

New bird species and distributional records for Jardines de la Reina archipelago, Cuba, during autumn and spring migrations 2009–10

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Reportamos 15 nuevas especies y 61 nuevas localidades para la avifauna del archipiélago Jardines de la Reina (AJR), Cuba, como resultado del monitoreo realizado en el complejo de vegetación de costa de los cayos Grande, Anclitas y Caguama durante las migraciones otoñal de septiembre de 2009 y primaveral de abril de 2010. Un total de 80 especies fueron detectadas con el uso de redes de niebla, transectos lineales y observaciones *ad libitum* durante un total de 18 días de muestreo. Se consignan las especies Zarapico Chico *Calidris mauri*, Paloma Sanjuanera *Zenaida aurita*, Arrierito *Coccyzus minor*, Vireo de Ojo Blanco *Vireo griseus*, Vireo de Ojo Rojo *V. olivaceus*, Tordo de Mejillas Grises *Catharus minimus*, Tordo Colorado *C. fuscescens*, Sinsonte *Mimus polyglottos*, Bijirita Protonotaria *Protonotaria citrea*, Bijirita Atigrada *Dendroica tigrina*, Bijirita Blackburniana *D. fusca*, Bijirita Castaña *D. castanea*, Monjita *Wilsonia citrina*, Cardenal Alinegro *Piranga olivacea* y el Chambergo *Dolichonyx oryzivorus* como nuevas adiciones a la avifauna de la región insular; lo que a su vez eleva a 96 el número de especies reportadas en el archipiélago.

The Jardines de la Reina archipelago (AJR), which comprises 661 cays and stretches 360 km off the southern coast of Ciego de Ávila and Camagüey provinces, forms part of the submerged plains and islets of the south-east platform¹⁰. Most cays form part of two groups known as the Golfo de Ana María and Laberinto de Las Doce Leguas archipelagos. The AJR's marine and terrestrial biodiversity is relatively well protected, partly due to its geographical isolation (lying relatively far from the mainland), although it has been barely studied compared to other insular and coastal regions of Cuba¹⁹. Three primary vegetation types are recognised: mangrove forests of different floristic and physiognomic types, xerophytic coastal scrub, and rocky and sandy vegetation complexes. Cultivated Australian Pine *Casuarina equisetifolia*, Coconut *Cocos nucifera* and Tropical Almond *Terminalia catappa* are patchily distributed²⁰ due probably to past human settlements.

Various authors initially described the avifauna of the AJR¹⁸, with follow-up contributions on species occurrence^{2,4} and new taxa^{7,17}, among them *Contopus caribaeus florentinoi* and *C. c. nerleyi* (Cuban Pewee). Subsequently, due to the development of the tourism industry elsewhere in Cuba during the early 1990s, new expeditions (in 1995–98) to study various biota visited the west-central part of the archipelago, bringing to 82 the total number of bird species recorded²⁰. More recently, basic knowledge of terrestrial biota was greatly broadened in terms of spatial coverage by surveys of the central-east part of the archipelago in June 2005¹³. However, avifaunal composition during migration periods has not been studied. To compensate for this lack

of data and to assess possible impacts of different climatic scenarios on the archipelago's avifauna, a monitoring scheme has now been implemented. We report new species and distributional records based on four initial surveys.

Methodology

Surveys were undertaken of the sandy vegetation complex of cayos Grande (21°00'01.7"N 79°10'53.5"W), Anclitas (20°47'59.7"N 78°56'01.9"W) and Caguama (20°34'49.9"N 78°24'38.3"W). Vegetation had a mean height of 3–5 m and was dominated by *Eriothalis fruticosa*, *Coccothrinax littoralis*, *Crossopetalum rhacoma* and *Cassia lineata* with scattered individuals of *Metopium toxiferum* and *Conocarpus erecta*.

Mist-nets (12.0 m × 2.6 m × 30.0 mm) were always placed in three groups each of four nets separated by 35–40 m and scattered around the study sites, depending on the vegetation. At each site, nets were opened for five hours from sunrise (06h30–11h30) on at least two consecutive days during 14–23 September 2009, 12–21 April 2010 and 16–29 October 2010. Bird identification was based on the National Geographic Society¹² and Garrido & Kirkconnell⁹ field guides. Aluminum bands were used to mark individual birds and sexing and ageing followed criteria in Pyle¹⁴ and Pyle *et al.*¹⁵.

Line transects of varying length were established in the mixed mangrove, sandy vegetation complex and sandy shore of Cayo Caguama on 10–15 September 2010. Transects were walked slowly in the morning (06h30–11h00) and afternoon (14h30–18h00) and all birds seen and heard were noted.

