

Costa Rica Bird
Observatories
ANNUAL REPORT
2013



Colibri thalassinus (Green Violetear)



Costa Rica Bird Observatories Annual Report 2014

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Setophaga pensylvanica
(Chestnut-sided Warbler)

Exciting Events

Entering our 20th year of monitoring and research, the Costa Rica Bird Observatories (CRBO) remains focused on studying birds to inform critical conservation decisions, help identify habitats important for bird populations and document previously unknown aspects of avian natural history.

This year was important for CRBO in many ways, and especially in our outreach and education efforts. Through our agreement with TV Channel 7 of Costa Rica, we are able to develop a long term agenda of conservation messages delivered once a week in prime time TV. We also successfully developed a Strategic Plan that will guide our conservation and scientific efforts over the next decade. Finally, through collaborative partnerships, CRBO continues to publish important peer-reviewed papers in respected scientific journals such as PLOS ONE, the Condor, and the Auk; see below for more details.

About CRBO

The Observatories (CRBO) are a nationwide partnership that promotes bird conservation through monitoring, science, and education in Costa Rica. Many avian populations worldwide appear to be in decline and CRBO is responding by increasing monitoring activities focused on identifying factors that prevent population recovery. Bird monitoring in Costa Rica is particularly important because the country represents less than half of one percent of the Earth's landmass, yet more than 8% of the world's bird species have been documented within the country's political boundaries. To adequately monitor Costa Rica's globally important bird community we work with partners to gather, preserve, and analyze bird monitoring data and generate tools that inform, enhance, and promote bird conservation. We work in collaboration with many entities inside and outside of Costa Rica, notably the National Institute of Biodiversity (INBio) in Costa Rica, the US Forest Service, and the Klamath Bird Observatory.

Our vision: To gather and preserve information on birds and their habitats to further conservation and bird science in Costa Rica.

Our mission: To provide leadership for bird monitoring in Costa Rica through the establishment of successful field efforts that inform strategic decisions affecting bird conservation at a regional scale.

As part of our day-to-day activities we work with governmental, private, industry, academic, non-profit, and community organizations to establish sustainable relationships focused on bird monitoring and conservation efforts.



Filling the Gap Between Science and Conservation

Perhaps the biggest challenge faced by bird observatories worldwide is the dissemination of science into actionable and impactful conservation. CRBO has invested a considerable amount of time developing mechanisms to address the gap between science and conservation. In this vein, CRBO recently participated in The Partners in Flight V conference to develop ways to improve the movement of scientific ideas to actionable bird conservation.

CRBO's focus on measurable conservation is best exemplified through our partnership on the Golden-winged Warbler with the American Bird Conservancy, where CRBO led the process of identifying priority conservation areas in Costa Rica for this migratory species undergoing precipitous population declines. Just this past August, through CRBO's leadership, a group analyzed demographic and census data and land managers were briefed on prevailing threats facing the species with the objective of ensuring that private and public lands are being appropriately managed for the warbler.

CRBO continues to play an important role in the bird monitoring community, with personnel serving positions in the North American Banding Council, the Western Bird Banding Association Board of Directors, and the Landbird Monitoring Network of the Americas. Our involvement with these organizations allows us to better involve our efforts with larger and more international initiatives; it also facilitates the enrollment of small projects from the region to be part of larger effort. We also continue to chair the Western Hemisphere Banding Network (WHBBN), and Partners in Flight Costa Rica.

Breaking New Grounds in Communication

CRBO has established a formal agreement with Channel 7, a Costa Rican National Television Broadcasting Company, which allows us to air a weekly spot on prime time TV every Monday at 6:00 pm. During our allotted time

we develop exciting stories about conservation, research, and natural history, allowing us to pursue our long-term agenda of creating a more bird-friendly national discourse and community. In the past year, CRBO has developed programs covering sustainable natural resource utilization, natural history, the pet trade, deforestation and anthropogenic impacts, and mechanisms of conservation.



