SOCIEDAD CARIBEÑA DE ORNITOLOGÍA

EL PITIRRE

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EL BOLETÍN INFORMATIVO DE LA SOCIEDAD CARIBEÑA DE ORNITOLOGÍA

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EL PITIRRE
THE BULLETIN OF THE SOCIETY OF CARIBBEAN ORNITHOLOGY
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Volume 11 Summer 1998 Number 2

RIQUEZA DE AVES DEL CAÑÓN DE SAN CRISTOBAL, PUERTO RICO

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INTRODUCCION

PUERTO RICO, PESE a su corta extensión territorial (8,801.9 km^2), es un país en el cual la avifauna es bien diversa (Raffaele 1990). Pérez-Rivera (1993) estima que de incluirse las aves exóticas tendríamos sobre 300 especies distribuidas en toda la Isla. El Cañon de San Cristobal se encuentra en el centro de la Isla y contiene seis zonas ecológicas diferentes (Acosta et al. 1973). Considerando el número de especies de aves residentes en Puerto Rico, es lógico pensar que en esta localidad debe haber una buena representación de nuestra avifauna. No obstante, en la decada del 1970 Acosta et al. (1973) identificaron sólo 13 especies de aves en el área del Cañon. A finales de la decada del 1980, Otero (1988) identificó 26 especies llevando el total de aves listadas para el área a 31. Los trabajos citados señalan, además, la necesidad de realizar estudios más detallados para determinar la diversidad y abundancia relativa de la avifauna del lugar.

Este trabajo actualiza la información de Acosta et al. (1973) y Otero (1988) y describe de forma más completa la comunidad de aves del Cañon de San Cristobal. Estudios tradicionales de comunidades de aves se trabajan a nivel horizontal. No obstante, las caráteristicas geológicas y geográficas del lugar, hacen pertinente examinar las variantes altitudinales de la comunidad de aves de la localidad.

ÁREA DE ESTUDIO Y MÉTODO

El Cañón de San Cristobal está situado en la porción centro-oriental de Puerto Rico, en la región denominada Montañas Húmedas del Este. Recorre los municipios de Aibonito y Barranquitas, en una extención de nueve kilómetros (Iñiguez 1970) (Fig. 1.). En la región encontramos una temperatura entre los 18–24°C y una precipitación pluvial promedio de 245 mm al año (Ewell y Whitmore 1973). Dentro de esta región, Acosta et al. (1973) identificaron seis áreas ecológicas en el Cañón. Los censos de aves se llevaron a cabo en sólo cuantro de esas áreas, a saber: el río, el banco del río, la ladera inferior del Cañón y el borde o ladera superior del Cañón (Fig. 2).

Para los inventarios de las aves en el Cañón de San Cristobal se hicieron censos por puntos de observación (point count) a lo largo de un transecto lineal. Waide y Hernández-Prieto (1981) y Manywal y Carey (1991) señalan que los puntos de observación en transectos cortos es la mejor tecnica para estimar la densidad de poblaciones de aves en los bosques húmedos de Puerto Rico. Los puntos de observación se hicieron en seis estaciones a una distancia aproximada de 200 m entre cada punto y por un periodo de diez minutos cada censo. Se anotaron las aves avistadas o identificadas auditivamente en un radio de 30 m. Cada transecto se recorrió en la mañana desde la salida del sol. Los censos se llevaron a cabo durante las cuatro estaciones del año y siguiendo dos rutas para bajar al río, atravesando las cuatro zonas ecológicas del Cañón.

RESULTADOS Y DISCUSIÓN

Se han realizado doce censos altudinales, en los que se detectaron 52 especies de aves que representan 11 familias (Tabla 1). De éstas, 22 resultan ser nuevos informes para la localidad y una el Pato Marrueco (*Cairina moschata*), para el estado silvestre en Puerto Rico. El Cañón es uno de los pocos lugares en la isla con poblaciones ferales de patos, pollos y guineas.

Por otro lado, la condición o estatus de las especies detectadas en el Cañón se divide de la siguiente manera: 15 especies o subespecies endémicas, 21 especies residentes, 6 especies migratorias y 10 especies exóticas residentes (Tabla 1). Los exóticos abundan en los lugares de vegetación más alteradas del Cañón, principalmente en el borde superior.

El aumento tan notable de especies de aves puede tener varias razones: los cambios en la metodologia de los censos, la regularidad en la toma de datos, la recuperación de la vegetación, la reducción de la caceria o una combinación de varias de éstas. El Cañón de San Cristobal sufrió por una serie de daños en el pasado, producto lamentable de las actividades humanas. Es muy probable que su utilización como vertedero, para usos agrícolas y para la caceria en el pasado hayan afectado seriamente la integridad de este ecosistema único en Puerto Rico. Afortunadamente, desde 1974 se prohibió el uso del Cañon como vertedero de varios municipios. La

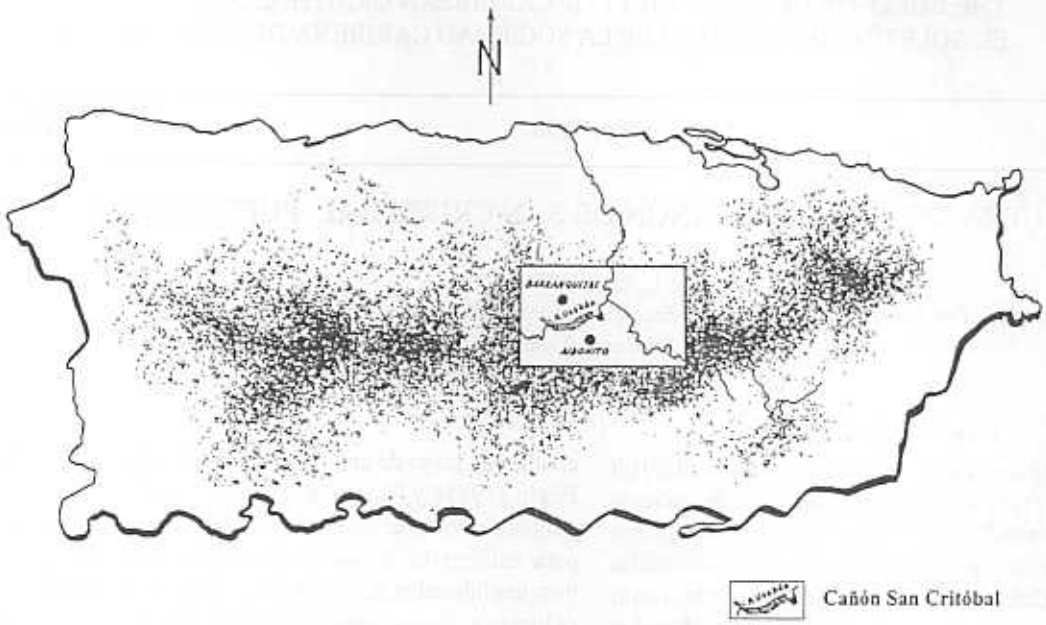

Fig. 1. Localización del Cañon de San Cristóbal, Puerto Rico.

agricultura se ha restringido a porciones del borde superior y la cacería es una actividad ocacional.

El número de especies de aves encontradas es comparable con las documentadas en otros bosques de altura en Puerto Rico. Hernández-Prieto (1980) informó 53 especies de aves en el Bosque Estatal de Carite. Wiley y Bauer (1985) documentaron 66 especies en el Bosque Nacional del Caribe. Por su parte Casanova (1990) listó 46 especies para el Bosque del Río Abajo. Cabe señalar que estos bosques han estado protegidos por mucho más tiempo y su extensión territorial es mucho más grande que la del Cañón de San Cristobal. No obstante, el Cañón parece tener mayor diversidad de habitats y poseer una estratificación vertical muy particular responsable de la presencia de aves acuáticas, migratorias y exóticas.

Conclusión

Se registró un aumento definitivo en el número de especies de aves. Aumento que pudiera estar relacionado con la recuperación de la vegetación debido a los años de protección. Con este trabajo proveo un inventario más completo de las especies de aves en el Cañón de San Cristobal. No obstante, se necesitan estudios cuantitativos detallados para examinar la diversidad y abundancia relativa de las aves del lugar, lo que hasta el momento no se ha hecho en el Cañón. En trabajos futuros se analizará de forma cuantitativa el número de aves por estratas para así determinar la densidad y diversidad de las distintas zonas del Cañón y los posibles factores que afecten su presencia. Esta información será de valor critico para establecer o modificar los planes de manejo que las agencias ambientales y de conservación desarrollan para áreas como el Cañón de San Cristobal, un área de valor ecológico y escénico único en Puerto Rico.

Agradecimiento

Agradezco al Dr. Enrique Hernández-Prito, ornitólogo de la Universidad de Puerto Rico, Recinto de Humacao por su valiosa aportación para la realización de este trabajo.

Literatura Citada

Acosta, C.M., M. Vélez y R. Woodbury. 1973. Estudio ecológico e inventario del Cañón de San Cristobal de Aibonito y Barranquitas, Puerto Rico. Junta de Planifacación, Puerto Rico.

Casanova, J.E. 1990. Bosque de Río Abajo. Folleto Informativo del Departamento de Recursos Naturales, Puerto Rico.

Ewell, J.J. y J.L. Whitmore. 1973. The ecological life zones of Puerto Rico and the U.S. Virgin Island. Forest Service Research paper ITF-18.

Hernández-Prito, E. 1980. Estudío de aves, reptiles y anfíbios en la Reserva Forestal de Carite. Tesina del Programa de Mantenimiento Ambiental. Universidad de Puerto Rico, Río Piedras, P.R.

Iñiguez, C. 1970. ¿Qué es el Cañón de San Cristobal? Revista del Colegio Universitario de Cayey, Universidad

TABLA 1. Especies de aves detectadas en el Cañón de San Cristobal, en 1973, 1988 y 1997, y su estatus en Puerto Rico.

Nombre Científico	Nombre Común	Año			Estatus[1]
		1973	1988	1997	
Butorides striatus	Martinete	X	X	X	R
Bubulcus ibis	Garza de Ganado		X	X	R
Nicticorax violaceus	Yaboa Común			X	R
Casmerodius albus	Garza Real			X	R
Egretta thula	Garza Blanca			X	R
Egretta caerulea	Garza Azul			X	R
Gallinula chloropus	Gallareta		X	X	R
Actitis macularia	Playero Coleador		X	X	M
Chadadrius vociferus	Playero Sabanero			X	M-R
Cairina moschata	Pato Marrueco			X	Ex-R
Columbina passerina portoricensis	Rolita de Puerto Rico	X	X	X	Sen
Columba squamosa	Paloma Turca		X	X	R
Columba liva	Paloma Común			X	Ex-R
Zenaida aurita	Tortola Cardosantera		X	X	R
Geotrygon montana	Perdiz Rojiza			X	R
Chlorostilbon maugaeus	Zumbadorcito de Puerto Rico		X	X	En
Anthracotorax dominicus	Zumbador Dorado		X	X	R
Todus mexicanus	San Pedrito de Puerto Rico	X	X	X	En
Melanerpes portoricensis	Carpintero de Puerto Rico			X	En
Crotophaga ani	Judio		X	X	R
Coccyzus minor	Pajaro Bobo Menor		X	X	R
Buteo jamaicensis	Guaraguao		X	X	R
Falco sparverius	Falcón Común			X	R
Falco colombairus	Merlin			X	R
Otus nudipes	Múcaro de Puerto Rico			X	En
Gallus gallus	Pollo Doméstico		X	X	Ex-R
Numida meleagris	Guinea			X	Ex-R
Vido latimeri	Bienteveo de Puerto Rico		X	X	En
Tyrannus dominicensis	Pitirre	X	X	X	R
Tyrranus caudifasciatus taylori	Clérigo de Puerto Rico			X	SE
Mylarchus antillarum	Juí de Puerto Rico	X		X	En
Mimus polyglottos	Ruiseñor	X	X	X	R
Margarops fuscatus	Zorzal Pardo	X	X	X	R
Turdus plumbeus	Zorzal de Patas Rojas			X	R
Vidua macroura	Viuda Colicinta			X	Ex-R
Lonchura cucullata	Diablito	X		X	Ex-R
Lonchura punctulata	Gorrión Nuez Moscada			X	Ex-R
Lonchura malacca	Monjita Tricolor			X	Ex-R
Estrilda melpoda	Veterano		X	X	Ex-R
Euphonia musica sclateri	Jilguero de Puerto Rico			X	Sen
Tiaris bicolor	Gorrión Negro		X	X	R
Tiaris olivacea bryanti	Gorrión BarbaAmarilla		X	X	Sen
Ammodramus savannarum	Gorrión Chicharra			X	R
Loxigilla portoricensis	Come Ñame de Puerto Rico	X		X	En
Spindalis zena portoricensis	Reina Mora de Puerto Rico		X	X	Sen
Seiurus motacilla	Pizpita de Río		X	X	M
Wilsonia citrina	Reinita Encapuchada			X	M
Mniotilta varia	Reinita Trepadora			X	M
Coereba flaveola portoricensis	Reinita de Puerto Rico	X	X	X	SEn
Icterus dominicensis portoricensis	Calandria de Puerto Rico	X	X	X	Sen
Icterus icterus	Turpial		X		Ex-R
Niger brachypterus Quiscalus	Mozambique de Puerto Rico	X	X	X	SEn
Molothrus bonariensis	Tordo	X		X	Ex-R
Total de especies detectadas en los tres estudios		13	26	52	

[1] Clave: R = especie residente, M = migratoria, SEn = subespecie endémica, En = especie endémica, Ex = especie exótica.

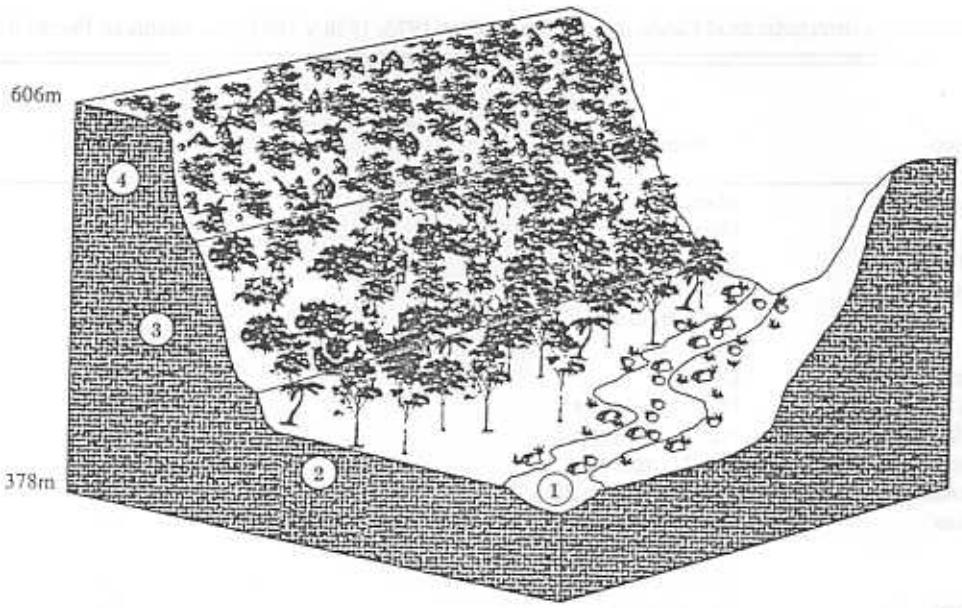

Fig. 2. Sección del Cañón de San Cristóbal ilustrando las cuatro zonas de los censos de aves y la altura sobre el nivel del mar. Clave: 1 = río, 2 = banco del río y área adyacente, 3 = ladera inferior del Cañon, 4 = ladera superior del Cañon.

de Puerto Rico, Cayey , PR.

MANYWAL, D.A. Y A.B. CAREY. 1991. Methods for measuring populations of small diurnal forest bird. Gen. Tech. Rep. PNW-278. Portland, Oregon. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

OTERO, J.L. 1988. Estudio ecológico del Cañón de San Cristobal. Informen Preliminar FIPI. Universidad de Puerto Rico, Río Piedras, P.R.

PÉREZ-RIVERA, R. 1993. Lista de cotejo de las aves de Puerto Rico. Exégesis 6 (17):6-14.

RAFFAELE, H. 1990. Una guía a las aves de Puerto Rico y las Islas Virgenes. Edición Revisada. Publishing Resources, Inc. 274 pp.

WAIDE, R. Y E. HERNÁNDEZ-PRIETO. 1981. Sampling birds in tropical forest, with special reference to Puerto Rican rain forest. 8vo. Simposio Departamento de Recursos Naturales, P.R. 117-127.

WILEY, J. Y G. BAUER. 1985. Caribbean National Forest, Puerto Rico. American Bird 39(1):12-18.

USE OF A SMALL WATER RESERVOIR BY LOCALLY RARE BIRDS IN THE DOMINICAN REPUBLIC

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ON 27–28 JUNE 1997, while engaged in field work for projects on genetic relationships of Caribbean birds, all except S. Latta were camped at a small (approximately 0.1 ha [1/3 acre]), cement-sided water reservoir at approximately 1050 m in elevation along Alcoa Road in the Aceitillar zone of the Parque Nacional Sierra de Baoruco, Dominican Republic. In the late afternoon and early evening, as well as the following morning, this reservoir attracted many individuals of several bird species, some of which are otherwise uncommon, very locally distributed, and difficult to observe. All were making use of the reservoir either as a source of drinking water, or as a foraging location for insects occurring near the water surface. The reservoir is in the open understory of the *Pinus occidentalis* forest that is common at that elevation.

Our estimates of numbers of birds observed are 10–15 Antillean Siskins (*Carduelis* dominicensis) and 15–20 White-winged Crossbills (*Loxia leucoptera*) that came to drink at the edge of the reservoir. Foraging for insects near the water surface were 5–10 Golden Swallows (*Kalochelidon euchrysea*) and 20–25 Caribbean Martins (*Progne dominicensis*). These species appear to be resident in the area throughout the year, as they have also been recorded from each of the months of October to April by Latta. Latta has observed large numbers (flocks of up to 24 individuals) of Palm Crow (*Corvus palmarum*) and Plain Pigeon (*Columba inornata*). Also frequenting the area and using the reservoir are Hispaniolan Parrot (*Amazona ventralis*), Hispaniolan Parakeet (*Aratinga chloroptera*), and Olive-throated Parakeet (*A. nana*). All of these species are known to breed in the area and may do so in large numbers. We estimate at least 30 breeding pairs of crossbills regularly use the reservoir as a source of water.

In late June, there can be quite high afternoon temperatures (>28° C) and low rainfall in this area. Low rainfall may also be expected in late winter (December–March). The small reservoir may be providing a critical resource for local birds. No other reliable and predictable sources of fresh water are available in the vicinity.

Since this small reservoir appeared to be a magnet, attracting many individuals of locally rare or potentially threatened endemic taxa, we suggest that providing more such dependable sources of fresh water would be an excellent, relatively inexpensive conservation tool. Creation of several small reservoirs at scattered locations could potentially have an extremely beneficial effect on local populations of Hispaniolan birds. However, precisely because this reservoir is a magnet for birds, it has also been a magnet for illegal hunting. Pigeons are especially sought by hunters. Whereas hunting pressure seems to have been recently reduced, remains of birds are still frequently found. We therefore suggest that in addition to construction of more reservoirs, there must also be firm control of illegal hunting. Birds using this reservoir seem especially wary. Crossbills have been seen to spend 40 minutes passing between trees lining the reservoir and making sallies over the water before finally settling and drinking.

In addition to the conservation benefits of establishing more reservoirs and reducing hunting pressure, there would also be a potential eco-tourism benefit if several localities existed where some of the uncommon endemics could reliably be found and observed.

CACATUA ALBA — NUEVO INFORME PARA PUERTO RICO

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EN PUERTO RICO SE HAN INFORMADO tres especies de cacatúas. A saber: *Cacatua moluccensis, C. sulphurea* y *C. goffini* (Pérez-Rivera 1992, 1993). El 16 de noviembre de 1996, mis estudiantes del curso de ornitología y yo observamos, por unos 15 minutos y a una distancia de aproximadamente 30 m, a una cacatúa blanca en los terrenos del Jardín Botánico de la Universidad de Puerto Rico, en Río Piedras. De esta ave no hay pieles ni fotografías en el Colegio Universitario de Humacao, por lo que no estabamos familiarizados con la misma. El plumaje en general del individuo era blanco, incluyendo la cresta, y las plumas interiores de las alas y las inferiores del rabo, amarillas. El pico y las patas eran gris oscuro. El individuo era robusto y media aproximadamente 45 cm. El próximo día al consultar la literatura y examinar una ilustración (Forshaw y Cooper, 1977) pude identificar al ave positivamente como *Cacatua alba*.

El 8 de octubre de 1997, visité el zoológico de Mayagüez (Zoorico). En el área había varios psitácidos sueltos y cuando inferí sobre los mismos, uno de los curadores (Sr. Cuevas) me indicó que llevaban varíos años en el lugar y que habían logrado capturar algunas de estas incluyendo una cacatúa blanca. La misma fue capturada a mediados de 1995. Pedí que me mostraran el ave y, ya familiarizado con la especie, pude constatar entonces que se trataba de un individuo de *Cacatua alba*.

El 27 de marzo de 1998 observé por unos 20 minutos a otra de estas aves en la Urbanización Bairoa Park de Caguas. La misma estuvo alimentándose de flores de roble (*Tabebuia heterophylla*) hasta que fue atacada por una pareja de Falconcitos (*Falco sparverius*). El ave contestó a cada una de las envestidas levantando su cresta inmaculadamente blanca. Poco después el ave levantó vuelo y se cobijó en una cercana palma de cocos (*Cocos nucifera*). En dicha localidad comenzó a comerse los coquitos que estaban comenzando a formarse. Esta cacatúa blanca era totalmente dócil, y se dejo observar a menos de 10 m de distancia. Al moverse a través de la palma puede observar el color amarillo de las cobijas inferiores del rabo y de la parte interior de una de sus alas. Presumo que era un individuo macho porque los ojos eran color pardo oscuro. Asumo también que hacía muy poco que había escapado del cautiverio ya que tenía algunas primarias chamuscadas y le faltaban plumas en el abdomen. El área desnuda permitía observar su piel color gris oscuro.

La Cacatua Blanca es oriunda de Obi, Batjan, Halmahera, Ternate y Tidore en la Indonesia (Forshaw y Cooper 1977, Clements 1992) y no ha sido previamente informada en el estado silvestre en Puerto Rico (Raffaele 1989; Pérez-Rivera 1992, 1993; Biaggi 1996; Pérez-Rivera y Claudio 1997). Esta ave aparentemente esta siendo introducida ilegalmente en la Isla, ya que no aparece en la lista de aves permitidas por el Departamento de Recursos Naturales y Ambientales de Puerto Rico. Los individuos solitarios observados, parecen ser el resultado de escapes accidentales.

LITERATURA CITADA

BIAGGI, V. 1997. Las aves de Puerto Rico. 4th ed. Editorial Universitaria. Universidad de Puerto Rico, Río Piedras.

CLEMENTS, J. F. 1992. Birds of the world: a check list. 4th ed. Ibis Pub. Co., Vista, California.

FORSHAW, J. M. Y W. T. COOPER. 1977. Parrots of the world. T.F.H. Publications. Neptune, New Jersey.

PÉREZ-RIVERA, R. A. 1992. Feral exotic psittaciformes from Puerto Rico. Ornitología Caribeña 3:30-34.

PÉREZ-RIVERA, R. A. 1993. Lista de cotejo de las aves de Puerto Rico. Exegesis 6(17):6-14.

PÉREZ-RIVERA, R. A. Y P. CLAUDIO. 1997. Sobre el status de la Cacatúa de Goffin (*Cacatua goffini*) en Puerto Rico. El Pitirre 10(2):54-55.

RAFFAELE, H. A. 1989. A guide to the birds of Puerto Rico and the Virgin Islands. Princeton University Press. Princeton, New Jersey.

BIRD OBSERVATIONS IN THREATENED FOREST FRAGMENTS OF SIERRA DE NEIBA, DOMINICAN REPUBLIC

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AS PART OF A BROAD-SCALE EFFORT to document the distributional status of Bicknell's Thrush (*Catharus bicknelli*) and other montane forests birds in the Dominican Republic, the Vermont Institute of Natural Science (VINS) conducted field surveys in two areas of Sierra de Neiba during February and November of 1997. This brief report summarizes VINS' findings and provides an overview of the conservation status of the two areas visited.

A team of VINS and Dominican field biologists first surveyed Sierra de Neiba in February 1997. The westernmost section of montane forest above "Vuelta de Quince" on the road to Hondo Valle was surveyed from 16–18 February. Although the roughly 25-square km patch of moist broadleaf forest that remains here appears to be largely intact, the slopes between Los Pinos and Vuelta de Quince have been severely deforested and converted to agriculture and grazing. Remnant solitary hardwood trees and isolated small forested patches suggest that an extensive, mature montane forest once covered these slopes. The remnant tract at Vuelta de Quince clearly represents a small fraction of the original forest. Pressure on this remaining patch of intact forest appears to be high, given its proximity to the Haitian border and the increasing spread of clearing from below. Moderate levels of disturbance were noted within the forest, including limited extraction of large pine and cedar trees, and scattered clearings for crop production or livestock pastures. Many small trails had been cut for wood extraction, pig snaring, and possibly other uses.

Field surveys of the Vuelta de Quince area during these three days revealed the typical assemblage of Hispaniolan montane broadleaf forest birds. These included at least eight Bicknell's Thrushes (the first documentation known to us of this species in the area) and several rare, endemic species, including Chat Tanagers (*Calyptophilus frugivorus neibae*), two La Selle's Thrushes (*Turdus swalesi*), and White-winged Warblers (*Xenoligea montana*).

A team of 4 VINS researchers and 1 Dominican biologist revisited this area on 14–15 November 1997. We encountered 12 Bicknell's Thrushes, of which 4 were captured and banded. We also compiled careful records of all avian species seen or heard during this brief visit (Table 1), including first the documented record of Song Sparrow (*Melospiza melodia*) in the Caribbean Basin (Rimmer and McFarland 1998). Although we did not specifically document new incursions into the forest habitat or further evidence of extraction, Ernst Rupp of DVS/DED, who works extensively in the area in conjunction with the Departamento de Vida Silvestre, reported that new agricultural plots had been cleared atop the sierra, and that community-based educational efforts were being made to reduce anticipated future clearing. Based on our limited field work in this area and our collective knowledge of the rare and threatened status of montane broadleaf forest birds on Hispaniola, we believe that this remnant forest fragment constitutes a critical, irreplaceable habitat in need of concerted conservation efforts. We further believe that current rates of deforestation and land conversion in the area may reduce this fragment to a size or configuration that will no longer sustain viable populations of some avian species within 5–10 years.

We also visited the eastern section of Sierra de Neiba, centered in the Monte Bonito area above Apolinario, on 18–20 February 1997. This area had been severely impacted by extensive agricultural clearing and timber extraction, leaving only narrow fringes of forest. Areas below 1600 m were virtually treeless, and cutting in the park above this elevation continued unabated during our visit. In 1995, cleared areas and agricultural plots within this section of the park were estimated to occupy 30–40% of the land (A. Schubert, pers. comm.). In early 1997, we estimated this figure to be 70–80%, with little forest remaining within park boundaries and none outside. We did encounter seven Bicknell's Thrushes in the few intact forest fragments that we surveyed. We believe that complete loss of this eastern section of forest fragments that we surveyed. We believe that complete loss of this eastern section of forest may occur within 2–3 years, although increasing fragmentation could render many forest patches insufficient to support most forest-dwelling birds even earlier. We obtained further evidence of forest loss in this general area during March of 1997, when numerous large fires were visible at night from our high elevation study sites in Sierra de Baoruco.

In summary, despite its 1995 designation as a national park, our limited field experience in Sierra de Neiba indicates that the area is losing forest cover from both harvesting and burning at an exceedingly rapid rate. The Neibas may represent a very important center of endemism, and thus biodiversity, on Hispaniola. We believe that the time frame for effective conservation of montane forest habitats in Sierra de Neiba is extremely short.

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TABLE 1. List of bird species observed above Vuelta de Quince, Sierra de Neiba, Dominican Republic, 14–15 November 1997.

