

Birds of the Río Negro Jaguar Preserve, Colonia Libertad, Costa Rica

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Cuando esté completa, Río Negro Jaguar Preserve protegerá c. 10.000 acres de llanura y pedemonte de la vertiente caribeña junto al Parque Nacional Rincón de la Vieja en el noroeste de Costa Rica. Si bien el área posee pocos asentamientos y es aún remota, el reciente (desde comienzos de los '80) y acelerado ritmo de tala y deforestación en la región ha hecho que estas selvas sean unas de las más amenazadas en el país. El hábitat en las cercanías de la reserva representa uno de los últimos grandes bloques de selva contigua de las llanuras hasta los niveles medios de elevación en Costa Rica, y, conectada a la selva de altura protegida en un parque nacional, funciona como un corredor forestal de dispersión, crucial para los movimientos altitudinales estacionales de las 300 especies de aves y varias docenas de mamíferos del área.

Esta región poco habitada: no más de 2.000 personas viven en sus alrededores, la mayoría de los cuales llegaron en los últimos 20 años, esta explotada a pequeña escala y así provee de un área núcleo de reserva para varias especies raras que han sido prácticamente eliminadas en sectores a menor altitud, como por ejemplo *Electron carinatum* y los globalmente casi-amenazados *Spizastur melanoleucus*, *Chamaepetes unicolor*, *Odontophorus leucolaemus*, *Procnias tricarunculata*, *Piprites griseiceps* y *Buthraupis arcaei*, todos los cuales han sido detectados cerca o arriba los 700 m.

Se presenta una lista completa de especies, preparada como resultado de investigaciones entre el 12 marzo y 7 abril 1996 por el autor en el área alrededor de Colonia Libertad, dos visitas por T. Guindon y una breve visita de tres observadores en enero 1997, junto con una introducción sobre las oportunidades para la observación de aves que existen en el área.

Introduction

The Río Negro Jaguar Preserve, when complete, will protect c. 10,000 acres in the Caribbean slope foothills and lowlands adjacent to Rincón de la Vieja National Park, in north-west Costa Rica. Although this area is still only lightly settled and remote, the recently (since the early 1980s) accelerated pace of logging and deforestation in the region has made its forests some of the most threatened in the country⁵. The habitat in the vicinity of the preserve represents one of the last large, contiguous lowland to mid-elevation rainforests in Costa Rica, and, being connected to the protected highland forest of a national park, serves as a forested dispersal corridor, crucial for the seasonal movements of the area's abundant wildlife.

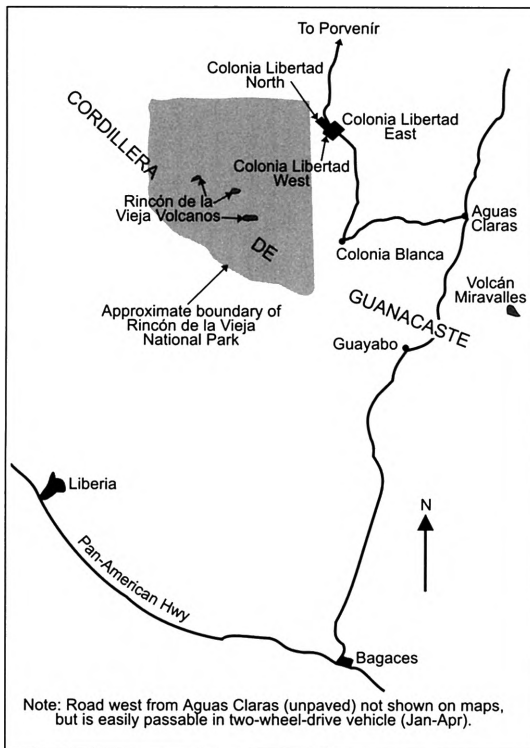
Three factors account for the high density and diversity of birds and mammals in the reserve area, which boasts nearly 300 species of birds and several dozen mammal species. First, the region is thinly settled: no more than 2,000 people live in the vicinity, nearly all of whom arrived in the last 20 years. Second, logging is currently small-scale, by landowners who selectively log portions of their property. Finally, the 1,000s of acres of unlogged forest within adjacent the Rincón de la Vieja National Park in the Cordillera de Guanacaste provide

a core reserve area for many rare species which have become virtually extirpated at lower elevations, including gamebirds and large mammals.

