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ARTIGO

A Contribution to the Ornithology of Rondônia, Southwest of the Brazilian Amazon

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RESUMO: Uma contribuição ao conhecimento ornitológico do Estado de Rondônia, sudoeste do Amazônia brasileira. A avifauna de Rondônia é uma das menos conhecidas e mais impactadas de toda a Amazônia. Nós apresentamos aqui os resultados de inventários conduzidos em quatro áreas diferentes, em ambos os lados do rio Madeira, e realizados entre 2001 e 2003. Um total de 458 espécies foi registrado, um número que representa cerca de dois terços da avifauna esperada para todo o estado. Novos dados são apresentados para algumas espécies pouco conhecidas, como *Crypturellus* aff. *bartletli* e *Accipiter poliogaster.* Rondônia sofre com altas taxas de desmatamento e as unidades de conservação, especialmente aquelas mantidas pelo poder público, são mal protegidas e tem sido atacadas por madeireiros e grileiros. Ações práticas de conservação neste Estado são urgentes.

PALAVRAS-CHAVE: Avifauna; Inventários; Brasil; Rondônia; Amazônia.

ABSTRACT: A Contribution to the Ornithology of Rondônia, Southwest of the Brazilian Amazon. The avifauna of the Brazilian state of Rondônia is one of the least known and more impacted bird communities in the Amazon. Here we report the results of surveys in four different areas studied between 2001 and 2003, located on both banks of the Madeira River. A total of 458 species were recorded. This number represents about two-thirds of total bird species expected for the whole state. New data are presented for some least known species such as *Crypturellus* aff. *bartettli* and *Accipiter poliogaster.* Rondônia has suffered huge deforestation rates and the existing reserves, especially the state-run ones, are poorly protected and have been targeted by loggers and land-grabbers. Conservation actions are urgently needed in this state.

KEY-WORDS: Avifauna; Inventories; Brazil; Rondônia; Amazônia.

The avifauna of the Brazilian state of Rondônia is one of the least known and more impacted bird communities in the Amazon basin (Stotz *et al.* 1997). After paving of the BR 364 road and government-led colonization projects in the 1980s, Rondônia experienced some of the largest deforestation rates in the Amazon. By 2003 the state had lost 29.2% of its forested area, including over 50% of all forests outside protected areas such as parks and Indigenous lands (Ferreira *et al.* 2003, 2005). Lack of concern for environmental laws has been the norm in Rondônia for the past decade and the process continues to this day, despite huge amounts of money spent by big "development with conservation" projects such as the PLANAFLORO – Plano Agropecuário e Florestal de Rondônia (Pedlowski *et al.* 2005).

The region between the Madeira and Tapajós rivers, including virtually all of Rondônia, is one of the main endemic bird areas south of the Amazon (Cracraft, 1985), thus the long-term survival of many unique taxa is jeopardized by continuous deforestation fueled by land-hungry colonists, the expansion of cattle and soybean agro business. In addition to these factors is the mostly illegal and unsustainable timber exploitation that drives the region's political-economic system (Margulis, 2004).

The bird fauna of what is now Rondônia was first studied by Johann Natterer, who collected birds along the Guaporé and Madeira rivers during the 19th century (Pelzeln 1868-1870). In the upper Guaporé, Natterer collected two species restricted to that region, *Tachyphonus nattereri* and *Picumnus fuscus,* as well as taxa with uncertain status such as *Tityra leucura* (Whittaker, 2008). The specific status of the first is still unclear, as no further specimens seem to have been collected. *P. fuscus* is found only in *várzea* forests along the Guaporé. It also occurs in Mato Grosso, parts of Bolivia (Beni) and in neighboring Rondônia.

Until recently the largest collection of birds from the state was the one assembled by Hoffmanns, who collected along the Madeira and the lower Ji-Paraná (Hellmayr, 1910), while the southern part of the state was visited by the Roosevelt-Rondon expedition (Naumburg, 1930). In 1986 and 1988 a team from the Museu de Zoologia da

Universidade de São Paulo, Brazil (MZUSP) and Field Museum of Natural History, Chicago, U.S.A. (FMNH) made an extensive inventory of birds on the left bank of the Ji-Paraná river, at Cachoeira Nazaré and Pedra Branca (Stotz *et al.* 1997). Both localities remain as the best known in the state. The 459 bird species found in Cachoeira Nazaré make it one of the richest localities in Amazonian Brazil (Stotz *et al.* 1997). Cachoeira Nazaré is also the type locality of *Clytoctantes atrogularis,* a Thamnophilidae known only from one collected female and a couple of male sightings at the type locality, as well as recently from a handful of records in Amazonas, Pará and Mato Grosso States (Lanyon *et al.* 1990; Whittaker, 2009 and references therein; Oliveira *pers. comm.*).

More recently, a series of surveys were carried out as basis for the economic-ecological zoning of Rondônia but their results remain unpublished (see Bóçon 1999, Cândido Jr., 2001). Other unpublished reports came from rapid surveys carried out in a few of the state reserves such as Guajará-Mirim State Park (PNUD, 1995) and Rio Ouro Preto Biological Reserve (Oren and Aleixo, 1999).

We had the opportunity to take part in additional surveys in different areas of Rondônia between 2001 and 2003 (Fig. 1). Here we describe the visited areas and present the results of bird surveys conducted. Additionally, we add random observations made during FO's residence in Rondônia in 1998.

Study Areas and Methods

1. Traçadal Biological Reserve

This reserve covers 20,164 ha in western Rondônia, and is bordered by the Novo, Igarapés São Francisco and Traçadal Rivers. Fieldwork was carried out by FO from January 7-24, 2001. Besides recording birds seen during the boat trip to and from the reserve (January 7-8 and 24), two of the main habitats were surveyed:

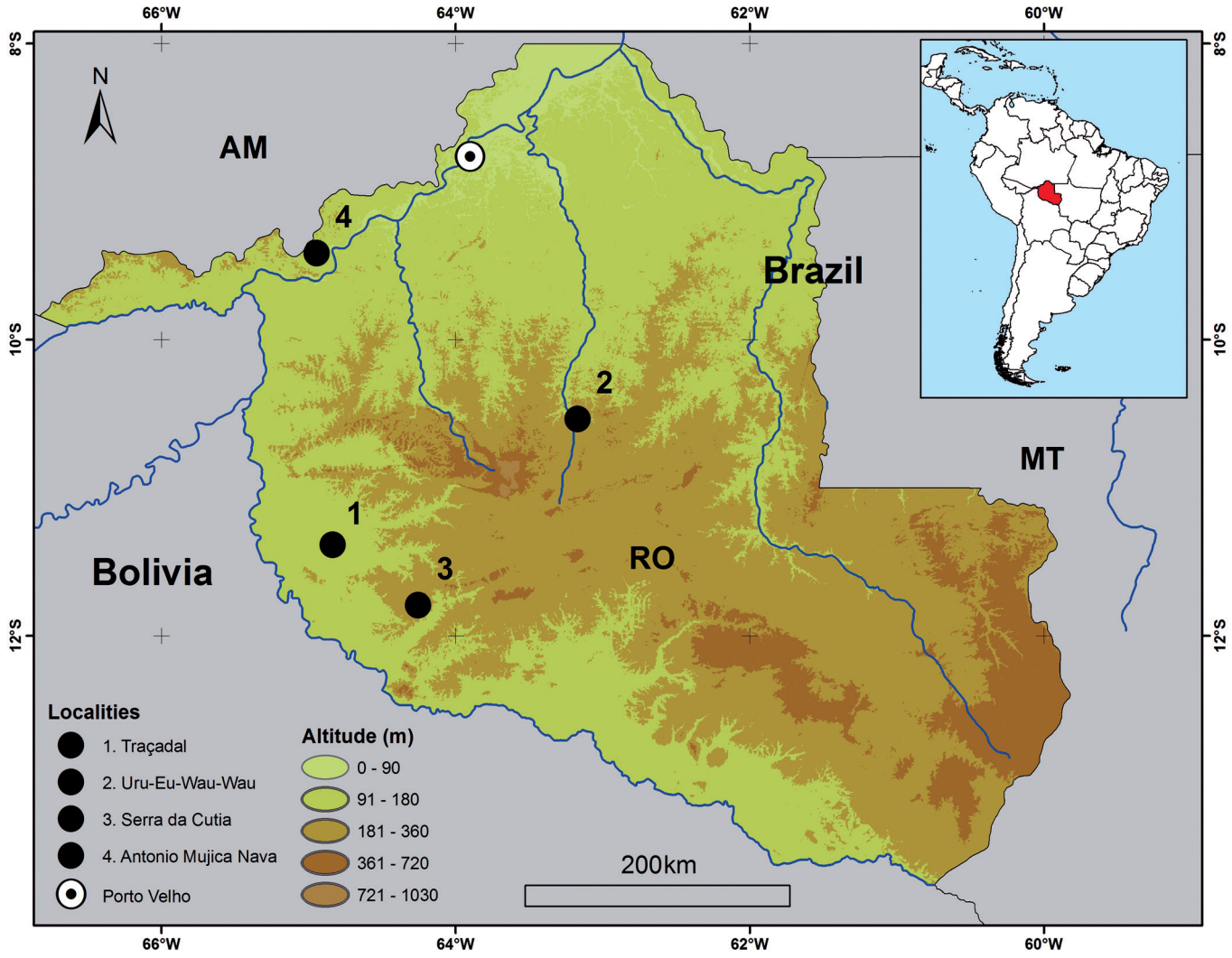

FIGURE 1: Sampled localities in Rondônia State. **1)** Traçadal Biological Reserve; **2)** Uru-Eu-Wau-Wau Indigenous Land; **3)** Serra da Cutia National Park; **4)** Antonio Mujica Nava Ecological Station.

terra firme forest (January 9-18, at 11°23'S, 64°50'W), and a flooded savanna enclave which made a distinctive patch seen in satellite images (January 19-23, at 11°24'32"S, 64°51'20"W). The transitional forest bordering the savanna was also surveyed during the stay at that habitat.

The local *terra firme* forest grows on yellow latosols, while the savannas occur on hydromorphic podzols. *Terra firme* forests at this site are low, with a continuous canopy at 10-15 m and few emergents and epiphytes. Palms such as *Oenocarpus bataua* ("patauá"), *Bactris* sp., *Attalea maripa, Socratea exorrhiza* and *Astrocaryum gynacanthum* are very common, with many patches of the plantain *Phenakospermum guianensis* (*sororoca*). The plantain is associated with unstable soils and other areas of natural disturbance, as well as old cultivation (Politis, 2001). The low-lying areas dominated by palms have a dense, spongy litter where depressions holding water during the rainy season are evident. The most common tree species are *Apeiba membranacea, Aspidosperma verruculosum, Brosimum lactescens, Clarisia ilicifolia, Faramea corymbosa, Guapira venosa, Hirtella triandra, Iryanthera juruensis, Leonia glycycarpa, Miconia ruficalyx, Ocotea* sp., *Prieurella prieurii, Protium decandrum, Protium paraense, Sclerolobium* sp., *Tachigalia* sp., *Virola elongata, Vochysia densiflora* and *Xylopia nitida. Tachigalia* sp. was the most common species in plant transects (Kanindé, 2001).

The savannas occur as isolated patches covering a few hundred hectares each, completely surrounded by forest. These open-vegetation islands are periodically inundated when the water table rises during the rainy season. During our visit this habitat was covered by up to 30 cm of water. The vegetation is made of a mosaic of both bushy and grassy areas. Among the bushes the palm *Mauritiella armata* is very common, together with *Caraipa savannarum, Kielmeyera rubriflora, Emotum nitens, Byrsonima* cf. *intermedia, Eugenia* sp. and *Pouteria* sp. In the grassy areas the soil is exposed. The uneven cover is made of sedges *Xyris* sp., *Macairea* sp. and *Bulbostylis* sp., and other herbaceous plants, such as *Eriocaulon, Paepalanthus,* and *Syngonanthus.*

Signs of fire can be seen among the bushes and the many dead trees surrounding the abrupt savanna-forest edge. Some isolated patches dominated by *Cecropia* spp. amid the *terra firme* forest are a testimony to past fires either entering the forest from the savannas or caused by burnings begun by local residents. This, together with the abundant plantain and palm-dominated areas, show a long history of human impact by local natives.

Bird surveys were made mostly by recording species seen or heard, and by setting mist-net lines. Reference tapes were made for use in play-backs and to check identifications, especially of tinamous and owls. The nets used were mostly 2.5 × 12 m with 36 mm mesh. A total of 1,183 net-hours were spent in the *terra firme* forest, while 164 net-hours were spent in the forest-savanna ecotone, and 230 net-hours in the savanna.

2. Uru-Eu-Wau-Wau Indigenous Land

Fieldwork was carried out by FO and LFS from March 13-25, 2002. The Uru-Eu-Wau-Wau Indigenous Territory covers 1.87 million ha, including most of the Pacaás Novos massif. Human populations are low (around 180 contacted natives, I. Bandeira *in litt.*). A detailed description of the area is available in Kanindé (2002). Three different areas were sampled:

1) Jamari (around 10°32'04"S, 63°10'06"W, 108 m asl), sampled between March 13 and 17. The open ombrophylous forest there has an open understory. By far the dominant species are the *babaçu* palm *Attalea speciosa,* followed by *Peltogyne* sp., *Tetragastris altissima* and *Euterpe precatoria.* The canopy reaches 25 m. No watercourse ran through the sampled area, but additional observations were made at the Jamari River, near the Native village. The abundant *Attalea* palms are an indication of intensive human use, as this species is an aggressive colonizer at former cultivated areas and tends to become dominant where fire commonly occurs, as in pastures nowadays.

2) "Campos" do Urupá (around 11°09'03"S, 62°53'05"W, 236 m asl), sampled between March 17 and 20. The studied area has a riverine forest with an abundance of bamboo bordering a steep-banked creek. There is an abrupt transition between this forest and a large area of arboreal-arbustive savanna with many exposed sandstone ledges. The most common tree species in the savanna are *Macropholis guyanensis, Couroupita* spp. and *Protium tenuifolium.* The Urupá river basin has a long stretch of savanna/forest contact, and harbors many plant species typical of the cerrado, such as *Boudichia nítida, Myrcia fallax, Walteria ferruginea, Meriania urceolata* and *Ouratea* sp.

3) Alto Jamari (10°43'02"S, 63°27'02"W, 260 m asl), sampled between March 20-25. This area consists of lower montane open forest with a denser and diverse understory. The canopy is over 25 m, and many emergents (mainly Brazil-nut trees *Bertholetia excelsa*) towered to over 40 m. Dominant species are *Tetragastris altissima* (a very common species bearing edible fruit sought by many animals), the palm *Attalea speciosa* and *Pseudolmedia faevis.*

Birds were identified with the aid of binoculars and tape-recorded with a Sony TCM 5000 EV recorder fitted with a Sennheiser ME 66 microphone. Copies of the tapes were archived at the Elias Coelho sound archive (ASEC, Universidade Federal do Rio de Janeiro, RJ). Mist-net (10 × 2.5 m, 32 mm mesh size) lines with 20

nets were set in trails cut in all study sites. Additionally, birds were collected with the aid of .22, .28 and .36 shotguns. Specimens were preserved in phenoxyethanol and are now at the Museu de Zoologia da Universidade de São Paulo (MZUSP).

Activities totaled some 120 field-hours. Mist-nets were opened soon after sunrise (6:00) and closed at different times between 14:00 and 19:00. A total of 520 net-hours were spent at Jamari, 590 at Urupá, and 766 at Alto Jamari, totaling 1,876 net-hours.

3. Serra da Cutia National Park

Fieldwork was carried out by FO between March 14-24 and from August 2-13, 2003. The national park covers 466,873 ha between the Cautário and Pacaás Novos River, which are used as access routes to the park. It is surrounded by several extractive reserves (including the Rio Cautário State Extractive Reserve along the southern bank of that river) and by Uru-Eu-Wau-Wau Indigenous land. Human populations in the park are very low, but several hundred people live along the rivers surrounding it. Two different sites were sampled, their description being adapted from IBAMA (2005):

1) Igarapé São João do Branco and nearby savannas, visited in March. The studied areas included: a riverine forest and a former cultivation cleared near Igarapé São João do Branco (11°35'25"S, 63°59'06"W, 146 m asl), savannas and campinaranas on white sand and rock ledges (11°35'20.6"W, 64°00'12.8"W, 193 m asl), and *terra firme* forest dominated by palms and banana-like *sororoca Phenakospermum guianensis* (Strelitziaceae) at 11°35'34,3"S, 63°59'51,8"W.

