



Photo 23. *Dendrocygna autumnalis*, Anatidae (marreca-cabocla; Black-bellied Whistling-Duck).



Photo 24. *Pauxi tuberosa*, Cracidae (mutum-cavalo; Razor-billed Curassow).



Photo 25. *Mycteria americana*, Ciconiidae (cabeça-seca; Wood Stork).



Photo 26. *Nannopterum brasilianus*, Phalacrocoracidae (biguá; Neotropic Cormorant).



Photo 27. *Tigrisoma lineatum*, Ardeidae (socó-boi; Rufescent Tiger-Heron).



Photo 28. *Ardea alba*, Ardeidae (garça-branca; Great Egret).



Photo 29. *Ptilerodius pileatus*, Ardeidae (garça-real; Capped Heron).



Photo 30. *Egretta thula*, Ardeidae (garça-branca-pequena; Snowy Egret).



Photo 31. *Coragyps atratus*, Cathartidae (urubu; Black Vulture).



Photo 32. *Heterospizias meridionalis*, Accipitridae (gavião-caboclo; Savanna Hawk).



Photo 33. *Rupornis magnirostris*, Accipitridae (gavião-carijó; Roadside Hawk).

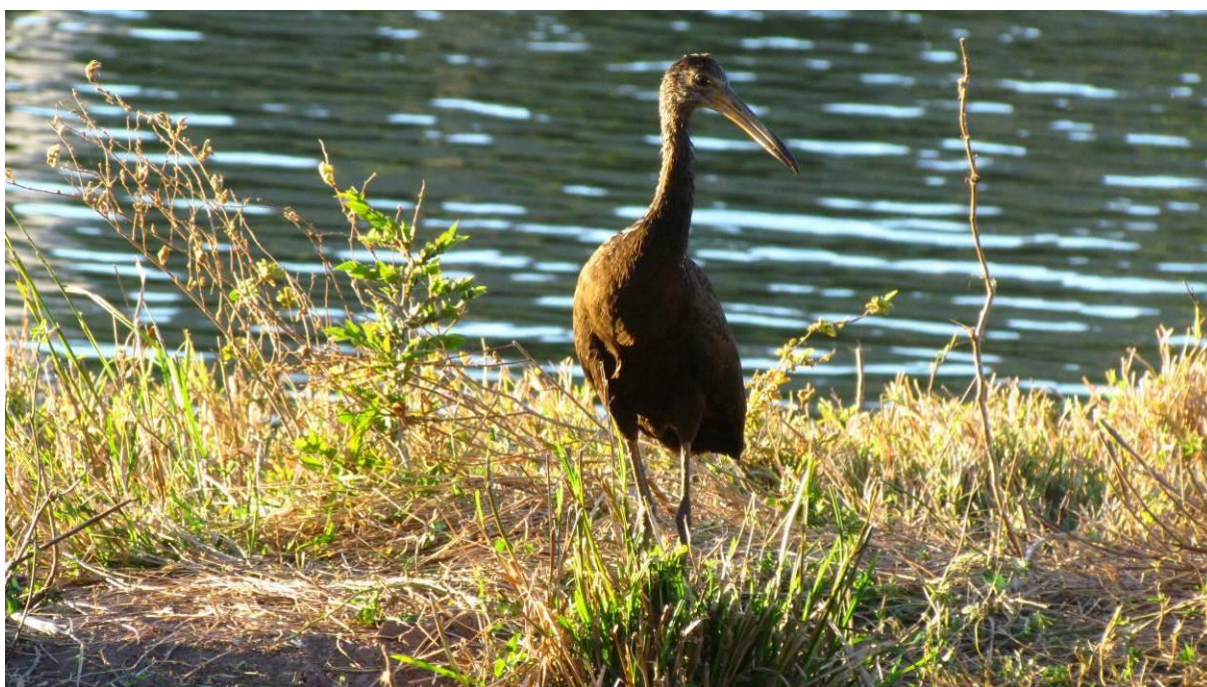


Photo 34. *Aramus guarauna*, Aramidae (carão; Limpkin).



Photo 35. *Porphyrio martinicus*, Rallidae (frango-d'água-azul; Purple Gallinule).



Photo 36. *Vanellus chilensis*, Charadriidae (quero-quero; Southern Lapwing).

