Sociedad de la Ornitología Caribeña

EL PITIRRE

Society of Caribbean Ornithology

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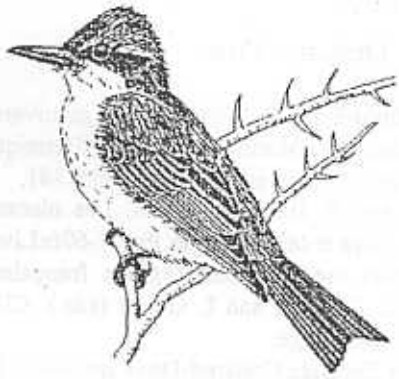
Tyrannus dominicensis



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The Society of Caribbean Ornithology is a non-profit organization whose goals are to promote the scientific study and conservation of Caribbean birds and their habitats, to provide a link among island ornithologists and those elsewhere, to provide a written forum for researchers in the region (refereed journal—*Ornitología Caribeña*, published in conjunction with the Puerto Rico Ornithological Society) and to provide data or technical aid to conservation groups in the Caribbean.

La Sociedad de la Ornitología Caribeña es una organización sin fines de lucro cuyas metas son promover el estudio científico y la conservación de la avifauna caribeña, auspiciar un simposio anual sobre la ornitología caribeña, publicar una revista profesional llamada *Ornitología Caribeña* (publicada en conjunto con la Sociedad Ornitológica de Puerto Rico), ser una fuente de comunicación entre ornitólogos caribeños y en otras áreas y proveer ayuda técnica o datos a grupos de conservación en el caribe.

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STATUS OF THE EURASIAN COLLARED-DOVE (*STREPTOPELIA DECAOCTO*) IN THE FRENCH ANTILLES

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Subsequent to his earlier–published accounts of the origin and spread of the introduced Eurasian Collared-Dove (*Streptopelia decaocto*) in the United States (Smith and Kale 1986, Smith 1987), Smith (1995) reviewed the status of this species in the Caribbean. From Cuban observations (Garrido and Kirkconnell 1990, 1996) and his own in the Lesser Antilles, Smith listed the following islands where the collared-dove occurs along with colonization dates: Cuba – before 1990, currently at least in La Habana (Garrido and Kirkconnell 1990, 1996); Montserrat – about 1990, at Plymouth; and Dominica – about 1987, Roseau. In his review, Smith (1995) suggested that other islands had populations and predicted that most of the inhabited West Indies would be occupied by the collared-dove in the future. Francis (1996) has since reported this species on Nevis from at least 1995.

Because two of us (PF, NB) had observed this species on Guadeloupe for more than a decade, we investigated whether that population might have been the source of the regional spread, given that Guadeloupe is situated between the two Lesser Antillean islands where Smith (1995) documented its occurrence (Fig. 1). Here we report the current status of the Eurasian Collared-Dove in Guadeloupe (including close dependencies) and Martinique, and present new evidence that Guadeloupe is the probable origin of this bird in the Lesser Antilles.

Mrs. Suzanne Valeau (pers. comm.) informed us that her father-in-law, Mr. Amédée Valeau, bought several pairs of Eurasian Collared-Doves in a Paris, France, pet shop, "Quai de la Mégisserie," about 30 years ago. He placed them in his aviary at Beauvallon (alt. 230 m) in the lowest part of the municipality of St. Claude, Guadeloupe. He had ca. 20 doves in 1976 when nearby la Soufrière threatened to erupt, forcing the evacuation of the towns of Basse Terre and St. Claude. When Mr. Valeau departed, he opened the door of his aviary. Upon his return, eight birds remained, which he left at liberty and began to regularly feed. The birds flourished in the wild. When we visited the property 20 years later in June 1996, we estimated the population as 600-800 birds, which we learned consumed ca. 20 kg. of corn daily (Suzanne Valeau, pers. comm.). All birds showed the size, color, and call characters of Eurasian Collared-Doves as described by Smith (1987), which easily distinguished them from the Ringed Turtle-Dove (*Streptopelia "risoria"*). Two were cream-colored, a known morph also observed by Smith (1987).

Considering its size and longevity, this population, near the center of the reported Lesser Antillean range of this species, is almost certainly the source of its natural spread, not only to Guadeloupe (Fig. 2), but also to neighboring islands (Fig. 1). Nevertheless, we cannot discount the possibility of some human introductions in places quite distant from the source (Point-à-Pitre, St. François), and particularly on Martinique, where we also documented the presence of Eurasian Collared-Doves (Fig. 3). The known locations and sub-population sizes in the French Antilles are summarized in Table 1 and Figs. 2 and 3.

Neither the Eurasian Collared-Dove nor any other exotic Columbidae is mentioned by Pinchon (1976) or Barré and Bénito-Espinal (1985). Bénito-Espinal and Haucastel (1988) do state (without date) that *Streptopelia decaocto* and *Columba guinea* were introduced to Guadeloupe as "game" birds. If so, the latter species failed to become established, and the basis of the statement concerning the former is uncertain. The Ringed Turtle-Dove, the domesticated form of *S. roseogrisea* (Smith 1987), is a common cage-bird in the French Antilles, where it sometimes escapes and survives in inhabited areas, usually only for short periods. The Rock Dove (*Columba livia*) is also found in the wild, in and around towns.

In summary, a growing population of Eurasian Collared-Doves, originating from birds first released in 1976, is centered in St. Claude, Guadeloupe, and is spreading outward on Guadeloupe and beyond. We believe that it is the source of individuals observed in the nearby Lesser Antilles. This population is independent of birds released in the Bahamas at about the same time (Smith 1987), which now have spread at least to the United States and Cuba.

We thank Mrs. Suzanne Valeau for the precise and interesting information she provided us.

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Table 1. Locations, dates, and numbers of Eurasian Collared-Doves observed in the French Antilles.

Island and municipality	Population location	Date	Comments
GUADELOUPE			
St. Claude	Centered at Beauvallon and along Rivière des Pères; absent above 400 m	Observed from about 1980; introduced at Beauvallon in 1976	About 1000 present (600-800 at Mrs. Valeau's property)
Basse Terre	Town, widespread; numerous in botanical garden	Observed from about 1980	100-200 present
Baillif	Town; as far as Blanchette, 3 km away	Observed from about 1980	50-100 present
Vieux Habitants	River, sea coast	January 1994	2 observed
Bouillante	Pigeon	June 1996	1 observed
Gourbeyre and Trois Rivière	No data	No data	Observed
Capesterre	Town	May 1996	1 observed
Point-à-Pitre	Destrellan	April 1996	2 observed
	Bergevin	May 1996	6 observed
	Town; place de la Victoire	May 1996	20-30 observed, some build nests
Abymes	Raizet	September 1995	2 observed
Gosier	Marina Bas du Fort	June 1995, May 1996	5 observed
St. François	Devarieux	January 1995	2 observed
	Pradel	February 1996	1 observed
	Raisins Clairs	April 1996	1 observed
LES SAINTES			
Terre de Haut	Town	May 1996	1 observed, tentatively mated with a male *S. risoria*
	Anse Mire	August 1996	3 observed
MARTINIQUE			
Le Prêcheur	Town	May 1994	1 bird; others seen recently
Fort de France	Dillon	June 1996	1 observed
Schoelcher	Town	January 1996	4 observed
Basse Pointe	Town	June 1996	2 observed

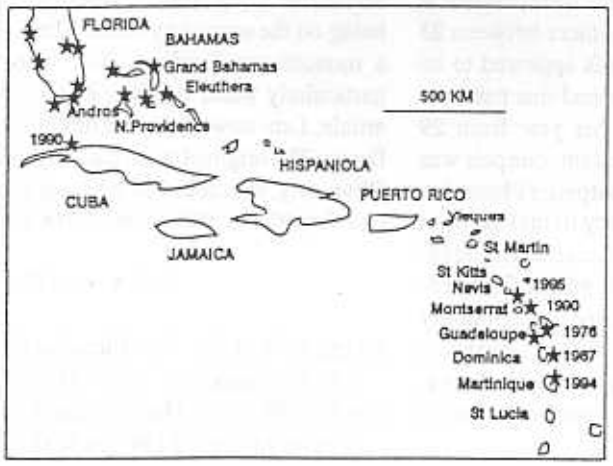

Fig. 1. Distribution (stars) of the Eurasian Collared-Dove (*Streptopelia decaocto*) in Florida and the Caribbean, with dates of first records (primarily from Smith 1987, 1995).

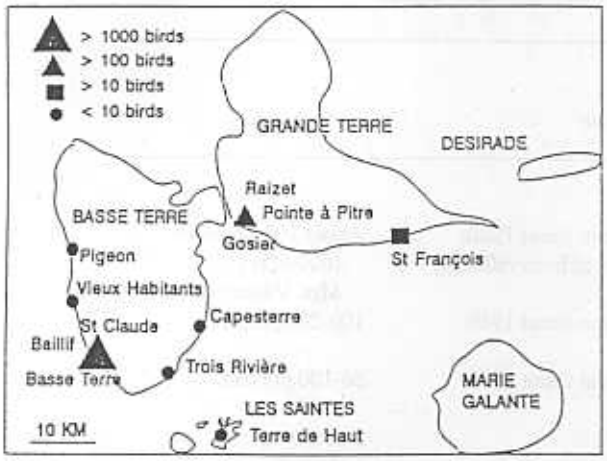

Fig. 2. Distribution of the Eurasian Collared-Dove in Guadeloupe and nearby satellites, with estimated sizes of sub-populations.

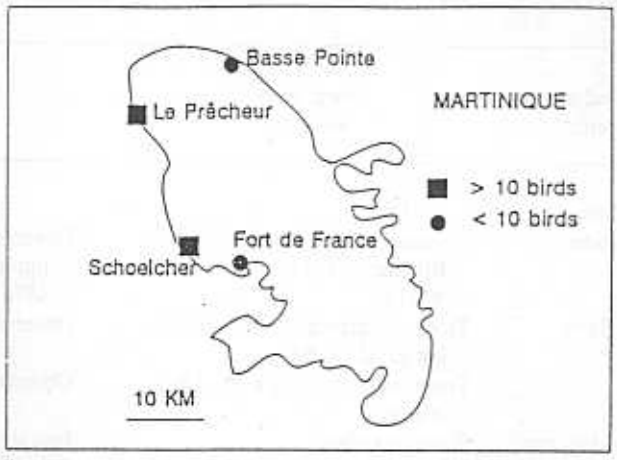

Fig. 3. Distribution of the Eurasian Collared-Dove in Martinique and estimated sizes of sub-populations.

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THE EURASIAN COLLARED-DOVE ON NEVIS

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Bill Smith's note in the Fall 1995 edition of *El Pitirre* has prompted me to report some sightings of Eurasian Collared-Dove, *Streptopelia decaocto*, on Nevis, one of the smaller islands in the Lesser Antilles. Up to six birds were resident at Montpelier Plantation Inn during my stay there between 28 March and 9 April 1995. Four of the birds appeared to be paired; they were flying together in pairs and one pair was seen displaying. During my stay there this year from 29 March to 11 April, only four birds were present; one pair was seen mating. I had previously stayed at Montpelier Plantation Inn for two weeks during the period January to mid-April in 1990, 1992 and 1993, but had not seen any Eurasian Collared-Doves. Although I am familiar with the Eurasian Collared-Dove, which is common in Britain and Europe, I was initially mislead by the American fields guides, which seemed to indicate that the birds must be Ringed Turtle-Dove, *Streptopelia risoria*. These field guides do not seem to have taken into account Smith's analysis (1987).

The overall coloring of the birds was light buff or tan with contrasting blackish primaries, with a distinctive black collar around the nape reaching each side of the neck. They had a distinctive tri-syllable call (*ooo-oooo-oo*) with the emphasis being on the second syllable. The call was often repeated in a monotonous fashion. They also made a mewing call, particularly when landing. Having reviewed Smith's 1987 article, I am now confident that they are Eurasian Collared-Doves. The origin of these birds requires further investigation. Obviously, we should all be keeping a look–out for the birds on other islands where they have not so far been identified.

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LA CANDELITA *SETOPHAGA RUTICILLA* [AVES: PARULIDAE] NIDIFICANDO EN CUBA

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Dentro de las bijiritas migratorias que arriban a Cuba, la Candelita (*Setophaga ruticilla*) es una de las más comunes como residente invernal. El hecho de encontrarla nidificando en nuestro archipiélago adquíere gran relevancia, ya que no se conocía de un reporte similar para las Antilles y lo cual no era de sorprender, pues ya Garrido y García (*Catálogo de las Aves de Cuba*. Acad. Cienc. Cuba, La Habana. 1975) mencionan que la misma se observa todos los meses del año, por lo que no era de dudar que algunos individuos permanecieran durante el verano en la isla. Kirkconnell en compañía del Dr. Thomas Pharr, observó a esta especie en Blue Mountain, Jamaica en agosto de 1962.

Hasta el presente existen sólo tres reportes válidos al respecto en Cuba, el primero es el hallazgo de José Morales Leal, quien encontró un nido con dos huevos y una hembra incubándolo en un área boscosa llamada San Severino (Provincia de Camagüey). El segundo, en julio de 1989 fue donado al Museo Nacional de Historia Natural un nido con dos huevos, el cual fue hallado en el interior de un racimo de plátanos (*Musa paradisiaca*) comprado en un mercado, correspondiéndose a dicha especie. El tersero en abril 1990, cuando el autor senior observó dos juveniles en el Jardín Zoológico de la Habana emitiendo notas de reclamo de alimento a la madre que se encontraba a unos 4 metros de ellos. La madre voló hacia ellos y luego los tres juntos volaron hacia otra rama posándose juntos. Los jóvenes eran mucho más pálidos y tenían las rectrices aún no desarrolladas.

Ya con anterioridad, le había sido comentado a Garrido por el hijo de Rogelio García (guía de campo de observadores de aves en la Ciénaga de Zapata) el hallazgo de un nido de Candelita en los alrededores de Soplilar.

AN UNKNOWN PARAKEET ON HISPANIOLA

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In early afternoon of 26 March 1996, Larry Manfredi and I were driving down from the higher elevations of the Sierra de Bahoruco in southwestern Dominican Republic. About 9 km east of El Aguacate border post on the road to Puerto Escondido, in a transition zone between mesic and xeric forest types at 500 m above sea level (a.s.l.), a passing hawk disturbed a large group of psittacines nearby. A flock of 10 parakeets (*Aratinga*) settled in a dead tree next to us. We soon realized that they were not Hispaniolan Parakeets (*A. chloroptera*), which now occur mostly at higher elevations in this region (Dod 1992; pers. obs.), but instead showed characters of the Olive-throated Parakeet (*A. nana*), a species found in Jamaica and Central America (Bond 1961, American Ornithologists' Union 1983). None of the birds showed red anywhere, and all had largely burnt–olive underparts of subtly different shading. Otherwise the birds were mostly rich green (including lower flanks and undertail coverts), with blue flight feathers and long tails which were green above, yellowish–olive below. The orbital region was white and the beak pale horn. We returned to the area the following day and found at least as many similar birds about 2 km farther east, 10 km west of Puerto Escondido. They were mostly in pairs, feeding on the ripe fruit of gumbo limbo trees (*Bursera simaruba*).

The Olive-throated Parakeet is considered by some authorities to consist of two species, the Jamaican Parakeet (*A. nana*; *sensu stricto*) and the Aztec Parakeet (*A. astec*) of Mexico and Central America (e.g., Howell and Webb 1995). The differences between these taxa, which even Bond (1940) once considered separate species, are subtle and primarily based on measurements and color tones. Our descriptive notes seem inadequate to assign the birds we saw definitely to one form or the other, if indeed they should be assigned to either.

The Jamaican Parakeet is a fairly common and widespread resident of Jamaica, which lies about 200 km west of the westernmost point in Hispaniola and about 500 km west of the location where we saw these birds. Psittacines generally show diagnosable differences among insular populations, and it is unlikely that they can achieve lengthy overwater dispersal or vagrancy facilely (Wiley 1993). Such an explanation probably is unlikely to account for *nana*-like birds on Hispaniola.

If these birds themselves were released on Hispaniola or are descendants of birds released there in recent years, it would seem more likely that they would be Aztec rather than Jamaican Parakeets. Far more cage bird traffic originates in Central America than in Jamaica, where the Wildlife Protection Act prohibits capture or exportation of native birds (C. Levy, pers. comm.). A release might have been unintentional, even from a passing ship, and thus be untraceable. It also might have occurred in nearby Haiti, perhaps as a result of civil unrest there.

The most intriguing possibility is that these birds represent a relict of an ancient population on Hispaniola, hitherto overlooked. The parakeets were in a mostly xeric environment in an area where little collecting was done historically, at an elevation below the usual more mesic habitat of *A. chloroptera*. The nearest lower-elevation specimen of the Hispaniolan Parakeet apparently is from Polo, at 600 m a.s.l. about 50 km southeast of our observations (Wetmore and Swales 1931). Since several other avian genera or species show modern links in the Greater Antilles between only Hispaniola and Jamaica (e.g. *Hyetornis*, *Siphonorhis*, "*Kalochelidon*," *Elaenia fallax*, *Myiarchus stolidus*), an avifaunal link between those islands evidently existed at one time.