In addition to domestic partnerships, CRBO has supported emerging banding programs in other Latin American countries in their efforts to establish bird monitoring programs. In 2013 we were able to help organize the second bird banding course in Brazil that was conducted in partnership with CEMAVE, Instituto Nacional de Pesquisas da Amazônia, and Dr. Gonçalo Ferraz at the Federal University of Rio Grande do Sul. During these one-week courses, students work with instructors in the field and attend afternoon lectures focused on a diversity of topics pertaining to bird monitoring, thereby helping prepare the next generation of Latin American researchers and conservationists. At the country level, CRBO recruited nine additional Costa Rican students in 2013 to join our on-going advanced bird monitoring course ([Click here](#)), where students attend a monthly lecture and practice various aspects of monitoring at one of our four field stations. In addition to our fruitful collaborations in South America, CRBO also works closely with the city of Arcata, California, where we have facilitated a partnership between the Rotary Clubs of San Jose Noreste and Arcata to develop projects that help alleviate poverty using birds in part as a commonality. Thus far both Rotary Clubs have visited CRBO's stations and communities in which we operate to help plan the implementation of humanitarian projects scheduled to begin in 2014.

Students and trainers in Manaus, Brazil



Science and monitoring

CRBO has continued to implement bird banding and census activities at all stations (see Map). Our operations in Tortuguero over the past 20 years represent the longest running constant effort mist-netting program in Latin America. This year we implemented the use of audio lures at some sites to attract nocturnal migratory birds thereby increasing the data available on migratory species, such as body condition. This technique is commonly used in Europe but rarely has been implemented in the Americas.

We have successfully started our new station at La Selva Biological Station, a premier location for the implementation of research activities in Central America. The La Selva station provides several important benefits: a fantastic diversity and abundance of birds, close proximity to San Jose, logistics associated with an existing world-class research station, and data continuity of the previous monitoring effort operated by the Calgary Bird Banding Society.

CRBO has been working hard to consolidate and curate our extensive database into a single format, available for analysis and use by researchers. Database curation has been completed through our cooperative agreement with the Redwood Sciences Laboratory in Arcata, California, which offers data archival services through the Landbird Monitoring Network of the Americas.

A key component of CRBO mission is the collection, analysis and dissemination of important results to the scientific community through publishing in peer-reviewed literature. For example, our recent paper in



the very high impact journal PLOS ONE demonstrated that fruit production along the Caribbean coast is timed with the arrival of migrant birds thereby forming a mutualistic relationship where birds obtain the resources necessary to complete their annual movements, and plants are able to disperse their seeds across a broad geographic area. Unfortunately, we believe these delicate relationships are easily undone through climatic change. Additional research has focused on the annual survival of a sensitive migrant species, the Prothonotary Warbler, in relation to fat accumulation. Our results suggest that heavier individuals had higher rates of annual survival and wintering Prothonotary Warblers select high quality forests necessary to accumulate fat thereby strengthening our understanding of the delicate balance between healthy birds, healthy climate and healthy habitat. For other publications in recent years see the "library" tag at costaricabird.org.

During 2013 CRBO had active participation and presentations at the Western Bird Banding Association, North American Banding Council, and the international meeting of "Partners in Flight V". At this latter meeting we engaged participants and committed to hold the upcoming "PIF-VI" meeting in Costa Rica, likely to be held in 2017.

We have started to implement actions towards the consolidation of our program that involve the development and implementation of a strategic plan that leads our efforts, also CRBO has been working to acquire its own incorporation in Costa Rica and to be an NGO leader in conservation and science in Costa Rica.

CRBO constantly continues to provide science to managers in order to inform critical bird and habitat conservation processes, and we hope we can count on you in the near future.



