

ISSN (impresso) 0103-5657

ISSN (on-line) 2178-7875

Revista Brasileira de Ornitologia

Volume 19

Número 2

Junho 2011

www.ararajuba.org.br/sbo/ararajuba/revbrasorn

Publicada pela

Sociedade Brasileira de Ornitologia

São Paulo - SP

Birds of Serra do Cachimbo, Pará State, Brazil

Marcos Pêrsio Dantas Santos¹, Luís Fábio Silveira² and José Maria Cardoso da Silva³

¹ Universidade Federal do Pará. Instituto de Ciências Biológicas. Laboratório de Ecologia e Zoologia de Vertebrados, Ornitologia. CEP 66075-110, Belém, PA, Brasil. E-mail: marcospersio@uol.com.br

² Museu de Zoologia da Universidade de São Paulo. Avenida Nazeré, 481, Ipiranga, CEP 04263-000, São Paulo, SP, Brasil. E-mail: lfsilvei@usp.br

³ Conservation International, Executive Vice President, Field Programs, CI Headquarters, 2011 Crystal Drive, Suite 500, Arlington, Virginia 22202, EUA. E-mail: j.silva@conservacao.org

Recebido em 24/02/2011. Aceito em 15/04/2011.

RESUMO: As aves da Serra do Cachimbo, Estado do Pará, Brasil. A área que compreende a Serra do Cachimbo, no sul do estado do Pará, divisa com o estado do Mato Grosso, é certamente uma das regiões brasileiras de maior interesse do ponto de vista biológico. Nessa área de paisagem complexa, fruto da transição entre a Floresta Amazônica e o Cerrado do planalto Central brasileiro, podem ser encontrados mosaicos de vegetação que vão desde florestas ombrófilas densas, passando por fisionomias de Cerrado até áreas de Campinas. Durante o período de 14 de agosto a 3 de setembro de 2003, e de 15 a 25 de março de 2004 foi possível registrar um total de 310 espécies de aves para a área do Campo de Provas Brigadeiro Veloso na Serra do Cachimbo. Quando se acrescenta todos os registros de aves já obtidos por outros pesquisadores que passaram pela mesma área temos um total geral de 381 espécies registradas. Ressalta-se o registro de algumas espécies importantes do ponto de vista biogeográfico e de conservação como: *Anodorhynchus hyacinthinus*, *Chordeiles pusillus*, *Melanopareia torquata*, *Herpsilochmus* aff. *sellowi*, *Elaenia ruficeps*, *Xenopipo atronitens*, *Cyanocorax cristatellus* e *Cyanocorax chrysops*.

PALAVRAS-CHAVE: Amazônia; Inventário; Serra do Cachimbo.

ABSTRACT: Birds of Serra do Cachimbo, Pará State, Brazil. The region comprising Serra do Cachimbo in southern Pará on the border with Mato Grosso is one of Brazil's most interesting regions from a biological standpoint. This complex landscape is an area of transition from the Amazonian Rainforest to the Cerrado of the Brazilian Central Plateau. Mosaics of vegetation can be found, which include dense rainforest savannas (Cerrado) and white sand campinas. Between August 14 and September 3, 2003, and between March 15 and 25, 2004, 310 bird species were registered in the Serra do Cachimbo at Campo de Provas Brigadeiro Veloso. When added to the records obtained by previous researchers, a total of 381 species have now been recorded for this area, including some of the most important in terms of biogeography and conservation, such as: *Anodorhynchus hyacinthinus*, *Chordeiles pusillus*, *Melanopareia torquata*, *Herpsilochmus* aff. *sellowi*, *Elaenia ruficeps*, *Xenopipo atronitens*, *Cyanocorax cristatellus* and *Cyanocorax chrysops*.

KEY WORDS: Amazonia; Inventory; Serra do Cachimbo.

The Neotropical Region is considered an area with the most number of bird species on the planet. Most conservative estimates indicate that approximately 3,300 species live in this region (Vuilleumier 1988), of which 1,825 occur in Brazil (CBRO 2011). Specifically in the Amazon, the largest biome of the Neotropical Region, approximately 1,200 species have been recorded, which represents about 65% of the total birds found in Brazil (Haffer 1990, Stotz *et al.* 1996).

It is known, however, that this elevated richness of bird species in the Amazon is not homogeneous. In other words, besides having considerable variation among species richness in sites located in the center, west, and borders of the basin, there is a partitioning of biotic communities related to the so called interfluviums of the large Amazonian Rivers (Haffer 1974, Haffer 1990).

The Tapajós-Xingu interfluvium, into which is inserted Serra do Cachimbo, is among the biogeographic

regions that boast an expressive quantity of bird endemism, aside from other taxa. In spite of this, it still remains as one of the least known in all of Amazonia (Cracraft 1985, Haffer 1974), and even basic parameters like distribution and other ecological aspects of its avifauna continue to be little studied.

Ornithological knowledge of this region came rather late, and began only in 1952 with the first of a series of excursions to Serra do Cachimbo (1952, 1954, 1956, 1958, 1959, 1960 and 1962), realized by the professional collector José Hidasí. On these trips, he gathered 228 specimens of birds, representing approximately 97 species which were deposited in the ornithological collection of the Museu Paraense Emílio Goeldi (MPEG), Belém, Pará.

In 1955, Emílio Dente and Werner Bokermann visited the aeronautic base of Serra do Cachimbo with the objective of studying the birds of this region (Pinto and

Camargo 1957). During this campaign, a collection of 185 species was gathered, which may be found deposited at the Museu de Zoologia da Universidade de São Paulo (MZUSP).

Posteriorly, in 1957 an expedition headed by Dr. Helmut Sick of the Museu Nacional do Rio de Janeiro was taken to the Cururu River region at the portion north of Serra do Cachimbo. This resulted in the discovery of a new species of bird, *Lepidothrix vilasboasi* (Sick 1959), endemic to the region (Sick 1959). The remaining material collected by Sick at this area is found deposited at the Museu Nacional do Rio de Janeiro. However, a complete analysis of the collection has never been done.

The south of Pará State, at the division with Mato Grosso State, is certainly one of the most interesting regions of Brazil from a biological point of view. It is considered to be a priority area for conservation (Oren and Albuquerque 1991). This is a complex landscape, embodying the fruit of transition between the Amazon Forest and Cerrado of the Brazilian Central Plateau. In this landscape a mosaic can be found of vegetation ranging from dense ombrophilous forests, through the physiognomy of Cerrado, to areas of savannoid campina (Lieras and Kirkbride 1978). The mix makes this region a magnificent natural laboratory for the study of systematics, evolution, and biogeography of bird communities in transitional areas among adjacent biomes.

The objective of this present work is to present an updated list of birds from Serra do Cachimbo. Some relevant aspects on the composition, richness, and ecological and biogeographical relations of the avifauna of this region are also discussed.

MATERIAL AND METHODS

Study Area

Fieldwork was done principally at Campo de Provas Brigadeiro Veloso of the Brazilian Air Force (CPBV), aside from excursions to localities along BR-163 (Cuiabá-Santarém), near CPBV. The studies consisted of two periods: one in the dry season between August 14 and September 3, 2003; and one in the rainy season from March 15-25, 2004. CPBV is situated in the ecotone between the Amazon and the Cerrado in the south of Pará State, municipality of Novo Progresso (09°16'S, 09°22'S, and 54°55'W, 55°10'W) (Figure 1). The region has a mean altitude of 700 m, dividing tributary waters of the Xingú and Tapajós River Basins (Askew *et al.* 1970, RADAM-BRASIL 1980). Mean annual temperature is around 23°C with two well-defined seasons: the dry period from May to September, and the rainy period from October to April (Sudam 1984). According to Lieras and Kirkbride (1978), the region possesses a mosaic of vegetation from campinas and open Cerrado, through bush formations like savanna forests, to campinaranas and ombrophilous forests.

Localities of avifauna sampling

In total, six localities were sampled (collecting points, Figure 1) in the CPBV area, as described bellow:

A: Cristalino River (09°17'S, 55°10'W): area situated at the left bank of the Cristalino River, located

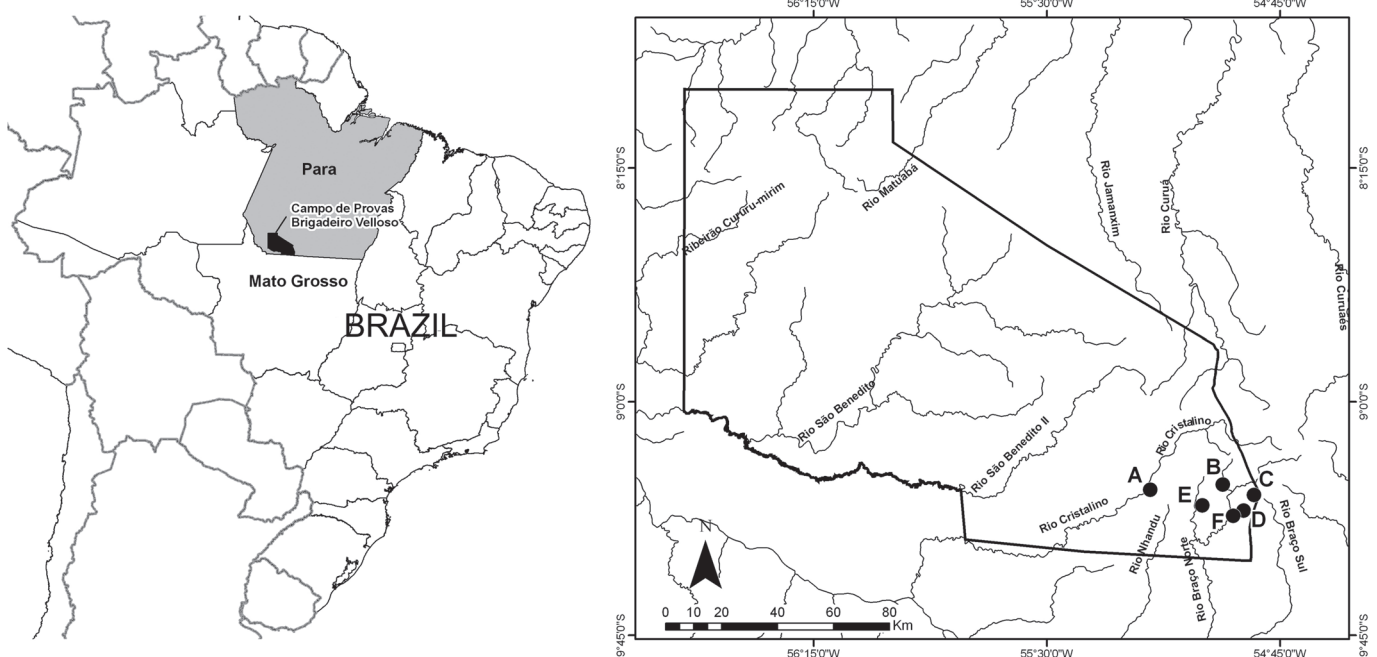


FIGURE 1: Geographic location of Campo de Provas Brigadeiro Veloso in Serra do Cachimbo, south of Pará with indication of sampling points. Legend: (A) Cristalino River; (B) Tower 2; (C) São Francisco Farm, (D) Access road to the base, (E) Trosoba Creek, and (F) Olho-d'água.

approximately 35 km from CPBV headquarters. It is composed of a forestal formation typical of *igapó*, with an annual inundation level of around two meters in the full period, aside from ombrophilous terra-firme forest. This area was inventoried only during the dry period, as the locality becomes inaccessible during the rainy season due to elevated waters of the Cristalino River.

B: Testing Area of Tower 2 (09°16'S, 54°56'W): area situated about 12 km from CPBV headquarters, composed of two distinct forestal formations. The first, directly behind Observation Tower nº 2, presents a campinarana type of forestal formation, with trees of large stature and dossal around 10 to 15 meters. The second vegetal formation is of the open or savannoid type, more specifically Cerrado *sensu stricto*, situated further south of Tower 2, near the airport of the base. In this area it was possible to realize samplings in both seasons.