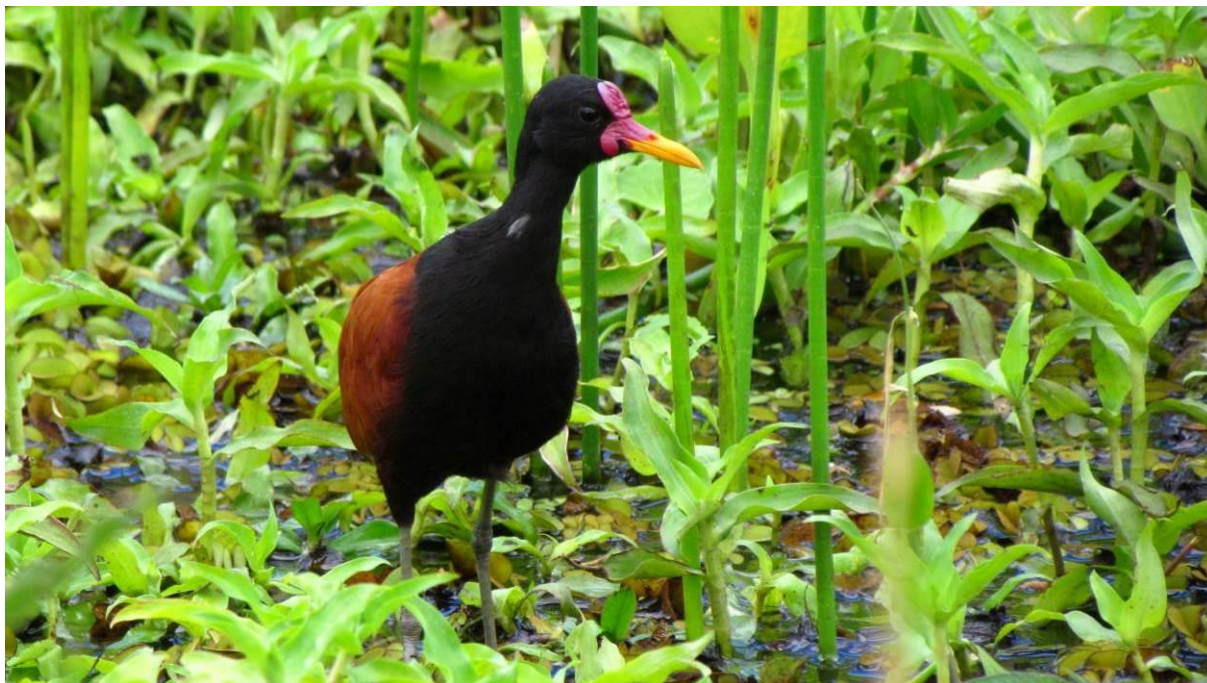


Photo 37. *Jacana jacana*, Jacanidae (jaçanã; Wattled Jacana).



Photo 38. *Columbina talpacoti*, Columbidae (rolinha; Ruddy Ground-Dove).



Photo 39. *Columbina squammata*, Columbidae (fogo-apagou; Scaled Dove).



Photo 40. *Zenaida auriculata*, Columbidae (avoante; Eared Dove).



Photo 41. *Opisthocomus hoazin*, Opisthocomidae (cigana; Hoatzin).



Photo 42. *Crotophaga major*, Cuculidae (anu-coroca; Greater Ani).



Photo 43. *Crotophaga ani*, Cuculidae (anu-preto; Smooth-billed Ani).



Photo 44. *Guira guira*, Cuculidae (anu-branco; Guira Cuckoo).



Photo 45. *Athene cunicularia*, Strigidae (coruja-buraqueira; Burrowing Owl).



Photo 46. *Podager nacunda*, Caprimulgidae (corução; Nacunda Nighthawk).



Photo 47. *Amazilia versicolor*, Trochilidae (beija-flor-de-banda-branca; Versicolored Emerald).



Photo 48. *Trogon melanurus*, ♀, Trogonidae (surucuá-de-cauda-preta; Black-tailed Trogon).



Photo 49. *Trogon curucui*, ♂, Trogonidae (surucuá-de-barriga-vermelha; Blue-crowned Trogon).



Photo 50. *Megaceryle torquata*, ♂, Alcedinidae (martim-pescador-grande; Ringed Kingfisher).



