

Appendix 3. List of bird species recorded at CIAT (1974-2018) with notes on residency status, the last year on record and observations. Observations on their status of permanence at the study site, including extirpated taxa, candidates to extirpation, retained species, colonizers, re-colonizers, vagrants, unique records and exotic or invasive. Candidates to extirpation are those taxa that may fulfill one, two or three criteria in coming years (see methods in main text).

Family	English name	Scientific name	Residency	Last record	Observations
Anatidae	Fulvous Whistling-Duck	<i>Dendrocygna bicolor</i>	Resident	2017	Candidate to extirpation
Anatidae	White-faced Whistling-Duck	<i>Dendrocygna viduata</i>	Resident	2018	Retained
Anatidae	Black-bellied Whistling-Duck	<i>Dendrocygna autumnalis</i>	Resident	2020	Retained
Anatidae	Muscovy Duck	<i>Cairina moschata</i>	Resident	2020	Recolonizer
Anatidae	Comb Duck	<i>Sarkidiornis sylvicola</i>	Resident	1989	Unique
Anatidae	Blue-winged Teal	<i>Spatula discors</i>	Migratory	2020	Retained
Anatidae	Cinnamon Teal	<i>Spatula cyanoptera</i>	Migratory	2020	Retained
Anatidae	Masked Duck	<i>Nomonyx dominicus</i>	Resident	2006	Candidate to extirpation
Anatidae	Ruddy Duck	<i>Oxyura jamaicensis</i>	Resident	2017	Unique
Odontophoridae	Crested Bobwhite	<i>Colinus cristatus</i>	Resident	2017	Retained
Podicipedidae	Least Grebe	<i>Tachybaptus dominicus</i>	Resident	2020	Retained
Podicipedidae	Pied-billed Grebe	<i>Podilymbus podiceps</i>	Resident	2018	Retained
Columbidae	Rock Pigeon	<i>Columba livia</i>	Resident	2017	Retained
Columbidae	Pale-vented Pigeon	<i>Patagioenas cayennensis</i>	Resident	2014	Retained
Columbidae	White-tipped Dove	<i>Leptotila verreauxi</i>	Resident	2017	Unique
Columbidae	Gray-headed Dove	<i>Leptotila plumbeiceps</i>	Resident	1989	Unique
Columbidae	Eared Dove	<i>Zenaida auriculata</i>	Resident	2020	Retained
Columbidae	Ruddy Ground-Dove	<i>Columbina talpacoti</i>	Resident	2020	Retained
Cuculidae	Smooth-billed Ani	<i>Crotophaga ani</i>	Resident	2020	Retained
Cuculidae	Striped Cuckoo	<i>Tapera naevia</i>	Resident	2020	Recolonizer

Cuculidae	Dwarf Cuckoo	<i>Coccyca pumila</i>	Resident	2020	Recolonizer
Cuculidae	Dark-billed Cuckoo	<i>Coccyzus melacoryphus</i>	Resident	2013	Candidate to extirpation
Cuculidae	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Migratory	1999	Candidate to extirpation
Nyctibiidae	Common Potoo	<i>Nyctibius griseus</i>	Resident	2016	Retained
Apodidae	Chestnut-collared Swift	<i>Streptoprocne rutila</i>	Migratory	1989	Unique
Apodidae	White-collared Swift	<i>Streptoprocne zonaris</i>	Migratory	2018	Recolonizer
Trochilidae	Ruby-topaz Hummingbird	<i>Chrysolampis mosquitus</i>	Resident	2000	Unique
Trochilidae	Black-throated Mango	<i>Anthracothorax nigricollis</i>	Resident	2020	Retained
Trochilidae	White-bellied woodstar	<i>Chaetocercus mulsant</i>	Resident	1977	Unique
Trochilidae	Western Emerald	<i>Chlorostilbon melanorhynchus</i>	Resident	2017	Extirpated
Trochilidae	Steely-vented Hummingbird	<i>Saucerottia saucerottei</i>	Resident	2018	Retained
Trochilidae	Rufous-tailed Hummingbird	<i>Amazilia tzacatl</i>	Resident	2020	Retained
