

The avifauna of low elevations in the Serra dos Órgãos, Rio de Janeiro state, south-east Brazil

Francisco Mallet-Rodrigues and Maria Luisa Marinho de Noronha

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A Serra dos Órgãos é uma região bem conhecida ornitologicamente em suas mais elevadas altitudes, porém pouco é disponível na literatura sobre a avifauna de suas encostas mais baixas. Nesse artigo é apresentada e comentada a avifauna estudada durante dois anos (julho de 1995 a junho de 1997) numa região de baixa altitude da Serra dos Órgãos, situada entre 190 e 350 m. Foram registradas 182 espécies de aves, sendo algumas incomuns na área. A floresta da região vem sofrendo forte pressão antrópica, ameaçando não somente as espécies típicas das baixadas e encostas baixas, mas também as espécies que apresentam prováveis deslocamentos altitudinais, como o ainda comum tiê-de-topete *Trichothraupis melanops*. Essa espécie, durante o inverno, aparentemente migra (ainda que nem toda a população) das áreas mais elevadas para a encosta baixa da Serra dos Órgãos, tornando-se uma das espécies mais comuns na área nesse período.

The Serra dos Órgãos, which is close to the city of Rio de Janeiro, has been visited by naturalists since the early-19th century. Its avifauna is therefore well known^{3–5,14}, although several additional species have been recorded recently^{6,8,12,17}. The Serra dos Órgãos is a massif within central Rio de Janeiro state, south-east Brazil, which reaches 2,260 m. The Serra dos Órgãos National Park (established in 1939) encompasses c.10,000 ha, from 900 m to the highest peaks, and is cloaked in primary forest from lower altitudes to 1,800 m. The lower foothills have been cleared for human settlements and by illegal extraction of heart of palm, while the adjacent lowlands possess only scattered fragments of secondary forest, and abandoned farms and villas. Few recent ornithological studies have been made in these areas^{7,9–11}. Here we present data on the birds recorded at a low-elevation site on the south side of the massif.

Material and methods

The study area (22°31'S 43°01'W) is located in forested foothills (190–350 m) below the main Serra dos Órgãos National Park, near Guapimirim. The dominant vegetation is moderately disturbed primary Atlantic Forest, with some trees reaching more than 25 m, and abundant epiphytes and lianas. The understorey is relatively dense and there are some palms (especially *Euterpe edulis*).

Climate is warm and humid, with abundant rainfall in December–March. The avifauna was studied in July 1995–June 1997. The inventory was compiled from sight records, sound-recordings and mist-net captures (12 x 2.6 m, 36 mm-mesh). Thirty-six visits were made to the study site, totalling approximately 1,000 hours of field work. Mist-nets were used for a total of 3,510 net-hours.

Results and discussion

We recorded 182 bird species in the study area (Appendix 1). Seventy-one species were mist-netted. Among the more frequently captured species were White-shouldered Fire-eye *Pyriglena leucoptera*, White-bearded Manakin *Manacus manacus* and Black-goggled Tanager *Trichothraupis melanops*. The avifauna has some typical lowland forest species, as well as several representative of montane Atlantic Forest.

The study area marks the southernmost limit of forest that extends from the higher Serra dos Órgãos National Park. Throughout the region below this the forest is almost entirely fragmented. Deforestation caused by the uncontrolled human development is the main threat to birds in the lowlands near Serra dos Órgãos. Although several species have been recorded in fragments of lowland forest^{6–8} (including some considered threatened), human action is largely destroying these forests that have been little studied ornithologically. It appears that for some lowland species, such as Cinereous Antshrike *Thamnomanes caesius*, all of the local population occurs in the study area.

Human occupation commenced in the lowlands and is now advancing higher into the Serra dos Órgãos, with large numbers of weekend houses and villas being constructed. Extraction of heart of palm and timber, as well as banana cultivation at the forest edge, also constitute considerable threats. The illegal capture of birds for the cagebird trade is also intense, locally threatening some species.

The most important conservation areas close to the study site, apart from the national park, are the Petrópolis Environmental Protection Area (59,050 ha), the Paraíso Ecological Reserve (4,920 ha), the Floresta do Jacarandá Environmental Protection Area (2,700 ha) and the Araras Biological Reserve (2,000 ha), all of which are at higher altitudes.