Pharomachrus mocinno
(Resplendent Quetzal)

Papers

Wolfe, J. D., Johnson M.D. and C.J. Ralph. 2013. Higher mass increases annual survival of wintering Prothonotary Warblers (*Protonotaria citrea*) in Northeastern Costa Rica. *Condor* 115:163-167.

Wolfe, J. D., Johnson M.D. and C.J. Ralph. 2014. Do birds select habitat or food resources? Nearctic-Neotropic Migrants in Northeastern Costa Rica. *PLOS ONE* 9: e86221.

Wolfe, J. D. and E. I. Johnson. 2014. Searching for Consensus in Molt Terminology 10 Years after Howell et al.'s "First Basic Problem." *Auk* 131: 371–377.

Selected Presentations

Elizondo, Pablo. 2013. Costa Rica as a research destination. Redwood Sciences Laboratory, Arcata, CA, USA. September.

Elizondo, Pablo. 2013. An overview of Costa Rican bird research (topic only – title unknown). Redwood Sciences Laboratory, Arcata, CA, USA. March.

Ralph, C. John, Jared Wolfe, Pablo Elizondo, and John Alexander. 2014. Value added in bird monitoring: capture and banding provide new insights on climate fluctuations. Presentation to Joint annual meeting of the Association of Field Ornithologists and Wilson Ornithological Society, Newport, RI, USA. May.

Ralph, C. John, Jared Wolfe, and Peter L. Ralph. 2013. Value added in bird monitoring: Networks of capture and banding stations provide new insights on climate fluctuations. Australasian Ornithological Conference, Auckland, New Zealand. December.



Tangara larvata
(Golden-hooded Tanager)

List of bird banders and volunteers for 2013

Name	Country
Pablo Adrover	Spain
Danny Alfaro	Costa Rica
Kattia Alpízar	Costa Rica
David Bryden	New Zealand
Kimberly Check	USA
Stella Diamant	Belgium
Richard Dobbins	England
Hellen Fuentes	Costa Rica
Susana García	Spain
Jose Luis Garzón	Spain
Catalina González	Colombia
Susana Gutierrez	Costa Rica
Iván de la Hera	Spain
Wendy James	England
Jorge Leitón	Costa Rica
Jessica Madrigal	Costa Rica
Amilkar Moncada	México
Marcela Murillo	Costa Rica
Lukas Musher	USA
Diego Quesada	Costa Rica
Bárbara Reguera	Spain
Pilar Rodríguez	México
Michael Rodríguez	Costa Rica
Micah Scholer	USA
David Segura	Costa Rica
Tatiana Straatmann	Brasil
Yohay Wasserlauf	Israel

List of birds banded in 2013

	Scientific name	English name	Status	INBio	Madre Selva	Tortuguero
1	<i>Accipiter superciliosus</i>	Tiny Hawk	R			x
2	<i>Amazilia tzacatl</i>	Rufous-tailed Hummingbird	R	x		x
3	<i>Arremon brunneinucha</i>	Chestnut-capped Brush-Finch	R		x	
4	<i>Atlapetes albinucha</i>	White-naped Brush-Finch	R		x	
5	<i>Attila spadiceus</i>	Bright-rumped Attila	R			x
6	<i>Basileuterus culicivorus</i>	Golden-crowned Warbler	R		x	
7	<i>Basileuterus melanogenys</i>	Black-cheeked Warbler	R		x	
8	<i>Basileuterus rufifrons</i>	Rufous-capped Warbler	R	x		
9	<i>Campephilus guatemalensis</i>	Pale-billed Woodpecker	R			x
10	<i>Campylopterus hemileucurus</i>	Violet Sabrewing	R		x	
11	<i>Cantorchilus modestus</i>	Plain Wren	R	x		
12	<i>Cantorchilus nigricapillus</i>	Bay Wren	R			x
13	<i>Cantorchilus thoracicus</i>	Stripe-breasted Wren	R			x
14	<i>Cardellina pusilla</i>	Wilson's Warbler	M		x	
15	<i>Catharus frantzii</i>	Ruddy-capped Nightingale-Thrush	R		x	
16	<i>Catharus fuscescens</i>	Veery	M			x
17	<i>Catharus gracilirostris</i>	Black-billed Nightingale-Thrush	R		x	
18	<i>Catharus minimus</i>	Gray-cheeked Thrush	M	x		x
19	<i>Catharus ustulatus</i>	Swainson's Thrush	M	x	x	x
20	<i>Cercomacra tyrannina</i>	Dusky Antbird	R			x
21	<i>Chloroceryle aenea</i>	American Pygmy Kingfisher	R			x
22	<i>Chlorophanes spiza</i>	Green Honeycreeper	R			x