Palm forest has a canopy reaching 20-25 meters, the dominant species being *Oenocarpus bataua.* This is a species forming oligarchic forests over damp soils with open canopies allowing sunlight to reach the ground (Clay *et al.* 2000). *Phenakospermum guianensis,* a species adapted to soaked soils in clearings, is very common and reflects the high level of natural disturbance (mostly by windfalls) in the forest. Dominant arboreal species are *Eschweilera coriaceae* (Lecythidaceae), *Oenocarpus bataua* (Arecaceae), and *Aspidosperma carapanauba* (Apocynaceae). Low-lying areas closer to the rivers indicate seasonal ponds of standing water, reflecting a high water table. The most common species in this special habitat are *Oenocarpus bataua* (Arecaceae), *Phenakospermum guianensis* and *Qualea paraensis* (Vochysiaceae).

The *campinaranas* at Serra da Cutia consist of thin trees with a canopy at about 10 m. The very open understory is dominated by ferns, especially a species of *Selaginella.* Dominant trees were the same as in the adjoining forest. Local savannas show distinctive habitats, including open areas with a dense cover of grasses and sedges growing on shallow soils with a very high water table similar to the ones at Traçadal. The soaked areas around rock outcrops are dominated by sedges such as *Xyris* (Xyridaceae), *Macairea* (Melastomataceae) and *Bulbostylis* (Cyperaceae), and by herbs including *Eriocaulon* (Eriocaulaceae), *Paepalanthus* (Eriocaulaceae) and *Syngonanthus* (Eriocaulaceae). There are few tree species, the most common being *Antonia* and *Licania* (Chrysobalanaceae).

2) Igarapé Tiradentes (11°47'33.1"S, 64°15'12.9"W), visited in August, is dominated by *terra firme* forest between the camp site and the long trail linking it to the Cautário River, and by palm forest between the camp and a rocky hill called "Serra da Cutiara", an area at which savannas are found. Dominant there are *Mouriri* sp. (Myrmilaceae) and *Qualea acuminata* (Vochysiaceae), differing from site 1. Low-lying areas closer to the water courses are dominated by the palms *Oenocarpus bataua* (Arecaceae), *Pourouma minor* (Cecropiacaee) and *Cedrelinga cataeniformis* (Mimosaceae).

The *terra firme* forest is similar to that at site 1, with many *sororoca* and *patauá* palms, as well as *Mouriri* sp. (Melecylaceae) and *Lueheopsis* sp. (Tiliaceae) and *Qualea paraensis* (Vochysiaceae). Several large clearings in the area seem to have resulted from wind falls caused by strong descending winds, a large-scale disturbance that may favor palms and may account for their dominance (Nelson *et al.* 1994).

Birds were surveyed with the aid of binoculars and mist-nets. In March a line of 19 nets (10 × 2.5 m, 36 mm mesh) was used in savanna and palm forest, while in August a 30-net line was set in *terra firme* forest. A total of 976 net-hours were spent in palm forest (São João do Branco), 1273.3 in *terra firme* forest (Tiradentes) and 606.1 in savanna (São João do Branco).

4. Antonio Mujica Nava Ecological Station

Fieldwork was carried out by FO and LFS from February 6-18, 2002. Base camp was located at Igarapé São Lourenço (09°24'50"S, 64°56'32"W), on the left bank of the Madeira River. The description below is adapted from PNUD/PLANAFLORO (2002). In 2010, Mujica Nava Ecological Station was merged into Mapinguari National Park as part of a deal between the federal and state governments.

The 18,280 ha reserve is located in a flat area (80-90 m asl), with a few hills reaching 120 m. The lower areas have sandy soils topped by a thin (30-40 cm) clay layer. Podzols occur in hilly areas. Igarapé São Lourenço shows significant changes in water level, as water can rise beyond one meter overnight. There is an extensive floodplain along the São Lourenço basin, dominated by permanently flooded forest which is associated with clear-water

rivers, surrounded by *terra firme* forest on higher ground. Restricted patches of *buriti* palms (*Mauritia flexuosa*) are present.

The *igapó* forest shows a uniform canopy reaching 20-22 m. The most common species belong to the genera *Peltogyne* (Fabaceae), *Couratari* (Lecythidaceae), *Bombax* (Bombacaceae), *Eschweilera* (Lecythidaceae), *Naucleopsis* (Moraceae), *Copaifera* (Fabaceae), *Croton* (Euphorbiaceae), *Virola* (Myristicaceae), *Xylopia* (Annonaceae), *Hevea* (Euphorbiaceae), *Guarea* (Meliaceae), *Iryanthera* (Myristicaceae), *Brosimum* (Moraceae), *Chrysophyllum* (Sapotaceae), *Tetragastris* (Burseraceae), *Sclerolobium* (Fabaceae), *Tachigali* (Leguminosae), *Licania* (Chrysobalanaceae), *Hirtella* (Chrysobalanaceae), *Pouteria* (Sapotaceae), *Rinorea* (Violaceae) and *Inga* (Fabaceae). The lower canopy has thin trees some 10-12 m high belonging to the genera *Theobroma* (Sterculiaceae), *Annona* (Annonaceae), *Unonopsis* (Annonaceae), *Rollinia* (Annonaceae), *Duguetia* (Annonaceae), *Miconia* (Melastomataceae), *Casearia* (Salicaceae) and *Coussarea* (Rubiaceae). Palms are conspicuous elements in seasonally flooded areas (*baixios*) at the ecotone between the *igapó* and *terra firme* forests, and along smaller watercourses. The most common species are: *Euterpe precatoria* (Arecaceae), *Socratea exorrhiza* (Arecaceae), *Oenocarpus bataua* (Arecaceae) and *Astrocaryum aculeatum* (Arecaceae); while smaller species (*Bactris* and *Geonoma* spp. – Arecaceae) make up the undergrowth together with *Cordia nodosa* (Boraginaceae), *Heliconia* spp. (Heliconiaceae), *Leandra* sp. (Melastomataceae), *Miconia* spp. (Melastomataceae), *Piper* spp. (Piperaceae), *Tococa* sp. (Melastomataceae) and *Psychotria* spp. (Rubiaceae).Woody lianas (Caesalpinioideae *Bauhinia* spp., Fabaceae *Machaerium* spp., Polygalaceae *Moutabea* spp., Dilleniaceae *Doliocarpus* spp., Dilleniaceae *Tetracera* spp., and Leguminosae *Deguelia* sp.) and epiphytes (Araceae *Philodendron,* Araceae *Anthurium,* Orchidaceae *Catasetum,* Orchidaceae *Epidendrum,* Orchidaceae *Sobralia,* Orchidaceae *Galeandra,* Piperaceae *Peperomia* and Gesneriaceae *Codonanthe*) are most common in the *igapó.*

Terra firme forest grows on soils with lower fertility, away from the floodline. Trees reach a height of about 25 m and species diversity is higher compared to that in *igapó.* There were a few isolated patches of climbing bamboos, sometimes making a dense cover. Emergent species are *Bertholletia excels* (Lecythidaceae), *Caryocar villosum* (Caryocaraceae), *Aspidosperma carapanauba* (Apocynaceae), *Couma* sp. (Apocynaceae), *Couratari* sp. (Lecythidaceae) and *Cariniana* sp. (Lecythidaceae). The lower canopy has many Annonaceae (*Guatteria, Xylopia* and *Rollinia*) and Flacourtiaceae (*Casearia* and *Carpotroche*). Palms are also present but in lower densities compared to the *igapó* and *baixios*.

Birds were identified with the aid of binoculars and from vocalizations. Recordings were made with a Sony TCM 5000 EV recorder with a Sennheiser ME 66 microphone, while birds were collected with mist-nets (meshes 32 and 36 mm) set in the *terra firme* and *igapó* forests, along with shotguns. All collected birds were prepared as skins and fluid-preserved specimens, and were deposited in the Museu de Zoologia da Universidade de São Paulo. A total of 844 net-hours were spent in *terra firme* forest, and 377 in *igapó*.

RESULTS

Traçadal

We recorded 234 bird species in the four sampled habitats (Table 1). *Terra firme* forest had the largest number of exclusive species (112; or 46% of all species). Riverine habitats had the second largest number of exclusive species (50; 20%), followed by transitional forest (13; 5%) and savanna (18; 7.5%). One species (*Crotophaga ani*) was found only around the cleared areas inhabited by the local rubber-tappers.

Mist-nets on *terra firme* made 136 captures of 35 species (Table 2) in two different net lines (0.15 bird/net-hour), while 26 captures of 12 species were made in the savanna (0.11 bird/net-hour), and only nine captures of six species (0.05 captures/net-hour) in transitional forest. The small effort in the transitional forest may account for the low number of birds caught there, but qualitative observations support the opinion that this habitat is poorer compared to *terra firme* forest.

The most abundant species caught in the nets set on *terra firme* were *Willisornis poecilinotus* (an army-ant follower – 11% of the captures), *Geotrygon montana* (a ground-dove; 10%) and *Arremon taciturnus* (a forest-floor granivore-insectivore; 7%). Ten species were represented by single captures.

The isolated savanna at Traçadal is representative of habitats more commonly found in southern Rondônia and associated with the Pacaás Novos Mountains. Several species are characteristic of these enclaves and do not enter the forest. Characteristic birds at Traçadal are *Formicivora grisea, F. rufa, Elaenia cristata, Tachyphonus phoenicius* and *Xenopipo atronitens.* The vegetation of dense ferns (*Pteridium* sp.) and melastome shrubs, marking the border between the forest and the savanna, proved to be the only habitat where *Cantorchilus leucotis* and *Myrmeciza atrothorax* were found.

The transitional forest has many dead trees resulting from regular fires. The availability of nest sites account for the concentration of cavity-nesting macaws, parakeets and parrots found in the area. These include *Amazona* (*ochrocephala*) *nattereri,* a parrot more associated with forest-savanna mosaics such as those along the Guaporé River further west.

TABLE 1: Birds recorded in seven localities in Rondônia State.
Key to habitat: Mata de *Terra Firme* (M); Palm Forest (P); Forest-Savanna Ecotone (T); Savanna (S); and River Edge, including riverine forest, *igapós* and *várzeas* (R).
Key to relative abundance: Common (1 = birds seen or heard every day in their usual habitat); Fairly Common (2 = birds seen or heard in 99-50% of field days); Uncommon (3 = birds seen or heard 25-50% of field-days); Rare (4 = seen or heard only once).
Type of record: s = sight, v = voice, p = photograph, r = tape-recorded, n = mist-netted, c = collected, f = feathers in Native artifacts.

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
TINAMIDAE							
Tinamus tao Temminck, 1815	M, 3, s,v	P, 3, s, v	M, 1, v				M, 3
Tinamus major (Gmelin, 1789)	M, 1, v		M, 3, v	s		s	M, 2
Tinamus guttatus Pelzeln, 1863			M, 3, s, v				
Crypturellus cinereus (Gmelin, 1789)	M, 1, v	P, 1, v	M, 1, v	s	s	s	M, 1
Crypturellus soui (Hermann, 1783)	T, 2, v		M, 1, v	s		s	M, 1
Crypturellus aff. *bartletti* (Sclater and Salvin, 1873)							R, 1, n,c,f
Crypturellus obsoletus (Temminck, 1815)	M, 1, v	P, 4, v		s		s	
Crypturellus undulatus (Temminck, 1815)	M, 3, v	R, 2, v	R, 1, v				
Crypturellus variegatus (Gmelin, 1789)		P, 2, v	M,P, 1, s, v	s			M, 3, v
Crypturellus strigulosus (Temminck, 1815)						s	M, 1, v
Crypturellus tataupa (Temminck, 1815)	S, 2, v		R, 4,v	s		s	
Crypturellus parvirostris (Wagler, 1827)				s		s	
Rhynchotus rufescens (Temminck, 1815)		S, 4, v					
ANHIMIDAE							
Anhima cornuta (Linnaeus, 1766)	R, 1, s		R, 2				
ANATIDAE							
Dendrocygna autumnalis (Linnaeus, 1758)		R, 3, s					
Cairina moschata (Linnaeus, 1758)	R, 2, s	R, 2, s		s			R, 3, s
CRACIDAE							
Ortalis guttata (Spix, 1825)	R, 1, v	R, 1, v	R, 4, s,v				
Penelope jacquacu Spix, 1825	M,T,S, 1, v	P,T,c, 2, v	M,P, 2	s	s	c	M, 1, c
Penelope superciliaris Temminck, 1815		P, 4, v					
Aburria cumanensis (Jacquin, 1784)	M, 3, s,v		M, 3, s,v				M, c
Pauxi tuberosa (Spix, 1825)		P, 4, s	M, 4, s				M, 2, c
ODONTOPHORIDAE							
Odontophorus gujanensis (Gmelin, 1789)		P, 1, s,v	M, 3, v				
Odontophorus stellatus (Gould, 1843)	M, 2, v		M, 3, v			v?	M, 1, v
PHALACROCORACIDAE							
Phalacrocorax brasilianus (Gmelin, 1789)	R, 1, s		R, 4, s	S, s			
ANHINGIDAE							
Anhinga anhinga (Linnaeus, 1766)	R, 1, s						R, 4, s
ARDEIDAE							
Tigrisoma lineatum (Boddaert, 1783)	R, 4, s		R, 1			s	R, 3, s
Agamia agami (Gmelin, 1789)			R, 4,s				
Butorides striata (Linnaeus, 1758)	R, 4, s	R, 2, s					
Bubulcus ibis (Linnaeus, 1758)					s		
Ardea cocoi Linnaeus, 1766	R, 2, s						R, 4, s
Ardea alba Linnaeus, 1758	R, 2, s						
Pilherodius pileatus (Boddaert, 1783)	R, 4, s	R, 2, s	R, 3, s		s		R, 4, s
Egretta thula (Molina, 1782)			R, 1, s				
THRESKIORNITHIDAE							
Mesembrinibis cayennensis (Gmelin, 1789)	R, 1, s	R, 1, s	R, 3, s	s			R, 3, s
Platalea ajaja Linnaeus, 1758					s		
CATHARTIDAE							
Cathartes aura (Linnaeus, 1758)	S, 4, s	S, 4, s			s		
Cathartes burrovianus Cassin, 1845					s	s	
Cathartes melambrotus Wetmore, 1964	M,T,R, 1, s	P,T, 1, s	M,R, 1, s				M, 4, s
Coragyps atratus (Bechstein, 1793)	R,2, s	S,R, 2, s	M,R, 1, s	s	s	s	M, 4, s
Sarcoramphus papa (Linnaeus, 1758)	T,S, 2, s			s	s	s	M, 4, s
ACCIPITRIDAE							
Leptodon cayanensis (Latham, 1790)				s		s	
Elanoides forficatus (Linnaeus, 1758)	R,A, 2, s		R, 4, s		s		M, 4