It may be fairly easy to resolve any question of these parakeets' origin by collecting a small series and studying their skins against all known populations of Olive-throated Parakeets. If distinctive, then presumably they would represent long-isolated relicts. If like Aztec Parakeets, almost certainly they would have been released on the island. If like Jamaican Parakeets, however, it may be difficult to be certain how they got there. I hope Dominican wildlife authorities or others will begin this process. If distinct, almost certainly these parakeets are in need of protection. If exotic, on the other hand, perhaps they should be eradicated to protect the native *A. chloroptera*.

I thank Bill Beaty for facilitating our trip to Hispaniola, Storrs Olson and Bill Robertson for commenting on earlier drafts of this manuscript, Catherine Levy for updating me on wildlife law and practice in Jamaica, and Larry Manfredi for his companionship, especially for insisting that we study these parakeets carefully rather than simply pass them off as *A. chloroptera*.

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PRIMER REPORTE PARA *PHALAROPUS LOBATUS* EN LA REPÚBLICA DOMINICANA

Club de Observadores de Aves Annabelle Dod
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Un Red-necked Phalarope (*Phalaropus lobatus*) en plumaje de invierno fue observado el 19 de noviembre de 1995 en estanques de salinas en Calderas, Baní. No se identifico el sexo. Se encontraba en una bandada compuesta de individuos de Greater Yellowlegs (*Tringa melanoleuca*), Lesser Yellowlegs (*T. flavipes*) y Short-billed Dowitchers (*Limnodromus griseus*). El phalarope fue observado también el día 11 de febrero de 1996 y el 24 de marzo del mismo año en excursiones realizadas por el Club de Observadores de Aves Annabelle Dod a la zona. El ave fue fotografiada en cada una de las fechas en que fue vista. Es el primer reporte de esta especie para la República Dominicana.

NOTAS SOBRE LA ALIMENTACION DE *CROTOPHAGA ANI* (AVES: CUCULIDAE) EN UN PASTIZAL DE LA HABANA, CUBA

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La importancia de conocer el papel ecológico que desempeñan las aves en los ecosistemas donde habitan, va más allá de determinar la estructura y composición de la ornitocenosis de la que forman parte, ya que es conocida la influencia que estas ejercen sobre el hábitat, actuando como dispersoras de semillas, polinizadoras, indicadoras de la calidad ambiental e incluso como biocontroladoras.

Existen varios ejemplos de cómo gracias a la presencia de ciertas aves en algunos sembrados, ha sido posible ver disminuídas la afectaciones producidas en estos cultivos, sin necesidad de hacer uso de plaguicidas, tales son los casos reportados por Stewart (1973, 1974) en plantaciones de maíz (*Zea maiz*) y tabaco (*Nicotiana tabacum*).

Como parte del estudio ecólogo–funcional que se lleva a cabo en los pastizales del Instituto de Pastos y Forrajes del Ministerio de la Agricultura, se comenzaron las capturas de

las aves que viven asociadas a este tipo de ecosistema con el objetivo de estudiar sus contenidos estomacales y poner tener una idea de la función que realizan.

La experiencia se realizó entre los meses de julio de 1992 y marzo de 1993 en la localidad conocida como "Niña Bonita" en el municipio Bauta, provincia de La Habana. Los pastos que más abundan en la zona son *Sorghum* sp., *Panicum* sp., *Leucaena* sp. y *Braquiaria decumbens*. Se capturaron un total de 15 ejemplares de Judío (*Crotophaga ani*) con escopeta de cartuchos de calibre 16. Los pesos de los animales variaron entre 85 y 110 g, con promedio de 95 g.

Gundlach (1893), ya había señalado que el Judío anda mucho por el suelo, donde se alimenta de grillos y otros insectos, sin embargo los estudios sobre los hábitos alimentarios de esta especie en Cuba son insuficientes. Aunque se sabe que consume arañas, frutos y semillas (Armas y Alayón 1986; M. Acosta y L. Mugica, com. pers.), los insectos constituyen su principal alimento (Kirkconnell et al. 1992).

Se determinó que más del 85% de la dieta está constituída por materia animal, estando el resto compuesta por semillas. Los órdenes de la clase Insecta representados son: Coleoptera (20%), Homoptera (20%), Diptera (2%), Orthoptera (4%), Lepidoptera (larvas, 37%), Mantodea (2%), Dermaptera (3%), Odonata (2%) e Himenoptera (2%), además de Araneae (3%).

La identificación taxonómica de los ejemplares que se encontraron en los contenidos estomacales se realizó hasta la categoría posible, pudiéndose conocer lo siguiente: las familias mejor representadas dentro de los coleópteros fueron Chrysomelidae, determinándose la presencia de *Leptinotarsa undecemlineata* y además Scarabaeidae. Entre los homópteros se destacan miembros de la familia Membracidae y Cicadelidae, específicamente *Stictocephala rotundata* y *Prosapia bicineta fraterna*, mientras que *Neoconocephalus rotundata* fue muy abundante dentro de los ortópteros.

Al parecer, entos grupos de insectos son preferidos por el Judío, ya que en octubre de 1995 L. F. de Armas (com. pers.) pudo determinar la presencia de ortópteros, coleópteros y hemípteros, además de frutos maduros de galan de día (*Cestrium diurnum*) en el contenido estomacal de un ejemplar capturado en las inmediaciones del poblado de San Antonio de los Baños, provincia de La Habana.

Se conoce que muchas especies de invertebrados son plagas de cultivos y específicamente para los pastos, existen reportes de los grupos que causan mayores daños (Pazos 1989). Al comparar nuestros resultados con el listado ofrecido por el referido autor, se pudo observar que al menos el 50% de los grupos señalados como perjudiciales son consumidos por el Judío, lo cual sugiere que esta especie realiza una importante función como biocontrolador en el área.

Deseo agradecer a la Lic. Ileana Fernández, del Depto. de Entomología del I. E. S.; su inestimable labor en la determinación de los insectos, así como al Dr. L. F. de Armas y a los Licdos. Martín Acosta y Lourdes Mugica por datos aportados.

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AN UNUSUAL NESTING RECORD OF THE PALMCHAT *DULUS DOMINICUS*

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The Palmchat (*Dulus dominicus*) is confined to Hispaniola and adjacent Gonave Island where it usually nests in large communal structures in palm trees (as befits its name). In montane areas, where there are fewer palms, the species typically nests in much smaller colonies, with rarely more than two pairs breeding in the same nest (Bond, *Birds of the West Indies*, 5th Ed. Collins, London. 1985).

On 19 April 1996 the authors discovered a large communal nest containing at least 50 pairs of Palmchats just below El Aguacate military checkpoint, on the western bounary of Sierra de Baoruco National Park in southwestern Dominican Republic (although the nesting tree was actually within neighboring Haiti). The nest was situated towards the crown of a large, lone *Cecropia peltata* on the edge of premontane cloud-forest at approximately 1300 m above sea level. Due to its distance from the track and height above ground level, it was impossible to obtain additional data (e.g., concerning eggs or young). This would appear to be a remarkable highland nesting concentration of this species.

HOUSE SPARROWS ON NORTH ANDROS ISLAND, BAHAMAS

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The House Sparrow (*Passer domesticus*) is listed as a rare migrant on Andros Island, Bahamas (Dean and Osborne 1992). However, recent observations and conversations with people on the island indicate that the species is locally established as a permanent resident on Andros. During a survey of North Andros on 30 July 1995, Matt Voelker, Ben Frazier, and I observed a small flock of 12 House Sparrows (4 males and 8 females and immatures) in the settlement of Cargill Creek. We watched the flock and individuals with binoculars for approximately 20 mins. to within 15 m in good light. Although we did not see evidence of nesting, Clarence Abedi and Chuck Cavender, employees at the U. S. Navy's Atlantic Undersea Testing and Evaluation Center (AUTEC) in nearby Fresh Creek, informed me that House Sparrows are common nesters on the base, having been present since approximately 1978. It is not clear if the Cargill Creek flock represents an expansion of the Fresh Creek population or is of independent origin.

House Sparrows probably arrived in the Bahamas as strays on ships coming from Florida (Brudenell-Bruce 1975). The first recent record for the species in the archipelago was in 1959 on New Providence (Bond 1963). Since then the House Sparrow has been documented or become established on several islands in the northern Bahamas, including Bimini (Norton 1988), Grand Bahama (Bond 1965), Abaco (Norton 1984), Eleuthera (Weiss 1993), the Berry Islands (*fide* T. White), and Andros, all of which are frequented by cargo and pleasure boats from the United States. On North Andros, House Sparrows are limited to AUTEC sites frequented by ships from Florida (Cargill Creek is adjacent to an off-base AUTEC installation). As populations have become established in the Bahama islands, it is possible that dispersal between islands has occurred via inter-island shipping traffic. On North Andros, at least, this does not appear to have been the case, since populations only occur on or near AUTEC sites.

Regardless of the means by which House Sparrows arrived on the different islands of the Bahamas, there is legitimate concern over the impact they may have on native birds. On Walker's Cay, House Sparrows destroyed a Common Ground-Dove (*Columbina passerina*) nest by stealing nesting material (Jackson and Jackson 1985). Of greater concern however, is the potential effect on cavity-nesters in the Bahamas (Jackson and Tate 1974). As evidence of this, nest boxes erected for the endemic Bahama Swallow (*Tachycineta cyaneoviridis*) on Andros were used by House Sparrows (C. Cavender, pers. comm.). Currently, House Sparrows are apparently confined to the environs of the AUTEC base and off-site installations on Andros, whereas the Bahama Swallow naturally nests in pine forests on the island. Nevertheless, the House Sparrow populations on North Andros and other islands are worth watching for evidence of expansion.

I thank Ben Frazier, Prescott Smith, and Matt Voelker for assisting with the survey of North Andros, and Forfar Field Station for providing transportation. Tony White and H. P. Langridge made valuable comments on the manuscript.

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CAPTURA DE UN COCO ROJO (*EUDOCIMUS RUBER*; AVES: THRESKIORNITHIDAE) AL NORTE DE CIEGO DE AVILA, CUBA

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El Coco Rojo (*Eudocimus ruber*) es un hermoso ciconiforme representado de forma natural en varias zonas de la costa atlántica sudamericana y que vive casi siempre en lugares costeros cercanos a estuarios manglares y ciénagas (Palmer 1962). Es muy parecido al Coco Blanco (*E. albus*) en tamaño, habitat y estructura, facilmente identificable por su color rojo.

En Cuba existen algunos reportes visuales de ejemplares

pertenecientes a esta especie, pero solo un ejemplar conservado en la colección Gundlach, actualmente en el Instituto de Ecologia y Sistemática, y del que existen dudas sobre su procedencia original (Garrido y Garcia 1975)

En el presente trabajo se notifica la captura de un Coco Rojo en la localidad conocida como "Los Aguachales" en la Laguna de la Leche al norte de la provincia de Ciego de Avila, Cuba. La captura tuvo lugar el 4 de noviembre de 1983, aproximadamente a las 17:00 horas, cuando el ejemplar volaba junto a un grupo de Cocos Blancos aparentemente para pecnoctar en Cayo Pájaros, un pequeño islote de mangles situado en el interior de la citada laguna.

Las medidas del ejemplar fueron: ala: 275 mm, tarso; 90 mm, cola: 93 mm, alto del pico: 19.6 mm y ancho del pico: 16.4 mm. El pico estaba truncado por el disparo cerca del extremo distal, por lo que no se pudo medir el largo del mismo, ni la longitud total del animal.

El ave, de sexo femenino y color rojo pálido que se extendia a las patas y parte del pico, se encuentra depositado en la colección del Museo de Historia Natural Felipe Poey perteneciente a la facultad de Biologia de la Universidad de la Habana.

Queremos por último agradecer a Mario Rejuán Esquibel, colector del ejemplar, por haberlo conservado en buen estado y haber cooperado de forma entusiasta con los autores para la preparación de este trabajo.

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AVES Y REPTILES DE CAYO SABINAL, ARCHIPIÉLAGO DE SABANA-CAMAGÜEY, CUBA

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Las listas faunísticas compiladas de las cayerías revisten una notable importancia; no sólo desde el punto de vista distribucional de las especies, sino también zoogeográfico. El conocimiento de la presencia de poblaciones de anfibios, reptiles, aves, o mamíferos en determinados cayos es necesario para un estudio poblacional, y puede determinar variaciones subespecíficas, e incluso específicas entre formas endémicas o residentes. Con la construcción de pedraplenes que actualmente unen varios cayos del Archipiélago Sabana–Camagüey con la costa norte de Cuba, estos recuentos faunísticos cobran mayor importancia.

El Archipiélago de Sabana–Camagüey, y especialmente el segmento oriental incluye los cayos mayores de nuestro Archipiélago. De mayor a menor tamaño se hallan: Romano, Coco, Sabinal y Guajaba, aunque son de considerable tamaño los cayos Cruz y Santa María, este último en el extremo occidental del segmento de Camagüey.

Una relación prácticamente completa de los trabajos faunísticos realizados en las cayerías, la ofrecen Garrido, Estrada y Llanes (*Poeyana* 328:1-34, 1986). Precisamente entre los cayos que carencen de estas listas se halla Cayo Sabinal. Es necesario hacer constar que el cúmulo mayor de la información recopilada se debe a las investigaciones del autor senior, en base a cerca de 693 horas de observación realizadas durante 47 exploraciones llevadas a cabo entre 1981 y 1987. Garrido visitó el cayo en dos ocasiones a principios de la década del noventa. Bajo la relación de especies se incluye la de los pequeños cayuelos satélites y áreas adyacentes con Cayo Sabinal.

Cayo Sabinal limita al norte con el Canal Viejo de Bahamas, al este con el canal de entrada de la Bahía de Nuevitas y Ensenada Sabinal, mientras que al oeste, limita con el canal de Carabela, el cual lo separa de Cayo Guajaba. Sabinal ocupa la posición más oriental del Archipiélago Sabana–Camagüey, y en su relieve se observan superficies llanas, pocas elevaciones y un suelo poco profundo de origen calizo (Núñez, *Geografía de Cuba*, 1972). El clima es del tipo Cuba oriental, según (Samek y Travieso, Climaregiones de Cuba. *Revista Agricultura* 2(1):5-23, 1968) con cuatro períodos anuales y la pluviosidad varía entre 765 y 1138 mm anuales, mientras que la temperatura fluctúa anualmente entre los 25.3°C y los 27.7°C.

Las aves que se reportan son fundamentalmente el resultado de observaciones visuales. Nos auxiliamos de binoculares, telescopio, audición de la vocalización, fotografías y colecta en los distintos hábitats. El orden sistemático de las aves adoptado en el presente trabajo salvo algunas excepciones, es el seguido en el *Check-list of North American Birds* (American Ornithologists' Union, sexta edición, 1983) y en el *Catalogue of the Cuban Birds* (Garrido y Kirkconnell, inédito).

En total se reportan 141 especies como habitantes de Cayo Sabinal (Table 1). Es interesante destacar, que el Zorzal Real (*Turdus plumbeus*) está representado por la raza occidental *rubripes*; el Canario de Manglar (*Dendroica petechia*) por la raza de los manglares *gundlachi*; y el Chichinguaco (*Quiscalus niger*) por la raza oriental *gundlachi*. Aunque no reportados, es muy probable que sea residente el Guabairo (*Caprimulgus cubanensis*) reportado de Cayo Coco; así como durante las migraciones, la Golondrina Azul (*Progne subis*), y el Querequeté Americano (*Chordeiles minor*). No se colectaron ejemplares de *Butorides virescens* para determinar la raza; pero indudablemente, ambas subespecies habitan el cayo, la

residente *maculatus*, y la norteamericana *virescens* como visitante invernal. Por el hecho de haberse encontrado anidando la raza norteamericana (*carolinensis*) del Pelícano (*Pelecanus occidentalis*), es de esperar que esta forma se encuentre también en Cayo Sabinal con la raza *occidentalis*. Otras novedades de interés constituyen el hallazgo del Estercorario (*Catharacta skua*), de la Reinita (*Coereba flaveola*) y el segundo reporte de la nidificación de *Charadrius alexandrinus tenuirostris* para Cuba y la primera para un cayo.

Han sido descritas algunas razas geográficas de aves para los cayos Santa María y Cayo Coco. Otras poblaciones están pendientes de estudio, pues se han detectado variaciones geográficas, por lo que se hace imprescindible conocer todas las poblaciones que viven en estos cayos para llegar a conclusiones definitivas. Pueden existir tres variantes: a) algunas poblaciones de los cayos de Camagüey no varían en relación con las poblaciones cubanas; b) se diferencian subespecíficamente en dicho archipiélago; y c) se diferencian subespecíficamente sólo en determinados cayos. Estas variantes son también aplicables a los reptiles (Table 1).