	Scientific name	English name	Status	INBio	Madre Selva	Tortuguero
23	<i>Chlorospingus ophthalmicus</i>	Common Bush-Tanager	R		x	
24	<i>Chlorospingus pileatus</i>	Sooty-capped Bush-Tanager	R		x	
25	<i>Colibri thalassinus</i>	Green Violetear	R		x	
26	<i>Contopus virens</i>	Eastern Wood-Pewee	M			x
27	<i>Cyclarhis gujanensis</i>	Rufous-browed Peppershrike	R		x	
28	<i>Dendrocolaptes sanctithomae</i>	Northern-barred Woodcreeper	R			x
29	<i>Diglossa plumbea</i>	Slaty Flowerpiercer	R		x	
30	<i>Doryfera ludovicae</i>	Green-fronted Lancebill	R		x	
31	<i>Dumetella carolinensis</i>	Gray Catbird	M			x
32	<i>Elaenia frantzii</i>	Mountain Elaenia	R		x	
33	<i>Empidonax atriceps</i>	Black-capped Flycatcher	R		x	
34	<i>Empidonax flavescens</i>	Yellowish Flycatcher	R		x	
35	<i>Empidonax flaviventris</i>	Yellow-bellied Flycatcher	M	x		x
36	<i>Empidonax virescens</i>	Acadian Flycatcher	M			x
37	<i>Epinecrophilla fulviventris</i>	Checker-throated Antwren	R			x
38	<i>Eugenes fulgens</i>	Magnificent Hummingbird	R		x	
39	<i>Euphonia gouldi</i>	Olive-backed Euphonia	R			x
40	<i>Florisuga mellivora</i>	White-necked Jacobin	R			x
41	<i>Geothlypis formosa</i>	Kentucky Warbler	M			x
42	<i>Geothlypis philadelphia</i>	Mourning Warbler	M			x
43	<i>Geothlypis semiflava</i>	Olive-crowned Yellowthroat	R			x
44	<i>Geotrygon costaricensis</i>	Buff-fronted Quail-Dove	R		x	
45	<i>Geotrygon montana</i>	Ruddy Quail-Dove	R			x
46	<i>Glaucis aeneus</i>	Bronzy Hermit	R			x
47	<i>Glyphorhynchus spirurus</i>	Wedge-billed Woodcreeper	R			x
48	<i>Gymnopithys leucaspis</i>	Bicolored Antbird	R			x