Scientific name	English name	Spanish name	Number observed
Aratinga chloroptera	Hispaniolan Parakeet	Perico	6
Amazona ventralis	Hispaniolan Parrot	Cotorra	18
Streptoprocne zonaris	White-collared Swift	Vencejo de Collar	10
Chlorostilbon swainsonii	Hispaniolan Emerald	Zumbador Mediano	5
Temnotrogon roseigaster	Hispaniolan Trogon	Papagayo	2
Todus angustirostris	Narrow-billed Tody	Chi-cui	8
Melanerpes striatus	Hispaniolan Woodpecker	Carpintero	10
Elaenia fallax	Greater Antillean Elaenia	Maroita Canosa	8
Contopus caribaeus	Greater Antillean Pewee	Maroita	2
Myiarchus stolidus	Stolid Flycatcher	Manuelito	2
Kalochelidon euchrysea	Golden Swallow	Golondrina Verde	12
Corvus palmarum	Palm Crow	Cao	6
Myadestes genibarbis	Rufous-throated Solitaire	Jiguero	12
Catharus bicknelli	Bicknell's Thrush	Zorzal Migratorio	12
Turdus swalesi	La Selle's Thrush	Zorzal de la Selle	6
Mimocichla plumbea	Red-legged Thrush	Chua-chua	1
Dendroica caerulescens	Black-throated Blue Warbler	Ciguita Azul	15
Geothlypis trichas	Common Yellowthroat	Ciguita Enmascarada	3
Microligea palustris	Green-tailed Warbler	Ciguita Colaverde	9
Xenoligea montana	White-winged Warbler	Ciguita Aliblanca	2
Coereba flaveola	Bananaquit	Ciguita Commun	6
Euphonia musica	Blue-hooded Euphonia	Jilguerillo	4
Spindalis zena	Stripe-headed Tanager	Cigua Amarilla	25
Calyptophilus frugivorus	Chat Tanager	Patico Chirri	3
Zonotrichia capensis	Rufous-collared Sparrow	Cigua de Constanza	5
Melospiza melodia	Song Sparrow	—	1
Carduelis dominicensis	Greater Antillean Siskin	Canario	5

LITERATURE CITED

RIMMER, C. C., AND K. P. MCFARLAND. 1998. Two new avian records for Hispaniola: Swainson's Warbler and Song Sparrow. El Pitirre 11(1):15–17.

NIDIFICACION ATIPICA DE LA YAGUAZA ANTILLANA *DENDROCYGNA ARBOREA* EN CUBA

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LA YAGUAZA ANTILLANA (*Dendrocygna arborea*), constituye uno de los anátidos oriundos de la región de las Antillas que ha sido declarada como una especie amenazada a consecuencia de la notable disminución registrada en sus poblaciones en los últimos años (King 1981; IUCN 1986, 1988; Ottenwalder 1997). Este fenómeno de disminución poblacional, ha motivado un incremento de las actividades investagativas ornitológicas dirigidas al estudio de la biología y conservación de la yaguaza en diferentes regiones de las Antillas lo que ha contribuido a elevar de forma notable el nivel de conocimientos acerca de esta especie.

No obstante, al nivel de información alcanzado se considera importante cualquier aporte investigativo que contribuya al desarrollo y perfeccionamiento de nuevas estrategias de conservación que permitan el rápido restablecimiento de las poblaciones de este anátido exclusivo de Las Indias Occidentales.

En el presente trabajo se expone información acerca de un caso de nidificación atípica de *Dendrocygna arborea*, no reportado con anterioridad en la literatura cubana.

Durante una visita efectuada a la región de Gibara, ubicada en la provincia de Holguín, se notificó el registro de un nido de Yaguaza Antillana construído en una oquedad cársica ubicada en la ladera de uno de los cerros que componen el grupo montañoso conocido con el nombre de Cupeycillo.

El nido fué descubierto el 22 de agosto de 1997 por el señor Genaro Sáchez (pequeño agricultor), en una oquedad del suelo de 40 cm de profundidad aproximadamente. Los huevos (n=13) se registraron depositados sobre la tierra que cubría el fondo de la oquedad exento de material vegetal alguno.

Por desconocer a qué especie pertenecía y con el objetivo de salvar el nido al parecer abandonado, los huevos fueron traslados de lugar y empollados por una gallina doméstica (*Gallus gallus*), donde 6 días más tarde se produjo la eclosión de los mismos con la aparición de 10 pichones de Yaguaza Antillana, los que en la actualidad son alimentados por Genaro y su esposa con el fin de ser devueltos a su medio natural en un futuro.

El área de Cupecillo es monitoreado por especialistas del Museo de Historia Natural de Gibara con el objetivo de corroborar la veracidad de informes aportados por pobladores de la zona que argumentan haber observado la presencia de varios individuos de *D. arborea* en reiteradas ocasiones en el área.

Un dato de interés lo constituye el hecho de que en las proximidades del lugar donde fué localizado el nido, no existen acuatorios superficiales permanentes con excepción de algunas grutas y cacimbas aisladas donde se acumula el agua subterránea producto pequeños manatiales subterráneos presentes en la región.

Este registro de nidificación atípica de *Dendrocygna arborea* y la posible presencia de algunos individuos de la especie en el área de estudio deben servir de alerta a la comunidad ornitológica caribeña sobre la posibilidad de que la Yaguaza Antillana esté explotando nuevos hábitats provistos de fuentes alternativas de agua como mecanismo de supervivencia ante la creciente reducción y degradación de sus hábitats naturales, por lo que se sugiere que se le dé continuidad a las actividades de monitoreo en el área de estudio e intensifiquen de los esfuerzos investigativos de conservación de la especie en un futuro.

LITERATURA CITADA

IUCN 1986. 1986 IUCN Red List of threatened animals. IUCN Conservation Monitoring Centre and ICBP, Gland and Cambridge.

IUCN 1988. 1988 IUCN Red List of threatened animals. IUCN Conservation Monitoring Centre and ICBP, Gland and Cambridge.

KING, W. B. 1981. Endangered birds of the world. The ICBP Red Data Book. Smithsonian Institution Press and ICBP, Washington, D.C.

OTTENWALDER, J. A. 1997. Situación actual y conservación de la Yaguaza Antillana (*Dendrocygna arborea*) en la República Dominicana. El Pitirre 10(1):2-10.

ADICIONES A LA ORNITOFAUNA DE LOS CAYOS COCO, PAREDÓN GRANDE Y GUILLERMO, CUBA

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LA PROYECCIÓN Y PUESTA en práctica de un notable numero de investigaciones ornitológicas desarrolladas en los últimos años en territorios del Archipiélago Sabana-Camagüey ha permitido obtener un valioso volumen de información acerca de la composición, distribución y abundancia de la avifauna existente en esta región (Garrido 1973, 1976; Garrido y Garcia 1975; Acosta y Berovides 1984; Sánchez et al. 1994; Goossen et al. 1994; Blanco et al. 1996).

No obstante, la actualización sistemática y enriquecimiento del potencial informativo alcanzado a partir del desarrollo de nuevos esfuerzos investigativos, constituye un elemento básico de gran valor que garantiza la adecuada consulta, asimilación y correcta utilización de este último en la proyección de nuevos planes y estrategias dirigidas a la conservación y manejo de la ornitofauna en años futuros.

En el presente trabajo se expone la relación de tres especies de aves acuáticas del orden Charadriiformes no reportadas con anterioridad para tres territorios insulares del Archipiélago Sabana-Camagüey y se reflejan además algunos comentarios de interés acerca de la importancia de estos registros para esta área.

Durante un viaje de investigación realizado durante el período del 24 de enero hasta el 14 de febrero de 1998 a los Cayos Coco, Paredón Grande y Guillermo se observaron tres especies de aves las que constituyen nuevos registros para estos territorios insulares antes referidos.

Charadrius alexandrinus. Se observaron cuatro individuos de la especie, tres de ellos fueron localizados en la costa Norte de Paredón Grande (Playa de Los Pinos) y uno en Cayo Coco (Playa Las Coloradas).

Charadrius melodus. Se observó en Cayo Guillermo un bando compuesto por seis individuos de la especie entre los que figuraban dos aves anilladas con bandas metálicas y uno con una banderilla de color negro en su pata izquierda.

Larus delawarensis. Solo fue observado un individuo de esta especie en la Playa El Paso, en Cayo Guillermo. Esta notificación constituye el segundo registro de esta ave migratoria neártica en territorios del Archipiélago de Sabana-Camagüey.

LITERATURA CITADA

ACOSTA, M. Y V. BEROVIDES. 1984. Ornitocenosis de los cayos Coco y Romano, Archipiélago Sabana-Camagüey, Cuba. Poeyana 274:1-10.

BLANCO, P., D. ZUÑIGA, R. GÓMEZ, E. SOCARRAS, M. SUAREZ Y F. MORERA. 1996. Aves del sistema insular los Cayos de Piedra, Sancti Spíritus, Cuba. Oceanides 11(1):49-53.

GARRIDO, O. H. 1973. Anfibios, reptiles y aves del Archipiélago Sabana-Camagüey, Cuba. Torreia, Nueva Serie 27:1-72.

GARRIDO, O. H. 1976. Aves y reptiles de Cayo Coco, Cuba. Misc. Zool., Inst. Zool. A.C.C. 3:3-4.

GARRIDO, O. H. Y F. GARCÍA MONTAÑA. 1975. Catálogo de las aves de Cuba. Academia de Ciencias, La Habana. 149 pp.

GOOSSEN, J.P., P. BLANCO., J. SIROÍS Y H. GONZÁLEZ. 1994. Waterbird and shorebirds count in the province of Mantanzas, Cuba. Technical Report Series CWS 170:1-18.

SÁNCHEZ, B., D. RODRÍGUEZ Y A. KIRKCONNELL. 1994. Avifauna de los cayos Paredón Grande y Coco durante la migración otoñal de 1990 y 1991. Avicennia 1:31-38.

HÁBITOS ALIMENTARIOS DEL SABANERO (*STURNELLA MAGNA*) EN UN AGROECOSISTEMA CUBANO

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Abstract.—Feeding habits of the Eastern Meadowlark (*Sturnella magna*) in a Cuban agroecosystem.—In a study of the feeding habits of the Eastern Meadowlark (*Sturnella magna*), we collected 23 specimens for analysis of their stomach contents. The birds were captured in the pasture of the Estación Experimental del Instituto de Pastos y Forrajes, Havana province, in July 1992 and March, April, August, and November 1993. The most important items in the samples were Coleoptera, Hymenoptera, and Lepidoptera. The trophic subniche of species was characterized using the indexes of diversity and equitability, and the width and the overlap of the niche, in relation to the number of prey that they eat according to the sexes and seasons. We found that the highest diversity (1.8) and the greatest range (6.9) were obtained in the rainy period. We determined that weights of male meadowlarks were significantly different ($P < 0.01$) from those of females in our sample.

Key Words: Diet, diversity index, Eastern Meadowlark, equitability index, insects, niche overlap, niche width, Sabanero, Sturnella magna, *stomach contents, trophic subniche*

Introduction

Entre los miembros de la subfamilia Icterinae, el Sabanero (*Sturnella magna*) es sin dudas uno de los más comunes y de más amplia distribución en el territorio nacional; además de estar muy relacionado con el hombre, ya que habita fundamentalmente en sabanas y potreros, muchos de los cuales constituyen ecosistemas productivos en explotación.

Conocer los hábitos alimentarios de las aves de importacia económica resulta de gran interés, ya que permite evaluar el papel que éstas desempeñan en un hábitat determinado y proponer un manejo adecuado que posibilite algún beneficio.

Existen varios trabajos que tratan sobre las especies del género *Sturnella* en los Estados Unidos, entre los que se hallan los de Bryant (1914), Saunders (1937) y Lanyon (1957). Específicamente sobre *S. magna*, se encuentran los de Forbush (1907), Beal (1915) y Bent (1958); sin embargo, a pesar de que son contribuciones de gran interés y utilidad por la información que brindan, no aclaran diferentes aspectos de su ecología trófica.

Según la revisión bibliográfica efectuada por las autoras, en Cuba no hay publicaciones que aborden la alimentación de esta especie y es por ello que teniendo en cuenta la ausencia de datos al respecto y la importancia de esta ave, pretendemos en este trabajo ofrecer una valoración cualitativa y cuantitativa de sus hábitos alimentarios en un pastizal dedicado a la explotación ganadera.

Materiales y Metodos

Se capturaron 23 ejemplares (13 hembras y 10 machos), en la Estación Experimental del Instituto de Pastos y Forrajes, el cual se encuentra ubicado en el municipio Bauta, en la provincia de La Habana. Este agroecosistema está sometido a un régimen de manejo conocido como pastoreo racional Voisin. El pastizal está constituido por gramineas y leguminosas de diferentes especies, entre las que se encuentran: *Sorghum* sp., *Panicum* sp., *Leucaena* sp. y *Braquiaria decumbens*.

Las colectas se efectuaron en los meses de julio de 1992 y marzo, abril, julio, agosto y noviembre de 1993, en los horarios comprendidos entre las 0800 y 1200 horas. Para las capturas se utilizaron escopetas de cartuchos de calibres 12 y 16, y las aves después de pesadas se conservaron en congelación para su traslado al laboratorio, donde se realizó la disección y se le extrajo el contenido estomacal. Posteriormente, se midió el desplazamiento volumétrico del mismo en una probeta graduada y los componentes alimentarios fueron identificados hasta el nivel taxonómico posible.

Se determinaron los estadísticos ($\bar{x}$, $S\bar{x}$) para el peso corporal de las aves y el volumen total desplazado por los contenidos estomacales de las mismas para ambos sexos y época del año, comparándolos a través de una prueba *t* de Student. Además se determinó la eficiencia alimentaria para las hembras y los machos por separado y dentro de cada estación, utilizando el cociente propuesto por Acosta y Berovides (1982). También se determinaron los valores promedios del número de individuos consumidos por sexos.

Para caracterizar el subnicho trófico se emplearon los índices de amplitud del nicho (B_{ij}) de Levins (1968), de diversidad (H') de Shannon-Weaver (1949) y el de equitatividad (J') de Lloyd y Gherlardi (1964); y para hallar el grado de superposición se utilizó la fórmula de Schoener (1970). Todos estos análisis fueron basados en el número de presas ingeridas por cada orden representado en la dieta alimentaria.

Resultados y Discusion

Se pudo conocer que la alimentación del Sabanero en esa

TABLA 1. Componentes alimentarios encontrados en los contenidos estomacales de *Sturnella magna*. Los datos se expresan en porcentaje (%).

Componentes	Hembras (n =13)	Machos (n =10)
Coleópteros	42.0	48.0
Himenópteros	24.0	19.0
Lepidópteros	18.0	23.0
Homópteros	10.0	3.0
Tisanópteros	–	0.8
Dermápteros	–	1.0
Ortópteros	3.5	4.5
Araneidos	0.5	0.3
Semillas de sorgo e hierba de Guinea	0.02	0.04

TABLA 2. Valores promedios y error del peso corporal (g) y del volumen de los contenidos estomacales (ml) de *Sturnella magna* por sexo y estación del año. Además, se ofrecen los índices de eficiencia (Ie). n=número de muestra.

Sexos Estaciones (n)	Peso corporal $\bar{X} \pm S_{\bar{x}}$	Volumen $\bar{X} \pm S_{\bar{x}}$	Ie %
Hembras (13)	95.6 ± 0.7	1.2 ± 0.5	98.7
Machos (10)	101.7 ± 1.7	1.4 ± 0.2	98.6
Seca (10)	98.1 ± 2.4	0.8 ± 0.05	99.2
Lluvia (13)	97.4 ± 1.6	2.7 ± 0.2	97.1

área de estudio, está basada fundamentalmente en materia animal, siendo los órdenes siguientes los mejores representados dentro de los insectos: Coleoptera, Hymenoptera, Lepidoptera, Homoptera, Thysanoptera, Dermaptera y Orthoptera, además de representantes de Araneae (Tabla 1); los de mayor abundancia son los tres primeros, tanto para las hembras como para los machos.

Además de estos componentes, se determinó que existen al menos tres especies de semillas que son consumidas por el Sabanero aunque estos elementos no se consideraron en los análisis debido a que solo constituyeron menos del 0.05%.

Al comparar la medias de los pesos corporales de los individuos y los volúmenes desplazados por los contenidos estomacales en los dos sexos, sin tener en cuenta la época del año (Tabla 2), se pudo conocer que los machos pesan más y estas diferencias son muy significativas ($P \leq 0.01$), mientras que los volúmenes desplazados son similares en ambos casos. Los índices de eficiencia alimentaria son semejantes; sin embargo, el hecho que los pesos sean diferentes, podría implicar que los machos necesitan ingerir más o menos la misma cantidad de alimentos que las hembras para mantener su peso corporal, aunque la calidad del mismo es un aspecto importante a considerar, ya que se conoció que la proporción de los distintos componentes alimentarios que conforman la dieta de ambos es diferente, lo que hace variar el aporte en nutrientes.

Por otro lado, al repetir este análisis considerando solamente las épocas del año y no el sexo (Tabla 2), se obtuvo que los pesos corporales no difieren significativamente, aunque si el volumen desplazado y por ende los indices de eficiencia alimentaria, ya que en el período lluvioso necesitan ingerir mayor cantidad de alimentos, probablemente debido a que éste coincide con la etapa reproductiva y el gasto energético es superior.

La mayor diversidad se observó en la época de lluvia sin considerar los sexos (Tabla 3), mientras en la seca se registraron los valores más bajos. Por otro lado, al evaluar cada sexo separadamente, (sin tener en cuenta las estaciones del año) se pudo apreciar que el índice de diversidad fue mayor en los machos que en las hembras, aunque en estas últimas la equitatividad es superior.

En el período lluvioso, la amplitud del nicho trófico es mayor y en esa época fue donde se encontraron las semillas en los contenidos estomacales y también una mayor variedad y cantidad de insectos, lo que es atribuible a que las aves tienen que satisfacer exigencias nutricionales mayores. De igual forma se conoció que el menor índice de superposición se encuentra entre la épocade lluvia y la seca y no entre las hembras y los machos.

Un exámen más detallado de los datos, al comparar los dos sexos en el período seco, evidenció que no existen diferencias significativas entre los pesos de los individuos (en los machos ligeramente superiores) ni entre los volúmenes desplazados. En el período lluvioso por el contrario, los pesos de los machos son mayores significativamente, así como los volúmenes desplazados por los contenidos, lo que pudiera indicar que la diferencia en el consumo de alimentos entre los sexos está determinada por época de lluvia; aunque estos resultados pueden estar influenciados por la disminución del tamaño de muestra al subdividirla dentro de cada etapa.

Con respecto a los indices ecológicos, tanto la diversidad (1.76) como la amplitud (5.4), tienen valores más altos en los machos que en las hembras durante la temporada lluviosa, mientras que en la seca, los índices de diversidad son semejantes y la mayor amplitud del nicho la poseen los machos (3.8). En cuanto a la superposición, la más alta (0.62), se obtuvo en el período menos húmedo y en la lluvia fue menor (0.45).

Otro aspecto de interés a tener en cuenta son los horarios de capturas, ya que se pudo conocer que entre las 0800 y 0959 horas, los contenidos estomacales desplazaban menos volúmenes que entre las 1000 y 1200 horas, lo que significa que la actividad alimentaria comienza en las primeras horas del día y se extiende al menos durante toda la mañana, ya que no se realizaron capturas después del mediodía.

Los valores promedios del número de presas ingeridas de

TABLA 3. Diversidad (H'), equitatividad (J'), amplitud del nicho (B_{ij}) y superposición del nicho trófico (μjk) de *Sturnella magna* por sexo y estación del año.

Sexos y estaciones	H'	J'	B_{ij}	μjk
Machos	1.41	0.82	4.29	0.654
Hembras	1.27	0.93	3.48	
Lluvia	1.80	0.62	0.69	0.473
Seca	0.60	0.80	2.0	

TABLA 4. Valores promedios en el número de individuos de cada orden, consumidos por *Sturnella magna*.

Ordenes	Hembras $\bar{X} \pm S_{\bar{x}}$	Machos $\bar{X} \pm S_{\bar{x}}$
Coleoptera	22.7 ± 1.02	25.0 ± 1.03
Hymenoptera	34.3 ± 6.85	30.2 ± 5.07
Lepidoptera	18.3 ± 0.81	24.0 ± 0.50
Homoptera	3.8 ± 1.11	3.7 ± 1.09
Thysanoptera	–	1.3 ± 0.14
Dermaptera	–	1.5 ± 0.20
Orthoptera	–	1.2 ± 0.15
Araneae	1.3 ± 0.90	–

cada orden se presentan en la Tabla 4, donde se aprecia que son los himenópteros los mejores representados y dentro de este grupo los formícidos, seguidos de los coleópteros fundamentalmente de las familias Curculionidae, Anthibridae y Brentidae. En su mayoría los insectos de estos grupos son defoliadores y algunos taladradores de las raíces de las plantas; por lo que su control redunda en beneficios de los pastos.

Dentro del orden Coleoptera, también se observaron ejemplares de *Ataeneus* sp. (Scarabaeidae), estos son atraídos por excretas de animales superiores participando en el reciclaje del estíercol por excretas y a su vez, ellos pueden dispersar quistes de helmintos y protozorarios parásitos de animales domésticos.

Otro grupo a considerar son los lepidópteros, ya que en general, las formas más comunes encontradas en los contenidos estomacales resultaron ser larvas, lo cual es de interés, ya que, precisamente este estado es el que más perjudica a los cultivos. Resultado similar fue encontrado por Bryant (1914) en la dieta de *Sturnella neglecta*.

Por otro lado, entre los homópteros que se hallaron con mayor frecuencia se encuentran los de la famila Cercopidae, conocidos vulgarmente como salivitas, las cuales poseen una gran importancia económica por ser insectos chupadores que constituyen plagas en pastos establecidos (Pazos 1989).

El sistema de pastoreo racional Voisin estrictamente aplicado, supone un régimen de manejo que dificulta que determinadas especies de insectos completen su ciclo de vida (R. Ruiz, com. pers.), así como la proliferación de algunas plagas; sin embargo, como se aprecia en estos resultados, hay una alta incidencia de varios grupos que sí pudieran ser considerados en potencia como perjudiciales al buen desarrollo de los pastos, ya que del total de componentes alimentarios de la dieta de *S. magna*, aproximadamente el 62% fue reportado con anterioridad por Pazos (1989) como dañinos a ese tipo de cultivo, por lo que el Sabanero puede ser calificado como un ave beneficiosa al actuar como controlador biológico, ya que su alimentación es mayormente insectívora.

Al referirse a la dieta de la subespecie norteamericana, Bent (1958) señaló que en los meses de verano, la mayoría de sus alimentos consisten en insectos de formas aladas, los cuales constituyen plagas en los campos y dice además, que es destructivo con los ortópteros, himenópteros y coleópteros, mientras en el otoño y en el invierno incorporan a su dieta granos de cereales.

Nuestros resultados coinciden en gran medida con lo expresado por Bent (1958) para *S. magna* y por Bryant (1914) en el caso de *S. neglecta*, en lo referente a los componentes de origen animal; sin embargo, con respecto a la parte vegetal no sucede lo mismo, ya que tanto para una especie como para la otra, los porcentajes de consumo de ese tipo de alimento son altos (26 al 36%, respectivamente). Al parecer en el país antillano, existe una mayor disponibilidad de fuentes de alimentación de origen animal, lo que posibilita que no se vea afectada la composición de la dieta en los meses cálidos.

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LITERATURE CITED

ACOSTA, M. Y V. BEROVIDES. 1982. Ecología trófica de las palomas del género *Zenaida* en el S. de Pinar del Río. Cien. Biol. 7:113-123.

BEAL, F. E. 1915. Some common bird useful to the farmer U. S. Depart. Agric. Farmers' Bull. No. 630:14-15.

BENT, A. C. 1958. Life histories of North American blackbirds, orioles, tanages and allies. U. S. Nat. Mus. Bull. 211.

BRYANT, H. C. 1914. A determination of economic status of the Western Meadowlark (*Sturnella neglecta*) in California. *Univ. California Publ. Zool.* 11(4):377-510.

FORBUSH, E. H. 1907. *Useful birds and their protection.* Massachusetts State Board Agric., pp. 316-319.

LANYON, W. E. 1957. The comparative biology of meadowlarks (*Sturnella*) in Wisconsin. Nuttall Ornithological

Club No. 1. Cambridge, Massachusetts.
LEVINS, R. 1968. Evolution in changing environments. Princeton Univ. Press, Princeton, New Jersey.
LLOYD, M. Y R. GHELARDI. 1964. A table for calculating the equitabillty component of species diversity. J. Anim. Ecol. 33:217-226.
PAZOS, R. 1989. Plagas, enfermedades de pastos. [inédito]. Instituto de Pastos y Forrajes. Ministerio de la Agricultura, La Habana.
SAUNDERS, W. E. 1937. Western Meadowlark near London (Ontario). Canadian Field-Naturalist 51:29-30.
SHANNON, C. E. Y W.WEAVER. 1949. The mathematical theory of communication. Illinois Univ. Press. Urbana.
SCHOENER, T. W. 1970. Non-synchronous spatial overlap of lizards in patchy habitats. Ecology 51:408-418.

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THE BLACK VULTURE (*CORAGYPS ATRATUS*) CONTINUES WANDERING IN CUBA

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On 8 July 1997, during a bird–watching journey in Pinar del Río province, we saw a Black Vulture (*Coragyps atratus*) flying in a flock of 13 Turkey Vultures (*Catartes aura*) in the place known as "La Guabina," Cuba (latitude 22°29′; longitude 83°45′). The Black Vulture's different shape compared to the Turkey Vultures in the flock alerted us, and with the help of binoculars we verified it was not *Cathartes aura*, the common vulture in Cuba. Characteristic features of the Black Vulture were clear, including the shorter tail, shorter and wider wings, and black head that is held more elevated during flight, as compared with the Turkey Vulture.

The Black Vulture is considered a vagrant in Cuba (Garrido and Kirkconnell 1993). It has been reported from Cuba by several observers, including Cory (1891), who noted the it in March-April 1891. Danforth (1928) recorded four individuals flying around near the summit of a high hill above El Cobre, Santiago de Cuba, in the summer of 1926. Bruner (1940) saw a Black Vulture flying among about 50 Turkey Vultures over the Almendares River in Havana City, on 7 April 1940.

Albelardo Moreno (in preparation) saw 3 Black Vultures flying with several Turkey Vultures in "Finca La Jata," Guanabacoa, Havana City, on 13 March 1943, and recorded this species in "El Veral," Guanahacabibes, Pinar del Río, on 28 January 1971, again in a flock of Turkey Vultures. Luis S. Varona (*in* Garrido and García 1975)saw the species south of the Bacunayagua bridge, in Matanzas, in 1960, and another near La Salud, Havana, in 1961. Garrido and García (1975) reported the observation (by Garrido and R. Alayo) of a Black Vulture flying in a flock of 3 or 4 Turkey Vultures, near Candelaria, Pinar del Río, on 25 March 1962. Subsequently, Garrido saw a Black Vulture in Nortey, 12 km west of Cayajabos, near Candelaria, Pinar del Río, on 12 March 1968. In 1979, Garrido (1992) observed a Black Vulture near the Zapata Swamp. Orlando Torres (pers. comm.) watched a Black Vulture flying among a flock of 17 Turkey Vultures, and land on a rock in La Gran Piedra, Santiago de Cuba, on 21 December 1980.

We can offer no good explanation why the Black Vulture has not become established as a breeding species in Cuba, since both species of vultures share similar habitats and habits in other latitudes (Prior 1990), and even are known to nest close to one another (Richardson 1989).

LITERATURE CITED

BRUNER, S.C. 1940. El Zopilote en Cuba (Aves: Cathartidae). Mem. Soc. Cubana Hist. Nat. 14(2):105-106.
CORY, C. B. 1891. A list of the birds taken and observed in Cuba and the Bahama Islands during March and April, 1891. Auk 8(3):294).
DANFORTH, S T. 1928. Birds observed in the vicinity of Santiago de Cuba. Wilson Bull. 40:178-182.
GARRIDO, O. H., AND F. GARCÍA MONTAÑA. 1975. Catálogo de las aves de Cuba. La Habana: Academia de Ciencias de Cuba.
GARRIDO, O. H 1992. Conozca las rapaces. La Habana: Edit. Gente Nueva.
GARRIDO, O. H., AND A. KIRKCONNELL. 1993. Checklist of the Cuban birds.
MORENO, A. (in preparation). Ornitologia cubana, vol. II, Orden Falconiformes.
PRIOR, K. A. 1990. Turkey Vulture food habits in southern Ontario. Wilson Bull. 102(4):706-710.
RICHARDSON, D. M. 1989. Close nesting of a Black Vulture and Turkey Vulture. Wilson Bull. 101(4):639-640.

SIGHTINGS OF THE BLACK VULTURE (*CORAGYPS ATRATUS*) IN CUBA

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ON 3 FEBRUARY 1998 a group of International Crane Foundation members were traveling along the express highway from Havana toward Yaguajay in Sancti Spíritus province. While in Cienfuegos province, approximately 15 km from the Sancti Spíritus province border, nine Black Vultures (*Coragyps atratus*) were seen circling near the road on the south side. A second observer saw a single Black Vulture on the ground near the north side of the road. The birds were low enough to be easily distinguished by the underwing white primaries, short fanned tail and dark head. Both birders have experience in identifying Black Vultures and agreed on the identity. A short distance farther along the highway another Black Vulture was sighted in low level flight making a total of 11 seen during the trip.