One of the few other birders to have visited the area is Tomás Guindon, a nature guide from Monteverde, Costa Rica. In October 1995 and May 1996, he conducted brief surveys of the forest near Colonia Blanca, a small town located c. 10 km south of Libertad. Because this area is closer to the pass through the mountains to the Pacific slope, its avifauna exhibits a distinctive Pacific influence including several conspicuous species (e.g. Black-headed Trogon *Trogon melanocephalus* and Long-tailed Manakin *Chiroxiphia linearis*) not found in Libertad. Even the non-forest birds of Blanca are more typical of the Pacific slope, with Inca Dove *Columbina inca* and Eastern Meadowlark *Sturnella magna* present here despite being absent from Libertad.

Methods and results

From 12 March 1996–7 April 1996, I conducted a bird survey and general assessment of the reserve potential of the Río Negro Jaguar Preserve area. Each day was spent in the field surveying bird and large mammal species in an area of c.8 km², centered on the village of Colonia Libertad. Travel



Map of Río Negro Jaguar Preserve area

was restricted to foot and horseback along logging roads through the forest. Due to the difficulty in accessing highland sites, most visits were to the selectively logged forest between 400–650 m a.s.l. The bird list below includes sightings from this study, two visits by T. Guindon (see above) and a brief visit by DSC, V. Emanuel and B. Lyon in January 1997.

The Colonia Libertad area represents a fascinating intersection of three major ecological regions: Tropical Premontane Rain forest, Tropical Wet Forest (Cool Transitional), and Tropical Moist Forest³. The first habitat, representing the lower limit of cloudforest on the Caribbean slope, extends from just inside the park (c. 1,200 m) to c. 750 m along ridge-tops. This forest type is rapidly diminishing throughout Central America, as it lies largely below the boundaries of national parks, which primarily protect upper montane areas¹.

Many bird species endemic to the volcanic highlands of Costa Rica and adjacent west Panama are found at their lower elevational limit in this premontane forest (e.g. Black-faced Solitaire *Myadestes melanops*). Other species, such as Rufous-winged Tanager *Tangara lavinia* and Brown Violetear *Colibri delphinae*, are generally restricted

to this narrow elevation within their Costa Rican range, although many of these and higher elevation species disperse into the adjacent lowland reserve, following the availability of nectar and fruit⁴. Heavy rain during the study period also appeared to force premontane birds into lowlands in the Colonia Libertad area (pers. obs.). On a visit during a dry season rainy spell in late January 1997, several species normally associated with lower montane forests (e.g. Emerald Tanager *Tangara florida* and White-ruffed Manakin *Corapipo leucorrhoa*) were seen feeding in scrubby *Cercropia* growth at c. 500 m near the town.

Tropical Wet Forest, the most dominant habitat of the Río Negro Jaguar Preserve, is undoubtedly the most species-rich ecosystem in Costa Rica. Nearly 75% of such habitat in Costa Rica has already been lost⁵. The type that occurs here, known as Cool Transitional, is found only in narrow bands along the base of the Caribbean slope mountains and again in the southern Pacific lowlands³. In the reserve, it is most intact in a band along the base of the mountains west of the main road through Colonia Libertad, between 600–750 m. Therefore, many species whose ranges are restricted to near sea-level rainforests of Central America are found here only at this slightly elevated altitude, including Great Tinamou *Tinamus major*, Brown-hooded Parrot *Pionopsitta haematotis* and Rufous Piha *Lipaugus unirufus*.

In the lowlands east of Colonia Libertad, the Tropical Moist Forest supports a rich lowland bird community distinct from that of slightly higher regions west of the town, with fascinating species replacements: White-flanked Antwren *Myrmotherula axillaris* in the foothills gives way to Dotted-winged *Microrhopias quixensis* and Checker-throated Antwrens *Myrmotherula fulviventris* east of the road, Olive Tanager *Chlorothraupis carmioli*-led flocks in the foothills are here dominated by Red-throated Ant-Tanager *Habia fuscicauda*. Other species are more typical of the drier habitat toward Lago de Nicaragua, including Yellow-bellied Tyrannulet *Ornithion semiflavum* and White-tipped Dove *Leptotila verreauxi*, and still others continue to invade from the dry cattle country of western Guanacaste province, with White-throated Magpie-jay *Calocitta formosa* the most conspicuous.