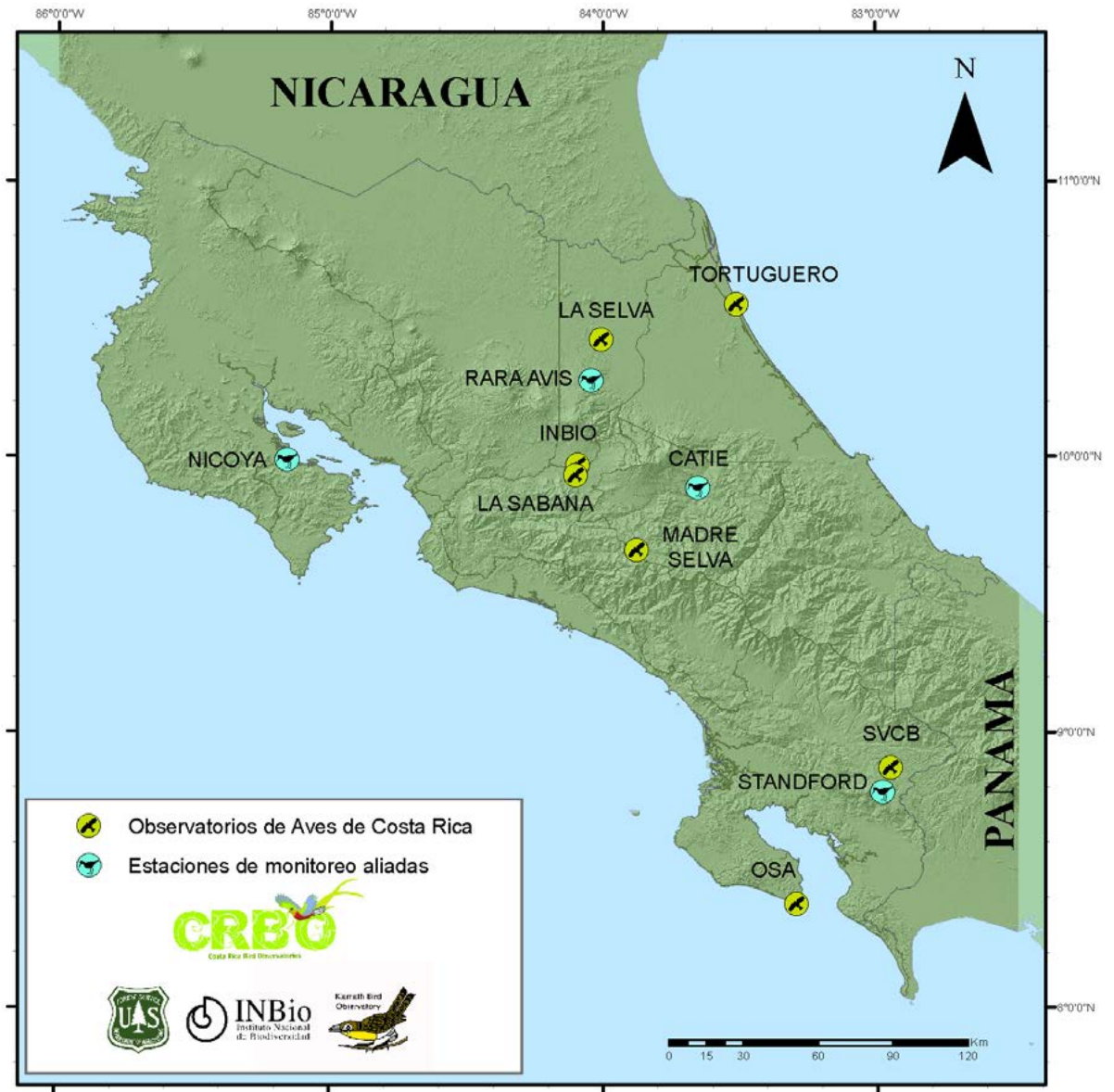
	Scientific name	English name	Status	INBio	Madre Selva	Tortuguero
49	<i>Haplospiza rustica</i>	Slaty Finch	R		x	
50	<i>Helmitheros vermivorum</i>	Worm-eating Warbler	M			x
51	<i>Henicorhina leucophrys</i>	Gray-breasted Wood-Wren	R		x	x
52	<i>Henicorhina leucosticta</i>	White-breasted Wood-Wren	R			x
53	<i>Hylocharis eliciae</i>	Blue-throated Goldentail	R			x
54	<i>Hylocichla mustelina</i>	Wood Thrush	M	x		x
55	<i>Hylophilus decurtatus</i>	Lesser Greenlet	R			x
56	<i>Hylophylax naevioides</i>	Spotted Antbird	R			x
57	<i>Lampornis calolaemus</i>	Purple-throated Mountain-gem	R		x	
58	<i>Lampornis castaneiventris</i>	White-throated Mountain-gem	R		x	
59	<i>Lepidocolaptes affinis</i>	Spot-crowned Woodcreeper	R		x	
60	<i>Lepidocolaptes souleyetii</i>	Streak-headed Woodcreeper	R			x
61	<i>Leptotila cassinii</i>	Gray-chested Dove	R			x
62	<i>Leptotila verreauxi</i>	White-tipped Dove	R	x		
63	<i>Malacoptila panamensis</i>	White-whiskered Puffbird	R			x
64	<i>Manacus candei</i>	White-collared Manakin	R			x
65	<i>Margarornis rubiginosus</i>	Ruddy Treerunner	R		x	
66	<i>Melanerpes hoffmannii</i>	Hoffmann's Woodpecker	R	x		
67	<i>Melospiza biarcuata</i>	Prevost's Ground-Sparrow	R	x		
68	<i>Melospiza leucotis</i>	White-eared Ground-Sparrow	R	x		
69	<i>Micrastur ruficollis</i>	Barred Forest-Falcon	R		x	
70	<i>Mionectes oleagineus</i>	Ochre-bellied Flycatcher	R			x
71	<i>Mionectes olivaceus</i>	Olive-striped Flycatcher	R		x	
72	<i>Mniotilta varia</i>	Black-and-white Warbler	M		x	