In the following six days in the field and traveling we saw many Turkey Vultures (*Cathartes aura*), but no other Black Vultures.

It was interesting to find so few Black Vultures in Cuba, while 150 km away in Florida a large population extends well north on the Florida peninsula plains. It occurred to me that perhaps the competition for habitat with the very numerous Turkey Vultures might be partly responsible for the infrequent occurrence of the Black Vultures in Cuba.

ABSTRACTS OF PAPERS PRESENTED AT THE 1998 ANNUAL MEETING OF THE SCO, GUADELOUPE, FRENCH WEST INDIES

LA PLACE DES ÎLES EN ECOLOGIE

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Les îles ont fasciné les êtres humains aussi loin que remonte notre mémoire collective. Cette fascination n'a pas épargné les biologistes. Le rôle des îles a été déterminant dans l'émergence de la pensée évolutive et dans celui de tout un champ de recherche allant de la biogéographie à l'écologie. Les îles ont également joué un rôle primordial dans la prise de conscience de l'érosion de la diversité biologique. A chacune de ces étapes, l'étude des oiseaux insulaires a occupé le devant de la scène. Ce sera l'objet de la première partie de cet exposé. Au cours de la seconde partie j'illustrerai, à travers quelques exemples issus de mes propres recherches, le rôle que peuvent jouer les îles pour mieux comprendre les conséquences de l'un des changements planétaires majeurs à savoir la présence, au sein des milieux continentaux et insulaires, d'une proportion croissante d'espèces volontairement ou involontairement introduites par l'homme. Quelles en sont les conséquences sur la richesse biologique? Que nous apprennent-elles sur les mécanismes qui régissent cette richesse et sur les moyens de la préserver?

ISLANDS: HOW AND WHY THEY BECAME AND REMAIN IMPORTANT IN ECOLOGY

Islands have always fascinated the human mind. Scholars in biology are no exception. Islands have played a key role in the shaping of evolutionary thinking and of a wide range of research fields from biogeography to ecology. Islands were also essential in raising the awareness of an erosion in biological diversity at a global scale. The study of birds on islands has made an outstanding contribution to each of these steps. This is what I will develop in the first part of my talk. In the second part, I will use a few examples chosen among my own research to illustrate the role islands can play in helping us to understand the consequences of a major planetary change, namely the increasing proportion of non-native species willingly or accidentally introduced by humans in most ecosystems both on islands and on continents. What can islands teach us about the biological consequences of these introductions and on possible ways to mitigate them?

PROTECTION D'UNE COLONIE DE STERNE DE DOUGALL (*STERNA DOUGALLII*), SUR LA COMMUNE DE SAINTE MARIE, MARTINIQUE

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La Sterne de Dougall (*Sterna dougallii*) est une des neuf espèces d'oiseaux marins les plus menacées dans la région Caraïbe (ICBP 1984). Une petite colonie d'une cinquantaine de couples de cette espèce a été découverte en mai 1996 sur la presqu'île du Pain de Sucre, sur la commune de Sainte Marie en Martinique. Une seule autre colonie de Sterne de Dougall est actuellement connue en Martinique, sur un îlot de la baie du Robert (Tayalay, comm. pers.). Quelques couples de Sterne Bridée (*Sterna anaethetus*) nichent également sur

le Pain de Sucre. Le site est aussi régulièrement visité par le Balbuzard Pêcheur (*Pandion haliaetus*), le Noddi Brun (*Anous stolidus*), et la Sterne Royale (*Sterna maxima*). La colonie de Sterne de Dougall subit une prédation par le rat noir (*Rattus rattus*) qui a été limitée en 1996 par la pose de pièges. Cette presqu'île rocheuse qui constitue une avancée sur l'Océan Atlantique est régulièrement visitée par des pêcheurs à la ligne. En 1997 et semble-t-il en 1998, le site a été abandonné par les sternes, vraisemblablement suite à un pillage des oeufs par des humains. Les oiseaux se sont alors réinstallés sur un îlot faisant face au village de Sainte Marie. Ce site devrait prochainement être classé en Arrêté de Protection de Biotope, pour en garantir la pérennité et en interdire l'accès en période de reproduction.

PROTECTION OF A ROSEATE TERN (*STERNA DOUGALLII*) COLONY SITE ON SAINTE MARIE TOWN, MARTINIQUE, F.W.I.

The Roseate Tern (*Sterna dougallii*) is one of the nine most threatened seabird species in the Caribbean (ICBP 1984). A colony of 50 pairs of Roseate Terns was discovered in May 1996 on the Pain de Sucre peninsula, on Sainte Marie commune, Martinique. At present, only one other Roseate Tern colony is known in Martinique, on an islet of Le Robert Bay (Tayalay, comm. pers.). Some Bridled Terns (*Sterna anaethetus*) also nest on the Pain de Sucre peninsula. This site is also regularly frequented by Ospreys (*Pandion haliaetus*) and is used as a foraging and resting place for other seabird species, such as Brown Noddies (*Anous stolidus*) and Royal Terns (*Sterna maxima*). Depredation by rats (*Rattus rattus*) was recorded and then limited by trapping in 1996. The Pain de Sucre peninsula is regularly visited by anglers, because this site is an advanced prominence towards the Atlantic Ocean. Egg collecting by humans is suspected to be the cause of nest site desertion by Roseate Terns in 1997 and 1998. Each year the colony moved to an islet in front of Sainte Marie village. A protective order should be issued soon to prohibit access to the peninsula during the tern breeding season.

PROTECCIÓN DEL LUGAR DE UNA COLONIA DE PALOMETAS (*STERNA DOUGALLII*) EN EL POBLADO DE SAINT MARIE, MARTINICA, ANTILLAS FRANCESAS

La Palometa (*Sterna dougallii*) es una de las nueve especies de aves marinas más amenazadas del Caribe (ICBP 1984). En mayo de 1996 una colonia de 50 parejas de Palometas fue descubierta en la península de Pain de Sucre, comunidad de Sainte Marie, Martinica. Actualmente hay solamente una otra colonia de Palometas en Martinica, en un islote de la bahía de Le Robert (Taylay, com. pers.). Algunas Gaviotas Monja (*Sterna anaethetus*) también anidan en la peninsujla de Pain de Sucre. Este lugar es utilizado como reposo y sitio de alimentación por otras especies como el Águila de Mar (*Pandion haliaetus*), la Gaviota Cervera (*Anous stolidus*) y la Gaviota Real (*Sterna maxima*). La depredación por ratas (*Rattus rattus*) fue documentada y luego limitada a través de trampeo en 1996. La península de Pain de Sucre es visitada frecuentemente por pescadores, por su topografía característica en relación al Océano Atlántico. La colecta de huevos por la gente se sospecha como una causa principal en el abandono del área por Palometas en 1997 y 1998. Cada año la colonia se traslada a un islote frente a la comunidad de Saint Marie. Urge una orden de protección que prohiba el acceso a la península durante la temporada reproductiva de las gaviotas.

ETUDE DE L'AVIFAUNE DE LA RESERVE NATURELLE DES ILETS DE SAINTE ANNE, MARTINIQUE

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Les îlets de la Baie des Anglais, sur la commune de Sainte Anne en Martinique, abritent une importante colonie de Sternes Fuligineuses (*Sterna fuscata*; 8000 couples), ainsi qu'une centaine de couples de Sternes Bridées (*S. anaethetus; 100 couples*), environ 300 couples de Noddis Bruns (*Anous stolidus*) et quelques couples de Phaéton à Bec Rouge (*Phaethon aethereus*). Les cavités de l'îlet Hardy y accueillent également une petite population du rare Puffin d'Audubon (*Puffinus lherminieri*; 40 couples reproducteurs en 1998). Ces quatre îlets qui totalisent 5.6 ha ont été classés en Réserve Naturelle Nationale en 1995. Une étude est en cours sur cette réserve, depuis juin 1997. Elle dresse un premier état des lieux des populations d'oiseaux et aboutit à la mise en place d'un protocole de suivi applicable par les gardiens du Parc Régional de la Martinique. Les principaux résultats portent sur la taille des colonies, la phénologie de la reproduction, la taille des oeufs, le succès reproducteur et la croissance des poussins. Une prédation sur les oeufs est exercée par des rats, par le Tournepierre à Collier (*Arenaria interpres*), et peut-être par le Quiscale Merle (*Quiscalus lugubris*). La comparaison de ces résultats avec ceux d'autres archipels, dans les Caraïbes et dans d'autres mers, semble apporter des éléments de réponse sur le fonctionnement des populations martiniquaises.

STUDY OF SEABIRDS COLONIES IN THE ILETS DE SAINTE ANNE NATURE RESERVE, MARTINIQUE

The Baie des Anglais islets, on the southernmost tip of Martinique's Atlantic coast (commune of Sainte Anne), are a breeding place for an important colony of Sooty Terns (*Sterna fuscata*; 8000 pairs), Bridled Terns (*S. anaethetus*; 100 pairs), Brown Noddies (*Anous stolidus*; 300 pairs), and a few Red-billed Tropicbirds (*Phaethon aethereus*). A small population of the rare Audubon's Shearwater (*Puffinus lherminieri*) gathers in the cavities of Hardy islet (40 breeding pairs in 1998). These four islets, which total 5.6 ha, were

named as a National Nature Reserve in 1995. Ongoing studies of these birds began in 1997 to identify the status of these seabird populations and to set a protocol for a long-term study by the Parc Naturel Régional de la Martinique wardens. Primary results thus far deal with colonies sizes, breeding phenology, egg dimensions, breeding success, and chick growth. Egg predators include rats (*Rattus* spp.), Ruddy Turnstones (*Arenaria interpres*), and possibly the Carib Grackle (*Quiscalus lugubris*). Comparison of our results with those on other archipelagos, in and outside the West Indies, provides some insight on Martinique seabird populations ecology.

COLONIAS DE AVES MARINAS EN LOS ISLOTES DE SAINTE ANNE, MARTINICA, ANTILLAS FRANCESAS

Los islotes de Baie des Anglais en el extremo sur de la costa atlántica de Martinica (comunidad de Sainte Anne), son lugares de importancia para colonias de Gaviotas Oscuras (*Sterna fuscata*; 800 parejas), Gaviota Monja (*Sterna anaethetus*; 100 parejas), Gaviota Cervera (*Anous stolidus*; 300 parejas) y unas pocas parejas del Chirre de Pico Rojo (*Phaethon aethereus*). Una pequeña población del Diablotin (*Puffinus lherminieri*) se encuentran en cavidades en el islote Hardy (40 parejas en 1998). Estos cuatro islotes, que cubren 5.6 ha, fueron designados como reserva natural nacional en 1995. Estudios de estas aves marinas comenzaron en 1997 para identificar el estado de sus poblaciones y establecer un protocolo de monitoreo a largo plazo conducido por los guarda parques del Parc Naturel Regional de la Martinique. Los resultados preliminares incluyen tamaño de las colonias, fenología reproductiva, mensura de los huevos, crecimiento de pichones y éxito reproductivo. Depredadores de huevos incluyen ratas *(Rattus spp.)*, Playero Turco (*Arenaria interpres*) y posiblemente el Mozambique (*Quiscalus lugubris*). Comparando nuestros resultados con otros arquipiélagos, dentro y fuera de las Antillas, provee algunas perspectivas sobre la ecología de aves marinas en Martinica.

LA PETITE STERNE (*STERNA ANTILLARUM*) ET LA STERNE PIERREGARIN (*S. HIRUNDO*), ENJEUX DE LA BIODIVERSITE DE LA RESERVE NATURELLE DU GRAND CUL-DE-SAC MARIN (GUADELOUPE, F.W.I.)

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La Sterne des Antilles ou Petite Sterne (*Sterna antillarum*) et la Sterne Pierregarin (*S. hirundo*) sont des espèces protégées en France. Dans les Antilles Françaises, les seuls sites de nidification de *S. antillarum* se trouvent en Guadeloupe et sont très restreints. Un des premiers sites de nidification a été identifié en 1995 sur un îlot sableux nouvellement formé (Ilet Carénage) dans le lagon du Grand Cul-de-Sac Marin, les oiseaux nichant entre le 20 mai et le 15 juin. En 1996, la nidification n'a pas été observée. Une étude été menée en 1996 pour en rechercher les causes. En visitant le site et en comparant le cas à d'autres études de la Caraïbe, il ressort que l'abandon du site par les sternes est dû à un changement d'habitat lié à sa colonisation végétale et à sa trop grande fréquentation par les plaisanciers. Compte tenu du statut de ces deux espèces, et plus particulièrement de celui de la Sterne des Antilles, des recommandations ont été données à l'administration, qui se sont traduites par la parution d'un arrêté préfectoral en 1998, réglementant l'accès à l'îlet pendant la période de reproduction. Par ailleurs, une campagne de sensibilisation du public a été entreprise et devrait permettre à terme d'assurer la conservation de ce site de nidification.

LEAST TERN (*STERNA ANTILLARUM*) AND COMMON TERN (*S. HIRUNDO*): BIODIVERSITY GOALS IN GRAND CUL-DE-SAC MARIN NATURE RESERVE, GUADELOUPE, F.W.I.

The Least Tern (*Sterna antillarum*) and Common Tern (*Sterna hirundo*) are protected by law in French territories. In the French West Indies, Least Terns breed only in a few places, all of which are in Guadeloupe. One of the most important breeding sites was located in 1995 on a newly built sandy islet (Ilet Carénage) in Grand Cul-de-Sac Marin lagoon. Birds were found nesting there about 20 May. No nesting was observed there in 1996 and efforts were made to determine the reason for this absence of breeding. Visits to the site and comparison with other studies suggest the desertion by terns was caused by both habitat change through plant colonization and by frequent disturbances by tourists in pleasure-boats. Knowing the conservation status of both species, particularly that of the Least Tern, recommendations were given to the administration and resulted in issuance of a protective ordinance in 1998. This order regulates landing on Ilet Carénage during the breeding season. At the same time, a public information campaign has been started, which should allow the protection of this breeding site in the future.

GAVIOTA CHICA (*STERNA ANTILLARUM*) Y GAVIOTA COMÚN (*S. HIRUNDO*): METAS PARA LA BIODIVERSIDAD DE LA RESERVA NATURAL GRAND CUL-DE-SAC MARIN, GUADELOUPE, ANTILLAS FRANCESAS

La Gaviota Chica (*Sterna antillarum*) y la Gaviota Común (*S. hirundo*) son protegidas por ley en el territorio francés. En las Antillas Francesas la Gaviota Chica se reproduce en unos pocos lugares, todos ellos localizados en Guadeloupe. Uno de los lugares principales fue descubierto en 1995 en un nuevo islote arenoso (Ilet Carénage) en la laguna de Grand Cul-de-Sac Marin. Se reportaron anidando cerca del 20 de mayo. En 1996 no hubo reportes de nidos y se comenzaron esfuerzos para determinar su ausencia. Visitas al lugar y consultas de la literatura sugiere que el abandono por las Gaviotas Chicas se debe mayormente a cambios en el hábitat por colonización de vegetación y a perturbación por turistas. Dado el estado de conservación de ambas especies, en particular la Gaviota Chica, una ordenanza fue emitida en 1998. Este reglamento regula las visitas al lugar durante la temporada de reproducción de las gaviotas. De igual forma se ha iniciado una campaña de educación pública, lo que debe ayudar a

garantizar la protección del lugar.

LES OISEAUX DE MER EN GUADELOUPE (ANTILLES FRANCAISES)

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Trente-quatre espèces d'oiseaux de mer ont été observées aux alentours de la Guadeloupe et de ses dépendances proches: les Saintes, la Désirade et Marie-Galante. Douze sites présentent un intérêt particulier pour la reproduction de 11 de ces espèces. De 5000 à 10,000 oiseaux (dont 3500–7000 Sternes Fuligineuses *Sterna fuscata*) appartiennent à des espèces qui nichent de manière certaine ou probable en Guadeloupe. De 1500 à 3000 oiseaux (dont 1500 à 2000 Frégates *Fregata magnificens*) sont présents habituellement ou de passage sans être nicheurs. Ces oiseaux sont généralement protégés par le relief, îlets souvent inaccessibles et par leur présence dans des falaises abruptes. Quand ce n'est pas le cas, les colonies peuvent subir des prélèvements (Sterne Fuligineuse) ou des dérangements importants (Sterne de Dougall *Sterna dougallii*, Sterne Pierregarin *S. hirundo*, et Petite Sterne *S. antillarum*) par la fréquentation humaine. Des précautions particulières doivent être prises pour les sternes blanches qui ne nichent plus sur les seuls sites situés en zone protégée dans le Grand Cul-de-Sac Marin

SEABIRD STATUS IN GUADELOUPE, F.W.I.

Thirty-four species of seabirds have been observed in the vicinity of Guadeloupe and its close dependencies, les Saintes, Désirade, and Marie-Galante. About 12 sites are of particular interest because of the nesting of 11 of these species. About 5000 to 10,000 seabirds (including 3500 to 7000 Sooty Terns, *Sterna fuscata*) breed or potentially breed in Guadeloupe. Another 1500–3000 birds are migrants or transients (including about 1000–2000 Magnificent Frigatebirds (*Fregara magnificens*) that do not breed in the area. Generally, birds are protected by the topography: islets are hardly accessible and cliffs are abrupt. When this is not the case, nests of Sooty Terns can be poached and Common (*Sterna hirundo*), Roseate (*S. dougalii*), and Least (*S. antillarum*) terns may be disturbed on islets by human visitors. Special conservation efforts are needed for Common and Roseate terns which nested in the past on small islets of the Grand Cul-de-Sac Marin, but left the only sites located in a protected area.

ESTADO DE LAS AVES MARINAS EN GUADELOUPE, ANTILLAS FRANCESAS

Treinta y cuatro especies de aves marinas han sido reportadas en los alrededores de Guadeloupe e islas adyacentes: les Saintes, Désiderade y Marie-Galante. Hay unos 12 lugares que son de interés particular ya que son lugares de anidaje para 11 de las 34 especies. De 5000 a 10,000 aves marinas (incluyendo de 3500 a 7000 Gaviota Oscura *Sterna fuscata*) potencialmente se reproducen en Guadeloupe. Otras 1500 a 3000 aves marinas son transeúntes, incluyendo de 1000 a 2000 Tijeretas (*Fregata magnificens*), las que no anidan en el área. La mayor protección para estas aves es la propia topografía ya que los islotes son de difícil acceso y los precipicios son considerables. En sitios donde no hay estas condiciones, nidos de gaviota oscura son cosechados, y los de Gaviota Común (*Sterna hirundo*), Palometa (*Sterna dougallii*), y Gaviota Chica (*Sterna antillarum*) perturbados por visitantes a los islotes. Se requieren esfuerzos de conservación particulares para la gaviota común y la palometa, las que antiguamente anidaban en pequeños cayos del Grand Cul-de-Sac Marin, pero hoy en día han abandonado los únicos lugares dentro del área protegida.

ETAT DE LA POPULATION DU RALE GRIS *RALLUS LONGIROSTRIS CARIBAEUS* SUR L'ILET FAJOU (GUADELOUPE)

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L'îlet Fajou (115 ha) se trouve dans le lagon de la Réserve Naturelle du Grand Cul-de-Sac Marin. Cette zone est également une réserve MAB, et concernée par la convention de Ramsar. Le Râle Gris (*Rallus longirostris*) est une espèce protégée, et la sous-espèce *caribaeus* est endémique d'une partie de l'arc antillais. Une étude menée en 1995 avait pour objectif d'évaluer la population sur l'îlet Fajou. Nous avons utilisé la méthode des transects en repérant les territoires. Trois transects recouvrant différents types de milieux ont été suivis lors de 19 visites pendant le pic de reproduction qui se situe en juin. Nous avons estimé à 38 individus la population sur l'îlet, soit 19 couples. L'habitat préférentiel du Râle est la mangrove à Palétuviers rouges qui délimite les marais d'eau salée (37% des effectifs). Sur 4 nids contenant des œufs que nous avons pu observer, 3 ont été détruits. Les prédateurs présents sur l'île sont les rats (*Rattus rattus* et *Rattus norvegicus*) ainsi que la mangouste (*Herpestes auropunctatus*). Le statut de cette espèce sur cet "let est donc fragile, il convient dévaluer l'impact des prédateurs sur les niveaux de populations et éventuellement de mener une campagne d'éradication contre ces prédateurs.

POPULATION ESTIMATE FOR THE CLAPPER RAIL (*RALLUS LONGIROSTRIS CARIBAEUS*) ON ILET FAJOU (GUADELOUPE, F.W.I.)

Ilet Fajou is a 115 ha island in the Grand Cul-de-Sac Marin Nature Reserve, a lagoon limited by Basse-Terre and Grande-Terre islands. This site is also a MAB Reserve and is on the Ramsar convention list. The Clapper Rail (*Rallus longirostris*) is protected by French law and the *caribaeus* subspecies is endemic to part of the West Indies. A study was conducted in 1995 to estimate the population of this species on Ilet Fajou.

We used a transect method, including territory mapping. Three 1-km-long transects were visited 19 times during the peak of the breeding season in June. I estimated the island population at 38 individuals, with a minimum of 19 pairs. Thirty–seven percent of the individuals were found in *Rhizophora* mangrove which delineates salt-water marshes. Depredation on Clapper Rails seems to be important. At the four nests with eggs, three were destroyed. Predators living on the island are rats (*Rattus rattus* and *R. norvegicus*) and the small Indian mongoose (*Herpestes auropunctatus*). This rail should be considered threatened on this island. The impact of these predators on Clapper Rail population levels should be assessed and a predator eradication campaign might eventually be needed.

ESTIMADOS POBLACIONALES DEL POLLO DE MANGLE (*RALLUS LONGIROSTRIS CARIBAEUS*) EN ILET FAJOU, GUADELOUPE, ANTILLAS FRANCESAS

Ilet Fajou es una isla de unas 115 hectáreas en la Reserva Natural Grand Cul-de-Sac Marin, una laguna delimitada por las islas de Basse-Terre y Grand-Terre. Está inclu'da como Reserva de la Biosfera por UNESCO y clasificada como lugar RAMSAR. En las Antillas Francesas, el Pollo de Mangle (*Rallus longirostris*) está protegido por ley y la subespecie (*R. l. caribaeus*) es endémica a Antillas. Se llevó a cabo un estudio durante el 1995 para determinar la densidad de esta especie en Ilet Fajou. Utilizamos una metodolog'a de transectos. En 1995, tres transectos de a un kilometro cada uno se utilizaron durante junio, la época de mayor actividad reproductiva. Los transectos atravesaban los tipos principales de hábitat. Logramos estimar una poblaci—n total para el islote de Ilet Fajou de 38 individuos, 19 parejas. El 37% de los individuos se encontraban en mangle rojo (*Rhizophora mangle*). La depredación aparenta ser importante para el Pollo de Mangle es este lugar. Tres de cuatro nidos encontrados fueron destru'dos. Los depredadores principales en el islote son ratas (*Rattus rattus* y *R. norvegicus*) y mangosta (*Herpestes auropunctatus*). Este rálido puede ser considerado como amenazado en este islote. Los efectos de la depredación sobre esta población deben ser evaluados y cabe la posibilidad de tener que instituir eventualmente un programa de eradicación.

DYNAMIQUE DES POPULATIONS DU PIC DE LA GUADELOUPE, *MELANERPES HERMINIERI*

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L'objectif de cette étude était de connaître le devenir des jeunes après l'envol, la durée de vie des adultes et la pérennité des couples de Pics de la Guadeloupe (*Melanerpes herminieri*). Pour cela, 76 adultes et 56 jeunes de pics ont été munis de bagues colorées et suivis. Seulement 2 jeunes ont été retrouvés nicheurs 2 ans après avoir quitté le nid, à 200 et 800 m de leur lieu de naissance. Les partenaires de 2 couples étaient toujours appariés après 3 et 4 ans. Trois mois après l'envol, 91% des jeunes n'étaient plus contactés sur leurs territoires de naissance. Trois mois après le baguage, 59% des adultes étaient toujours présents sur leurs territoires. Les modèles calculés pour les adultes prédisent une survie de 0.39 pendant l'année qui suit le marquage et de 0.74 les années suivantes. Si l'on admet que la différence est due au départ de certains oiseaux, on peut dire: (1) qu'ils représentent 47% du total; (2) que la survie réelle du pic est 0.74 soit une espérance de vie adulte de 3.27 années. Dans l'hypothèse où les disparitions correspondent à une mortalité, la survie moyenne serait de 0.53. Nous expliquerons pourquoi la réalité doit se situer entre ces deux modèles.

POPULATION DYNAMICS OF THE GUADELOUPE WOODPECKER (*MELANERPES HERMINIERI*)

The goal of the study was to determine survival rates of fledgling and adult Guadeloupe Woodpeckers (*Melanerpes herminieri*), and to examine duration of pair bonds. Seventy-six adults and 56 nestlings woodpeckers were color–banded and followed. Only two young were found nesting two years later, at 200 and 800 m from their birth nests. The mates of the two pairs were still together after three and four years. Three months after fledging, only 9% of young were seen on their parent's territory. Fifty-nine percent of the adults were still on their territories 3 months following banding. Models calculated for banded adults indicate a survival of 0.39 during banding year and 0.74 for following years. If emigration of birds explains the difference, we can say (1) it is 47% of the total; (2) the real survival is 0.74, giving a survival rate of 3.27 years for adult woodpeckers. If missing birds are in fact dead, the mean survival will be 0.53. We will explain why the answer should be in between these two models.

INVENTAIRE ET SUIVI DE L'AVIFAUNE DANS LA MANGROVE DE LA RESERVE NATURELLE DU GRAND CUL-DE-SAC MARIN (GUADELOUPE)

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La Réserve Naturelle du Grand Cul-de-Sac Marin occupe 1622 ha de formations forestières ou herbacées littorales, situées dans un vaste lagon délimité par la Basse-Terre et la Grande-Terre. Cette zone est classée en Réserve de la Biosphère et est dans la liste de la convention de RAMSAR. C'est une zone d'accueil et de refuge pour beaucoup d'espèces d'oiseaux qui fréquentent la mangrove, qu'ils soient de passage ou résidents. Une étude menée depuis avril 1996 a pour objectif de réaliser l'inventaire de l'avifaune et d'en assurer le suivi. Les oiseaux ont été capturés vivants à l'aide de filets japonais puis ont été bagués et libérés, ce qui permet

leur suivi ultérieur par recapture. Un layon a été réalisé sur une longueur de 600 m, qui traverse les différents types de végétation composant la mangrove. Après un an et demi de suivi, 256 oiseaux appartenant à 22 espèces ont été capturés. Cinq d'entre elles constituent plus de 50% du taux de capture; les recaptures représentent 57% des effectifs bagués.

COMPOSITION AND EVOLUTION STUDY OF THE MANGROVE AVIFAUNA IN GRAND CUL-DE-SAC MARIN NATURE RESERVE, GUADELOUPE, F.W.I.

Grand Cul-de-Sac Marin Nature Reserve is a 1622 ha area of coastal forest and grassland, around a vast lagoon limited by Basse-Terre and Grande-Terre islands. This site has been retained as a UNESCO Biosphere Reserve and is included on the RAMSAR convention list. This place acts as a sanctuary and rest-area for many mangrove–dependent resident and migrant bird species. This study, begun in April 1996, focuses on identifying and monitoring avifauna. Birds are captured with mist nets, ringed and released, in order to follow them in the future by recapture. A 600-m long footpath has been cut through all mangrove vegetation-types. After one-and-half years of study, 256 birds belonging to 22 species have been caught. Five species comprise more than 50% of those captured and recaptures account for 57% of the birds netted.

ESTUDIO DE COMPOSICIÓN Y EVOLUCIÓN DE LA AVIFAUNA EN EL MANGLAR DE LA RESERVA NATURAL GRAND CUL-DE-SAC MARIN, GUADELOUPE, ANTILLAS FRANCESAS

La reserva natural Grand Cul-de-Sac Marin incluye 1622 hectáreas de bosque costero y matorrales alrededor de una gran laguna delimitada por las islas de Basse-Terre y Grand-Terre. Este lugar ha sido designado como Reserva de la Bioesfera por UNESCO e incluído como lugar RAMSAR. La reserva funciona principalmente como santuario y lugar de descanso para un sinúmero de especies de aves residentes y migratorias que dependen de los ecosistemas de manglar. Nuestro estudio, iniciado en abril de 1996, está concentrado en identificación y monitoreo de la avifauna. Utilizamos redes ornitológicas para capturar y anillar aves. Un transecto de 600 m ha sido preparado a través de los tipos de vegetación en el manglar. Luego de año y medio de estudio hemos capturados 256 aves de 22 especies diferentes. Cinco de éstas constituyen más del 50% de las capturas y las recapturas componen 57% de las aves anilladas.