C: São Francisco Farm (BR-163) (09°18'S, 54°50'W): situated at the margin of BR-163, approximately 10 km from the entrance gate of CPBV. In this area there exists a fragment of terra-firme ombrophilous forest, and field-work was accomplished in both seasons.

D: Entrance of the base (09°21'S, 54°52'W): Various points were studied during both seasons along the asphalt road connecting the watchtower of the CPBV entry gate and BR-163. It is composed of vegetation of a xeric aspect, varying between semi-deciduous forest and savanna forest, with trees presenting reduced diameter and mean height around 6 to 8 meters.

E: Trosoba Creek (09°20'S, 55°00'W): located around 8 km from the CPBV airport. It has an open or savannoid vegetal formation, alternating with areas of Cerrado *sensu stricto* and campinas of white sand, and gallery and morichales types of forested areas. The samplings of avifauna were conducted in both seasons at this locality.

F: Olho d'água Campina and Cerrado of the lagoon (09°22'S, 54°54'W): situated around 3 km from CPBV headquarters. This locality presents an open or savannoid vegetal formation, alternating with areas of Cerrado *sensu stricto* and campinas of white sand, and gallery and morichales types of forested areas.

Collection of data

At least three areas of forest and three areas of more open vegetal formations were sampled. The selection of these areas was important to verify the specificity of habitats and habits of the bird species, as well as their relative abundance. In order to accomplish the rapid ecological

evaluation program, four data collecting methods were implemented:

Observations were conducted systematically in two preferential periods between 5 and 11 h and between 16 and 21 h. These constitute the periods of greatest activity among birds, including species with nocturnal habits. During these periods pre-determined areas were visited beforehand with the intention of obtaining comparable data between campaigns.

During the time dedicated to observation, birds that were found vocalizing were identified with the aid of recordings belonging to the authors as well as playback. In cases in which field identification was not possible, this was accomplished through comparison with already existing recordings from private archives or those deposited in bioacoustic laboratories.

Capture: capture of individuals was done by mist-nets (12 × 2.5 m, 36 mm mesh). The nets were arranged in the understory of the forest in linear sequence. The nets were opened before the beginning of each observation period and closed at dusk. In total 20 nets were used, divided in two groups of ten each.

Collection: collection was accomplished with the help of shotguns (.22, .36 and .28 caliber) and through mist-net captures. The specimens were taxidermized and deposited in the ornithological collection of MPEG. Taxonomic sequence follow CBRO (2011).

RESULTS AND DISCUSSION

The work developed at CPBV and adjacent regions (see above) resulted in a list of 311 species of birds, distributed among 59 families (Appendix). Of these, the most representative were: Tyrannidae (50), Thamnophilidae (30), Thraupidae (26), Psittacidae (23) and Dendrocolaptidae (15). There were collected 350 specimens representing 121 species.

Comparing the present list of species with material collected by Emílio Dente and Werner Bokermann (Pinto and Camargo, 1957), and that obtained by José Hidasi (MPEG), it was observed that 70 species and one family were not registered by us in this present work (Appendix). As such, 381 species of birds representing 60 families indicate confirmed records for the area of Serra do Cachimbo.

The sampled avifauna presents various levels of endemism. Of 381 species registered, 65 (17.1%) are endemic to the Amazon region. Two of them – *Melanopreia torquata* and *Cyanocorax cristatellus* – are endemic to Cerrado (Silva 1995, Silva and Santos 2005). Of the total Amazonian endemic species, five species occur only in

Brazilian portion of this biome (*Penelope pileata*, *Psophia dextralis*, *Pyrilia vulturina*, *Amazona kawalli* and *Rhegmatorhina gymnops*). One of these, *Rhegmatorhina gymnops*, has a restricted distribution in the Tapajós-Xingu interfluvium (Haffer 1985, Haffer 1990, Oren 2001, Stotz *et al.* 1996).

In the area of Serra do Cachimbo there are two large types of vegetation: one formed by forestal areas (campinarana, *igapó*, gallery and terra-firme forests); and the other being open areas (Cerrado *sensu stricto*, meadows, campinas and dry forests). After evaluating the composition of species among the various vegetation types, it becomes clear that there exists an ecological segregation between forestal and open area bird communities. This suggests that the bird communities present in this transitional area between the Amazon Forest and Cerrado, despite co-existing geographically (present in the same region), are segregated into distinct ecological compartments (habitats).

Typical Amazonian bird species (forestal) principally use areas like campinarana and ombrophilous forest, penetrating areas of Cerrado by means of gallery forests. This pattern corroborates the data of Silva (1996), which indicates exactly these forests as corridors of dispersion for birds of the Amazon and Atlantic forests in the direction of the Cerrado. The species *Momotus momota*, *Dendrocincla merula*, *Chiroxiphia pareola* and *Xipholena punicea* exemplify this pattern, as they are strictly forestal and were registered in the gallery forests in the region of Serra do Cachimbo. One interesting example of this pattern is the occurrence of two species of the genus *Corythopis*, which present a clear segregation in terms of use of habitat. While *Corythopis torquatus* utilizes forestal areas dominated by ombrophilous and campinarana forests, *Corythopis delalandi* utilizes gallery forests.

Species typical of open areas have already been registered only in arboreal savanna (cerradão), Cerrado *sensu stricto* and campina. Even within this group there is a distinction in the composition of species by vegetation. *Melanopareia torquata*, endemic to Cerrado, is registered only in more savanna-like Cerrado. However, *Cyanocorax cristatellus*, another species endemic to Cerrado, is more frequently in Cerrado *sensu stricto*. *Xenopipo atronitens*, typical species of Amazonian campinas, was registered in 'Arboreal Savanna', jointly with *Basileuterus flaveolus*, *Herpsilochmus* aff. *sellowi* and *Neopelma pallescens*, which are species related to areas of Cerrado and dry forests of northeastern Brazil in the region of Caatinga.

In relation to bird richness by vegetation type, ombrophilous forest presented the largest number of species (211), followed by campinarana (157).

This strong transitional characteristic of the region of Serra do Cachimbo, surrounding the two largest Brazilian biomes (the Amazon and the Cerrado) tend to positively influence local avifauna regarding change in

composition and structure of habitat. This biogeographic region is presented as an important scenario in the understanding of ecological relations involving bird communities among the two biomes, as they are contrasted by remarkable differences in environmental heterogeneity, forestal covering, temperature, humidity, rainfall etc.

Haffer (1974) indicates the region of the Tapajós-Xingu interfluvium as one of the centers of endemism ('Pará' Center). Posteriorly, Cracraft (1985) also recognized the 'Pará' area of endemism, but nevertheless unites other groups of taxa characteristic of this area (20 taxa), only three of which coincide with Haffer's proposition (1974). Generally, both rightly involve the region of the Tapajós-Xingu interfluvium, the southern limit of which is Serra do Cachimbo. In other words, all of the species related either to the 'Pará' area of endemism or are geographically limited by the Tapajós and Xingu rivers, would have as their southern limit of distribution the region of Serra do Cachimbo.

Of the eleven taxa united by Haffer (1974), six were registered by us in the region of Serra do Cachimbo: *Psophia dextralis*, *Pyrilia vulturina*, *Selenidera gouldii*, *Pteroglossus i. inscriptus* and *Psarocolius b. bifasciatus*. On the other hand, considering the twenty taxa of Cracraft (1985), only six were registered by us: *Rhegmatorhina gymnops*, *Hemitriccus m. minor*, *Myiobius barbatus insignis*, *Dixiphia pipra separabilis*, *Psarocolius bifasciatus*, and *Hylophilus brunneiceps inornatus*, this latter recorded only by Pinto and Camargo (1957).

These data further strengthen the suggestion that the Serra do Cachimbo region is the southern limit for a whole group of bird species that are geographically related to the Tapajós-Xingu interfluvium. As such, the Serra do Cachimbo region appears biogeographically important. The presence of this ecotonal region is also relevant as seen through the commentary of Cracraft (1985), suggesting that, independent of the mechanism that gave origin to the areas of endemism, the transitional zone between these areas must protect a sufficiently heterogeneous fauna. This is the result of differential expansion of species coming from adjacent areas of endemism.

Important records

Penelope pileata

Endemic to terra-firme forests south of the Amazon River, from the right bank of the lower Madeira until the Amazonian Maranhão (Hoyo 1994). It is part of a complex of species that also include *Penelope ochrogaster* and *P. jacuaca*. The southern limit of its distribution is still little known, and can come close to *P. ochrogaster* in the southeast of Pará. This is where *P. pileata* occurs in Carajás (Pacheco *et al.* 2007), while *P. ochrogaster* was

registered in terra-firme forest at Santana do Araguaia (Silveira, *pers. obs.*, Somenzari *et al.* this volume). Despite its large distribution, its population is diminishing due to intense deforestation and hunting. In CPBV this species is relatively common, and solitary individuals or groups of up to seven birds were registered in the terra-firme forests as well as in some Cerrado *sensu stricto* areas (MPEG 57296, 57922). Our records apparently expand its distribution, to a considerable degree, in the southern direction. This suggests that its occurrence may reach until the state of Mato Grosso, where still no published record of the species exists. Among Cracids, there are a tendency to observe only one species for each genus in a determined area. However, in the CPBV area the presence of three species of the genus *Penelope* (*Penelope superciliaris*, *P. jacquacu* and *P. pileata*) is remarkable. They were all registered from the same forests, which makes it interesting for ecological studies. Besides these, three more species of this family were recorded (*Aburria kujubi*, *Crax f. fasciolata* and *Pauxi tuberosa*). The presence of these species of Cracidae indicates that the area is in an excellent state of conservation, with very low pressure from hunting. It also indicates that CPBV can be designated as an important area for the conservation of Cracids in the south of Pará.

Aratinga pertinax paraensis

This parakeet is part of a group (*sensu* Silveira *et al.* 2005) that includes *Aratinga aurea*, *A. nana*, *A. canicularis* and *A. cactorum*, the last of which is probably its sister group. The species of this group share a unique pattern of coloration of remiges as in the adopted guidelines of the polyphyletic genus *Aratinga*. *Aratinga pertinax* possesses about 15 subspecies (Rowley and Collar 1997), all habitants of open areas and/or xeric environments, aside from insular forms. Only *A. p. paraensis* occurs to the south of Amazonas, specifically in southern Pará, where it was described from specimens obtained from the upper course of the Cururu River, lying within the area of CPBV (Sick 1963). In CPBV there is a taxon commonly found in xeric areas, in couples or small familiar groups, which eventually use areas of Cerrado *sensu stricto* (MPEG 57302). *Aratinga p. paraensis* appears to be more closely related to *A. cactorum* (Silveira, *pers. obs.*), than with the other members of the *A. pertinax* complex. This also represents a biogeographical pattern more consistent with the avifauna of Serra do Cachimbo (see, *p. ex.*, *Herpsilochmus aff. sellowi*). The specimens analyzed (Silveira, *pers. obs.*) indicate consistent diagnostic characters, strongly suggesting that *Aratinga paraensis* is a valid taxon related to, yet independent of, *A. cactorum*. The taxonomy of the *A. pertinax* complex must be urgently reevaluated, and many described subspecies certainly represent valid taxa.

Chordeiles pusillus saturatus

This is a little known form described from Serra do Cachimbo (MZUSP 38262 and 38263; Pinto and Camargo 1957). It is locally common as it is easily found in Cerrado areas, especially those which have rocky outcrops. It is particularly found during early morning and is easily detected through its characteristic vocalization. The six taxa currently grouped under the name *Chordeiles pusillus*, distributed throughout the open landscapes of a good part of South America, present great intraspecific variability of plumage, which could have lead to the description of invalid evolutionary units. A taxonomic revision of the group, using vocal, morphological and molecular characters, is important in order to have a more precise idea about its diversity and diversification processes.