Aramidae	Limpkin	<i>Aramus guarauna</i>	Resident	2018	Retained
Rallidae	Purple Gallinule	<i>Porphyrio martinica</i>	Resident	2020	Retained
Rallidae	Gray-breasted Crake	<i>Laterallus exilis</i>	Resident	2010	Unique
Rallidae	Ash-throated Crake	<i>Mustelirallus albicollis</i>	Resident	1975	Vagrant
Rallidae	Spotted Rail	<i>Pardirallus maculatus</i>	Resident	2010	Candidate to extirpation
Rallidae	Blackish Rail	<i>Pardirallus nigricans</i>	Resident	2011	Candidate to extirpation
Rallidae	Gray-cowled Wood-Rail	<i>Aramides cajaneus</i>	Resident	2018	Recolonizer
Rallidae	Yellow-breasted Crake	<i>Porzana flaviventer</i>	Resident	1980	Vagrant
Rallidae	Sora	<i>Porzana carolina</i>	Resident	1982	Unique
Rallidae	Common Gallinule	<i>Gallinula galeata</i>	Resident	2020	Retained
Rallidae	American Coot	<i>Fulica americana</i>	Resident	2020	Candidate to extirpation
Charadriidae	American Golden-Plover	<i>Pluvialis dominica</i>	Migratory	1978	Vagrant
Charadriidae	Southern Lapwing	<i>Vanellus chilensis</i>	Resident	2020	Retained
Charadriidae	semipalmated Plover	<i>Charadrius semipalmatus</i>	Migratory	1995	Candidate to extirpation
Charadriidae	Wilson's Plover	<i>Charadrius wilsonia</i>	Migratory	1995	Vagrant
Charadriidae	Collared Plover	<i>Charadrius collaris</i>	Resident	1995	Candidate to extirpation
Recurvirostridae	Black-necked Stilt	<i>Himantopus mexicanus</i>	Resident	2020	Retained
Scolopacidae	Upland Sandpiper	<i>Bartramia longicauda</i>	Migratory	1998	Unique

Scolopacidae	Whimbrel	<i>Numenius phaeopus</i>	Migratory	1995	Vagrant
Scolopacidae	Hudsonian Godwit	<i>Limosa haemastica</i>	Migratory	1998	Unique
Scolopacidae	Stilt Sandpiper	<i>Calidris himantopus</i>	Migratory	2001	Extirpated
Scolopacidae	Least Sandpiper	<i>Calidris minutilla</i>	Migratory	2020	Retained
Scolopacidae	Pectoral Sandpiper	<i>Calidris melanotos</i>	Migratory	2020	Retained
Scolopacidae	Semipalmated Sandpiper	<i>Calidris pusilla</i>	Migratory	1982	Vagrant
Scolopacidae	Western Sandpiper	<i>Calidris mauri</i>	Migratory	2008	Extirpated
Scolopacidae	Short-billed Dowitcher	<i>Limnodromus griseus</i>	Migratory	2020	Vagrant
Scolopacidae	Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	Migratory	2002	Vagrant
Scolopacidae	Noble Snipe	<i>Gallinago nobilis</i>	Migratory	1995	Unique
Scolopacidae	Wilson's Snipe	<i>Gallinago delicata</i>	Migratory	2010	Unique
Scolopacidae	Wilson's Phalarope	<i>Phalaropus tricolor</i>	Migratory	1998	Vagrant
Scolopacidae	Spotted Sandpiper	<i>Actitis macularius</i>	Migratory	2020	Retained
Scolopacidae	Solitary Sandpiper	<i>Tringa solitaria</i>	Migratory	2018	Retained
Scolopacidae	Greater Yellowlegs	<i>Tringa melanoleuca</i>	Migratory	2018	Retained
Scolopacidae	Lesser Yellowlegs	<i>Tringa flavipes</i>	Migratory	2020	Retained
Jacanidae	Wattled Jacana	<i>Jacana jacana</i>	Resident	2020	Retained
Laridae	Laughing Gull	<i>Leucophaeus atricilla</i>	Migratory	1980	Vagrant
Anhingidae	Anhinga	<i>Anhinga anhinga</i>	Resident	2020	Retained
Phalacrocoracidae	Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>	Resident	2020	Retained
Ardeidae	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	Resident	2020	Retained
Ardeidae	Green Heron	<i>Butorides virescens</i>	Migratory	1998	Candidate to extirpation