	Scientific name	English name	Status	INBio	Madre Selva	Tortuguero
73	<i>Momotus momota</i>	Blue-crowned Motmot	R	x		
74	<i>Myadestes melanops</i>	Black-faced Solitaire	R		x	
75	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	M			x
76	<i>Myioborus miniatus</i>	Slate-throated Redstart	R		x	
77	<i>Myioborus torquatus</i>	Collared Redstart	R		x	
78	<i>Myrmeciza exsul</i>	Chestnut-backed Antbird	R			x
79	<i>Myrmotherula axillaris</i>	White-flanked Antwren	R			x
80	<i>Nyctidromus albicollis</i>	Common Pauraque	R		x	
81	<i>Odontophorus guttatus</i>	Spotted Wood-Quail	R		x	
82	<i>Oreothlypis gutturalis</i>	Flame-throated Warbler	R		x	
83	<i>Oreothlypis peregrina</i>	Tennessee Warbler	M	x		x
84	<i>Oryzoborus funereus</i>	Thick-billed Seed-Finch	R			x
85	<i>Pachyramphus versicolor</i>	Barred Becard	R		x	
86	<i>Panterpe insignis</i>	Fiery-throated Hummingbird	R		x	
87	<i>Parkesia motacilla</i>	Louisiana Waterthrush	M		x	
88	<i>Parkesia noveboracensis</i>	Northern Waterthrush	M		x	x
89	<i>Pezopetes capitalis</i>	Large-footed Finch	R		x	
90	<i>Phaethornis longirostris</i>	Long-billed Hermit	R			x
91	<i>Phaethornis striigularis</i>	Stripe-throated Hermit	R			x
92	<i>Phainoptila melanoxantha</i>	Black-and-yellow Silky-Flycatcher	R		x	
93	<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak	M	x		
94	<i>Pheucticus tibialis</i>	Black-thighed Grosbeak	R		x	
95	<i>Picoides villosus</i>	Hairy Woodpecker	R		x	
96	<i>Pipra mentalis</i>	Red-capped Manakin	R			x