For each new record we present general comments on the species' status and abundance in Cuba^{9,11} together with brief details of our observations in AJR. We follow the systematic order and species names of the AOU and its most recently published supplement⁵.

Results

Sampling of three different cays in the AJR yielded 15 new species for the archipelago and 61 other distributional records (i.e. new bird records for individual cays). Overall, 80 bird species were recorded during our field surveys, or 90% of the total number of species known from the region (Appendix 1).

Western Sandpiper *Calidris mauri*.—Common transient and possibly rare winter resident in Cuba. We observed a single on a patch of rocky coast on Cayo Anclitas on 13 September 2009.

Zenaida Dove *Zenaida aurita*.—Common permanent resident in Cuba and nearby archipelagos. We captured an adult (sex unknown) on Cayo Anclitas and observed another on Cayo Caguama, on 15 and 21 September 2009, respectively. These are the first records in the AJR. Other species of *Zenaida*—White-winged Dove *Z. asiatica* and Mourning Dove *Z. macroura*—are known from several localities and well-established populations in the AJR.

Mangrove Cuckoo *Coccyzus minor*.—Common permanent resident in Cuba. One that 'bounced' out of a mist-net in the sandy vegetation complex on Cayo Anclitas on 18 October 2010 is the first record in the AJR.

White-eyed Vireo *Vireo griseus*.—Common winter resident in Cuba. Occurrence in AJR is based on the capture of two immatures (sex unknown) in the sandy vegetation complex of cayos Anclitas and Grande on 18 and 22 October 2010, respectively.

Red-eyed Vireo *Vireo olivaceus*.—Common transient in Cuba. The first records in the AJR involved two immatures (sex unknown) trapped on cayos Grande and Anclitas on 19 September 2009 and 18 October 2010, respectively.

Grey-cheeked Thrush *Catharus minimus*.—Uncommon transient and winter resident in Cuba. The first record for the AJR was an adult female trapped in the sandy coastal scrub of Cayo Anclitas on 20 April 2010.

Veery *Catharus fuscescens*.—Rare transient in Cuba. Two first-summer individuals (sex unknown) that were captured on 20–21 April 2010 in the

sandy coastal scrub of Cayo Anclitas, were the first records in the AJR.

Northern Mockingbird *Mimus polyglottos*.—Abundant permanent resident in Cuba and on many offshore cays. One was observed in the easternmost part of the archipelago, in sandy coastal scrub on Cayo Caguama on 20 April 2010. There was a previous sighting at the same locality in June 2005²⁰.

Cape May Warbler *Dendroica tigrina*.—Common transient and winter resident in Cuba and nearby archipelagos, but not previously reported in the AJR. We trapped an immature male in sandy coastal scrub on Cayo Caguama on 22 September 2009. Subsequently, five were trapped on Cayo Grande on 12–13 April 2010 and several seen on Cayo Anclitas on 20 April 2010. These first records for the AJR suggest that the species is a common migrant.

Blackburnian Warbler *Dendroica fusca*.—Rare transient in Cuba, the Isle of Pines and Cayo Coco. The first record in the AJR involved a presumed first-winter foraging in short vegetation near the sandy shore of Cayo Caguama in September 2010.

Bay-breasted Warbler *Dendroica castanea*.—Rare transient in Cuba. An immature male trapped in the sandy vegetation complex of Cayo Grande on 21 October 2010 is the first record in the AJR.

Prothonotary Warbler *Protonotaria citrea*.—Uncommon transient in Cuba. An immature female trapped on Cayo Grande on 20 September 2009 is the first record in the AJR.

Hooded Warbler *Wilsonia citrina*.—Common transient and rare winter resident in Cuba. An adult and immature male trapped in sandy coastal scrub on cayos Anclitas and Grande on 16 and 18 September 2009, respectively, are the first records for the AJR.

Scarlet Tanager *Piranga olivacea*.—Rare transient in Cuba. An immature female trapped in sandy coastal scrub on Cayo Caguama on 22 September 2009 is the first record for the AJR. Subsequently, two immatures (one female, one male) were mist-netted in the sandy vegetation complex of Cayo Grande on 22 October 2010.

Bobolink *Dolichonyx oryzivorus*.—Uncommon transient in Cuba. An adult male was observed in the environs of the Tortuga Hotel on Cayo Anclitas on 16 April 2010.