Melanopareia torquata

Species endemic to Cerrado (Silva 1995, Silva and Santos 2005), distributed from the northeast of Brazil through the North of Bolivia (Krabbe and Schulenberg 2003). It is relatively common in Cerrado *sensu stricto* (MZUSP 38283; Pinto and Camargo 1957), where it always vocalizes near the ground. During fieldwork it was possible to record the characteristic vocalization of this species on various occasions, always in Cerrado *sensu stricto* areas. The specimens collected at CPBV agree with the nominate form.

Herpsilochmus aff. sellowi

Among the most important findings the presence of this taxon is remarkable. It appears that it is more related to *H. sellowi*, endemic to Caatinga (see *Aratinga pertinax paraensis*). However, the specimens found in CPBV present consistent differences in morphology and vocalization which are distinct from other species of the genus. Two males and three females were collected (MPEG 57347-51), aside from recordings of its vocalization on diverse opportunities. In the area of CPBV this species is relatively common in arboreal savanna areas and along the border of Cerrado *sensu stricto* and campinarana.

Elaenia ruficeps

This is a species with geographic distribution predominantly to the north of the Amazon River. It is extremely punctual and has very few records to the south of Amazonas (Fitzpatrick, 2004). One of the few records of the species to the south of Amazonas is precisely in the region of the Cururu River, which lies inside the CPBV area in Serra do Cachimbo, the area studied by Helmut Sick in the years 1956-1957 (Sick 1997). On August 27,

2003 we collected an individual of *Elaenia ruficeps* in an area where a gallery forest is juxtaposed with the border of a campina forest (MPEG 57382). In CPBV this species appears to be rare.

Xenopipo atronitens

This species is widely found in Amazonia. Nevertheless, it presents a strong association with open habitats like campinas and campinaranas beneath sandy ground, which implicates an extremely fragmented and of punctual distribution (Snow 2004). In the CPBV area, we collected eight specimens (MPEG 57402, 57403, 57404, 57405, 57406, 57988, 57989, 57990), all found in campina, campinarana and gallery forest.

Cyanocorax chrysops

The taxon which occurs in Serra do Cachimbo has uncertain taxonomic status. The birds of Serra do Cachimbo were initially considered to be *C. c. diesinguii* (MZUSP 38577, 38578, 38579; Pinto and Camargo 1957), a subspecies still little known. Other records are from the falls of the Madeira River and the upper Tapajós, whose holotype is from the border of Amazonas State (Blake and Vaurie 1962). Posteriorly, Pinto and Camargo (1961) examined specimens of *Cyanocorax chrysops* at MZUSP, and reclassified the specimens of Serra do Cachimbo. They described a new subspecies based on this material, designating the taxon *Cyanocorax chrysops insperatus* Pinto and Camargo, 1961. However, most recent authors ignore this subspecies, which seems to be more related to *Cyanocorax cyanopogon*, a taxon typically found in Caatinga and other open areas in the Brazil. This is a pattern shared with other taxa of xeric areas (see *Herpilochmus* aff. *sellowi* and *Aratinga pertinax paraensis*). In CPBV we collected three specimens, all in Cerrado *sensu stricto*/cerradão area (MPEG 57440, 57468, 57469). At this locality the species is common, living in large groups among the understory of the driest areas of the region, and is syntopically found with *Cyanocorax cristatellus*.

ACKNOWLEDGEMENTS

This work had financial support from PROBIO-MMA as a component of the project "Landscapes and Biodiversity: An Integrated Perspective for the Inventory and Conservation of Serra do Cachimbo" (68.0024/02-6). We are grateful to FAB (Força Aérea Brasileira) for logistical support and authorization to realize fieldwork in the interior of the Campo de Provas Brigadeiro Veloso area. We are also grateful to the Museu Paraense Emílio Goeldi for logistical support in the cession of vehicles for team transport to the work area. UPS Brasil (Bruno Ehlers) provided field and laboratory equipment. LFS receives a grant from CNPq and is an *Associate Researcher* of the World Pheasant Association.

REFERENCES

- Askew, G. P.; Montgomery, R. F. and Searl, J. P. (1970). Soil landscapes in north eastern Mato Grosso. *Geographical Journal*, 136:211-227.
- Blake, E. R. and Vaurie, C. (1962). Family Corvidae. In: E. Mayr and J. C. Greenway Jr. (Eds.): *Check-list of birds of the World*, XV: 204-261. Museum of Comparative Zoology, Cambridge, Massachusetts.
- Comitê Brasileiro de Registros Ornitológicos – CBRO. (2011). *Listas das aves do Brasil*. 10ª Edição, 25/01/2011. Disponível em: <www.cbro.org.br>. Acesso em: 17 de fevereiro de 2011.
- Cracraft, J. (1985). Historical biogeography and patterns of differentiation within the South American avifauna: areas of endemism. *Ornithological monographs*, 36:49-84.
- Fitzpatrick, J. W. (2004). Tyrannidae. In: J. Del Hoyo, A. Elliott and J. D. Christie (Eds.): *Handbook of the birds of the world*, IX: 170-462. Cotingas to Pipits and Wagtails. Lynx Edicions, Barcelona.
- Haffer, J. (1974). Avian speciation in tropical South America. With a systematic survey of the toucans (Ramphastidae) and jacamars (Galbulidae). *Publications of the Nuttall Ornithological Club*, 14:179-312.
- Haffer, J. (1985). Avian zoogeography of the neotropical lowlands. *Ornithological Monographs*, 36:113-145.
- Haffer, J. (1990). Avian species richness in tropical South America. *Studies on Neotropical Fauna and Environmental*, 25(3):157-183.
- Hoyo, J. (1994). Cracidae. In: J. Del Hoyo, A. Elliott and J. Sargatal (Eds.): *Handbook of the birds of the world*, IV. Sandgrouse to Cuckoos: 310-363. Lynx Edicions, Barcelona.
- Krabbe, N. K. and Schulenberg, T. S. (2003). Rhinocryptidae. In: J. Del Hoyo, A. Elliott and J. Sargatal (Eds.): *Handbook of the birds of the world*, VIII. Broadbills to Tapaculos: 748-787. Lynx Edicions, Barcelona.
- Lieras, E. and Kirkbride Jr., J. H. (1978). Alguns aspectos da vegetação da Serra do Cachimbo. *Acta Amazônica*, 8(1):51-65.
- Oren, D. C. (2001). Biogeografia e conservação de aves na região amazônica. In: J. P. R. Capobianco, A. Veríssimo, A. Moreira, D. Sawyer, I. Santos and L. P. Pinto (Eds.): *Biodiversidade na Amazônia Brasileira: Avaliação e ações prioritárias para a conservação, uso sustentável e repartição de benefícios*: 97-109. Editora Instituto Socioambiental e Estação Liberdade, São Paulo.
- Oren, D. C. and Albuquerque, H. G. (1991). Priority areas for New Avian Collections in Brazilian Amazonia. *Goeldiana*, 6:1-11.
- Pacheco, J. F.; Kirwan, G. M.; Aleixo, A.; Whitney, B.; Whittaker, A.; Minns, J.; Zimmer, K. J.; Fonseca, P. S. M.; Lima, M. F. C. and Oren, D. C. (2007). An avifaunal inventory of the CVRD Serra dos Carajás Project, Pará, Brazil. *Cotinga*, 27:15-30.
- Pinto, O. M. O. and Camargo, E. A. (1957). Sobre uma coleção de aves da região de Cachimbo (Sul do Estado do Pará). *Papéis Avulsos de Zoologia*, 13:51-69.
- Pinto, O. M. O. and Camargo, E. A. (1961). Resultados ornitológicos de quatro recentes expedições do Departamento de Zoologia ao Nordeste do Brasil, com a descrição de seis novas subespécies. *Arquivos de Zoologia do Estado de São Paulo*, 12:193-284.
- Radambrasil. (1980). Folha Juruena, SC.21: *Geologia, geomorfologia, solos, vegetação e uso potencial da terra*: 1-456. DNPM/MME Projeto RADAMBRASIL, Rio de Janeiro.
- Rowley, I. and Collar, N. J. (1997). Psittaciformes. In: J. Del Hoyo, A. Elliott and J. Sargatal (Eds.): *Handbook of the birds of the world*, IV. Sandgrouse to Cuckoos: 246-477. Lynx Edicions, Barcelona.
- Sick, H. (1959). Um novo piprídeo do Brasil Central: "*Pipra vilasboasi*" sp. N. (Pipridae, Aves). *Revista Brasileira de Biologia*, 19(1):13-16.
- Sick, H. (1963). *Aratinga pertinax paraensis* – Angehöriger des Formenkreises *Aratinga pertinax*. *Journal für Ornithologie*, 104:441-443.

- Sick, H. (1997).** *Ornitologia Brasileira: uma introdução*: 1-912. Nova Fronteira, Rio de Janeiro.
- Silva, J. M. C. (1995).** Birds of the Cerrado region, South America. *Steenstrupia*, 21:69-92.
- Silva, J. M. C. (1996).** The distribution of Amazonian and Atlantic forest elements in the gallery forests of the Cerrado Region. *Ornitologia Neotropical*, 7:1-18.
- Silva, J. M. C. and Santos, M. P. D. (2005).** A importância relativa dos processos biogeográficos na formação da avifauna do Cerrado e de outros biomas brasileiros.. In: A. O. Scariot, J. C. S. Silva and J. M. Felfili (Eds.): *Biodiversidade: Ecologia e Conservação do Cerrado*: 220-233. Ministério do Meio Ambiente, Brasília.
- Silveira, L. F.; Lima F. C. T. and Höfling, E. (2005).** A new species of *Aratinga* parakeet (Psittaciformes: Psittacidae) from Brazil, with taxonomic remarks on the *Aratinga solstitialis* complex. *Auk*, 122(1):292-305.
- Snow, D. W. (2004).** Pipridae. In: J. Del Hoyo, A. Elliott and J. D. Christie (Eds.): *Handbook of the birds of the world, IX*. Cotingas to Pipits and Wagtails: 110-169. Lynx Edicions, Barcelona.
- Stotz, D. F.; Fitzpatrick, J. W.; Parker III, T. A. and Moskovits, D. K. (1996).** *Neotropical Birds: Ecology and Conservation*: 1-478. The University of Chicago Press, Chicago.
- SUDAM. (1984).** *Atlas Climatológico da Amazônia*. SUDAM/PHCA (Publicação nº 39), Belém.
- Terborgh, J. (1985).** Habitat selection in Amazonian birds. In: M. L. Cody (Ed.): *Habitat selection in birds*: 331-338. Academic Press, New York.
- Vuilleumier, F. (1988).** Avian diversity in tropical ecosystems of South America and the design of national parks. *Biota Bulletin*, 1: -32.

APPENDIX: List of species recorded in the area of Serra do Cachimbo, Campo de Provas Brigadeiro Veloso.

Areas: (1) Cristalino River; (2) Tower 2; (3) São Francisco Farm, (4) Access road to the base, (5) Trosoba Creek, and (6) Olho-d'água.

Evidence: M(a) = species collected in this work, M(b) = species recorded by J. Hidasi (MPEG), M(c) = species recorded by Pinto and Camargo (1957), (Ob) species observed during this work, (Vr) voice recorded.

Habitat: (Fo) = ombrophilous forest, (Ig) = *Igapó*, (Cp) = forested campinarana, (Sa) = arboreal savanna (cerradão), (Cs) = Cerrado *sensu stricto*, (Cm) = campina, (Mg) = gallery forest.