Ardeidae	Striated Heron	<i>Butorides striata</i>	Resident	2020	Retained
Ardeidae	Cattle Egret	<i>Bubulcus ibis</i>	Resident	2020	Exotic/ Invasive
Ardeidae	Great Blue Heron	<i>Ardea herodias</i>	Migratory	2007	Unique
Ardeidae	Cocoi Heron	<i>Ardea cocoi</i>	Resident	2020	Retained
Ardeidae	Great Egret	<i>Ardea alba</i>	Resident	2020	Retained
Ardeidae	Tricolored Heron	<i>Egretta tricolor</i>	Resident	2006	Unique
Ardeidae	Snowy Egret	<i>Egretta thula</i>	Resident	2020	Retained
Ardeidae	Little Blue Heron	<i>Egretta caerulea</i>	Resident	2020	Candidate to extirpation

Threskiornithidae	Glossy Ibis	<i>Plegadis falcinellus</i>	Migratory	2020	Retained
Threskiornithidae	Bare-faced Ibis	<i>Phimosus infuscatus</i>	Resident	2020	Retained
Threskiornithidae	Buff-necked Ibis	<i>Theristicus caudatus</i>	Resident	2020	Recolonizer
Catartidae	Black Vulture	<i>Coragyps atratus</i>	Resident	2020	Retained
Catartidae	Turkey Vulture	<i>Cathartes aura</i>	Resident	2015	Retained
Pandionidae	Osprey	<i>Pandion haliaetus</i>	Migratory	2015	Recolonizer
Accipitridae	White-tailed Kite	<i>Elanus leucurus</i>	Resident	2015	Candidate to extirpation
Accipitridae	Pearl Kite	<i>Gampsonyx swainsonii</i>	Resident	2020	Recolonizer
Accipitridae	Snail Kite	<i>Rostrhamus sociabilis</i>	Resident	2010	Unique
Accipitridae	Roadside Hawk	<i>Rupornis magnirostris</i>	Resident	2018	Retained
Accipitridae	Broad-winged Hawk	<i>Buteo platypterus</i>	Migratory	2013	Unique
Accipitridae	Short-tailed Hawk	<i>Buteo brachyurus</i>	Migratory	2008	Unique
Tytonidae	Barn Owl	<i>Tyto alba</i>	Resident	1999	Retained
Strigidae	Tropical Screech-Owl	<i>Megascops choliba</i>	Resident	1999	Unique
Alcedinidae	Ringed Kingfisher	<i>Megaceryle torquata</i>	Resident	2018	Retained
Alcedinidae	Amazon Kingfisher	<i>Chloroceryle amazona</i>	Resident	2010	Extirpated
Alcedinidae	Green Kingfisher	<i>Chloroceryle americana</i>	Resident	2017	Extirpated
Picidae	Grayish Piculet	<i>Picumnus granadensis</i>	Resident	2014	Retained
Picidae	Red-crowned Woodpecker	<i>Melanerpes rubricapillus</i>	Resident	2018	New Colonizer
Picidae	Crimson-crested Woodpecker	<i>Campephilus melanoleucos</i>	Resident	2017	Retained
Picidae	Lineated Woodpecker	<i>Dryocopus lineatus</i>	Resident	2020	Retained
Picidae	Spot-breasted Woodpecker	<i>Colaptes punctigula</i>	Resident	2020	Retained
Falconidae	Crested caracara	<i>Caracara cheriway</i>	Resident	2020	Retained
Falconidae	Yellow-headed Caracara	<i>Milvago chimachima</i>	Resident	2020	Retained
Falconidae	American Kestrel	<i>Falco sparverius</i>	Resident	2017	Recolonizer
Falconidae	Aplomado Falcon	<i>Falco femoralis</i>	Resident	2020	Retained
Psittacidae	Orange-chinned Parakeet	<i>Brotogeris jugularis</i>	Resident	2018	Unique
Psittacidae	Blue-headed Parrot	<i>Pionus menstruus</i>	Resident	2018	New Colonizer
Psittacidae	Yellow-crowned Amazon	<i>Amazona ochrocephala</i>	Resident	2020	New Colonizer
Psittacidae	Spectacled Parrotlet	<i>Forpus conspicillatus</i>	Resident	2018	Retained

Psittacidae	Chestnut-fronted Macaw	<i>Ara severus</i>	Resident	2020	New Colonizer
Psittacidae	Scarlet-fronted Parakeet	<i>Psittacara wagleri</i>	Resident	2018	Retained