No Nearctic migrants were recorded in the study area, although some have been recorded nearby^{7,14}. Some species appear to move locally, probably altitudinally. White-throated Woodcreeper *Xiphocolaptes albicollis*, Grey-hooded Flycatcher *Mionectes rufiventris*, Yellow-legged Thrush *Platycichla flavipes* and Black-goggled Tanager have been recorded only in the cooler months.

Black-goggled Tanager was recorded only in February–September at the study site, when it is less abundant at higher elevations³, providing strong evidence of altitudinal movement. However, it is probable that only some Black-goggled Tanagers move altitudinally, because we have found some individuals at 1,000 m in winter. Detailed studies are needed to elucidate patterns of possible altitudinal movements in the Serra dos Órgãos.

Euler's Flycatcher *Lathrotriccus euleri*, in contrast, is common year-round at the study site, although it is absent in winter at higher altitudes of the Serra dos Órgãos³. Its presence in winter may relate to austral migrants¹³. Piratic Flycatcher *Legatus leucophaeus* was mainly recorded in summer. Possibly it also migrates north in the austral winter.

Three species (1.6%) were detected only as mist-net captures, and all are apparently uncommon.



Figure 1. Male Unicoloured Antwren *Myrmotherula unicolor* (Francisco Mallet-Rodrigues)



Figure 2. Female Elegant Mourner *Laniisoma elegans* (Francisco Mallet-Rodrigues)

Nocturnal birds were possibly overlooked, although we used playback to search for owls and nightjars likely to occur. Curiously, some species recorded in adjacent areas (Solitary Tinamou *Tinamus solitarius*, Olivaceous Elaenia *Elaenia mesoleuca*, Variegated Flycatcher *Empidonomus varius*, Crested Becard *Pachyramphus validus*, Greenish Manakin *Schiffornis virescens*) did not respond to playback during the breeding season. These species were not found in the study site.

A total of 372 species has been recorded in the Serra dos Órgãos (Mallet-Rodrigues in prep.). Some are apparently extinct in the region (e.g. Black-fronted Piping-guan *Pipile jacutinga* and Red-ruffed Fruitcrow *Pyroderus scutatus*), with no records in the last 50 years. However, Kinglet Calyptura *Calyptura cristata* was discovered by Parrini¹² in October 1996 in an area close to our study site. During our study we did not find *C. cristata*, but this is unsurprising given that Parrini recorded it on only two (consecutive) days, during many years of field work in the region (R. Parrini pers. comm.).

Because lowland forests play an important role in hosting altitudinal migrants during winter, fragmentation of these forests is a significant threat to those species that migrate altitudinally in the region, as well as to species restricted to these areas. We therefore recommend better protection of the remaining lowland forests to effectively conserve the avifauna of the Serra dos Órgãos.

Selected species accounts

White-necked Hawk *Leucopternis lacernulata*

One was observed soaring over forest on 2 May 1997. This hawk is a rare and threatened endemic of the Atlantic Forest in eastern Brazil², although appears to be not uncommon at lower elevations of the Serra dos Órgãos (R. Parrini pers. comm. 2002).

Collared Forest-falcon *Micrastur semitorquatus*

Not previously recorded in the Serra dos Órgãos. We heard it at dawn on five occasions. The



Figure 3. Female Uniform Finch *Haplopsiza unicolor* (Francisco Mallet-Rodrigues)

vocalisation was identical to that of a published recording¹⁶.

Spot-winged Wood-quail *Odontophorus capueira*
Now rare at the study site, possibly due to hunting pressure. It was heard on two occasions.

Saw-billed Hermit *Ramphodon naevius*
Common in forest understorey. Several were mist-netted during the study. Considered Near Threatened^{2,15}.

Rufous-breasted Hermit *Glaucis hirsuta*
One was mist-netted on 1 September 1996.

Dusky-throated Hermit *Phaethornis squalidus*
Common in forest understorey and several were mist-netted. Scale-throated Hermit *P. eurynome* is common at higher elevations but was not recorded in the study area.

Channel-billed Toucan *Ramphastos vittelinus*
Recorded on three occasions, all by voice.

Cinereous Antshrike *Thamnomanes caesioides*
Not previously recorded in the Serra dos Órgãos. A female was mist-netted and ringed on 15 July 1995. Cinereous Antshrike was always found within mixed-species flocks, although it was not an active sentinel (Mallet-Rodrigues in prep.).

Spot-breasted Antvireo *Dysithamnus stictothorax*
One of the commoner thamnophilids at the study site. Occurs syntopically with the locally less common Plain Antvireo *D. mentalis*. Considered Near Threatened^{2,15}.