Es interesante destacar, que el único ejemplar de *Ameiva auberi* colectado en Cayo Guajaba es un juvenil que parece diferenciarse de la raza *sublesta* de Cayo Sabinal; y dos ejemplares colectados en Cayo Coco difieren de la raza *orlandoi* descrita para los cayos Francés y Santa María. Con antelación, Garrido y Jaume (Catálogo descriptivo de los anfibios y reptiles de Cuba, *Acta Vertebrata* 11(2):5-128, 1984), había asignado a la raza *orlandoi* (en base a material alcohólico), las poblaciones de Cayo Coco. Por otro lado *Leiocephalus strictigaster* de Cayo Guajaba ha sido asignado a la raza *septentrionalis* que vive en los cayos más occidentales, y no a *parasphex* de Cayo Sabinal. La población del chipojo (*Anolis equestris*) constituye una marcada subespecie que no ha sido aún publicada. Es interesante destacar, que esta raza de Cayo Sabinal es más afín a las poblaciones de Camagüey y del norte de Holguín, que a las razas (aún no descritas) que viven en los cayos Romano, Guajaba y Coco; esta última mucho más afín a la raza *potior* de Cayo Santa María.

AGRADECIMIENTO. Queremos agradecer a las autoridades del Puerto de Guardafronteras de Cayo Sabinal y a la Empresa de Flora y Fauna tanto de Nuevitas como de la Habana por las atenciones brindadas durante nuestras visitas al cayo. Así como a Zuzel Harach y María T. Mayedo por la colaboración prestada.

Table 1. Aves y reptiles de Cayo Sabinal, Archipiélago de Sabana–Camagüey, Cuba.

Nombre técnico	Nombre vulgar	Nombre técnico	Nombre vulgar
AVES			
Tachybaptus dominicus	Zaramagullón Chico	*Aix sponsa*	Huyuyo
Podilymbus podiceps	Zaramagullón Grande	*Aytha collaris*	Pato Cabezón
Phaethon lepturus	Contramaestre	*Oxyura jamaicensis*	Pato Rojo
Pelecanus occidentalis	Alcatraz	*Cathartes aura*	Aura Tiñosa
Phalacrocorax auritus	Corúa de Mar	*Rostrhamus sociabilis*	Gavilán Caracolero
Anhinga anhinga	Marbella	*Accipiter striatus*	Halconcito
Fregata magnificens	Rabihorcado	*Buteo jamaicensis*	Gavilán del Monte
Ardea herodia	Garcilote	*Buteo platypterus*	Gavilán Bobo
Casmerodius albus	Garzón	*Buteogallus gundlachii*	Gavilán Batista
Egretta thula	Garza Blanca	*Pandion haliaetus*	Guincho
Egretta caerulea	Garza Azul	*Polyborus cheriway*	Caraira
Egretta rufescens	Garza Roja	*Falco peregrinus*	Halcón de Patos
Egretta tricolor	Garza de Vientre Blanco	*Falco columbarius*	Halconcito de Palomas
Bubulcus ibis	Garcita Bueyera	*Falco sparverius*	Cernícalo
Butorides virescens	Aguaitacaimán	*Colinus virginianus*	Codorniz
Nycticorax nycticorax	Guanabá de la Florida	*Aramus guarauna*	Guareao
Nycticorax violaceus	Guanabá Real	*Rallus longirostris*	Gallinuela de Manglar
Mycteria americana	Cayama	*Gallinula chloropus*	Gallareta de Pico Colorado
Plegadis falcinellus	Coco Prieto	*Fulica americana*	Gallareta de Pico Blanco
Eudocimus albus	Coco Blanco	*Jacana spinosa*	Gallito
Eudocimus ruber	Coco Rojo	*Charadrius semipalmatus*	Frailecillo Semipalmeado
Ajaia ajaja	Sevilla	*Charadrius alexandrinus*	Frailecillo Blanco
Phoenicopterus ruber	Flamenco	*Charadrius wilsonia*	Títere Playero
Dendrocygna bicolor	Yaguasín	*Charadrius vociferus*	Títere Sabanero
Dendrocyna arborea	Yaguasa	*Pluvialis squatarola*	Pluvial
Anas discors	Pato de la Florida	*Arenaria interpres*	Revuelvepiedras
Anas bahamensis	Pato de Bahamas	*Himantopus mexicanus*	Cachiporra
Anas americana	Pato Lavanco	*Tringa melanoleuca*	Zarapico Patiamarillo
Anas clypeata	Pato Cuchareta	*Tringa flavipes*	Zarapico Patiamarillo

Nombre técnico	Nombre vulgar
Actitis macularia	Zarapico Manchado
Catoptrophorus semipalmatus	Zarapico Real
Gallinago gallinago	Becasina
Calidris minutilla	Zarapiquito
Catharacta skua	Estercorario
Larus argentatus	Gallego
Larus atricilla	Galleguito
Sterna hirundo	Gaviota Común
Sterna dougallii	Gaviota Rosada
Sterna fuscata	Gaviota Monja Prieta
Sterna maxima	Gaviota Real
Columba leucocephala	Torcaza Cabeciblanca
Columba inornata	Torcaza Boba
Zenaida macroura	Paloma Rabiche
Zenaida aurita	Guanaro
Zenaida asiatica	Paloma Aliblanca
Columbina passerina	Tojosa
Geotrygon chrysia	Barbiquejo
Coccyzus minor	Arrierito
Coccyzus americanus	Primavera
Saurothera merlini	Arriero
Crotophaga ani	Judío
Tyto alba	Lechuza
Glaucidium siju	Sijú Platanero
Gymnaglaux lawrencii	Sijú Cotunto
Speotyto cunicularia	Sijú de Sabana
Asio flammeus	Cárabo
Chordeiles gundlachi	Querequeté
Chlorostilbon ricordii	Zunzún
Priotelus temnurus	Tocororo
Ceryle alcyon	Martín Pescador
Todus multicolor	Pedorrera
Colaptes auratus	Carpintero Escapulario
Colaptes fernandinae	Carpintero Churroso
Melanerpes superciliaris	Carpintero Jabado
Sphyrapicus varius	Carpintero de Paso
Xiphidiopicus percussus	Carpintero Verde
Tyrannus dominicensis	Pitirre Abejero
Tyrannus caudifasciatus	Pitirre Guatíbere
Myiarchus sagrae	Bobito Grande
Contopus caribaeus	Bobito Chico
Tachycineta bicolor	Golondrina de Arboles
Progne cryptoleuca	Golondrina Azul Cubana
Hirundo fulva	Golondrina de Cuevas
Corvus nasicus	Cao Montero
Mimus polyglottos	Sinsonte
Dumetella carolinensis	Zorzal Gato
Turdus plumbeus	Zorzal Real
Catharus ustulatus	Tordo de Espalda Olivada
Polioptila lembeyei	Sinsontillo
Vireo griseus	Vireo de Ojo Blanco
Vireo gundlachii	Juan Chiví
Vireo altiloquus	Bien-te-veo
Miniotilta varia	Bijirita Trepadora
Parula americana	Bijirita Chica
Dendroica petechia	Canario de Manglar
Dendroica magnolia	Bijirita Magnolia
Dendroica tigrina	Bijirita Atigrada
Dendroica caerulescens	Bijirita Azul de Garganta Negra
Dendroica caerulea	Bijirita Azulosa
Dendroica dominica	Bijirita de Garganta Amarilla
Dendroica discolor	Bijirita
Dendroica palmarum	Bijirita Común
Seiurus aurocapillus	Señorita del Monte
Seiurus noveboracensis	Señorita de Manglar
Teretistris fornsi	Pechero
Setophaga ruticilla	Candelita
Coereba flaveola	Reinita
Spindalis zena	Cabrero
Quiscalus niger	Chichinguaco
Dives atroviolacea	Totí
Icterus dominicensis	Solibio
Agelaius humeralis	Mayito
Dolichonyx oryzivorus	Chambergo
Sturnella magna	Sabanero
Molothrus bonariensis	Pajaro Vaquero
Pheucticus ludovicianus	Degollado
Guiraca caerulea	Azulejón
Passerina cyanea	Azulejo
Passerina ciris	Mariposa
Tiaris olivacea	Tomeguín de la Tierra
Tiaris canora	Tomeguín del Pinar
Melopyrrha nigra	Negrito
REPTILES	
Anolis jubar cuneus	
Anolis sagrei sagrei	
Ameiva auberi sublesta	
Leiocephalus carinatus ssp.	
Leiocephalus strictigaster parasphex	
Alsophis cantherigerus ssp.	
Antillophis andreae ssp.	
Nerodia fasciata compresicauda	

INTERACTIONS AND INTERDEPENDENCE ON A FRAGILE FRINGE: BIRDS AND MAN IN A CHANGING CARIBBEAN

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"All night long we heard birds passing. We must be very close to landfall, thanks be to God."

So noted Christopher Columbus on Tuesday, 9 October 1492, as he neared landfall in the Bahamas. He and his crew were heartened and led to land by migrant birds. What would have happened had Columbus arrived in the New World at some time other than the peak of migration — say in mid-summer or mid-winter, when land birds would not have been encountered at sea? Columbus' crew was disgruntled and anxious to turn back. Would he have turned back without discovering the New World? Would the course of history have been drastically changed?

To Columbus and his crew, land birds at sea were the ultimate in environmental indicators. They carried a message, not of hope, but of promise. They were at the threshold of a world unknown in Europe.

Imagine the excitement among the crew the morning when land first came into view! If only Columbus had known what lay beyond — to the west and north — after so many weeks at sea — that he was only on the fringe of discovery. If only our ancestors had recognized what a fragile and important fringe it was and is.

What I want to share with you are some thoughts on the changes that have occurred in the Caribbean in the last 500 years as they relate to birds. I want to discuss (1) other roles of birds as environmental indicators; (2) the roles of the Caribbean and Bahamas relative to the development and maintenance of the North American avifauna; (3) the need for a sense of history and environment in studying birds; (4) the need for understanding that things are not always as they seem; (5) the complexity of the interrelationships of birds and other components of their ecosystems, in particular, the significance of recognizing and maintaining biodiversity; (6) the great interdependence of birds and humans; and finally (7) how "exploitation" isn't always a bad word.

The Bahamas that Columbus found, the Cuba that Columbus visited, were peopled by cultures long gone today. They were clothed in forests the likes of which we have never seen. They had avifaunas quite different from those we know. There were no Budgerigars (*Melopsittacus undulatus*) from Australia breeding in the wild in Puerto Rico, nor Java Finches (*Padda oryzivora*) from Indonesia, nor Monk Parakeets (*Myopsitta monachus*) from Argentina, nor Rock Doves (*Columba livia*) from Europe, nor Cattle Egrets (*Bulbulcus ibis*) from South Africa. The first three species, and many others, have been introduced through the pet trade. Humans have an affinity for birds. Their bright colors, their often melodious songs, the ability of some to mimic human voice, their parental care, and other behaviors attract us to them. But such introduced species compete with native species and may introduce diseases and parasites to them.

The fourth species, the Cattle Egret, which is now found throughout the Americas, we've been told got here on its own. Well, perhaps. But it is unlikely to have become established after it got here had it not been for the clearing of the forests and introduction of horses and cattle by Europeans. A similar link to such habitat changes could be drawn for the cowbirds that have expanded northward through the Caribbean to parasitize species that have never before been exposed to them.

I'd like to diverge a moment now to tell you of a personal experience that has forever influenced my understanding of biogeography. An experience that I think also has particular relevance to the expansion of Cattle Egrets and other birds. I'm a pilot. Twenty years ago as I was completing my pilot training, I went up for one last session with my flight instructor. I knew what was coming; it seems to be traditional in pilot training: when we were about five miles from the airport and at an altitude of about 3000 feet, the instructor reached over and turned off the engine.

"Now what are you going to do?" he asked.

I checked my altitude and looked at the runway five miles away.

"I've got enough altitude. I can land back at the airport."

"Let's see you do it." he said.

At the time I was over bare agricultural land. I put the plane in a glide path that would easily take me to the end of the runway, and everything went smoothly as I descended through 2000 feet. However, between me and the airport was a block of forest that was about a mile wide. As soon as I got over the forest, the plane sank rapidly, losing enough altitude that I was worried about making it to the grass near the runway. Fortunately we made it safely — but barely — to the runway!

What had gone wrong? I had forgotten an important lesson about the relationships of our atmosphere to land. But I had now learned that lesson very well from experience. Bare land heats up rapidly in the sun and reflects heat back into the atmosphere. That heat rising off the land was a thermal pushing up on my plane and slowing its rate of descent. A forest, however, absorbs the sun's energy. The shaded land was not heated, and there wereno thermals, so the plane descended rapidly.

The eastern half of North America was once almost completely forested such that thermals would have been rare. The same was true of most Caribbean islands. In the past five hundred years, however, we have cleared most of the forests and, indeed, have often replaced them with concrete and asphalt that heat up quicker and reflect even more heat than bare soil. Thermals abound during the day. Just think what all

these thermals do. Hot air causes evaporation of moisture from the surface, making the land more arid.

In flying to the Bahamas or any Caribbean island, you may notice that clouds are most concentrated over land. The bare land heats up and dries out fast; the hot air over the land rises, pulling in water vapor from the sea. As the warm moist air rises, it cools to condense and form clouds. The more bare land there is, the more hot air there is, the greater the updrafts, and the greater the height and magnitude of the clouds.

These high white pillars of clouds over land are visible for tens, often hundreds of miles. They are guideposts in the sky that once aided sailors and almost certainly aid migrant or dispersing birds. Perhaps our clearing of the forests and the resultant increase in thermals and clouds over land have facilitated dispersal of these invading birds.

Aside from these influences, however, there may be more important signs that can be read in these clouds. Surely such massive clearing of the land that we have done is having a profound influence on the Caribbean and North American climates in which we and all of the creatures of our ecosystems live. Are range expansions of these birds indicators of global warming problems resulting in part from reflection of solar heat back into the atmosphere? Are they indicators of changing weather patterns, perhaps more violent storms associated with these changing air movements?

Today as we consider the migrant birds that Columbus and his crew saw, we understand the special significance of the Bahamas and the islands of the Caribbean as a fragile fringe of habitat jewels supporting passing migrants, wintering birds from North America, and an incredible array of unique island species. The fragility of this fringe is evidenced in many ways: the small land area of each island, the vulnerability of the islands to tropical storms, the vulnerability of the islands to human disturbance. But no evidence is so clear as that provided by birds. Not only do the islands tenuously support some of the world's most beautiful birds, but also some of the world's most endangered ones: the Bahama Parrot (*Amazona leucocephala*), Kirtland's Warbler (*Dendroica kirtlandii*), Puerto Rican Parrot (*Amazona vittata*) — and yes, we hope, even the Ivory-billed Woodpecker (*Campephilus principalis*).

Just as Columbus before us, today we also recognize value in the birds around us. We appreciate the swallows as they capture flying insects, and the cuckoos that consume swarms of caterpillars. We acknowledge the role of hummingbirds in pollinating some favored flowers and fruit crops. We applaud the role of finches in consuming weed seeds. We enjoy hunting game birds and the companionship of pet birds. We find aesthetic value in the songs and brilliant colors of so many birds. But there are other values to be realized.

Migrant shorebirds, such as Ruddy Turnstones (*Arenaria interpres*) on Walker's Cay at the northern end of the Bahamas, need a healthy "shoreline" ecosystem all along their migratory pathway and throughout wintering areas. We too need that ecosystem to be healthy. Nowhere is our need greater than in the island ecosystems of the Bahamas and Caribbean where humans live at this interface between land and water. Shorebirds can be indicators of health or problems along these shores.

Humans in the Bahamas and Caribbean depend on the sea for food as do a number of bird species. We once looked at birds such as cormorants, pelicans, and terns as competitors. Now we know that they play a much more significant role as environmental indicators that are more sensitive to chemical pollutants than we are. These birds suffered greatest during the DDT era, but their suffering warned us of the danger to our own health.

Land birds can tell us a great deal too. Yes, the species native to each island we know were present. But where? In what numbers? In what habitats? When we speak today of distribution patterns and habitat preferences of birds, we speak of the present. To say that a bird species prefers this or that habitat is only to say that it prefers that habitat over whatever else is currently available. Perhaps the habitat being used today is only marginal in comparison to what once was available.

The Hairy Woodpecker (*Picoides villosus*) is a species found throughout North America. It also occurs naturally in the Bahamas on Andros, Grand Bahama, Abaco, and New Providence where it is found primarily in pine forest. What has happened to Hairy Woodpecker populations since these forests have been cut and pines have been left only to smaller patches of younger trees?

To what extent do the Hairy Woodpeckers and other forest birds control forest insect pests? If the birds were gone, what would be the economic cost of timber resources lost in insects and insect spread diseases?