Photo 51. *Chloroceryle americana*, ♀, Alcedinidae (martim-pescador-pequeno; Green Kingfisher).



Photo 52. *Momotus momota*, ♂, Momotidae (udu; Amazonian Motmot).



Photo 53. *Galbula ruficauda*, ♂, Galbulidae (ariramba; Rufous-tailed Jacamar).



Photo 54. *Monasa nigrifrons*, Bucconidae (chora-chuva-preto; Black-fronted Nunbird).



Photo 55. *Ramphastos tucanus curviere*, Ramphastidae (tucano-de-papo-branco; White-throated Toucan).



Photo 56. *Pteroglossus aracari*, Ramphastidae (aracari-de-bico-branco; Black-necked Aracari).



Photo 57. *Dryocopus lineatus*, ♂, Picidae (pica-pau-de-banda-branca; Lineated Woodpecker).



Photo 58. *Caracara plancus*, Falconidae (carcará; Southern Caracara).



Photo 59. *Falco sparverius*, ♀, Falconidae (quiriquiri; American Kestrel).



Photo 60. *Ara ararauna*, Psittacidae (arara-canindé; Blue-and-yellow Macaw).



Photo 61. *Ara macao*, Psittacidae (araracanga; Scarlet Macaw).

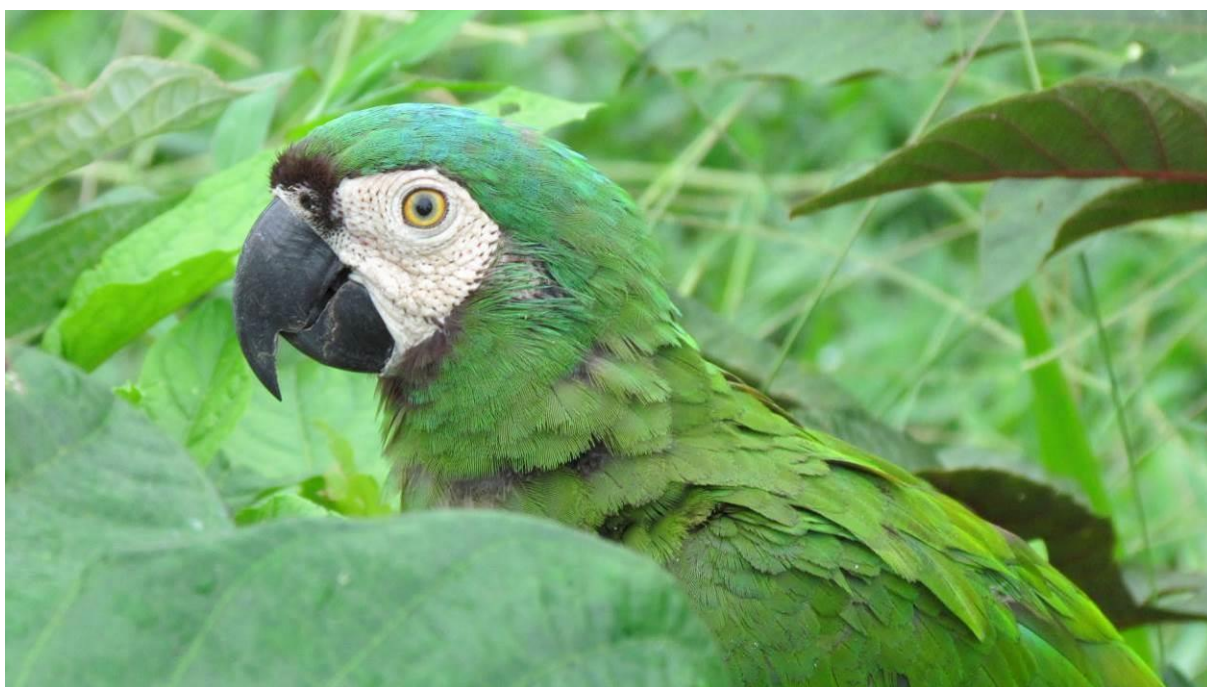


Photo 62. *Ara severus*, Psittacidae (maracanã-guaçu; Chestnut-fronted Macaw).



Photo 63. *Psittacara leucophthalmus*, Psittacidae (periquitão; White-eyed Parakeet).