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
Tinamiformes Huxley, 1872				
Tinamidae Gray, 1840				
<i>Tinamus tao</i> Temminck, 1815	Gray Tinamou	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Tinamus major</i> (Gmelin, 1789)	Great Tinamou	1,3	Fo	M(a);M(b);M(c)
<i>Crypturellus cinereus</i> (Gmelin, 1789)	Cinereous Tinamou	1,3	Fo	M(a);M(c)
<i>Crypturellus soui</i> (Hermann, 1783)	Little Tinamou	1,2	Fo;Cp	Ob;Vr
<i>Crypturellus undulatus</i> (Temminck, 1815)	Undulated Tinamou	1	Fo	M(a);M(b);M(c)
<i>Crypturellus strigulosus</i> (Temminck, 1815)	Brazilian Tinamou	1,2	Fo;Cp	Ob;Vr
<i>Crypturellus variegatus</i> (Gmelin, 1789)	Variiegated Tinamou	1	Fo	Ob;Vr
<i>Crypturellus parvirostris</i> (Wagler, 1827)	Small-billed Tinamou	4,5	Sa;Cs	M(a);M(b);M(c)
<i>Crypturellus tataupa</i> (Temminck, 1815)	Tataupa Tinamou	6	Cs	Ob;Vr
Anseriformes Linnaeus, 1758				
Anhimidae Stejneger, 1885				
<i>Dendrocygna viduata</i> (Linnaeus, 1766)	White-faced Whistling-Duck	6	Ig	Ob
<i>Cairina moschata</i> (Linnaeus, 1758)	Muscovy Duck	Pinto and Camargo	Ig	M(c)
Galliformes Linnaeus, 1758				
Cracidae Rafinesque, 1815				
<i>Ortalis superciliaris</i> (Gray, 1867)	Buff-browed Chachalaca	1,2,3,4,5,6	Fo;Cp;Sa;Cs	M(a);M(c)
<i>Penelope jacquacu</i> Spix, 1825	Spix's Guan	1,2,5	Fo;Cp;Cs	M(a)
<i>Penelope pileata</i> Wagler, 1830	White-crested Guan	2,5,6	Cs	M(a)
<i>Aburria kujubi</i> (Pelzeln, 1858)	Red-throated Piping-Guan	1,2,3,6	Fo;Cp;Cs	M(a);M(c)
<i>Pauxi tuberosa</i> (Spix, 1825)	Razor-billed Curassow	1,2,3	Fo;Cp	M(a);M(b);M(c)
<i>Crax fasciolata</i> Spix, 1825	Bare-faced Curassow	1,2,3	Fo;Cp	M(a);M(c)
Odontophoridae Gould, 1844				
<i>Odontophorus gujanensis</i> (Gmelin, 1789)	Marbled Wood-Quail	1,3	Fo	M(a);M(b);M(c)
Ciconiiformes Bonaparte, 1854				
Phalacrocoracidae Reichenbach, 1849				
<i>Phalacrocorax brasilianus</i> (Gmelin, 1789)	Neotropic Cormorant	Pinto and Camargo	Ig	M(c)
Anhingidae Reichenbach, 1849				
<i>Anhinga anhinga</i> (Linnaeus, 1766)	Anhinga	1	Ig	Ob
Pelecaniformes Sharpe, 1891				
Ardeidae Leach, 1820				
<i>Tigrisoma lineatum</i> (Boddaert, 1783)	Rufescent Tiger-Heron	1	Ig	Ob
<i>Agamia agami</i> (Gmelin, 1789)	Agami Heron	Pinto and Camargo	Ig	M(c)
<i>Butorides striata</i> (Linnaeus, 1758)	Striated Heron	Pinto and Camargo	Ig	M(c)
<i>Bubulcus ibis</i> (Linnaeus, 1758)	Cattle Egret	1	Ig	Ob
<i>Ardea alba</i> Linnaeus, 1758	Great Egret	2,5	Cs	Ob
<i>Pilherodius pileatus</i> (Boddaert, 1783)	Capped Heron	2,3	Ig;Cs	M(a)
<i>Egretta thula</i> (Molina, 1782)	Snowy Egret	2,5	Cs	Ob
Threskiornithidae Poche, 1904				
<i>Mesembrinibis cayennensis</i> (Gmelin, 1789)	Green Ibis	1	Ig	M(a);M(b);M(c)
<i>Phimosus infuscatus</i> (Lichtenstein, 1823)	Bare-faced Ibis	1	Ig	Ob
Cathartiformes Seebohm, 1890				
Cathartidae Lafresnaye, 1839				
<i>Cathartes aura</i> (Linnaeus, 1758)	Turkey Vulture	1,3,5,6	Fo;Cs	Ob
<i>Cathartes burrovianus</i> Cassin, 1845	Lesser Yellow-headed Vulture	2,5	Cs	Ob
<i>Cathartes melambrotus</i> Wetmore, 1964	Greater Yellow-headed Vulture	1,2,3	Fo;Cp	Ob
<i>Coragyps atratus</i> (Bechstein, 1793)	Black Vulture	1,2,3,4,6	Fo;Cs;Sa	Ob
<i>Sarcorampus papa</i> (Linnaeus, 1758)	King Vulture	2	Cp	Ob
Accipitriformes Bonaparte, 1831				
Accipitridae Vigors, 1824				
<i>Elanoides forficatus</i> (Linnaeus, 1758)	Swallow-tailed Kite	1	Sa;Cs;Cm	Ob

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Gampsonyx swainsonii</i> Vigors, 1825	Pearl Kite	Hidasi/Pinto and Camargo	Sa;Cs;Cm	M(b);M(c)
<i>Harpagus bidentatus</i> (Latham, 1790)	Double-toothed Kite	Pinto and Camargo	Fo	M(c)
<i>Accipiter bicolor</i> (Vieillot, 1817)	Bicolored Hawk	1,3	Fo	Ob
<i>Ictinia plumbea</i> (Gmelin, 1788)	Plumbeous Kite	1,2,3,4,6	Fo;Cs;Sa	Ob
<i>Geranospiza caerulescens</i> (Vieillot, 1817)	Crane Hawk	2,5	Cs	Ob
<i>Heterospizias meridionalis</i> (Latham, 1790)	Savanna Hawk	Pinto and Camargo	Cs;Cm	M(c)
<i>Urubitinga urubitinga</i> (Gmelin, 1788)	Great Black-Hawk	1	Ig	M(a);M(b);M(c)
<i>Rupornis magnirostris</i> (Gmelin, 1788)	Roadside Hawk	1,5	Fo;Ig;Cs	M(a);M(b);M(c)
<i>Geranoaetus albicaudatus</i> (Vieillot, 1816)	White-tailed Hawk	5,6	Cs	M(a);M(c)
<i>Buteo brachyurus</i> Vieillot, 1816	Short-tailed Hawk	1	Fo	Ob
<i>Buteo swainsoni</i> Bonaparte, 1838	Swainson's Hawk	1	Sa;Cs;Cm	Ob
<i>Spizaetus ornatus</i> (Daudin, 1800)	Ornate Hawk-Eagle	1	Fo	Ob;Vr
Falconiformes Bonaparte, 1831				
Falconidae Leach, 1820				
<i>Daptrius ater</i> Vieillot, 1816	Black Caracara	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Ibyster americanus</i> (Boddaert, 1783)	Red-throated Caracara	1,2,3	Fo;Cp	M(a);M(b);M(c)
<i>Caracara plancus</i> (Miller, 1777)	Southern Caracara	5,6	Cs	Ob
<i>Milvago chimachima</i> (Vieillot, 1816)	Yellow-headed Caracara	1,5,6	Fo;Cp;Cs	M(a);M(b);M(c)
<i>Herpetotheres cachinnans</i> (Linnaeus, 1758)	Laughing Falcon	2,5	Fo;Cp;Cs	Ob
<i>Micrastur ruficollis</i> (Vieillot, 1817)	Barred Forest-Falcon	2,3	Fo;Cp	Ob;Vr
<i>Micrastur mintoni</i> Whittaker, 2002	Cryptic Forest-Falcon	2,3	Fo;Cp	M(a);M(b);M(c)
Eurypygiiformes Furbringer, 1888				
Eurypygiidae Selby, 1840				
<i>Eurypyga helias</i> (Pallas, 1781)	Sunbittern	Hidasi/Pinto and Camargo	Ig	M(b);M(c)
Gruiformes Bonaparte, 1854				
Psophiidae Bonaparte, 1831				
<i>Psophia viridis</i> Spix, 1825	Green-winged Trumpeter	1,3	Fo	M(a)
Rallidae Rafinesque, 1815				
<i>Laterallus viridis</i> (Statius Muller, 1776)	Russet-crowned Crake	6	Cs;Cm	M(a)
<i>Porzana albicollis</i> (Vieillot, 1819)	Ash-throated Crake	1	Ig	Ob;Vr
<i>Neocrex erythrops</i> (Sclater, 1867)	Paint-billed Crake	Pinto and Camargo	Ig	M(c)
Heliornithidae Gray, 1840				
<i>Heliornis fulica</i> (Boddaert, 1783)	Sungrebe	Pinto and Camargo	Ig	M(c)
Cariamiformes Furbringer, 1888				
Cariamidae Bonaparte, 1850				
<i>Cariama cristata</i> (Linnaeus, 1766)	Red-legged Seriema	5,6	Cs;Cm	M(a)
Charadriiformes Huxley, 1867				
Charadriidae Leach, 1820				
<i>Vanellus chilensis</i> (Molina, 1782)	Southern Lapwing	5,6	Cs;Cm	Ob
<i>Pluvialis dominica</i> (Statius Muller, 1776)	American Golden-Plover	Pinto and Camargo	Cm	M(c)
Scolopacidae Rafinesque, 1815				
<i>Gallinago paraguayiae</i> (Vieillot, 1816)	South American Snipe	Hidasi	Cs;Cm	M(b)
<i>Bartramia longicauda</i> (Bechstein, 1812)	Upland Sandpiper	Pinto and Camargo	Cs;Cm	M(c)
<i>Actitis macularius</i> (Linnaeus, 1766)	Spotted Sandpiper	6	Cs;Cm	M(a);M(b);M(c)
<i>Tringa solitaria</i> Wilson, 1813	Solitary Sandpiper	Hidasi/Pinto and Camargo	Cs;Cm	M(b);M(c)
<i>Tringa melanoleuca</i> (Gmelin, 1789)	Greater Yellowlegs	Pinto and Camargo	Cs;Cm	M(c)
<i>Tringa flavipes</i> (Gmelin, 1789)	Lesser Yellowlegs	Pinto and Camargo	Cs;Cm	M(c)
<i>Calidris fuscicollis</i> (Vieillot, 1819)	White-rumped Sandpiper	Pinto and Camargo	Cs;Cm	M(c)
Columbiformes Latham, 1790				
Columbidae Leach, 1820				
<i>Columbina talpacoti</i> (Temminck, 1811)	Ruddy Ground-Dove	4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Claravis pretiosa</i> (Ferrari-Perez, 1886)	Blue Ground-Dove	4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Patagioenas speciosa</i> (Gmelin, 1789)	Scaled Pigeon	1,2,3,4,5,6	Fo;Cp;Sa;Cs	M(a);M(b);M(c)
<i>Patagioenas cayennensis</i> (Bonnaterre, 1792)	Pale-vented Pigeon	1,2,3,4,5,6	Fo;Ig;Sa;Cs	M(a);M(b);M(c)
<i>Patagioenas subvinacea</i> (Lawrence, 1868)	Ruddy Pigeon	1,3	Fo	Ob;Vr