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
Elanus leucurus (Vieillot, 1818)					s		
Ictinia plumbea (Gmelin, 1788)	T,S, 2, s	S,R, 3, s					
Accipiter poliogaster (Temminck, 1824)	R, 4, s						M, 4, c
Leucopternis albicollis (Latham, 1790)						s	
Buteogallus urubitinga (Gmelin, 1788)			R, 4, s				
Busarellus nigricollis (Latham, 1790)	R, 3, s						
Rupornis magnirostris (Gmelin, 1788)	R, 3, s	S,R, 2, s	S, 2, s		s	s	M, 4
Buteo nitidus (Latham, 1790)				s	s	s	
Morphnus guianensis (Daudin, 1800)		R, 4, s,f	R, 4, s				
Harpia harpyja (Linnaeus, 1758)				s,f			
Spizaetus tyrannus (Wied, 1820)	R, 3, s,v			s			
Spizaetus ornatus (Daudin, 1800)			M, 4, s				M, 4
FALCONIDAE							
Daptrius ater Vieillot, 1816	M, 3, s	P, 3, s	M, 3, s			s	M, 1,
Ibycter americanus (Boddaert, 1783)	M,T, 3, s,v	P,R, 2, s,v	M, 2	c			M, 1, c
Herpetotheres cachinnans (Linnaeus, 1758)					s		M, 3
Micrastur ruficollis (Vieillot, 1817)	M, 1, v		M, 3, v			s	M, 1
Micrastur mintoni Whittaker, 2002			M, 2, s,v,n				
Micrastur gilvicollis (Vieillot, 1817)							M, R, 3, c
Micrastur mirandollei (Schlegel, 1862)			M, 4, s,v			c	
Micrastur semitorquatus (Vieillot, 1817)	M, 1, v	P, S, 1, v	M, 3, v			s	M, 1, v
Falco rufigularis Daudin, 1800	R, 3, s	R, 3, s		s		s	M, 4, s
PSOPHIIDAE							
Psophia leucoptera Spix, 1825							M, 2, s,c
Psophia viridis Spix, 1825	M, 3, s	P, 4, s	M, 4, s			s	
RALLIDAE							
Aramides cajanea (Statius Muller, 1776)	S, 4, v					s	R, 2, v,c
Laterallus viridis (Statius Muller, 1776)				s		s	
Porphyrio martinica (Linnaeus, 1766)	R, 2, s						
HELIORNITHIDAE							
Heliornis fulica (Boddaert, 1783)	R, 3, s						
EURYPYGIDAE							
Eurypyga helias (Pallas, 1781)	R, 3, s		R, 3, s			s	R, 2, s,c
JACANIDAE							
Jacana jacana (Linnaeus, 1766)	R, 1, s						
CHARADRIIDAE							
Vanellus cayanus (Latham, 1790)			R, 1, s,p				
SCOLOPACIDAE							
Actitis macularius (Linnaeus, 1766)				s			
Gallinago paraguaiae (Vieillot, 1816)	S, 2, s						
Tringa melanoleuca (Gmelin, 1789)			R, 2, s				
STERNIDAE							
Sternula superciliaris (Vieillot, 1819)							R, 4, s
Phaetusa simplex (Gmelin, 1789)			R, 4, s				
Rynchops niger Linnaeus, 1758			R, 4, s				
COLUMBIDAE							
Columbina talpacoti (Temminck, 1811)						s	
Claravis pretiosa (Ferrari-Perez, 1886)					s	s	
Patagioenas speciosa (Gmelin, 1789)	M,T,R,S, 1, s,v	R, 2, s,v	M, 3, s,v		s		M, 3, s
Patagioenas cayennensis (Bonnaterre, 1792)	M,T,R, 2, s,v	P,T,R, 2, s,v					
Patagioenas plumbea (Vieillot, 1818)	M, 3, v	P, 1, v			v,c	s	M, 4, v
Patagioenas subvinacea (Lawrence, 1868)	R, 3, s,v		M, 2, v	s	s	s	M, 1, s,v
Leptotila verreauxi Bonaparte, 1855				s	s	s	
Leptotila rufaxilla (Richard and Bernard, 1792)				s			M, 1, n,c
Geotrygon violacea (Temminck, 1809)						n,c	
Geotrygon montana (Linnaeus, 1758)	M,T, 1, s,n	P, 4, s,n	M, 1, s,n	n,c	n,c	n,c	M, 1, n,c
PSITTACIDAE							
Ara ararauna (Linnaeus, 1758)	M,T,R, 2, s	P,R,S, 1, s	M, 3, s				M, 1, s
Ara macao (Linnaeus, 1758)	M,T, 1, s			s		s	M, 1, s
Ara chloropterus Gray, 1859	M,T,R, 2, s	P,R, 2, s			s		M, 1, s

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
Ara severus (Linnaeus, 1758)	M, 3, s	R, 3, s	R, 4, s	s	s	s	M, 1, s
Orthopsittaca manilata (Boddaert, 1783)		R, S, 1, s	M, 1, s				M, 1, s,c
Aratinga leucophthalma (Statius Muller, 1776)	T, 3, s	S, 4, s		s,c	s	s	
Aratinga weddellii (Deville, 1851)	T,S,R,A, 1, s	R, 4, s		s,c	s	s	M, 1, s
Aratinga aurea (Gmelin, 1788)		S,T, 1, s,p					
Pyrrhura perlata (Spix, 1824)	T, 3, s	R, 4, s	M, 1, s	s		c	
Pyrrhura snethlageae Joseph and Bates, 2002	T,S, 2, s		M, 4, s			s	M, 1, s,c
Brotogeris versicolurus (Statius Muller, 1776)	T, 4, s						
Brotogeris chiriri (Vieillot, 1818)		R, 1, s,p	R, 1, s				
Brotogeris chrysoptera (Linnaeus, 1766)				s	s	s	M, 3, s
Brotogeris sanctithomae (Statius Muller, 1776)	R, 4, s	R, 2, s,p					R, 4, s
Pionites leucogaster (Kuhl, 1820)	M,T, 2, s,v					s	M, 1, s,v
Pyrilia barrabandi (Kuhl, 1820)		P, 4, s,v					M, 3, s,v
Pionus menstruus (Linnaeus, 1766)	M,T, 1, s,v	P,T, 1, s,v	M, 2, s,v	s	s	s	M, 1, s,v
Amazona ochrocephala (Gmelin, 1788)	T, 1, s,v	P,T, 1, s,v		s		s	M, 1, s,v
Amazona kawalli Grantsau and Camargo, 1989							R, 3, s,v
Amazona amazonica (Linnaeus, 1766)	R, 4, s,v	R, 4, s,v					
Amazona farinosa (Boddaert, 1783)	M,R, 3, s,v	P, R, 3, s,v	M, 1, s,v	s	c	s	M, 1, s,v
Deroptyus accipitrinus (Linnaeus, 1758)	M,T, 3, s						M, 4, s
OPISTHOCOMIDAE							
Opisthocomus hoazin (Statius Muller, 1776)	R, 1, s	R, 1, s					
CUCULIDAE							
Piaya cayana (Linnaeus, 1766)	R, 3, s,v	P,T, 2, s,v		s	s	s	M, 1, s,v
Piaya melanogaster (Vieillot, 1817)	M, 2, s	R, 4, s	M, 2, s				M, 3, s,v
Coccycua minuta (Vieillot, 1817)	R, 2, s						R, 3, s,v
Crotophaga major Gmelin, 1788	R, 1, s	R, 1, s		s		s	R, 1, s,v
Crotophaga ani Linnaeus, 1758	A, 3, s	R, 3, s		s		s	
Dromococcyx pavoninus Pelzeln, 1870			M, 4, n,p				
STRIGIDAE							
Megascops choliba (Vieillot, 1817)	T,R, 3, v	P, 2, v		s		s	M, 1, v
Megascops usta (Sclater, 1858)	M,T, 1, v	P,T, 1, v	M, 1, v	s		s	M, 1, v
Lophostrix cristata (Daudin, 1800)	M,T, 3, v		M, 2, v,p	s			M, 3, v
Pulsatrix perspicillata (Latham, 1790)		P, 4, v					M, 3, v
Strix virgata (Cassin, 1849)	M, T, 4, v						
Strix huhula Daudin, 1800	T, 4, v						
Glaucidium hardyi Vielliard, 1990	M,T, 2, v			s		s	M, 3, v
Glaucidium brasilianum (Gmelin, 1788)		P, 2, v		s			M, 4, v
Athene cunicularia (Molina, 1782)					s		
NYCTIBIIDAE							
Nyctibius grandis (Gmelin, 1789)			M, 4, v				
Nyctibius aethereus (Wied, 1820)	M, 4, v						
Nyctibius griseus (Gmelin, 1789)	M, 3, v						
CAPRIMULGIDAE							
Lurocalis semitorquatus (Gmelin, 1789)		R, 3, s,v					
Chordeiles rupestris (Spix, 1825)							R, 4, s
Chordeiles acutipennis (Hermann, 1783)							M, 4, v
Chordeiles minor (Forster, 1771)					s	?	
Caprimulgus nigrescens Cabanis, 1848				s	n,c		
Nyctidromus albicollis (Gmelin, 1789)			M, 4, s,v	s,v	s.v	s,v	M, 4, s,v
Nyctiphrynus ocellatus (Tschudi, 1844)	M, 3, v		M, 4, v	s		s	R, 4, v
Hydropsalis climacocerca (Tschudi, 1844)	S, 3, s	R, S, 2, s					
APODIDAE							
Streptoprocne zonaris (Shaw, 1796)		T,C, 4, s					
Chaetura egregia Todd, 1916							R, 4, s
Chaetura cf. *chapmani* Hellmayr, 1907	T,S, 2, s	R, S, 2, s		s	s	s	
Chaetura meridionalis Hellmayr, 1907	R, 3, s						
Chaetura brachyura (Jardine, 1846)	M,S, 3, s						
Tachornis squamata (Cassin, 1853)	T,S, 2, s	T,C, 2, s		s	s		M, 4, s
Panyptila cayennensis (Gmelin, 1789)			R, 4, s				

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
TROCHILIDAE							
Threnetes leucurus (Linnaeus, 1766)		R, 4, v		s		n,c	
Phaethornis ruber (Linnaeus, 1758)	M,T,S, 1, s	P,T, 2, s	M,P, 2, s,n	s	s,c	s	M, 1, s
Phaethornis ochraceiventris Hellmayr, 1907							R, 1, c
Phaethornis philippii (Bourcier, 1847)							M, R, 3, c
Phaethornis malaris insignis Todd, 1937	S, 4, s	P, 4, n	M, 4, n	n,c	s,c		
Campylopterus largipennis (Boddaert, 1783)	S, 3, s	P, 3	P,M, 4, s,n	n,c	n,c	n	
Florisuga mellivora (Linnaeus, 1758)							M, 1, s
Anthracothorax nigricollis (Vieillot, 1817)	M, 4, s					s	
Topaza pella (Linnaeus, 1758)						s	
Thalurania furcata (Gmelin, 1788)	M,T, 3, s,n	S, 2, s	M, 2, s,n				M, 3, s,c
Hylocharis cyanus (Vieillot, 1818)	S, 3, s					s	
Amazilia versicolor (Vieillot, 1818)					s	s	
Heliothryx auritus (Gmelin, 1788)				s	s		M, 4, s
Heliomaster longirostris (Audebert and Vieillot, 1801)	M, 4, s						
Heliomaster furcifer (Shaw, 1812)				s			
TROGONIDAE							
Trogon viridis Linnaeus, 1766	M, 1, s,v	P,T, 1, s,v	M, 1, s,v	s			M, 1
Trogon collaris Vieillot, 1817	M, 4, s,v			s		c	M, 2
Trogon rufus Gmelin, 1788						s	M, 2
Trogon melanurus Swainson, 1838	M, I, 2, s,v	P, 2, s,v	M, 1, s,v	s		s	M, 1
Pharomachrus pavoninus (Spix, 1824)			M, 1			s	R, 4
ALCEDINIDAE							
Megaceryle torquata (Linnaeus, 1766)	R, 1, s	R, 1, s	R, 1, s				R, 4
Chloroceryle amazona (Latham, 1790)	R, 1, s	R, 1, s	R, 1, s	s			R, 4
Chloroceryle americana (Gmelin, 1788)	R, 1, s	R, 1, s	R, 1, s		s		R, 3, s
Chloroceryle inda (Linnaeus, 1766)		R, 2, s					R, 4, n,c
Chloroceryle aenea (Pallas, 1764)						s	R, 3, n,c
MOMOTIDAE							
Electron platyrhynchum (Leadbeater, 1829)	M, 2, s,v	P, 1, v	M, 1, s,v		n,c	s	M, R, 1, s, v, n, c
Baryphthengus martii (Spix, 1824)	M, 2, v,n	P, 2, v	M, 1, v,n	n,c	n,c	n	M, 1, n,c,p
Momotus momota (Linnaeus, 1766)	M, 3, s,v	P, 1, s,v	M, 1, s,v	s		n	M, 1
GALBULIDAE							
Brachygalba lugubris (Swainson, 1838)		R, T, 1, s	R, 4, s,p		s		
Galbula albirostris Latham, 1790							M, 3, n,c,p
Galbula cyanicollis Cassin, 1851	M, 4, s		M, 3, s,n,p			s	
Galbula ruficauda Cuvier, 1816				s		n,c,p	R, 4, s,c
Galbula cyanescens Deville, 1849							M, 4, s,c
Galbula dea (Linnaeus, 1758)		P, R, 2, s,v			s,c		M, 3, s,c
Jacamerops aureus (Statius Muller, 1776)		P, 1, v		c		s	M, 4, s
Notharchus macrorhynchos (Gmelin, 1788)							M, 4, s,c
BUCCONIDAE							
Bucco tamatia Gmelin, 1788		S, 3, s,n.p					
Malacoptila rufa (Spix, 1824)	M, 4, n,p	P, 4, s	M, 3, s,n,p			n,c	M, 4, n,c
Nonnula ruficapilla (Tschudi, 1844)	M, 3, n,p				n,c		
Monasa nigrifrons (Spix, 1824)	R, 1, s,v	R, 1, s,v	R, 1, s,v	s		s	R, 1, s
Monasa morphoeus (Hahn and Küster, 1823)	M, 2, s,v	P, 2, s,v	M, 3, s,v	c	n,c	s	M, 1, s,c
Chelidoptera tenebrosa (Pallas, 1782)	M,T,R,S, 1, s,n	P,T,R, 1, s	R, 1, s	s			M, 4, s
CAPITONIDAE							
Capito dayi Cherrie, 1916	M, 4, s				s	s	
Capito niger (Statius Muller, 1776)							M, 2, s
RAMPHASTIDAE							
Ramphastos toco Statius Muller, 1776		T, 3, s,v					
Ramphastos tucanus Linnaeus, 1758	M,T,R, 1, s,v	P,T,R, 1, s,v	M, 1, s,v	s		s	M, R, 1, s
Ramphastos vitellinus Lichtenstein, 1823	M, 1, s,v	P, 1, s,v	M, 2, s,v	s			M, 4, s
Selenidera reinwardtii (Wagler, 1827)							M, 4, s
Selenidera gouldii (Natterer, 1837)		P,T, 1, n,p	M, 2, s,n,p	s	c	c	
Pteroglossus inscriptus Swainson, 1822	M,T, 4, s			s			