ETUDE DES POPULATIONS D'OISEAUX ET DE LEURS DEPLACEMENTS SUR L'AIRE DU PROJET DE LIGNE ELECTRIQUE HAUTE TENSION ST PIERRE/LE MARIGOT, EN MARTINIQUE (ANTILLES FRANÇAISES)

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Une étude ornithologique a été menée entre février et octobre 1996, à la demande du Parc Naturel Régional de la Martinique, sur l'aire d'un projet de ligne haute tension reliant St Pierre et Le Marigot. Soixante-treize espèces aviennes ont été recensées dans cette zone de 142 km² à moitié recouverte par la forêt tropicale humide, entre le niveau de la mer et 900 m. Sur ces 73 espèces, 40 sont nicheuses et 32 visitent la zone au cours de leur migration. Une distinction a été faite entre les espèces de milieux ouverts qui peuvent percuter une ligne électrique aériennne en vol, et les espèces forestières susceptibles de souffrir d'une modification de leur habitat. L'abondance de chaque espèce forestière a été déterminée avec une méthode de points d'écoute à un rayon fixe autour de l'observateur. De nombreuses sorties sur le terrain et des discussions avec des personnes locales ont permis de connaître le statut des espèces de haut vol dans la zone, ainsi que les sites qu'elles fréquentent. La sensibilité de chaque espèce au projet de ligne est évaluée en croisant son statut local et régional avec sa vulnérabilité face aux risques de collision ou à la dégradation de son habitat forestier. Le paysage et la topographie des différents secteurs susceptibles d'être traversés par la ligne sont décrits et une liste des espèces d'oiseaux qui y ont été observées est donnée. Après avoir détaillé la nature des risques pour l'avifaune dans chaque secteur, des conseils sont donnés pour les réduire et le parcours le moins perturbant est déterminé. Les résultats sur la communauté d'oiseaux forestiers sont présentés plus en détail, ainsi qu'une discussion sur la méthode des points d'écoute.

BIRD POPULATIONS AND MOVEMENTS IN THE AREA OF AN ELECTRIC HIGH-TENSION WIRE BUILDING PROJECT BETWEEN ST PIERRE AND LE MARIGOT, MARTINIQUE, F.W.I.

A seven-month study of the avifauna was conducted in 1996 for the Martinique Regional Nature Park, in the area of an electric high-tension wire building project, between St. Pierre and Le Marigot in Martinique, French West Indies. Seventy-three bird species have been recorded in this 142–km² area, half of which is covered with secondary and primary moist forest growing from sea level to 900 m. Of these 73 species, 40 breed in Martinique and 32 use the area as a migratory stop-over. A distinction is made between species living in open environments, which are at greatest risk of flying into power lines, and understory species which might suffer from a modification of their forest habitat. The abundance of each forest-dwelling bird species in the area was investigated with a fixed-radius point count method. Local status of high-flying species, as well as the places that they use, were identified through numerous field trips and through interviewing local people The potential impact of the project on each species was estimated by considering the importance of the local population, the potential for individuals to strike power lines, and the species' sensitivity to habitat disturbance. The landscape and the topography of each section which would be crossed by the power line will be described, and bird species observed there will be listed. Solutions will be proposed to minimize risk to the birds. Results on the forest bird community will be presented, together with a discussion of the method of point counts.

DESCRIPCIÓN DE LAS POBLACIONES Y MOVIMIENTOS DE LA AVIFAUNA EN UNA REGION DESIGNADA PARA CONSTRUCCIÓN DE TENDIDO ELECTRICO DE ALTA TENSION ENTRE SAINT PIERRE Y LE MARIGOT, MARTINICA, ANTILLAS FRANCESAS

Durante 1996 se llevó un estudio por siete meses en un área designada para tendido eléctrico de alta tensión en Martinica. Detectamos 73 especies de aves en una región de 142 km², la mitad cubierta de bosque húmedo primario y secundario, y a una elevación que se extiende desde nivel del mar hasta los 900 m. De las 73 especies, 40 se reproducen en Martinica y otras 32 utilizan la isla como paso durante la migración. Distinguimos entre especies que viven a espacio abierto y corren el mayor riesgo de chocar con las líneas de alta tensión, y aquéllas que son mayormente del sotobosque y pueden ser negativamente afectadas al ser alterado su hábitat por la construcción. La abundancia de especies de bosque fue determinada utilizando parcelas circulares. El estatus de especies de cielo abierto y los lugares que utilizan se determinó a través de diversas visitas al campo y mediante entrevistas a la población local. El impacto del proyecto se estimó tomando en cuenta la importancia de la población de aves a nivel local, el potencial de chocar con las líneas del tendido eléctrico, y la sensibilidad a perturbación del hábitat. Describimos el paisaje y la topografía de cada segmento del proyecto, y listamos las especies observadas. Se proponen soluciones que minimizen el riesgo a la avifauna.

POSSIBILITE D'INSTALLATION D'UNE POPULATION NICHEUSE DU BALBUZARD PÊCHEUR (*PANDION HALIAETUS*) EN GUADELOUPE

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Le Balbuzard Pêcheur (*Pandion haliaetus*) est un rapace diurne piscivore, fréquentant les étendues d'eau de faible profondeur. Deux sous-espèces sont présentes dans la Caraïbe: *Pandion haliaetus carolinensis*, migrateur nord américain, observé régulièrement d'octobre à mars sur différentes îles de l'arc antillais, et *P. h. ridgwayi*, sédentaire, qui niche principalement à Cuba, aux Bahamas et à Sainte-Lucie. En Guadeloupe, la sous-espèce *carolinensis* est présente régulièrement toute l'année mais n'y a pas le statut de nicheur. L'objectif de cette étude était de définir les potentialités d'implantation d'une population nicheuse en Guadeloupe, à l'aide de nichoirs artificiels. Après analyse de différents sites d'un lagon (Grand Cul-de-Sac Marin), d'une zone d'embouchure de rivière et d'un étang d'altitude (Grand Etang), il apparaît que les zones les plus favorables à ce type d'aire de nidification artificielle sont le lagon îlet Fajou, marais Lambis) et l'embouchure de la Grande rivière à Goyaves. Suite à cette étude, il a donc été décidé d'installer des nichoirs artificiels sur les zones ainsi définies et de contrôler la nidification du Balbuzard pêcheur dans les années qui viennent.

THE POSSIBILITY OF ESTABLISHING AN OSPREY (*PANDION HALIAETUS*) BREEDING POPULATION IN GUADELOUPE, F.W.I.

The Osprey (*Pandion haliaetus*) is a raptor that captures fish in shallow fresh and salt water. Two subspecies occur in the West Indies. *Pandion h. carolinensis* is a North American breeder which is regularly seen from October to March on various Caribbean islands. *Pandion h. ridgwayi* is sedentary and breeds chiefly on Cuba, the Bahamas, and St. Lucia. In Guadeloupe, *P. h. carolinensis* is regularly seen throughout the year, but as yet is not known to nest. Our goal was to define the potential for establishing an Osprey breeding population with the help of artificial nest-platforms. After analyzing sites in a lagoon (Grand Cul-de-Sac Marin), in a river mouth area, and on a pond at higher elevation (Grand Etang), we judged that the best sites for placing such artificial platforms are in the lagoon (Ilet Fajou, Marais Lambis) and at Grande Rivière à Goyaves River mouth. Following this study, we decided to build artificial platforms at places which have been set aside and to survey for Osprey breeding in forthcoming years.

DOCUMENTANDO LA POSIBILIDAD DE UNA POBLACIÓN REPRODUCTIVA DEL AGUILA DE MAR (*PANDION HALIAETUS*) EN GUADELOUPE, ANTILLAS FRANCESAS

El Aguila de Mar (*Pandion haliaetus*) es un rapaz piscívoro que se alimenta en aguas llanas dulces y salobres. Dos subespecies visitan las Antillas: *P. h. carolinensis* se reproduce en Norte América y visita las islas del Caribe entre octubre y marzo, y *P. h. ridgwayi* es sedentario y anida principalmente en Cuba, las Bahamas y Santa Lucía. En Guadeloupe, *P. h. carolinensis* se observa regularmente a través de todo el año, pero hasta ahora no se han reportado nidos. El objetivo principal de nuestro proyecto fue definir las posibilidades de establecer en Guadeloupe una población reproductiva de águila de mar con la ayuda de plataformas artificiales. Luego de considerar varios lugares en lagunas (Grand Cul-de-Sac Marin), en boca de ríos, y en una charca a mayor elevación (Grand Etang), se determinó que los sitios más indicados eran en lagunas costeras (Ilet Fajou, Marais Lambis) y en las bocas de los ríos Grande Rivière à Goyaves. Luego de esta evaluación, se construyeron plataformas de anidaje en los lugares indicados y se comenzará a monitorear la presencia de nidos de águila de mar en el futuro.

LA GRIVE A LUNETTES, NICHEUSE EN GUADELOUPE

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Un couple de Grives à Lunettes (*Turdus nudigenis*) a été observé à Capesterre Belle-Eau (Basse-Terre) en juillet 1997. Les oiseaux nourrissaient deux jeunes dans une forêt de mahoganys. En 1998, au moins trois individus ont été entendus dans la même zone. Ceci suggère que cette espèce ait pu arriver en Guadeloupe il y a plusieurs années. Des hypothèses sur l'origine de cette population sont discutées, en particulier celle d'une expansion naturelle à partir de la Martinique, sous l'action des vents du sud qui surviennent pendant la saison cyclonique.

BARE-EYED THRUSH NESTING IN GUADELOUPE, F.W.I.

A pair of Bare-eyed Thrushes (*Turdus nudigenis*) were observed feeding two nestlings in a mahogany forest in Basse-Terre, at Capesterre Belle-Eau in July 1997. A search in April 1998 revealed a minimum of three singing birds in the area. This suggests that this species may have arrived in Guadeloupe several years ago. Hypotheses for the origin of this population will be discussed, including natural expansion from Martinique northwards due to a hurricane from the south.

EL *TURDUS NUDIGENIS* ANIDANDO EN GUADELOUPE, ANTILLAS FRANCESAS

En julio de 1997, una pareja de *Turdus nudigenis* se observó alimentando dos pichones en un bosque de caobas localizado en Capesterre Belle-Eau, Basse-Terre. Una búsqueda del área en abril del 1998 reveló un mínimo de tres individuos cantando. Esto sugiere que la especie puede haber arribado a Guadeloupe hace unos años. Diversas hipótesis sobre el orígen de esta población serán presentadas, incluyendo dispersión natural hacia el norte desde Martinica luego del paso de un huracán.

LA PROTECTION DES OISEAUX AUX ANTILLES: UNE VUE D'ENSEMBLE

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En tant que protecteurs, nous avons la responsabilité de diriger nos moyens limités sur les actions de conservation, de recherche et de suivi les plus urgentes. Au niveau des espèces, cela concerne celles qui sont globalement menacées, celles qui sont naturellement vulnérables en raison d'une distribution limitée, ainsi que les espèces qui se concentrent sur des sites de nidification, d'hivernage ou de migration. La protection est souvent plus facile à mettre en œuvre au niveau de sites mais puisque l'objectif final est la conservation des espèces, le choix des priorités sera plutôt basé sur la présence des espèces citées ci-dessus. L'identification et l'étude de ces espèces doit se faire de manière standardisée et en impliquant toutes les parties concernées. BirdLife International utilise et applique depuis longtemps les critères de la liste rouge de l'UICN pour identifier et caractériser les espèces globalement menacées et a systématiquement caractérisé les zones d'endémisme de l'avifaune du monde sur la base d'espèces à faible aire de répartition (< 50,000 km²). Les "zones importantes pour l'avifaune" ont été identifiées sur quatre continents par des critères incluant, par exemple, ceux de RAMSAR pour les zones humides d'importance internationale. Ces méthodes pourraient être la pierre angulaire d'un choix des priorités et d'un plan de conservation au niveau de la Caraïbe.

CONSERVATION OF CARIBBEAN BIRDS: A GLOBAL PERSPECTIVE

As conservationists we have a global responsibility to target scarce resources on the most urgent priorities in terms of conservation action, research, and monitoring. At the species level this would include globally threatened birds, birds inherently vulnerable due to their restricted distributional ranges, and those species that congregate in significant concentrations at breeding sites, wintering sites, or on migration. Conservation is often most efficiently done at the site level, but as we are ultimately concerned with species, prioritization is perhaps best done based on the presence of those species mentioned above. The identification and documentation of such species and sites needs to be done against standardized criteria, and with the consensus and involvement of all interested parties. BirdLife International has long used and applied the IUCN Red List criteria to identify and

document globally threatened birds, and has systematically documented the world's Endemic Bird Areas on the basis of species with small ranges (<50,000 km²). "Important Bird Areas" have also been identified in four continents following criteria which, for example, incorporate the RAMSAR criteria for internationally important wetlands. These systems could form the global cornerstone of a Caribbean-wide prioritization and conservation plan.

CONSERVACIÓN DE AVES EN EL CARIBE: UNA PERSPECTIVA GLOBAL

Como conservacionistas debemos tener una responsabilidad global para dirigir los escasos recursos hacia las prioridades más urgentes en terminos de acciones de conservación, investigación y monitoreo. Si hablamos de especies, esto incluye especies de aves amenazadas a nivel mundial, aves intrinsicamente vulnerables debido a sus rangos de distribución restringida, y aquellas especies que se congregan en numeros significativos en sus sitios de reproducción, invernación o migración. La conservacion es frecuentemente más eficientemente realizada a un nivel de sitios, pero estando nosotros preocupados por la conservación de especies, la prioritización quizas sera más adecuada si esta basada en la presencia de las especies mencionadas anteriormente. La identificación y documentación de estas especies y sitios necesita ser llevada cabo en base a criterios estandarizados, y con el consenso/compromiso de todos los interesados. BirdLife International por largo tiempo ha usado y aplicado la Lista Roja de la UICN para identificar y documentar especies de aves amenazadas a nivel mundial, y sistematicamente ha documentado las Areas de Endemismo de Aves en el mundo en base a especies con rangos de distribución pequenos (<50,000 km²). Areas de Importancia para las Aves (IBAs por sus siglas en ingles) han sido identificadas en cuatro continentes siguiendo criterios que, por ejemplo, incorporan los criterios RAMSAR para humedales de importancía internacional. Estos sistemas pueden establecerse como el pilar global sobre el cual establecer una prioritizacion en todo el Caribe y un plan de conservacion.

UN RASSEMBLEMENT DE STERNES DE DOUGALL (*STERNA DOUGALLII*) ET DE STERNES PIERREGARIN (*S. HIRUNDO*) DANS L'ETAT DE BAHIA AU BRESIL

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Les premières reprises de Sterne de Dougall (*Sterna dougallii*) et de Sterne Pierregarin (*Sterna hirundo*) ont été faites sur une zone d'hivernage à Mangue Seco (Bahia, Brésil) où 10,000 sternes se rassemblent de janvier à mars. Une identification précise du lieu de baguage des oiseaux a été possible grâce à la recapture d'individus marqués. Vingt-cinq Sternes de Dougall et 102 Sternes Pierregarin d'âge connu ont été capturées. Les sternes avaient été baguées dans des colonies du nord-est des Etats-Unis, des Antilles et des Açores. Le baguage dans d'autres colonies permettrait d'indiquer le degré de convergence de ces espèces dans leurs sites d'hivernage. Nos résultats montrent l'importance des données de baguages pour connaître la distribution, les habitats fréquentés et la gamme d'espèces pour la mise en place d'actions de gestion appropriées à la conservation.

A NON–BREEDING CONCENTRATION OF ROSEATE (*STERNA DOUGALLII*) AND COMMON TERNS (*S. HIRUNDO*) IN BAHIA, BRAZIL

We report the first recoveries of Roseate (*Sterna dougallii*) and Common (*S. hirundo*) terns at a non–breeding (wintering) ground in Mangue Seco, Bahia, Brazil, where an estimated 10,000 terns gather from January to March. Both species come in after dark to roost and leave before sunrise. Accurate identification of bird–banding locations was possible through capturing of marked individuals. The recoveries included 25 Roseate and 102 Common terns of known age. Terns captured at Mangue Seco were originally banded at colonies from the northeastern United States, the Caribbean, and the Azores. Banding at other breeding colonies would indicate the degree of convergence of these species at their wintering grounds. Our findings show the importance of banding information to determine the distribution, habitat use, and range of avian species to establish the appropriate management actions for their conservation.

UNA CONCENTRACIÓN DE GAVIOTAS PALOMETAS (*STERNA DOUGALLII*) Y COMUNES (*S. HIRUNDO*) EN BAHÍA, BRASIL

Reportamos la primera recaptura de Palometas (*Sterna dougallii*) y Gaviotas Comunes (*S. hirundo*) en sus areas de invernacion en Mangue Seco, Bahía, Brasil, donde un estimado de 10,000 gaviotas se concentra de enero a marzo. Ambas especies arriban durante la noche a pernoctar para luego retirarse antes del amanecer. La identificacion acertada de la localización de anillamiento de estas aves fue possible mediante la captura de individuos marcados con anillas. Las recapturas incluyeron 25 Palometas y 102 Gaviotas Comunes de edad conocida. Gaviotas capturadas en Mangue Seco fueron originalmente anilladas en colonias del noreste de Estados Unidos, el Caribe y las Azores. El anillamiento de gaviotas en otras colonias indicaria el grado de convergencia de estas especies en sus areas de invernación. Nuestras hallazgos demuestran la importancia de los datos de anillamiento para determinar la distribución, uso de habitat, y la amplitud territorial de estas especies para poder establecer las acciones de manejo apropriadadas para su conservación.

STATUT DE CERTAINS OISEAUX DE MER AUX BAHAMAS ET DANS LES EAUX PROCHES

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Cette communication est une compilation d'observations publiées ou non provenant des Bahamas, des Turks et des Caicos, pour 35 espèces d'oiseaux de passage dont le statut est résumé ici. Les données sont en accord avec la théorie qui indique que plusieurs espèces peuvent migrer au nord-est des Bahamas.

STATUS OF CERTAIN SEABIRDS IN THE BAHAMA ISLANDS AND ADJACENT WATERS

I compiled published and unpublished records in the Bahamas and Turks and Caicos for 35 species of transient seabirds and here summarize their status. My analysis does not cover known regular breeding or wintering species. Records are consistent with the theory that several species migrate northward east of the Bahama Banks.

VITESSES D'EVOLUTION CHEZ LES VIREOS DES BUISSONS (SOUS-GENRE *VIREO*) DANS LES CARAIBES

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Les quatre principales îles des Grandes Antilles abritent 5 espèces de viréos des buissons: le Viréo de Porto Rico (*Vireo latimeri*), le Viréo de Cuba (*V. gundlachii*), le Viréo d'Hispaniola (*V. nanus*), le Viréo de la Jamaïque (*V. modestus*) et son congénère, le Viréo d'Osburn (*V. osburni*; Jamaïque). Ces espèces ne présentent pas de variation phénotypique ou de chant intra-insulaire mais se différencient facilement d'une île à l'autre et ont des chants différents bien qu'ils soient moins complexes que celui du Viréo aux yeux blancs du continent avec lequel ils partageraient un ancêtre commun. Une étude génétique d'environ 600 paires de bases de l'ADN mitochondrial du cytochrome b a montré des taux de divergence avec le Viréo à yeux blancs de 3 à 7% suggérant une spéciation datant de 1.5 à 3.5 millions d'années. Walker (1998) a au contraire trouvé de grandes similarités du chant entre le Viréo à Bec Fort (*V. crassirostris*) des Bahamas, de Caicos, des îles Cayman et de Paredon Grande Cay au large de la côte nord de Cuba et le Viréo à Yeux Blancs (*V. griseus*) du continent. Le séquençage du gène évoluant rapidement de la région de contrôle a montré une divergence de 2% entre les deux espèces indiquant une séparation possible il y a environ 100,000 ans. Ceci montre clairement deux épisodes de colonisation indépendants sont survenus dans l'évolution des Viréos des buissons antillais. Ce résultat concorde avec la datation de l'apparition des Grandes Antilles, il y a 2.5 à 3.5 millions d'années et à la récente beaucoup plus tardive réémergence de la plate-forme des Bahamas au pléistocène tardif il y a environ 100,000 ans.

EVOLUTIONARY RATES IN WEST INDIAN SCRUB VIREOS (SUBGENUS *VIREO*)

Five species of scrub vireos occur on the four major islands of the Greater Antilles – the Puerto Rican Vireo (*Vireo latimeri*), Cuban Vireo (*V. gundlachii*), Flat-billed Vireo (*V. nanus*; Hispaniola), Jamaican Vireo (*V. modestus*), and Blue Mountain Vireo (*V. osburni*; Jamaica). These species show no intra-island variation in phenotype or vocalizations, but among islands they are quite distinctive in appearance and have distinctive songs albeit less complex than song of the continental White-eyed Vireo (*V. griseus*) thought to be descended from the progenitor of the island vireos. Genetic assay of ca 600 base pairs of the mtDNA cytochrome-b gene showed levels of divergence from the white-eye varying from 3 to 7% suggesting speciation events between 1.5 and 3.5 mybp. In contrast Walker (1998) has found high similarity in song among those of the Thick-billed Vireo (*V. crassirostris*) of the Bahamas, Caicos, Cayman Islands, and Paredón Grande Cay off the north coast of Cuba, and that of the continental White-eyed Vireo. Sequencing the rapidly evolving Control Region gene showed a 2% divergence between them, suggesting in this context a separation about 100,000 ybp. This clearly demonstrates two different colonization episodes in the evolution of West Indian scrub vireos. This finding is consistent with the emergence of the four Greater Antillean islands ca 2.5 to 3.5 mybp and the much–later, most–recent re-emergence of the Bahama platform ca 100,000 bp in the Late Pleistocene.

TASAS EVOLUTIVAS EN VIREONIDOS ANTILLANOS (SUBGENERO *VIREO*)

Cinco especies de vireónidos ocurren en las Antillas Mayores. El Bien-te-veo Puertorriqueño (*Vireo latimeri*), el Vireo Cubano (*V. gundlachii*), el Vireo Pico Achatado (*V. nanus*) de la Española, y los vireos de Jamaica (Vireo Ojiblanco *V. modestus* y Vireo de los Blue Mountains *V. osburni*). Estas especies no exhiben variabilidad fenotípica ni de vocalización dentro de sus respectivas islas, pero sí entre islas. También difieren marcadamente del Vireo Ojiblanco (*V. griseus*) continental, quién a su vez desciende del ancestro de las especies insulares. Un ensayo genético de sobre 600 parejas de bases del gen citocromo-b en ADN mitocondrial indica cierto grado de divergencia de la forma continental, lo que sugiere eventos de especiación ocurridos de 1.5 a 3.5 millones de años atrás. Esto contrasta con los resultados de Walker (1998) quién encontró alta similitud entre la forma continental y el Vireo de Pico Grueso (*V. crassirostris*) en las islas Bahamas, Caicos, Caimán, y Cayo Paredón Grande al norte de Cuba. Trabajo de sequencia del gen de la región control, uno de rápida evolución, indica una divergencia de 2% entre éstos, lo que sugiere una separación hace aproximadamente 100,000 años. Esto demuestra la existencia de dos episodios distintos de colonización en la evolución de los vireónidos antillanos. Estos resultados coinciden con la aparición de las cuatro Antillas Mayores hace unos 2.5-3.5 millones de años y la posterior reaparición de la plataforma insular de las Bahamas hace unos 100,000 años, durante el Pleistoceno.

MISE EN EVIDENCE D'EVOLUTIONS PARALLÈLES GRACE A LA COMPARAISON DE SEQUENCES D'ADN MITOCHONDRIAL AINSI QUE DU CHANT CHEZ *VIREO CRASSIROSTRIS*

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La large répartition du viréo *Vireo crassirostris* en populations isolées géographiquement, est associée à des variations génétiques et culturelles différentielles. Dans cette étude des populations, je me suis penchée sur deux voies évolutives, culturelles et génétiques, dans le but de vérifier les schémas de divergence. L'analyse spectrographique du chant de 140 mâles, enregistrés à Grand Cayman, Cayman Brac, Abaco, Andros, New Providence, San Salvador, Providenciales, et Paredon Grande Cay, comprenant 79 syllabes, a indiqué 3 groupes: le groupe "Cayman," le groupe "Bahamas" et le groupe "trench" (San Salvador et Providenciales). La variabilité génétique a été évaluée en séquençant 389 paires de bases d'ADN mitochondrial. Les résultats sont illustrés par un dendrogramme qui montre 22 substitutions de transition parmi 17 haplotypes, avec de faibles niveaux de divergence, comparés aux évènements récents de spéciation. La population de Providenciales (Turks et Caicos) et des îles Cayman montrent une différenciation génétique et mémétique, tandis qu'au nord des Bahamas, il existe à la fois un flux génique et culturel, mis en évidence par une faible structuration génétique de la population.

DETECTING PARALLEL EVOLUTIONARY PATHWAYS USING MITOCHONDRIAL CONTROL REGION SEQUENCES AND SONG ELEMENTS IN THE THICK-BILLED VIREO (VIREO CRASSIROSTRIS)

The wide-ranging distribution of the West Indian Thick-billed Vireo (*Vireo crassirostris*) into geographically isolated populations is associated with differential genetic and memetic variation. In this population study of the Thick-billed Vireo, I examine two evolutionary pathways, cultural and genetic, to assess patterns of divergence. Spectrographic assay of 140 males, comprising 79 syllables recorded on Grand Cayman, Cayman Brac, Abaco, Andros, New Providence, San Salvador, Providenciales, and Paredón Grande Cay formed three clusters: "Cayman" cluster, "Bahama" platform cluster, and the "trench" cluster (San Salvador and Providenciales). Genetic variation was assessed by sequencing 389 bp of the control region (mtDNA). Results are illustrated in a minimum spanning tree showing 22 transitional substitutions among 17 haplotypes with low levels of divergence commensurate with recent speciation events. Populations in Providenciales (Turks and Caicos) and the Cayman Islands show genetic and memetic differentiation, whereas the northern Bahamas demonstrate both gene and meme flow evidenced by low population structuring.

INVENTAIRES DES DENDROCYGNES DES ANTILLES (*DENDROCYGNA ARBOREA*) EN JAMAÏQUE, DANS LES MARECAGES D'ALTITUDE ET DE PLAINE DE BLACK RIVER A ST. ELIZABETH

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Limité dans sa répartition au Nord de la Caraïbe, le dendrocygne *Dendrocygna arborea* est considéré comme une espèce "vulnérable" par l'UICN. En Jamaïque, ces canards sont localisés principalement à St. Elizabeth, dans les marécages d'altitude et de plaine de Black River, ainsi que dans les zones qui y sont associées. Les dendrocygnes y ont souvent été signalés mais il n'y a pas eu d'inventaire ni de suivi des populations. De mai à juillet 1998, nous avons mis au point une méthode basée sur le "playback" pour inventorier les populations, et nous l'avons utilisée dans la zone de Black River. Dans cette communication, nous analysons nos résultats et discutons de leur sens en matière d'utilisation de l'habitat et du statut des dendrocygnes dans cette localité. Nous indiquons les mesures à prendre pour la conservation de l'espèce; nous proposons en particulier un découpage pour mettre en place une zone protégée à Black River. Nous avons également évalué notre méthode de suivi et indiquons des perspectives de recherche.

SURVEYS OF WEST INDIAN WHISTLING–DUCKS (*DENDROCYGNA ARBOREA*) IN BLACK RIVER UPPER AND LOWER MORASSES, ST. ELIZABETH, JAMAICA

Restricted to the islands of the northern Caribbean, West Indian Whistling–Ducks (*Dendrocygna arborea*) have been listed as "vulnerable" by the IUCN. In Jamaica, the most important habitats for West Indian Whistling–Ducks are in the wetlands and associated areas of the Black River upper and lower morasses, St. Elizabeth, Jamaica. There have been many reports of the species from the area, but no attempts have been made to survey or monitor populations. From May to July 1998, we developed a method (using playback) for surveying West Indian Whistling–Ducks and applied it in the Black River area. In this paper we examine our findings and discuss what they reveal of the status and patterns of habitat use by West Indian Whistling–Ducks in Black River. We review the implications of our study for conservation (in particular the design of a proposed protected area in Black River). We also evaluate our survey method and make suggestions about the need for further research.

ESTUDIOS DE LA YAGUAZA ANTILLANA (DENDROCYGNA ARBOREA) EN EL RIO NEGRO Y PANTANOS ASOCIADOS DE ST. ELIZABETH, JAMAICA

Restricto a la región norte del Caribe, la Yaguaza Antillana (*Dendrocygna arborea*) ha sido listado como especie "vulnerable" por la Unión Mundial de Conservación. En Jamaica, las áreas más importantes para la yaguaza seencuentran en el

Río Negro y sus pantanos asociados en St. Elizabeth. Peseal gran número de informes sobre la especie para esta región, nunca hahabido un intento de censar la población. Entre mayo y julio de 1998 desenvolvimos una metodología utilizando grabaciones y la pusimos a prueba en la región del Río Negro. En esta ponencia presentamos nuestros resultados y discutimos lo que ilustran sobre el status y patrones de uso de hábitat de la yaguaza en el Río Negro. Revisamos las implicaciones de este estudio para la conservación, específicamente la designación de un área protegida en el Río Negro. Además, evaluamos el método de censo y sugerimos futuras investigaciones.