Photo 64. *Eupsittula aurea*, Psittacidae (periquito-rei; Peach-fronted Parakeet).



Photo 65. *Pionus menstruus*, Psittacidae (maitaca-de-cabeça-azul; Blue-headed Parrot).



Photo 66. *Amazona farinosa*, Psittacidae (papagaio-moleiro; Mealy Parrot).



Photo 67. *Xiphorhynchus guttatoides*, Dendrocolaptidae (arapaçu-de-lafresnaye; Lafresnaye's Woodcreeper).



Photo 68. *Elaenia flavogaster*, Tyrannidae (guaracava-de-barriga-amarela; Yellow-bellied Elaenia).



Photo 69. *Myiarchus ferox*, Tyrannidae (maria-cavaleira; Short-crested Flycatcher).



Photo 70. *Pitangus sulphuratus*, Tyrannidae (bem-te-vi; Great Kiskadee).



Photo 71. *Myiodynastes maculatus*, Tyrannidae (bem-te-vi-rajado; Streaked Flycatcher).



Photo 72. *Myiozetetes cayanensis cayanensis*, Tyrannidae (bentevizinho-de-asa-ferruginea; Rusty-margined Flycatcher).



Photo 73. *Tyrannus albogularis*, Tyrannidae (suiriri-de-garganta-branca; White-throated Kingbird).



Photo 74. *Tyrannus savana*, ♂, Tyrannidae (tesourinha; Fork-tailed Flycatcher).



Photo 75. *Empidonomus varius*, Tyrannidae (peitica; Variegated Flycatcher).

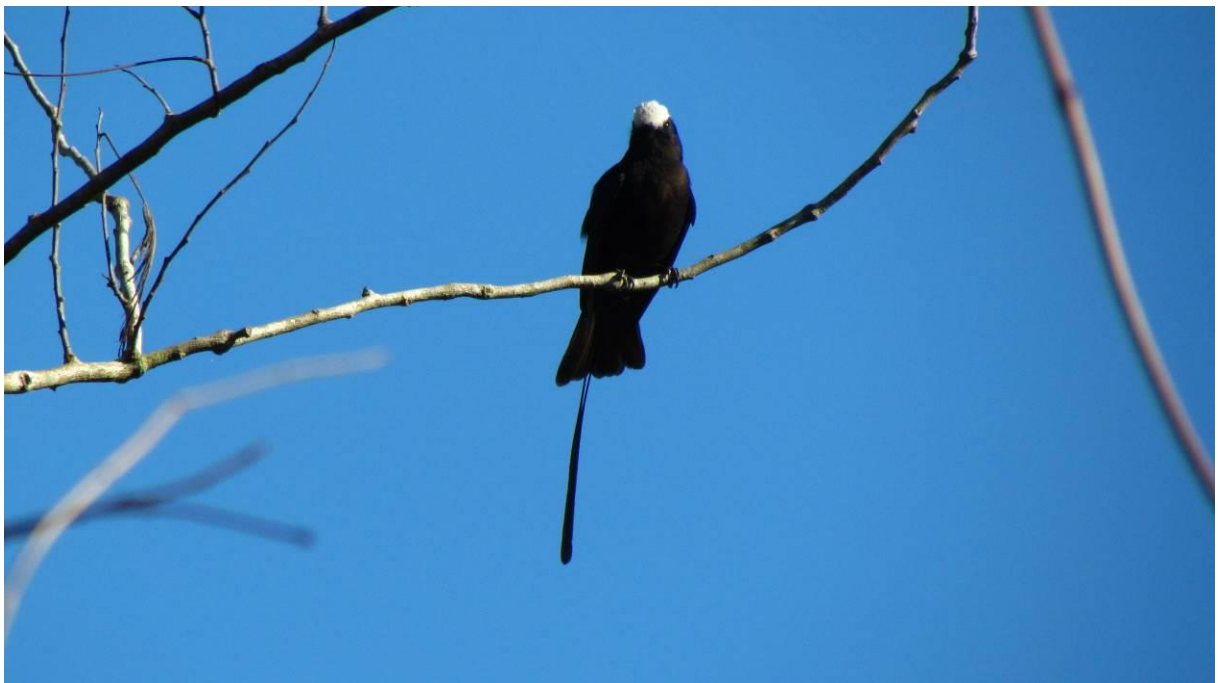


Photo 76. *Colonia colonus*, Tyrannidae (viuvinha; Long-tailed Tyrant).