	Scientific name	English name	Status	INBio	Madre Selva	Tortuguero
97	<i>Piranga bidentata</i>	Flame-colored Tanager	R		x	
98	<i>Piranga olivacea</i>	Scarlet Tanager	M			x
99	<i>Piranga rubra</i>	Summer Tanager	M			x
100	<i>Pitangus sulphuratus</i>	Great Kiskadee	R	x		x
101	<i>Platyrinchus mystaceus</i>	White-throated Spadebill	R		x	
102	<i>Premnoplex brunnescens</i>	Spotted Barbtail	R		x	
103	<i>Protonotaria citrea</i>	Prothonotary Warbler	M			x
104	<i>Psarocolius montezuma</i>	Montezuma Oropendola	R	x		
105	<i>Pselliophorus tibialis</i>	Yellow-thighed Finch	R		x	
106	<i>Pseudocolaptes lawrencii</i>	Buffy Tuftedcheek	R		x	
107	<i>Pteroglossus torquatus</i>	Collared Aracari	R			x
108	<i>Ptilogonys caudatus</i>	Long-tailed Silky-Flycatcher	R		x	
109	<i>Pygochelidon cyanoleuca</i>	Blue-and-white Swallow	R, M		x	
110	<i>Quiscalus mexicanus</i>	Great-tailed Grackle	R			x
111	<i>Rhynchocyclus brevirostris</i>	Eye-ringed Flatbill	R			x
112	<i>Saltator coerulescens</i>	Grayish Saltator	R	x		x
113	<i>Seiurus aurocapilla</i>	Ovenbird	M		x	x
114	<i>Selasphorus flammula</i>	Volcano Hummingbird	R		x	
115	<i>Selasphorus scintilla</i>	Scintillant Hummingbird	R		x	
116	<i>Setophaga citrina</i>	Hooded Warbler	M			x
117	<i>Setophaga fusca</i>	Blackburnian Warbler	M			x
118	<i>Setophaga magnolia</i>	Magnolia Warbler	M			x
119	<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler	M			x
120	<i>Setophaga petechia</i>	Yellow Warbler	R, M			x
121	<i>Setophaga virens</i>	Black-throated Green Warbler	M		x	
122	<i>Sporophila americana</i>	Variable Seedeater	R	x		x

	Scientific name	English name	Status	INBio	Madre Selva	Tortuguero
123	<i>Tangara dowii</i>	Spangle-cheeked Tanager	R		x	
124	<i>Tangara larvata</i>	Golden-hooded Tanager	R			x
125	<i>Thalurania colombica</i>	Violet-crowned Woodnymph	R			x
126	<i>Thamnophilus atrinucha</i>	Western-slaty Antshrike	R			x
127	<i>Thraupis episcopus</i>	Blue-gray Tanager	R	x		x
128	<i>Thraupis palmarum</i>	Palm Tanager	R			x
129	<i>Threnetes ruckeri</i>	Band-tailed Barbthroat	R			x
130	<i>Thripadectes rufobrunneus</i>	Streak-breasted Treehunter	R		x	
131	<i>Todirostrum cinereum</i>	Common Tody-Flycatcher	R			x
132	<i>Troglodytes aedon</i>	House Wren	R	x	x	x
133	<i>Troglodytes ochraceus</i>	Ochraceous Wren	R		x	
134	<i>Trogon collaris</i>	Collared Trogon	R		x	
135	<i>Trogon massena</i>	Slaty-tailed Trogon	R			x
136	<i>Turdus grayi</i>	Clay-colored Thrush	R	x	x	x
137	<i>Turdus plebejus</i>	Mountain Thrush	R		x	
138	<i>Tyrannus melancholicus</i>	Tropical Kingbird	R		x	
139	<i>Vireo carmioli</i>	Yellow-winged Vireo	R		x	
140	<i>Vireo leucophrys</i>	Brown-capped Vireo	R		x	
141	<i>Vireo olivaceus</i>	Red-eyed Vireo	M	x		
142	<i>Vireo philadelphicus</i>	Philadelphia Vireo	M	x		
143	<i>Zimmerius vilissimus</i>	Paltry Tyrannulet	R		x	
144	<i>Zonotrichia capensis</i>	Rufous-collared Sparrow	R		x	

Map of stations



List of partners





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