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Leptotila verreauxi</i> Bonaparte, 1855	White-tipped Dove	1,3,5,6	Fo;Cs;Cm	M(a);M(b);M(c)
<i>Leptotila rufaxilla</i> (Richard and Bernard, 1792)	Gray-fronted Dove	1,4,6	Fo;Cs	M(a);M(b);M(c)
<i>Geotrygon montana</i> (Linnaeus, 1758)	Ruddy Quail-Dove	1,3	Fo	M(a);M(b);M(c)
Psittaciformes Wagler, 1830				
Psittacidae Rafinesque, 1815				
<i>Anodorhynchus hyacinthinus</i> (Latham, 1790)	Hyacinth Macaw	6	Fo	Ob
<i>Ara ararauna</i> (Linnaeus, 1758)	Blue-and-yellow Macaw	5,6	Fo;Cs	M(a);M(b);M(c)
<i>Ara macao</i> (Linnaeus, 1758)	Scarlet Macaw	1,2,3	Fo;Cp	Ob;Vr
<i>Ara chloropterus</i> Gray, 1859	Red-and-green Macaw	1,2,3,6	Fo;Cp;Cs	Ob;Vr
<i>Ara severus</i> (Linnaeus, 1758)	Chestnut-fronted Macaw	1,2,3,6	Fo;Ig;Cp;Cs	Ob;Vr
<i>Orthopsittaca manilata</i> (Boddaert, 1783)	Red-bellied Macaw	6	Fo;Cp;Sa;Cs	M(a);M(b);M(c)
<i>Diopsittaca nobilis</i> (Linnaeus, 1758)	Red-shouldered Macaw	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Aratinga leucophthalma</i> (Statius Muller, 1776)	White-eyed Parakeet	1,2	Fo;Ig;Cp;Cs	Ob;Vr
<i>Aratinga aurea</i> (Gmelin, 1788)	Peach-fronted Parakeet	4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Aratinga pertinax</i> (Linnaeus, 1758)	Brown-throated Parakeet	6	Sa;Cs;Cm	M(a)
<i>Pyrrhura picta</i> (Statius Muller, 1776)	Painted Parakeet	1,2,3,6	Fo;Cp	M(a);M(b);M(c)
<i>Forpus xanthopterygius</i> (Spix, 1824)	Blue-winged Parrotlet	1,2,4,5,6	Fo;Sa;Cs	Ob;Vr
<i>Brotogeris versicolurus</i> (Statius Muller, 1776)	Canary-winged Parakeet	Hidasi	Fo	M(b)
<i>Brotogeris chiriri</i> (Vieillot, 1818)	Yellow-chevroned Parakeet	1,2,4,5,6	Fo;Cp;Sa;Cs	M(a);M(b);M(c)
<i>Brotogeris cyanopectus</i> (Pelzeln, 1870)	Cobalt-winged Parakeet	2,3	Fo;Cp	M(a)
<i>Pionites leucogaster</i> (Kuhl, 1820)	White-bellied Parrot	2,3	Fo;Cp	M(a)
<i>Pyrilia vulturina</i> (Kuhl, 1820)	Vulturine Parrot	1,2	Fo;Ig;Cp	Ob;Vr
<i>Pyrilia aurantiocephala</i> (Gaban-Lima, Raposo and Höfling, 2002)	Bald Parrot	1,2	Fo;Cp	Ob
<i>Pionus menstruus</i> (Linnaeus, 1766)	Blue-headed Parrot	1,2,3,6	Fo;Cp	M(a);M(b);M(c)
<i>Amazona kawalli</i> Grantsau and Camargo, 1989	Kawall's Parrot	1,2,3	Fo;Cp	Ob;Vr
<i>Amazona farinosa</i> (Boddaert, 1783)	Mealy Parrot	1,2,3	Fo;Cp	Ob;Vr
<i>Amazona amazonica</i> (Linnaeus, 1766)	Orange-winged Parrot	1,2	Fo;Cp	M(a)
<i>Amazona ochrocephala</i> (Gmelin, 1788)	Yellow-crowned Parrot	1,2,3	Fo;Cp	M(a)
Cuculiformes Wagler, 1830				
Cuculidae Leach, 1820				
<i>Piaya cayana</i> (Linnaeus, 1766)	Squirrel Cuckoo	Pinto and Camargo	Fo;Ig	M(c)
<i>Piaya melanogaster</i> (Vieillot, 1817)	Black-bellied Cuckoo	1	Fo	Ob
<i>Coccyzus melacoryphus</i> Vieillot, 1817	Dark-billed Cuckoo	Pinto and Camargo	Cp	M(c)
<i>Crotophaga major</i> Gmelin, 1788	Greater Ani	1,5	Ig;Cm	M(a);M(b);M(c)
<i>Crotophaga ani</i> Linnaeus, 1758	Smooth-billed Ani	2,3,4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Tapera naevia</i> (Linnaeus, 1766)	Striped Cuckoo	Hidasi/Pinto and Camargo	Ig;Cs;Cm	M(b);M(c)
Strigiformes Wagler, 1830				
Strigidae Leach, 1820				
<i>Megascops choliba</i> (Vieillot, 1817)	Tropical Screech-Owl	1	Ig	Ob;Vr
<i>Megascops usta</i> (Sclater, 1858)	Austral Screech-Owl	1	Fo	M(a);M(b);M(c)
<i>Strix virgata</i> (Cassin, 1849)	Mottled Owl	1	Fo	Ob;Vr
<i>Athene cunicularia</i> (Molina, 1782)	Burrowing Owl	2,6	Cs	Ob
Caprimulgiformes Ridgway, 1881				
Nyctibiidae Chenu and Des Murs, 1851				
<i>Nyctibius griseus</i> (Gmelin, 1789)	Common Potoo	1,2	Fo;Cp	M(a)
Caprimulgidae Vigors, 1825				
<i>Antrostomus rufus</i> (Boddaert, 1783)	Rufous Nightjar	1,2	Fo;Ig;Cs	M(a)
<i>Lurocalis semitorquatus</i> (Gmelin, 1789)	Short-tailed Nighthawk	2		Ob;Vr
<i>Hydropsalis nigrescens</i> (Cabanis, 1848)	Blackish Nightjar	1	Fo	Ob;Vr
<i>Hydropsalis albicollis</i> (Gmelin, 1789)	Pauraque	1,2,4,5,6	Cs;Sa;Cm	Ob;Vr
<i>Hydropsalis parvula</i> (Gould, 1837)	Little Nightjar	2	Sa;Cs	Ob;Vr
<i>Hydropsalis torquata</i> (Gmelin, 1789)	Scissor-tailed Nightjar	1,2,4,5,6	Fo;Cs;Sa;Cm	M(a);M(b);M(c)
<i>Chordeiles pusillus</i> Gould, 1861	Least Nighthawk	1,2,5	Cs;Cm	M(a);M(b);M(c)
<i>Chordeiles nacunda</i> (Vieillot, 1817)	Nacunda Nighthawk	1,2,4,5,6	Cs;Sa;Cm	M(a);M(b);M(c)
<i>Chordeiles minor</i> (Forster, 1771)	Common Nighthawk	1	Ig	Ob;Vr

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
Apodiformes Peters, 1940				
Apodidae Olphe-Galliard, 1887				
<i>Cypseloides senex</i> (Temminck, 1826)	Great Dusky Swift	6	Ig	M(a);M(b);M(c)
<i>Chaetura spinicaudus</i> (Temminck, 1839)	Band-rumped Swift	2,5,6	Cp;Cs;Cm	Ob
<i>Chaetura brachyura</i> (Jardine, 1846)	Short-tailed Swift	2,3	Fo;Cp;Cs	Ob
<i>Tachornis squamata</i> (Cassin, 1853)	Fork-tailed Palm-Swift	1,2,3,4,5,6	Ig;Cs;Sa;Cm	M(a);M(b);M(c)
Trochilidae Vigors, 1825				
<i>Phaethornis ruber</i> (Linnaeus, 1758)	Reddish Hermit	1,3	Fo	Ob
<i>Campylopterus largipennis</i> (Boddaert, 1783)	Gray-breasted Sabrewing	1,2,3	Fo;Cp	Ob
<i>Anthracoceros nigricollis</i> (Vieillot, 1817)	Black-throated Mango	2	Cs;Cm	Ob
<i>Chrysolampis mosquitus</i> (Linnaeus, 1758)	Ruby-topaz Hummingbird	1	Fo	M(a);M(b);M(c)
<i>Lophornis gouldii</i> (Lesson, 1832)	Dot-eared Coquette	Pinto and Camargo	Fo	M(c)
<i>Chlorostilbon notatus</i> (Reich, 1793)	Blue-chinned Sapphire	Hidasi/Pinto and Camargo	Cs;Cm	M(b);M(c)
<i>Thalurania furcata</i> (Gmelin, 1788)	Fork-tailed Woodnymph	1,2	Fo;Ig;Cp;Cs	M(a);M(b);M(c)
<i>Polytmus guainumbi</i> (Pallas, 1764)	White-tailed Goldenthrout	5,6	Cs;Cm	Ob
<i>Amazilia versicolor</i> (Vieillot, 1818)	Versicolored Emerald	Hidasi/Pinto and Camargo	Fo;Cp	M(b);M(c)
<i>Heliothryx auritus</i> (Gmelin, 1788)	Black-eared Fairy	Pinto and Camargo	Cs;Cm	M(c)
<i>Heliomaster longirostris</i> (Audebert and Vieillot, 1801)	Long-billed Starthroat	Pinto and Camargo	Fo	M(c)
<i>Calliphlox amethystina</i> (Boddaert, 1783)	Amethyst Woodstar	Hidasi	Fo	M(b)
Trogoniformes A. O. U., 1886				
Trogonidae Lesson, 1828				
<i>Trogon melanurus</i> Swainson, 1838	Black-tailed Trogon	1,3	Fo	M(a);M(b);M(c)
<i>Trogon viridis</i> Linnaeus, 1766	White-tailed Trogon	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Trogon ramonianus</i> Deville and DesMurs, 1849	Amazonian Trogon	Pinto and Camargo	Fo	M(c)
<i>Trogon curucui</i> Linnaeus, 1766	Blue-crowned Trogon	1,3	Ig	Ob;Vr
<i>Trogon rufus</i> Gmelin, 1788	Black-throated Trogon	1,3	Fo	M(a);M(b);M(c)
<i>Trogon collaris</i> Vieillot, 1817	Collared Trogon	1,3	Fo	M(a);M(b);M(c)
<i>Pharomachrus pavoninus</i> (Spix, 1824)	Pavonine Quetzal	2	Cp	Ob;Vr
Coraciiformes Forbes, 1844				
Alcedinidae Rafinesque, 1815				
<i>Megaceryle torquata</i> (Linnaeus, 1766)	Ringed Kingfisher	6	Ig	Ob
<i>Chloroceryle amazona</i> (Latham, 1790)	Amazon Kingfisher	6	Ig	M(a);M(b);M(c)
<i>Chloroceryle americana</i> (Gmelin, 1788)	Green Kingfisher	Hidasi	Ig	M(b)
<i>Chloroceryle inda</i> (Linnaeus, 1766)	Green-and-rufous Kingfisher	Pinto and Camargo	Ig	M(c)
Momotidae Gray, 1840				
<i>Momotus momota</i> (Linnaeus, 1766)	Amazonian Motmot	1,2,3	Fo;Cp	Ob;Vr
Galbuliformes Fürbringer, 1888				
Galbulidae Vigors, 1825				
<i>Brachygalba lugubris</i> (Swainson, 1838)	Brown Jacamar	1,4,5,6	Fo;Sa;Cs	M(a);M(c)
<i>Galbula cyanicollis</i> Cassin, 1851	Blue-cheeked Jacamar	Pinto and Camargo	Fo	M(c)
<i>Galbula ruficauda</i> Cuvier, 1816	Rufous-tailed Jacamar	5,6	Cs	Ob;Vr
<i>Galbula leucogastra</i> Vieillot, 1817	Bronzy Jacamar	1	Fo	Ob;Vr
<i>Galbula dea</i> (Linnaeus, 1758)	Paradise Jacamar	1,2	Fo;Cp	M(a);M(c)
<i>Jacamerops aureus</i> (Statius Muller, 1776)	Great Jacamar	1,3	Fo	Ob;Vr
Bucconidae Horsfield, 1821				
<i>Notharchus tectus</i> (Boddaert, 1783)	Pied Puffbird	3	Fo	M(a)
<i>Bucco tamatia</i> Gmelin, 1788	Spotted Puffbird	4	Sa	M(a)
<i>Malacoptila rufa</i> (Spix, 1824)	Rufous-necked Puffbird	1	Fo	M(a)
<i>Monasa nigrifrons</i> (Spix, 1824)	Black-fronted Nunbird	1,2	Fo;Ig;Cp	M(a);M(b);M(c)
<i>Chelidoptera tenebrosa</i> (Pallas, 1782)	Swallow-winged Puffbird	1,2,4,5,6	Fo;Ig;Cp;Cs;Sa;Cm	M(a);M(b);M(c)
Piciformes Meyer and Wolf, 1810				
Ramphastidae Vigors, 1825				
<i>Ramphastos toco</i> Statius Muller, 1776	Toco Toucan	4,5	Sa;Cs	Ob
<i>Ramphastos tucanus</i> Linnaeus, 1758	White-throated Toucan	1,2,3	Fo;Ig;Cp	Ob;Vr
<i>Ramphastos vitellinus</i> Lichtenstein, 1823	Channel-billed Toucan	1,2,3	Fo;Ig;Cp	M(a);M(c)