Only four Costa Rican birds are listed as seriously endangered globally¹. One, the Keel-billed Motmot *Electron carinatum*, was detected during the study period on land currently protected by the Río Negro Jaguar Preserve, a forested slope that includes a small cattle pasture (at 350 m). While

only a one bird was observed, a more exhaustive search for the species may reveal a small population in the area, as Rincón de la Vieja National Park is one of the few places the species is known in Costa Rica¹.

Six birds detected during this study are considered globally near-threatened, and thus also of conservation concern: Black-and-white Hawk-eagle *Spizastur melanoleucus*, Black Guan *Chamaepetes unicolor*, Black-breasted Wood-quail *Odontophorus leucolaemus*, Three-wattled Bellbird *Procnias tricarunculata*, Grey-headed Manakin *Piprites griseiceps* and Blue-and-gold Tanager *Buthraupis arcaei*¹. Interestingly, all of these birds were detected near or above 700 m.

Large numbers of neotropical migrants were noted in and around the proposed reserve (37 species of 11 families). The winter residents include several particularly vulnerable to deforestation², including Golden-winged Warbler *Vermivora chrysoptera*, Kentucky Warbler *Oporornis formosus* and Yellow-throated Vireo *Vireo flavifrons*. Northward migration became more pronounced during the final week of the study, when each day seemed to bring new species into the area.

The birding potential of this area is tremendous, owing in part to its proximity to one of the low passes through the Cordillera de Guanacaste⁵. This mixing zone of Pacific and Caribbean Slope species supports three species of hawk-eagle, five of toucan, nine woodcreepers, 18 antbirds, 21 hummingbirds and 31 tanagers. The more sought-after specialties include: Uniform Crake *Amaurolimnas color*, Sunbittern *Eurypyga helias*, Great Curassow *Crax rubra*, King Vulture *Sarcoramphus papa*, White Hawk *Leucopternis albicollis*, Snowcap *Microchera albocoronata*, Keel-billed Motmot, Yellow-eared Toucanet *Selenidera spectabilis*, Cinnamon Woodpecker *Celeus loricatus*, Tawny-throated Leaf-tosser *Sclerurus mexicanus*, Ocellated Antbird *Phaenostictus mcleannani*, Lovely Cotinga *Cotinga amabilis*, Grey-headed Manakin, Rufous-browed Tyrannulet *Phylloscartes superciliaris*, White-throated Flycatcher *Empidonax albigularis*, Song Wren *Cyphorhinus phaeocephalus* and Rufous-winged Tanager.

Currently, the best access to the Colonia Libertad area remains via a difficult road from Bagaces on the Pan-American Highway. A visit during the dry season (January–May) would be possible in a car with high clearance, although much of the road is rough, unpaved and more suitable for four-wheel-drive-vehicles. The closest accommodations are a small hostel (with hot water and good food) in Colonia Blanca, c. 20 minutes before

Libertad. Another small pensión is in Guayabo, c. 1 hour before Blanca. Otherwise, one could stay along the Pan-American Highway near Bagaces and make a 2-hour drive in the morning. Colonia Libertad has several small general stores where snacks, drinks and basic supplies may be obtained and international phone calls made. Local buses ply the Bagaces–Colonias route each day, although returning the same day might be difficult.

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| (A)bundant: | detected (seen or heard) during nearly every visit to habitat |
| (C)ommon: | detected >50% of visits |
| (U)ncommon: | 25–50% of visits; more often missed than seen |
| (O)ccasional | <25% of visits but expected |
| (R)are | <25% of visits, not to be expected |
| (E)dge | open or scrubby habitats |
| (L)ow | low elevation forest (<600 m), primarily east of main road |
| (M)iddle | middle elevation forest (600–750 m), primarily west of road |
| (P)remontane | premontane forest (750–850 m) |

Note:

“L–P” = seen from below 600 m up to 850 m;
 “E” = edge habitat at all elevations, and
 “E–(L, M, or P)” = edge habitat up to 600, 750, or 850 m, respectively.