Unicoloured Antwren *Myrmotherula unicolor*
Common in forest understorey. Several were mist-netted (see Fig. 1). Considered Vulnerable^{2,15}.

Rufous Gnateater *Conopophaga lineata*
Recorded on several occasions, although Black-cheeked Gnateater *C. melanops* is more common. Rufous Gnateater is common at higher altitudes, while Black-cheeked Gnateater is a lowland forest species.

White-browed Foliage-gleaner *Anabacerthia amaurotis*
One was mist-netted on 13 August 1995 (and recaptured 14 days later). Considered Near Threatened^{2,15}.

Black-billed Scythebill *Campylorhamphus falcularius*
Rare at the study site, although more common at higher elevations. Only one was recorded, a mist-net capture at dusk on 23 March 1996.

Ochre-bellied Flycatcher *Mionectes oleagineus*
Mist-netted on several occasions. A lek was observed on December 1996 indicating breeding. In contrast to Amazonian populations, those in this region have plumbeous not yellowish gapes.

Eye-ringed Tody-tyrant *Hemitriccus orbitatus*
Among the more common passerines at the study site. Considered Near Threatened^{2,15}.

Black-capped Becard *Pachyramphus marginatus*
Common in canopy and mid-strata, replacing White-winged Becard *P. polychopterus*, which occurs at the forest edge.

Elegant Mourner *Laniisoma elegans*
Mist-netted twice (26 August 1995 and 28 April 1996), but its song was heard only on the second date, when a male was captured. Considered Vulnerable^{2,15}.

Bare-throated Bellbird *Procnias nudicollis*
Rare at the study site, possibly due to trapping. Three records in September and November 1996, possibly involving the same individual. Considered Near Threatened^{2,15}.

Buff-throated Purpletuft *Iodopleura pipra*
Apparently resident, as it was recorded year-round. Rarely seen, its vocalisation was frequently heard in the study area. Three were singing simultaneously near midday on 22 June 1997. Considered Endangered^{2,15}.

Orange-bellied Euphonia *Euphonia xanthogaster*
The most common *Euphonia* in the study area. Several individuals were mist-netted.

Turquoise Tanager *Tangara mexicana*
A small flock was observed on 8 July 1996 in the forest canopy. No other species were present with the group. The species' conservation status in Rio de Janeiro state is considered Vulnerable¹.

Uniform Finch *Haplospiza unicolor*
Recorded only during the bamboo flowering season at the end of the study period (March–May 1997).

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Francisco Mallet-Rodrigues

Lab. Ornitologia, Depto. Zoologia, Instituto de Biologia, Universidade Federal do Rio de Janeiro, 21941-590, Rio de Janeiro, RJ, Brazil. E-mail: fmallet@bol.com.br.

Maria Luisa Marinho de Noronha

Instituto Municipal de Medicina Veterinária 'Jorge Vaitsman'—Secretaria Municipal de Saúde, Av. Bartolomeu de Gusmão 1120, São Cristovão, 20941-160, Rio de Janeiro, RJ, Brazil.

Appendix. Bird species recorded in the study site in the lower foothills of the Serra dos Órgãos, Rio de Janeiro state, Brazil. Taxonomy follows Sick (1997) and the check-list of Brazilian birds published by the Brazilian Ornithological Records Committee (SBRO) available at <http://www.ib.usp.br/ceo/cbro/home.html>.

Key:

Habitat types: 1 = canopy; 2 = mid-strata; 3 = understory; 4 = forest edge; 5 = open areas; and 6 = flying over forest. Status: C = common (recorded on more than 80% of visits); F = fairly common (50–80%); U = uncommon (20–50%); and R = rare (less than 20%).* Introduced by Man. Evidence: S = sight record; T = tape-recorded; M = mist-netted and P = photographed.