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Selenidera gouldii</i> (Natterer, 1837)	Gould's Toucanet	2	Cp	M(a)
<i>Pteroglossus viridis</i> (Linnaeus, 1766)	Green Aracari	Pinto and Camargo	Fo	M(c)
<i>Pteroglossus inscriptus</i> Swainson, 1822	Lettered Aracari	1,4,6	Fo;Ig;Sa	Ob;Vr
<i>Pteroglossus aracari</i> (Linnaeus, 1758)	Black-necked Aracari	1,3	Fo;Ig	Ob;Vr
<i>Pteroglossus beaubarnaesii</i> Wagler, 1832	Curl-crested Aracari	4	Sa	Ob
Picidae Leach, 1820				
<i>Picummus aurifrons</i> Pelzeln, 1870	Bar-breasted Piculet	1	Fo;Ig	M(a);M(b);M(c)
<i>Melanerpes cruentatus</i> (Boddaert, 1783)	Yellow-tufted Woodpecker	1,3	Fo	M(a);M(b);M(c)
<i>Veniliornis affinis</i> (Swainson, 1821)	Red-stained Woodpecker	Pinto and Camargo	Fo	M(c)
<i>Piculus flavigula</i> (Boddaert, 1783)	Yellow-throated Woodpecker	2,3	Fo;Cp	M(a);M(b);M(c)
<i>Piculus chrysochloros</i> (Vieillot, 1818)	Golden-green Woodpecker	3	Fo	M(a)
<i>Celeus elegans</i> (Statius Muller, 1776)	Chestnut Woodpecker	Pinto and Camargo	Fo	M(c)
<i>Celeus torquatus</i> (Boddaert, 1783)	Ringed Woodpecker	1	Fo	Ob;Vr
<i>Dryocopus lineatus</i> (Linnaeus, 1766)	Lineated Woodpecker	Hidasi/Pinto and Camargo	Fo	M(b);M(c)
<i>Campephilus rubricollis</i> (Boddaert, 1783)	Red-necked Woodpecker	1,3	Fo	M(a);M(b);M(c)
Passeriformes Linnaeus, 1758				
Thamnophilidae Swainson, 1824				
<i>Myrmeciza atrothorax</i> (Boddaert, 1783)	Black-throated Antbird	1,3	Fo;Ig	M(a);M(b);M(c)
<i>Myrmotherula brachyura</i> (Hermann, 1783)	Pygmy Antwren	Pinto and Camargo	Fo;Ig	M(c)
<i>Myrmotherula hauxwelli</i> (Sclater, 1857)	Plain-throated Antwren	1,2	Fo;Cp	M(a)
<i>Myrmotherula axillaris</i> (Vieillot, 1817)	White-flanked Antwren	1,2,3	Fo;Ig;Cp	M(a);M(c)
<i>Formicivora grisea</i> (Boddaert, 1783)	White-fringed Antwren	4,5,6	Sa;Cs	M(a);M(b);M(c)
<i>Formicivora rufa</i> (Wied, 1831)	Rusty-backed Antwren	6	Cs	Ob;Vr
<i>Thamnomanes caesi</i> (Temminck, 1820)	Cinereous Antshrike	1,3	Fo	M(a);M(b);M(c)
<i>Herpsilochmus</i> aff. <i>sellowi</i> Whitney and Pacheco, 2000	Caatinga Antwren	4,5	Sa	M(a);M(c)
<i>Herpsilochmus rufimarginatus</i> (Temminck, 1822)	Rufous-winged Antwren	1,2	Fo;Cp	M(a)
<i>Thamnophilus doliatus</i> (Linnaeus, 1764)	Barred Antshrike	1,2,3,4,5,6	Fo;Cp;Sa;Cs	Ob;Vr
<i>Thamnophilus torquatus</i> Swainson, 1825	Rufous-winged Antshrike	Hidasi/Pinto and Camargo	Cs;Cm	M(b);M(c)
<i>Thamnophilus schistaceus</i> d'Orbigny, 1835	Plain-winged Antshrike	1,2,3	Fo;Cp	Ob;Vr
<i>Thamnophilus murinus</i> Sclater and Salvin, 1868	Mouse-colored Antshrike	1,2	Fo;Cp	Ob;Vr
<i>Thamnophilus stictocephalus</i> Pelzeln, 1868	Natterer's Slaty-Antshrike	4,5,6	Sa	M(a);M(c)
<i>Thamnophilus amazonicus</i> Sclater, 1858	Amazonian Antshrike	2	Fo	M(a)
<i>Cymbilaimus lineatus</i> (Leach, 1814)	Fasciated Antshrike	1,3	Fo	M(a);M(b);M(c)
<i>Taraba major</i> (Vieillot, 1816)	Great Antshrike	1,2,3,4,6	Ig;Cs;Sa	Ob;Vr
<i>Sclateria naevia</i> (Gmelin, 1788)	Silvered Antbird	Pinto and Camargo	Fo	M(c)
<i>Schistocichla rufifacies</i> (Hellmayr, 1929)	Rufous-faced Antbird	1,3	Fo	M(a);M(c)
<i>Hypocnemoides maculicauda</i> (Pelzeln, 1868)	Band-tailed Antbird	Pinto and Camargo	Ig	M(c)
<i>Hypocnemoides melanopogon</i> (Sclater, 1857)	Black-chinned Antbird	1,2,3	Ig;Cp	Ob;Vr
<i>Hylophylax naevius</i> (Gmelin, 1789)	Spot-backed Antbird	Pinto and Camargo	Fo	M(c)
<i>Myrmoborus leucophrys</i> (Tschudi, 1844)	White-browed Antbird	2,6	Fo;Cp	M(a)
<i>Myrmoborus myotherinus</i> (Spix, 1825)	Black-faced Antbird	2	Fo;Cp	M(a)
<i>Cercomacra cinerascens</i> (Sclater, 1857)	Gray Antbird	1,3	Fo	Ob;Vr
<i>Cercomacra nigrescens</i> (Cabanis and Heine, 1859)	Blackish Antbird	Hidasi	Fo	M(b)
<i>Hypocnemis striata</i> (Spix, 1825)	Spix's Warbling-Antbird	1,2,3	Fo;Cp	M(a);M(b);M(c)
<i>Willisornis poecilinotus</i> (Cabanis, 1847)	Scale-backed Antbird	1,2	Fo;Cp	M(a);M(c)
<i>Rhegmatorhina gymnops</i> Ridgway, 1888	Bare-eyed Antbird	2	Cp	M(a)
<i>Phlegopsis nigromaculata</i> (d'Orbigny and Lafresnaye, 1837)	Black-spotted Bare-eye	1,3	Fo	M(a)
Melanopareiidae Ericson, Olson, Irested, Alvarenga and Fjeldsa, 2010				
<i>Melanopareia torquata</i> (Wied, 1831)	Collared Crescentchest	5,6	Cs	M(a);M(b);M(c)
Grallariidae Sclater and Salvin, 1873				
<i>Myrmothera campanisona</i> (Hermann, 1783)	Thrush-like Antpitta	1,2,3	Fo;Cp	Ob;Vr
Formicariidae Gray, 1840				
<i>Formicarius colma</i> Boddaert, 1783	Rufous-capped Antthrush	1,2,3,5	Fo;Cp;Sa	M(a)