Great Tinamou *Tinamus major* O/P
 Slaty-breasted Tinamou *Crypturellus boucardi* O/L–P
 Little Tinamou *C. soui* A/E–P
 Least Grebe *Tachybaptus dominicus* C/E
 Olivaceous Cormorant *Phalacrocorax olivaceus* C/E along
 Río Negro east of Colonia Libertad
 Little Blue Heron *Egretta caerulea* U/E
 Snowy Egret *Egretta thula* O/E
 Cattle Egret *Bubulcus ibis* C/E

- Great Egret *Casmerodius albus* C/E
 Turkey Vulture *Cathartes aura* A/E–P
 Black Vulture *Coragyps atratus* A/E–P
 King Vulture *Sarcorampus papa* C/L–M (1–2 pairs in region)
 American Swallow-tailed Kite *Elanoides forficatus* A/L–P
 White-tailed Kite *Elanus caeruleus* U/E
 Plumbeous Kite *Ictinia plumbea* O/E
 Double-toothed Kite *Harpagus bidentatus* R/M
 Hook-billed Kite *Chondrohierax uncinatus* R/E
 Black-chested Hawk *Leucopternis princeps* R/P
 White Hawk *L. albicollis* C/L 2 pairs in region
 Grey Hawk *Buteo nitidus* U/E
 Broad-winged Hawk *B. platypterus* O/M
 Short-tailed Hawk *B. brachyurus* O/M¹
 White-tailed Hawk *B. albicaudatus* R/E
 Zone-tailed Hawk *B. albonotatus* R/E
 Red-tailed Hawk *B. jamaicensis* O/M
 Black-and-white Hawk-eagle *Spizastur melanoleucus* R/M¹
 Ornate Hawk-eagle *S. ornatus* R/P
 Black Hawk-eagle *S. tyrannus* R/M
 Laughing Falcon *Herpetotheres cachinnans* O/L¹
 American Kestrel *Falco sparverius* O/E
 Bat Falcon *Falco rufigularis* O/E
 Great Curassow *Crax rubra* U/L–P
 Crested Guan *Penelope purpurascens* C/L–P, O/E
 Black Guan *Chamaepetes unicolor* O/P¹
 Black-breasted Wood-quail *Odontophorus leucolaemus* R/P
 Rufous-fronted Wood-quail *O. erythrops* R/L
 Uniform Crake *Amaurolimnas concolor* O/M
 Sunbittern *Eurypyga helias* U/E along Río Negro east of
 Colonia Libertad
 Northern Jacana *Jacana spinosa* C/E
 Solitary Sandpiper *Tringa solitaria* O/E
 Spotted Sandpiper *Actitis macularia* U/E
 Red-billed Pigeon *Columba flavirostris* A/E, U/L–M
 Short-billed Pigeon *C. nigrirostris* A/M–P
 Pale-vented Pigeon *C. cayennensis* U/P²
 Blue Ground-dove *Claravis pretiosa* O/E
 Ruddy Ground-dove *Columbina talpacoti* A/E
 Inca Dove *C. inca* U/E south of Colonia Blanca
 White-winged Dove *Zenaida asiatica* A/E
 White-tipped Dove *Leptotila verreauxi* C/L
 Grey-chested Dove *L. cassinii* C/M, O/L
 Violaceous Quail-dove *Geotrygon lawrencii* O/L
 Mealy Parrot *Amazona farinosa* A/E–M
 Red-lored Parrot *A. autumnalis* A/E–M
 White-fronted Parrot *A. albifrons* U/L¹
 White-crowned Parrot *Pionus senilis* A/E
 Brown-hooded Parrot *Pionopsitta haematotis* F/M–P
 Crimson-fronted Parakeet *Aratinga finschi* R/E
 Olive-throated Parakeet *Aratinga nana* C/E
 Orange-chinned Parakeet *Brotogeris jugularis* F/E
 Squirrel Cuckoo *Piaya cayana* A/E–M
 Groove-billed Ani *Crotophaga sulcirostris* A/E
 Pacific Screech-owl *Otus cooperi* A/E (not searched for outside
 Colonia Libertad)
 Common Parauque *Nyctidromus albicollis* A/E
 White-collared Swift *Streptoprocne zonaris* A/E
 Grey-rumped Swift *Chaetura cinereiventris* A/E
 Vaux's Swift *Chaetura vauxi* C/E²
 Swift sp. *Chaetura* sp. O/E probably *C. pelagica*
 Swift sp. *Cypseloides* sp. O/E probably *C. niger*
 Little Hermit *Phaethornis longuemareus* A/L–P
 Long-tailed Hermit *P. superciliosus* C/E–L
 Green Hermit *P. guy* A/P
 Band-tailed Barbthroat *Threnetes ruckeri* R/E
 Brown Violetear *Colibri delphinae* U/P, R/M