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
Pteroglossus bitorquatus Vigors, 1826	M,R, 2, s						
Pteroglossus azara (Vieillot, 1819)				s			
Pteroglossus mariae Gould, 1854							M, 4, n,p,c
Pteroglossus castanotis Gould, 1834	M,T, 3, s	P,T, 3, s	R, 4, s	s	s		
PICIDAE							
Picumnus aurifrons Pelzeln, 1870	M,S, 2, n,c	S, 3, s,n.p	M, 4, s				
Veniliornis affinis (Swainson, 1821)	M, 4, s	P, 4, s	M, 3, s	n,c		c	
Piculus leucolaemus (Natterer and Malherbe, 1845)						c	
Piculus flavigula (Boddaert, 1783)		P, 3, s,v	M, 2, s,v	s			
Piculus chrysochloros (Vieillot, 1818)	M, 4, s,v			s		s	M, 3, s
Celeus grammicus (Natterer and Malherbe, 1845)	M, 4, s		M, 4, s	s	n,c		
Celeus elegans (Statius Muller, 1776)	M, 4, s		M, 4, s	s		s	
Celeus flavescens (Gmelin, 1788)						s	
Celeus flavus (Statius Muller, 1776)	M,R, 3, s						
Celeus torquatus (Boddaert, 1783)		P, 3, s	M, 3, s				M, 4, c
Dryocopus lineatus (Linnaeus, 1766)			M, 4, s,v				M, 4, s,v
Melanerpes cruentatus (Boddaert, 1783)	M,T,A, 1, s	P,R, 1, s	S, 4, s	s	s	s	
Campephilus melanoleucos (Gmelin, 1788)				s			M, 3, s,v
Campephilus rubricollis (Boddaert, 1783)	M, 1, s,v	P, 1, s,v	M, 1, s,v			s	M, R, 1, c
MELANOPAREIIDAE							
Melanopareia torquata (Wied, 1831)		S, 4, v					
THAMNOPHILIDAE							
Cymbilaimus lineatus (Leach, 1814)	M, 3, s,v	P, 4, s,v			s	s	R, 4, c
Taraba major (Vieillot, 1816)	S,A, 4, s,v	R, 1, s,v			s		
Thamnophilus doliatus (Linnaeus, 1764)		R, 1, s,v					
Thamnophilus aethiops Sclater, 1858	M, 2, s,v	P, 4, v			n,c	n,c	M, 2, c
Thamnophilus schistaceus d'Orbigny, 1835	M, 4, n,p	P, 2, s,v	M, 2, n,p	s		s	
Thamnophilus murinus Sclater and Salvin, 1868				s	c		
Thamnophilus stictocephalus Pelzeln, 1868		S, 2, s,v,n.p	T, 2, s,v		n,c	c	
Megastictus margaritatus (Sclater, 1855)							M, 1, c
Dysithamnus mentalis (Temminck, 1823)				s			
Thamnomanes saturninus (Pelzeln, 1878)	M, 1, s,n,p	P, 1, s,n	M, 1, s,n,p	s		c	
Thamnomanes caesius (Temminck, 1820)	M, 4, n,p		M, 1, s,v		c	c	M, R, s,v,c
Pygiptila stellaris (Spix, 1825)			M, 2, s				
Epinecrophylla leucophthalma (Pelzeln, 1868)	M, 4, s		M,P, 1, s,n,p	n,c,p	c	n,c	
Epinecrophylla haematonota (Sclater, 1857)							M, 1, c
Epinecrophylla ornata (Sclater, 1853)					c	s	M, 4
Myrmotherula brachyura (Hermann, 1783)	M, 3, s		M, 4, s	s		s	
Myrmotherula sclateri Snethlage, 1912	M, 3, s			s		s	
Myrmotherula multostriata Sclater, 1858		P, 4, s					
Myrmotherula hauxwelli (Sclater, 1857)	M, 2, s,n,p	P, 2, s,n,p	M, 3, s,n,p			c	M, 4, c
Myrmotherula axillaris (Vieillot, 1817)		P, 1, s,n,p	M, 1, s,n,p	s	c	c	M, 2, c
Myrmotherula longipennis Pelzeln, 1868	M, 1, s	P, 3, s,n,p	M, 1, s,n,p	n		n,c	M, 4, c
Myrmotherula menetriesii (d'Orbigny, 1837)	M, 2, s						M, 4, s
Herpsilochmus rufimarginatus (Temminck, 1822)			M, 2, s,v		s		
Microrhopias quixensis (Cornalia, 1849)	M, 3, s,v			s	n,c,p	s	M, 1, s,c
Formicivora grisea (Boddaert, 1783)	S, 3, s,n,c	S, 1, s,n,p	S, 1, s				
Formicivora rufa (Wied, 1831)	S, 2, s						
Terenura humeralis Sclater and Salvin, 1880							M, 4, s
Cercomacra cinerascens (Sclater, 1857)	M, 1, v	P, 1, v	M, 4, v			s,v	M, 1, s
Cercomacra nigrescens (Cabanis and Heine, 1859)				s,v	n,c,p		M, 1, s,c
Myrmoborus leucophrys (Tschudi, 1844)					n,c,p		
Myrmoborus myotherinus (Spix, 1825)	M,T, 1	P,T, 1	M, 1	s,v,c		s,v,c	M, 1, s,c
Hypocnemoides melanopogon (Sclater, 1857)							R, 2, s,v,c
Hypocnemis peruviana Taczanowski, 1884							M, R, 1, s,c
Hypocnemis ochrogyna Zimmer, 1932	M, 1, s,v,n	P,T, 1, s,v	M, 1, s,n,p	s	c	c	
Sclateria naevia (Gmelin, 1788)	R, 4, s,v	R, 4, v		s			R, 1, s,v
Schistocichla leucostigma (Pelzeln, 1868)				c		s	R, 4, c
Myrmeciza hemimelaena Sclater, 1857	M, 3, s,v	P, 2, s,v	T, 4, s,v	s		s	

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
Myrmeciza atrothorax (Boddaert, 1783)	T,S, 2, s,v				c	s	M, 4, s,v
Myrmeciza fortis (Sclater and Salvin, 1868)							M, R, 1, s,c
Gymnopithys salvini (Berlepsch, 1901)							M, R, 1, s,c
Rhegmatorhina hoffmannsi (Hellmayr, 1907)	M, 3, n,c,p	P, 4, s,n,p	M, 1, s,n,p			M, 4, s	
Hylophylax naevius (Gmelin, 1789)		P, 4, s,n,p	M, 2, s,n,p			n,c	M, 4, s,c
Hylophylax punctulatus (Des Murs, 1856)							R, 2, s,c
Willisornis poecilinotus (Cabanis, 1847)	M,T, 1, s,n,p	P,T, 1, s,n,p	M, 1, s,n,p	s,n,c		s	M, R, 1, s,c
Phlegopsis nigromaculata (d'Orbigny and Lafresnaye, 1837)		P, 4, s,v	M, 1, s,v,n,p	c		s	
CONOPOPHAGIDAE							
Conopophaga aurita (Gmelin, 1789)	M, 3, s,n,p					s	
GRALLARIIDAE							
Grallaria varia (Boddaert, 1783)							M, 4, v
Myrmothera campanisona (Hermann, 1783)	M, 2, n		M, 2, n,p				M, 1, c
RHINOCRYPTIDAE							
Liosceles thoracicus (Sclater, 1865)	M, T, 1, s		M, 4, s	c	n,c	c	
FORMICARIIDAE							
Formicarius colma Boddaert, 1783	M, 2, v		M, 2, v	s		c	M, R, 1, n,c
Formicarius analis (d'Orbigny and Lafresnaye, 1837)	M, 1, v	P, 4, v	M, 2, v			n,c	
SCLERURIDAE							
Sclerurus mexicanus Sclater, 1857	M, 2					c	
Sclerurus rufigularis Pelzeln, 1868		P, 2, n	M,P, 2, n,p				M,1,c
Sclerurus caudacutus (Vieillot, 1816)				c		c	M, 4, c
DENDROCOLAPTIDAE							
Dendrocincla fuliginosa (Vieillot, 1818)			M, 4, n,p	c		c	M, 3, c
Dendrocincla merula (Lichtenstein, 1829)	M, 2, n,p	P, 4, n,p	M, 1, n,p	c		c	M, R, 3, n,c
Deconychura longicauda (Pelzeln, 1868)		P, 4, n,p		c	c	c	M, 4, c
Deconychura stictolaema (Pelzeln, 1868)	M, 3, n,p		M, 4, n,p	c		c	M, R, 2, c
Sittasomus griseicapillus (Vieillot, 1818)	M, 4, s	P, 2, s	M, 2, s	c	c		M, 1
Glyphorynchus spirurus (Vieillot, 1819)	M, 2, n	P, T, 1, n	P,M, 1, c	c	c	s	M, R, 1, c
Nasica longirostris (Vieillot, 1818)							R, 3
Dendrexetastes rufigula (Lesson, 1844)	R, 4, v					c	
Hylexetastes uniformis Hellmayr, 1909	M, 4, n,p	P, 4, s	M, 3, s,n,p				
Xiphocolaptes promeropirhynchus (Lesson, 1840)		P, 2, s,v				s	R,
Dendrocolaptes certhia (Boddaert, 1783)							M,1,c
Dendrocolaptes [*certhia*] *concolor* Pelzeln, 1868			M, 4, n,p				
Dendrocolaptes picumnus Lichtenstein, 1820						s	
Dendroplex picus (Gmelin, 1788)	T, 4, s,v	T, 2, s,v	M, 2, s,v		c	s	
Xiphorhynchus ocellatus (Spix, 1824)							M,R, 1, c
Xiphorhynchus elegans (Pelzeln, 1868)	M,T, 1, s,v,n	P,T, 1, s,v,n	M, 1, s,v,n	c	s	s	M,1,c
Xiphorhynchus guttatus (Lichtenstein, 1820)	M, 4, s,v						M,3,c
Lepidocolaptes albolineatus (Lafresnaye, 1845)			M, 4, s,v	c			
Campylorhamphus procurvoides (Lafresnaye, 1850)		P, 4, s	M, 4, s				M,3,c
FURNARIIDAE							
Synallaxis hypospodia Sclater, 1874							M, 4
Synallaxis rutilans Temminck, 1823	M, 2, s,v	P, 3, s,v	M, 2, s,v				M, 4, c
Synallaxis gujanensis (Gmelin, 1789)							M, 4
Berlepschia rikeri (Ridgway, 1886)							M, 3
Ancistrops strigilatus (Spix, 1825)			M, 4, n			c	M, 4, c
Hyloctistes subulatus (Spix, 1824)	M, 3, n		M, 2	c			
Philydor ruficaudatum (d'Orbigny and Lafresnaye, 1838)		P, 4					M, 4, c
Philydor erythrocercum (Pelzeln, 1859)	M, 4	P, 4	M, 4			c	M, 4, c
Philydor erythropterum (Sclater, 1856)				s		s	
Philydor pyrrhodes (Cabanis, 1848)		P, 4, s					M, 3, c
Automolus ochrolaemus (Tschudi, 1844)	M, 2, n,c	P, 2, s,n	M, 1, s,n		s	s	M, 1, c
Automolus infuscatus (Sclater, 1856)							M, 1, c
Automolus paraensis Hartert, 1902		P, 2, s		n		c	
Xenops milleri (Chapman, 1914)		P, 3, s	M, 4, s			s	
Xenops minutus (Sparrman, 1788)	M, 2, n	P,T, 2, n	M, 1, n	c	s		M, 2, c
Xenops rutilans Temminck, 1821	M, 2	P, 4		s			

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
TYRANNIDAE							
Mionectes oleagineus (Lichtenstein, 1823)	M, 2, n	P,T,S, 1, n,p	M, 1, n,p	s	c	c	M,1,c
Leptopogon amaurocephalus Tschudi, 1846	M, 3, n,p	P, 2, n,p	M, 1, n,p	s	c	c	M,4,s,v
Corythopis torquatus (Tschudi, 1844)	M,T, 1,n	P,T, 1,n	M, 1, n	n,c		n,c	M,1,s,n,c
Hemitriccus minor (Snethlage, 1907)		T, 3	M,p,1			c	M,4,n,c
Hemitriccus griseipectus (Snethlage, 1907)	M, 2	P, 1					
Hemitriccus striaticollis (Lafresnaye, 1853)		S,T, 2, n,c,p					
Hemitriccus minimus (Todd, 1925)			P, 1, s,v				
Todirostrum maculatum (Desmarest, 1806)							M,4,s,v
Todirostrum chrysocrotaphum Strickland, 1850							M,4,s,v
Tyrannulus elatus (Latham, 1790)	T,S, 2, s	P, 3, s	M, 3, s,v				M,4,v
Myiopagis gaimardii (d'Orbigny, 1839)	M, 3, v						
Elaenia cristata Pelzeln, 1868	S, 1, n,c	S, 1, n,p					
Zimmerius gracilipes (Sclater and Salvin, 1868)	M, 3, s,v	T, 4, s,v					M,3,c
Ornithion inerme Hartlaub, 1853							R,3,v
Camptostoma obsoletum (Temminck, 1824)						s	R,4,v
Phaeomyias murina (Spix, 1825)		S, 2, n,p					
Myiornis ecaudatus (d'Orbigny and Lafresnaye, 1837)				s, G	s	s	M,2,c
Cnipodectes subbrunneus (Sclater, 1860)							M,R,3,c
Rhynchocyclus olivaceus (Temminck, 1820)		P, 3	M, 4				M,3,c
Tolmomyias sulphurescens (Spix, 1825)		S, 2					M,4,s.v
Tolmomyias poliocephalus (Taczanowski, 1884)			M, 3		c	s	M,4,s,v
Tolmomyias flaviventris (Wied, 1831)	S, 4	S, 1					
Platyrinchus coronatus Sclater, 1858							M,2,c
Platyrinchus platyrhynchos (Gmelin, 1788)	M, 2						M,3,c
Onychorhynchus coronatus (Statius Muller, 1776)						c	
Myiobius barbatus (Gmelin, 1789)		P, 4		c			
Terenotriccus erythrurus (Cabanis, 1847)		P, 4, s,n	M, 1, s,n	c			R,4,s,v
Contopus virens (Linnaeus, 1766)				c		s	
Pyrocephalus rubinus (Boddaert, 1783)			R, 4				
Ochthornis littoralis (Pelzeln, 1868)		R, 1, s,p	R, 1, s				R,1,s,v
Legatus leucophaius (Vieillot, 1818)			M, 4	s			
Myiozetetes cayanensis (Linnaeus, 1766)	R, 1, s,v	S,R, 1, s,v					
Myiozetetes similis (Spix, 1825)		R, 1, s,v	R, 1, s,v	s	s	s	
Pitangus sulphuratus (Linnaeus, 1766)						s	
Philohydor lictor (Lichtenstein, 1823)	R, 1, s,v						
Myiodynastes maculatus (Statius Muller, 1776)		P, 2, s,v					M,4,s,v
Megarynchus pitangua (Linnaeus, 1766)			S, 4			s	M,4,s,v
Tyrannopsis sulphurea (Spix, 1825)							R,4,s,v
Conopias trivirgatus (Wied, 1831)				s			
Empidonomus varius (Vieillot, 1818)		S,T, 3, s,v					
Griseotyrannus aurantioatrocristatus (d'Orbigny and Lafresnaye, 1837)		S,T, 2, s					
Tyrannus melancholicus Vieillot, 1819	S, 2, s,v	S,R, 1, s,v		s	s	s	
Tyrannus savana Vieillot, 1808		S,T, 2, s		s		s	R,4,s
Rhytipterna simplex (Lichtenstein, 1823)	M, 2, s,v	P, 1, s,v	M, 1, s,v,n				
Rhytipterna immunda (Sclater and Salvin, 1873)		T, 4, s		s		s	
Sirystes sibilator (Vieillot, 1818)	M, 3, s,v	P, 2, s,v	M, 2, s,v				
Casiornis rufus (Vieillot, 1816)			T, 4,p				
Myiarchus ferox (Gmelin, 1789)			S, 4				
Ramphotrigon ruficauda (Spix, 1825)	M, 3	P, 1	M, 1	c	s	s	M,4,c
Attila bolivianus Lafresnaye, 1848	M,T, 1	P,T, 1	M, 4			s	
Attila spadiceus (Gmelin, 1789)	M, 2	P, 1	M, 1	s	s	s	M,1,v
Attila phoenicurus Pelzeln, 1868						s	
COTINGIDAE							
Cotinga maynana (Linnaeus, 1766)	M,T, 3						
Cotinga cayana (Linnaeus, 1766)	M, 4						M,R,4,s
Gymnoderus foetidus (Linnaeus, 1758)	T, 4	R, 4		s	c	s	R,2,s
Lipaugus vociferans (Wied, 1820)	M, 1	P, 1	M, 1	s	s	s	