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Formicarius analis</i> (d'Orbigny and Lafresnaye, 1837)	Black-faced Antthrush	1	Fo	Ob;Vr
Scleruridae Swainson, 1827				
<i>Sclerurus mexicanus</i> Sclater, 1857	Tawny-throated Leaf-tosser	1,3	Fo	Ob;Vr
<i>Sclerurus rufigularis</i> Pelzeln, 1868	Short-billed Leaf-tosser	2,3	Fo;Cp	M(a)
<i>Sclerurus caudatus</i> (Vieillot, 1816)	Black-tailed Leaf-tosser	1,3	Fo	Ob;Vr
Dendrocolaptidae Gray, 1840				
<i>Dendrocincla fuliginosa</i> (Vieillot, 1818)	Plain-brown Woodcreeper	2	Fo	M(a)
<i>Dendrocincla merula</i> (Lichtenstein, 1829)	White-chinned Woodcreeper	1,2,3,4	Fo;Cp	M(a);M(c)
<i>Sittasomus griseicapillus</i> (Vieillot, 1818)	Olivaceous Woodcreeper	1,5	Fo	M(a);M(c)
<i>Certhiasomus stictolaemus</i> (Pelzeln, 1868)	Spot-throated Woodcreeper	2	Fo	M(a)
<i>Glyphorhynchus spirurus</i> (Vieillot, 1819)	Wedge-billed Woodcreeper	1,2,3	Fo;Cp	M(a)
<i>Xiphorhynchus spixii</i> (Lesson, 1830)	Spix's Woodcreeper	Pinto and Camargo	Fo	M(c)
<i>Xiphorhynchus obsoletus</i> (Lichtenstein, 1820)	Striped Woodcreeper	Pinto and Camargo	Fo	M(c)
<i>Xiphorhynchus guttatus</i> (Lichtenstein, 1820)	Buff-throated Woodcreeper	Pinto and Camargo	Fo	M(c)
<i>Campylorhamphus procurviroides</i> (Lafresnaye, 1850)	Curve-billed Scythebill	1,2	Fo;Cp	Ob;Vr
<i>Dendroplex picus</i> (Gmelin, 1788)	Straight-billed Woodcreeper	1,2,3	Fo;Ig;Cp	Ob;Vr
<i>Lepidocolaptes albolineatus</i> (Lafresnaye, 1845)	Lineated Woodcreeper	1,2	Fo;Cp	M(a);M(c)
<i>Nasica longirostris</i> (Vieillot, 1818)	Long-billed Woodcreeper	1,2	Ig;Cp	Ob;Vr
<i>Dendrocolaptes certhia</i> (Boddaert, 1783)	Amazonian Barred-Woodcreeper	2	Fo;Cp	M(a);M(c)
<i>Xiphocolaptes promeropirhynchus</i> (Lesson, 1840)	Strong-billed Woodcreeper	1,2	Fo	Ob;Vr
<i>Hylexetastes uniformis</i> Hellmayr, 1909	Uniform Woodcreeper	Pinto and Camargo	Fo	M(c)
Furnariidae Gray, 1840				
Incertae sedis				
<i>Xenops minutus</i> (Sparman, 1788)	Plain Xenops	1,3	Fo	M(a);M(c)
<i>Xenops rutilans</i> Temminck, 1821	Streaked Xenops	Hidasi/Pinto and Camargo	Fo	M(b);M(c)
Furnariinae Gray, 1840				
<i>Automolus ochroaemus</i> (Tschudi, 1844)	Buff-throated Foliage-gleaner	1,2	Fo;Cp	Ob;Vr
<i>Philydor erythrocerum</i> (Pelzeln, 1859)	Rufous-rumped Foliage-gleaner	Pinto and Camargo	Fo	M(c)
<i>Synallaxis albescens</i> Temminck, 1823	Pale-breasted Spinetail	6	Cp;Sa	M(a);M(c)
<i>Synallaxis albigularis</i> Sclater, 1858	Dark-breasted Spinetail	1,3	Fo	M(a)
Pipridae Rafinesque, 1815				
<i>Neopelma pallescens</i> (Lafresnaye, 1853)	Pale-bellied Tyrant-Manakin	2	Cp;Sa	M(a)
<i>Tyrannetes stolzmanni</i> (Hellmayr, 1906)	Dwarf Tyrant-Manakin	1,2,3	Fo;Cp	M(a)
<i>Pipra fasciicauda</i> Hellmayr, 1906	Band-tailed Manakin	1,2	Ig;Cp	M(a)
<i>Pipra rubrocapilla</i> Temminck, 1821	Red-headed Manakin	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Lepidothrix nattereri</i> (Sclater, 1865)	Snow-capped Manakin	1,2	Fo;Cp	M(a)
<i>Manacus manacus</i> (Linnaeus, 1766)	White-bearded Manakin	1,2,3	Fo;Cp	M(a);M(b);M(c)
<i>Heterocercus linteatus</i> (Strickland, 1850)	Flame-crowned Manakin	1	Ig	M(a);M(b);M(c)
<i>Machaeropterus pyrocephalus</i> (Sclater, 1852)	Fiery-capped Manakin	1,3	Fo	M(a)
<i>Dixiphia pipra</i> (Linnaeus, 1758)	White-crowned Manakin	1,2,3	Fo;Cp	M(a);M(c)
<i>Xenopipo atronitens</i> Cabanis, 1847	Black Manakin	1	Cp	M(a);M(b);M(c)
<i>Chiroxiphia pareola</i> (Linnaeus, 1766)	Blue-backed Manakin	1,2,3	Fo;Cp	M(a)
Tityridae Gray, 1840				
<i>Onychorhynchus coronatus</i> (Statius Muller, 1776)	Royal Flycatcher	1	Fo	Ob;Vr
<i>Terenotriccus erythrurus</i> (Cabanis, 1847)	Ruddy-tailed Flycatcher	1,3	Fo	M(a);M(c)
<i>Myiobius barbatus</i> (Gmelin, 1789)	Whiskered Flycatcher	1,2	Fo;Cp	Ob
<i>Myiobius atricaudus</i> Lawrence, 1863	Black-tailed Flycatcher	1,2,3	Fo;Cp	M(a);M(c)
<i>Schiffornis turdina</i> (Wied, 1831)	Thrush-like Schiffornis	1,3	Fo;Ig	M(a)
<i>Iodopleura isabellae</i> Parzudaki, 1847	White-browed Purple-tuft	Pinto and Camargo	Fo	M(c)
<i>Tityra cayana</i> (Linnaeus, 1766)	Black-tailed Tityra	2,3,6	Cp;Cs	Ob
<i>Tityra semifasciata</i> (Spix, 1825)	Masked Tityra	2	Fo;Cp	M(a);M(b);M(c)
<i>Pachyrhamphus marginatus</i> (Lichtenstein, 1823)	Black-capped Becard	4,5,6	Sa;Cs	M(a)
Cotingidae Bonaparte, 1849				
<i>Lipaugus vociferans</i> (Wied, 1820)	Screaming Piha	1,2,3	Fo;Cp	M(a);M(b);M(c)
<i>Gymnoderus foetidus</i> (Linnaeus, 1758)	Bare-necked Fruitcrow	1	Ig	M(a);M(c)
<i>Xipholena punicea</i> (Pallas, 1764)	Pompadour Cotinga	2,3	Fo;Cp	M(a)

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Cotinga cayana</i> (Linnaeus, 1766)	Spangled Cotinga	Pinto and Camargo	Fo	M(c)
<i>Querula purpurata</i> (Statius Muller, 1776)	Purple-throated Fruitcrow	2,3	Fo;Cp	M(a);M(c)
<i>Cephalopterus ornatus</i> Geoffroy Saint-Hilaire, 1809	Amazonian Umbrellabird	2,3	Fo;Ig;Cp	M(a);M(b);M(c)
<i>Incertae sedis</i>				
<i>Platyrinchus coronatus</i> Sclater, 1858	Golden-crowned Spadebill	1	Fo	M(a)
<i>Platyrinchus platyrhynchos</i> (Gmelin, 1788)	White-crested Spadebill	2,4	Fo	M(a);M(c)
<i>Neopipo cinnamomea</i> (Lawrence, 1869)	Cinnamon Manakin-Tyrant	1	Fo	Ob
Rhynchocyclidae Berlepsch, 1907				
<i>Mionectes oleagineus</i> (Lichtenstein, 1823)	Ochre-bellied Flycatcher	1,2,3	Fo;Cp	M(a)
<i>Mionectes macconnelli</i> (Chubb, 1919)	McConnell's Flycatcher	1,2	Fo;Cp	Ob
<i>Leptopogon amaurocephalus</i> Tschudi, 1846	Sepia-capped Flycatcher	4,5	Sa;Cs	Ob
<i>Corythopis torquatus</i> (Tschudi, 1844)	Ringed Antpipit	1,3	Fo	M(a);M(b);M(c)
<i>Corythopis delalandi</i> (Lesson, 1830)	Southern Antpipit	Hidasi	Mg	M(b)
<i>Tolmomyias flaviventris</i> (Wied, 1831)	Yellow-breasted Flycatcher	4,5,6	Sa;Cs	M(a)
<i>Hemitriccus minor</i> (Snethlage, 1907)	Snethlage's Tody-Tyrant	1	Fo	Ob;Vr
<i>Hemitriccus zosterops</i> (Pelzeln, 1868)	White-eyed Tody-Tyrant	1,2	Fo;Cp	M(a);M(c)
<i>Hemitriccus margaritaceiventer</i> (d'Orbigny and Lafresnaye, 1837)	Pearly-vented Tody-tyrant	4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Lophotriccus galeatus</i> (Boddaert, 1783)	Helmeted Pygmy-Tyrant	3	Fo	M(a);M(b);M(c)
Tyrannidae Vigors, 1825				
<i>Zimmerius gracilipes</i> (Sclater and Salvin, 1868)	Slender-footed Tyrannulet	Hidasi	Fo	M(b)
<i>Euscarthmus rufomarginatus</i> (Pelzeln, 1868)	Rufous-sided Pygmy-Tyrant	2	Sa;Cs;Cm	Ob;Vr
<i>Camptostoma obsoletum</i> (Temminck, 1824)	Southern Beardless-Tyrannulet	3,4,5,6	Fo;Sa;Cs;Cm	Ob;Vr
<i>Elaenia flavogaster</i> (Thunberg, 1822)	Yellow-bellied Elaenia	2,6	Cs;Sa	M(a);M(b)
<i>Elaenia spectabilis</i> Pelzeln, 1868	Large Elaenia	6	Sa;Cs	M(a);M(b)
<i>Elaenia cristata</i> Pelzeln, 1868	Plain-crested Elaenia	Hidasi/Pinto and Camargo	Sa;Cs;Cm	M(b);M(c)
<i>Elaenia chiriquensis</i> Lawrence, 1865	Lesser Elaenia	2,4,5,6	Sa;Cs;Cm	M(a);M(b)
<i>Elaenia ruficeps</i> Pelzeln, 1868	Rufous-crowned Elaenia	4,5	Sa	M(a)
<i>Myiopagis gaimardii</i> (d'Orbigny, 1839)	Forest Elaenia	1,2,3	Fo;Cp	M(a);M(b)
<i>Myiopagis viridicata</i> (Vieillot, 1817)	Greenish Elaenia	2,6	Cp;Sa	Ob;Vr
<i>Tyrannulus elatus</i> (Latham, 1790)	Yellow-crowned Tyrannulet	4,5,6	Sa;Cs	Ob
<i>Phaeomyias murina</i> (Spix, 1825)	Mouse-colored Tyrannulet	6	Sa;Cs	M(a);M(b);M(c)
<i>Attila spadiceus</i> (Gmelin, 1789)	Bright-rumped Attila	2,3	Fo;Cp	Ob;Vr
<i>Legatus leucophaeus</i> (Vieillot, 1818)	Piratic Flycatcher	2,6	Cp;Cs	M(a);M(b);M(c)
<i>Myiarchus swainsoni</i> Cabanis and Heine, 1859	Swainson's Flycatcher	2,4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Myiarchus ferox</i> (Gmelin, 1789)	Short-crested Flycatcher	2,4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Myiarchus tyrannulus</i> (Statius Muller, 1776)	Brown-crested Flycatcher	4,5,6	Sa;Cs;Cm	Ob;Vr
<i>Rhytipterna simplex</i> (Lichtenstein, 1823)	Grayish Mourner	2,6	Cp	Ob;Vr
<i>Casiornis rufus</i> (Vieillot, 1816)	Rufous Casiornis	4,5	Sa;Cs	Ob
<i>Pitangus sulphuratus</i> (Linnaeus, 1766)	Great Kiskadee	1,2,3,4,5,6	Fo;Ig;Cp;Sa;Cs	M(a);M(b);M(c)
<i>Philohydor lictor</i> (Lichtenstein, 1823)	Lesser Kiskadee	2	Cp	Ob;Vr
<i>Myiodynastes maculatus</i> (Statius Muller, 1776)	Streaked Flycatcher	1,2,3,4,5,6	Fo;Cp;Sa;Cs	M(a);M(b);M(c)
<i>Megarynchus pitangua</i> (Linnaeus, 1766)	Boat-billed Flycatcher	2,4,5,6	Fo;Cp;Sa	M(a);M(b);M(c)
<i>Myiozetetes cayanensis</i> (Linnaeus, 1766)	Rusty-margined Flycatcher	Hidasi/Pinto and Camargo	Fo;Ig	M(b);M(c)
<i>Myiozetetes similis</i> (Spix, 1825)	Social Flycatcher	2,4,5,6	Cp;Sa;Cs	Ob;Vr
<i>Tyrannus melancholicus</i> Vieillot, 1819	White-throated Kingbird	1,2,4,5,6	Fo;Ig;Cp;Sa;Cs;Cm	M(a);M(b);M(c)
<i>Tyrannus savana</i> Vieillot, 1808	Fork-tailed Flycatcher	Pinto and Camargo	Cs;Cm	M(c)
<i>Griseotyrannus aurantioatrocristatus</i> (d'Orbigny and Lafresnaye, 1837)	Crowned Slaty Flycatcher	Hidasi	Fo	M(b)
<i>Empidonomus varius</i> (Vieillot, 1818)	Variiegated Flycatcher	4,5,6	Sa;Cs;Cm	M(a);M(b);M(c)
<i>Pyrocephalus rubinus</i> (Boddaert, 1783)	Vermilion Flycatcher	Hidasi/Pinto and Camargo	Sa;Cs	M(b);M(c)
<i>Fluvicola pica</i> (Boddaert, 1783)	Pied Water-Tyrant	Hidasi	Sa;Cs;Cm	M(b)
<i>Fluvicola albiventer</i> (Spix, 1825)	Black-backed Water-Tyrant	Hidasi	Sa;Cs;Cm	M(b)
<i>Cnemotriccus fuscatus</i> (Wied, 1831)	Fuscous Flycatcher	4,5,6	Sa;Cs	M(a)