 White-tipped Sicklebill *Eutoxeres aquila* O/M–P
 Violet Sabrewing *Campylopterus hemileucurus* O/P
 Red-footed Plumbeleteer *Chalybura urochrysis* C/L–M
 Green-breasted Mango *Anthracothorax prevostii* R/E
 Purple-crowned Fairy *Heliotryx barroti* U/M
 White-necked Jacobin *Forisuga mellivora* C/E–L
 Crowned Woodnymph *Thalurania colombica* A/M–P, R/E
 Blue-throated Goldentail *Hylcocharis eliciae* C/E
 Rufous-tailed Hummingbird *Amazilia tzacatl* A/E
 Blue-chested Hummingbird *A. amabilis* R/E
 Fork-tailed Emerald *Chlorostilbon canvetii* O/E
 Black-crested Coquette *Lophornis helenae* C/E
 Purple-throated Mountain-gem
Lampornis castaneiventris calaolaema U/P²
 Snowcap *Microchera albocoronata* U/L–P
 Ruby-throated Hummingbird *Archilochus colubris* U/E
 Violet-headed Hummingbird *Klais guimeti* U/P
 Slaty-tailed Trogon *Trogon massena* A/M–P, U/L
 Violaceous Trogon *T. violaceus* A/E–L
 Black-throated Trogon *T. rufus* C/L–P
 Orange-bellied Trogon *T. aurantiiventris* U/P²
 Black-headed Trogon *T. melanocephalus* U/E–L²
 Ringed Kingfisher *Ceryle torquata* R/E
 Amazon Kingfisher *Chloroceryle amazona* R/E
 Green Kingfisher *C. americana* R/E
 Broad-billed Motmot *Electron platyrhynchum* A/L–M
 Keel-billed Motmot *E. carinatum* R/L
 Rufous Motmot *Baryphthengus martii* U/M²
 Rufous-tailed Jacamar *Galbula ruficauda* U/E–M
 White-fronted Nunbird *Monasa morphoeus* R/E
 Collared Araçari *Pteroglossus torquatus* C/E
 Emerald Toucanet *Aulacorhynchus prasinus* R/P
 (reported by credible local)
 Keel-billed Toucan *Ramphastos sulfuratus* A/E
 Chestnut-mandibled Toucan *R. swainsonii* C/E
 Yellow-eared Toucanet *Selenidera spectabilis* R/P
 Lineated Woodpecker *Dryocopus lineatus* C/E
 Pale-billed Woodpecker *Campephilus guatemalensis* C/E
 Cinnamon Woodpecker *Ceelus lorricatus* R/L–M
 Smoky-brown Woodpecker *Veniliornis fumigatus* C/M–P
 Black-cheeked Woodpecker *Melanerpes pucherani* A/E, U/L–P
 Hoffman's Woodpecker *M. hoffmannii* O/E
 Yellow-bellied Sapsucker *Sphyrapicus varius* R/E
 Wedge-billed Woodcreeper *Glyphorhynchus spirurus* A/L–P
 Streaked-headed Woodcreeper *Lepidocolaptes souleyetii* A/E
 Plain-brown Woodcreeper *Dendrocincla fuliginosa* U/L–P
 Ruddy Woodcreeper *D. homochroa* R/M
 Brown-billed Scythebill *Campylorhamphus pusillus* R/M
 Black-striped Woodcreeper *Xiphorhynchus lachrymosus* U/L–M
 Buff-throated Woodcreeper *X. guttatus* U/L
 Spotted Woodcreeper *X. erythrogygius* A/M–P
 Barred Woodcreeper *Dendrocolaptes certhia* C/M, R/L
 Plain Xenops *Xenops rutilans* C/L–P
 Spotted Barbtail *Premnoplex brunnescens* O/P
 Spectacled Foliage-gleaner *Anabacerthia varegaticeps* C/P
 Buff-throated Foliage-gleaner *Automolus ochrolaemus* U/L–M
 Striped Foliage-gleaner *Hylcoctistes subulatus* R/M
 Scaly-throated Leaf-tosser *Sclerurus guatemalensis* R/L
 Tawny-throated Leaf-tosser *S. mexicanus* R/M
 Dotted-winged Antwren *Microrhopia quixensis* C/L
 White-flanked Antwren *Myrmotherula axillaris* U/L–M
 Slaty Antwren *M. schisticolor* C/P
 Plain Antwren *Dysithamnus mentalis* U/P
 Streak-crowned Antwren *D. striaticeps* C/M–P
 Checker-throated Antwren *M. fulviventris* C/L
 Fulvous-bellied Antpitta *Hyllopezus fulviventris* A/E–P
 Black-faced Antthrush *Formicarius analis* C/L–M
 Fasciated Antshrike *Cymbilaimus lineatus* R/L
 Barred Antshrike *Thamnophilus doliatus* C/E