MISE A JOUR DU PROJET DE PROTECTION DU DENDROCYGNE DES ANTILLES (*DENDROCYGNA ARBOREA*)

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Un projet visant à protéger le Dendrocygne des Antilles (*Dendrocygna arborea*) et les zones humides a été initié en 1997 par le groupe de travail "Dendrocygne" de la Société Caribéenne d'Ornithologie, dans le but de stopper le déclin de cette espèce endémique. Trois donations ont permis de financer un premier colloque de sensibilisation et de formation, du 13 au 15 novembre 1997 à Nassau (Bahamas). Quarante-cinq personnes de 8 pays de la Caraïbe y ont participé, ainsi que des enseignants et des agents de protection des Bahamas. Pendant le colloque, des outils et méthodes éducatives ont été expliqués et distribués pour promouvoir le Dendrocygne et souligner l'importance des zones humides. Un des matériels fournis a été le diaporama destiné au grand public et aux lycéens. Un spectacle de marionnettes a été présenté aux écoliers de la maternelle, et on leur a offert des livres de coloriage sur le sujet. Ont également été présentées des activités sur la sensibilisation aux zones humides (tous âges), et une revue des techniques pour éduquer les chasseurs. Le colloque proposait aussi une formation sur les inventaires et les techniques de suivi des oiseaux. Quarante-cinq paires de jumelles ont été distribuées aussi bien à des fins d'éducation que pour les suivis. Deux membres du groupe de travail "Dendrocygne," respectivement jamaïcain et cubain, ont reçu un financement pour réaliser le suivi dans leur pays. Actuellement, nous travaillons sur le "guide éducatif des zones humides," sur un diaporama et une fiche d'identification des canards de la Caraïbe destinés aux chasseurs et sur un projet d'observatoire dans les îles Cayman.

UPDATE ON THE WEST INDIAN WHISTLING-DUCK AND WETLANDS CONSERVATION PROJECT

The "West Indian Whistling-Duck (WIWD) and Wetlands Conservation Project" was initiated in 1997 by the WIWD Working Group (WG) of the SCO in order to reverse the decline of this endemic species. Utilizing funds received from three grants, the WG sponsored its first training workshop, "The West Indian Whistling-Duck and Wetlands Education Training Workshop," on 13-15 November 1997, in Nassau, Bahamas. The workshop was attended by 45 people including island representatives from eight Caribbean countries and Bahamian schoolteachers and conservation personnel. Educational tools and methodologies for the promotion of the WIWD and the importance of wetlands were viewed and distributed at the workshop. These included presentation and distribution of our WIWD and Wetlands Conservation slideshow developed for the general public and secondary age schoolchildren, presentation of a puppet show and coloring book for primary-age schoolchildren, wetland education activities for all ages, and review of hunter education techniques. The workshop also included a training session on population survey and monitoring techniques. Forty-five pairs of binoculars have been distributed for use in education and monitoring and funding has been awarded to WG members in two countries (Jamaica, Cuba) to carry out WIWD population surveys. We are currently working on a wetlands education workbook, hunter education slide show, Watchable Wildlife Pond Project in the Cayman Islands, and a "Ducks of the West Indies" identification card for hunters.

STATUT DE L'ORIOLE DE MONTSERRAT (*ICTERUS OBERI*) APRÈS LES ÉRUPTIONS VOLCANIQUES

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A la suite des éruptions volcaniques survenues depuis 1995, la seule espèce d'oiseau endémique de Montserrat, l'Oriole de Montserrat (*Icterus oberi*), est maintenant confinée à la région de Centre Hills. Une étude a été conduite en décembre 1997 afin d'établir le statut de la population résiduelle de cette espèce. Une étude de 8 jours a concerné 140 points avec des comptages de 10 minutes de toutes les espèces réparties sur un quadrillage systématique d'une zone de 1437.5 ha incluant Centre Hills. La distance de chaque oriole au point a été mesurée. La distance d'échantillonnage a été utilisée pour évaluer les densités et ainsi calculer la taille de la population qui a été estimée à environ 4000 oiseaux (intervalle de confiance à 95%: 1500–7800). Près de 80% d'entre eux ont été observés dans une zone d'une surface de 8 km² à 5 km de Chance's Peak, le site du volcan en activité. En dehors d'un événement cataclysmique, les orioles restants sont protégés des coulées pyroclastiques. Toutefois, les conséquences des chutes permanentes de cendres sur l'état sanitaire de la population et les résultats de la reproduction devront être régulièrement surveillés et des mesures prises afin d'éviter un déclin de la population.

STATUS OF THE MONTSERRAT ORIOLE (*ICTERUS OBERI*) FOLLOWING VOLCANIC ERUPTIONS

Following volcanic eruptions, Montserrat's only endemic bird, the Montserrat Oriole (*Icterus oberi*) is now largely confined to the Centre Hills region. In December 1997, we conducted a census of the remaining oriole population to assess the species' status. We overlaid a systematic grid of 140 sample points on an area of 1437.5 ha encompassing the Centre Hills, and a 10–min count of all bird species was undertaken during an eight–day survey period. We measured the distance from a point to each oriole detected. We used distance sampling to model densities, and thus to calculate population size. We estimate that ca. 4000 (95% CIs: 1500–7800) orioles remain. Nearly 80% of these were found in an area of only 8 km² about 5 km from Chance's Peak, the site of the active volcano. A cataclysmic event notwithstanding, the remaining orioles are likely to be secure from pyroclastic flows. However, the effects of continued ash falls on the species' health and breeding success should be regularly monitored, and steps taken to prevent a population decline.

ESTATUS DE LA CALANDRIA DE MONTSERRATE (*ICTERUS OBERI*) LUEGO DE ERUPCIONES VOLCANICAS

Luego de las erupciones volcanicas, la Calandria de Montserrate (*Icterus oberi*) la nica especie endemica de la isla, actualmente se encuentra confinada mayormente en la region de Centre Hills. En diciembre de 1997, se llevo a cabo un censo de la poblacion remanente para indagar el estatus de la especie. Se sobrepuso un cuadrante sistematico de 140 puntos en un area de 1437.5 hectareas que circunscriben la region de Centre Hills, y se efectuo un conteo de todas las aves en un periodo de 10 min. durante el periodo de muestra de ocho dias. Se calculo la distancia de un punto a cada calandria detectada. Se utilizo un muestreo de distancias para imitar densidades y calcular el tamaño de la poblacion. Se estimo que quedan alrededor de 4000 calandrias (95% CIs: 1500–7800). Cerca del 80% de estas fueron encontradas en un área de solo 8 km² a 5 km de Chances Peak, lugar de mayor actividad volcanica. Siendo este un evento cataclismico sin precedentes, parece ser que las calandrias restantes estaran seguras de los flujos piroclasticos. Sin embargo los efectos continuos de la caida de cenizas en la salud y exito reproductivo de la especie seran monitoreados con regularidad y se tomaran pasos para prevenir el descenso poblacional.

INFLUENCE DE L'ACTIVITE VOLCANIQUE SUR LA REPRODUCTION DE L'ORIOLE DE MONTSERRAT (*ICTERUS OBERI*)

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Une action coordonnée a été initiée en 1997 pour étudier le statut de l'Oriole de Montserrat (*Icterus oberi*) menacé par l'activité volcanique survenue depuis 1995. Les participants sont Le Ministère de l'Agriculture, du Commerce et de l'Environnement de Montserrat, La Société Royale pour la Protection des Oiseaux, le Fonds de Préservation de la Vie Sauvage de Jersey, le WWF, le Conservatoire Américain des Oiseaux et le Jardin Botanique Royal de Kew. La moitié de l'aire de reproduction de l'oriole a été détruite par l'activité actuelle du volcan et des inquiétudes existent sur l'état sanitaire de la population résiduelle car d'autres zones forestières favorables ont souffert de dépôts acides et ont été couvertes d'épaisses couches de cendres. Un résumé des différents aspects du projet est présenté. Les résultats d'une étude de la zone de Centre Hills effectuée en 1997 sont présentés dans une autre communication. Nous présentons ici l'évolution des études sur la reproduction se déroulant d'avril à septembre 1998. La planification du futur programme de reproduction en captivité et l'impact de l'activité volcanique sur les plantes forestières sont résumés.

THE EFFECTS OF VOLCANIC ACTIVITY ON THE BREEDING ECOLOGY OF THE MONTSERRAT ORIOLE (*ICTERUS OBERI*)

In 1997 a joint venture between the Montserrat Ministry of Agriculture, Trade and Environment, Royal Society for the Protection of Birds, Jersey Wildlife Preservation Trust, World Wide Fund for Nature, the American Bird Conservancy, and the Royal Botanic Gardens Kew was initiated to investigate the status of the volcanically–threatened Montserrat Oriole (*Icterus oberi*). The present volcanic activity has destroyed approximately half of the oriole's breeding habitat and there is concern for the continuing health of the remaining population as other suitable areas of forest have suffered acid deposition and have been covered with thick layers of ash. In this presentation I provide a summary of the various aspects of the project. The results of a survey of the Centre Hills area of Montserrat carried out in 1997 will be presented in a separate talk and here I report on the progress of the breeding ecology studies taking place between April and September 1998. I will also summarize plans for the future captive breeding program and report on the effects of the volcanic activity on the forest plants.

EFECTOS DE ACTIVIDAD VOLCANICA SOBRE LA ECOLOGIA REPRODUCTIVA DEL ORIOL DE MONTSERRAT (*ICTERUS OBERI*)

En 1997 se inició un esfuerzo conjunto del Ministerio de Agricultura de Montserrat, Royal Society for Protection of Birds, Jersey Wildlife Preservation Trust, World Wildlife Fund for Nature, American Bird Conservancy y Kew Royal Botanical Gardens, para investigar el estado del Oriol de Montserrat (*Icterus oberi*), amenazado por actividad volcánica. Aproximadamente la mitad del área utilizada por la especie ha sido destruída por las erupciones actuales y se ha cubierto el resto de su hábitat con gruesas capas de ceniza y deposiciones acídicas. Hay gran preocupación por la sobrevivencia de la especie dado la contínua actividad volcánica. En este trabajo presentamos un resúmen de los diversos aspectos del proyecto. Los resultados de censos en la región central de Montserrat llevado a cabo en 1997 se presentará en otra ponencia. Aquí presentamos los resultados preliminares de estudios sobre la actividad reproductiva a ser conducidos entre abril y septiembre del 1998. También se resume los planes futuro para propagación en cautiverio y los efectos del volcán sobre la vegetación de bosque.

SITUATION ACTUELLE DE LA CHASSE A CUBA

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Les principaux aspects de l'état actuel et des perspectives de gestion de la chasse aux oiseaux à Cuba sont résumés. L'utilisation durable et la conservation de la biodiversités sont l'essence de la politique environnementale cubaine. Des réserves de chasse à usage internes et externes sont actuellement développées avec des contraintes légales strictes.

CURRENT STATUS OF HUNTING IN CUBA

We summarize the major hunting activities and current use and management of gamebirds in Cuba. Sustainable use and the conservation of biodiversity constitute the essence of Cuban environmental policy. We are currently developing hunting reserves both for Cuban and foreign users, all under strict legal constraints.

ESTADO ACTUAL DE LA CACERIA EN CUBA

Se resumen los principales aspectos relacionados con la utilización actual y perspectiva en las aves dentro de la actividad cinegética teniendo en cuenta que la conservación y uso sostenible de la biodiversidad constituye la esencia de la politica medioambiental del gobierno cubano, para lo cual se trabaja en la organización de cotos de caza, tanto para turismo nacional como internacional, bajo estrictas reglamentaciones legales.

COMPORTEMENT ALIMENTAIRE DU HÉRON BIHOREAU (*NYCTICORAX NYCTICORAX*) DANS LES CHAMPS DE RIZ DU SUD DE JIBARO A CUBA

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Le Héron Bihoreau ou Guanabá (*Nycticorax nycticorax*) est une espèce au comportement alimentaire assez bien connu. Toutefois, il n'existe que très peu d'informations sur cette espèce à Cuba, en particulier dans des cultures aussi importantes que le riz. La plupart des études reposaient sur l'étude d'échantillons de régurgitations de poussins, ignorant ainsi les sources possibles de variations de nourriture pendant l'élevage. Des informations sur les habitudes alimentaires des adultes et des poussins sont présentées ici. Elles proviennent du sud de l'état de Jibaro, une zone agricole importante du centre de Cuba. Les proies préférées sont des crustacés, des poissons et des larves de coléoptères. Des hémiptères, des odonates et des anoures sont également souvent rencontrés. Une préférence trophique marquée pour les crustacés et les coléoptères a été détectée. L'alimentation a été étudiée qualitativement et quantitativement, la composition analysée (fréquence, biomasse et effectifs) pour les différentes classes d'âge et de sexe.

FOOD HABITS OF THE BLACK-CROWNED NIGHT-HERON (*NYCTICORAX NYCTICORAX*) IN RICE FIELDS OF SOUTHERN JIBARO, CUBA

The Black-crowned Night-Heron or Guanabá (*Nycticorax nycticorax*) is a species whose foraging habits are relatively well known. However, little information exists for the species in Cuba, especially in important agroecosystems like rice cultivation. Also, most studies have relied on regurgitated samples collected from chicks, thus ignoring possible sources of variation in selection of foods during the chick brooding stage. In this paper, we present information on feeding habits of chicks and adults in rice fields of the southern region of Jíbaro, an extensive and important agricultural region of central Cuba. Preferred food items included crustaceans, fish, and coleopteran larvae. However, hemipterans, odonatans, and anurans were also frequently encountered. We also detected a marked trophic preference for crustaceans and coleopteran larvae. We qualitatively and quantitatively analyzed diet, and compared the composition (frequency, biomass, number consumed) for both age groups and sexes.

ALIMENTACION DEL GUANABA DE LA FLORIDA (*NYCTICORAX NYCTICORAX*) EN LAS ARROCERAS DEL SUR DEL JIBARO, CUBA

El Guanaba de la Florida (*Nycticorax nycticorax*) es una especie cuya alimentación es relativamente conocida, sin embargo, este aspecto de su ecología no ha sido descrito en nuestro pais, ni en un ecosistema agricola de tanta importancia como el cultivo del arroz. Ademas la mayor a de los trabajos emplean los regurgitos de las crias para describir la alimentacion ignorando la posible variación en la selección del alimento durante la etapa de cuidado de los pichones. En nuestro trabajo se investiga la alimentación de juveniles y adultos de esta especie en los campos arroceros del sur del Jibaro, extenso sistema agricola del centro de Cuba. En este ecosistema los articulos más importantes en la dieta fueron los crustaceos, peces y larvas de coleopteros, aunque los hempteros, odonatos y anuros fueron tambien frecuentemente conocidos. Se detecta una marcada selectividad trafica por los crustaceos y larvas de coleopteros. Se analizan las composiciones cuantitativas y cualitativas de las dietas, y se establecen comparaciones entre sus composiciones (frecuencia, biomasa y numero consumidos de cada articulo) en los dos grupos de edades y entre los sexos.

LE STATUT DES PAILLES-EN-QUEUE AUX ANTILLES

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Deux des trois espèces connues de phaéton sont nicheurs dans les Antilles. Une sous-espèce endémique de Phaéton à Bec Jaune (*Phaethon lepturus catesbyi*) niche des Bermudes et des Bahamas au nord jusqu'au Petites Antilles et Trinidad & Tobago au sud. Le Phaéton à Bec Rouge (*Phaethon aethereus*) est plutôt confiné en tant que nicheur aux Petites Antilles et à Trinidad & Tobago. La sous-espèce de Phaéton à bec rouge nichant aux Antilles (*P. a. mesonauta*) existe également dans l'Est du Pacifique et dans l'Est de l'Atlantique. Nous avons tenter d'estimer les populations antillaises de ces deux espèces. Les estimations de population proviennent de données personnelles, de correspondance avec des personnes travaillant sur les espèces locales d'oiseaux de mer ainsi que de la bibliographie. Halewyn et Norton (1984) ont estimé le nombre de phaétons à bec jaune et à bec rouge nichant aux Bermudes et dans les Antilles à respectivement 10,000 et 1600 couples. Les estimations révisées montrent que la population actuelle de Phaéton à bec jaune est inférieure à 6000 couples (Bermude, 2500; Bahamas, 1400; Grandes et Petites Antilles 2000). Les populations de Phaétons à Bec Rouge sont estimées à moins de 2000 couples. Ces différences résultent surtout d'une amélioration de la méthode d'estimation des effectifs. Il existe toutefois des cas où des diminutions drastiques de certaines colonies ont été notées (par exemple, Bermudes et Iles Cayman). L'augmentation de l'estimation des Phaéton à Bec Rouge résulte de la découverte d'une colonie exceptionnellement importante (750 couples nicheurs à Saba) plutôt que d'une réelle augmentation des effectifs. Si on les compare avec les époques des premiers contacts avec l'homme, les populations actuelles sont relativement petites car elles ne nichent que dans des zones de falaises inaccessibles ou exemptes de prédateurs. En raison de la consommation par l'homme de poussins et d'œufs, de la dégradation des zones littorales et de l'introduction de prédateurs exotiques qui ont fortement réduit les populations, la compétition pour des sites surs est devenu le principal facteur limitant l'augmentation des populations. Des simulations génétiques suggèrent que les populations devraient comporter au moins 10,000 individus s'appariant aléatoirement pour maintenir une population évoluant de manière viable. En raison des effets des mutations et de l'accumulation de problèmes d'ordre génétique, il existe des éléments indiquant que des extinctions pourraient survenir en quelques centaines de générations si les populations chutaient en dessous de ce seuil. Si cela se confirmait, les phaétons, ainsi que de nombreux autres populations d'oiseaux de mer, sont sérieusement menacés et une gestion active pour augmenter leurs effectifs est nécessaire de manière urgente.

THE CONSERVATION STATUS OF TROPICBIRDS IN THE WEST INDIES

Two of the world's three species of tropicbirds breed in the West Indies. An endemic subspecies of the White-tailed Tropicbird (*Phaethon lepturus catesbyi*) nests from Bermuda and the Bahamas southward throughout the Greater Antilles and the northern Lesser Antilles. The Red-billed Tropicbird (*Phaethon aethereus*) is primarily confined to the Lesser Antilles and Trinidad & Tobago as a breeding species. The subspecies of Red-billed Tropicbird nesting in the West Indies (*P. a. mesonauta*) also occurs in the eastern Pacific and eastern Atlantic. We have attempted to inventory the West Indian populations of these two tropicbirds. Population estimates are derived from personal field work, correspondence with individuals working with local seabirds, and from available literature. In 1984 van Halewyn and Norton estimated the numbers of breeding White-tailed and Red-billed tropicbirds nesting in Bermuda and in the West Indies to be 10,000 and 1600 pairs, respectively. Revised estimates indicate the current population of White-tailed Tropicbirds to be <6000 pairs (Bermuda – 2500, Bahamas – 1400, Greater and Lesser Antilles – 2000). Population estimates of Red-billed Tropicbirds are <2000 pairs. Changes in estimates are mostly a result of the availability of more accurate estimates. There are, however, several cases where sharp declines at specific colonies have been reported (i.e., Bermuda and Cayman Islands). The increased estimate of Red-billed Tropicbirds is a result of the discovery of an exceptionally large colony (750 pairs breeding on Saba) rather than an increase in population. Compared to early human contact and pre-European contact periods, current populations of both are comparatively small because these species are now largely restricted to nesting on inaccessible cliff faces and other predator-free areas. Because human consumption of eggs and chicks, coastal habitat

alteration, and introduction of exotic predators have so restricted populations, competition for available predator-free nesting sites has become the limiting factor in population expansion. Genetic modeling now suggests that populations must number 10,000 or more randomly mating individuals to maintain evolutionary viability. Due to the effects of mutations and cumulative genetic damage, there is an indication that extinctions will occur in only hundreds of generations if populations fall below these numbers. If this is true, tropicbirds, as well as many other West Indian seabirds, are at serious risk and active management directed at increasing their numbers is urgently needed.

ESTADO ACTUAL DE LA CONSERVACION DE CHIRRES EN LAS ANTILLAS

Dos de las tres especies de chirres *Phaethon* spp. que existen se reproducen en las Antillas. Una subespecie endémica del Chirre Coliblanco (*Phaethon lepturus catesbyi*) anida desde Bermuda y Bahamas hacia las Antillas Mayores y el extremo norte de las Antillas Menores. El Chirre Picorojo (*Phaethon aethereus*) está mayormente limitado en su rango reproductivo a las Antillas Menores y Trinidad-Tobago. La subespecie del Chirre Picorojo que anida en las Antillas (*P.a. mesonauta*) ocurre también en el Pacífico oriental y el Atlántico oriental. Hemos tratado de llevar a cabo inventarios de las poblaciones de ambos chirres en el Caribe. Los estimados poblacionales se obtuvieron de visitas de campo, correspondencia con individuos trabajandocon poblaciones locales, e información disponible en la literatura. En 1984 Van Halewyn y Norton estimaron la población reproductiva de chirres coliblanco y picorojo en 10,000 y 1600, respectivamente. Estimados recientes sugieren que la población actual del Chirre Coliblanco es de <6000 parejas (Bermuda – 2500, Bahamas – 1400, Antillas Mayores y Menores – 2000). Los estimados poblacionales para el Chirre Colirojo son de <2000 parejas. Los cambios en los estimados mayormente reflejan la disponibilidad de nueva información. Sin embargo, hay casos en que se ha confirmado reducciones en algunas colonias (ej., Bermuda e Islas Caimán). El aumento en los números de Chirre Picorojo se debe a a una colonia (750 parejas en Saba) que fue descubierta, no a un incremento en la población. Comparado con los períodos antes de la colonización por aborígenes y europeos, las poblaciones actuales son considerablemente pequeñas ya hoy se encuentran restringidas a utilizar acantilados inaccesibles y otras áreas libres de depredadores. La depredación de huevos y pichones por humanos, alteración de los ambientes costeros, e introducción de depredadores exóticos, ha limitado las poblaciones al punto que la disponibilidad de áreas de reproducción libre de depredadores se ha convertido en el factor limitante principal. Modelos recientes sugieren que para poder retener la viabilidad evolutiva necesaria, es necesario que una especie mantenga cerca de 10,000 individuos en panmixia. Dados los efectos de mutaciones y daño genético acumulativo, se presume que algunas poblaciones se extingan en solo cientos de generaciones si sus números permanecen por debajo de este umbral. Siendo estas premisas ciertas, los chirres, al igual que muchas otras especies de aves Antillanas, se encuentran en riesgo y su manejo activo es necesario.

MISE EN PLACE D'UN GROUPE DE TRAVAIL POUR LA PROTECTION DE L'AVIFAUNE EN REPUBLIQUE DOMINICAINE

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Nous présentons ici les résultats et conclusions du premier groupe de travail national, concernant la programmation de la protection des oiseaux à Cuba, qui s'est tenu à Santo Dominguo, les 24 et 25 avril 1998. La manifestation était coordonnée par le Groupe Écologiste Tinglar et par des organisations gouvernementales et non gouvernementales; elle a été soutenue par l'ONU.

PLANNING WORKSHOP FOR THE CONSERVATION OF THE AVIFAUNA OF THE DOMINICAN REPUBLIC

The presentation will cover the results and conclusions of the first national planning workshop of Avifauna of the Dominican Republic, which was held in Santo Domingo, 24-25 April 1998. The conference was coordinated by the Grupo Ecologista Tinglar and governmental and non-governmental institutions, and was supported by organizations of the United States.

PLANIFICACIÓN PARA LA CONSERVACIÓN DE LA AVIFAUNA DE LA REPÚBLICA DOMINICANA

Se describen los resultados y conclusiones del Primer Taller Nacional de Planificación para la Conservación de la Avifauna de la República Dominicana realizado los dias 24 y 25 de abril 1998 en Santo Domingo. Coordinado por el Grupo Ecologista Tinglar y otras instituciones gubernamentales y no gubernamentales, asi como otras instituciones extranjeras.

LA BARBADE: UN CARREFOUR ORNITHOLOGIQUE POUR LES ANTILLES

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Par sa situation 150 km à l'est de la principale chaîne des Petites Antilles, exposée aux alizés venant de l'Europe et de l'Afrique du Nord et sur le chemin des migrations entre Amérique du Nord et du Sud, Barbade a hébergé un grand nombre d'espèces inattendues. Son importance biogéographique vient seulement d'être soulignée. L'objectif de cette communication est de montrer à quel point une diversité d'observations d'espèces d'origines très disparates

est survenue et survient encore à Barbade. Bien que ce soit un site intéressant pour les espèces erratiques, il est encore plus important en tant que porte d'entrée que de nombreuses espèces ont probablement déjà utilisée et utilisent encore pour coloniser le continent américain. On trouve dans cette catégorie Le Héron Cendré (*Ardea cinerea*), l'Aigrette des Récifs (*Egretta gularis*), l'Aigrette Garzette (*E. garzetta*; actuellement nicheuse à Barbade, le seul endroit connu pour l'instant aux Amériques) et peut-être également la Guifette Leucoptère (*Chlidonias leucopterus*) et la Guifette Moustac (*C. hybridus*). Des informations précises sont données pour les espèces nouvelles pour les Antilles (et pour certains d'entre elles pour les Amériques) notées à Barbade: l'Ouette de l'Orénoque (*Neochen jubata*), le Blongios Nain (*Ixobrychus minutus*), la Glaréole à Collier (*Glareola pratincola*), le Bécasseau Minute (*Calidris minuta*), le Pluvier Fauve (*Pluvialis fulvas*), le Corbeau Familier (*Corvus splendens*), une Bergeronnette (Grise *Motacila alba*?), et le Carouge à Capuchon (*Aeglaius icterocephalus*). D'autres égarés intéressants concernent l'apparition régulière (parfois en groupe) et/ou l'hivernage d'espèces comme le Chevalier Sylvain (*Tringa glareola*), le Combattant Varié (*Philomachus pugnax*) et le Chevalier Arlequin (*Tringa erythropus*). L'origine de certains égarés a pu être déterminée par leur identité subspécifique, très utile dans le cas du Bécasseau Variable (*Calidris alpina*), de la Sterne Hansel (*Sterna nilotica*), de la Sarcelle à Ailes Vertes (*Anas crecca*) et du Martinet Alpin (*Alpus melba*), mais certaines des autres espèces ont pu atteindre Barbade de plusieurs directions. Enfin, des détails non publiés sont présentés sur le dernier spécimen connu de Courlis Esquimau (*Numenius arquata*), collecté en 1963 à Barbade.

BARBADOS: ORNITHOLOGICAL CROSSROADS OF THE WEST INDIES

Situated 150 km east of the main Lesser Antilles chain, in the midst of trade winds from Europe and Northern Africa, and on the path of migrants shuttling annually between North and South America, Barbados has received more than its share of unexpected species. Its zoogeographical significance has only been hinted at, and until recently, not fully appreciated. The purpose of this paper is to point out just how diverse a collection of species of widely disparate origins has occurred, and is still occurring, on Barbados. While a striking site for vagrants, it is more important as a portal which several species have probably used in the past, and are still using, to colonize the Western Hemisphere. In this category are Gray Heron (*Ardea cinerea*), Western Reef–Heron (*Egretta gularis*), Little Egret (*E. garzetta*; now breeding on Barbados, the only site so far known in the Americas), and possibly also White-winged (*Chlidonias leucopterus*) and Whiskered (*C. hybridus*) Terns. We will report details of the following birds new to the West Indies (and in a few cases, also to the Western Hemisphere) from Barbados: Orinoco Goose (*Neochen jubata*), Little Bittern (*Ixobrychus minutus*), Collared Pratincole (*Glareola pratincola*), Little Stint (*Calidris minuta*), Pacific Golden–Plover (*Pluvialis fulvas*), House Crow (*Corvus splendens*), White (?) Wagtail (*Motacila alba*), and Yellow-hooded Blackbird (*Aeglaius icterocephalus*). Other striking vagrants of importance include the routine occurrence (sometimes in groups) and/or over-wintering of such birds as Wood Sandpiper (*Tringa glareola*), Ruff (*Philomachus pugnax*), and Spotted Redshank (*Tringa erythropus*). The geographic origin of several vagrants has been determinable from their subspecific identity, exceedingly informative in the case of Dunlin (*Calidris albina*), Gull-billed Tern (*Sterna nilotica*), Green-winged Teal (*Anas crecca*), and Alpine Swift (*Alpus melba*), but several other species could have reached Barbados from several direction – and perhaps did. Lastly, we will provide hitherto unpublished details on the last specimen of Eskimo Curlew (*Numenius arquata*) known to science, taken on Barbados in 1963.