In summary, 92 hours of mist-netting, 15 hours of line transect and 112 hours of opportunistic

observations in the AJR during autumn and spring migrations (2009–10) yielded 80 species, among them 15 additions to the total bird list for the archipelago (bringing it to 96). The avifauna of Cayo Caguama—an island hardly surveyed before during migration—increased by 33 species, whilst those of cayos Grande and Anclitas increased by 18 and ten species, respectively. These findings contribute to the growing body of knowledge identifying Cuba as an important wintering and stopover site for many Nearctic migrants, and indicate how relatively small sampling effort in insufficiently surveyed areas can yield interesting results²¹. Furthermore, records of some passerines not detected aurally or visually highlight the importance of mist-netting as a component of species inventories^{3,16} despite being time-intensive and requiring special training⁶. Continued field work in little-explored areas such as the AJR during migration will further our understanding of the status and distribution of all Cuban birds. This information will be especially valuable to understand the true wintering ranges¹⁸ and winter ecology of Nearctic–Neotropical migrants, many of which are in decline.

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Appendix I. List of bird species recorded during 2009–10 field work on cayos Anclitas (AN), Grande (GR) and Caguama (CA), Jardines de la Reina archipelago, Cuba. Endemism: EG = endemic genus; ES = endemic species; ESS = endemic subspecies. Evidence: S = sight record; T = mist-net capture. * = new locality; ** = new record for the archipelago.

Species / Dates and localities →	September 2009			April 2010		September 2010	October 2010		
	AN	GR	CA	AN	GR	CA	AN	GR	CA
ANATIDAE									
Blue-winged Teal <i>Anas discors</i>			S*						
FREGATIDAE									
Magnificent Frigatebird <i>Fregata magnificens</i>	S	S	S	S	S	S	S	S	S
PHALACROCORACIDAE									
Double-crested Cormorant <i>Phalacrocorax auritus</i>	S	S	S	S	S	S	S	S	S
ANHINGIDAE									
Anhinga <i>Anhinga anhinga</i>		S				S*			
PELECANIDAE									
Brown Pelican <i>Pelecanus occidentalis</i>	S	S	S	S	S	S	S	S	S
ARDEIDAE									
Great Blue Heron <i>Ardea herodias</i>	S	S	S	S		S	S		
Great Egret <i>A. alba</i>	S	S	S	S	S	S	S	S	S
Snowy Egret <i>Egretta thula</i>	S	S*	S*		S	S			
Little Blue Heron <i>E. caerulea</i>			S*	S		S			
Reddish Egret <i>E. rufescens</i>			S*	S		S			
Tricoloured Heron <i>E. tricolor</i>			S	S		S			
Cattle Egret <i>Bubulcus ibis</i>				S*			S		
Green Heron <i>Butorides virescens</i>	S			S		S*	S		
THRESKIORNITHIDAE									
White Ibis <i>Eudocimus albus</i>	S			S		S*			
Roseate Spoonbill <i>Platalea ajaja</i>	S			S					
CATHARTIDAE									
Turkey Vulture <i>Cathartes aura</i>	S	S	S	S	S	S	S	S	S
PANDIONIDAE									
Osprey <i>Pandion haliaetus</i>	S		S	S	S		S	S	S
ACCIPITRIDAE									
Cuban Black Hawk <i>Buteogallus gundlachi</i> (ES)	S		S	S		S			S
FALCONIDAE									
Merlin <i>Falco columbarius</i>					S*				
Peregrine <i>Falco peregrinus</i>									S*