Photo 77. *Fluvicola nengeta*, Tyrannidae (lavadeira-mascarada; Masked Water-Tyrant).

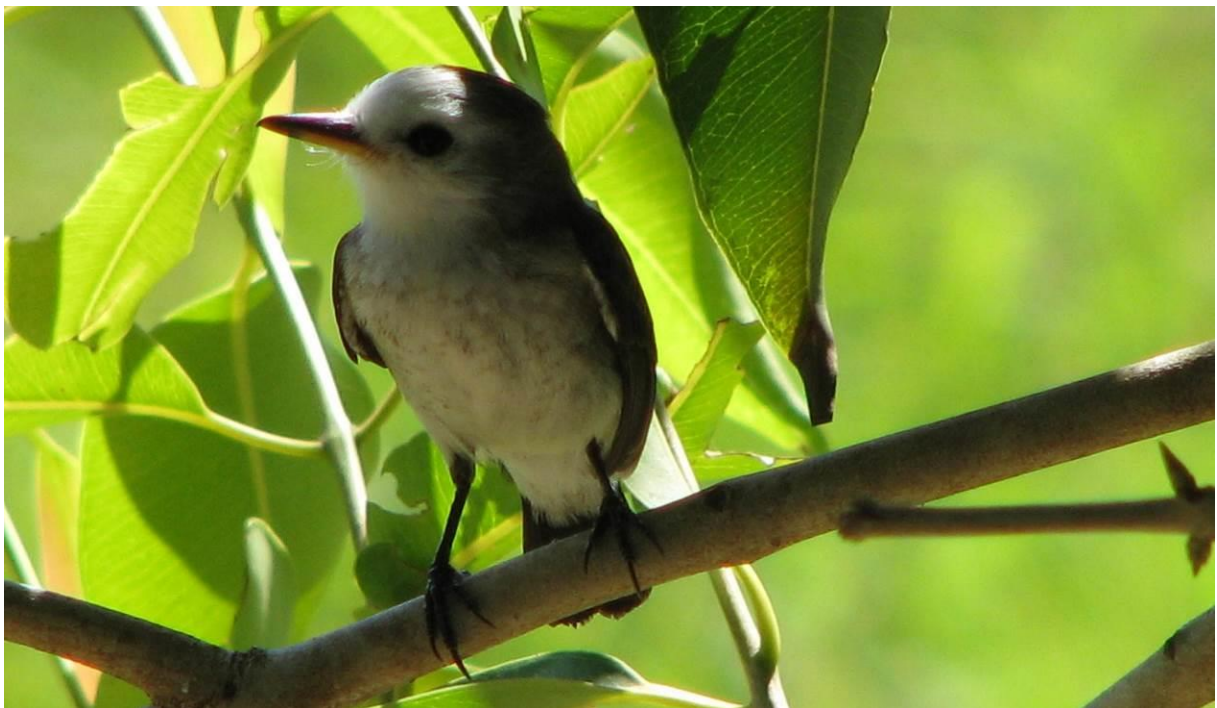


Photo 78. *Arundinicola leucocephala*, ♀, Tyrannidae (freirinha; White-headed Marsh Tyrant).



Photo 79. *Vireo chivi*, Vireonidae (juruviara; Chivi Vireo).



Photo 80. *Stelgidopteryx ruficollis*, Hirundinidae (andorinha-serradora; Southern Rough-winged Swallow).



Photo 81. *Progne tapera*, Hirundinidae (andorinha-do-campo; Brown-chested Martin).



Photo 82. *Progne chalybea*, Hirundinidae (andorinha-grande; Gray-breasted Martin).



Photo 83. *Hirundo rustica*, Hirundinidae (andorinha-de-bando; Barn Swallow).



Photo 84. *Donacobius atricapilla*, Donacobiidae (japacanim; Black-capped Donacobius).



Photo 85. *Turdus leucomelas*, Turdidae (sabiá-branco; Pale-breasted Thrush).



Photo 86. *Anthus lutescens*, Motacillidae (caminheiro-zumbidor; Yellowish Pipit).