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
Querula purpurata (Statius Muller, 1776)		P, 3	M, 3	s		c	M,1,s,v
Cephalopterus ornatus Geoffroy Saint-Hilaire, 1809	M, 4						
PIPRIDAE							
Neopelma pallescens (Lafresnaye, 1853)		S,T, 2					
Tyranneutes stolzmanni (Hellmayr, 1906)	M, 3	P, 1	M, 1	s		s	M,4,s
Piprites chloris (Temminck, 1822)						s	
Machaeropterus pyrocephalus (Sclater, 1852)	M, 2	S,T, 2	M, P, 1		c		
Lepidothrix coronata (Spix, 1825)							M,R,1,c
Lepidothrix nattereri (Sclater, 1865)	M,T, 1	P,T, 1	M,P, 1	c	c		
Manacus manacus (Linnaeus, 1766)	T, 1				c		M,4,s,v
Chiroxiphia pareola (Linnaeus, 1766)	R, 4	P,T, 3	M, 2				
Xenopipo atronitens Cabanis, 1847	S, 4,c	S,T, 2					
Heterocercus linteatus (Strickland, 1850)		P,T, 2	M, 2		c		
Pipra aureola (Linnaeus, 1758)							M,4,c
Pipra fasciicauda Hellmayr, 1906	M, 4			c		c	
Pipra rubrocapilla Temminck, 1821	M,T, 1	P,T, 1	M,P, 1			c	M,2,s,v
TITYRIDAE							
Schiffornis major Des Murs, 1856							R, 2, c
Schiffornis turdina (Wied, 1831)	M,T, 1	P,T, 1	M, 1	c	c		M,1,c
Laniocera hypopyrra (Vieillot, 1817)	M, 2		M, 2			s	
Iodopleura isabellae Parzudaki, 1847		P, 2			s		M,4,s
Tityra inquisitor (Lichtenstein, 1823)	R, 4	T, 4					
Pachyramphus polychopterus (Vieillot, 1818)	M, 4			s		s	
Pachyramphus marginatus (Lichtenstein, 1823)							M,4,s,v
VIREONIDAE							
Cyclarhis gujanensis (Gmelin, 1789)		P, 1	M, 2				M,2,s,v
Vireolanius leucotis (Swainson, 1838)	M, 3					s	
Vireo olivaceus (Linnaeus, 1766)		T, 4	M, 2			s	
Hylophilus semicinereus Sclater and Salvin, 1867							M,4,s,v
Hylophilus hypoxanthus Pelzeln, 1868	M, 4, s						
Hylophilus muscicapinus Sclater and Salvin, 1873		P, 4, s	M, 2, s				
Hylophilus ochraceiceps Sclater, 1860				c		c	
CORVIDAE							
Cyanocorax [*chrysops*] *diesingii* Pelzeln, 1856	T, 4, s	P,T,S, 1, s,n,c,p					
HIRUNDINIDAE							
Atticora tibialis (Cassin, 1853)		P,S, 3					
Tachycineta albiventer (Boddaert, 1783)	R, 1	R, 1	R, 1				
Progne tapera (Vieillot, 1817)				s			
Progne chalybea (Gmelin, 1789)	R, 1	R, 1	R, 1			s	
Atticora fasciata (Gmelin, 1789)	R, 1	R, 1	R, 1	s	s	s	
Stelgidopteryx ruficollis (Vieillot, 1817)	R,S, 1, n,c	R, 3, s	R, 1, s,v		s	s	
TROGLODYTIDAE							
Campylorhynchus turdinus (Wied, 1831)	R, 4, s,v		R, 1, s,v	s		s	
Pheugopedius genibarbis (Swainson, 1838)	R, 4, s,v	R, 1, s,v		s	c	c	R,3,s,v
Cantorchilus leucotis (Lafresnaye, 1845)	S, 3, n,c						M,R,1,s,v
Troglodytes musculus Naumann, 1823				s	s	s	
Microcerculus marginatus (Sclater, 1855)	M, 1, s,n,p	P, 1, s,v	M, 2, s,n,p	c		c	M,1,c
Cyphorhinus arada (Hermann, 1783)						n,c,p	M,1,s,v
DONACOBIIDAE							
Donacobius atricapilla (Linnaeus, 1766)	R, 1, s,v	R, 1, s,v					
POLIOPTILIDAE							
Ramphocaenus melanurus Vieillot, 1819						s,v	
TURDIDAE							
Catharus ustulatus (Nuttall, 1840)						n,c,p	
Turdus leucomelas Vieillot, 1818			M, 4, n,p		s		M,R, 1, c
Turdus amaurochalinus Cabanis, 1850							M,4,c
Turdus lawrencii Coues, 1880			M, 4				M,3,c
Turdus fumigatus Lichtenstein, 1823				s			
Turdus albicollis Vieillot, 1818	M, 1	P,T, 1	M, P, 1			c	M,4,c

Taxa	Traçadal	Serra Cutia March	Serra Cutia August	Uru-Eu Jamari	Uru-Eu Urupá	Uru-Eu Alto Jamari	Mujica Nava
COEREBIDAE							
Coereba flaveola (Linnaeus, 1758)				s	c		M,2,s,v
CARDINALIDAE							
Habia rubica (Vieillot, 1817)	M, 3	P, 3		c		s	
Cyanoloxia cyanoides (Lafresnaye, 1847)					s,v	s,v	R, 4, c
THRAUPIDAE							
Saltator grossus (Linnaeus, 1766)	M,4,s,v	P,4,s,v				s,v	M,R,1,s,c
Saltator maximus (Statius Muller, 1776)	S,4,s				s,v	s,v	M,1,s,v
Parkerthraustes humeralis (Lawrence, 1867)				s			
Cissopis leverianus (Gmelin, 1788)	R, 3			s		s	M,4,s
Eucometis penicillata (Spix, 1825)							M,3,s
Tachyphonus cristatus (Linnaeus, 1766)	M, 3	P, 3	M, 2	s		s	M,4,s
Tachyphonus luctuosus d'Orbigny and Lafresnaye, 1837				c		s	M,4,s
Tachyphonus phoenicius Swainson, 1838	S, 2	S, 1					
Lanio versicolor (d'Orbigny and Lafresnaye, 1837)	M, 3		M, 2	n,c,p		n,c	M,3,s
Ramphocelus carbo (Pallas, 1764)	R, A, 1	R, 1		s	c	s	R,4,s
Thraupis episcopus (Linnaeus, 1766)	R,A, 3	R, 1		s	s	s	M,4,s
Thraupis palmarum (Wied, 1823)		P, 3		s	s	s	M,3,s
Tangara mexicana (Linnaeus, 1766)							M,4,s
Tangara chilensis (Vigors, 1832)	M,T, 1	P,T, 1	M, 3	s		s	M,1,s
Tangara gyrola (Linnaeus, 1758)		P,T, 1	M, 3			s	
Tangara nigrocincta (Bonaparte, 1838)		P, 3					
Tangara velia (Linnaeus, 1758)	M, 1	P,T, 1	M, 2	s			
Tangara callophrys (Cabanis, 1849)		P, 3					
Tersina viridis (Illiger, 1811)		T, 1	R, 3	s		s	
Dacnis lineata (Gmelin, 1789)						s	M,4,s
Dacnis cayana (Linnaeus, 1766)	M,S, 1	P,S, 1	M, 2				M,4,s
Cyanerpes nitidus (Hartlaub, 1847)		P,T,S, 1					
Cyanerpes caeruleus (Linnaeus, 1758)	M, 1	S,T, 1	M, 2			s	
Cyanerpes cyaneus (Linnaeus, 1766)	S, 4	P, 4	M, 3				
Chlorophanes spiza (Linnaeus, 1758)	M, 2	P, 2	M, 2	s	s	s	
Hemithraupis flavicollis (Vieillot, 1818)	M,T,1,s	P,T,1,s	M,1,s	s,v		s,v	M,4,s,v
EMBERIZIDAE							
Zonotrichia capensis (Statius Muller, 1776)					s,v		
Ammodramus aurifrons (Spix, 1825)				s		s	R,4,s,v
Volatinia jacarina (Linnaeus, 1766)				s			R,4,s,v
Sporophila plumbea (Wied, 1830)		S,4,s					
Sporophila caerulescens (Vieillot, 1823)					s		
Sporophila castaneiventris Cabanis, 1849						s	
Arremon taciturnus (Hermann, 1783)	M,T,1,s,n		M,3,s				
Paroaria gularis (Linnaeus, 1766)	R,2,s	R,1,s		s		s	R,4,s,v
PARULIDAE							
Parula pitiayumi (Vieillot, 1817)							M,4,s,v
Phaeothlypis fulvicauda (Spix, 1825)						n,c,p	
ICTERIDAE							
Psarocolius angustifrons (Spix, 1824)							M,2,s
Psarocolius viridis (Statius Muller, 1776)			M, 3	s		s	M,3,s
Psarocolius decumanus (Pallas, 1769)	M, 1, s	R, 1, s	M,R, 3	s		s	
Psarocolius bifasciatus yuracares (Lafresnaye and d'Orbigny, 1838)	M,4,s		M,3,s				
Cacicus cela (Linnaeus, 1758)		R,1,s	R,1,s	s		s	R,1,s
Icterus cayanensis (Linnaeus, 1766)		T,4,s	M,3,s	s			R,1,c
Molothrus bonariensis (Gmelin, 1789)						s	
Molothrus oryzivorus (Gmelin, 1788)			R,4,s	s			R,4,s
FRINGILLIDAE							
Euphonia chlorotica (Linnaeus, 1766)		S,R,1,s		s,v			
Euphonia laniirostris d'Orbigny and Lafresnaye, 1837		P,4,s					
Euphonia rufiventris (Vieillot, 1819)	M,3,s	P,T,3,s	M,3,s	s			

TABLE 2: Birds mist-netted in four localities in Rondônia, Brazil. Numbers in parenthesis show the percentage of all captures in a given site, the other number represents the actual number of captures.

Taxon	Traçadal			Serra da Cutia			Uru-Eu-Wau-Wau			Mujica Nava	
	Terra Firme	Transition	Savanna	Savanna	Palm Forest	Terra Firme	Jamari	Urupá	Alto Jamari	Varzea	Terra Firme
TINAMIDAE											
Crypturellus aff. *bartletii* (Sclater and Salvin, 1873)										1 (2.3)	
ACCIPITRIDAE											
Accipiter poliogaster (Temminck, 1824)											1 (0.9)
FALCONIDAE											
Micrastur mintoni Whittaker, 2002						1 (0.6)				1 (2.3)	1 (0.9)
COLUMBIDAE											
Leptotila rufaxilla (Richard and Bernard, 1792)										1 (2.3)	
Geotrygon violacea (Temminck, 1809)									6 (4.5)		
Geotrygon montana (Linnaeus, 1758)	14 (11.1)	2 (22.2)			1 (1.2)	5 (2.8)	2 (2.6)	1 (1.2)	5 (3.8)	1 (2.3)	2 (1.7)
CUCULIDAE											
Dromococcyx pavoninus Pelzeln, 1870						1 (0.6)					
CAPRIMULGIDAE											
Caprimulgus nigrescens Cabanis, 1848								1 (1.2)			
TROCHILIDAE											
Threnetes leucurus (Linnaeus, 1766)									2 (1.5)		
Phaethornis ruber (Linnaeus, 1758)					1 (1.2)			1 (1.2)			
Phaethornis ochraceiventris Hellmayr, 1907							1 (1.3)	1 (1.2)		4 (9.3)	
Phaethornis philippii (Bourcier, 1847)	2 (1.6)									1 (2.3)	2 (1.7)
Phaethornis malaris insignis Todd, 1937					1 (1.2)		2 (2.6)	1 (1.2)			
Campylopterus largipennis (Boddaert, 1783)						1 (0.6)	1 (1.3)	2 (2.4)	1 (0.8)		
Thalurania furcata (Gmelin, 1788)	2 (1.6)			1 (1.9)		4 (2.3)					1 (0.9)
ALCEDINIDAE											
Chloroceryle inda (Linnaeus, 1766)										1 (2.3)	
Chloroceryle aenea (Pallas, 1764)										1 (2.3)	
MOMOTIDAE											
Electron platyrhynchum (Leadbeater, 1829)							1 (1.3)			1 (2.3)	
Baryphthengus ruficapillus (Vieillot, 1818)	1 (0.8)					1 (0.6)	1 (1.3)	1 (1.2)			1 (0.9)
Momotus momota (Linnaeus, 1766)									1 (0.8)		
GALBULIDAE											
Galbula albirostris Latham, 1790											1 (0.9)
Galbula cyanicollis Cassin, 1851						2 (1.1)				1 (2.3)	
Galbula ruficauda Cuvier, 1816									3 (2.3)		

Taxon	Traçadal			Serra da Cutia			Uru-Eu-Wau-Wau			Mujica Nava	
	Terra Firme	Transition	Savanna	Savanna	Palm Forest	Terra Firme	Jamari	Urupá	Alto Jamari	Varzea	Terra Firme
BUCCONIDAE											
Bucco tamatia Gmelin, 1788				2 (3.8)							
Malacoptila rufa (Spix, 1824)	1 (0.8)					2 (1.1)			2 (1.5)		1 (0.9)
Nonnula ruficapilla (Tschudi, 1844)	4 (3.2)							1 (1.2)			
Monasa morphoeus (Hahn and Küster, 1823)							1 (1.3)	1 (1.2)			1 (0.9)
Chelidoptera tenebrosa (Pallas, 1782)			5 (18.5)								
RAMPHASTIDAE											
Selenidera gouldii (Natterer, 1837)					3 (3.6)	1 (0.6)	1 (1.3)	1 (1.2)			
Pteroglossus mariae Gould, 1854											6 (5.1)
PICIDAE											
Picumnus aurifrons Pelzeln, 1870			1 (3.7)	1 (1.9)							
Veniliornis affinis (Swainson, 1821)									1 (0.8)		
Celeus grammicus (Natterer and Malherbe, 1845)							1 (1.3)				
THAMNOPHILIDAE											
Cymbilaimus lineatus (Leach, 1814)										1 (2.3)	
Thamnophilus aethiops Sclater, 1858								2 (2.4)	1 (0.8)		3 (2.6)
Thamnophilus schistaceus d'Orbigny, 1835	2 (1.6)					1 (0.6)					
Thamnophilus stictocephalus Pelzeln, 1868								2 (2.4)			
Megastictus margaritatus (Sclater, 1855)											3 (2.6)
Thamnomanes saturninus (Pelzeln, 1878)	6 (4.8)				4 (4.8)	9 (5.1)	2 (2.6)		6 (4.5)		
Thamnomanes caesius (Temminck, 1820)	1 (0.8)								1 (0.8)	1 (2.3)	2 (1.7)
Pygiptila stellaris (Spix, 1825)										2 (4.7)	
Epinecrophylla leucophthalma (Pelzeln, 1868)						4 (2.3)	1 (1.3)		4 (3.0)		
Epinecrophylla haematonota (Sclater, 1857)								2 (2.4)			3 (2.6)
Myrmotherula hauxwelli (Sclater, 1857)	4 (3.2)				3 (3.6)		6 (7.9)		4 (3.0)		1 (0.9)
Myrmotherula longipennis Pelzeln, 1868						2 (1.1)	2 (2.6)		11 (8.3)		2 (1.7)
Myrmotherula axillaris (Vieillot, 1817)					2 (2.4)	5 (2.8)		4 (4.7)			2 (1.7)
Microrhopias quixensis (Cornalia, 1849)							1 (1.3)	1 (1.2)			2 (1.7)
Formicivora grisea (Boddaert, 1783)			1 (3.7)	3 (5.7)							
Cercomacra nigrescens (Cabanis and Heine, 1859)								2 (2.4)			1 (0.9)
Myrmoborus leucophrys (Tschudi, 1844)								3 (3.5)			
Myrmoborus myotherinus (Spix, 1825)	2 (1.6)				8 (9.5)	5 (2.8)	1 (1.3)		2 (1.5)		2 (1.7)

Taxon	Traçadal			Serra da Cutia			Uru-Eu-Wau-Wau			Mujica Nava	
	Terra Firme	Transition	Savanna	Savanna	Palm Forest	Terra Firme	Jamari	Urupá	Alto Jamari	Varzea	Terra Firme
Hypocnemis peruviana Taczanowski, 1884										2 (4.7)	1 (0.9)
Hypocnemis ochrogyna Zimmer, 1932	4 (3.2)					12 (6.8)		2 (2.4)	2 (1.5)		
Hypocnemoides melanopogon (Sclater, 1857)										1 (2.3)	
Schistocichla leucostigma (Pelzeln, 1868)							1 (1.3)				
Myrmeciza fortis (Sclater and Salvin, 1868)										1 (2.3)	2 (1.7)
Myrmeciza atrothorax (Boddaert, 1783)								2 (2.4)			
Gymnopithys salvini (Berlepsch, 1901)										4 (9.3)	3 (2.6)
Rhegmatorhina hoffmannsi (Hellmayr, 1907)	4 (3.2)				1 (1.2)	15 (8.5)			3		
Hylophylax naevius (Gmelin, 1789)					1 (1.2)	11 (6.2)			3 (2.3)		1 (0.9)
Hylophylax punctulatus (Des Murs, 1856)										3 (7.0)	
Willisornis poecilinotus (Cabanis, 1847)	15 (12)	2 (22.2)			11 (13.1)	16 (9.0)	7 (9.2)			3 (7.0)	9 (7.7)
Phlegopsis nigromaculata (d'Orbigny and Lafresnaye, 1837)						5 (2.8)	8 (10.5)		1 (0.8)		
CONOPOPHAGIDAE											
Conopophaga aurita (Gmelin, 1789)	4 (3.2)										
GRALLARIIDAE											
Myrmothera campanisona (Hermann, 1783)						1 (0.6)					1 (0.9)
RHINOCRYPTIDAE											
Liosceles thoracicus (Sclater, 1865)								1 (1.2)			
FORMICARIIDAE											
Formicarius colma Boddaert, 1783									2 (1.5)		2 (1.7)
Formicarius analis (d'Orbigny and Lafresnaye, 1837)									2 (1.5)		
SCLERURIDAE											
Sclerurus mexicanus Sclater, 1857	2 (1.6)								1 (0.8)		
Sclerurus rufigularis Pelzeln, 1868					1 (1.2)	2 (1.1)					
Sclerurus caudacutus (Vieillot, 1816)							2 (2.6)		1 (0.8)		1 (0.9)
DENDROCOLAPTIDAE											
Dendrocincla fuliginosa (Vieillot, 1818)						1 (0.6)	1 (1.3)		1 (0.8)		2 (1.7)
Dendrocincla merula (Lichtenstein, 1829)	7 (5.6)				1 (1.2)		5 (6.6)		2 (1.5)	1 (2.3)	1 (0.9)
Deconychura longicauda (Pelzeln, 1868)							2 (2.6)	1 (1.2)	1 (0.8)		2 (1.7)
Deconychura stictolaema (Pelzeln, 1868)	4 (3.2)					3 (1.7)	1 (1.3)		3 (2.3)	1 (2.3)	1 (0.9)
Sittasomus griseicapillus (Vieillot, 1818)								1 (1.2)			
Glyphorynchus spirurus (Vieillot, 1819)	3 (2.4)				8 (9.5)	11 (6.2)	2 (2.6)	2 (2.4)	5 (3.8)		8 (6.8)
Hylexetastes uniformis Hellmayr, 1909	1 (0.8)					3 (1.7)					