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Lathrotriccus euleri</i> (Cabanis, 1868)	Euler's Flycatcher	6	Sa;Cs	M(a);M(b)
Vireonidae Swainson, 1837				
<i>Cyclarhis gujanensis</i> (Gmelin, 1789)	Rufous-browed Peppershrike	1,2,3,4,5,6	Fo;Ig;Cp;Sa;Cs;Cm	M(a);M(b);M(c)
<i>Vireo olivaceus</i> (Linnaeus, 1766)	Red-eyed Vireo	2	Fo;Ig;Cp;Cs	M(a);M(b);M(c)
<i>Hylophilus brunneiceps</i> Sclater, 1866	Brown-headed Greenlet	Pinto and Camargo	Fo	M(c)
Corvidae Leach, 1820				
<i>Cyanocorax cristatellus</i> (Temminck, 1823)	Curl-crested Jay	4,5,6	Sa;Cs	M(a);M(c)
<i>Cyanocorax chrysops</i> (Vieillot, 1818)	Plush-crested Jay	4,5,6	Sa	M(a);M(c)
Hirundinidae Rafinesque, 1815				
<i>Pygochelidon cyanoleuca</i> (Vieillot, 1817)	Blue-and-white Swallow	6	Ig	Ob
<i>Alopocheilidon fucata</i> (Temminck, 1822)	Tawny-headed Swallow	6	Ig	M(a);M(b);M(c)
<i>Atticora fasciata</i> (Gmelin, 1789)	White-banded Swallow	2,6	Ig	Ob
<i>Stelgidopteryx ruficollis</i> (Vieillot, 1817)	Southern Rough-winged Swallow	2,4,5,6	Ig;Sa;Cs;Cm	M(a)
<i>Progne chalybea</i> (Gmelin, 1789)	Gray-breasted Martin	2,4,5,6	Cs;Sa	M(a);M(b);M(c)
<i>Tachycineta albiventer</i> (Boddaert, 1783)	White-winged Swallow	6	Ig	Ob
<i>Tachycineta leucorrhoa</i> (Vieillot, 1817)	White-rumped Swallow	6	Ig	Ob
<i>Hirundo rustica</i> Linnaeus, 1758	Barn Swallow	Pinto and Camargo	Cs	M(c)
Troglodytidae Swainson, 1831				
<i>Microcerculus marginatus</i> (Sclater, 1855)	Scaly-breasted Wren	1	Fo	M(a)
<i>Troglodytes musculus</i> Naumann, 1823	Southern House Wren	1,2,6	Fo;Ig;Cp;Cs	M(a);M(b);M(c)
<i>Pheugopedius genibarbis</i> (Swainson, 1838)	Moustached Wren	Hidasi	Ig	M(b)
<i>Cantorchilus leucotis</i> (Lafresnaye, 1845)	Buff-breasted Wren	1,2,3	Fo;Ig;Cp	Ob;Vr
<i>Cyphorhinus arada</i> (Hermann, 1783)	Musician Wren	1	Fo	M(a);M(b);M(c)
Poliophtilidae Baird, 1858				
<i>Ramphocaenus melanurus</i> Vieillot, 1819	Long-billed Gnatwren	Pinto and Camargo	Fo	M(c)
Turdidae Rafinesque, 1815				
<i>Turdus leucomelas</i> Vieillot, 1818	Pale-breasted Thrush	1,2,3,6	Fo;Cp	M(a);M(b);M(c)
<i>Turdus fumigatus</i> Lichtenstein, 1823	Cocoa Thrush	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Turdus ignobilis</i> Sclater, 1858	Black-billed Thrush	1	Fo	M(a);M(b);M(c)
<i>Turdus amaurochalinus</i> Cabanis, 1850	Creamy-bellied Thrush	Hidasi	Fo;Cp;Sa	M(b)
<i>Turdus albicollis</i> Vieillot, 1818	White-necked Thrush	2	Fo	M(a)
Mimidae Bonaparte, 1853				
<i>Mimus saturninus</i> (Lichtenstein, 1823)	Chalk-browed Mockingbird	5,6	Cs;Cm	Ob;Vr
Motacillidae Horsfield, 1821				
<i>Anthus lutescens</i> Pucheran, 1855	Yellowish Pipit	5,6	Cs;Cm	Ob
Coerebidae d'Orbigny and Lafresnaye, 1838				
<i>Coereba flaveola</i> (Linnaeus, 1758)	Bananaquit	2,4,6	Fo;Ig;Cp;Cs;Sa	M(a);M(b);M(c)
Thraupidae Cabanis, 1847				
<i>Saltator grossus</i> (Linnaeus, 1766)	Slate-colored Grosbeak	2	Fo;Cp	Ob;Vr
<i>Saltator maximus</i> (Stadius Muller, 1776)	Buff-throated Saltator	2,6	Fo;Cp	M(a);M(b);M(c)
<i>Tachyphonus phoenicius</i> Swainson, 1838	Red-shouldered Tanager	Hidasi/Pinto and Camargo	Fo	M(b);M(c)
<i>Tachyphonus rufus</i> (Boddaert, 1783)	White-lined Tanager	6	Cs;Cm	Ob
<i>Ramphocelus carbo</i> (Pallas, 1764)	Silver-beaked Tanager	1,2,3,5,6	Ig;Cp;Cs	M(a);M(b);M(c)
<i>Lanio luctuosus</i> (d'Orbigny and Lafresnaye, 1837)	White-shouldered Tanager	1,2,3	Fo;Cp	Ob
<i>Lanio cristatus</i> (Linnaeus, 1766)	Flame-crested Tanager	1,2,3,5	Cs	M(a);M(b);M(c)
<i>Lanio surinamus</i> (Linnaeus, 1766)	Fulvous-crested Tanager	1,2,3	Fo;Cp	M(a)
<i>Tangara gyrola</i> (Linnaeus, 1758)	Bay-headed Tanager	2	Fo;Cp	Ob
<i>Tangara schrankii</i> (Spix, 1825)	Green-and-gold Tanager	1,2	Fo;Cp	M(a)
<i>Tangara mexicana</i> (Linnaeus, 1766)	Turquoise Tanager	1	Fo	Ob
<i>Tangara punctata</i> (Linnaeus, 1766)	Spotted Tanager	Pinto and Camargo	Fo	M(c)
<i>Tangara episcopus</i> (Linnaeus, 1766)	Blue-gray Tanager	1,2,3,4,5,6	Fo;Ig;Cp;Cs;Sa	Ob;Vr
<i>Tangara palmarum</i> (Wied, 1823)	Palm Tanager	1,2,3,4,5,6	Fo;Ig;Cp;Cs;Sa	M(a);M(b);M(c)
<i>Tangara nigrocincta</i> (Bonaparte, 1838)	Masked Tanager	Pinto and Camargo	Fo	M(c)
<i>Tangara cyanicollis</i> (d'Orbigny and Lafresnaye, 1837)	Blue-necked Tanager	3,6	Fo	M(a);M(b);M(c)
<i>Tangara cayana</i> (Linnaeus, 1766)	Burnished-buff Tanager	6	Sa;Cs	M(a);M(b);M(c)
<i>Schistochlamys melanopis</i> (Latham, 1790)	Black-faced Tanager	6	Sa;Cs;Cm	M(a);M(b);M(c)

TAXON	ENGLISH NAME	AREAS	HABITAT	EVIDENCE
<i>Schistochlamys ruficapillus</i> (Vieillot, 1817)	Cinnamon Tanager	5,6	Cs;Cm	M(a);M(c)
<i>Paroaria gularis</i> (Linnaeus, 1766)	Red-capped Cardinal	6	Ig	Ob
<i>Tersina viridis</i> (Illiger, 1811)	Swallow Tanager	1,2,3,4,5,6	Fo;Ig;Cp;Sa	M(a);M(c)
<i>Dacnis flaviventer</i> d'Orbigny and Lafresnaye, 1837	Yellow-bellied Dacnis	2,3,6	Fo;Cp	M(a);M(b);M(c)
<i>Dacnis cayana</i> (Linnaeus, 1766)	Blue Dacnis	2,3,4,5,6	Fo;Cp;Sa	M(a);M(b);M(c)
<i>Cyanerpes caeruleus</i> (Linnaeus, 1758)	Purple Honeycreeper	2	Fo	M(a);M(b)
<i>Cyanerpes cyaneus</i> (Linnaeus, 1766)	Red-legged Honeycreeper	2,3,6	Fo;Cp	M(a);M(b);M(c)
<i>Chlorophanes spiza</i> (Linnaeus, 1758)	Green Honeycreeper	1,3	Fo	M(a)
<i>Hemithraupis guira</i> (Linnaeus, 1766)	Guira Tanager	2,3	Cp;Cs	M(a);M(b);M(c)
Emberizidae Vigors, 1825				
<i>Zonotrichia capensis</i> (Statius Muller, 1776)	Rufous-collared Sparrow	4,5,6	Sa;Cs	M(a);M(b);M(c)
<i>Ammodramus humeralis</i> (Bosc, 1792)	Grassland Sparrow	5,6	Cs;Cm	M(a);M(b);M(c)
<i>Sicalis citrina</i> Pelzeln, 1870	Stripe-tailed Yellow-Finch	Hidasi/Pinto and Camargo	Ig;Cs	M(b);M(c)
<i>Volatinia jacarina</i> (Linnaeus, 1766)	Blue-black Grassquit	4,5,6	Sa;Cs	M(a);M(b);M(c)
<i>Sporophila plumbea</i> (Wied, 1830)	Plumbeous Seedeater	Pinto and Camargo	Sa;Cs;Cm	M(c)
<i>Sporophila lineola</i> (Linnaeus, 1758)	Lined Seedeater	Hidasi/Pinto and Camargo	Sa;Cs;Cm	M(b);M(c)
<i>Sporophila angolensis</i> (Linnaeus, 1766)	Chestnut-bellied Seed-Finch	Pinto and Camargo	Sa;Cs;Cm	M(c)
<i>Arremon taciturnus</i> (Hermann, 1783)	Pectoral Sparrow	1,2	Fo;Ig;Cp	M(a);M(b);M(c)
Cardinalidae Ridgway, 1901				
<i>Habia rubica</i> (Vieillot, 1817)	Red-crowned Ant-Tanager	2	Cp	Ob;Vr
Parulidae Wetmore, Friedmann, Lincoln, Miller, Peters, van Rossem, Van Tyne and Zimmer 1947				
<i>Basileuterus culicivorus</i> (Deppe, 1830)	Golden-crowned Warbler	6	Sa	M(a);M(b);M(c)
<i>Basileuterus flaveolus</i> (Baird, 1865)	Flavescent Warbler	4,6	Sa	M(a);M(c)
Icteridae Vigors, 1825				
<i>Psarocolius viridis</i> (Statius Muller, 1776)	Green Oropendola	1,2,3	Fo;Ig;Cp	Ob;Vr
<i>Psarocolius bifasciatus</i> (Spix, 1824)	Olive Oropendola	1,2,3	Fo;Cp	M(a)
<i>Cacicus cela</i> (Linnaeus, 1758)	Yellow-rumped Cacique	1,2,3,6	Fo;Ig;Cp	M(a);M(b);M(c)
<i>Icterus cayanensis</i> (Linnaeus, 1766)	Epaulet Oriole	3	Fo;Cp	M(a)
Fringillidae Leach, 1820				
<i>Euphonia chlorotica</i> (Linnaeus, 1766)	Purple-throated Euphonia	1,2,3	Fo;Cp;Cs	M(a);M(b);M(c)
<i>Euphonia violacea</i> (Linnaeus, 1758)	Violaceous Euphonia	2	Fo	M(a);M(b);M(c)
<i>Euphonia lanirostris</i> d'Orbigny and Lafresnaye, 1837	Thick-billed Euphonia	1,2	Fo;Cp	M(a);M(b);M(c)
<i>Euphonia rufiventris</i> (Vieillot, 1819)	Rufous-bellied Euphonia	2,3	Fo;Cp;Sa;Cs	M(a)