- Slaty Antshrike *T. punctatus* O/M¹
 Russet Antshrike *Thamnistes anabatinus* U/P
 Ocellated Antbird *Phaenostictus mcleannani* O/M
 Dusky Antbird *Cercomacra tyrannina* R/M
 Bicolored Antbird *Gymnophithys leucaspis* O/M–P
 Immaculate Antbird *Myrmeciza immaculata* C/P (above 800 m)
 Chestnut-backed Antbird *M. exsul* A/L–M
 Dull-mantled Antbird *M. laemosticta* O/M¹
 Spotted Antbird *Hylophylax naevioides* O/L–P
 Cinnamon Becard *Pachyrhamphus cinnamomeus* A/E
 Rose-throated Becard *P. aglaiae* O/E
 White-winged Becard *P. polychopterus* C/E
 Masked Tityra *Tityra semifasciata* A/E
 Black-crowned Tityra *T. inquisitor* U/E
 Snowy Cotinga *Carpodectes nitidus* U/E–M
 Lovely Cotinga *Cotinga amabilis* O/L–M
 Rufous Piha *Lipaugus unirufus* C/M–P
 Three-wattled Bellbird *Procnias tricarunculata* A/P
 White-collared Manakin *Manacus candei* C/E
 Grey-headed Manakin *Piprites griseiceps* R/M
 Long-tailed Manakin *Chiroxiphia linearis* U/E–M²
 Red-capped Manakin *Pipra mentalis* U/L–M
 White-ruffed Manakin *Corapipo leucorrhoa* C/M–P
 Thrush-like Schiffornis *Schiffornis turdinus* R/M
 Black Phoebe *Sayornis nigricans* U/E
 Tropical Kingbird *Tyrannus melancholicus* A/E
 Bright-rumped Attila *Attila spadiceus* C/M–P
 Piratic Flycatcher *Legatus leucophaeus* U/E
 Sulphur-bellied Flycatcher *Myiodynastes luteiventris* U/E
 Streaked Flycatcher *M. maculatus* U/E
 Boat-billed Flycatcher *Megarhynchus pitagora* C/E
 Social Flycatcher *Myiozetetes similis* C/E
 Grey-capped Flycatcher *M. granadensis* O/E
 White-ringed Flycatcher *Coryphotriccus albobivittatus* O/E
 Dusky-capped Flycatcher *Myiarchus tuberculifer* U/E
 Nutting's Flycatcher *M. nutting* O/E–M²
 Rufous Mourner *Rhytipterna holerlythra* C/L–P
 Royal Flycatcher *Onychorhynchus coronatus* U/L–M
 Olive-sided Flycatcher *Contopus borealis* O/E
 Wood-Pewee *C. sp.* U/E
 Tropical Pewee *C. cinereus* A/E
 Acadian Flycatcher *Empidonax albigularis* C/L
 White-throated Flycatcher *E. albigularis* R/M
 Sulphur-rumped Flycatcher *Myiobius sulphureipygius* R/L
 Ruddy-tailed Flycatcher *Terenotriccus erythrurus* U/L–M
 Olive-striped Flycatcher *Mionectes olivaceus* O/M–P
 Ochre-bellied Flycatcher *Mionectes oleagineus* U/E–P
 Golden-crowned Spadebill *Platyrinchus cancrominus* U/L–M
 Stub-tailed Spadebill *P. cancrominus* U/M²
 Scale-crested Pygmy-tyrant *Lophotriccus pileatus* A/M–P
 Northern Bentbill *Oncostoma cinereigulare* C/E
 Common Tody-flycatcher *Todirostrum cinereum* A/E
 Black-headed Tody-flycatcher *T. nigriceps* R/E
 Paltry Tyrannulet *Zimmerius vilissimus* C/E–P
 Yellow Tyrannulet *Capsiempis flaveola* U/E
 Rufous-browed Tyrannulet *Phylloscartes supercilialis* R/P
 Yellow-bellied Tyrannulet *Ornithion semiflavum* O/L
 Yellow-olive Flycatcher *Tolmomyias sulphurescens* C/E–M
 Yellow-bellied Elaenia *Elaenia flavogaster* A/E
 Grey-breasted Martin *Progne chalybea* A/E
 Northern Rough-winged Swallow *Stelgidopteryx serripennis* A/E
 Southern Rough-winged Swallow *S. ruficollis* C/E
 Violet-green Swallow *Tachycineta thalassina* R/E
 Mangrove Swallow *T. albilinea* C/E³
 Banded-backed Wren *Campylorhynchus zonatus* U/E
 Striped-breasted Wren *Thryothorus thoracicus* C/P