Why is the Hairy Woodpecker so limited to the pine forests in the Bahamas, while in the eastern United States it is most often found in hardwoods? Is it a result of competition for food or nest sites with the West Indian Woodpecker (*Melanerpes superciliaris*)? Why is the West Indian Woodpecker on Abaco so closely associated with humans and exotic trees? Is it simply because these are the only big trees around? In Cuba this woodpecker seems to use a much wider variety of habitats. How has the Jamaican Woodpecker (*Melanerpes radiolatus*) fared as its forests have been fragmented and reduced to younger trees and many exotics?

The Ivory-billed Woodpecker of the southeastern United States and Cuba provides an instructive example of how habitat destruction by man can alter our perception of a species habitat needs. In the southeastern United States, the Ivory-bill was once widespread, although by the late 1930s it was only known from riverine swamp forest in northeast Louisiana. It was studied there extensively by James Tanner and we have come to think of it as a swamp forest bird. Early literature and data from specimen records, however, tell us that it also fed and nested in pine forest. We knew the Ivory-bill was threatened by habitat destruction even before 1912 when a children's book, "Bird Children," by Elizabeth Gor-

don, had the Ivory-bill proclaim:

"Dear me!
They're cutting down my family tree;
Where can I live, I'd like to know,
If men will spoil the forest so?"

In North America, the last of the Ivory-bill's habitats to disappear were the virgin swamp forests such as where Tanner studied the birds.

In Cuba, as in the United States, the Ivory-bill also once occurred in both old growth hardwoods and pines, and it disappeared as those forests were cut. There, however, the last of the virgin forests to be cut were the montane pines and that's where the Ivory-bill survived. Thus we have come to think of the Cuban and American Ivory-bills as being different in their choice of habitats. In truth, what was important about the habitat of both birds was not whether the habitat was pine or hardwood forest, but whether or not it had recently dead, large, old trees that supported populations of their food supply — large Cerambycid beetles. When the big trees went, the big beetles went. When the big beetles and the big old trees it needed as nest sites were gone, the Ivory-billed Woodpecker could not survive. Certainly the story is even more complex, but the message here is that such critical interconnections among habitats, food supplies, and birds are likely the rule rather than the exception. We think we know a great deal about our birds, but we have just begun to understand.

Another woodpecker illustrates well the complexities of interconnections between a species and its ecosystem and changes wrought by man. The Red-cockaded Woodpecker (*Picoides borealis*) does have a Caribbean connection, although it occurs only in the southeastern United States. It was described for science by a French merchant from what is Haiti today. Viellot called the bird "*Picus borealis*" -- northern woodpecker -- not because he found it in boreal Canada, but because where he found it when he was on a trip to the United States was indeed "north" relative to his Caribbean home. The Red-cockaded Woodpecker got its English common name from Alexander Wilson who saw the birds' large white cheek patches and the tiny tuft of red feathers on males and was reminded of the cockades -- the decorations -- on the hats of American Revolutionary War soldiers.

The Red-cockaded Woodpecker is a bird of old growth pine forests and a species that is endangered, like many birds of the Caribbean, because of the clearing of its forests. Human needs have conflicted with bird needs. In conciliatory efforts to help the species, we began by leaving their nest trees, but cutting the forests around them. But obviously that wasn't enough, because the birds had to have a place to find food also. In addition, cleared areas attract predators such as the American Kestrel (*Falco sparverius*), so the woodpeckers were soon gone from such areas.

What more did they need? The Red-cockaded Woodpecker requires old trees in which to excavate nest and roost cavities — living pines that are safe from lightning started fire in their ecosystem. We know now that they need these old trees because they need the presence of the red heart fungus to soften the wood to make it easier to excavate. Nest and roost cavities usually are shaped to follow the contours of the fungal decay.

What if we protected the forests from fire? Then the ecosystem changes and becomes unsuitable for the birds. One of the biggest enemies of southern pine ecosystems — and indeed of Caribbean pine ecosystems — has been "Smokey the Bear" — who personifies our attitudes and actions that consider fire as "evil" and "destructive." Without fire the pine ecosystem becomes a hardwood ecosystem. In the pine ecosystems fire kills hardwood trees, but pines can survive because of fire resistant bark and other adaptations. When fire passes through a longleaf pine (*Pinus palustris*) forest, young pines are also reduced to charred needles. But part the charred needles and you find a living, growing tip inside. The competing hardwoods are gone, their ashes fertilize the soil, and the young pine is ready to grow rapidly in the sunshine. It will have company too, because the heat from the fire causes pine cones to open, dropping their seeds to the fertilized soil.

So foresters today leave the birds' nest trees; they provide fire at frequent intervals; and they leave additional pine forest for the birds to forage in. But there are still problems due to lack of understanding of the complexity of the interactions of the birds and their environment.

In good habitat male and female Red-cockaded Woodpeckers feed together, but in different places on the same trees. Males tend to forage high in the tree and more on the branches; females primarily on the trunk below the branches. By maintaining these differences they are not competing for food and it is believed their pair bond may be stronger. In a study we did on a military base in Louisiana where the Army wanted to build a new tank range, we found the birds favored their typical feeding sites: males high and on branches, females low on the trunk. We also found that their home ranges were about 250 acres — typical for the species — and that males and females each weighed about 50 g.

Then the army constructed their tank range, in the process taking out all pines bigger than 10 inches in diameter other than the cavity trees and a small buffer around them. What was left was still a pine forest, but the forest wasn't the same. The trees averaged much smaller and were more widely dispersed. The males had plenty of branches to feed on; the females, however, had no large pine trunks to forage on. The home ranges of the birds expanded from 250 acres to more than 1000 acres. They had to travel farther to find enough to eat. In addition, the average weight of males declined slightly to about 49 g; that of females, however, declined to nearly 43 g. The different habitat needs of the female meant a different effect on the female! The females were starving to death. Ultimately the birds disappeared from the area.

How many Caribbean birds do you know well enough to know that needs of males and females, juveniles and adults,

are not the same? Get close to your birds. Take notes. Quantify your observations. With knowledge comes understanding. Look for interconnections.

It was understanding that was needed by NASA last year when the space shuttle Discovery was grounded because Yellow-shafted Flickers (*Colaptes auratus*) had pecked holes in the foam covering of the main shuttle fuel tank, causing over a million dollars in damage and delays. I was called to help them solve the problem. When I arrived, I found the depth of their understanding was reflected in signs indicating "no flickers allowed," simple solutions such as "kill the birds," or "move the birds," and in the use of scare devices.

The problem seemed to be a habitat problem. Nicely mowed fields near the launch pad were perfect for the ground-feeding flickers and there were nest sites nearby. So why did the birds peck holes in the shuttle fuel tank? One contributing factor may have been the color of the foam on the fuel tank — it was the same as that of the upper parts of palms in which flickers there were nesting. So why didn't these flickers nest in palms?

The real problem I believe was an exotic species: the European Starling (*Sturnus vulgaris*). We saw several flocks of forty or more juvenile starlings. They had obviously had a successful year! Starlings are well known as usurpers of flicker nest cavities and I believe that as fast as the flickers excavated a nest cavity, starlings would take it over. The end result was that the flickers ended up at the space shuttle as a last resort.

The answer seemed simple, but not without understanding. Control the starlings in the launch pad area and the flickers will nest in their traditional sites. Unfortunately, that wasn't "understanding" enough. A female flicker was captured on a nest with eggs in a palm 2.1 miles from the space shuttle and it was going to be removed. I convinced NASA that a bird on a nest with eggs won't be spending its time excavating and that a bird 2.1 miles away was not at all likely to be the bird that excavated on the shuttle fuel tank. The bird was returned to its nest.

I know that you love birds -- or you probably wouldn't be reading this. But there are many from the Bahamas, Caribbean islands, and North America who do not share that love. Indeed, to some humans, birds just get in the way. In Mississippi I see bumper stickers that say: "When you run out of toilet paper, use a woodpecker."
I also see t-shirts that say:

"Save a forester, kill a woodpecker — Red-cockaded Woodpecker."

There is a lack of understanding! What is the answer?

Take a popular song from the United States in the 1950s as your guide. I loved the song as a teenager and find new meaning in it today. It was sung by a group known as the "Teddy Bears" and it began like this:

"To know, know, know him is to love, love, love him..."

The message is simple: we don't appreciate what we don't know about. The cliché "Out of sight, out of mind" also fits. Education is the key. If we can teach people to appreciate the diversity of birds around them, if we can teach them the complexity of interconnections between birds and their environment, then they can appreciate the birds and will want to protect them. A positive educational message can do much more than a negative "don't!"

In the Bahamas, the Bahamas National Trust and others have done a wonderful job with positive education about the Bahama Parrot. St. Lucia is doing a similar wonderful job with educating people about the St. Lucia Parrot (*A. versicolor*). Similar efforts work hand-in-hand with providing artificial nest sites for the Puerto Rican Parrot and the Cuban Parrot (*A. leucocephala*).

But what about all those other native species that are not yet on the critical list? The hard work is bringing a species back from the brink of extinction. Conservation efforts should begin before your species are on the way out. Focus on Bahamian and Caribbean endemics and their habitats. Exploit their novelty. This is where exploitation can be positive. Promote the uniqueness of your ecosystems to attract ecotourism. Many islands have species unique to them or to a small number of islands. One whole family of birds, the todies, is found only in the Caribbean.

To effectively exploit the unique ecosystems of the Bahamas and Caribbean, you must study them, understand them, and appreciate them. By studying healthy populations we may be able to truly understand the interconnections that are vital to a species' survival. By the time a species is endangered, evidence of those interconnections — the web of interdependence that holds the ecosystem together — may already be lost.

In Cuba posters I saw proclaimed that "Care of the flora and fauna is everyone's responsibility." It is. And we should share in that responsibility and in developing an understanding of that responsibility. If you are a bird bander or just a bird watcher, share your efforts with children. Remember: "To know them is to love them." That applies to all — to children and to birds. Teaching our children to know and appreciate nature provides our best hope for Bahamian, Caribbean, and North American ecosystems for the future.

Tourism is vital to Bahamian and Caribbean economies and can be vital to bird conservation too. It varies in importance from island to island, but can bring in conservation dollars and also change attitudes towards habitats and birds. Ecotourism is growing in popularity — in part as a result of conservation efforts and education to date. The excellent field guides available for many island nations certainly pave the way. Postage stamps featuring birds also aid both the economy and the educational message, but can best serve the islands by focusing on endemic species and their ecosystems.

We can't protect our birds with just what I call "techno fixes." They can't survive with just artificial housing and bird feeders. They need much more. They need the natural biodiversity of a healthy ecosystem.

To end, I would like to use an analogy I used in talking

about biodiversity in another island nation on the opposite side of the world from the Caribbean -- Indonesia. There, as in some Caribbean communities, the traditional homes are built on stilts to protect them from high water. I ask you, as I asked them, to consider such a traditional home as an ecosystem and the pilings that support it as the species in that ecosystem. We can remove one piling and the house will still stand. Perhaps we can remove two pilings. Maybe three. Four. But which ones? It is often difficult to know which piling – or which species in an ecosystem -- is important to stability. We don't always understand how all the pilings – all the species – work together to provide a stable environment. They are collectively so much more than their sum individually. And if we remove the wrong piling, or if a hurricane or other stress comes, what will happen to the home?

Our ecosystems – the ones we live in – are our homes. They are supported and stabilized by biodiversity. The interconnections among species are often interdependencies. We are dependent on other species and they are dependent on us. If we remove the wrong "piling," or too many, under stress our "homes" could collapse. Let us work together to maintain strong "homes" for ourselves and our birds.

Workshop Findings and Recommendations

WORKSHOP ON THE DRAFTING AND APPLICATION OF CARIBBEAN WILDLIFE POLICY AND LEGISLATION

Society of Caribbean Ornithology Annual Meeting, Nassau, Bahama Islands, 3 August 1996

The overall objective of the workshop was to assess the significant wildlife policy and legislation issues in the Caribbean and to elicit comments and recommendations from the workshop participants on how to most effectively use or revise existing policy and law to protect biodiversity.

The workshop focused on the need for further review of the relative role of law and policy. What can effective wildlife policy do? How can it most effectively articulate governmental intention with regard to the conservation of resources and provide an integrated perspective on the management of resources? How can policy resolve inter-ministerial conflicts and establish political will for implementation of nature conservation?

Findings

1. There is a need to publish and publicize existing policy and legislation to educate the public about the requirements of law and regulations.
2. Much creative use can be made of existing policy and legislation, including common-law principles, to achieve biodiversity protection.
3. Public and governmental support, generally referred to as "political will," is crucial to the success of biodiversity protection policy and legislative efforts.
4. The regulation of private land for biodiversity protection poses many challenges in the Caribbean because of differing concepts of the rights of landowners and the powers of government to control land uses.
5. There are significant variations in the hunting regulations and from country-to-country in the Caribbean.
6. There is a need for post-disaster (hurricanes, etc.) wildlife protection.
7. Land use planning and zoning are generally not well-developed but are essential for long-term biodiversity protection in the Caribbean.
8. Confusion exists regarding whether one law is superior to another with regard to the management of resources (e.g., is mining allowed in national parks?).
9. Confusion also exists as to the proper role of non-governmental organizations (NGOs) relative to the holding of land for biodiversity protection purposes.

Recommendations

1. There is a strong need for (and the SCO supports) public access to the biodiversity policy and law-making process, including prior consultation and review of draft policy and legislation.
2. Further review and research is needed on how to develop the "political will" to promote governmental policy, law, and enforcement for biodiversity protection. The SCO should consider holding a workshop on this topic at its next meeting.
3. Further review should be conducted of the rights of government to control private land uses for biodiversity protection.
4. Caribbean countries should attempt to coordinate and make uniform their hunting and other biodiversity protection requirements to minimize the differences between countries.
5. Caribbean countries should explore a variety of funding mechanisms to support biodiversity protection, including dedicated revenue for habitat conservation, fees, licenses, taxes, and credits.
6. Caribbean countries should understand the benefits and obligations of relevant international conventions and revise their laws and policies accordingly.
7. The SCO members should continue to explore whether there is an ideal structure for governmental ministries for biodiversity protection.
8. The SCO should continue to review Caribbean wildlife policy and legislation to identify common issues and problems in the preparation and dissemination of wildlife policy and in the drafting and enforcement of wildlife legislation, including regulations.

CAYMAN ISLANDS REPORT

Patricia E. Bradley
Representative for the Cayman Islands

1. Protected Areas

Currently 4.8% of the combined land areas of the Cayman Islands are under some degree of environmental protection, as follows:

1a. National Trust Properties, protected in perpetuity under strong legislation: a total of 511 ha (1263 acres) as of July 1996, including

- *Salina Reserve, Grand Cayman.*—252 ha (623 acres) of primary habitats, including fresh and brackish wetlands and dry evergreen woodland supporting resident and migratory birds, also endangered rock iguanas, bats, and endemic flora; no public access. Iguana release program in progress.
- *Mastic Reserve, Grand Cayman.*—118 ha (292 acres) of primary dry evergreen woodland have been purchased by the National Trust of the Cayman Islands, out of a target area of 405 ha (1000 acres). On-going long-term fund-raising and land purchase efforts are underway to secure the remaining 286 ha (708 acres). The Mastic Trail, a traditional footpath through the Reserve, has been restored by the Trust and RARE, and a natural history warden has been trained to provide income from low-volume guided tours since December 1995. A maximum capacity of ca. 300 walkers per month will generate net revenue for reserve management and further land acquisition.
- *Booby Pond Nature Reserve, Little Cayman, and Ramsar site.*—55 ha (135 acres) are currently Trust-owned out of a total Sanctuary area of 82 ha (202 acres). The privately owned sections are protected under the Animals Law, 1976.
- *Brac Parrot Reserve, Cayman Brac.*—73 ha (180 acres) of dry evergreen woodland, including extensive primary areas of flora. In 1996 Brac Trust members opened a nature trail through less sensitive areas of the habitat, which is important for migratory warblers and buntings, and endemic landbirds, including the Cayman Brac Parrot (*Amazona leucocephala hesterna*).
- *Governor Michael Gore Bird Sanctuary, Grand Cayman.*—0.7 ha (1.84 acres), including a fresh water pond of local significance as a breeding site for the Purple Gallinule (*Porphyrula martinica*) and Least Bittern (*Ixobrychus exilis*), and seasonally important foraging for migrant waterfowl. A hide has been installed.
- *Botanic Park, Grand Cayman.*—The Trust owns 50% of the Park shared with the Cayman Islands government. The Trust owns the 14-ha (35 acres) woodland nature trail loop and the enclosed woodland. The Botanic Park has created a lake from an existing wetland, which is already a significant site for breeding waterfowl.

1b. Animal Sanctuaries, protected under the Animals Law, 1976. Though much weaker legislation than the Trust Law, these Sanctuaries were set up explicitly to protect waterfowl. The Sanctuaries total ca. 138 ha (342 acres) (does not include Animal Sanctuaries which are also Trust owned).