Family/Species	Habitat	Status	Evidence
TINAMIDAE			
<i>Crypturellus obsoletus</i>	3	F	S, T
<i>Crypturellus tataupa</i>	3	F	T
CATHARTIDAE			
<i>Coragyps atratus</i>	6	C	S
<i>Cathartes aura</i>	6	R	S
ACCIPITRIDAE			
<i>Leptodon cayanensis</i>	2, 3	U	T, M, P
<i>Buteo magnirostris</i>	5, 6	C	S, T
<i>Leucopternis lacernulata</i>	6	R	S
FALCONIDAE			
<i>Herpetotheres cachinnans</i>	5	R	S, T
<i>Micrastur semitorquatus</i>	2	R	T
<i>Micrastur ruficollis</i>	2, 3	U	S, T, M, P
<i>Milvago chimachima</i>	6	U	S, T

CRACIDAE				PICIDAE			
<i>Penelope superciliosa</i>	2, 4	U	S, T	<i>Picumnus cirratus</i>	2, 3, 4	C	S, T, M, P
PHASIANIDAE				<i>Piculus flavigula</i>	1, 2	C	S, T
<i>Odontophorus capueira</i>	3	R	T	<i>Celeus flavescens</i>	1, 2, 3	C	S, T, M, P
RALLIDAE				<i>Melanerpes flavifrons</i>	1	U	S, T
<i>Aramides saracura</i>	3, 4	U	S, T	<i>Veniliornis maculifrons</i>	2, 3	C	S, T, M, P
CHARADRIIDAE				THAMNOPHILIDAE			
<i>Vanellus chilensis</i>	5	R	S, T	<i>Hypoedaleus guttatus</i>	1, 2	C	S, T
COLUMBIDAE				<i>Mackenziaena severa</i>	2	U	T
<i>Columba plumbea</i>	1	C	S, T	<i>Thamnophilus palliatus</i>	4	U	S, T
<i>Columbina talpacoti</i>	5	C	S, T	<i>Thamnophilus ambiguus</i>	4	U	S, T
<i>Leptotila verreauxi</i>	4	F	S, T	<i>Dysithamnus stictothorax</i>	2	C	S, T, M, P
<i>Leptotila rufaxilla</i>	2, 3	U	S, T, M, P	<i>Dysithamnus mentalis</i>	2	C	S, T, M, P
<i>Geotrygon montana</i>	3	U	S, T, M, P	<i>Thamnomanes caesius</i>	2, 3	U	S, T, M
PSITTACIDAE				<i>Myrmotherula gularis</i>	3	C	S, T, M, P
<i>Pyrrhura frontalis</i>	1, 6	C	S, T	<i>Myrmotherula axillaris</i>	2, 3, 4	U	S, T, M
<i>Forpus xanthopterygius</i>	4, 5	U	S, T	<i>Myrmotherula unicolor</i>	3	C	S, T, M, P
<i>Brotogeris tirica</i>	1, 5	U	S, T	<i>Herpsilochmus rufimarginatus</i>	1	C	S, T
<i>Pionus maximiliani</i>	6	C	S, T	<i>Drymophila ferruginea</i>	2	C	S, T
CUCULIDAE				<i>Drymophila squamata</i>	3	C	S, T, M, P
<i>Piaya cayana</i>	1, 2	C	S, T	<i>Terenura maculata</i>	1	C	S, T
<i>Crotophaga ani</i>	5	U	S, T	<i>Pyriglena leucoptera</i>	3	C	S, T, M, P
STRIGIDAE				<i>Myrmeciza loricata</i>	3	C	S, T, M, P
<i>Otus choliba</i>	2, 3, 4	F	S, T, M	FORMICARIIDAE			
<i>Glaucidium brasilianum</i>	4	R	T	<i>Formicarius colma</i>	3	F	S, T, M, P
NYCTIBIIDAE				<i>Grallaria varia</i>	3	R	T
<i>Nyctibius griseus</i>	1, 2	U	T	CONOPOPHAGIDAE			
CAPRIMULGIDAE				<i>Conopophaga melanops</i>	3	C	S, T, M, P