 Bay Wren *T. nigricapillus* A/E–M
 Grey-breasted Wood-wren *Henicorhina leucophrys* C/P¹
 White-breasted Wood-wren *H. leucosticta* C/L–P
 Plain Wren *Thryothorus modestus* R/E
 House Wren *Troglodytes aedon* A/E
 Nightingale Wren *Microcerculus philomela* U/L–P
 Song Wren *Cyphorhinus phaeocephalus* C/L–P
 Slaty-backed Nightingale-thrush *Catharus fuscater* U/P
 Black-headed Nightingale-thrush *C. mexicanus* C/P
 Swainson's Thrush *C. ustulatus* U/E–P
 Wood Thrush *Hyllochila mustelina* R/M
 Clay-colored Robin *Turdus greyi* A/E
 White-throated Robin *T. assimilis* C/L–P
 Black-faced Solitaire *Myadestes melanops* O/P
 White-throated Magpie-jay *Calocitta formosa* C/E
 Brown Jay *Cyanocorax morio* U/E
 Red-eyed Vireo *Vireo olivaceus* U/E–P
 Yellow-throated Vireo *V. flavifrons* U/E
 Philadelphia Vireo *V. philadelphicus* O/E
 Lesser Greenlet *Hylophylus decurtatus* A/L–P
 Tawny-crowned Greenlet *H. ochraceiceps* C/L–P especially M–P
 Tropical Gnatcatcher *Poliophtila plumbea* C/E
 Tawny-faced Gnatwren *Microbates cinereiventris* R/P
 Long-billed Gnatwren *Ramphocaenus melanurus* U/E
 Black-and-white Warbler *Mniotilta varia* U/L
 Golden-crowned Warbler *Basileuterus culicivorus* O/P
 Orange-crowned Warbler *Vermivora celata* R/E
 Tennessee Warbler *Vermivora peregrina* A/E–P especially E
 Golden-winged Warbler *V. chrysoptera* U/E–M
 Blue-winged Warbler *V. pinus* R/E
 Blackburnian Warbler *Dendroica fusca* O/P
 Pine Warbler *D. pinus* R/E
 Yellow Warbler *D. petechia* C/E
 Chestnut-sided Warbler *D. pensylvanica* A/E
 Black-throated Green Warbler *D. virens* O/E
 Magnolia Warbler *D. magnolia* R/E³
 Wilson's Warbler *Wilsonia pusilla* O/L¹
 Canada Warbler *W. canadensis* R/E
 Kentucky Warbler *Oporornis formosus* U/E
 Ovenbird *Seiurus aurocapillus* R/E
 Louisiana Waterthrush *S. matacilla* O/L¹
 Northern Waterthrush *S. novaboracensis* R/E
 Grey-crowned Yellowthroat *Geothlypis poliocephala* C/E
 Common Yellowthroat *G. trichas* R/E
 Buff-rumped Warbler *Phaeothlypis fulvicauda* U/E
 Worm-eating Warbler *Helminthos vermivorus* R/L
 Tropical Parula *Parula pitayumi* U/E (above 600m)
 American Redstart *Setophaga ruticilla* O/E
 Slate-throated Redstart *Myioborus miniatus* U/P
 Bananaquit *Coereba flaveola* O/E–P
 Baltimore Oriole *Icterus galbula* C/E
 Montezuma Oropendola *Psarocolius montezuma* A/E
 Scarlet-rumped Caciue *Cacicus uropygialis* O/E
 Yellow-billed Caciue *Amblycercus holosericeus* O/L¹
 Bronzed Cowbird *Molothrus aeneus* O/E
 Great-tailed Grackle *Quiscalus mexicanus* C/E
 Eastern Meadowlark *Sturnella magna* U/E (south of Colonia Blanca)
 Yellow-crowned Euphonia *Euphonia luteicapilla* A/E
 Olive-backed Euphonia *E. gouldi* C/L–P especially M
 Yellow-throated Euphonia *E. hirundinacea* R/L¹
 Tawny-capped Euphonia *E. annae* U/M–P
 White-vented Euphonia *E. minuta* O/E
 Scrub Euphonia *E. affinis* U/E–M²
 Blue-and-gold Tanager *Buthraupis arcaei* U/P
 Common Bush-tanager *Chlorospingus ophthalmicus* U/P
 Olive Tanager *Chlorothraupis carmioli* A/M, R/L
 Palm Tanager *Thraupis palmarum* C/E
 Emerald Tanager *Tangara florida* O/P
 Silver-throated Tanager *T. icterocerphala* C/M–P
 Bay-headed Tanager *T. gyrola* U/P²