- Meagre Bay Pond, Grand Cayman
- Colliers Pond, Grand Cayman
- Salt Water Pond, Cayman Brac
- Booby Pond Nature Reserve, Little Cayman

1c. Marine Parks Environmental Zone, Grand Cayman. This zone is protected under the Marine Parks Law; it is primarily marine, but it includes approximately 607 ha (1500 acres) of the Central Mangrove Wetland fringe bordering Little Sound. It is regarded as the most ecologically sensitive area in the Cayman Islands.

2. Proposed Ramsar Site

The Marine Environmental zone, together with a further 243 ha (600 acres) of Crown property in the Central Mangrove Wetland (CMW), were proposed as a Ramsar site earlier in 1996 with Ministerial support. However, a decision has been deferred by the government and is unlikely to be considered until after the November 1996 elections. The draft also includes proposals for establishment of an Environmental Trust Fund as a mechanism for gradual purchase of the entire wetland for conservation. A Trust member has raised $500,000 toward land purchase but resistance from landowners is facing the Trust as developers seek higher prices.

The 3238-ha (8000 acres) Central Mangrove Wetland is of immense ecological importance to Grand Cayman, providing large scale nutrient flow to the marine environment, fueling rainfall in the western districts and recharging groundwater reserves, providing breeding habitat for herons and endemic landbirds, providing storm protection, and functioning as a major carbon sink.

The greater part of the mangrove habitats in western Grand Cayman has been cleared or is scheduled for development, making the protection of the CMW an even greater priority.

3. Wetland Pond Study

Salt and brackish ponds in the three islands are undergoing biological assessment (funded by HMG) by the National Trust and P. E. Bradley -in partnership with the Gulf Coast Research Laboratory, Mississippi and the University of Tampa. The aim is to describe food webs and hydrology of a

range of ponds and to understand the seasonality that cause them to be critical waterfowl foraging habitat. Management strategies will then be designed to maximize the ecological value of these areas, and to reduce conflict with neighboring residents arising from foul pond odors.

4. National Trust Priority Species Conservation Programs

4a. Grand Cayman blue iguana (*Cyclura nubila lewisi*). Since 1990 a program for the iguana has included field research, education, habitat protection, captive breeding, and release of captive bred animals into protected areas. Trial releases have been conducted and there are now 30 animals captive with some breeding success yearly since 1990.

4b. Proposed 1997 parrot census. The two subspecies of the Cuban Parrot, *Amazona leucocephala caymanensis* (Grand Cayman) and *A. l. hesterna* (Cayman Brac), have been censused by the Trust, Jim Wiley, and the Cayman Islands Bird Club on a three-year interval schedule. The Cayman Brac counts (max. 430 birds, February 1991; 497, February 1994) are stable. Grand Cayman counts (max. 1500 in 1992, 1900 in 1995) showed a marginally significant increase partly due to its removal from the Game Bird list in 1990 and despite progressive deforestation and still being treated as a pest by farmers. Comparison of population densities in the two islands suggest the Cayman Brac population may be close to the carrying capacity of this small island. The Trust is currently seeking funding for a mid-February 1997 Cayman Brac parrot census. Scarcity of human resources on Cayman Brac requires volunteers to come by air from Grand Cayman for one week (ca US$3500).

4c. West Indian Whistling-Duck (*Dendrocygna arborea*). The first survey of the population on Grand Cayman since Bradley (1986) was carried out in summer 1995 by a graduate student from Queen's University, Belfast. That survey yielded a population estimate of 397 birds. Bradley's 1995 estimate for Little Cayman was 130 birds. Although breeding on Cayman Brac had not been recorded for over 15 years, ducks nested there in 1994 and 1995, but not in 1996. The Cayman Islands will be part of the West Indian Whistling-Duck Conservation Working Group efforts.

4d. Red-footed Booby (*Sula sula*) census on Ramsar Site, Little Cayman. The Trust's Management Plan for the Booby Pond Nest Reserve calls for a census and colony area assessment of the Red-footed Boobies (ca. 3500 pairs) and Magnificent Frigatebirds (*Fregata magnificens*; ca. 150 pairs) in February 1997. The last census was conducted in 1986 by R. B. Clapp, who updated A. W. Diamond's original 1975 assessment. The Trust hopes to obtain assistance from a seabird specialist, and is seeking US$5000.

There is widespread concern over the location and construction of the new airport and how it will affect the booby colony. Monitoring should be in place by the end of 1996.

5. *The Check-List of Cayman Island Birds* by Patricia E. Bradley, in preparation, will be published (estimated date 1998) by the British Ornithologists' Union. Three grants have been obtained for visits to collections in the United States.

6. Least Tern (*Sterna antillarum*) breeding Survey. The Cayman Islands Bird Club conducted a breeding survey of Least Terns in early August 1996, which resulted in an estimation of 120 pairs.

7. Brown Booby (*Sula leucogaster*) Survey. Patricia E. Bradley has visited Cayman Brac three times in 1995–1996 to conduct surveys of Brown Boobies. Her counts (ca. 60 birds) suggest a large reduction in numbers compared to her 1983–1986 surveys of 170–190 pairs.

8. Breeding Bird Survey. The breeding bird survey conducted by the Cayman Islands Bird Club in May 1996 provided important new nesting data on the Vitelline Warbler (*Dendroica vitellina*).

9. New Records include:

- confirmed breeding of Least Bittern
- a second year of breeding for Bridled Tern (*Sterna anaethetus*)
- two breeding records for American Coot (*Fulica americana*; normally a migratory species) on Grand Cayman
- two ibis species (Glossy Ibis *Plegadis falcinellus* [5 individuals] and White Ibis *Eudocimus albus* [1 individual] in continual residence for 14 months, 1995–1996
- A single Tropical Kingbird *Tyrannus melancholicus*, October 1995

10. New Conservation Legislation is being drafted by the Head of the newly formed Department of the Environment, with an estimated completion date of late 1997.

NOTE: The Trust operates a program for visiting scientists who contribute and share biodiversity assessment and conservation research in the Cayman Islands. The Trust can often assist with low-cost accommodations and local technical expertise in return for freely shared results. Inquiries to: National Trust Scientific Programs Manager, P. O. Box 31116 SMB, Grand Cayman, Cayman Islands; telephone: 809–949–0121; fax: 809–949–7494; e-mail: ntrust@candw.ky

GENERAL ASPECTS OF CONSERVATION IN CUBA

Orlando H. Garrido
Representative for Cuba

The approach to conservation in our country is "subjective" rather than "objective." There are several reasons for this, some of which will be outlined here. It is not my purpose, however, to analyze or judge conservation attitudes in Cuba from the past century through the present. I will consider only the more recent period, based mainly on my field experience over the last five decades. As a zoologist, my main field deals with vertebrates, although I have also some experience with insects. However, when dealing with conservation issues, we must think equally of plants and animals, and thereby we must include the participation of both botanists and zoologists.

The direct and indirect effects of human activities are mainly responsible for the changes that may occur among populations of plants and animals throughout historical times. But we need to analyze "both sides of the coin" as to what effects human activities have had on conservation in our country. Again, this analysis is based on rather "subjective" thinking, mainly because of the lack of statistics from rigorous surveys and studies of population dynamics. On one side of the coin are the negative effects of human activities, such as deforestation; conversion of natural habitats to citrus plantations, cane fields, and pastures; mining operations; flooding habitats by construction of dams; development of causeways connecting the mainland with the cays; the introduction of exotic plants and animals (especially monkeys in some cays); and the so-called "Special Period" of economic hardships over the last 5 years that has forced our country people to capture protected birds and mammals (e.g., especially hutías *Capromys* spp.) for food.

With regard to the construction of dams, we have no data on the negative effects of the habitats lost to the reservoirs. Certainly many land birds have been affected by the reduction of their habitat. Some species which previously did not occur in rural or urban habitats, including large cities, have recently become common residents in such sites; e.g., the endemic Cuban Blackbird (*Dives atroviolacea*), Tawny-shouldered Blackbird (*Agelaius humeralis*), and Antillean Palm Swift (*Tachornis phoenicobia*). Even small flocks of Cuban Parrots (*Amazona leucocephala*) are dwelling in residential and embassy areas where gardens and trees are found. Whether these birds represent escapees from captivity, or took up residence from wild populations, we do not know.

We should be greatly concerned with the current rush to build causeways between cays and from the cays to the main island of Cuba. These corridors will allow easy invasions of exotic forms. Certain local endemic races of birds and reptiles are doomed to disappear, either by interacting with new invaders from mainland Cuba, or by disturbance or reduction of their habitats, caused by the construction of new tourist facilities.

Still there is another, positive face of the coin, demonstrated in the increasing number of professional forest guards, along with the creation of sanctuaries, reserves, national parks, forestry parks, and gardens, and our extensive reforestation efforts (including planting of fruit trees). In that reforestation program, thousands, perhaps millions, of trees have been planted in Cuba.

Although considerable terrestrial habitat has been lost to reservoirs, it is important to point out that several populations of waterfowl have profited from these developments and some species have greatly increased their populations. For example, in less than four years after the construction of the Presa Muñoz (Camagüey province), over three thousand pairs of Tropical Cormorants (*Phalacrocorax brazilianus*) nest around the dam, more than 30 Ospreys (*Pandion haliaetus carolinensis*) winter there, and a minimum of 56 Snail Kites (*Rosthramus sociabilis*) were observed in less than an hour's survey by motor boat. At least two nestings of the North American race of the Osprey (*P. h. carolinensis*) have been reported at dams (previously the local race, *ridgwayi*, was the only form nesting in our territory, and there only in cays).

With the increase of citrus and rice plantations, the previously extremely rare Short-eared Owl (*Asio flammeus*) has shown a spectacular demographic explosion in less than 12 years; it has since been reported from essentially every province, including territories not thought suitable, such as the Peninsula de Guanahacabibes. Only about 30 years ago, the same phenomenon occurred with the Fulvous Whistling-Duck (*Dendrocygna bicolor*) in rice fields and also the White-cheeked Pintail (*Anas bahamensis*). Several species of migratory ducks have also greatly increased their numbers as winter visitants. Other species using swamp and saw grass habitats have expanded their territories. For example, the endemic Cuban Red-winged Blackbird (*Agelaius assimilis*), formerly found only in the Cienaga de Zapata, now occurs as far as some rice fields in the province of Ciego de Avila (Yaroddy Rodríguez, pers. comm.). The Northern Harrier (*Circus cyaneus*), formerly a rather rare winter visitor, is now common in some rice fields, as is the Barn Owl (*Tyto alba*).

Thus, even in our current period of economic hardships, some headway is being made in our efforts to conserve our wildlife.

I thank the Society of Caribbean Ornithology, the National Trust of the Bahamas, and the RARE Center for Tropical Conservation for their support.

SUMMARY OF BIRD ACTIVITIES BEING CARRIED OUT BY THE FORESTRY AND WILDLIFE DIVISION OF DOMINICA

Stephen Durrand
Representative for Dominica

Introduction

Dominica is a small island with an area of 720 ha km^2 (290 sq. miles) and a human population of 71,500. The island, which is only 29 km long by 16 km wide, is in the center of the Eastern Caribbean chain and lies between the French Overseas Department of Guadeloupe and Martinique. Dominica is extremely mountainous, with four of its many peaks reaching over 1230 m (4000 ft.). The tallest mountain, Morne Diablotin, is 1461 m (4747 ft.) in elevation. In contrast with several of the other Caribbean islands, Dominica has been able to preserve much of its natural vegetation. In fact, about 60% of the island is still under some form of natural vegetation cover.

Overview

The Forestry and Wildlife Division of Dominica does not have a great deal of experience in ornithology-related activities, such as regular monitoring, population counts, or general research. However, the Division has been quite involved in bird conservation in general, and with public awareness or environmental education programs with the objective of informing the public of the importance of birds and instilling an appreciation of these creatures. The Division has also made strides in influencing the passage of certain pieces of legislation aimed at the conservation and management of birds, in the areas of protection and regulation of the importation and exportation of birds, as well as the hunting and closed seasons, and what species of birds may or may not be taken.

The Division has been involved for the past six years in several bird research projects (e.g., annual parrot monitoring) and, more recently (i.e., for the past two years), in seasonal research of parrot breeding biology, nesting, and feeding habits. The Division also participated in the 1994 BirdLife International World Birdwatch activities.

Conservation

Employees of the Forestry and Wildlife Division of Dominica patrol the forested areas on a regular basis. It is the duty of the Forestry Officers to implement the provisions of the Forestry and Wildlife Act. The Division also maintains regular contact with hunters in an effort to solicit their opinions and suggestions in an effort to improve bird protection, management, policies, and techniques.

Environmental Education

The Forestry and Wildlife Division has a weekly environmental education program, which is effectively used to both inform and educate the public. During its annual Forestry Week, the Division also hosts both television and radio programs, which are used to improve public awareness and to solicit public suggestions and advice on matters of protection and conservation.

In 1989, RARE Center, represented by Paul Butler, in collaboration with the Forestry and Wildlife Division, launched Project Sisserou in Dominica. This project was aimed at advising the public about the protection, importance, and need to appreciate our two endemic parrot species.

During the past 10 or more years the Division has produced numerous publications (e.g., the *New Forester,* an annual publication; many pamphlets, brochures, and booklets, several of which address various aspects of bird conservation; e.g., our 1989 production of *A - Z in Birds*).

Every year visits are made to both primary and secondary schools where various topics dealing with birds are introduced and discussed with students by Forestry and Wildlife Division officials.

Legislation

The Forestry and Wildlife (Revised) Act Chapter 60:02 deals with many aspects of bird protection and conservation. The act indicates when birds should and should not be hunted. Those that should not be hunted are considered protected birds (e.g., the two endemic parrot and hummingbird species).

According to the Wildlife Act, no birds (dead or alive) should be exported or imported without the necessary permit from the Forestry and Wildlife Division, together with a series of veterinary level documents all aimed at proper management and protection of local birds. Added to these requirements are a set of local regulations and restrictions.

Parrot Monitoring

The Forestry and Wildlife Division has been routinely monitoring the two endemic parrot species for the past 16+ years. Intermittently, the Division has been involved in specific parrot projects. During the years 1992 and 1993 the Division, in collaboration with an English zoologist and researcher, had been involved in a period of organized and intensive parrot monitoring exercises. During these exercises, population counts were taken at various localities on the island,

Parrot Research

In 1994, a formal parrot research program was initiated. In 1993, a joint research project was initiated between the Forestry and Wildlife Division, Ministry of Agriculture, of

the Commonwealth of Dominica, and Wildlife Preservation Trust International (WPTI) of the United States to study the Imperial or Sisserou Parrot (*Amazona imperialis*), and the Jaco or Red-necked Parrot (*A. arausiaca*), both endemic to Dominica.

In 1995, there was a misunderstanding between the two parties resulting in the withdrawal of WPTI. Nevertheless, the Division continued its research on the two parrot species, collecting valuable data up through the present. The program is intended to continue for the next 2-3 years. Summarization of observations of pre-laying, incubation, nestling, and fledging activities are underway.

Conclusion

Whereas the Forestry and Wildlife Division has some capacity to organize bird research work, effectively enforce the laws, and conduct education and conservation programs, the Division's staff is limited in their capacities to complete tasks. The Division is in need of technical training at the Bachelor's and Master's degree levels and training of junior staff at the intermediate level (i.e., Eastern Caribbean Institute of Agriculture and Forestry [ECIAF], Rangers Certificate and Diploma Certificate courses). Whereas many research needs could be identified and projects developed, financing still remains a major problem. Although these limitations continue to plague the extent and depth of the Forestry and Wildlife Division's research and conservation efforts, the Division perseveres, thanks to the efforts, commitment, and dedication of our field officers. The Division would welcome any level of assistance possible.

Island Representative Reports

JAMAICA REPORT

Suzanne Davis
Representative for Jamaica

Indeed, the past year has been one of rapid growth for the environmental and conservation movement in Jamaica. A steady interest in environmental and conservation issues is finally gaining momentum at all levels of society.

Commitment to the protection of Jamaica's natural resources by the island's Government has been indicated through:

(1) The development of a proposed policy for a National System of Parks and Protected Areas.
(2) A second revision of the Wildlife Protection Act.
(3) The development of the Jamaica National Environmental Act Plan (JANEAP) 1995.

The Natural Resources Conservation Authority (NRCA), which has the responsibility to effectively administer the policies and plans related to the proper use of Jamaica's natural resources, recently published the Jamaica State of the Environment (SOE) Report. The report, which will be published on an annual basis, aims to provide readily available information about Jamaica's environment. The SOE Report was prepared in collaboration with other regulatory and resource management agencies, as well as with academic research institutions and non-government organizations (NGOs).