Thamnophilidae	Bar-crested Antshrike	<i>Thamnophilus multistriatus</i>	Resident	2018	Retained
Thamnophilidae	Jet Antbird	<i>Cercomacra nigricans</i>	Resident	2018	Retained
Furnariidae	Uniform Treehunter	<i>Thripadectes ignobilis</i>	Resident	1989	Unique
Furnariidae	Red-faced Spinetail	<i>Cranioleuca erythrops</i>	Resident	2017	Unique
Furnariidae	Slaty Spinetail	<i>Synallaxis brachyura</i>	Resident	2013	Unique
Furnariidae	Pale-breasted Spinetail	<i>Synallaxis albescens</i>	Resident	2020	Recolonizer
Tityridae	Cinereous Becard	<i>Pachyramphus rufus</i>	Resident	2014	Retained
Tyraniidae	Yellow-olive Flycatcher	<i>Tolmomyias sulphurescens</i>	Resident	2020	Retained
Tyraniidae	Slate-headed Tody-Flycatcher	<i>Poecilatriccus sylvia</i>	Resident	2016	Unique
Tyraniidae	Common Tody-Flycatcher	<i>Todirostrum cinereum</i>	Resident	2018	Retained
Tyraniidae	Golden-faced Tyrannulet	<i>Zimmerius chrysops</i>	Resident	2013	Unique
Tyraniidae	Southern Beardless Tyrannulet	<i>Camptostoma obsoletum</i>	Resident	2018	Retained
Tyraniidae	Yellow-bellied Elaenia	<i>Elaenia flavogaster</i>	Resident	2018	Retained
Tyraniidae	Mountain Elaenia	<i>Elaenia frantzii</i>	Resident	1998	Unique
Tyraniidae	Yellow-crowned Tyrannulet	<i>Tyrannulus elatus</i>	Resident	2017	New Colonizer
Tyraniidae	Mouse-colored Tyrannulet	<i>Phaeomyias murina</i>	Resident	2018	New Colonizer
Tyraniidae	Great Kiskadee	<i>Pitangus sulphuratus</i>	Resident	2020	Retained
Tyraniidae	Cattle Tyrant	<i>Machetornis rixosa</i>	Resident	2020	Recolonizer
Tyraniidae	Streaked Flycatcher	<i>Myiodynastes maculatus</i>	Resident	2018	New Colonizer
Tyraniidae	Rusty-margined Flycatcher	<i>Myiozetetes cayanensis</i>	Resident	2020	Retained
Tyraniidae	Social Flycatcher	<i>Myiozetetes similis</i>	Resident	2017	Vagrant
Tyraniidae	Tropical Kingbird	<i>Tyrannus melancholicus</i>	Resident	2020	Retained
Tyraniidae	Fork-tailed Flycatcher	<i>Tyrannus savana</i>	Migratory	2020	Retained
Tyraniidae	Eastern Kingbird	<i>Tyrannus tyrannus</i>	Migratory	2014	Retained
Tyraniidae	Bran-colored flycatcher	<i>Myiophobus fasciatus</i>	Resident	1999	Unique
Tyraniidae	Vermilion Flycatcher	<i>Pyrocephalus rubinus</i>	Resident	2020	Retained
Tyraniidae	Pied Water-Tyrant	<i>Fluvicola pica</i>	Resident	2020	Retained
Tyraniidae	Western Wood-Pewee	<i>Contopus sordidulus</i>	Migratory	2014	Unique

Hirundinidae	Blue-and-white Swallow	<i>Pygochelidon cyanoleuca</i>	Resident	2020	Recolonizer
Hirundinidae	Southern Rough-winged Swallow	<i>Stelgidopteryx ruficollis</i>	Resident	2020	Retained
Hirundinidae	Brown-chested Martin	<i>Progne tapera</i>	Migratory	2017	Unique
Hirundinidae	Purple Martin	<i>Progne subis</i>	Migratory	1981	Unique
Hirundinidae	Gray-breasted Martin	<i>Progne chalybea</i>	Resident	1999	Extirpated
Hirundinidae	Barn Swallow	<i>Hirundo rustica</i>	Migratory	2017	Retained
Troglodytidae	House Wren	<i>Troglodytes aedon</i>	Resident	2020	Recolonizer
Turdidae	Swainson's Thrush	<i>Catharus ustulatus</i>	Migratory	2008	Unique
Turdidae	Black-billed Thrush	<i>Turdus ignobilis</i>	Resident	2018	Retained
Mimidae	Tropical Mockingbird	<i>Mimus gilvus</i>	Resident	2020	Recolonizer
Estrildidae	Tricolored Munia	<i>Lonchura malacca</i>	Resident	2020	Exotic