Taxon	Traçadal			Serra da Cutia			Uru-Eu-Wau-Wau			Mujica Nava	
	Terra Firme	Transition	Savanna	Savanna	Palm Forest	Terra Firme	Jamari	Urupá	Alto Jamari	Varzea	Terra Firme
Dendroplex picus (Gmelin, 1788)								1 (1.2)			
Xiphorhynchus ocellatus (Spix, 1824)										1 (2.3)	3 (2.6)
Xiphorhynchus elegans (Pelzeln, 1868)	7 (6.6)				3 (3.6)		6 (7.9)		7 (5.3)		1 (0.9)
Xiphorhynchus guttatus (Lichtenstein, 1820)										1 (2.3)	1 (0.9)
Dendrocolaptes certhia (Boddaert, 1783)											1 (0.9)
Dendrocolaptes concolor (Boddaert, 1783)						1 (0.6)					
Lepidocolaptes albolineatus (Lafresnaye, 1845)							1 (1.3)				
Campylorhamphus procurvoides (Lafresnaye, 1850)											1 (0.9)
FURNARIIDAE											
Synallaxis rutilans Temminck, 1823											1 (0.9)
Ancistrops strigilatus (Spix, 1825)						3 (1.7)			1 (0.8)		1 (0.9)
Hyloctistes subulatus (Spix, 1824)							2 (2.6)				
Philydor erythrocercum (Pelzeln, 1859)						1 ((0.6)			1? (0.8)		
Philydor pyrrhodes (Cabanis, 1848)									1 (0.8)		2 (1.7)
Automolus ochrolaemus (Tschudi, 1844)	6 (4.8)				1 (1.2)			1 (1.2)		2 (4.7)	3 (2.6)
Automolus infuscatus (Sclater, 1856)											3 (2.6)
Automolus paraensis Hartert, 1902									2 (1.5)		
Xenops minutus (Sparrman, 1788)	4 (3.2)				1 (1.2)	1 (0.6)		1 (1.2)	3 (2.3)		2 (1.7)
TYRANNIDAE											
Mionectes oleagineus (Lichtenstein, 1823)		1 (11.1)		2 (3.8)	1 (1.2)	2 (1.1)			4 (3.0)		4 (3.4)
Leptopogon amaurocephalus Tschudi, 1846	1 (0.8)				1 (1.2)	4 (2.3)		1 (1.2)	3 (2.3)		
Corythopis torquatus (Tschudi, 1844)	3 (2.4)			1 (1.9)	11 (13.1)				1 (0.8)		2 (1.7)
Hemitriccus minor (Snethlage, 1907)						1 (0.6)					1 (0.9)
Hemitriccus striaticollis (Lafresnaye, 1853)				4 (7.5)							
Hemitriccus griseiceps (Todd, 1925)	1 (0.8)										
Tyrannulus elatus (Latham, 1790)			2 (7.4)								
Elaenia cristata Pelzeln, 1868			3 (11.1)	3 (5.7)							
Phaeomyias murina (Spix, 1825)				1 (1.9)							
Cnipodectes subbrunneus (Sclater, 1860)											2 (1.7)
Tolmomyias poliocephalus (Taczanowski, 1884)								2 (2.4)			
Tolmomyias flaviventris (Wied, 1831)			3 (11.1)	11 (20.8)							

Taxon	Traçadal			Serra da Cutia			Uru-Eu-Wau-Wau			Mujica Nava	
	Terra Firme	Transition	Savanna	Savanna	Palm Forest	Terra Firme	Jamari	Urupá	Alto Jamari	Varzea	Terra Firme
Platyrinchus coronatus Sclater, 1858											2 (1.7)
Platyrinchus platyrhynchos (Gmelin, 1788)											1 (0.9)
Onychorhynchus coronatus (Statius Muller, 1776)									1 (0.8)		
Myiobius barbatus (Gmelin, 1789)							1 (1.3)				
Terenotriccus erythrurus (Cabanis, 1847)						4 (2.3)					
Ramphotrigon ruficauda (Spix, 1825)	1 (0.8)				1 (1.2)	1 (0.6)	1 (1.3)				1 (0.9)
COTINGIDAE											
Lipaugus vociferans (Wied, 1820)						1 (0.6)					
PIPRIDAE											
Tyranneutes stolzmanni (Hellmayr, 1906)	1 (0.8)		1 (3.7)			1 (0.6)					
Machaeropterus pyrocephalus (Sclater, 1852)	1 (0.8)			1 (1.9)	1 (1.2)			9 (10.6)			
Lepidothrix coronata (Spix, 1825)										1 (2.3)	7 (6.0)
Lepidothrix nattereri (Sclater, 1865)	5 (4.0)	1 (11.1)			3 (3.6)	15 (8.5)		4 (4.7)	5 (3.8)		
Manacus manacus (Linnaeus, 1766)		2 (22.2)						11 (12.9)			
Chiroxiphia pareola (Linnaeus, 1766)					1 (1.2)						
Xenopipo atronitens Cabanis, 1847			2 (7.4)	7 (13.2)							
Heterocercus linteatus (Strickland, 1850)								1 (1.2)			
Pipra aureola (Linnaeus, 1758)											1 (0.9)
Pipra fasciicauda Hellmayr, 1906	1 (0.8)						3 (3.9)		3 (2.3)		
Pipra rubrocapilla Temminck, 1821	3 (2.4)	1 (11.1)		1 (1.9)	8 (9.5)	3 (1.7)			1 (0.8)		
TITYRIDAE											
Schiffornis major Des Murs, 1856										1 (2.3)	
Schiffornis turdina (Wied, 1831)	5 (4.0)				4 (4.8)	3 (1.7)	2 (2.6)	1 (1.2)	5 (3.80		2 (1.7)
Laniocera hypopyrra (Vieillot, 1817)						2 (1.1)					
VIREONIDAE											
Hylophilus ochraceiceps Sclater, 1860							1 (1.3)		2 (1.5)		
CORVIDAE											
Cyanocorax chrysops (Vieillot, 1818)				1 (1.9)							
HIRUNDINIDAE											
Stelgidopteryx ruficollis (Vieillot, 1817)			5 (18.5)								
TROGLODYTIDAE											
Pheugopedius genibarbis (Swainson, 1838)								8 (9.4)			
Cantorchilus leucotis (Lafresnaye, 1845)			1 (3.7)								

Taxon	Traçadal			Serra da Cutia			Uru-Eu-Wau-Wau			Mujica Nava	
	Terra Firme	Transition	Savanna	Savanna	Palm Forest	Terra Firme	Jamari	Urupá	Alto Jamari	Varzea	Terra Firme
Microcerculus marginatus (Sclater, 1855)	2 (1.6)					4 (2.3)			1(0.8)		1 (0.9)
Cyphorhinus arada (Hermann, 1783)									1 (0.8)		
TURDIDAE											
Catharus ustulatus (Nuttall, 1840)									1 (0.8)		
Turdus leucomelas Vieillot, 1818						1 (0.6)		1 (1.2)		1 (2.3)	2 (1.7)
Turdus lawrencii Coues, 1880										1 (2.3)	
Turdus fumigatus Lichtenstein, 1823									6 (4.5)		
Turdus albicollis Vieillot, 1818	2 (1.6)				2 (2.4)	4 (2.3)					
COEREBIDAE											
Coereba flaveola (Linnaeus, 1758)								2 (2.4)			
THRAUPIDAE											
Saltator grossus (Linnaeus, 1766)										1 (2.3)	
Saltator maximus (Statius Muller, 1776)			1 (3.7)					2 (2.4)			
Tachyphonus luctuosus d'Orbigny and Lafresnaye, 1837							1 (1.3)				
Tachyphonus phoenicius Swainson, 1838			2 (7.4)	12 (22.6)							
Lanio versicolor (d'Orbigny and Lafresnaye, 1837)							2 (2.6)		1 (0.8)		
Ramphocelus carbo (Pallas, 1764)								2 (2.4)			
EMBERIZIDAE											
Volatinia jacarina (Linnaeus, 1766)				1 (1.9)							
Sporophila plumbea (Wied, 1830)				1 (1.9)							
Arremon taciturnus (Hermann, 1783)						1 (0.6)		2 (2.4)	2 (1.5)		
CARDINALIDAE											
Habia rubica (Vieillot, 1817)							3 (3.9)		4 (3.0)		
PARULIDAE											
Phaeothlypis fulvicauda (Spix, 1825)									1 (0.8)		

Uru-Eu-Wau-Wau

The number of bird species found in the three sampled areas is 280 (168 at Jamari, 104 at Campos do Urupá and 200 at Alto Jamari), 97 taxa being documented by 226 specimens. Table 1 summarizes the total numbers of detected and collected species.

Alto Jamari had the largest species richness, probably owing to the good condition of the forests there. The sampled site at Jamari shows signs of past disturbance, as indicated by abundant young *Attalea speciosa* palms dominating the understory. It is not far from the border with indigenous territory, now completely cleared for pastures, many of which are now abandoned.

The open habitats of Urupá had few species, as expected in an Amazonian savanna enclave completely surrounded by pastures and young secondary growth. It is interesting that we did not find species common in other Amazonian savannas such as *Formicivora grisea, F. rufa, Elaenia cristata* and *Tachyphonus phoeniceus,* as most

species are edge or tree-fall generalists (*see* Wunderle *et al.* 2004 on tree-fall birds).

We made 77 captures of 35 species in mist-nets set at Jamari (0.15 captures/net-hour). The most common species, *Phlegopsis nigromaculata, Willisornis poecilinotus* and *Myrmotherula hauxwelli,* each made up 8-10% of all captures, while 25 species had only one capture, showing a large number of rare species (Table 2). *Phlegopsis nigromaculata* and *Willisornis poecilinotus* are army-ant followers ranging widely over large home-ranges (Zimmer and Isler, 2003).

At Urupá 39 species accounted for a total of 93 captures (0.16 captures/net-hour). The dominant species (*Manacus manacus, Machaeropterus pyrocephalus* and *Pheugopedius genibarbis*) each made up 8-12% of all captures. Twenty species had only one capture (Table 2). The three dominant species are typical forest-edge or secondary growth species.

At Alto Jamari we had 134 captures of 51 species (0.175 captures/net-hour) in *terra firme* forest. The most common species were *Myrmotherula longipennis, Xiphorhynchus elegans, Turdus leucomelas, Thamnomanes saturninus* and *Geotrygon violacea,* each with 8-4% of all captures. Another 20 species had only one capture each (Table 2).

Serra da Cutia

We found 218 species in March and 196 in August, with a total of 281 species in the national park and its immediate vicinity (*see* Table 1). Thirty species were found only outside the park, mostly along the Cautário River during the trips to the study sites.

The *terra firme* forests of Igarapé Tiradentes, more diverse and with a more complex vegetation structure, had 147 bird species, (52% of all species), with 41 exclusive species. On the other hand, the palm forests had 132 species (47%), with 30 exclusive ones.

Many species shared by both forests (especially Furnariidae and Thamnophilidae) were, in the palm forest, associated to the environs of small rivers (*igarapés*), where a more diverse plant community occurs in comparison with the monotonous association of palms and *sororocas* dominating other areas. Thus, those species seem to use a different microhabitat from the palm forest proper.

Water-created habitats had 79 species (28%), with 44 being exclusive. Besides several water birds (such as ducks and herons, but also passerines such as *Ochthornis littoralis*), these habitats also included some species nesting on seasonal sandbanks (*Vanellus cayanus, Rynchops niger, Phaetusa simplex*), and several land birds associated with flooded forests (*Sclateria naevia, Monasa nigrifrons, Brotogeris* spp.) or secondary growth created by bank erosion/sedimentation (*Taraba major, Thamnophilus doliatus, Pheugopedius genibarbis, Cacicus cela* etc.).

Savanna had 39 species (14%), with 16 exclusive ones (Table 1). Palm forest and its transition to savanna had very similar bird species, with 57 in the latter (7%), but only eight exclusive ones. It can be considered as a typical *campinarana* with several typical species such as *Xenopipo atronitens, Rhytipterna immunda* etc. Interestingly, *Hemitriccus minimus,* a *campinarana* specialist, was found only in palm forest at Igarapé Tiradentes (*see below*).

Mist-netting in March yielded 81 captures of 27 species in two net lines set in palm forest (0.08 captures/net-hour) and 46 captures of 17 species in savanna (0.076 captures/net-hour). By comparison, in August there were 215 captures of 45 species (0.168 captures/net-hour) in *terra firme* (Table 2). All caught birds were heavily molting both flight and contour feathers.

The most common species in mist-nets set in palm-forest were *Willisornis poecilinotus, Corythopis torquatus, Glyphorhynchus spirurus* and *Pipra rubrocapilla* (Table 2). The latter seems to benefit from the abundance of Melastomataceae in the open forests. In *terra firme* in the southern sector of the park the most common species were *Willisornis poecilinotus, Lepidothryx nattereri* and *Rhegmatorhina hoffmansi* (Table 2). Army-ant followers (*W. poecilinotus, R. hoffmansi, Dendrocolaptes concolor, Phlegopsis nigromaculata,* and *Dendrocincla merula*) accounted for a significant share of mist-net captures in both sampled forest types (16% in *terra firme* and 15% in palm forest). Those species represent the whole of that guild in the Madeira – Tapajós interfluvium (Sick, 1997).

A patch of bamboo-dominated forest in the northern sector of the park was briefly visited by the botanical team and documented by video. The site, called "Chupador" by the locals, is a salt lick associated to springs of salt-laden water. Besides larger mammals such as *Tapirus terrestris* (Linnaeus, 1758), the lick is used by large flocks of *Pyrrhura snethlageae* and *P. perlata,* and many cracids such as *Penelope jacquacu, Pauxi tuberosa* and *Aburria nattereri.* The association between tapirs and *Molothrus oryzivorus* was also documented. The bird climbs the tapirs while it is foraging for ticks.

Mujica Nava

We found 238 bird species in two sampled habitats (Table 1), 88 being documented by museum specimens. *Terra Firme* forest had the greatest richness, with 193 species, 173 (*c.* 71.5% of the total) being exclusive. *Várzea* had fewer species (70), with 50 (*c.* 21% of the total) exclusive ones. Twenty species were found in both habitats.

A total of 117 captures of 56 species (Table 2) were made in two net lines set in *terra firme* (0.14 captures/net-hour). The most common species, *Willisornis poecilinotus,*

made only 8% of all captures, while 26 species had only one capture, showing a diverse community with many rare species. *Várzea* forest had 46 captures of 30 species (0.12 captures/net-hour). Sixteen were not found in the *terra firme* sample. The most common species were *Phaethornis ochraceiventris* and *Gymnopithys salvini,* and 23 species were captured only once (Table 2).

Summing both habitats, mist-netting was responsible for 0.44 new species per capture (72 species in 163 captures) with rare species (those with only one capture) still making up almost 70% of the sampled birds and the sampling curve was far from stabilized.