BARBADOS: ENCRUCIADA ORNITOLOGICA DE LAS ANTILLAS

Situado a 150 km de la cadena principal en las Antillas Menores, entre los vientos alicios de Europa y del norte de Africa, y en la ruta anual de aves migratorias, Barbados recibe una buena porción de especies errantes. Su relevancia zoogeográfica se ha mencionado someramente, y no es hasta muy reciente que se aprecia por completo. El propósito de nuestra ponencia es el señalar la gran variedad de especies que ha ocurrido y sigue ocurriendo en Barbados. Siendo un lugar de importancia para aves migratorias, es posible que sea aún más importante como puerto de entrada para colonizar el hemisferio occidental, tanto en el pasado como al presente. Algunos ejemplos son: Garzón Gris (*Ardea cinerea*), Garzón de Arrecife Occidental (*Egretta gularis*) y la Garza Pequeña (*E. garzetta;* anidando ahora en Barbados, único récord de las Américas). También ocurren las gaviotas Aliblancas (*Chlidonias leucopterus*) y Barbuda (*C. hybridus*). Presentamos algunos detalles sobre las siguientes especies de Barbados nuevas para las Antillas (y algunas nuevas para el hemisferio): Ganso del Orinoco (*Neochen jubata*), Martinetito (*Ixobrychus minutus*), Pranticole Acollarado (*Glareola pratinicola*), Little Stint (*Calidris minuta*), Playero Dorado del Pacífico (*Pluvialis fulvas*), Cuervo Casero (*Corvus splendens*), Wagtail Blanco (*Motacilla alba*?) y Mozambique Cabecidorado (*Aeglaius icterocephalus*). Otras especies errantes prominentes (individuos y/o grupos) son Playero de Bosque (*Tringa glareola*), Combatiente (*Philomachus pugnax*) y Redshank Jaspeado (*Tringa erythropus*). El origen geográfico de algunos de estos errantes se determinó por identificación subespecífica, la que es ampliamente accesible para Playero Espaldicolorado (*Calidris alpina*), Gaviota Piquigorda (*Sterna nilotica*), Pato Aliverde (*Anas crecca*) y Vencejo Alpino (*Alpus melba*). Es posible que otras especies hallan llegado a Barbados de varias direcciones. Finalmente, presentamos datos no publicados del último especímen del Playero Artico (*Numenius arquata*) conocido para la ciencia, coleccionado en Barbados en 1963.

LES LIMICOLES DE GUYANE FRANÇAISE

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A l'occasion des recensements aériens effectués par Morrisson et Ross, l'importance du littoral guyanais pour les limicoles nord-américains, a été mise en évidence. De 1994 a 1998, une étude a été mise en place en utilisant deux méthodes complémentaires: des survols aériens du littoral pour connaître les effectifs et la répartition des oiseaux hivernants d'une part, et un programme de baguage intégré dans le Pan American Shorebirds Program d'autre part. Les résultats confirment l'intérêt du littoral guyanais (plus de 800.000 oiseaux en septembre 1995). Ils permettent de mieux appréhender la phénologie de la migration et de mettre en évidence les zones du littoral les plus favorables, correspondant à des bancs de vases mobiles. 4618 oiseaux de 21 espèces ont été bagués, incluant la première donnée de Bécassine des Marais (*Gallinago gallinago delicata*) pour la Guyane française. Les reprises et les contrôles ont montré un niveau très important de fidélité de certaines espèces au site d'hivernage. De 13–54% des Tournepierres marqués sont revus l'année suivant leur baguage, et 10% ont été revus 3 ans après. Le grand nombre de limicoles et leur importante fidélité au site d'hivernage doivent être pris en considération pour la conservation et la gestion du littoral guyanais.

SHOREBIRDS IN FRENCH GUIANA

Morrisson and Ross pointed out the importance of the French Guianan coastal area for North American shorebirds. A study, included in the Pan American Shorebirds Program, from 1994 to 1998, was based on two complementary methods: aerials surveys of the coast to assess the number and distribution of wintering birds, and banding. Results confirm the great importance of the French Guianan coast for wintering shorebirds (800,000 in September 1995), document the migration phenology, and help to identify the areas of major importance along the coastline, corresponding to moving mudflats. We banded 4618 birds, belonging to 21 species, including the first Common Snipe (*Gallinago gallinago delicata*) for French Guiana. Recaptures and resightings of marked birds show a rather high level of wintering site fidelity in some species. An estimated 13–54% of marked Ruddy Turnstones (*Arenaria interpres*) could be observed during the year following their capture, and 10% were observed three years later. The high number of shorebirds and their strong wintering site fidelity may have to be considered in conservation and habitat management in French Guiana.

PLAYEROS DE LA GUYANA FRANCESA

Morrison y Ross han señalado la importancia que el litoral de la Guyana Francesa representa para playeros de Norte América durante el invierno. De 1994 a 1998 llevamos a cabo un estudio utilizando metodologías complementarias: censos aéreos del litoral costero y un programa de anillaje. Los resultados preliminares resultan la gran importancia de la Guyana Francesa (800,000 aves en septiembre de 1995) durante el invierno para los playeros migratorios, documenta la fenología migratoria de estas aves, y ayuda a identificar las regiones costeras de mayor importancia para los playeros. Anillamos 4618 aves de 21 especies incluyendo el primer récord de Becasina (*Gallinago gallinago delicata*) para la Guyana Francesa. Los datos de recaptura y detección de individuos marcados sugieren un alto grado de fidelidad a las areas de invierno para algunas especies. De 13–54% de los Playeros Turcos (*Arenaria interpres*) se observaron al año de capturados, y 10% hasta tres años después. La gran abundancia de playeros y su afinidad por el litoral de la Guyana Francesa debe ser incorporado a la conservación y manejo de hábitats en esta región.

CAFE ET PROTECTION DES OISEAUX EN JAMAIQUE, DANS LE PARC NATIONAL BLUE AND JOHN CROW MOUNTAINS

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Jamaica Conservation and Development Trust, 95 Dumbarton Avenue, Kingston 10, Jamaica

Le café cultivé dans les Blue Mountains a la réputation d'être le meilleur et le plus cher du monde. A cause de cela, la plupart des exploitants traditionnels s'essayent à cette culture. Son intérêt a été renforcé par un redécoupage des surfaces du Parc National: des zones ont été défrichées pour la culture du café, et d'autres telles que les plantations de pins caraïbes abandonnées pourraient être reboisées; ces parcelles seront louées par les producteurs de café. Le Fonds de Développement de la Conservation de Jamaïque (JCDT), en partenariat avec le Conservatoire de la Nature (TNC) et la Direction de la Conservation des Ressources Naturelles (NFWF), réalise un suivi de l'avifaune dans le Parc National Blue and John Crow Mountains; l'un des habitats étudiés est la plantation de café. Trois exploitations ont été comparées, en termes de pratiques culturales, de populations d'oiseaux et de leur implication pour la protection des oiseaux et de leur habitat dans le Parc National.

COFFEE AND CONSERVATION IN THE BLUE AND JOHN CROW MOUNTAINS NATIONAL PARK, JAMAICA

Coffee grown in the Blue Mountains is reputedly among the finest and most expensive in the World. Hence, most traditional farmers have been gravitating toward the cultivation of this crop. This increased interest has resulted in additional lands within the National Park being cleared for coffee cultivation, and areas that could be reforested (e.g., abandoned Caribbean pine plantations) are being leased for coffee farming. The Jamaica Conservation and Development Trust (JCDT), with sponsorship from The Nature Conservancy (TNC) and National Fish and Wildlife Foundation

(NFWF), is conducting a survey of birds in the Blue and John Crow Mountains National Park and one of the habitat types being studied is coffee. A comparison of three coffee farms was undertaken, which investigated the farming practices, bird populations, and the implications for habitat and bird conservation within the National Park.

COMMENT PRESERVER LA POULE AUX ŒUFS D'OR?

S. DAVIS

Jamaica Conservation Development Trust, 95 Dumbarton Avenue, Kingston 10, Jamaica

Un projet de conservation de l'avifaune a récemment été initié dans le Parc National Blue and John Crow Mountains (BJCMNP) par le Fonds de Développement de la Conservation de Jamaïque (JCDT) en partenariat avec le Conservatoire de la Nature (The Nature Conservancy). Le JCDT est co-responsable pour le BJCMNP avec une agence gouvernementale, la Direction de la Conservation des Ressources Naturelles. Le JCDT a actuellement les objectifs suivants:(1) accroître la connaissance de l'avifaune du BJCMNP, (2) établir un plan de gestion de l'avifaune du BJCMNP, (3) mettre en place un écotourisme communautaire dans le Parc National. Un point du projet concerne une étude générale des oiseaux dans le sud-ouest du Parc à l'aide de points d'échantillonnages à rayon déterminé. Un des objectifs de l'étude est d'évaluer la répartition et l'abondance relative des oiseaux, particulièrement des espèces menacées, aussi bien en milieu naturel que dans les zones habitées ou très anthropisées. Les localisations–clés planifiées pour le développement de l'écotourisme comportent aussi bien des zones naturelles que perturbées. Les résultats préliminaires de l'étude de l'avifaune permettent de vérifier la compatibilité de l'écotourisme avec la conservation des oiseaux.

FEATHERING OR FOULING THE NEST?

A bird conservation project was recently initiated in the Blue and John Crow Mountains National Park (BJCMNP) by the Jamaica Conservation Development Trust (JCDT) and The Nature Conservancy partnership. The JCDT is a co-manager for the BJCMNP along with the government agency, the Natural Resources Conservation Authority. JCDT is currently interested in (1) increasing their knowledge of the avifauna of the BJCMNP, (2) establishing a management plan for the avifauna of the BJCMNP and (3) establishing community–based ecotourism within the Park. One component of the project is a general bird survey based on fixed–radius point counts, in the southwestern region of the Park. One of the objectives of the survey is to sample bird distribution and relative abundance (particularly for threatened birds) in natural habitats as well as in anthropogenic and severely modified habitats. The key locations slated for the development of ecotourism (Hollywell and Hardwar Gap environs) include both natural and modified habitats. The compatibility of ecotourism with bird conservation, in the designated ecotourism areas, is assessed using the preliminary results of the bird survey.

¿EMPLUMANDO O ENSUCIANDO EL NIDO?

Un programa de conservación de aves se inició recientemente en Jamaica en el Parque Nacional Blue and John Crow Mountains (BJCMNP) a través de una colectiva entre Jamaica Conservation Development Trust (JCDT) y The Nature Conservancy. El JCDT comaneja el BJCMNP junto con la entidad gubernamental de rigor, el Natural Resources Conservation Authority. El JCDT está interesado en; (1) aumentar el conocimiento básico sobre la avifauna del BJCMNP, (2) establecer un plan de manejo para la avifauna del BJCMNP y (3) establecer programas de ecoturismo basado en las comunidades establecidas dentro del parque. Un componente principal del proyecto es un inventaro general de la avifana en la región sureste del parque, utilizando parcelas circulares como metodología base. Uno de los objetivos de este inventario es el de determinar la distribución y abundancia relativa, en especial para especies amenazadas, en varios tipos de hábitats (naturales, antropogénicos, severamente degradados). Las localidades claves identificadas para ecoturismo (Hollywell y Hardwar Gap) cuentan con ambientes naturales y modificados. Evaluamos la compatibilidad entre ecoturismo y conservación de aves en áreas designadas utilizando algunos resultados preliminares del inventario.

The Birds of Cayman Brac and Where to Find Them, with Driving and Hiking Maps.—Keith Prescott. 1997. National Trust for the Cayman Islands. viii + 135 pp., 20 maps. ISBN 976-8104-99-6. Paper, US$12.00.—This handy guide is designed as a companion to Patricia E. Bradley's *Birds of the Cayman Islands* (rev. ed., 1995, Caerulea Press, Italy). Prescott, who resided in Cayman Brac for eight years (1985–1992), extensively "birded" the Brac and has produced an excellent guide based on his observations and those of other workers. After a brief introduction to the island, its birds, and general information on birding, the author presents a list of "the breeding birds of Cayman Brac," which consists of 31 species recorded as having bred there, including four species that are not confirmed as regular breeders. A chapter on the eight habitat types on the Brac includes descriptions of those environments along with lists of birds found year-round, Autumn/Winter/Spring, and as rarities. The main body (pp. 15–85) of the book consists of species accounts for 135 birds recorded from the Brac. For each of the species, Prescott provides common English (including local) and scientific names, size, description, status, and behavioral information. Aside from the fine cover photograph of a Red-legged Thrush (*Turdus plumbeus*) by Yves-Jacques Rey-Millet, none of the species is illustrated, and Prescott refers the reader to Bradley's book and the National Geographic Society's *Field guide to the birds of North America* for illustrations.

The second major section of the book consists of three well-described birding tours of the island. Prescott notes the rapid rate at which development of the Brac is progressing. This has had the negative effect of diminishing available habitat for birds, but also of providing birders with excellent access to otherwise difficult areas (e.g., the dense woodlands of the Bluff). Two of the tours focus on the upland Bluff, whereas the third visits the major hot-spots for water birds. A general map of the Brac provides overall orientation, but Prescott also provides 19 detailed maps showing access to finding birds, for which he provides exact localities for many species. For "the lighthouse loop trail tour," Prescott provides a checklist of birds for the trail and en-route. The tour section includes additional information on Brac habitats and bird ecology.

"The Cayman Brac birding year" provides month-by-month birding highlights. Three useful indexes (general/English common names, scientific names, and local names) conclude the book.

This excellent guide will (as the author notes) allow visitors and residents alike to "grab a pair of binoculars, jump into a car and with the aid of this book, see the maximum number of species present on the island in the minimum amount of time."—James W. Wiley, *Grambling Cooperative Wildlife Project, P. O. Box 841, Grambling State University, Grambling, Louisiana 71345, USA.*

A Birder's Guide to the Bahama Islands (Including Turks and Caicos).—Anthony W. White. 1998. ABA/Lane Birdfinding Guides, Virginia Maynard, editor. June 1998. x + 302 pp. [pp. 78-79 missing], 66 maps, black-and-white line drawings, 29 color photographs of Bahama specialty birds and habitats, and black-and-white photographs. Wire–O binding. ISBN 1–878788–16–7, $21.95 plus $3.75 shipping.—This is the first comprehensive guide to finding birds on the islands of The Bahamas and The Turks and Caicos. Society member Anthony "Tony" White is well-qualified to produce such a guide. For over 25 years he has regularly visited the Bahamas, and now spends 6-8 months a year based at his winter home on New Providence. White provides complete descriptions of more than 150 birding sites, which guides birders to all of the major islands, numerous smaller cays, and the less developed "Family Islands." The Guide is conveniently laid out, with an inner cover table of condensed information for finding Bahama specialty birds among 13 islands and island groups. The back inner cover has a map depicting an overview of the Bahama Islands and The Turks and Caicos.

After the author's preface and acknowledgments, Sandy Sprunt provides a foreword, giving an overview of the islands' rich avifauna. Next, White provides introductory materials on the islands' geology and climate, followed by sections on travel to and within the islands, precautions, and an overview of the birdlife of the region, with specific discussions on endemic species and subspecies. The introduction also includes an important discussion of conservation in the islands. Finally, White presents general recommendations and information for birding, including advice on where and when to go, field guides and maps, and, importantly, how to report sightings. For each of the individual regions, White provides a list of recommended readings.

The major proportion of the book is taken up by the 13 detailed chapters covering islands and island groups. These chapters include orientation maps, as well as finely detailed maps which will greatly assist the user in getting around the islands and in finding specific birding sites mentioned by White in the text. In addition to detailed information on getting around in the subject island, Tony provides advice on where to stay, eat, and rent cars. Further detailed suggestions are provided for more elaborate tour routes. For each area, White lists the species one is most likely to encounter, as well as noting what rare or endemic forms might be seen. Suggested sites to bird are detailed on the maps, as well as in the text, usually with a mile-by-mile account of the route. White's comments of sites along the tour routes are not limited to birds, but also include other wildlife and points of interest to any visitor. Each of these regional chapters is further enriched with a bibliography of readings that will be of interest to visitors.

Following the regional chapters, White presents a chapter

entitled an "Annotated list of specialties," although the word "list" in the title is misleading. The chapter is much more than a list with a few annotations. It contains considerable information on each species' status, ecology, and behavior, as well as a summary of where the species is found, including exact sites. Sixty-eight species are covered, along with "*Empidonax* flycatchers" and "migrant warblers."

A checklist of birds of the Bahama Island and Turks and Caicos includes the species' status and a standard ABA Birding Code for 18 island regions and "Bahama waters." Hypothetical, unsuccessful, and introduced species are listed separately at the end of the chapter.

A welcome added chapter lists "Other observable wildlife (not including fishes or marine invertebrates), divided taxonomically, with distribution (including fossil records) — although insects are limited to butterflies, dragonflies, and damselflies.

White includes three appendices, the first of which provides information on reporting seabird colonies, including a presentation of techniques for estimating colony sizes of ground-nesting seabirds (after Parnell) and a sample data collection form addressed to compilers Eric Carey (Bahamas) and David Lee (USA).

Appendix B is a glossary of terms used in the book, including such useful information as local names of potent drinks. The final appendix is a comparison of common names as used in earlier (Bond, Brudenell-Bruce) field guides for the islands, along with current American Ornithologists' Union names.

A 19-page selected bibliography provides plenty of useful material for those who care to delve deeper into the region's scattered literature. The volume concludes with an index, which includes names of birds, islands, and specific sites. Most helpfully, the index is geared toward the visitor with such topics as "Accommodations" and "Airports" indexed by island. I would like to see scientific names included in the index, although this is not a fatal fault.

The book is richly illustrated with black–and–white drawings and photographs. An eight-page "photo gallery," positioned at mid-book, features color and black-and-white photographs of several of the Bahamas "specialty birds" and their habitats.

I highly recommend that any visitor to the region make use of Tony White's book as a guide to their birding adventures. Tony's guide will stimulate the casual birder to venture farther afield to some of the "less touristy" islands. Also, it should encourage those visitors to report their observations to the suggested central repository.—James W. Wiley

Natumaleza cubana.—Carlos Wotzkow. 1998. Ediciones Universal, Miami, Florida, U. S. A. 294 pp. ISBN 0-89729-866-7. Paper. $19.00.—Wotzkow's no-holds-barred account of Cuban environmental problems is certain to arouse controversy. The author names names and places blame on individuals and institutions for ecological problems throughout Cuba. I will avoid the heated issues and merely comment on the book's contents dealing with birds.

Until his defection from Cuba in 1992, Wotzkow was one of the most active field ornithologists in that country. In his studies of raptors and other species, he traveled widely throughout the country and gained an excellent perspective of Cuban birds and their ecosystems. He also interacted with most Cuban ornithologists, as well as many of the visiting scientists. In *Natumaleza cubana*, Wotzkow recounts many of these interactions and experiences in detailing his opinions on his country's environmental problems.

In the chapter entitled, "Cuba en datos generales," Wotzkow gives an overview of physical and biotic aspects of the island. Scattered throughout later chapters are numerous references to Cuba's birds, their problems, and considerable history of the politics and science involved with their study. The reader is led to bird topics by an index, conveniently arranged by taxa, with birds grouped under one section. Wotzkow also provides a valuable bibliography of topics covered in the book.—James W. Wiley.

Request for Assistance

Feathers, blood, or tissue of Eurasian Collared-Dove (*Streptopelia decaocto*) are needed for research on source populations. Samples are needed from any locality in Europe, North American, and the Caribbean where this species is found. If you can help, please contact Christina M. Romagosa, Department of Wildlife Ecology and Conservation, University of Florida, P. O. Box 110430, Gainesville, Florida 32611–0430, USA (Telephone: 353–336–0838; e-mail: cmrsage@grove.ufl.edu).

From the Island Resources Web Site at http://www.irf.org/

CONCERN OVER PLANS FOR SOMBRERO ISLAND, ANGUILLA

The following letter from Jim Stevenson was posted on the Islands Resources web site on 27 May 1998.

The tiny island of Sombrero is one of the rapidly diminishing number of important breeding grounds for sea birds in the Caribbean. It is also home to the endemic Sombrero Black Lizard. Sombrero is the most remote, and therefore least known, offshore cay of Anguilla, which is a UK Overseas Territory in the northeastern corner of the Leeward Islands.

Birds of principal interest which are known to breed on Sombrero are Black-capped Petrels, Roseate Terns, Red-billed Tropicbirds, Brown Boobies, Sandwich Terns, Sooty Terns, Least Terns, Gull-billed Terns, Bridled Terns and Brown Noddies. However Masked Boobies and Brown Pelicans are also thought to breed on the island which lies in a deep water channel where upwellings provide rich feeding. Judging from the range of birds present and the fact that some of the smaller ones are easily wiped out by predators, rats and cats are almost certainly absent from the island (a real rarity in this part of the world).

In April this year, news broke of a plan to build a commercial rocket assembly and launch site on Sombrero. Unknown to most of the Anguilla population, an American company, Beale Aerospace has been in discussion with the UK Government over leasing the island and an Environmental Impact Assessment (EIA) has been begun by ICF Kaiser, a well known US environmental consulting firm based in McLean, Virginia, with a number of contracts with US EPA. Unfortunately, the American consultant's visit to the island this week was for only six hours in the middle of the day. They did not try to assess the lizard population and most of the tern species had not yet arrived to breed. Back in the UK a Foreign Office spokesman has given assurances that the plan and the EIA will be reviewed by the Environment Agency and others and the UK Government has full authority to grant or refuse permission. It would be good to know what criteria will be applied as accurate bird data for the Caribbean is hard to obtain.

No-one is suggesting that seabirds, lizards and rockets can co-exist on a one mile long island, but the developers are suggesting that they might be able to find other suitable islands, not for the rockets, but for the birds! If such islands existed they would already be colonised. In essence if the plan gores ahead, we will be paying for the development, not with our money, but with our biodiversity.

Already Beale have dragged out the old "birds versus jobs" argument. Anguilla—an island of roughly 7500 inhabitants—is seemingly full of rocket scientists who are queuing up to work on the island.

An interesting economic twist is that Beale is in direct competition with the European space agencies, including UK firms. The UK Government is also funding the development or improvement of existing rocket sites in Eastern Europe. The sharing of old established sites certainly makes good environmental sense, while destroying one of the last unspoiled islands in the Caribbean certainly does not.

Environmental NGOs in the UK and the Caribbean are working together to oppose the plan, through the UK Overseas Territories Conservation Forum. In the USA a response is being led by the American Bird Conservancy, the BirdLife International Partner in Washington, DC.

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Judy Pierce responded with additional information on Sombrero Island on 28 May 1998, as follows:

RESPONSE TO SUMMARY OF SOMBRERO ISLAND THREATS

Thank you for sending out Jim Stevenson's summary of Sombrero Island threats to our listserver. I have been trying to get the international community to focus on this issue since it first appeared in the St. Thomas Daily News on August 27, 1997.

I have been in contact with both Beal and ICF Kaiser. According to David Baker at Beal (972–458–9918), the development of the island as a rocket launch site is practically a done deal. He said the construction phase will start early to mid-summer and is expected to last a year. He admitted that this phase will be very disturbing to the birds. There will be three site areas on the island: launch pad, tanks with propellants, and assembly/integration buildings. They plan on launching a rocket about every month.

According to ICF Kaiser's Genevieve Walker (703–934–3945), the plan was to conduct the environmental assessment

in April. I informed Ms. Walker that the entire summer seabird migration of terns (including the endangered Roseate Tern) would not take place until May, therefore she would completely miss thousands of nesting seabirds which rely on Sombrero to breed. Remember, Sombrero is out there. The birds have no alternate nesting site on which to breed within about 60 miles — that's if they can find a predator-free site with suitable habitat.

Very little accurate data have been collected from Sombrero (the only published accounts I know of are Rob Norton's paper on Sombrero [he found Black Noddies and Masked Boobies – both species of concern in the Caribbean] in *Colonial Waterbirds* [1989; vol. 12:120-122], and Dave Pritchard's 1990 account in the RAMSAR Convention in the Caribbean RSPB Sabbatical report). Many of us would like to know what nests on Sombrero, but it is very difficult to get to — much less land on.

I suspect that Beal Aerospace will try and use the "birds versus jobs" argument in the USVI as well. According to a Daily News article on March 23, 1998, Beal is negotiating with the VI Port Authority to lease 100 acres on St. Croix to "construct and operate corporate and manufacturing aerospace facilities" on that island that could employ 200 people.

All this begs the question as to how Beal plans on getting all this equipment on an island that even under the best sea conditions is difficult to access.

I would be willing to assist in a survey of Sombrero if the logistics can be worked and governmental approval (UK or Anguilla) can be attained. On St. Thomas, I have connections to rent a trawler and have had an experienced boat captain offer his services. The island lies about 65 miles due east of Virgin Gorda, and would take about a day to get to and a day to get back, seas permitting. I suppose flying to Anguilla and renting a boat would be another option. Do we know how others are getting to the island? Any suggestions regarding this would be helpful.

Sincerely,

Judy Pierce

July Pierce provided an additional response to the Island Resources Foundation on 23 July1998:

QUICK OVERVIEW OF BIRD NESTING CONDITIONS ON SOMBRERO

A three-day bird survey was just completed on Sombrero. Briefly, the island is exceptional and probably is the most important island for breeding seabirds in the eastern Caribbean. Hundreds of Brown Boobies, Brown Noddies, Bridled Terns, and Sooty Terns nest on Sombrero. And they nest everywhere. Magnificent Frigatebirds roost on the island; however, we found no evidence of nesting. We did not see Roseate Terns, although others (Gladfelter et al., and Pritchard in RAMSAR) did. Roseates move around year-to-year and it is not unusual to have them breeding on an island in one year and not the next, but the habitat is certainly suitable.

We saw no evidence of rats and only approximately 16 Laughing Gulls and so threats from predation are exceptionally low. The flying fish were astoundingly abundant as they flew off the bow wake of the boat.

Of particular note are the nesting Masked Boobies. Perhaps about 50 pairs nest here...very important considering their low numbers in the local vicinity.

All those concerned who want to comment should get those comments ready. According to ICF Kaiser, the comment period should open sometime in August, but where to send those comments is still unclear. Kaiser will keep me posted. The EIS should be available – either hard copy or web.

For more information check http//:www.ICFKaiser.com.

From what I could observe of the other offshore islands near Anguilla...all are heavily vegetated and have numerous nesting Laughing Gulls. Not even an option for most terns to colonize. Probably have rats as well.

Let's keep up the pressure. This is an island that must be protected

Judy Pierce
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SOCIETY MEMBERS WITH INTEREST IN THIS IMPORTANT CONTROVERSY SHOULD BECOME INVOLVED.

SOMBRERO—PART OF ANGUILLA'S CULTURAL HERITAGE

IJAHNYA CHRISTIAN

ANGUILLIANS CALL IT SOMBRERO. Not Sombrero Island or Sombrero Cay—just Sombrero. Sombrero is the northernmost islet in the Lesser Antilles. It is a 95–acre rock, one–mile long and a quarter–mile wide, 38 miles from Anguilla and separated from the mainland by the Dog and Prickly Pear Passage. The relatively flat top of the rock is 40 feet above the surface of the water yet the treacherous northern rollers are known to wash over the entire island even on relatively calm days.

Sombrero is best known for its Lighthouse. The flashing beam, 166 feet above sea level, protects ships passing from the Atlantic Ocean to the Caribbean Sea through the Anegada Passage. This important landmark (which I understand is soon to be automated) has appeared on St.Kitts–Nevis–Anguilla stamps in 1954 and again in 1963. Anguilla's first definitive two-cent stamp issue in 1967 also depicted the Sombrero Lighthouse.

The original lighthouse came into operation on January 1st 1868 and was run by the American company which had begun mining phosphate there in 1860. By 1893, the lighthouse was taken over by the British Board of Trade, which continued to administer the new lighthouse that was opened in 1962 after the destruction caused by Hurricane Donna in 1960. The lighthouse keepers can tell how windblown waves reach unimaginable heights up the light tower during the hurricane season.

Former Chief Minister, Sir Emil Gumbs, can recount a number of intriguing stories about the rigours of transporting and loading construction materials for the Lighthouse in the days when the Warspite ruled the waves. Writing about the St. Martin–Anguilla Connection in the Archaeological and Historical Society Review 1981–1985, Don Mitchell Q.C., mentions the fact that "in the 1870's French and Dutch men worked on the English lighthouse of Sombrero." This writer has also told the story of the Seaman Abandoned on Sombrero and that of Sombrero and the Common Law in previous issues of Anguilla Life magazine.

The period of phosphate mining by the Americans lasted for about twenty years and the following description of the process, taken from Derriman's book *Marooned*, provides an explanation for the Sombrero landscape as it appears today.