Photo 87. *Zonotrichia capensis*, Passerellidae (tico-tico; Rufous-collared Sparrow).

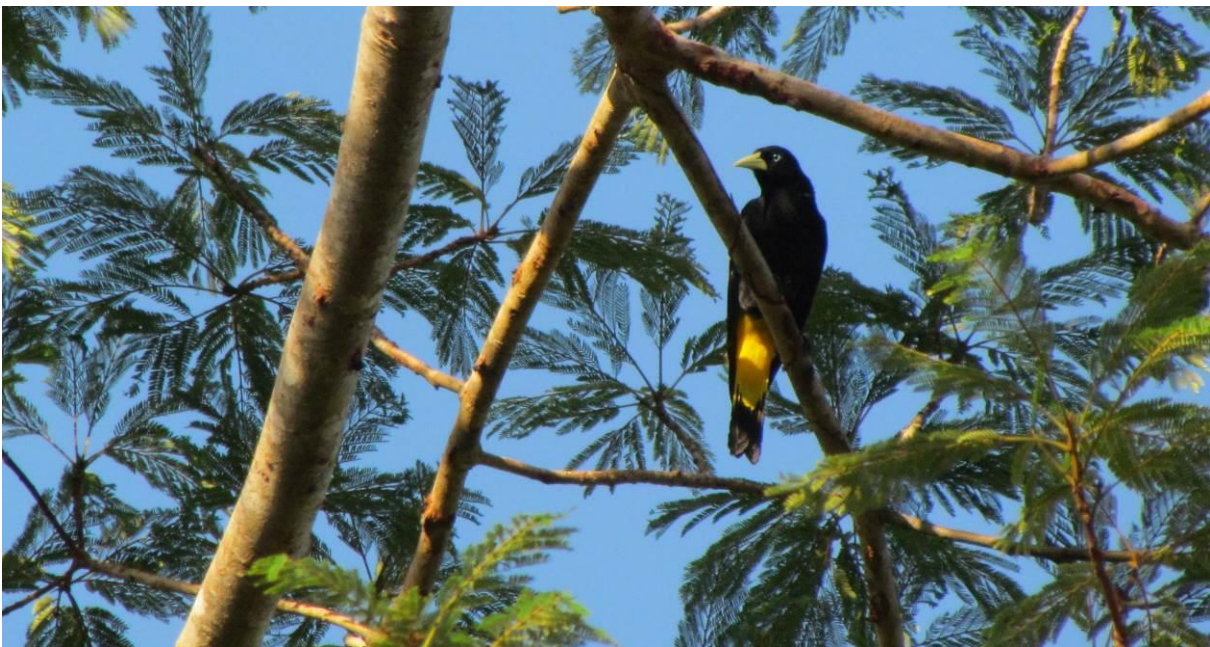


Photo 88. *Cacicus cela*, Icteridae (xexéu; Yellow-rumped Cacique).



Photo 89. *Cissopis leverianus*, Thraupidae (tietinga; Magpie Tanager).



Photo 90. *Paroaria gularis*, Thraupidae (cardeal-da-amazônia; Red-capped Cardinal).



Photo 91. *Tangara episcopus*, Thraupidae (sanhaço-da-amazônia; Blue-gray Tanager).



Photo 92. *Sicalis columbiana*, ♂, Thraupidae (canário-do-amazonas; Orange-fronted Yellow-Finch).



Photo 93. *Chlorophanes spiza*, ♀, Thraupidae (saí-verde; Green Honeycreeper).



Photo 94. *Volatinia jacarina*, ♂, Thraupidae (tiziú; Blue-black Grassquit).



Photo 95. *Tachyphonus rufus*, ♂, Thraupidae (pipira-preta; White-lined Tanager).



Photo 96. *Dacnis cayana*, ♀, Thraupidae (saí-azul; Blue Dacnis).



Photo 97. *Sporophila americana*, ♀, Thraupidae (coleiro-do-norte; Wing-barred Seedeater).



Photo 98. *Sporophila nigricollis*, ♂, Thraupidae (baiano; Yellow-bellied Seedeater).



Photo 99. *Saltator coerulescens*, Thraupidae (sabria-gongá; Grayish Saltator).



Photo 100. *Euphonia violacea*, ♂, Fringillidae (gaturamo; Violaceous Euphonia).