Qualitative observations and mist-netting support the view that *várzea* forest has fewer species compared to *terra firme.* Although large flocks of toucans, cotingas and psittacids were commonplace in the *várzea,* and probably account for a higher avian biomass, *várzea* lacked the large and diverse mixed-species flocks of canopy and understory insectivores found in *terra firme.*

Seven army-ant followers were present at Mujica Nava (*Gymnopithys salvini, Myrmeciza fortis, Willisornis poecilinotus, Dendrocolaptes certhia, Dendrocolaptes picumnus, Xiphocolaptes promeropirhynchus* and *Dendrocincla merula*), about 75% of the guild in the Madeira – Solimões interfluvium (Ridgely and Tudor, 1994; Sick, 1997). The missing species (*Phlegopsis erythoptera, P. nigromaculata* and *Rhegmatorhina melanosticta*) were not located in several army-ant swarms that we found, although *Phlegopsis erythroptera* does occur in the adjoining Serra dos Três Irmãos Ecological Station (Antas *et al.,* 1995).

Noteworthy Records

Crypturellus aff. *bartletti*

One female (MZUSP 76565) was mist-netted in flooded forest by the Igarapé São Lourenço at Antonio Mujica Nava Ecological Station, where this ground-dwelling bird was living in narrow stretches of dry land dispersed over the flooded area. Stomach contents had remains of insects, other arthropods and fruit. This specimen agrees with another one (male, MZUSP 22821) from Rio Eiru, right margin of Juruá River, Amazonas. Both differ considerably from a typical *C. bartletti* from Taumaturgo (*e.g.* MZUSP 42176). These specimens found between the right margin of Juruá and left margin of Madeira present a reddish-brown neck and breast (vs. olive in *C. bartletti*) and reddish sides of the head (vs. dark gray in *C. bartletti*). Examination of a series of specimens housed at several museums (*e.g.* Museu Paraense Emílio Goeldi, British Museum of Natural History, American Museum of Natural History, Museum of Natural Science Louisiana State University, Muséum National d'Histoire Naturelle, Field Museum of Natural History) shows that the characters of *C. bartletti* are quite uniform and are consistently different from those of our specimens. The status of this taxon is considered uncertain and this specimen may represent a new, undescribed species. These specimens are presently under study by FO and LFS and more specimens and voice samples are needed to clarify the taxonomic status of birds from the Juruá-Madeira interfluvium.

Crypturellus obsoletus ssp.

The distinctive calls of this species were heard at Uru-Eu-Wau-Wau around Alto Jamari and Jamari, and at Serra da Cutia in riverine forest by Igarapé São João do Branco. In Brazil there are three subspecies: the nominate subspecies in the Atlantic forest of southeastern Brazil, *C. o. griseiventris* (Salvadori, 1895) in the Tapajós River area, and *C. o. hypochraceus* (Miranda-Ribeiro, 1938) known from the upper Madeira and Ji-Paraná and Jamari Rivers. The latter is known from very few specimens and, although the records refer to it, the diagnosis of this taxon is uncertain (Pinto, 1978; Peters, 1979; del Hoyo *et al.* 1992). Miranda-Ribeiro (1938) states that it is "exactly the same as *griseiventris*", the main differences being the overall size and length of the toes. More specimens are needed to assess the taxonomic status of the Amazonian subspecies.

Rynchotus rufescens

At least two individuals were heard during the morning and afternoon of March 19, 2003 in open savanna at the eastern sector of Serra da Cutia. Broadly distributed in open habitats throughout South America, including Amazonian savannas (Humaitá, Serra do Cachimbo, Marajó; Blake, 1977, Sick, 1997), this record seems to be the first for central Rondônia. Birds in the savanna enclave of Humaitá (Amazonas) are considered to be *R. r. catingae* (the same taxon present in northeastern Brazil and Marajó island) while the nominate form occurs in Mato Grosso. The taxonomic status of birds in the Pacaás Novos savannas needs to be assessed.

Chauna torquata

Individual birds were seen by the Guaporé River while traveling upriver by speedboat on December 19, 1998 at 12°29'17"S, 63°56'04"W, 12°35'26"S, 63°25'48"W, 1238'23"S, 6310'22"W and 12°41'04"S, 63°04'32"W, and one pair at 12°37'34"S, 63°24'45"W. Apparently unrecorded in Rondônia, it is likely to be common in the Guaporé "pantanal" centered in Guaporé Biological Reserve, where large numbers of water birds, including nesting colonies of *Mycteria americana,* can be found.

Ortalis guttata

This chachalaca was previously recorded in riverine forests around Forte Príncipe da Beira, a XVIII-century Portuguese fortress by the Guaporé River north of the town of Costa Marques (Naumburg, 1930) and along the Ouro Preto and Pacaás Novos Rivers and some tributaries (Oren and Aleixo, 1999). We found it to be fairly common in this habitat along the Pacaás Novos and Cautário Rivers, and it was recorded feeding on cultivated guavas by the Igarapé São João do Branco (Serra da Cutia National Park). All observations suggest a close association to riverine habitats, and an absence from *terra firme* forest.

Accipiter poliogaster

This is a widely distributed, but poorly known sparrow hawk (Sick, 1997, Whittaker and Oren, 1999). The very few Amazonian records (Whittaker and Oren, 1999) have been hypothesized to represent winter migrants coming from the dwindling Atlantic forests of southern Brazil, neighboring Argentina and Paraguay (Fergusson-Lees and Christie, 2001). However, our recent records in the states of Roraima, Amazonas, Pará and Mato Grosso throughout the year suggest that this species is a resident. One unsexed specimen (MZUSP 76569) was mist-netted at Mujica Nava in *terra firme* forest on February 10, 2002, while one bird was seen soaring and calling over *igapó* at Traçadal on July 8, 2001, showing the species is present in the area both in summer and winter.

Morphnus guianensis

One apparent light morph male was observed soaring over riverine forest along the Cautário River near Canindé Village, inside the extractive reserve, on March 14, 2003. Another record of a light morph bird was made almost at the same spot on August 2, 2003. This large raptor is scarce in Rondônia and was previously recorded only at Cachoeira Nazaré (Stotz *et al.* 1997).

Harpia harpyja

One male was observed on March 13, 2002 while soaring over *terra firme* forest far above the canopy at Jamari. This species is killed by the natives in order to use the feathers to make arrows and headdresses. The Uru-Eu-Wau-Wau bury their dead using a special headdress made of Harpy Eagle feathers to assist in the "trip to the next world", a tradition that puts pressure on the species.

Micrastur mirandollei

Among the rarest of forest falcons, this species is known from few recent records. One pair was tape-recorded and collected on March 22, 2002 at Alto Jamari, the first records for Rondônia and a new southwestern limit for the species (Stotz *et al.* 1997; Sick, 1997).

Micrastur mintoni

This recently described species (Whittaker, 2002) was observed and mist-netted in *terra firme* forest at Igarapé Tiradentes, Serra da Cutia National Park, in August 2003. The mist-netted bird was trying to capture a trapped *Phlegopsis nigromaculata* but managed to escape before being held. Nevertheless, the whitish iris, orange cere and eyebrow, and one-banded tail could be clearly seen.

Chordeiles rupestris

Hundreds of birds were observed roosting on the floors of the buildings at the army garrison near Forte Príncipe da Beira, in July 1998 and February 2003, suggesting year-round residence. Groups of birds chasing each other were conspicuous over the river during sunset. Groups of tens of birds were also noticed roosting on boulders along the Guaporé River near Pedras Negras Extractive Reserve in July 1998.

Brotogeris versicolorus

Four birds showing the white and green speculum were seen at length flying over the wet savanna enclave of Traçadal on January 22, 2001. *Brotogeris* calls were constantly heard in the nearby forest. Although unrecorded in the lower Ji-Paraná (Stotz *et al.* 1997), *B. versicolorus* has been found at Guajará-Mirim State Park, north of Traçadal (PNUD, 1995). *Brotogeris versicolorus* has not been recorded from the Guaporé-Mamoré basin. Its range follows the course of the Solimões-Amazonas from northeastern Peru to Pará (Collar, 1997), and the Rondônia records extend the range to the southwest. The related *Brotogeris chiriri* is a very abundant species in parts of the Guaporé Valley, groups of hundreds being a common sight in the town of Costa Marques.

Aratinga aurea

Widely distributed in the Cerrado and other open habitats throughout Brazil, including savanna enclaves on Marajó Island. Small groups of four to six birds were seen and photographed on March 14-15, 2003 feeding on guavas by Igarapé São João do Branco, Serra da Cutia. This seems to be the first record from Rondônia, and another instance of a Cerrado bird present in the Pacaás Novos savanna.

Pyrrhura snethlageae

A recently described endemism of the Madeira Basin, it was formerly mistaken for *Pyrrhura lucianii* of the Purus area (Joseph, 2002). Birds were recorded in transitional forest by the savanna enclave of Traçadal, feeding on the fruit of small *Mauritia* palms. The species was also present in *terra firme* forest at Uru-Eu-Wau-Wau, and two specimens (MZUSP 76569 and 7660) were collected at Mujica Nava, showing a broad distribution from the Madeira Valley, across the Pacaás Novos Mountains to central Rondônia. To the north and east of Rondônia it is replaced by *P. amazonum* (Hellmayr, 1910, Naumburg, 1930).

Deroptyus accipitrinus

Collar (1997) suggests *D. a. fuscifrons* from the right bank of the Solimões-Amazonas may be best considered as a full species and points to the lack of records in protected areas. Nevertheless, *D. a. fuscifrons* was seen at Guajará Mirim State Park (PNUD, 1995, F. Olmos pers. obs. in July 1998), Rio Ouro Preto Biological Reserve (Oren and Aleixo, 1999) and Traçadal (this work), and didn't seem especially rare. It probably occurs in Pacaás Novos National Park and neighboring areas such as Uru-Eu-Wau-Wau and Serra da Cutia. Joseph (1988) recorded it at Jaciparaná, not far from Porto Velho, the former southwestern edge of its range.

Amazona kawalli

Groups of this poorly known, recently described parrot (Martuscelli and Yamashita, 1997) were seen several times in flooded forest at Mujica Nava. It seems restricted to that habitat, with a wide but scattered distribution across the Amazon basin.

Ramphastos toco

One bird was observed at length while perched on a tree by the savanna of Serra da Cutia during the afternoon of March 19, 2003. It had a short bill compared to birds from further south (Pantanal, Mato Grosso). This seems to be the first record from Rondônia, although it is likely to occur in the Cerrado of the southern part of the state.

Threnetes leucurus

Widely distributed in the Amazon basin, records from south of the Madeirai came only from Cachoeira Nazaré (Stotz *et al.* 1997). Sight records were made at Igarapé São João do Branco (Serra da Cutia), Jamari and Alto Jamari (Uru-Eu-Wau-Wau), two birds being collected in the latter, belonging to the nominate form.

Phaethornis ochraceiventris

Some specimens were mist-netted in Mujica Nava in *várzea* (MZUSP 76594-96).

Phaethornis philippii

This small hermit was mist-netted in Mujica Nava both in *terra firme* forest and in *várzea.*

Topaza pella

A female was recorded several times feeding on flowers along a creek at Alto Jamari. South of the Amazon River, this hummingbird was formerly known only from the east bank of the Tapajós and from Belém until recorded at Cachoeira Nazaré, east Rondônia (Stotz *et al.* 1997). The record at Alto Jamari marks the new southwestern limit of the Brazilian range of the species.

Brachygalba lugubris

Observed in riverine forest at Campos do Urupá, Uru-Eu-Wau-Wau, in the habitat along Igarapé São João do Branco and forest-savanna ecotones in the eastern part of Serra da Cutia, and along the Cautário River. In Rondônia it had been recorded only at Cachoeira Nazaré (Stotz *et al.* 1997). Formerly it was known only up to northern Mato Grosso (Naumburg, 1930).

Melanopareia torquata

One pair was observed at length in savanna near Igarapé São João do Branco, Serra da Cutia, on March 23, 2003. This seems to be the first record in Rondônia, although it is known from the cerrados of Mato Grosso and Santa Cruz, east Bolivia (Cox, 2003). The population at Serra da Cutia inhabits an isolated habitat enclave, and the observed birds sounded a bit different from ones in central Brazil, so their taxonomic status deserves further research.

Thamnophilus aethiops

Birds agreeing with *T. a. punctuliger* were found to be common in edge habitats (including cultivation areas) at Jamari and Alto Jamari, Uru-Eu-Wau-Wau. Nevertheless, one bird similar to *T. a. injunctus,* from the north bank of the Madeira River, was found in the forest at Alto Jamari (specimen at MZUSP). The occurrence of both taxa in the region implies not only a significant range extension for *T. a. injunctus,* but suggests that *T. a. punctuliger* and *T. a. injunctus* may be considered as different species.

Thamnophilus stictocephalus

Found in several sites, including Campos do Urupá and Alto Jamari, Uru-Eu-Wau-Wau. At Serra da Cutia one male was mist-netted and photographed in the savanna in March 2003, while in August 2003 two pairs were observed further west in *campinarana* and another one in the dense tangle of an extensive wind fall. These are the first records for Rondônia and they form a significant range extension, which fills a large gap in the distribution of the *Thamnophilus* of the *T. punctatus* species-group (Isler *et al.* 1997).

Formicivora grisea

Associated with savannas at Traçadal (specimen at MZUSP with no accession number) and at Serra da Cutia, where it is locally common. *Formicivora grisea* seems unreported from Rondônia, although it is known from northern Mato Grosso (Naumburg, 1930).

Formicivora rufa

Much more scarce compared to *F. grisea* in the studied savanna enclaves, with only one sight record of a female in the savanna at Traçadal. It seems unreported from Rondônia, although it occurs in the cerrados of northern Mato Grosso (Naumburg, 1930). The type-locality of *F. rufa rufatra* is at the llanos de Mojos, eastern Bolivia (Naumburg, 1930), so it is likely to occur in savannas along the Guaporé/Itenez Valley.

Conopophaga aurita

Formerly known only from northernmost Rondônia (Madeira River and lower Ji-Paraná; Ridgley and Tudor, 1994; Stotz *et al.* 1997). Four birds were mist-netted and photographed in *terra firme* forest at Traçadal. It was also collected in nearby Rio Ouro Preto Biological Reserve (Oren and Aleixo, 1999), documenting its presence in the Guaporé-Mamoré basin. Traçadal forms the new southwestern limit of the species range.

Sclerurus mexicanus

The only *Sclerurus* found at Traçadal, with two mist-netted birds in *terra firme* forest. Also present at Rio Ouro Preto Biological Reserve (Oren and Aleixo, 1999). In Rondônia it was known only from the lower Ji-Paraná, the nearest records coming from Alta Floresta, Mato Grosso, and San Borja, Bolivia (Stotz *et al.* 1997).

Symoxenops ucayalae

One bird was sighted by FO in forest rich in bamboo clumps at Guajará Mirim State Park on July 22, 1998 during a trip with A. Aleixo and M. A. Pizo. The upturned bill was clearly visible when the bird briefly perched on a large bamboo stalk. Apparently this is the first state record. The forests of the park harbor other bamboo specialists, such as *Ramphotrygon fusciicauda* and *Drymophila devillei.*

Xenops milleri

East of the Madeira this bird was known only from the Cururu River (Pará), and Cachoeira Nazaré (Rondônia; Stotz *et al.* 1997). It was recorded at Alto Jamari. One bird was seen forming part of a mixed species flock in a palm-rich forest near Igarapé São João do Branco, Serra da Cutia National Park, on March 18, 2003, while several similar records of lone birds were made in *terra firme* forest near Igarapé Tiradentes in August 2003.

Deconychura stictolaema

Considered rare or locally uncommon in the undergrowth of *terra firme* forests (Ridgely and Tudor, 1994), four were caught in mist-nets set at Traçadal, three at Serra da Cutia, one at Jamari, three at Alto Jamari and two at Mujica Nava. Except for one bird at Mujica Nava caught in *várzea,* all were captured in *terra firme.* In Rondônia it was known from the lower Ji-Paraná, Guajará-Mirim State Park and Rio Ouro Preto Biological Reserve (Stotz *et al.* 1997; PNUD/PANAFLORO, 1995; Oren and Aleixo, 1999). Igarapé Tiradentes marks the new southern limit of the range of the species.