<i>Lurocalis semitorquatus</i>	6	U	S, T	<i>Conopophaga lineata</i>	3	R	S, T
<i>Nyctidromus albicollis</i>	4, 5	F	S, T	FURNARIIDAE			
APODIDAE				<i>Synallaxis spixi</i>	4	U	S, T
<i>Streptoprocne zonaris</i>	6	U	S, T	<i>Synallaxis ruficapilla</i>	2, 3	F	S, T, MP
<i>Chaetura cinereiventris</i>	6	U	S, T	<i>Anabazenops fuscus</i>	2, 3	F	S, T, M, P
<i>Chaetura meridionalis</i>	6	F	S, T	<i>Anabacerthia amaurotis</i>	3	R	M, P
TROCHILIDAE				<i>Philydor atricapillus</i>	2, 3	C	S, T, M, P
<i>Ramphodon naevius</i>	2, 3	C	S, T, M, P	<i>Philydor lichtensteini</i>	2	R	S, T, M
<i>Glaucis hirsuta</i>	3	R	M, P	<i>Philydor rufus</i>	1, 2	C	S, T
<i>Phaethornis squalidus</i>	3	U	S, T, M, P	<i>Automolus leucophthalmus</i>	3	C	S, T, M, P
<i>Phaethornis ruber</i>	3, 4	U	S, T	<i>Cichlocolaptes leucophrus</i>	2, 3	F	S, T, M, P
<i>Eupetomena macroura</i>	4, 5	C	S	<i>Xenops minutus</i>	2, 3	C	S, T, M, P
<i>Melanotrochilus fuscus</i>	2, 3, 4	U	S	<i>Xenops rutilans</i>	2, 3	F	S, T, M, P
<i>Chlorostilbon aureoventris</i>	4	R	S	<i>Sclerurus scansor</i>	3	C	S, T, M, P
<i>Thalurania glaucopis</i>	3, 4	C	S, T, M, P	<i>Lochmias nematura</i>	3	R	S, T
<i>Hylocharis cyanus</i>	3, 4	U	S, T, M, P	DENDROCOLAPTIDAE			
TROGONIDAE				<i>Dendrocincla turdina</i>	2, 3	C	S, T, M, P
<i>Trogon rufus</i>	2, 3	F	S, T, M, P	<i>Sittasomus griseicapillus</i>	2, 3	C	S, T, M, P
ALCEDINIDAE				<i>Xiphocolaptes albicollis</i>	2	R	S, T
<i>Ceryle torquata</i>	6	R	S, T	<i>Dendrocolaptes platyrostris</i>	3	R	S, T, M, P
MOMOTIDAE				<i>Lepidocolaptes squamatus</i>	2, 3	R	S, T, M, P
<i>Baryphthengus ruficapillus</i>	3	C	S, T, M, P	<i>Lepidocolaptes fuscus</i>	2, 3	C	S, T, M, P
GALBULIDAE				<i>Campylorhamphus falcularius</i>	3	R	S, T
<i>Galbula ruficauda</i>	2, 4	U	S, T	TYRANNIDAE			
BUCCONIDAE				<i>Phyllomyias fasciatus</i>	1, 2	F	S, T
<i>Malacoptila striata</i>	2, 3	U	S, M, P	<i>Camptostoma obsoletum</i>	4, 5	F	S, T
RAMPHASTIDAE				<i>Elaenia flavogaster</i>	4, 5	F	S, T
<i>Selenidera maculirostris</i>	2, 3	C	S, T, M, P	<i>Mionectes oleagineus</i>	2, 3	U	S, T, M, P
<i>Ramphastos vitellinus</i>	1	R	S, T	<i>Mionectes rufiventris</i>	2, 3	U	S, T, M, P
				<i>Leptopogon amaurocephalus</i>	2, 3	C	S, T, M, P
				<i>Capsiempis flaveola</i>	4, 5	U	S, T
				<i>Corythopsis delalandi</i>	3	R	S, T, M
				<i>Myiornis auricularis</i>	1, 2	R	S, T
				<i>Hemitriccus orbitatus</i>	2, 3	C	S, T, M, P