"The barren rock was equipped with a light railway, a steam rock crusher and accommodation for the workers, with loading points see up on the shoreline. By 1876, some 3,000 tons were being shipped each year. The phosphate was found in pockets in the rock which could be worked only by blasting. When surface reserves had been exploited the Americans turned to the sea. Now divers had to drill holes underwater and insert blasting charges. After the explosion, loosened portions of rock were hoisted to the surface, an enormously expensive operation that could not be carried on indefinitely. By 1890 production had fallen greatly so the workings were abandoned. The graves of seven workers who died there can be seen today."

The remains of the phosphate works, the graves, the many experiences which the four keepers and cook have had over the years and of course the lighthouse, are all part of Anguilla's cultural heritage.

However, Sombrero is also important for the endemic black lizard (*Ameiva carvina*) and for the bird life which contribute richly to Anguilla's biodiversity. A number of species of special concern can be found on the island, which is considered to be the best seabird breeding location in the region. A three–day survey of bird life conducted by representatives of ICF Kaiser on Sombrero in July 1998 found hundreds of Brown Boobies, Brown Noddy Terns, Bridled Terns, and Sooty Terns nesting everywhere. About 50 pairs of Masked Boobies were found and this is significant, as the numbers of that species in this area are low. Magnificent Frigate Birds roost on Sombrero, but apparently do not nest there.

Sombrero's high biological value is due to a number of features such as:

- its isolation,
- its relative lack of human contact,
- its unique geographic location in relation to migratory routes, wind and current regimes,
- its special nesting and breeding conditions, and
- its high probability of unique species.

This is why leading international organizations such as the Royal Society for the Protection of Birds, the American Bird Conservancy, BirdLife International, and the regional organization Island Resources Foundation are all lobbying strongly against the proposal by Beal Aerospace Ltd. of Texas to establish a rocket launching facility on Sombrero.

The Anguilla National Trust has requested that a public meeting be part of the Environmental Impact Assessment so questions about the effects of rocket launching on the cultural artifacts and the wildlife can be answered. The island does not have sufficient information about rocket launching nor do we have persons with the technological expertise for the proposed project to offer significant employment opportunities to Anguillians. In addition, the proposed facility does not seem compatible with the Anguilla Archaeological and Historical Society's plan to offer day tours to Sombrero for its historical and ecological value.

Finally, the history of exploitation and exhaustion of Sombrero's phosphate resources raises questions about what will happen when rapid changes in rocket launching technology render the Beal facility obsolete. Will we still have Sombrero? This is why both the British Government and the Government of Anguilla have given every assurance that the project will not proceed without reviewing the findings of an Environmental Impact Study. It is hoped that the people of Anguilla will have access to the report and that their responses will be considered in making the final decision.

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JAMAICA REPORT

Suzanne Davis
Jamaica Representative

The environmental movement in Jamaica has shown an increasing trend toward the development of programs that involve collaboration among government, non-government, and private sector organizations. Protected areas and threatened species received considerable attention during the past year, through workshops, education programs, the media, and research projects. Some of the major events which were successful through multi-organization collaboration are outlined below.

The Cockpit Country Workshop

The Gosse Bird Club (recently renamed Birdlife Jamaica), in collaboration with the Life Science Department of the University of the West Indies, Mona Campus, held a workshop on the Cockpit Country in March 1998. The goals of the workshop were (1) to share information on the Cockpit Country, and (2) to encourage a cooperative relationship between individuals and organizations involved in the conservation of the area. The importance of the Cockpit Country as a biodiversity treasure and the need for its declaration as a protected area were highlighted. Presentations were made by representatives from the Department of Geography and Geology–Mona Campus, National Arboretum Foundation, Department of Life Sciences, Jamaica Parrot Project, Water Resources Authority, Ministry of Mining, and ecotourism interests and operators. The workshop was well attended and participants left with a better understanding of the Cockpit Country's value in terms of the high levels of plant and animal endemism and the Cockpit Country's role as the main watershed of western Jamaica.

Green Expo 1998

Another well-supported public event was the Jamaica Conservation Development Trust's (JCDT) biennial environmental fair, Green Expo. This year, JCDT sought to promote environmentally friendly and sustainable technology in several areas of economic development. The exposition was held 5–7 June 1998 at the National Arena and focused on the following themes:

1. Solid Waste Management
2. Industrial Waste Management
3. ISO 14000 Standards
4. Sustainable Agriculture
5. Energy Conservation and Alternatives
6. Sewage Treatment and Disposal
7. Sustainable Tourism and Ecotourism
8. The Environmentally Friendly Home

The slogan for Green Expo was "A Better Environment = A Better Life: Do the Right Thing!" Green Expo had about 15,000 visitors viewing the displays of 101 local, regional, and international exhibitors.

The Jamaica Bird Protection Initiative (JBPI) Project

The JCDT, in collaboration with the Nature Conservancy, recently launched the JBPI project in the Blue and John Crow Mountains National Park. The Blue and John Crow Mountains National Park provides prime habitat for most of Jamaica's endemic birds and many overwintering neotropical migrant warblers. The project is funded by the National Fish and Wildlife Foundation and the Orvis Co. JCDT are co-managers of the Blue and John Crow Mountains National Park along with the Natural Resources Conservation Authority. The project seeks to (1) provide the Park managers with an increased knowledge of the avifauna, which will be used to establish long-term monitoring programs; (2) develop a management plan for the avifauna of the Park; and (3) develop bird tours as part of a wider ecotourism program.

Search for the Jamaican Petrel

The Jamaican Petrel Research Group was formed in 1996 to investigate the possible continued existence of the Jamaican Petrel (*Pterodroma caribbaea*) in Jamaica. The petrel is an endemic Jamaican seabird now thought to be extinct. In December 1997, the Research Group embarked on a long-term survey of possible nesting sites of the species at Southeast Cay, which is one of the Morant Cays. No Jamaican Petrels were detected, but a first record of Audubon's Shearwater (*Puffinus lherminieri*) was made for Jamaica. In addition, there was also a sighting of a threatened endemic West Indian species, the Black-capped Petrel (*Pterodroma hasitata*).

Government Initiative

The Natural Resources Conservation Authority has established the National Environmental Education Committee (NEEC). The NEEC, which includes government, non-government, and private sector representatives, has spearheaded the development of the National Environmental Education Action Plan for Sustainable Development. The NEEC is currently focusing on the implementation of this Action Plan.

Research and Monitoring Projects in Jamaica

Project: Bird Communities in a Fragmented Buffer Zone of the Blue and John Crow Mountains National Park.
Status: Results Pending
Researcher: Suzanne Davis
Institution: University of the West Indies (Mona Campus, Jamaica)

Project: Biology and Distribution of Psitaccines in Jamaica.
Status: In Progress
Researcher: Susan Koenig, Herlitz Davis, Garfield Basant
Institution: Wildlife Preservation Trust International (US) and Birdlife Jamaica

Project: The Impact of Human Disturbance on Tropical Dry Limestone Forest of Jamaica on Resident and Migrant Bird Communities
Status: In Progress
Researcher: Leo Douglas
Institution: University of the West Indies (Mona Campus, Jamaica)

Project: West Indian Whistling–Duck and Wetlands Conservation Surveys and Education Program
Status: In Progress
Researcher: Jamaica West Indian Whistling–Duck Working Group
Organization: Society of Caribbean Ornithology

For more information on the above events, please contact:
Birdlife Jamaica
C/O 2 Starlight Avenue
Kingston 6
Tel. No.: (876) 927-1864 [Tuesday, Wednesday, and Friday]
Fax No.: (876) 927-8444

THE BAHAMA ISLANDS — JULY 1998

CAROLYN WARDLE
Bahamas Representative

The Ornithology Group of the Bahamas National Trust (BNT) continued to progress and grow since the 1997 SCO meeting in Aruba. The Group of New Providence continues to conduct monthly field trips. Monthly events are also offered at the Rand Nature Centre in Freeport, Grand Bahama. To our knowledge, there are no other active groups in other Bahamian islands doing regular field work, however a regular monthly check-list is received from Long Island.

Following the resolution passed by the SCO in Aruba last year, the Ornithology Group is about to submit a proposal to the Bahamian Government that the wetland area of Harold and Wilson Ponds be set aside as a National Park under the protection of the Bahamas National Trust. Our submission includes a check-list of over 100 species of birds known to use the area.

The West Indian Whistling-Duck Working Group held an extremely productive workshop at the headquarters of the BNT in Nassau last November, following ground-work laid at the Aruba meeting. Dr. Lisa Sorenson conducted the workshop, ably assisted by Lynn Gape in Nassau. Since the workshop, the Bahamas is actively pursuing local school education at various levels with the materials developed from the workshop. Lynn Gape and Monique Clarke are responsible for this programme.

Four members of the Ornithology Group visited the Kirtland's Warbler (*Dendroica kirtlandii*) nesting area in Michigan in June 1997. Thereafter, several members of the Michigan working team visited the Bahamas in February, to educate the local group in monitoring skills and also to attempt to find some Kirtland's Warblers in their winter habitat. The Michigan team also visited Grand Bahama and Abaco. This monitoring programme will be continued throughout next winter in as many islands as possible.

The Ornithology Group's Road Kill programme has made excellent progress this year, under the guidance of Dr. Barbara Brunhuber. Since the programme was started about 4 years ago, nearly 200 birds have been collected, which have had to remain in the Group's freezer until the next stage could be implemented. With the ability to purchase the correct storage cabinet for skin specimens, the Group is now progressing with its skills in preparing specimens for permanent storage. Also, thanks to an agreement with the University of Gainesville, Florida, we are fortunate to utilize the skills of Dr. David Steadman and Andrew Kratter to assist us. We plan to use the specimens to assist with school and college education.

With the recent publication of Tony White's book, *A birder's guide to the Bahama Islands*, we hope that more overseas birders will be encouraged to visit the Bahamas and particularly the more remote islands in the archipelago and help build our data bank of sightings. We are also excited to have the new *Guide to The birds of the West Indies* (Raffaele et al.) as an extra tool for birding in The Bahamas.

The Ministry of Tourism and the Bahamas National Trust have been able to increase the number of embryo birding tour guides in several Bahama Islands in conjunction with Government's efforts to promote ecotourism. It is hoped that this will increase local interest in birds and lead to more field activity.

Ongoing research continues by Michael Baltz on the status of the Black-cowled Oriole (*Icterus dominensis*) in North Andros and by Lowell Overton on his genetic studies of the West Indian Woodpecker (*Melanerpes superciliaris*).

The Bahamas National Trust currently administers 12 national parks throughout the Bahamas. Government has indicated that two more areas are likely to be put under BNT protection in the near future.

REPORT OF CONSERVATION ACTIVITIES OF MARTINIQUE IN 1998

MICHEL TANASI
Martinique Representative

The office of government and the Association for the Preservation of Birds began several new activities in 1997-1998.

The Regional Natural Park financed the following research in 1997:

- Inventory of *Ramphocinclus brachyurus* in the Caravelle reserve in 1998
- Research on the presence or absence of *Ramphocinclus brachyurus* in areas of this reserve (actually a study by the Association d'Ornithologie de la Martinique (AOMA)
- Inventory and study of birds population present on the Natural Reserve of Sainte Anne Islands.

Reconditioning of the Wildlife and Hunting Reserve of "Piton des Carbet" National Forest Office (1880 ha, 15 April 1998) was begun.

The Regional Council has collaborated with Marcel Bon Saint Côme in the production of a video on the birds of Natural Reserve of Sainte Anne Islands.

The AOMA, a new association, has collaborated with the Regional Natural Park in different research projects.

The Association Carouge (Etude et Recherche pour la Preservation et Promotion de la Faune et de la Flore) has collaborated in developing an environmental education plan and in research into the possible disappearance of the Smooth-billed Ani (*Crotophaga ani*).

Beatriz Conde has collaborated with various official offices in the emergency care of injured birds. She is attempting to get an official agreement from the Wildlife Health Center Union, so her efforts can be officially recognized.

REPORT FROM DOMINICA

BREEDING BIOLOGY AND NESTING HABITS OF THE RED-NECKED OR JACO (*AMAZONA ARAUSIACA*) AND IMPERIAL OR SISSEROU (*A. IMPERIALIS*) PARROTS OF DOMINICA

STEPHEN DURAND
Dominica Representative

INTRODUCTION

The Forestry and Wildlife Division has been carrying out research on the Red-necked (*Amazona arausiaca*) and Imperial (*A. imperialis*) parrots, using its own resources, since 1994. Before 1994 funding was provided by Birdlife International.

Research includes nest-site monitoring, nest searches, study of inter- and intra-specific interactions, feeding habits, nestling development, and fledging and post-fledging activities. Environmental education is also an important component of the project.

PARROT MONITORING AND RESEARCH PROGRAMME

The parrot monitoring and research programme continued in 1995-1996, with observations made at three active Jaco (Red-necked Parrot) nests in the Syndicate area. In 1997, five active nests were discovered at Syndicate (3 nests), Morne Rachette (1 nest), and Carholm (1 nest). The May 1997 fledging of one of the Jaco chicks at Syndicate was captured on video tape for the first time. Four of five Jaco nests that were monitored during 1997 were discovered during the nesting season. For the 1998 nesting season, only three active Jaco nests were discovered at Syndicate (1 nest) and Carholm (2 nests). Data were also collected from these nests as well as at other monitored nests. A total of 25 Jaco fledglings were produced at nests monitored from 1995 to 1998. No active Sisserou (Imperial Parrot) nest has been discovered since 1994.

At the end of the 1997-1998 parrot breeding season, nine Jaco nests had been found in the Syndicate–Morne Diablotin area, two at Carholm, and one at Morne Plaisance. To date, only two Sisserou nests have been discovered, both in the Morne Diablotin area.

Also, during the early months of the 1998 parrot breeding season, Dr. Paul Reillo from the Palm Beach Zoo of Florida assisted the Division's parrot research activities with the use of a video-probe. Several visits were conducted to some of the known active and non-active parrot nest sites in the Syndicate–Diablotin, Morne Plaisance, and Carholm parrot areas. With the use of this equipment, Dr. Reillo and parrot research field staff were able to observe inside of the nest cavities, determine the stages of two active Jaco nests, and identify the problems affecting some of the non-active nests. Artificial nest boxes were also checked, and it was confirmed that they are not being used by the parrots.

WILDLIFE CONSERVATION PARTNERSHIP PROGRAMME

The Conservation Partnership Cooperative programme was developed in 1996 between the Palm Beach Zoo of

Florida and the Forestry and Wildlife Division. Under this programme, 10 artificial nest boxes were installed in parrot habitat within the rain forest at Syndicate–Morne Diablotin and two at Morne Plaisance in 1997. A time-lapse video camera and recorder were also installed to assist with monitoring activities at one of the Jaco nest sites at Syndicate. A single-cab 4-wheel drive vehicle was also received under the programme, and will be used for parrot research, as well as other activities of the Division.

The main components of the proposal for the partnership include fund-raising for the purchase of some 1430 acres of private lands that are currently in the Northern Forest Reserve at Syndicate, training for Forestry Division staff, and continuing parrot breeding biology research.

Dominica Parrot Aviary

The number of birds at the Parrot Aviary at the Botanical Gardens remained at nine (1 Sisserou and 8 Jacos). Unfortunately, the female Sisserou which was in the care of Forestry Division for the past 14 years died in May 1998. According to an autopsy report from Dr. John Toussaint, Ministry of Agriculture, the bird died as a result of starvation caused by an egg which was lodged in its cloaca. One adult female Red-necked Parrot successfully laid two eggs in one of two boxes provided in Cage #4, but no chicks were produced.

The aviary continues to function also as a tourist attraction, with hundreds of cruise-ship passengers and other visitors coming to have close look at the two endangered species of parrots.

Parrot Depredation on Citrus Crops in Dominica

Since 1993, citrus farmers have increasingly complained about the continuing attacks by Jacos on their crops in the Syndicate, D'leau Gommier, Wet areas, Colihaut Heights, Salisbury Heights, and Carholm areas during the early and later parts of the year. Depredation is heaviest on citrus orchards bounding tropical high rain forest in those areas.

The Forestry Division continues to investigate, make assessments, and give explanations to affected farmers on parrots feeding on their fruits. The Jaco, however, has been consuming an estimated 10% of the citrus crop in the above-mentioned sites. This is resulting in serious financial loss to farmers at a time when they can least afford the loss, given the situation with the banana industry.

The Division has been actively involved in advising farmers specifically as to the appropriate practices that could be used to reduce their losses (e.g., harvesting earlier). The Forestry Division also proposes a study aimed at identifying the parrot population elements engaged in depredation activities (i.e., whether juvenile or adult birds, whether from the locality), providing an economic analysis of the situation, and proposing guidelines and recommendations to Government for dealing with the conclusion.

Conclusion

The Division has had more and more difficulty in meeting the costs of the parrot research programme. In particular, provision of equipment (binoculars, rain gear, camping equipment) and payment for the long overtime hours worked have proven to be difficult.

Finally, it is the wish of the Division that the necessary cash inputs can be met which would assist in alleviating the problems associated with this vital research. The Division is also looking forward to producing a 30 minute video documentary on each of the species for use in tourism promotion, environmental education, and revenue generation. It is also hoped that the data collection and results of this programme will include more realistic estimates of population size, impacts of habitat loss, and generation of statistics to facilitate more informed decision making.

ST. LUCIA REPORT, 1997–1998

Donald Anthony

Parrot Project

During the 1997 nesting season, for the first time, we observed non-parental St. Lucia Parrot (*Amazona versicolor*) pairs attacking chicks in two nests. Of those being attacked, one chick from each nest was seen with large wounds, whereas one chick had a broken wing. Both chicks were rescued: one is called "Coco" after the late Chief Forestry Officer Gabriel "Coco" Charles. The other is named "Jerry" after the late Gerald Durrell from Jersey Zoo. One chick left in a nest died, whereas the other fledged. Due to a lack of manpower this year, not much was done on the parrot project, however we know that nine nests were active. One new treetop observation platform is being put up this year.

Whiptail Project

An M.Sc. student conducted research for six months on Praslin Island, where we have a translocated population of the St. Lucia whiptail lizard. The population now stands at about 200 individuals from about seven pairs that were released there in 1995.

Racer Research

A one-month search for the St. Lucia racer by two researchers from Jersey Wildlife Preservation Trust (JWPT) proved futile. The researchers, however, caught one female two days before their departure. This racer, found only on the tiny off-shore Maria Island, could be the rarest snake in the world.

STUDIES CONDUCTED

(1) Inventory of fauna and flora of the proposed Praslin Protected Landscape, St. Lucia.
(2) Inventory of flora and fauna of the Buccament Valley, St. Vincent, and the Grenadines.
(3) Inventory of fauna and flora of Gros Piton, St. Lucia.

TALKS AND SLIDE PRESENTATIONS

(1) A talk with slides on St. Lucian Wildlife was presented to a tour company called St. Lucia Reps.
(2) A talk to Sandals Middle Managers on the topic of the importance of the forest was given to a small island eco-system.
(3) A talk was presented to La Guerre School on birdlife of St. Lucia.

OVER-SEAS VISITS

India—January to March 1998 — course in human resource management.
Belize—1-10 August 1997 — communicating environmental messages.

OTHER ACTIVITIES

Donald Anthony climbed our tallest peak, Mount Gimie (3117 ft), in search of plants for our National Herbarium. He participated in a soil and water conservation project in an area prone to land slips in Fond St. Jaques. He held two meetings with the Permanent Secretary, the Chief Forestry Officer, and members of the hunters association who want the Ministry of Agriculture to re-open the hunting season.

ENVIRONMENTAL CONSERVATION ISSUES AND ACTIVITIES IN ANTIGUA-BARBUDA, AUGUST 1997 – JULY 1998

KEVEL LINDSAY
Island Resources Foundation

THE SAVE GUIANA ISLAND CAMPAIGN

For local conservationists, 1997 will be remembered as the year when Antiguans and Barbudans, both locally and throughout the world, energized and came together to speak out and to oppose the proposed development of some of Antigua's most important and ecologically sensitive landscapes.

In February 1997, the announcement of the proposed construction of an Asian–themed resort on Guiana Island and some parts of the mainland sent shock waves through Antigua and Barbuda. Within days, there were tremors of opposition in the local media. Within a month, pressure began mounting, with regular letters to the local press and at least one news item on the television every evening.

In October 1997, about 10,000 people marched in protest against the development project. The main opposition party had mounted a campaign against the proposed project, mainly high-lighting what it considered a "sweetheart" deal between the government and the Malaysian Investor, and the loss of the country's patrimony.

But to environmentalists, the main concern was the potential loss of biodiversity and open landscapes which, in Antigua, are being lost to commercial and housing development at an increasingly rapid rate. The environmentalists' fears where heightened when the Government and the investor dismissed the main Environmental Impact Assessment, claiming that the consultant had gone beyond the mandate which the government had set. Further development plans were produced, which went in the opposite direction to the recommendations of the report.

Over a year has passed since the first phase of the project was to have begun. No construction has started and Antiguans and Barbudans continue to hope that this is a sign that the project will not get off the ground. Nevertheless, the Government has made provisions to transfer the ownership of the lands, including 12 offshore islands, all totaling nearly 2000 acres, to the investor. Even if the project does not come off, some of the island's most ecologically important lands will be in foreign hands with the potential to be sub-leased and sub-divided, a situation which would make the recovery of the property from the Malaysian investor or other owners difficult and expensive.

CONSERVATION OF THE ANTIGUAN RACER (*ALSOPHIS ANTIGUAE*)

The Antiguan Racer Conservation Project (ARCP) team continues to work to save the island's rare endemic snake from extinction. The racer now exists only on Great Bird Island. The 1997 census revealed an increase in the population of the racer on its tiny island home (about 20) from 50 to just over 100. This two-fold increase is attributed to a massive rat eradication effort to rid Great Bird of the introduced black rat (*Rattus rattus*). Other expected benefits of the rat eradication program are an increase in the seabird nesting populations and survival of marine turtle eggs and young.

The early 1998 results indicate a slight increase in the population, but the island may already have achieved the carrying capacity for the snake, and efforts are now being made to secure other rat- and mongoose- (*Herpestes auropunctatus*) free offshore islands suitable for the translation of a population of *Alsophis antiguae*.

The team took the opportunity to hold a two-day workshop to develop a strategy to save the snake and to chart a future for the Antigua Racer Conservation Project. The two-

day exercise was an important step in the evolution of a project which often developed on its own energies.

The Wetlands Conservation and Monitoring Project

Antigua and Barbuda is now mid-way through the effort to assess the current status of the islands' wetlands. This project was conceived out of a need to update the current knowledge on the mangroves and other wetlands and to sensitize and work with stakeholders on ways to improve protection and the conservation of these important natural systems.

The Environmental Awareness Group has been holding discussions with hoteliers to develop interpretative and educational signs about the importance of wetlands conservation. Also being developed with two local hotels is a programme involving hotel employees and guests, and encourage them to take time out to visit nearby wetlands and record the bird species and numbers, as well as any changes or trends in the wetlands. It is hoped that this programme can be expanded to other hotels throughout the country.

The two implementing agencies are the Environmental Awareness Group EAG and the Island Resources Foundation (IRF).

The project is funded by UNDP/GEF Small Grants Programme, headquartered in Bridgetown, Barbados.

Antigua-Barbuda Biodiversity Strategy

Antigua and Barbuda are just about to begin the Biodiversity Strategy enabling exercise. This process is scheduled to be completed within a year and will take into account the country's biodiversity resources, its institutional and legislative capacities, development plans, and its future direction for saving its biodiversity.

The EAG Bird Club

Earlier this year, the Environmental Awareness Group launched its Bird Club. The Club was launched to focus attention to the plight of bird species locally and throughout the world. The Club has already completed two training exercises on bird identification. It also participated in the World Birdwatch 1997, and hopes to become involved in Birdwatch 1998.

The Club undertakes regular trips to view birds, and to investigate local problems in bird conservation.

AVIAN CONSERVATION PRIORITIES FOR THE CARIBBEAN REGION AND PRIORITIES FOR THE SOCIETY OF CARIBBEAN ORNITHOLOGY

27 and 29 July 1998, Guadeloupe, French West Indies

MARLENE WALKER
Facilitator and Coordinator of Workshop

In 1996, Norman Myers said "We have ten years to conserve what we have." This statement is both a warning and a challenge to the human race. The Society of Caribbean Ornithology (SCO), at its annual meeting in Guadeloupe this year, dedicated eight hours over two days to setting priorities for avian conservation issues in the Caribbean region and for the Society.

Setting priorities and developing action plans at the regional level is a challenging proposition. The SCO represents 23 territories, many of which are their own island states. Some islands, like Saba, are small, whereas others, including Jamaica, Puerto Rico, Cuba, and the Dominican Republic, are large. This translates into a smorgasbord of cultural, social, political, economic and, of course, biological diversity. In addition participants spoke three languages: English, Spanish, and French, which necessitated spontaneous translation by excellent professionals, as well as bi- and tri-lingual participants.

GOALS: The goals of the workshop were to (1) learn the process involved in setting conservation priorities to provide island representatives with a framework to use in their home islands, to encourage ownership of local conservation efforts; (2) establish avian conservation priorities for the region and for the SCO with accompanying action plans; and (3) encourage networking and partnerships in avian conservation efforts.

FORMAT: The workshop was organized for full participation of all participants, beginning with an island perspective and leading into the regional perspective. Each participant was pre-assigned to one of six groups, which included individuals from both small and large islands, and integrated all languages represented. For larger islands with more than one representative, these participants were spread out among the groups. Therefore each group had a similar complement of representation; there was no polarization by island or by language. In addition, bi-lingual participants were included in each small group to facilitate discussions. Six people with leadership skills were identified to manage each of the groups: Eric Carey, Simon Guerrero, Kevel Lindsay, Lisa Sorenson, Ann Sutton, and Kate Wallace. After each segment of the workshop, the small groups reconvened to the large group, where each group's report was presented to all participants. The first day of the workshop (5 hours) involved the identification and elaboration of themes from an island perspective, development of themes from a regional perspective, and the prioritization of themes. In addition, identification and categorization of SCO priorities were discussed. Over 70 people participated. The second half-day of the workshop (3 hours) was focused on the establishment of the top three regional priority Action Plans and one Action Plan for the SCO. The Action Plans completed by four small groups (8 people in each) were reported to the whole group.

PARTICIPANTS AND COUNTRIES REPRESENTED: The following island states were represented: Antigua, Cayman Islands, Cuba, Dominica, Dominican Republic, Guadeloupe, Jamaica, Martinique, Montserrat, Puerto Rico, St. Lucia, St. Kitts and Nevis, Saba, and Trinidad and Tobago. In addition, the following countries were represented: Canada, Belize, France, French Guiana, Switzerland (RAMSAR), and the United States. Among the organizations represented were Parc National de la Guadeloupe, Bahamas National Trust, Birdlife International, Canadian Wildlife Service, Ducks Unlimited, Island Resources Foundation, National Fish and Wildlife Foundation, The Nature Conservancy, RAMSAR, RARE Center for Tropical Conservation, and U. S. Fish and Wildlife Service. In addition, many local organizations were represented.

PREPARATION FOR WORKSHOP: Avian conservation themes were determined based on material previously researched and a pre-workshop questionnaire which was mailed to participants. Thank you to all participants who returned these questionnaires. The two questions asked were: 1) Which avian conservation issues do you believe are priorities for the island you represent?, and 2) Which avian conservation issues do you believe are priorities for the Caribbean region? Participants were given hand-outs , which included the goals and outline of the workshop, conservation issues, process guidelines for setting conservation priorities, and a map of the region. Each small group leader received a list of the conservation themes for discussion, and three tables that showed conservation concerns, needs, and legislation by island, including signatories to CITES and RAMSAR. (Representatives were requested to up-date legislation material during the workshop).

CONSERVATION THEMES: Themes for discussion included research and monitoring, legislation, training, wildlife management, protected areas and habitat conservation, environmental education and public outreach, revenues from wildlife, hunting, conservation ethic, and communication.

THE WORKSHOP

PART A: IDENTIFICATION AND ELABORATION OF THEMES — Each small group was charged with the task of discussing all themes and getting input from each of the island representatives on each topic. All points were noted by theme, one theme per page, for future reference. At the end of the hour, all feedback was collected and collated so that all information for each theme (from all 6 groups) was put together. This was done for all themes so that 10 packages representing each of the themes and, therefore, all islands, was available.

PART B: DEVELOPMENT OF THEMES — The thematic material (one or two per group) was distributed for discussion, integration, and preparation of a report to the whole group. The following is a summary of seven of the themes. As expected some overlap and integration of thematic material occurred.

Training. At the regional level, all law enforcement officers (rangers, wardens) should be trained. The region is in need of more ornithologists and therefore courses in ornithology, conservation biology, and ecology should be considered in the curricula of West Indian universities. Regional coordination of training for policy-makers and tour-guides should be implemented. A need for basic equipment and resources was identified for the region, as was training in database management.