At the NGO level there has also been recognition of the increasing need for information sharing and collaboration among organizations. The National Environmental Societies Trust, in December 1995, combined its Annual General Meeting with a conference, at which NGO representatives presented papers on various areas of interest. The conference was well supported and it is hoped it will become an annual event. Another first was the staging of Green Expo hosted by the Jamaica Conservation and Development Trust. The Expo provided an opportunity for NGOs, the private sector, and Government to produce an impressive display of environmental and technical information and services.

Where has the ornithology movement fallen in this process of change? With the acquisition of an office in October 1995, the Gosse Bird Club is now better equipped to spearhead the study and conservation of birds and their habitats. The office, which is based at 93 Old Hope Road, Kingston 6, was obtained through the Institutional Strengthening Project, which was funded by Green Fund.

The Club's part-time Office Director and Secretary have facilitated improved net-working among Gosse Bird Club members and with environmental agencies. This welcomed administrative support has been accompanied by an overwhelming demand on the Club's human and physical resources.

The Gosse Bird Club continues to contribute to national decisions on ornithological issues through its collaboration with the NRCA by representation on the Scientific and Technical Advisory Committee of the Blue and John Crow Mountains National Park.

The Club is:

(1) currently responsible for the project, *Inventory of Birds in the Blue and John Crow Mountains*. The Project Leader

is Marcia Mundle and the funding agencies are the National Fish and Wildlife Foundation (NFWF) and USAID.

(2) partially responsible for the study of the *Biology, Distribution, and Natural History of the Jamaican Amazon Parrots*. The Project Leader is Susan Koenig (Wildlife Preservation Trust International [WPTI]) and the funding agencies are WPTI and Environmental Foundation of Jamaica.

(3) providing support for the *Study of Effects of Habitat Fragmentation on Bird Communities in the Buffer Zone of the Blue and John Crow Mountains National Park*. The researcher is Suzanne Davis (University of the West Indies) and the funding agencies are NFWF and USAID.

Schools and community groups have begun to value birds through wildlife education and the club has been flooded by requests for talks, slide shows, bird watches, and resource material. Consequently, the Gosse Bird Club is in the process of developing an illustrated teacher's guide and posters for distribution with the field guide *Birds of Jamaica* (Downer and Sutton 1990).

Much more work needs to be done to implement effective conservation strategies for birds. However, the increasing tendency toward information sharing, collaboration, and community involvement is encouraging and is definitely a step in the right direction.

ISLAND REPRESENTATIVE REPORTS

RESEARCH AND ORNITHOLOGICAL ACTIVITIES IN THE BAHAMAS

CAROLYN WARDLE
Representative for The Bahama Islands

RESEARCH

Several scientific researchers continue to conduct activities in the Bahamas. The following are the most recent research permits issued:

David S. Lee, North Carolina State Museum of Natural History — Study of neotropical migrant land birds, tropicbirds, and Audubon's Shearwater breeding in the Bahamas

Nancy Staus, University of Minnesota — Research on whistling-ducks in Long Island

Paul Allen, Cornell University, University of Montana — Breeding Bahama Swallows on Grand Bahama

James W. Armacost, Jr., Mississippi State University — Breeding biology of the Thick-billed Vireo

John Barlow and Marlene Walker, Royal Ontario Museum — Study of the inter-island variation of Thick-billed Vireos

Lowell Overton, University of Arkansas — Genetic studies of the West Indian Woodpecker

PERMITS ISSUED

- The Ministry of Agriculture has issued permission to Ardastra Gardens to collect young parrots from Inagua for their captive breeding program. Capture was attempted in 1995 and 1996, but to date has been unsuccessful.
- The Bahamas National Trust issued permission for collection of Greater Flamingos in Inagua this year. Collection was not possible because the flamingos did not nest in 1996. Records show that during exceptionally dry periods the flamingos have not nested.

KIRTLAND'S WARBLER SIGHTING

Of note is David Lee's sighting of a Kirtland's Warbler in Abaco National Park in Fall 1996.

BAHAMAS NATIONAL TRUST ORNITHOLOGY GROUP

The Bahamas National Trust Ornithology Group is quite active, including:

- Beginning in 1994 the Group has conducted the annual Audubon Christmas bird count. The Bahamas were credited with the most species counted for the region in 1994.
- The Group conducts monthly walks, monitoring the Botanic Gardens for the Ministry of Agriculture and keeping an eye on other prime areas of habitat.
- They will begin to create a computerized data base with the information collected from the last four years this fall.
- They are also helping the Ministry of Tourism by organizing extra educational birdwalks for Bahamians working toward certification as bird tour guides.
- The Bahamas National Trust Ornithology Group, the Ministry of Agriculture, and the College of the Bahamas have entered into a partnership with the Partners-in-Flight Program of the North Carolina State Museum of Natural History

BIRD CONSERVATION ACTIVITIES IN TRINIDAD AND TOBAGO: 1995–1996

Gerard Alleng
Representative for Trinidad and Tobago

Government Initiatives

Caroni Swamp

The Government of Trinidad and Tobago received a loan from the Inter-American Development Bank for the undertaking of six environmentally related projects throughout the country. One of these projects is the development of the Caroni Swamp National Park. The project is separated into various components, the major component being the development of a Visitor's Center, and ancillary works of board walks, picnic facilities, trails, and bird-viewing towers. The project began in early 1995, but the construction of the Visitor's Center was temporarily halted in February 1996 because of financial difficulties. However, it is expected that work on the site will soon resume.

One of the components which is directly related to the conservation of birds in Trinidad and Tobago, is the component aimed at determining the feasibility of re-establishing a freshwater marsh community in the eastern sector of the Caroni Swamp. The principal reason for this component is an attempt at the re-establishment of the nesting of the Scarlet Ibis (*Eudocimus ruber*; one of the national birds of Trinidad and Tobago) in the Caroni wetland. The nesting of the species ceased sometime in the seventies, and it has been suggested that this was due to a reduction in the freshwater marsh community. This was the primary feeding habitat for the young ibises, which required a salt-free diet. However, hydrological changes occurred in the area mainly as a result of salt water intrusion. This subsequently resulted in a change in the vegetation from a predominantly freshwater condition to a saltwater one (mangroves). The project is an attempt to reverse this change by the implementation of corrective measures such as embankments.

The project involves investigations into the population of *E. ruber* in the wetland, the ecology of the remaining marsh community, and the possible impacts on the water supply and fisheries of the Caroni wetland when corrective engineering is applied. The project was begun in November 1995 by the Zoology and Engineering Departments, University of the West Indies, St. Augustine.

Nariva Swamp

The final report of the application of the Ramsar Convention's Monitoring Procedure to the Nariva wetland was presented to the Government of Trinidad and Tobago in February 1996. Some of the recommendations of the report include the development of a detailed management plan for the area and the restoration of marsh communities previously destroyed by rice cultivation. The Nariva wetland is Trinidad and Tobago's Ramsar site.

Development of a National Wetland Policy

A draft of a National Wetland Policy for Trinidad and Tobago was prepared by the National Wetlands Committee of Trinidad and Tobago during 1995–1996 and was presented for public comment in April 1996. The rationale for the policy is to prepare guidelines which will direct the efforts at the protection and wise use of Trinidad and Tobago's wetland resource heritage. The policy is divided into five programs: (1) Public Awareness, (2) Management for Publicly owned Wetlands, (3) Protected Wetlands, (4) Cooperative Wetland Protection , and (5) Wetland Studies. These programs will directly affect the protection and use of the large avian component of the wetlands in the country.

Development of a National Wildlife Policy

A draft version of a Strategic Plan for Conserving the Wildlife of Trinidad and Tobago was presented in 1995. The document was prepared to direct changes in the Conservation of Wildlife Act of 1958, which is the central piece of wildlife legislation in Trinidad and Tobago. It was determined that the Wildlife Act was woefully inadequate and needed prompt upgrading to ensure the sustainable management of the nation's wildlife resources. The draft strategic plan will directly affect the avian resources of Trinidad and Tobago as the definition of "animal" in the Wildlife Act incorporates birds, their eggs, carcass, meat, nest, or young.

Research Initiatives

There are two research projects in progress at the Zoology Department, University of the West Indies, which are directly related to the conservation of birds in Trinidad and Tobago. The first is entitled, "An investigation of the status of palm swamp forest habitat in relation to the conservation of Psittacidae in Nariva Swamp." This project is in its second year. The information obtained from this project will be useful to the current conservation efforts being undertaken in the country's only Ramsar site.

The second project is, "Determining the status of marsh-dependent avifauna of Caroni Swamp, Trinidad in relation to restoration and management of a degraded wetland." This project is in its first year and will provide background information for the larger project aimed at the restoration of the freshwater swamp community in the eastern section of the Caroni wetland.

ST. LUCIA

DONALD ANTHONY
Representative for St. Lucia

ST. LUCIA PARROT (*AMAZONA VERSICOLOR*) PROJECT

A record number of parrot nests were found this nesting season, bringing to 42 the total number of nests that were monitored at some time during the nesting season (Table 1).

Table 1. Status of St. Lucia Parrot nests monitored during the 1996 nesting season.

Total number of nests monitored	42
Active nests	19
Non-active nests	22
Nests that failed	12
Nests that fledged 2 chicks	3
Nests that fledged 1 chick	4

The last fledging occurred at the end of June. Pearly-eyed Thrasher (*Margarops fuscatus*) nesting activity was observed in a few parrot nests and this indicates that the thrashers nest later than the parrots. The areas scouted where parrot nesting activity was discovered represents only a tiny part of the parrot habitat. With this in mind and knowing that the parrots are nesting essentially in all of their range, we have just scratched the surface in terms of parrot nest finds.

Highlights of the season include:

- Record number of nests found
- One parrot nest found with 3 chicks
- Largest flock of parrots found feeding in a single tree – 43
- First chick fledged was captured on film by cameraman of the BBC Natural History Unit
- Parrot crew learned new rope climbing technique
- First eye-witness of a parrot chick death
- Most measurements of chicks taken this season
- Most nest trees spiked and measured
- Parrot crew learned the technique of crop sampling

ST. LUCIA WHIPTAIL (*CNEMIDOPHORUS VANZOI*)

Translocated lizards on Praslin Island have reproduced and it is possible that F_3 generation offspring should be running around soon. The following is justification for this optimism:

- May 1995 — Seven whiptail pairs were translocated to Praslin Island after the first translocation failed because of mongoose predation.
- August 1995 — First F_1 offspring seen on Praslin Island.
- January 1996 — Gravid F_1 females seen on Praslin.

From "bone dry" conditions in the dry season, the island responded with an explosion of plant growth at the onset of the rains. Insects are abundant and the lizards are thriving. A nature trail on Praslin Island is nearing completion.

GRANDE ANSE

The final project proposal for the development of Grande Anse Estate as an eco-tourism resort was submitted to Cabinet by the Grande Anse Advisory Committee. Bill Toone (San Diego Zoological Society, USA) was instrumental in the latest initiative toward the purchase of Grande Anse Estate. He is now pursuing efforts to raise funds for the project in the United States. In St. Lucia, Toone visited Grande Anse Estate and saw some of the species for which the area is famous. He also held meetings with all the major players and stack holders in the Estate.

PARROT CONFERENCE

A parrot conference will be held in St. Lucia from 11-14 August 1996. Several papers will be presented on parrot research projects in St. Lucia and Jamaica, together with other parrot research activities in the region. Participants are expected from the Caribbean region, United States, Canada, Mexico, and the United Kingdom. A census of the St. Lucia Parrot will be undertaken during the conference, as many parrot experts will be present.

NEW DISCOVERY

On 28 January an endemic subspecies, the St. Lucia Wren (*Troglodytes aedon maesoleocos*) was discovered on the long loop of the Union Nature Trail. This form is known to occur only along the Grande Anse to Louvert Belt and on Gros and Petit Pitons.

ROSEAU DAM PROJECT

Roseau Dam, the largest freshwater dam in the Eastern Caribbean States, was officially opened in February 1996. The reservoir is over 2 km long and contains over 700 million gallons of water. The Roseau River watershed is the longest in St. Lucia and the dam is serviced by a protected watershed of over 3000 acres of rain forest. However, a small part of a farming community had to be relocated and some 300 acres of private and Crown Lands reforested because they were within the dam watershed. Reforestation works are continuing using natural forest species as much as possible. This area is one of the strongholds of the St. Lucia Parrot and the additional 300 acres of forest will provide more habitat and forage areas for the species.

ENVIRONMENTAL EDUCATION

Environmental education is an on-going activity, and lectures and slide shows are given to various groups, schools, and farmers on request. Topics vary from "The importance of soil and water conservation," to "Birds of Grande Anse," or

"Why conserve forests?" A recently held workshop on environmental education for secondary school teachers was well attended. This is an annual event and participation keeps increasing.

A total of 3976 children participated in the zoo education program. Over 4000 persons from 20 communities participated in various education activities ranging from eco-tourism to reptile conservation to solid waste management. Over 5000 persons visited our five rain forest trails.

GUIDELINES FOR DUTIES OF ISLAND REPRESENTATIVES

The following are the guidelines for duties of Island Representatives agreed on at the SCO meeting in Nassau; August, 1996.

1. Promote the SCO in their island:
   a) encourage membership
   b) disseminate information
   c) encourage paid members to vote
2. Provide and coordinate three contributions to coincide with the publication of *El Pitirre*, one of which will be the annual report.
3. Representatives who attend the annual meeting will be expected to give a written report of the meeting, especially on issues which are important to their particular country.
4. Serve as contact persons for visiting scientists and research groups.

Island Representatives are asked to send a communication to the Treasurer by 15 March to say if they have secured or have applied for funding to attend the meeting.

Representatives who need funding are also asked to apply by 15 March. Priority will be given to representatives who can secure matching funds; e.g., airfare or accommodations. Applicants must be Caribbean nationals or are residing in the region.

RESOLUTIONS DEVELOPED AT SCO MEETING IN NASSAU

DRAFT RESOLUTION:

CONSERVATION OF THE WHITE-CHEEKED PINTAIL IN THE WEST INDIES

WHEREAS a recent survey has shown that the White-cheeked Pintail (*Anas bahamensis bahamensis*) has declined precipitously in numbers over much of its range during the last century;

WHEREAS this decline is caused by human factors including overhunting, poaching, introduction of non-native predators, and habitat destruction;

WHEREAS the White-cheeked Pintail is one of only several waterfowl species resident in the West Indies;

THEREFORE BE IT RESOLVED THAT the Society of Caribbean Ornithology urges governments of all West Indian islands to:

1. Inform the public (through educational programs) of the decline of the White-cheeked Pintail in the West Indies in order to increase awareness of, and support for, their islands;
2. Establish a monitoring program of White-cheeked Pintail populations inhabiting their islands;
3. Establish reserves encompassing all wetland types utilized by White-cheeked Pintails throughout the year;
4. Monitor and control predator populations on offshore cays and other areas used by females for nesting;
5. Establish legal protection (if not already available) and employ wardens to ensure that hunting laws are enforced.

Submitted by Lisa G. Sorenson and Bethany L. Woodworth

DRAFT RESOLUTION: NATURE TOURISM IN THE CARIBBEAN

RECOGNIZING that tourism plays a vital role in the economies of most Caribbean countries and contributes greatly to the financial stability of this region;
OBSERVING that nature tourism or "eco-tourism" is a growing component of the Caribbean tourism industry and that its promotion is increasing within the region;
RECALLING that the mission of the Society of Caribbean Ornithology is to promote the study and conservation of birds and their habitats in the Caribbean;

THE SOCIETY OF CARIBBEAN ORNITHOLOGY

AGREES that nature tourism in the Caribbean can play a role in the conservation of birds and their habitats; but to do so,
RECOMMENDS THAT

(a) Mechanisms must be put in place to ensure that the wildlife resource will continue to exist and be protected from developmental pressures [to ensure sustainable use]. For example, prime birdwatching areas need to be protected as National Parks, Nature Reserves, or protected areas.
(b) Environmental impacts to ecosystems where these resources live need to be minimized to ensure that the wildlife resource can survive. For example, pollution, solid waste management practices, and drainage of wetland areas may affect waterbird populations that are attractive to birdwatchers.
(c) Partnerships among wildlife resource and environmental agencies, non-government conservation organizations, tourism ministries and industry, scientists, and local communities are vital in ensuring that nature tourism meets its objective of conserving biodiversity. Resource management plans and national tourism strategies need to be cooperative, multi-disciplinary, and integrative efforts.
(d) Nature tourism should enhance and facilitate conservation benefits to the wildlife resource. For example, landscaping and planting efforts around hotels or tourist areas should be of native species to encourage their use by native birds.
(e) Nature tourism needs to provide direct economic benefits to wildlife resource agencies, conservation organizations, and local communities to ensure the conservation of the wildlife resource. For example, visitors could be required to pay a visitor's fee to enter National Parks and such user fees should be returned to the agency managing the resource and the local community.
(f) Local communities should be involved in the process at all levels: such as decision-making and providing trained guides, and they should derive conservation and economic benefits as well.
(g) Nature tourism ventures initiate *in-situ* public education campaigns.
(h) The establishment of training programs for local and community residents as nature tour guides become a critical component of any nature tourism venture.
(I) Governments, tour agencies, and non-government organizations should quantify the benefits and results of nature tourism and monitor the effects of such tourism on the wildlife resource.