<i>Todirostrum poliocephalum</i>	4	F	S, T	<i>Thraupis sayaca</i>	4	C	S, T, M
<i>Tolmomyias sulphurescens</i>	2, 3	C	S, T	<i>Thraupis ornata</i>	1, 4	U	S, T
<i>Platyrinchus mystaceus</i>	2, 3	C	S, T, M, P	<i>Thraupis palmarum</i>	1, 4	C	S, T
<i>Myiobius barbatus</i>	2, 3	C	S, T, M, P	<i>Euphonia chlorotica</i>	4	F	S, T
<i>Myiophobus fasciatus</i>	4	F	S, T	<i>Euphonia violacea</i>	2, 4	U	S, T
<i>Lathrotriccus eulerei</i>	2, 3	C	S, T, M, P	<i>Euphonia xanthogaster</i>	2, 3	F	S, T, M, P
<i>Fluvicola nengeta</i>	5	F	S, T	<i>Euphonia pectoralis</i>	2, 3	U	S, T
<i>Colonia colonus</i>	1, 4	F	S, T	<i>Tangara mexicana</i>	1	R	S
<i>Hirundinea ferruginea</i>	4	R	S, T	<i>Tangara seledon</i>	1, 2	C	S, T, M, P
<i>Machaetornis rixosus</i>	5	F	S, T	<i>Tangara cyanocephala</i>	4	F	S, T
<i>Attila rufus</i>	1, 2	R	S, T	<i>Dacnis cayana</i>	1, 4	F	S, T
<i>Rhytipterna simplex</i>	1, 2	R	T	<i>Conirostrum speciosum</i>	1	F	S, T
<i>Myiarchus tuberculifer</i>	1	U	S, T	<i>Caryothraustes canadensis</i>	1	U	S, T
<i>Pitangus sulphuratus</i>	4, 5	C	S, T	<i>Pitylus fuliginosus</i>	1	R	T
<i>Megarynchus pitangua</i>	1	C	S, T	<i>Saltator maximus</i>	2, 3	C	S, T, M, P
<i>Myiozetetes similis</i>	4	C	S, T	<i>Zonotrichia capensis</i>	5	U	S, T
<i>Myiodynastes maculatus</i>	4	F	S, T	<i>Haplospiza unicolor</i>	3	U	S, T, M, P
<i>Legatus leucophaeus</i>	1	U	S, T	<i>Sicalis flaveola</i>	5	F	S
<i>Tyrannus melancholicus</i>	4, 5	F	S, T	<i>Sporophila caerulescens</i>	5	F	S, T
<i>Pachyrhamphus castaneus</i>	1, 2	C	S, T	<i>Arremon semitorquatus</i>	4	R	S, T
<i>Pachyrhamphus polychopterus</i>	4	F	S, T	<i>Cacicus haemorrhous</i>	1	F	S, T
<i>Pachyrhamphus marginatus</i>	2	C	S, T				
				FRINGILLIDAE			
PIPRIDAE				<i>Carduelis magellanicus</i>	5	R	S
<i>Chiroxiphia caudata</i>	2, 3	C	S, T, M, P				
<i>Ilicura militaris</i>	2, 3	R	M, P	PASSERIDAE			
<i>Manacus manacus</i>	2, 3	C	S, T, M, P	<i>Passer domesticus*</i>	5	F	S
COTINGIDAE				ESTRILDIDAE			
<i>Lanius elegans</i>	2, 3	R	T, M, P	<i>Estrilda astrild*</i>	5	F	S
<i>Iodopleura pipra</i>	1, 2	U	T				
<i>Procnias nudicollis</i>	1	U	S, T				
HIRUNDINIDAE							
<i>Notiochelidon cyanoleuca</i>	4, 5	C	S, T				
<i>Stelgidopteryx ruficollis</i>	4, 5	C	S, T				
TROGLODYTIDAE							
<i>Thryothorus genibarbis</i>	4	R	S, T				
<i>Thryothorus longirostris</i>	4	F	S, T				
<i>Troglodytes musculus</i>	4, 5	C	S, T				
MUSCICAPIDAE							
<i>Platycichla flavipes</i>	1, 2, 3	U	S, T, M, P				
<i>Turdus rufiventris</i>	4	C	S, T, M, P				
<i>Turdus leucomelas</i>	4	U	S, T				
<i>Turdus albicollis</i>	3	C	S, T, M, P				
MIMIDAE							
<i>Mimus saturninus</i>	5	R	S				
VIREONIDAE							
<i>Cyclarhis gujanensis</i>	1, 2, 3	C	S, T, M, P				
<i>Vireo chivi</i>	1, 2, 3	F	S, T, M, P				
<i>Hylophilus thoracicus</i>	4	U	T				
EMBERIZIDAE							
<i>Parula pitayumi</i>	1	F	T				
<i>Geothlypis aequinoctialis</i>	4	U	S, T				
<i>Basileuterus culicivorus</i>	2, 3	C	S, T, M, P				
<i>Coereba flaveola</i>	2, 3, 4	C	S, T, M, P				
<i>Thlypopsis sordida</i>	4	U	S, T				
<i>Hemithraupis ruficapilla</i>	1, 2	U	S, T				
<i>Hemithraupis flavicollis</i>	1, 2, 3	F	S, T, M, P				
<i>Tachyphonus cristatus</i>	1, 2, 3	C	S, T, M, P				
<i>Tachyphonus coronatus</i>	2, 3, 4	U	S, T, M, P				
<i>Trichothraupis melanops</i>	3, 4	F	S, T, M, P				
<i>Habia rubica</i>	2, 3	C	S, T, M, P				
<i>Ramphocelus bresilius</i>	4	R	S, T				