Rufous-winged Tanager *T. lavinia* U/E M–P only
 Golden-hooded Tanager *T. larvata* A/E
 Black-and-yellow Tanager *Chrysothlypis chrysomelas* R/P¹
 Blue-grey Tanager *Thraupis episcopus* A/E
 Tawny-crested Tanager *Tachyphonus delatti* C/M³
 White-shouldered Tanager *T. luctuosus* U/E
 Western Tanager *Piranga ludoviciana* R/E
 Summer Tanager *P. rubra* C/E
 Scarlet Tanager *P. olivacea* U/E
 Hepatic Tanager *P. flava* R/M
 Crimson-collared Tanager *Phlogothraupis sanguinolenta* R/E
 Scarlet-rumped Tanager *Ramphocelus passerinii* A/E
 Red-throated Ant-tanager *Habia fuscicauda* O/L
 Shining Honeycreeper *Cyanerpes lucidus* A/E
 Red-legged Honeycreeper *C. cyaneus* U/E
 Blue Dacnis *Dacnis cayana* C/E
 Scarlet-thighed Dacnis *D. venusta* C/E, U/L–M
 Green Honeycreeper *Chlorophanes spiza* C/E–P
 Buff-throated Saltator *Saltator maximus* C/E
 Greyish Saltator *S. coerulescens* R/E
 Black-faced Grosbeak *Caryothraustes poliogaster* A/L–P

Rose-breasted Grosbeak *Pheucticus ludovicianus* U/L¹
 Blue-black Grosbeak *Cyanocampsa cyanoides* R/L
 Chestnut-capped Brush-finch *Atlapetes brunneinucha* C/P
 Orange-billed Sparrow *Arremon aurantiastris* C/E–M
 White-collared Seedeater *Sporophila torqueola* U/E
 Variable Seedeater *S. aurita* A/E
 Yellow-faced Grassquit *Tiaris olivacea* U/E
 Blue-black Grassquit *Volatinia jacarina* A/E
 Thick-billed Seed-finch *Oryzoborus funereus* C/E
 Black-striped Sparrow *Arremonops conirostris* A/E

- 1 Recorded in vicinity by T. Guindon, October 1995; not during this study
- 2 Recorded near Colonia Blanca by T. Guindon, May 1996; not during this study
- 3 Recorded in vicinity by D.S. Cooper, V. Emanuel and B. Lyon, January 1997; not during this study

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