Elaenia cristata

A savanna bird found to be fairly common in that habitat at Traçadal and Serra da Cutia, being captured with mist-nets in both localities. The sole former Rondônian locality was Vilhena, in the southern part of the state (Naumburg, 1930). The present records suggest it is widespread in savanna enclaves. In neighboring Bolivia it was found only in 1992 at Serrania de Huanchaca (Bates *et al.* 1992). Birds from Traçadal are deposited at the MZUSP.

Leptopogon amaurocephalus

Formerly recorded in Rondônia only at Cachoeira Nazaré (Stotz *et al.* 1997), it has also been found at Rio Ouro Preto Biological Reserve (Oren and Aleixo, 1999) and in all sampled forest areas except Mujica Nava. Birds from Rondônia seem to belong to *L. a. peruvianus,* described from the Juruá basin (Stotz *et al.* 1997). The records show it to be widely distributed in Rondônia.

Hemitriccus striaticollis griseiceps

Considered to be restricted to the east bank of the Tapajós (the type-locality is Santarém), this form is characterized by weakly defined streaks on the throat and chest, and a more greenish plumage. Birds mist-netted in savanna at Serra da Cutia (one specimen at MZUSP, with no accession number) agree with *H. s. griseiceps* from Mato Grosso housed in the MZUSP, displaying a broader range for that form. Poletto and Aleixo (2005) recently found an isolated population of *H. striaticollis* in Campinas at the Acre-Amazonas border, suggesting a broader, albeit spotty, distribution in the western Amazon.

Hemitriccus minimus

Spottily distributed in the Amazon basin from Pará to Acre (Poletto and Aleixo, 2005) and eastern Peru (Ridgely and Tudor, 1994; Sick, 1997), it is associated with *campinaranas* on white-sand soils. Its distinctive call was heard frequently in palm forest (but not *terra firme* forest) along the trail from Igarapé Tiradentes to Serra da Cutiara, Serra da Cutia National Park. The birds answered to play-backs of calls recorded elsewhere but remained high on the trees. Whittaker (2004) found this bird in *campinaranas* at Taquaras, northwestern Rondônia on the east bank of the Beni River, some 200 km to the northwest.

Rhytipterna immunda

A *campinarana* and *campina* specialist, on March 23, 2003 one silent bird was observed at length in the *campinarana* forming the ecotone between palm forest and savanna near Igarapé São João do Branco, Serra da Cutia. It could be distinguished from a *Myiarchus* flycatcher by its horizontal stance and larger, light bluish eyes. Whittaker (2004) found the species at Taquaras, north of Serra da Cutia. Elsewhere, the nearest localities are Borba (Amazonas), Alto Xingu and Serra do Roncador, northern Mato Grosso (Sick, 1997).

Casiornis rufa

An austral migrant with records in Rondônia from Cachoeira Nazaré (Stotz *et al.* 1997), Taquaras, Guajará Mirim and Nova Colônia (Whittaker, 2004). One bird was photographed in forest-savanna ecotone on August 12, 2003.

Cotinga maynana

Formerly recorded only north of the Madeira River (Snow, 2004), males in full adult plumage were observed in *terra firme* forest and at the ecotone with savanna at Traçadal on January 13th, 16th and 21st, 2001. The lighter hue of their blue color, lack of contrasting darker wings and light iris of one bird seen under favorable conditions, made identification straightforward.

Xenopipo atronitens

Another sandy soil specialist, in the southwestern Amazon it has been recorded from Borba (Amazonas) and Taquaras (Rondônia; Hellmayr, 1910, Whittaker, 2004). Two birds collected at Serrania de Huanchaca, Bolivia, are the first records for that country (Bates *et al.* 1992). One male and one female were mist-netted in savanna at Traçadal on January 23, 2000 (specimens at MZUSP). At Serra da Cutia seven captures were made in savanna, where birds were commonly seen feeding on the fruits of *Clusia* sp. together with *Cyanerpes* spp. The records suggest a wide distribution in proper habitat in Rondônia, although the lack of records from the structurally distinctive savanna at Campos do Urupá is noteworthy. Recent work (Poletto and Aleixo, 2005) shows this species has a much broader distribution across southern Amazonia than first assumed.

Neochelidon tibialis

Six birds were flying low catching insects above savanna at Serra da Cutia on March 15, 2003, moving into nearby forest to forage above a small river. The color pattern agreed with *N. tibialis*. This seems to be the first record for Rondônia. In western Amazonian Brazil it was known only from Acre, although there are records from northern Bolivia (Parker and Remsen, 1987; Turner and Rose, 1989).

Cyanocorax chrysops

The nominate form is widespread from northern Argentina, Uruguay, Paraguay, east Bolivia (Chiquitos, Santa Cruz), to Brazil, ranging from Rio Grande do Sul to Mato Grosso do Sul. It is replaced in the savanna enclaves of the lower Madeira and Tapajós by the quite distinctive *C. c. diesingii* (Hellmayr, 1910; Pinto, 1944). A group of three birds was seen in transitional forest near savanna at Traçadal on January 21, and was quite common in savanna and nearby palm forest in the Igarapé São José do Branco area of Serra da Cutia National Park. One bird mist-netted in the savanna (MZUSP, with no accession number) attracted another seven birds and parties of 8-12 were regularly foraging high in the trees by the *igarapé*. This record seems to be the first documented one for Rondônia. Additionally, on December 17, 1998, a group of jays was recorded by FO associated with a *Cacicus cela* flock in *várzea* forest at Curralinho Extractive Reserve, near Costa Marques (12°20'S, 64°25'W).

Tachyphonus phoenicius

With a wide but discontinuous range in Amazonian savannas, this species was observed and two individuals collected in savanna at Traçadal (MZUSP, with no accession number). At Serra da Cutia this species proved to be common and several individuals were mist-netted in March 2003. The sole previously published records for Rondônia come from Vilhena (Naumburg, 1930).

Tangara callophrys

In Brazil this species is known only from west and north of the Madeira in Acre and Amazonas (Isler and Isler, 1999). On March 20, 2003 one bird was part of a tanager flock including *T. chilensis, T. nigrocincta, T. gyrola, Hemithraupis flavicollis* and *Cyanerpes* spp. in palm forest near Igarapé São João do Branco, Serra da Cutia National Park. This unexpected record seems to be the first for Rondônia.

Cyanerpes nitidus

In Rondônia it was known only from Cachoeira Nazaré (Stotz *et al.* 1997). It was quite common around Igarapé São João do Branco (Serra da Cutia). It is a member of tanager flocks feeding in savanna-forest ecotones, where it was seen eating mistletoe (Loranthaceae) fruit, and in the savanna, where they attended fruiting *Clusia* sp. bushes.

Psarocolius angustifrons

Recorded in Brazil only from Amazonas and Acre (Ridgely and Tudor, 1989; Jaramillo and Burke, 1999), it was not uncommon in *terra firme* forest at Mujica Nava together with *Psarocolius viridis,* in fruit trees where parrots and toucans also gathered. This seems to be the first state record.

DISCUSSION

A total of 458 species were recorded in the sampled areas, perhaps two-thirds of the total number of bird species expected in the whole of Rondônia. The studied sites include two of the main endemism centers in the Brazilian Amazon, the Madeira – Tapajós interfluvium and the Madeira – Solimões (Haffer, 1974, 1997; Cracraft, 1985). Endemic taxa of the former are *Celeus torquatus augustus, Xiphorhynchus elegans elegans, Dendrocolaptes concolor, Hylexetastes uniformis, Myrmotherula longipennis ochrogyna, Myrmotherula leucophthalma phaeonota, Rhegmatorhina hoffmannsi* and *Lepidothrix nattereri gracilis.* All were found during fieldwork, Serra da Cutia being a highlight for endemic taxa, with all expected species (Table 1). Two taxa formerly considered endemic to the Madeira-Tapajós, *Phyrrura perlata* and *Capito dayi,* but actually with a broad range east of the Tapajós (Zimmer *et al.* 1997; Pacheco and Olmos, 2005) were also found in a number of sites.

Mujica-Nava had a significant share of Madeira – Solimões endemics, including *Psophia leucoptera, Phaethornis philippii, Galbula cyanescens, Pteroglossus mariae, Selenidera reiwardtii langsdorfii, Celeus torquatus occidentalis, Gymnopithys salvini, Pipra coronata exquisita, Mionectes oleagineus maynana, Cyphorhinus aradus modulator* and *Hylophilus semicinereus juruanus* (Haffer, 1974, 1997; Cracraft, 1985). As sampling was limited by accessibility and only a limited area was explored, the reserve is likely to harbor more endemic taxa, especially in *terra firme* forest away from the main collecting site where we worked.

Stotz *et al.* (1997) found 459 bird species at Cachoeira Nazaré, northeastern Rondônia, during three months of fieldwork over a period of two years that included a far greater effort compared to ours. For example, they used seven mist-net lines with 10 to 40 nets each, and a seven-person team. Comparing results, short-term samplings similar to the ones conducted by us are able to sample 50-70% of the species present in a given site, showing the limitations of rapid evaluations in areas with high species diversity and many rare species. Also, studies carried out during periods of lower vocal activity in the dry season, such as the ones conducted at Traçadal and Serra da Cutia, will also show much fewer species compared to ones at the onset of the rains.

Mist-net capture rates in *terra firme* at Traçadal, Uru-Eu-Wau-Wau and Mujica Nava were quite similar (*c.* 0.15 captures/net-hour). About 0.47 new species were found per capture at Jamari, against 0.37 at Alto Jamari. Clearly, collecting curves were far from reaching a plateau, reflecting the high diversity and patchy distribution of understory birds. The rate of new species recorded per sampling effort was quite low in *palm forest* at Serra da Cutia (27 species during 976 net-hours, 0.027 new species/net-hour) and Traçadal (37 species during 1.183 net-hours; 0.031 new species/net-hour), and about half the rate found at Jamari, Uru-Eu-Wau-Wau (36 species during 520 net-hours; 0.069 new species/net-hour). On the other hand, *terra firme* forest at Serra da Cutia had 56 species during 1,273 net-hours (0,043 new species/net hour).

Mist-netting studies at other sites in Amazonia allow some comparisons. While 54 species were recorded in 134 captures at Alto Jamari, in Manaus the 60 species barrier was reached only after about 400 captures and, in Manu, after 220 captures (Karr *et al.* 1990). These data show the presence of a rich community of understory birds at Uru-Eu-Wau-Wau, also hinted at by the dominance of rare

species (24 with only one capture, or 44.4% of the mist-netted sample).

Palm-forests, dominated by *Attalea speciosa* at Jamari (Uru-Eu-Wau-Wau) and *Oenocarpus bataua* at Serra da Cutia (where the plantain *Phenakospermum guianense* is an abundant associate) were clearly species-poor compared to other *terra firme* forests, probably because of reduced plant diversity and, especially, simpler tri-dimensional habitat structure. This result is not unexpected given that bird diversity tends to be low in any monoculture or simplified habitat. Yet it is interesting since palm-dominated forests are a common result of disturbance (Salm, 2005), especially from human activities which include gathering and slash-and-burn agriculture (Politis, 2001).

Armacost (2006) found significantly lower structural complexity and bird richness in palm forests in Amazonian Peru, suggesting a general pattern. Insectivore/frugivore and insectivores were depauperate in the palm forest, a situation similar to the one in Rondônia. Although the small sampling effort precludes robust conclusions, Armacost (2006) found that overlap in bird species between *terra firme* and palm forest was low, with only 9% of 54 recorded bird species shared by both forests. Some of those species were common in mist-net samples made in palm forests at Serra da Cutia and Uru-Eu-Wau-Wau, such as *Dendrocincla merula, Deconychura stictolaema* and *Mionectes oleagineus.*

The presence of large stands of "oligarchic" forests all over Amazonia is commonly taken as evidence of widespread and long-term anthropogenic influence on the structure and shape of Amazonian forests. If that is really the case (as seems likely), those simpler habitats, although productive for humans and able to sustain higher human populations in a forest setting compared to other, more diverse, forests, are less than optimal for most birds and other animals. Consequently, biodiversity may be reduced over extensive areas where the ratio of palm-forest to more diverse formations is too high.

Another habitat associated to human disturbances was made of grassy patches around rubber-tapper homes and villages, commonly quite isolated in the deep forest. Despite this isolation these habitat islands became colonized by birds such as *Volatinia jacarina* and *Crotophaga ani,* while the scrub of later successional stages was home to birds usually found in riverine tangles (*Taraba major, Thamnophilus doliatus*), tree-falls and forest edge (*Cantorchilus genibarbis, Thamnophilus aethiops, Ramphocelus carbo, Thraupis episcopus*). The overall result is that the avifauna in those areas comes to resemble the one in the mosaic of pastures and *capoeiras* of any part of Amazonia (or even Central Brazil), with very little spatial heterogeneity, this actually depending on the forest patches left in the area (Pacheco and Olmos, 2005).

The addition of those species to former forest has been misinterpreted by some as an "increase in biodiversity" (or rather, local species richness, *see* Diegues, [1996] for the concept). However, others who take a broader view recognize the addition of widespread generalists ("trash species") at the expense of habitat specialists and endemics obviously represents a net regional loss of species and a homogenization of biotic communities (McKinney and Lockwood, 1999). This process has been properly described by Willis and Oniki (2002) as trading unique Picassos for mass-produced Coca Cola bottles.

Large game birds were uncommon in every site except Mujica Nava. The last site had not been hunted for a long time, as shown by the fearless behavior of curassows that even walked into the camp. Also, primates generally targeted by hunters, like *Lagothrix cana* (E. Geoffroy, 1812), were also common and fearless, this area providing a remarkable contrast against others we have visited in Rondônia. Razor-billed Curassows were detected in only one other site, Serra da Cutia, and in our experience have become generally uncommon throughout the state. On the other hand, *Tinamus* spp. and, to a lesser extent, *Psophia* spp. had a broader distribution and seemed more resilient to human exploitation.

None of the sites we explored had extensive bamboo patches as found further west in Acre. Those are more restricted in Rondônia and are known to occur in a few protected areas including Serra dos Três Irmãos Ecological Station, adjoining Mujica Nava, and Guajará Mirim State Park, north of Serra da Cutia and Traçadal (one of the sites mentioned by Whittaker, 2004). During a brief visit to the latter by FO together with A. Aleixo and M. A. Pizo in July 1998, we found bamboo specialist such as *Drymophilla devillei, Ramphotrygon fuscicauda* and *Simoxenops ucayalae,* suggesting they may occur elsewhere in the Pacaás Novos foothills. Other bamboo specialists like *Synallaxis cabanisi, Anabazenops dorsalis, Cymbilaimus sanctamariae, Ramphotrygon megacephala* and *Poecilotriccus capitalis* (Parker *et al.* 1997) have already been found at Cachoeira Nazaré.

The savannas studied at Serra da Cutia and Traçadal (the latter being much more isolated from the large savanna enclave atop the Serra dos Pacaás Novos) have several open-habitat species, including *Rynchotus rufescens, Aratinga aurea, Ramphastos toco, Formicivora grisea, Melanopareia torquata, Elaenia cristata, Neopelma pallescens, Tachyphonus phoenicius* and *Xenopipo atronitens.*

Many records are significant range extensions and show that the Pacaás Novos Massif harbors isolated populations of *cerrado* birds in the same way as Serrania de Huanchaca, in Bolivia (Bates *et al.* 1992). Pacaás Novas harbors both inter-tropical migrants and resident species isolated for at least 3,000 years since the forest spread over a former larger savanna connected to the ones of Central Brazil (Absy and Van der Hammen, 1976; Van der Hammen and Absy, 1994; Van der Hammen, 1974; Freitas *et al.* 2001; Gainsbury and Colli, 2003).

Further research in the large savanna in the centre of Pacaás Novos National Park, especially in the higher areas around 1,000 m, like Pico do Tracoá, will likely show more cerrado birds and important range extensions, if not endemic taxa. Those isolated enclaves are one of the remaining frontiers of Amazonian ornithology.

Rondônia has suffered huge deforestation rates and the existing reserves, especially the state-run ones, are poorly enforced and have been targeted by loggers and land-grabbers, commonly with the support of local politicians (Ribeiro *et al.* 2005). Following the historical Brazilian pattern, such destruction proceeds at a faster rate than the efforts to know what is being lost, and actual conservation actions.

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