Estrildidae	Java Sparrow	<i>Lonchura oryzivora</i>	Resident	2007	Exotic/ Candidate to extirpation
Estrildidae	Chestnut Munia	<i>Lonchura atricapilla</i>	Resident	2002	Exotic/ Unique
Fringilidae	Lesser Goldfinch	<i>Spinus psaltria</i>	Resident	2015	Candidate to extirpation
Fringilidae	Thick-billed Euphonia	<i>Euphonia lanirostris</i>	Resident	2020	Recolonizer
Passerellidae	Grassland Sparrow	<i>Ammodramus humeralis</i>	Resident	2020	Candidate to extirpation
Passerellidae	Rufous-collared Sparrow	<i>Zonotrichia capensis</i>	Resident	2015	Unique
Icteridae	Red-breasted Blackbird	<i>Leistes militaris</i>	Resident	2018	Retained
Icteridae	Yellow-tailed Oriole	<i>Icterus mesomelas</i>	Resident	2017	Retained
Icteridae	Yellow-backed Oriole	<i>Icterus chrysater</i>	Resident	2017	New Colonizer
Icteridae	Yellow Oriole	<i>Icterus nigrogularis</i>	Resident	2020	Retained
Icteridae	Shiny Cowbird	<i>Molothrus bonariensis</i>	Resident	2020	Retained
Icteridae	Oriole Blackbird	<i>Gymnomystax mexicanus</i>	Resident	2018	Retained
Icteridae	Yellow-hooded Blackbird	<i>Chrysomus icterocephalus</i>	Resident	2017	Retained
Parulidae	Northern Waterthrush	<i>Parkesia noveboracensis</i>	Migratory	2014	Unique
Parulidae	Mourning Warbler	<i>Geothlypis philadelphia</i>	Migratory	2014	Unique
Parulidae	Tropical Parula	<i>Setophaga pitiayumi</i>	Resident	2018	Recolonizer
Parulidae	Yellow Warbler	<i>Setophaga petechia</i>	Migratory	2020	Retained
Cardinalidae	Summer Tanager	<i>Piranga rubra</i>	Migratory	2013	Unique

Cardinalidae	Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Migratory	2015	Unique
Cardinalidae	Ultramarine Grosbeak	<i>Cyanoloxia brissonii</i>	Resident	1989	Unique
Thraupidae	Guira tanager	<i>Hemithraupis guira</i>	Resident	2014	Unique
Thraupidae	Saffron Finch	<i>Sicalis flaveola</i>	Resident	2018	Retained
Thraupidae	Grassland Yellow-finch	<i>Sicalis luteola</i>	Resident	2017	New Colonizer
Thraupidae	Blue-black Grassquit	<i>Volatinia jacarina</i>	Resident	2020	Retained
Thraupidae	Ruddy-breasted Seedeater	<i>Sporophila minuta</i>	Resident	2018	Retained
Thraupidae	Thick-billed Seed-Finch	<i>Sporophila funerea</i>	Resident	2017	New Colonizer
Thraupidae	Gray Seedeater	<i>Sporophila intermedia</i>	Resident	2015	Recolonizer
Thraupidae	Yellow-bellied Seedeater	<i>Sporophila nigricollis</i>	Resident	2018	Retained
Thraupidae	Slate-colored Seedeater	<i>Sporophila schistacea</i>	Resident	2014	Vagrant
Thraupidae	Streaked Saltator	<i>Saltator striatipectus</i>	Resident	2017	Recolonizer
Thraupidae	Bananaquit	<i>Coereba flaveola</i>	Resident	2018	Recolonizer
Thraupidae	Yellow-faced Grassquit	<i>Tiaris olivaceus</i>	Resident	1999	Extirpated
Thraupidae	Dull-colored Grassquit	<i>Asemospiza obscura</i>	Resident	1998	Unique
Thraupidae	Masked Cardinal	<i>Paroaria nigrogenis</i>	Resident	2014	Vagrant
Thraupidae	Red-capped Cardinal	<i>Paroaria gularis</i>	Resident	2011	Candidate to extirpation
Thraupidae	Scrub Tanager	<i>Stilpnia vitriolina</i>	Resident	2017	Recolonizer
Thraupidae	Blue-gray Tanager	<i>Thraupis episcopus</i>	Resident	2018	Retained
Thraupidae	Palm Tanager	<i>Thraupis palmarum</i>	Resident	2018	Recolonizer