Species / Dates and localities → ↓	September 2009			April 2010		September 2010	October 2010		
	AN	GR	CA	AN	GR	CA	AN	GR	CA
RALLIDAE									
Clapper Rail <i>Rallus longirostris</i>		S*	S*		S			S	
CHARADRIIDAE									
Black-bellied Plover <i>Pluvialis squatarola</i>		S	S*			S			
Wilson's Plover <i>Charadrius wilsonia</i>	S		S			S			
Semipalmated Plover <i>C. semipalmatus</i>			S*						
Killdeer <i>C. vociferus</i>						S*			
RECURVIROSTRIDAE									
Black-necked Stilt <i>Himantopus mexicanus</i>			S*						
SCOLOPACIDAE									
Greater Yellowlegs <i>Tringa melanoleuca</i>			S*						
Willet <i>T. semipalmata</i>	S								
Spotted Sandpiper <i>Actitis macularius</i>		S*				S*			
Ruddy Turnstone <i>Arenaria interpres</i>	S		S*			S		S	
Western Sandpiper <i>Calidris mauri</i>	S**								
Least Sandpiper <i>C. minutilla</i>		S*	S*						
LARIDAE									
Laughing Gull <i>Leucophaeus atricilla</i>				S*	S*	S*			
Royal Tern <i>Thalasseus maximus</i>	S	S	S	S		S	S	S	S
COLUMBIDAE									
White-crowned Pigeon <i>Patagioenas leucocephala</i>	S	T/S	S			S			
White-winged Dove <i>Zenaida asiatica</i>				S	S	S			
Zenaida Dove <i>Z. aurita</i>	T**		S**						
Mourning Dove <i>Z. macroura</i>			S			S			
CUCULIDAE									
Mangrove Cuckoo <i>Coccyzus minor</i>							S**		
Yellow-billed Cuckoo <i>C. americanus</i>	T	T*			T				
TROCHILIDAE									
Cuban Emerald <i>Chlorostilbon ricardii</i> (ESS)	S			S		S	S		T/S
ALCEDINIDAE									
Belted Kingfisher <i>Megasceryle alcyon</i>		T/S	S*				S	S	S
PICIDAE									
Cuban Green Woodpecker <i>Xiphidiopicus percussus</i> ssp. (EG)	T/S	S	S	S		S	S	T/S	S
TYRANNIDAE									
Cuban Pewee <i>Contopus caribaeus</i> ssp. (ESS)	S	S			S	S	S	S	
La Sagra's Flycatcher <i>Myiarchus sagrae</i>	T/S	T/S		T		S		T	
Grey Kingbird <i>Tyrannus dominicensis</i>	S	S	S	T/S	T/S	S			
Loggerhead Kingbird <i>T. caudifasciatus</i> (ESS)	T/S	T/S		T/S	T/S		S	T/S	T/S
VIREONIDAE									
White-eyed Vireo <i>Vireo griseus</i>							T**	T*	
Red-eyed Vireo <i>V. olivaceus</i>		T**					T*	T*	
Black-whiskered Vireo <i>V. altiloquus</i>	T/S	T		T	T		T/S		

Species / Dates and localities → ↓	September 2009			April 2010		September 2010			October 2010		
	AN	GR	CA	AN	GR	CA		AN	GR	CA	
HIRUNDINIDAE											
Cuban Martin <i>Progne cryptoleuca</i>		S*	S*								
Cave Swallow <i>Petrochelidon fulva</i>		S*									
Barn Swallow <i>Hirundo rustica</i>	S		S*	S	S*	S			S		
TURDIDAE											
Grey-cheeked Thrush <i>Catharus minimus</i>					C**						
Veery <i>C. fuscescens</i>					C**						
MIMIDAE											
Northern Mockingbird <i>Mimus polyglottos</i>						S					
Grey Catbird <i>Dumetella carolinensis</i>								T*	S*	T*	
PARULIDAE											
Northern Parula <i>Parula americana</i>				T/S	T/S	S*		T			T
Yellow Warbler <i>Dendroica petechia</i>	T/S			T/S	T/S	S		T	S		T/S
Cape May Warbler <i>D. tigrina</i>					T/S*						
Black-throated Blue Warbler <i>D. caerulescens</i>	T/S	T/S	S*		T			T/S	S		T
Blackburnian Warbler <i>D. fusca</i>						S**					
Yellow-throated Warbler <i>D. dominica</i>		T*	S*			S			T		S
Prairie Warbler <i>D. discolor</i>	T/S	T/S	S*	T/S	T/S	S		T/S	T/S		T/S
Palm Warbler <i>D. palmarum</i>				T	T	S*		T/S	T		T/S
Bay-breasted Warbler <i>D. castanea</i>									T**		
Black-and-white Warbler <i>Mniotilta varia</i>	T/S	T	S*	T/S							
American Redstart <i>Setophaga ruticilla</i>	T	T		T/S	T/S	S*		T/S	T/S		T
Prothonotary Warbler <i>Protonotaria citrea</i>			T**								
Worm-eating Warbler <i>Helmitheros vermivorum</i>	T	T*		T	T						
Ovenbird <i>Seiurus aurocapilla</i>	T*	S		S					T		
Northern Waterthrush <i>Parkesia noveboracensis</i>	T/S	T/S	S*	S	T/S	S		T	T/S		T
Common Yellowthroat <i>Geothlypis trichas</i>	T/S	T*		T				T	T		T*
Hooded Warbler <i>Wilsonia citrina</i>	T**	T**									
THRAUPIDAE											
Scarlet Tanager <i>Piranga olivacea</i>						C**			T*		
CARDINALIDAE											
Indigo Bunting <i>Passerina cyanea</i>	S*			S							T/S*
ICTERIDAE											
Bobolink <i>Dolichonyx oryzivorus</i>						S**					
Tawny-shouldered Blackbird <i>Agelaius humeralis</i> ssp. (ESS)	S			S		S		S			S
Greater Antillean Grackle <i>Quiscalus niger gundlachi</i> (ESS)	T/S	T/S	S	S	T/S	S		T	T/S		T/S
Baltimore Oriole <i>Icterus galbula</i>						S*					