Submitted by: Rosemarie S. Gnam, Ph.D. and Catherine Levy; Supported by: Gosse Bird Club

Targeted to:
Government ministries (tourism and natural resource)
The Caribbean Tourism Organization
UNEP regional program in the Caribbean
The World Bank and Inter-American Development Bank
Appropriate conservation organizations working in the Caribbean
Caribbean bird tour operators and businesses.

RESOLUTION: APPRECIATION TO THE ORNITHOLOGY GROUP OF THE BAHAMAS NATIONAL TRUST AND THE MEMBERS OF THE LOCAL COMMITTEE

The Society of Caribbean Ornithology wishes to express its deepest appreciation to the Ornithology Group of the Bahamas National Trust and the members of the Local Committee for their assistance with the Annual Meeting. SCO gratefully acknowledges the dedication of these workers in planning and hosting the meeting. A special note of thanks to the Local Committee Chair, Ms. Carolyn Wardle, who worked diligently to make things "better in the Bahamas" for the SCO.

SCO was heartened by the spirit of hospitality within the Bahamas. South Ocean extended us a warm welcome and made our meeting arrangements feel like we were at home. We were especially gratified to see the commitment of the Ministry of Agriculture, Tourism, the Bahamas National Trust, other local organizations, the College of the Bahamas, and the Bahamian people toward the conservation of birds and their habitats.

SCO hopes to assist the Bahamas in their future conservation efforts and to establish a long, cooperative relationship with the Bahamas.

DRAFT RESOLUTION: CAÑO TIBURONES

WHEREAS Caño Tiburones, located between Río Grande de Arecibo and Río Grande de Manatí, is the largest natural freshwater wetland in Puerto Rico;
WHEREAS the Puerto Rico Department of Natural and Environmental Resources has recognized the unique conservation values of Caño Tiburones and recommends its designation as a Natural Reserve;
WHEREAS at least 45 species of aquatic birds have been recorded in Caño Tiburones;
WHEREAS Caño Tiburones has been drained by means of pumping since 1949, thus depleting severely the wetland's avian populations;
RECOGNIZING that protection of Caño Tiburones is of great conservation significance for populations of the locally threatened or endangered White-cheeked Pintails, Masked Ducks, Caribbean Coots, and West Indian Whistling-Ducks, and the federally endangered Brown Pelican;
OBSERVING that in 1995, when the pumps were not operating and water reached its natural levels, waterbird populations and the reproductive activity of native waterfowl species increased markedly;
OBSERVING that in 1996, after pumping operations were resumed, waterfowl breeding attempts were disrupted, brood survival was adversely affected, and waterbird populations were displaced;
RECALLING that the mission of the Society of Caribbean Ornithology is to promote the study and conservation of birds and their habitats in the Caribbean;

THE SOCIETY OF CARIBBEAN ORNITHOLOGY

AGREES that Caño Tiburones is unique, irreplaceable, and represents important habitat for migratory and resident avian species in Puerto Rico;
RECOMMENDS THAT
(a) All draining activities be suspended immediately.
(b) All wetlands be transferred from the Puerto Rico Land Authority to the Puerto Rico Department of Natural and Environmental Resources, as it was done in the case of the Humacao Wildlife Refuge, southeastern Puerto Rico.
(c) Caño Tiburones be designated and managed as a Wildlife Refuge by the Puerto Rico Department of Natural and Environmental Resources.
(d) The local communities surrounding Caño Tiburones be informed through an education campaign of the benefits to conservation and the economic benefits to the local economy from the ensuing ecotourism.

Submitted by: José Colón, Pablo Torres–Báez; Society of Puerto Rican Ornithology

Target to:
Honorable Pedro Rosello
Governor of Puerto Rico
La Fortaleza, Apartado 82
San Juan, Puerto Rico 00901

Honorable Pedro Gelabert
Secretary
Puerto Rico Department of Natural and Environmental Resources
Apartado 5887
Puerta de Tierra, Puerto Rico 00906

Ramsar Office, Switzerland
U. S. Fish and Wildlife Service

DRAFT RESOLUTION: ESPECIES EXÓTICAS

POR CUANTO las especies exóticas representan un riesgo ecológico a la flora y fauna nativa de Puerto Rico;
POR CUANTO esta reconocido por la comunidad científica mundial que las especies exótias representa un peligro substancial a las especies y ecosistemas nativos;
POR CUANTO está reconocido por la comunidad científica mundial que los sistemas isleños son más vulnerables a los efectos adversos de las introducción de exóticos;
POR CUANTO en Puerto Rico se han reportado aproximadamente 70 especies de aves exóticas en el estado silvestre de las cuales ninguna fue introducida por acción oficial;
POR CUANTO el costo de remediar los impáctos ecológicas adversos a la flora, fauna y bienestar del pueblo de Puerto Rico y otros ecosistémas a nivel mundial son onerosos;
REAFIRMANDO que la misión de la Sociedad Ornitológica Caribeña es promover el estudio y la conservación de las aves y sus hábitats en el Caribe;
ESTA DE ACUERDO que el mercadeo de aves exóticas consituye un peligro inminente a la integridad de la biodiversidad Isleña;
POR TANTO RECOMIENDA QUE:
(a) Que el Departamento de Recursos Naturales y Ambientales de Puerto Rico prohiba la entrada de aves exóticas a la Isla;
(b) Que se implante una campaña de educación ambiental para informar al público en general de los beneficios de fomentar la conservación de la flora y fauna de la Isla y las consecuencias adversas a nuestra fauna y flora por la presencia de aves exóticas en Puerto Rico.

Presentada por: José Colón, Pablo Torres-Báez; Sociedad Ornitológia de Puerto Rico

Enviar a:

Honorable Pedro Gelabert
Secretary
Puerto Rico Department of Natural and Environmental Resources
Apartado 5887
Puerta de Tierra, Puerto Rico 00906

Honorable Pedro Rosello
Governor of Puerto Rico
La Fortaleza, Apartado 82
San Juan, Puerto Rico 00901

DRAFT RESOLUTION: CABO ROJO SALT FLATS

WHEREAS the Cabo Rojo salt flats is the largest system of its kind in Puerto Rico;
WHEREAS wetland and shoreline habitats are under increasing pressure from human encroachment in the Caribbean;
WHEREAS the Cabo Rojo salt flats serve as a migratory stopover and wintering site for at least 24 species of migratory shorebirds and breeding habitat for 4 shorebird species;
WHEREAS the Cabo Rojo salt flats also serves as breeding and wintering grounds for at least another 70 terrestrial and aquatic avian species, including some designated as threatened or endangered;
RECOGNIZING that the Cabo Rojo salt flats support a salt extraction operation important to the economy of the local communities of Pole Ojea and El Combate;
RECALLING that the mission of the Society of Caribbean Ornithology is to promote the study and conservation of birds and their habitats in the Caribbean;

THE SOCIETY OF CARIBBEAN ORNITHOLOGY

AGREES that the Cabo Rojo salt flats are unique, irreplaceable, and represent important habitat for migratory and resident avian species locally and regionally;
RECOMMENDS THAT

(a) The United States Congress appropriates to the U. S. Fish and Wildlife Service from the Land and Water Conservation Fund the necessary funds to acquire and protect the Cabo Rojo salt flats.
(b) The Commonwealth of Puerto Rico Department of Natural and Environmental Resources and the Western Hemisphere Shorebird Reserve Network designate the Cabo Rojo salt flats as a site of local and regional importance for resident and migratory shorebirds.
(c) Management of the Cabo Rojo salt flats should be coordinated with other Commonwealth and Federal management units abutting or in close proximity to the salt flats to maximize wildlife conservation benefits.
(d) The local communities of Pole Ojea and El Combate be informed through an education campaign of: 1) the benefits to conservation, 2) the economic benefits to the local economy from the ensuing ecotourism, and 3) that the salt extraction operation is a compatible activity with envisioned conservation goals for the salt flats.

Submitted by: José Colón, Society of Puerto Rican Ornithology

Targeted to:

Honorable Bruce Babbit
Secretary of the Interior
U. S. Department of the Interior
Washington, D. C. 20240

Senator Slade Gordon
Chairman, Interior Appropriations Subcommittee
United States Senate
Washington, D. C. 20510
Attn.: Kathleen Wheeler

Representative Ralph Regula
Chairman
Interior Appropriations Subcommittee
U. S. House of Representatives
Washington, D. C. 20515
Attn.: Deborah Weatherly

Senator Robert C. Byrd
Ranking Member, Interior Appropriations Subcommittee
United States Senate
Washington, D. C. 20510
Attn.: Sue Masica

Representative Sydney Yates
Ranking Member
Interior Appropriations Subcommittee
U. S. House of Representatives
Washington, D. C. 20515
Attn.: Del Davis

Draft Resolution: Cabo Rojo Salt Flats (continued)

Representative José Serrano
House Appropriations Committee
U. S. House of Representatives
Washington, D. C. 20515

Honorable Carlos Romero Barcelo
Resident Commissioner
U. S. House of Representatives
Washington, D. C. 20515

Draft Resolution: CONDOLENCES ON THE DEATH OF ROGER TORY PETERSON

WHEREAS the Society of Caribbean Ornithology learned of the death of Roger Tory Peterson only a few days before our annual general meeting in August; and
WHEREAS R. T. Peterson has been recognized as the instigator of the movement which popularized bird watching as a driving force in ornithology research and conservation through his illustrated field guide concept;
RECOGNIZING that this organization might not even exist without his pioneering contribution;
BE it resolved that the members of the Society of Caribbean Ornithology wish to acknowledge his immense contribution and extend their deepest sympathy and appreciation to his family.

Abstracts of Papers Presented at the 1996 Annual Meeting of SCO at Nassau, Bahamas

IMPORTANCIA DE LOS ECOSISTEMAS URBANOS EN LA CONSERVACION DE LA AVIFAUNA INSULAR

Simón Guerrero
Laboratorio de Conducta Animal, Universidad Autónoma de Santo Domingo

En esta trabajo se insiste en la importancia de manejar los ambientes urbanos con criterios ecologicos, particularmente en el Caribe insular, debido a la fragilidad inherete a los ecosistemas isleños y al desarrollo caótico de sus ciudades. Se describen algunas de las tareas realizadas con el fin de mejorar los ecosistemas urbanos, tales como la siembra de árboles y arbustos nativos en parques y áreas verdes, inventarios de aves silvestres en áreas urbanas, distribución de nido artificiales con el fin de mejorar las poblaciones de aves que crían en la ciudad y propuestas de creación de mini-refugios de vida silvestre. Finalmente, se discuten las implicacions educativas del proyecto.

LOGROS RECIENTES EN EL PROYECTO DE RECUPERACION DE LA COTORRA PUERTORRIQUEÑA (*AMAZONA VITTATA*)

Pablo Torres-Báez
U. S. Fish and Wildlife Service, Río Grands Field Office, P.O. Box 1600, Río Grande, PR 00745

La cotorra puertorriqueña (*Amazona vittata*), el último pscitácido endémico a las islas de la plataforma insular de Puerto Rico, está considerada entre las 10 especies de aves en mayor peligro de extinción en el mundo. Las razones principales para estar al borde de la extinción fue debido a la deforestación masiva de la isla a principios de siglo y a que anteriormente era cazada y se hurtaban los picnones de las cavidades para su venta como mascotas. En 1968 se inician los esfuerzos de conservación y se estimaba una única poblacion silvestre de 24 individuce en el Bosque Nacional del Caribe en la Sierra de Luquillo. En 1972 se inician los esfuerzos de propagación en cautiverio. Para agosto de 1989 se estimba la población silvestre en 45-47 individuce. En septiembre de 1989 el huracán Hugo impactó severamente la Sierra de Luquillo provocando una pérdida aparente de 50% de la población silvestre. A partir de esta merma se intensificaron los esfuerzos de conservación y manejo, aumentando las observaciones de la población y modificando la vigilancia de nidos para maximizar la producción. Las nuevas ténicas de manejo que han sido implantadae han llevado la población silvestre a 40 individuos luego del paso del huracán.

UTILIZACIÓN DE LA INFORMACIÓN BIBLIOGRÁFICA Y REGISTROS DE COLECCIONES PARA EL ATLAS DE LAS AVES NIDIFICANTES DE CUBA

BÁRBARA SÁNCHEZ ORIA[1], S. PERIS, A. LLANES[1], D. RODRÍGUEZ[1], HIRAM GÓNZALEZ[2], PEDRO BLANCO[1] Y M. E. GARCÍA[1]
[1]*Instituto de Ecología y Sistematica, Carretera de Varona Km 3-1/2, Boyeros, Ciudad de Habana, C.P. 10800, Cuba;* [2]*Museo Nacional de Historia Natural*

El Atlas de las aves nidificantes de Cuba ha sido planteado para ofrecer la distribución y estado poblacional de las 145 especies de aves que nidifican en Cuba (Peris et al. 1995). El territorio cubano ha sido dividido en 121 cuadrículas y subdividido a su vez en 4 sobre la base del mapa 1:50,000 lo que produce rectángulos de 18.5 x 25 km^2. Se emplearon las categorias de evidencia reproductivas según los criterios de Sharrock (1975). Fue recopilada la información de los trabajos publicados con referencia sobre la distribución de las aves cubanas y la depositada en las colecciones zoológicas del Instituto de Ecología y Sistematica y del Museo Nacional de Historia Natural en una base de datos, que será utilizada en la confrección de dicho Atlas. La base de datos cuenta actualmente con más de 8000 registros y ha permitido reconocer las cuadrículas con mayor riqueza de especies, cuyos resultados están en correspondencia con las áreas que más se han estudiado y además aquellas que requieren ser prospectadas en el campo. Se da a conocer el mapa de distribución preliminar del Tocororo (*Protelus temnurus*).

RESULTADOS PRELIMINARES SOBRE EL STATUS Y ALGUNOS ASPECTOS ECOLÓGICOS DE LA YAGUASA CRIOLLA (*DENDROCYGNA ARBOREA*) EN CUBA

MARTÍN ACOSTA CRUZ[1], LOURDES MUGICA VALDÉS[1] Y ARMANDO ALBO[2]
[1]*Facultad de Biología, Universidad de La Habana, Cuba;* [2]*Ministerio de la Agricultura, Cuba*

Se ofrece información sobre la distribución actual de la Yaguasa Criolla (*Dendrocygna arborea*) en Cuba y se dan elementos sobre su abundancia en las diferentes provincias. Al parecer el aumento del cultivo del arroz en el pais ha conllevado un aumento del número de efectivos en la mayoría de las localidades. Se discute sobre su alientación en la arrocera de Amarillas (n = 8) y algunos datos sobre la nidificación.

ECOLOGY AND CONSERVATION OF A SEDENTARY TROPICAL DUCK IN THE BAHAMAS: THE WHITE-CHEEKED PINTAIL (*ANAS BAHAMENSIS BAHAMENSIS*)

LISA G. SORENSON, BETHANY L. WOODWORTH, LORE RUTTAN, AMY HARTH, AND FRANK MCKINNEY
Museum of Zoology, Bird Division, University of Michigan, Ann Arbor, Michigan 48109-1079, U. S. A.

The White-cheeked Pintail (*Anas bahamensis bahamensis*) has declined drastically over much of it's range in the West Indies during the last century. A recent survey showed that populations number only in the hundreds on most islands where the pintail still exists. Population declines are likely caused by 1) overhunting and poaching, 2) nest predation by introduced rats, mongoose, raccoon, and feral cat, and 3) loss of habitat. Our 3-year field study on the ecology and population biology of a marked population in the Bahamas provides some of the information necessary for planning effective conservation measures. We found that adult survival rates are high if the population is protected from hunting. Annual production of young is low, however, due to low reproductive rates. An average of 34% of marked females made no attempt to breed each year, and the frequency of renesting by females whose first nest was destroyed was low. Several lines of evidence suggest that low reproduction is due to 1) insufficient food supplies in the pintail's hyper-saline wetland habitats, and 2) nest predation by rats. Censuses showed that adults were largely sedentary, with birds using a complex of wetlands on three islands. Dispersal rates of young were low. Based on these and other results, the following conservation measures are suggested: 1) reserves which encompass different wetland types (to meet the needs of birds at different times of the year) should be established; 2) predator populations on cays used by females for nesting should be monitored and controlled; 3) due to low dispersal rates, reintroduction should be considered for islands where pintails have been extirpated; 4) wardens

should be employed to ensure that hunting laws are enforced; and 5) inform the public (through educational programs) of the decline of the White-cheeked Pintail in the West Indies to increase support for programs intended to reverse this decline.

RECENT PUBLICATIONS

THE SCIENTIFIC SURVEY OF PUERTO RICO AND THE VIRGIN ISLANDS: AN EIGHTY-YEAR REASSESSMENT OF THE ISLANDS' NATURAL HISTORY. Edited by Julio C. Figueroa Colon. Annals of the New York Academy of Sciences Vol. 776. Papers originally presented at a symposium held Nov. 15, 1993 at Sacred Heart University, San Juan, P.R. 1996. ISBN 0-89766-949-5 (cloth), ISBN 089766-950-9 (paper). Illus. Subject and contributor indices. xi + 273pp. $80.00.—At a council meeting of the New York Academy of Sciences in November 1912, Dr. Nathaniel Lord Britton proposed a rather bold long-term research project: a comprehensive survey of the physical and natural history of Puerto Rico. The Council approved that action and the Academy embarked on a project that eventually filled 19 volumes as the *Scientific Survey of Porto Rico and the Virgin Islands*, which contained one of the most complete descriptions of the natural history of any tropical area. In November 1993, almost 81 years to the day since the Academy meeting, a commemorative one-day symposium was held at Sacred Heart University in San Juan, Puerto Rico. This volume is the product of that symposium.

Following an introduction and dedication (to Roy O. Woodbury, who has made important contributions to the study of the region's plants), 17 chapters examine most of the topics covered in the original Survey. Each of the presentations includes a summary of the work accomplished by the Survey, a review of work conducted in the region since, and an evaluation of research opportunities for the future. Simon Baatz provides a detailed history of the Survey, whereas Thomas W. Donnelly evaluates the history of the development of geology in Puerto Rico. Eight papers are devoted to several botanical topics, two to insects (J. Maldonado Capriles and Stuart J. Ramos), two others to other invertebrates (Sonia Borges), and one each to land mammals (Charles A. Woods), herpetology (Richard Thomas and Rafael Joglar), and ornithology (James Wiley). Ricardo E. Alegria examines archaeological research in the region.

The chapter on ornithological research (pp. 149-179) summarizes Alexander Wetmore's monumental field work in Puerto Rico (1911-1912), which stands today as among the finest conducted in the region. A brief overview is then provided on regional advances in ornithology since Wetmore's work, with sections on work in the Virgin Islands and Puerto Rico and its satellite islands of Mona, Monito, Vieques, Desecheo, and the Culebra Archipelago. An extensive bibliography of 234 references to the birds of Puerto Rico and the Virgin Islands is included.—*James W. Wiley.*

THE CAYMAN ISLANDS: NATURAL HISTORY AND BIOGEOGRAPHY, edited by M. A. Brunt and J. E. Davies. Kluwer Academic Publishers, Dordrecht, The Netherlands. 1994. 604 pp. 20 x 26.5 cm. 22 color plates, numerous black-and-white photographs and figures, in-text maps and 3 separate color maps. Bibliography. Index. ISBN 0-7923-2462-5. Hardbound. US$230.—The original concept for the publication of a comprehensive treatise on the natural history of the Cayman Islands came to Dr. D. R. Stoddart during a visit to Grand Cayman in 1984. He followed through on that idea by securing the support of the many authors, along with the publisher and even the Cayman Islands Government. Indeed, the Cayman Islands Government made a substantial commitment to the project by sponsoring several special studies to fill gaps in the knowledge of the biogeography of the region. Twenty years after Stoddart's original concept of the work, this most impressive treatise was published. As stated in the Preface, the purpose of the book is to bring together scattered information and to present a coherent account of the biogeography and ecology of the Cayman Islands in an easily available reference that could serve as a foundation on which future work would be based.

The book contains 25 chapters contributed by 30 authors and co-authors. These chapters include an overview of the scientific studies in the islands, geology, climate and tides, ground water, reefs and lagoons (2 chapters), marine algae, marine invertebrates (3 chapters), marine fishes, vegetation (3 chapters), terrestrial invertebrates (3 chapters), birds, mammals, amphibians and reptiles, and Late Quaternary fossil vertebrates. Two chapters present information on environmental change and rare and endemic plant and animal conservation. The extensive (14 page) bibliography is a useful compilation of sources for the region. Three indexes (general, genera and species, and cited authors) provide convenient access to the text. A series of 22 beautiful color plates of marine and terrestrial subjects introduce the reader to the spectacular array of organisms inhabiting these islands.

Of particular interest to Society members is the fine chapter, "The avifauna of the Cayman Islands: an overview," by SCO member Patricia E. Bradley. Here the reader is provided a good history of the study of birds in the Cayman Islands, followed by detailed analyses of the derivation of the avifauna, landbird affinities, the present avifauna, migrant birds, breeding birds, and landbird ecology. Gary Morgan's chapter on fossil vertebrates provides a fascinating examination of the islands' former fauna, including birds.

The single volume comes with a handsome slip-case, and

three color maps (Grand Cayman west, Grand Cayman east, and Cayman Brac and Little Cayman). It is dedicated to the memory of Dr. Marco Enrico Clifton Giglioli (1927-1984), who founded the Mosquito Research and Control Unit in the Cayman Islands and was the stimulus for much of the research conducted in the islands.

This ambitious work certainly is a comprehensive account of the current knowledge of the subjects and will stand as the starting point for future research on the islands' resources. Unfortunately, the staggering price of US$230 puts it out of reach for most of our private libraries. Nevertheless, this is an essential reference for those working in the Caymans and surrounding islands.—*James W. Wiley*

AVES DE LA ISLA DE CUBA, by Juan Lembeye. 1850. Edición facsímil. Presentación de Manuel Fraga Iribarne. Introducción de Francisco Díaz-Fierros Viqueira. Madrid: Xunta de Galicia. 1995. xlvi + 139 pp. 20 plates. softbound. ISBN 84–453–1357–6.—At long last this important publication is available at a decent price. After searching for years for an original 1850 copy of Lembeye's book, I located a tattered copy at a book fair in La Habana last year. This year I was pleasantly surprised to find this splendid facsimile edition at the same fair. In addition to the facsimile of Lembeye's *Aves*, Francisco Díaz-Fierros Viqueira has provided an excellent history of Lembeye life and work, with important material from his time in Cuba.

Lembeye, who apparently began work in Cuba in the 1830s, made substantial contributions to the knowledge of Cuba's birds. In his Aves he provided synonomys, measurements, and distribution, status, and natural history data for those species known to him. Lembeye's *Suplemento* and and *Indice de las aves descriptas* (with common and scientific names) are included as in the 1850 issue. Also, D'Orbigny's (*in* La Sagra 1839) *Catalogo de las aves observadas en la isla de Cuba hasta octubre de 1850* is appended.

Perhaps the most intriguing aspect of Lembeye's work is its illustrations -- hand-colored line cuts, nicely reproduced in the facsimile edition. These illustrations "borrow" liberally from John James Audubon's famous bird art. Almost all of the 20 plates in Lembeye's *Aves* were lifted, in one form or another, from Audubon's *The Birds of America*. Several of these are near-exact copies of the source, right down to the prey item and background; e.g., Osprey (Audubon's Pl. 15, No. 3), American Oystercatcher (Pl. 324, No. 65), Northern Pintail (Pl. 390, No. 78). Some plates depict birds in temperate zone vegetation; e.g., hemlock (Lembeye's Lam. No. 8) and tulip tree (Lam. No. 9). In other illustrations, various species from several of Audubon's plates are arranged within one of Lembeye's plates. One non-breeding resident (Baltimore Oriole, Lam. No. 9) from Audubon's *Birds* is shown with a nest. Some are original illustrations, like Lembeye's Bare-legged Owl and Black-and-white Warbler (which is nevertheless in the same black larch branch as the warbler illustrated by Audubon). The Green Heron illustration is taken from Audubon, but the bird's colors and plumage patterns are modified to illustrate the island's *brunnescens* form. In Lam. No. 3, Audubon's Red-shouldered Hawk has been used as a form for Lembeye's Common Black-Hawk; only the plumage has been changed.

The owner of the original copy from which the facsimile was made has made a few pen and ink notes in the *Catalogue*, but otherwise the presentation is crisp and easily read. This is an important work for the student of Cuban ornithology. Now that it can be had at a reasonable price, the contributions of Lembeye can be more widely appreciated.—*James W. Wiley.*

NOTICES

SCO ELECTIONS

Members are advised that election of SCO officers will be conducted in 1997. Nominations for President, Vice President, Secretary, and Treasurer should be submitted to Dr. Marcia Mundle by 1 January 1997. Each nomination must be accompanied by a letter demonstrating the candidate's willingness to stand for election. The list of candidates will be published in the first 1997 issue of *El Pitirre*.

Send nominations to:

Dr. Marcia Mundle
c/o Gosse Bird Club
93 Old Hope Road
Kingston 6, Jamaica, West Indies
Telephone and fax: 809-978-5881

1997 ANNUAL MEETING OF THE SCO

The next Society meeting will be held in Aruba, 1-6 August 1997. Further details will appear in the next issue of *El Pitirre*.

SCO T-SHIRTS

T-shirts with the Society's logo are available in Large and X-large at US$15 each (including shipping) from Rosemarie Gnam, Treasurer SCO, 13 East Rosemont Avenue, Alexandria, VA 22301, U.S.A. Send your order and a check or postal money order made payable to the Society of Caribbean Ornithology. Please don't miss out on this opportunity to promote the Society!

CARIBBEAN HONOR ROLE

Below is a list of the Caribbean ornithologists and conservationists whose contributions have been recognized by the Society at our annual meetings. These folks have been selected by the membership in their respective island territories for their contributions to the study of birds and conservation in the Caribbean. Below we list the date of the annual SCO meeting in which these people were honored.

Inductee(s)	Year of induction	Country
George Seaman	1988	U.S. Virgin Islands
Annabelle (Tudy) Dod	1989	Dominican Republic
Lisa Salmon	1990	Jamaica
Dr. Ricards	1991	St. Lucia
Dr. Virgilio Biaggi	1992	Puerto Rico
Orlando Garrido Dr. Abelardo Moreno Bonillo Rogelio García	1993	Cuba
Robert Rose Rosette Pere R. Pinchon Marcel Bon St. Come	1994	Martinique
Richard ffrench	1995	Trinidad and Tobago
Pericles Alexander Maillis Oris Stanley Russell Alexander (Sandy) Sprunt IV	1996	Bahamas

ANNOUNCEMENTS

VOLUNTEERS NEEDED AS PARTNERS–IN–FLIGHT LIAISONS

Volunteers interested in participating in Partners-in-Flight liaison activities for SCO should contact Joe Wunderle, International Institute of Tropical Forestry, P. O. Box B, Palmer, Puerto Rico 00721.

A BIRDER'S WEST INDIES. AN ISLAND-BY-ISLAND TOUR

By ROLAND H. WAUER
Foreword by Bradford C. Northrup
Afterword by Paul Butler
Drawings by Mimi Hoppe Wolf
Corrie Herring Hooks Series

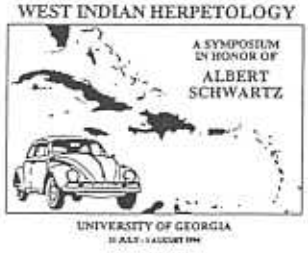
6 x 9 cm., 256 pp., 19 color and 20 black and white photographs, 2 maps, 1 table. 1996. ISBN 0-292-79098-8 $40.00 hardcover. ISBN 0-292-79101-1 $19.95, paperback. Available from the University of Texas Press, P. O. Box 7819, Austin, Texas 78713–7819 USA; telephone: 512-471-7233.

Ro Wauer, a charter member of the SCO, has produced a new book on his birding adventures in the West Indies. The book contains 18 chapters describing Ro's visits to islands from Cuba to Grenada. His extensive introduction contains an island-by-island listing of all 161 endemic birds. Also included are a foreword by Brad Northrup (The Nature Conservancy), an afterword by Paul Butler (RARE), and an extensive reference section. The narrative includes numerous comments on environmental threats and suggestions on ecotourism.

A review by Ms. Catherine Levy is forthcoming in *El Pitirre.*

CONTRIBUTIONS TO WEST INDIAN HERPETOLOGY: A TRIBUTE TO ALBERT SCHWARTZ, edited by Robert Powell and Robert W. Henderson. 1996. Society for the Study of Amphibians and Reptiles. New York: Ithaca. Contributions to Herpetology vol. 12. 457 pp. ISBN: 0-916984-37-0. $60.00. Available from Dr. Robert D. Aldridge, Publication Secretary, The Society for the Study of Amphibians and Reptiles, Department of Biology, St. Louis University, St. Louis, Missouri 63103, USA; telephone: 314-977-3910; fax: 314-977-3658; e-mail: ssar@sluvca.slu.edu.

This massive volume is dedicated to the memory of Albert Schwartz (1923-1992) and includes 33 papers presented at a 1994 symposium held in his honor. Abstracts of an additional 9 papers are also included. In total, 59 scientists contributed to the volume. The book contains sections on Evolution, Systematics, and Biogeography; Ecology and Behavior; and Conservation; as well as a history of West Indian herpetology and an annotated checklist of West Indian reptiles and amphibians. Al Schwartz is best known for his contributions to our knowledge of West Indian reptiles, amphibians, and butterflies, but he also made substantial contributions to the region's ornithology. SCO members who were influenced by Al will find the three "Remembrances of Albert Schwartz" (by William E. Duellman, Richard Thomas, and Robert W. Henderson) of particular interest.



29–31 January 1997 – **Federal and International Scientific Permits: a bilingual workshop for natural history museums and collectors**, San Diego Natural History Museum, San Diego, California, USA. (Sally Shelton, Director, Collections Care and Conservation, extension 226, San Diego Natural History Museum, P. O. Box 1390, San Diego, California 92112, USA; telephone: 619-232-3821; fax: 619-232-0348; e-mail: libsdnhm@class.org).

24-28 February 1997 – **VI Brazilian Ornithological Congress**, Belo Horizonte, MG, Brazil. (Miguel Marini, Departamento de Biologia Geral, ICB, Caixa Postal 486, Universidade Federal de Minas Gerais, Belo Horizone, MG, Brazil, 30.161–970; telephone and fax: 55-31-441-5481; e-mail: marini@sagui.icb.ufmg.br).

17-20 April 1997 – **78th Meeting of the Wilson Ornithological Society**, Kansas State University, Manhattan, Kansas, USA. (Scientific program inquiries to Dr. John C. Kricher, Biology Department, Wheaton College, Norton, Massachusetts 02766, USA; telephone: 508-286-3950; e-mail: jkricher@wheatonma.edu. Local Chair: John L. Zimmerman, Division of Biology, Ackert Hall, Kansas State University, Manhattan, Kansas 66505-4901; telephone: 913-532-6659 or -6615).

30 April - 4 May 1997 – **67th Annual Meeting of the Cooper Ornithological Society**, Hawaii. (Jim Jacobi, Pacific Islands Science Center, P. O. Box 44, Hawaii National Park, Hawaii 96718; e-mail: jim_jacobi@nbs.gov. Inquiries concerning the scientific program to: Steven C. Hess, Pacific Islands Science Center, P. O. Box 44, Hawaii National Park, Hawaii 96718; e-mail: shess@aloha.net).

12-17 July 1997 – **Fifth International Congress of Vertebrate Morphology**, University of Bristol, United Kingdom. (Prof. J. M. V. Rayner, School of Biological Sciences, University of Bristol, Woodland Rd., Bristol BS8 1UG, United Kingdom; fax: 44-117-925-7374; e-mail: icvm97@bristol.ac.uk; http://www.bio.bris.ac.uk/icvm.html).

21-23 September 1997 – **Forum on Wildlife Telemetry: Innovations, Evaluations, and Research Needs**; Snowmass, Colorado. Held in association with the 1997 Annual Conference of The Wildlife Society. (Dr. Jane Austin, e-mail: jane_austin@nbs.gov or Dr. Pamela Pietz, e-mail: pam_pietz@nbs.gov; both at National Biological Service, Northern Prairie Science Center, Jamestown, North Dakota 58401; telephone: 701-252-5363; fax: 701-252-4217).

28 July - 3 August 1998 – **7th International Behavior Ecology Congress**, Asilomar Conference Grounds, Monterey, California, USA. [Walt Koenig; e-mail: wicker@uclink.berkeley.edu or Janis Dickinson; e-mail: sialia@uclink2berkeley.edu; both at Hastings Reservation, 28601 E. Carmel Valley Rd., Carmel Valley, California 93924, USA).

16-22 August 1998 - **XXII International Ornithological Congress**, Durban, South Africa. (Information — Dr. Aldo Berruti, Department of Ornithology, Durban Natural Science Museum, Durban, South Africa; Fax: 27-31-262-6114; e-mail: berruti@superbowl.und.ac.za; Scientific Program — Dr. Lukas Jenni, Schweizerische Vogelwarte, CH–6204 Sempach, Switzerland; fax: 41-41-462-9710).

SOCIETY OF CARIBBEAN ORNITHOLOGY

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Dr. Joseph Wunderle, Jr.

VICE PRESIDENT:
Mr. Roeland E. de Kort

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Dr. Marcia Mundle

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