Wildlife Management. Multi-species, ecosystem-based management is needed. Infrastructure for wildlife management is understaffed, and there is a lack of opportunity and funds for training. Baseline data on natural history of species are lacking, as is knowledge of the impact of introduced species (e.g., Shiny Cowbird, mongoose), biocides, and agriculture. Information on control of introduced predators, with techniques and directions for use is particularly needed . Management plans are needed, but lacking for many species. Where management plans do exist, they are often not implemented. Key management areas need to be identified. In relation to outreach, local communities need to be involved. Specific issues noted include the management of game species, a need for an infrastructure to manage ecotourism, and special attention focused on seabird colonies.

Hunting. All hunting should be based on sound scientific and accepted wildlife management principles. Generally, adequate laws are in place throughout the region, but often little or no capacity to enforce laws exists. Often fines are not an adequate deterrent. The need for hunter education is important as is the need for hunting permits. Hunter groups (e.g., Martinique) can often self-regulate. Involvement of local people and hunters in data collection is important, followed-up with regional organization of the data. The importance of a conservation ethic in relation to wildlife is vital. More information on subsistence hunting in the region is needed. The Bahamas National Trust has been active in hunting issues and may serve as a good model and resource for other islands.

Revenues from Wildlife. Fees should be included in ecotourism and go back into conservation, not the general treasury. Ecotourism requires the training of tour guides, and public relations. User fees should be implemented to visit parks and reserves, and the revenue generated used to maintain the park. Ecotourism needs to be sustainable; to avoid damage to the environment, a maximum carrying capacity of tourists needs to be determined. Ecotourism's effect on the local economy should be determined and presented to help convince governments of the economic value of wildlife and natural areas.

Legislation. The updating and creation of new wildlife laws is needed but enforcement is crucial. The judiciary needs to be aware of legislation and politicians need to understand the importance of environmental regulations and laws. Clarification of who has authority to enforce may need to be determined to aid public understanding. Control of cagebird trafficking is required, but often personnel to monitor effort are unavailable.

Conservation Ethic. Generally a conservation ethic is lacking or poorly understood throughout the region, although some islands are more successful than others. It is important to move beyond talk to how we will finance establishment of an ethic so that it is equal across countries and the region. Three models exist: (1) a conservation ethic starting from the ground up (Bahamas); (2) conservation ethic at the national level (policies on sustainable development; e:g., Cuba); and (3) conservation ethic among local peoples about the importance of biodiversity for human use (local culture; e.g., St. Kitts/Nevis). The group recommends that all three models should be used jointly.

Communication. Generally communication was identified as poor among islands, among conservation groups, and between governments and NGOs. To improve communication among islands, the group suggested that *El Pitirre* be in three languages. Further, the group suggested a web page be established to share publications, to allow news groups to share issues over e-mail, and for a list server to discuss and seek advice on conservation problems. It is important to note that Island Resources Foundation has an excellent list server and that a web page is in the process of being established by the SCO.

The Research and Monitoring, Protected Areas and Habitat Conservation, and the Environmental Education and Public Outreach groups also gave reports (discussed below).

PART C: SETTING CONSERVATION PRIORITIES — After all 10 reports were presented to the whole group, each participant was asked to individually select, prioritize and write down the three themes that were most important to focus on at the regional level. Results were tallied. The top priority was determined to be Environmental Education and Public Outreach, followed by Research and Monitoring, and Protected Areas and Habitat Conservation. These three themes were reported as designated for the creation of Action Plans.

PART D: CONSERVATION ISSUES FOR THE SCO — Each of the six groups was asked to identify, discuss and prioritize the issues that should be or are priorities for the SCO. Each group presented a summary of their report to the whole group. On completion of the reports, the six reports were collated for assignation to a working group for an Action Plan.

PART E: ACTION PLAN GROUPS. The three groups that were responsible for the top priorities were given the task of creating an action plan for their theme. The other three groups merged and were assigned to the SCO priorities Action Plan group. The Action Plan groups each consisted of eight people with a good cross-section of participants. The groups had two hours on the last day of the conference to complete this task, at which time each group presented a report to the whole group, and submitted a written report (given below).

Priority #1 – Environmental Education and Public Outreach – ACTION PLAN

Goal: Raise awareness and appreciation of the people in each West Indian country about the importance of the environment and natural areas to their long-term health and welfare.

Why? SCO members are particularly aware of the environmental degradation and destruction of habitat that is occurring throughout the region. We understand that public education (particularly of children) is crucial in achieving conservation goals. Thus, we want to facilitate dissemination of environmental educational materials and resources.

What? Make available environmental education materials and resources (e.g., workbooks containing natural history information and exercises illustrating ecological and conservation principles, teachers guides that describe teaching techniques, videos, slide presentations, posters, museum specimens and other hands-on materials, natural history books, binoculars, magnifying lenses, and CD-ROM) to everyone in the West Indies.

How? (1)Create a clearinghouse of information on which educational materials are available for the West Indies. Make this information available and accessible to the region through the creation of an SCO Education Web Page that lists and describes all materials and resources, and allows individuals, organizations, and schools to place orders. (2) Hold teacher training workshops for island education representatives on how to conduct training workshops (train the trainer). Island representatives would then train teachers in their communities.

When and How? We suggest that, concurrent with the publication of this report in *El Pitirre*, a job description be posted describing the need for a volunteer to get this project initiated.

Who? An individual is needed who will be responsible for compiling a list of all resources; creating and maintaining the SCO education web page, arranging training workshops and obtaining grant funds to publish additional copies of materials and send them out.

Where? We believe that where will be a function of who?

Priority #2 – Research and Monitoring – ACTION PLAN

Why? To contribute towards conservation of Caribbean biodiversity and develop regional and local expertise.

Who? SCO working group of members involved in research. The group should expand to include other researchers and institutions; e.g., Caribbean universities.

What?

1. Set regional conservation priorities
   a) for species in need of regional attention
   b) for Caribbean habitats
2. Establish research and monitoring guidelines for local endemics.
3. Establish directory of research projects and resource persons.
4. Establish research protocols.
5. Establish control programs for exotic species, using model projects.
6. Establish a research trust fund for Caribbean students.
7. Provide cautionary advice about species re-introductions and translocations. Requires careful evaluation.
8. Establish training programs for young researchers.
9. Provide opportunities for experts from North America and Europe to share their expertise with Caribbean ornithologists.

Where? Entire Caribbean.

When? SCO working group to be formed now: Confirmed members: Peter Vogel (Leader) and Joe Wunderle.

How? Meetings at SCO conferences and networking using internet.

Priority #3 – Protected Areas and Habitat Conservation – ACTION PLAN

Why? Protect areas for biodiversity and watershed values.

Who? Formation of an SCO working group for protected areas.

Where and When? Have a workshop at next year's meeting in the Dominican Republic. Meet with the Caribbean Forestry Association at their next meeting in the year 2000.

How? Need funding; raise grant funds.

What?

1. Island nations need a land-use plan and biodiversity strategy, as well as the political will to implement such plans.
2. Plans must take into account human carrying capacity of island, particularly of tourist capacity.
3. Buffer zones and corridors to protected areas are important (including urban centers; e.g., planting native trees).
4. On some islands, need to identify areas for protection; i.e., seabird nesting cays.

5. Ecological restoration of disturbed, degraded habitats.
6. Consider all factors in conservation: cultural, social, ethno-botanical, and economic.
7. For any activity that uses natural resources, the financial benefits should be returned to acquire lands and manage natural resources.
8. Education should be integrated into park management and land-use plans.
9. Areas of high endemism should be priority areas for protection.
10. Protect remaining virgin, native natural forest areas.
11. Land-use policy must retain ecological integrity and function of the areas.
12. Use of exotics, especially plants, should be discouraged. Promote use of native species, including agricultural and aquatic use.
13. Form partnerships with local communities, hunters, and other stake-holders.

Long-term goal – How much forest on each island should be protected — forest restoration? The Association of Caribbean States was mentioned as a possible link towards this goal.

PRIORITIES FOR THE SOCIETY OF CARIBBEAN ORNITHOLOGY – ACTION PLAN

The key priority identified by the group was Information Access and Exchange. Other areas where the SCO should play a role include education, publicity, research and monitoring, training, skills bank, fundraising for SCO, and political advocacy. The Action Plan focused on short-term goals for the key priority.

Information Access and Exchange – Action Plan for 1998–1999

1. Web page development
   A. Sites
      1). using ornithological societies
      2). using Caribbean biodiversity mailing list (Island Resources Foundation)
      3). using links to existing pages
   B. Access
      1). through national focal points (island representatives)
      2). RAMSAR may be able to help with wetland-related projects
      3). Need to identify who has problems and help them get access
      4). Provide links to funding sources
      5). Awareness: through *El Pitirre* and demonstration at next meeting
2. Meetings – SCO should consider adding training and monitoring workshops, to be conducted by local hosts and/or working groups. The West Indian Whistling-Duck monitoring workshop in the Dominican Republic next year was suggested as a pilot project.
3. Skills Bank —Inventory of expertise maintained on a database.
4. Membership — Need to involve members more. (Timely receipt of dues).
5. Publicity — Need to develop a press release (a standard package about the meeting) for the region, and to be used by local organizers.
6. Research and Monitoring — Use news groups and web pages to share information about methods, requests for advice, and field activities.

Summary: Several issues were brought up throughout the workshop and involve all themes. Public outreach and environmental education surfaced as an integral part of all action plans. This translates into education at all levels, children, teachers, university students, law enforcers, politicians, hunters, tour guides, and so on. The need for the development of web pages to facilitate information access and sharing was frequently noted, as was the need for working groups for the initiation of action. Research and monitoring must be done and made accessible so that sharing takes place across the region. Finally, if areas are not protected, then the best efforts at education, research, monitoring, training, and communication will lack import if there is no biodiversity. Therefore, the strategic components must work in concert to conserve what we have.

The Action Plans described above reflect the need for communication among all working groups, integration of action plans that cross themes, access and exchange of information and, most importantly, a *conservation ethic* for the region. Conservation biology is inherently a science that includes many disciplines and involves the blending of biological sciences with social sciences. Communicating across cultures, sharing success stories among nations, and targeting role models to nurture, train, and help each other are all vital to achieving our goals. The Society of Caribbean Ornithology has taken on an enormous challenge in setting regional priorities. Through open-minded, but focused, discussion on the issues that affect all Caribbean nations, it is hoped that productive endeavors will ensue so that diversity, both biological and cultural, will be maintained and flourish. A key action is *involvement*. It is only through involvement at all levels that these challenges can be faced. Environmental education and public outreach has been identified by the members of the Society of Caribbean Ornithology as a top regional priority. It is now up to all of us to act to achieve this goal.

REQUEST FOR PROPOSALS FROM NFWF/CONVOCATORIA DE PROPUESTAS DE NFWF

THE NATIONAL FISH AND WILDLIFE FOUNDATION (NFWF) invites proposals for projects that benefit the conservation of neotropical migratory birds and their habitats in the following countries: Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Panama, Colombia, Ecuador, Haiti, Dominican Republic, and Jamaica. Projects should address local biodiversity and ecosystem conservation needs as well as neotropical migratory birds. Typical project areas include education/awareness, bird monitoring, habitat restoration, and management. Examples of typical projects include: education programs to promote appreciation of birds and awareness about bird conservation needs; reforesting riparian zones and buffer-zones adjacent to protected areas important to migratory birds; developing innovative solutions and programs to alleviate threats to important bird habitats; formal and informal ornithological training courses for local naturalists and students; establishing baseline surveys and monitoring efforts in areas thought to be important for Neotropical migratory birds; and developing management plans for bird habitats in protected areas. The Program encourages projects to provide benefits for resident and endemic bird species as well. Deadlines for receiving full proposals are August 1, 1998, and December 15, 1998. Interested parties must submit a 2-3 page pre-proposal no later than 15 days prior to the deadline for which they are seeking to apply. Preproposals may be sent via fax or email, and should address the most basic elements of your project, including conservation need, objectives, methods, final products, benefits to migratory birds, funding needs, and partners to be involved with the effort. Full proposals are invited on the basis of these preproposals. All full proposals MUST include an application form, as well as a one-page project abstract, proposal narrative, detailed project budget, and financial information about your organization. Decisions are announced approximately four months after the application deadline. All NFWF/USAID funds must be matched on at least a one-to-one ratio with cash or in-kind support not derived from the US federal government. Preference is given to projects that integrate active, international partnerships with effective results for conservation of migratory and resident birds. Funds for this program have been provided by the U.S. Agency for International Development (USAID) through the Neotropical Migratory Bird Conservation Program of NFWF. For a copy of Grant Guidelines and application form, please contact Andy Romero, NFWF, 1120 Connecticut Ave. NW, Suite 900, Washington, DC, USA; Tel: 202–857–0166; Fax 202–857–0162; email: romero@nfwf.org; or Megan Hill, GUA 147, PO Box 02-5368, Miami, FL 33102-5368 USA; tel/fax 502–333–5066; email: megan@guate.net.

LA NATIONAL FISH AND WILDLIFE FOUNDATION (NFWF) convoca propuestas sobre proyectos que beneficien la conservacion de aves migratorias nearticas-neotropicales y sus habitats en los siguientes paises: Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Panama, Colombia, Ecuador, Haiti, Republica Dominicana, y Jamaica. Los proyectos deben afrontar necesidades de conservacion de la biodiversidad y los ecosistemas locales ademas de las aves migratorias. Las areas de enfasis incluyen educacion/concientizacion, monitoreo de aves, restauracion de habitat, y manejo. Ejemplos de proyectos financiados en el pasado incluyen: programas de educacion que promuevan la apreciacion de las aves y la concientizacion sobre la necesidad de conservarlas; reforestacion de areas riberenas y zonas de amortiguamiento aledanas a areas protegidas que sean importantes para las aves migratorias; desarrollo de soluciones y programas innovadores que reduzcan las amenazas sobre habitats importantes para las aves; cursos formales e informales de capacitacion en ornitologia para naturalistas y estudiantes locales; establecimiento de inventarios y sondeos basicos en areas de importancia potencial para aves migratorias; y desarrollo de planes de manejo de habitats para aves en areas protegidas. Actividades que beneficien tambien a las aves residentes y/o endemicas tambien son bienvenidas. Las fechas limite para recibir propuestas son el 1 de agosto y el 15 de diciembre de 1998. Entidades interesadas deben enviar una prepropuesta de 2 a 3 paginas no menos de 15 dias antes de la fecha limite en la que desean solicitar. Las prepropuestas pueden ser enviadas por fax o correo electronico y deben incluir informacion basica sobre el proyecto, como son la necesidad de conservacion, objetivos, metodos, productos finales, beneficios a las aves migratorias, presupuesto y colaboradores involucrados. En base a la prepropuesta se solicitara de la entidad una propuesta completa. Todas las propuestas deben incluir el formulario de solicitud , un resumen del proyecto de una pagina, texto de la propuesta, presupuesto detallado, e informacion financiera sobre la organizacion. Los resultados del fallo se anunciaran aproximadamente cuatro meses despues de la fecha limite. Todos los fondos de NFWF/USAID deben ser igualados con contrapartida en proporcion minima de 1:1 con fondos en efectivo o en servicios no provenientes del gobierno federal de EEUU. Se dara preferencia a proyectos que integren colaboraciones internacionales activas
con resultados efectivos para la conservacion de aves migratorias y residentes. Los fondos para este programa han sido proporcionados por la Agencia de Desarrollo Internacional de EEUU (USAID) a traves del Programa de Conservacion de Aves Migratorias de NFWF. Para obtener una copia de las directrices de la convocatoria y el formulario de solicitud contactar con:
Andy Romero, NFWF, 1120 Connecticut Ave. NW, Suite 900, Washington, DC 20036, EEUU; Tel: 202–857–0166; Fax 202–857–0162; email: romero@nfwf.org; o Megan Hill, GUA 147, PO Box 02–5368, Miami, FL 33102–5368, EEUU; tel/fax: 502–333–5066; email: megan@guate.net.

ABC DECEMBER 1998 CONSERVATION GRANT AWARDS WILL EMPHASIZE PARROTS

American Bird Conservancy (ABC) announces that it will give special attention to proposals for neotropical parrot conservation projects during its December 1998 Small Grants round. ABC has produced a list of priority species for conservation action, and proposals addressing the needs of these species are particularly encouraged. The list of species is based on the needs identified in the forthcoming IUCN Parrot Action Plan and can be obtained, together with application forms, by e-mail at: abc@abcbirds.org or by regular mail from American Bird Conservancy, 1250 24th St., NW, Suite 400, Washington, DC 20037. As usual, ABC will also consider proposals for bird conservation programs not relating to parrots. The deadline for receipt of proposals is 27 September, 1998. The aim of these grant awards is to stimulate *in situ* field conservation projects in Latin America undertaken by or involving Latin American conservation groups and individuals. Most grants will be for amounts well below the maximum of $5000.

PARROT DATA E-MAIL CLUB

I have the pleasure of announcing the new Parrot Data E-mail Club. The objective of the Parrot Data E-mail Club is to collect and report data and news about parrots and psittaculture in the wild as well as in the aviculture-protected environment. The Club, however, will not deal with pet birds or cage birds. If you have interest in the Club, please let me know. The subscription is free. I would be pleased to send you some test mail. All mail will be sent as BCC (blind copy holders). You are most welcome to send me news about or related to parrots.

Peter H. Them
Parrot Data
Emmerich Alle 4
2791 Dragoer
DK — Denmark
e-mail: them@post4.tele.dk

DATES SET FOR 1999 ANNUAL MEETING OF THE SOCIETY OF CARIBBEAN ORNITHOLOGY

The 1999 Society meeting will be held 29 July through 5 August 1999 in Santo Domingo, Dominican Republic. Further details will be available in forthcoming issues of the bulletin.

BIRDS, NORTH ANDROS ISLAND, BAHAMAS

By DAVID R. OSBORNE AND J. CARL GERING

1997
R. A. Hefner Museum of Zoology
Oxford, Ohio 45056, USA

A pocket-sized, six-fold checklist covering the seasonal status and abundance of over 200 migrant and resident bird species. The checklist is designed to serve as a record of personal field observations for advanced birders and to enrich the beginning student's knowledge of avian diversity in the Bahamas.

The data for the checklist were compiled from the extensive unpublished reports of students, teachers, staff, and researchers who worked on North Andros Island from 1980–1998. The ultimate goal of the checklist is to stimulate ornithological research and to promote educational pursuits of birds on North Andros.

ORDER FORM: BIRDS, NORTH ANDROS ISLAND, BAHAMAS
Send orders to: Hefner Zoology Museum
Miami University
104 Upham Hall
Oxford, Ohio 45056, USA
Telephone: 513-529-4617
Fax: 513-529-6900

Name: _____ Quantity Unit price Total

Address: _____ Checklist _____ *US$0.70 _____

_____ Please find check made payable to: **Hefner Zoology Museum**

_____ Please charge my ___VISA ____ MC

Telephone no.: _____ Card no. _____

Signature: _____ Exp. date _____

* Price in US dollars includes postage and handling. Price subject to change without notice.

A BIRDER'S GUIDE TO THE BAHAMA ISLANDS (INCLUDING TURKS AND CAICOS)

by ANTHONY W. WHITE

ABA/Lane Birdfinding Guides, Virginia Maynard, editor. June 1998. 320 pp., 66 maps, black-and-white line drawings, 30 color photos of Bahama speciality birds, and black-and-white photos. ISBN 1–878788–16–7, $21.95 plus $3.75 shipping.

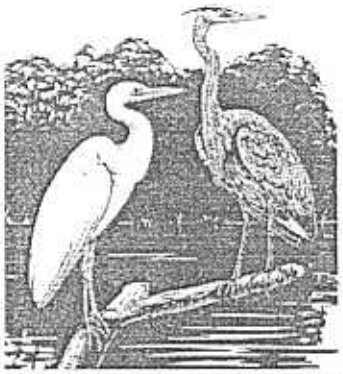
The guide covers all of the major islands, numerous smaller cays, and the less–developed Family Islands. Directions, abundance seasonality, and distribution for over 300 species summarized in a handy checklist. Order from the American Birding Association, P.O. Box 6599, Colorado Springs, CO 80934, USA, Tel: 800–634–7736 or 719–578–0607

GUIA DE LAS BAHAMAS PARA EL OBSERVADOR DE AVES

por ANTHONY W. WHITE

ABA/Lane Birdfinding Guides, Virginia Maynard, editora. 1998. 320 pp., 66 mapas, dibujos en blanco y negro, 30 fotos en color de aves selectas, y fotos en blanco y negro. ISBN 1–878788–16–7, Precio: US$21.95 mas US$3.75 de gastos de envio.

La guia cubre todas las islas principales, numerosos cayos pequenos, y las Family Islands menos urbanizadas. Itinerarios, abundancia estacional, y distribucion de mas de 300 especies resumido en una lista de tamano bolsillo. Se pueden encargar copias a: American Birding Association, P.O. Box 6599, Colorado Springs, CO 80934, USA, Tel: 800–634–7736 or 719–578–0607



ORNITOLOGÍA CUBANA

BY PROF. ABELARDO MORENO BONILLA
CON LA COLABORACIÓN DEL LIC. JUAN PEDRO SOY CAYHUELAS

Obra monumental en cuatro volúmenes sobre las aves de Cuba. La obra contiene los capítulos introductorios que tratan sobre la historia de la ornitología en Cuba, el origen de la avifauna cubana, la morfología general y la clasificación de las aves..

Describe las características principales de los órdenes, subórdenes, familias, géneros, especies y subespecies de las aves que habitan el archipiélago cubano y de las que lo visitan durantge las migraciones. Incluye la historia taxonómica y natural, minuciosas descripciones de la anatomía y regiones del plumaje de cada especie y subespecie, así como sus hábitos y distribución.

Además, presenta las localidades y las fechas donde el profesor Moreno observó las aves durante 50 años en el país, con útiles anexos sobre los ejemplares mantenidos en museos cubanos y extranjeros, las medidas de los ejemplares estudiados y de sus huevos, las listas de ejemplares anillados en Norteamérica y capturados en Cuba en distintas épocas, entre otros aspectos.

La obra está profusamente ilustrada, con 271 figuras intercaladas en el texto, 71 láminas en blanco y negro, y 47 láminas en colores.

De utilidad para ornitólogos, biólogos, profesores y maestros de diferentes niveles de enseñaza, investigadores de universidades, museos de historia natural, áreas protegidas y zoológicos, así como para los observadores de aves y los amantes de la naturaleza.

Volumen I
- Prólogo
- Introducción
- Origen de la avifauna cubana
- Historia de la ornitología en Cuba
- Morfología general y clasificación de las aves
- Órdenes: Gaviiformes, Podicipediformes, Procellariiformes, Pelecaniformes, Ciconiiformes, Phoenicopteriformes y Anseriformes

Volumen II
- Órdenes: Falconiformes, Galliformes, Gruiformes y Charadriiformes

Volumen III
- Órdenes: Columbiformes, Psittaciformes, Cuculiformes, Strigiformes, Caprimulgiformes, Apodiformes, Trogoniformes, Coraciiformes y Piciformes

Volumen IV
- Orden: Passeriformes

Por información:

Empresa Nacional para la Protección de la Flora y la Fauna
Ministerio de la Agricultura
Conill y Ave. Independencia. Plaza
La Habana 6 (10 600)
Cuba

RECENT ORNITHOLOGICAL RESEARCH IN THE DOMINICAN REPUBLIC
INVESTIGACIONES ORNITOLOGICAS RECIENTES EN LA REPÚBLICA DOMINICANA

Edited by STEVEN LATTA

A bilingual summary of recent (since 1994) and in-progress ornithological studies either occurring in the Dominican Republic or involving species with a Dominican distribution. 130 pp. Available for US$7.50 from the editor:

Steven Latta
Biological Sciences
110 Tucker Hall
University of Missouri
Columbia, Missouri 65211, USA

ANNOUNCEMENT — SPECIAL PURCHASE THROUGH SCO

GUIDE *to the* BIRDS *of the* WEST INDIES

by HERBERT RAFFAELE, JAMES WILEY, ORLANDO GARRIDO, ALLAN KEITH, AND JANIS RAFFAELE

With primary illustrations by TRACY D. PETERSEN AND KRISTIN WILLIAMS
Additional illustrations by DON RADOVICH, CYNTHIE FISHER, BART RULON, CHRISTOPHER COX, and ROMAN COMPANY

The guide covers all 564 bird species known to occur in the West Indies. Each species is illustrated and has a full description and a distribution map. Twenty special plates feature island endemics.

511 pages, 86 color plates
Princeton University Press

A limited quantity of the Guide has been purchased by the Society of Caribbean Ornithology, which will provide these at the reduced price of US$36.00 (20% discount), plus postage and handling, through the Society Treasurer:

Dr. Rosemarie S. Gnam
Treasurer, Society of Caribbean Ornithology
13 East Rosemont Ave.
Alexandria, Virginia 22301, USA

Please make checks or money orders in U. S. dollars payable to The Society of Caribbean Ornithology. Include postage and packaging: US$2.75 for addresses within the United States; US$5.00 outside the United States.

BIOSFERA ''98

BIOSFERA '98 POR EL FUTURO DE LA VIDA

II SIMPOSIO INTERNACIONAL DE ECOLOGÍA
II SIMPOSIO LATINOAMERICANO DE MICRORRIZAS
Centro Capitolio de La Habana
22–27 de noviembre de 1998
La Habana, Cuba

El Comité Organizador y las instituciones patrocinadoras tienen el gusto de invitarlo a participar en Biosfera '98, que tendrá como sede el Centro Capitolio de La Habana.

Entidades patrocinadoras:

- Instituto de Ecología y Sistemática
- Instituto de Oceanología
- Centro Nacional de Areas Protegidas
- Centro de Información, Divulgación y Educación Ambiental
- Comité Nacional Programa MAB, UNESCO
- Comité Nacional Red Latinoamericana de Ciencias Biológicas
- Oficina Regional de Ciencia y Tecnología UNESCO (ORCYT)

Temáticas:

- Agroecología
- Areas protegidas y reservas de la biosfera
- Conservación y manejo de recursos naturales
- Diversidad biológica
- Ecología funcional autoecología
- Ecología humana
- Educación y legislación ambiental
- Etnobiología
- Formación de postgrado en ecología
- Impacto de los cambios globales
- Información científico — técnica, ilustración y fotografía
- Manejo de bases de datos
- Micología
- Micorrizas
- Taxonomía y sistemática

Mesas redondas y conferencias:

- Agricultura orgánica
- Manejo de ecosistemas forestales

Simposios y talleres:

- II Simposio Latinoamericano de Micorrizas
- II Taller de Manglares
- Taller sobre reservas de biosfera

Programa general:

Domingo 22 de noviembre – Arribo al país y alojamiento
Lunes 23 de noviembre – Acreditación de los participantes,
Inauguración y cóctel de bienvenida
Martes 24 al Viernes 27 de noviembre – Sesiones de trabajo. Clausura
Sábado 28 y Domingo 29 de noviembre – Excursiones

Cuota de inscripción: $150 USD

Para información adicional dirigirse a:

Dr. Pedro Pérez Alvarez
Instituto de Ecología y Sistemática
Carretera de Varona km 3.5, Capdevila
Boyeros
A.P. 8029 C.P. 10800
Habana 8, Cuba
e-mail: ecologia@unepnet.inf.cu
ecologia@ceniai.inf.cu
Fax: (537) 24-9117

Para su viaje a Cuba contacte con:

Agencia "Fantástico"
Alberto Blanco
Calle 146C, esq. a 9na.
Siboney, La Habana
Cuba
e-mail: blanco@viaje.cha.cyt.cu
eventos@viaje.cha.cyt.cu

CUPON DE INSCRIPCIÓN (Favor llenar con letra de molde)

Nombre: _____ Institución: _____
Dirección: _____
_____
País: _____
Teléfono: _____ Fax: _____
e-mail _____
Título del trabajo: _____
Forma de participación: Ponencia oral __ Cartel __ Conferencia __ Delegado __ Mesa redonda __
Medios audiovisuales: Transparencias __ Diapositivas __ Otros _____

SOCIETY OF CARIBBEAN ORNITHOLOGY — 1997 FINANCIAL REPORT

SUBMITTED BY ROSEMARIE S. GNAM, SCO TREASURER

January 1, 1997 Bank One Account Balance	$17003.83
1997 Annual Income:	
Membership dues	$2235.00
Income dervied from Annual Meeting in Aruba	5667.00
WIWD Working Group reimbursement for telephone costs	485.68
Revenue from sale of CTTF posters	85.25
USFWS Grant forAnnual Meeting	10950.00
TOTAL INCOME:	$19422.93
1997 Annual Expenses:	
Publication of El Pitirre newsletter	$ 3096.19
Annual Meeting:	
Announcement mailing	400.67
Travel, hotel costs	16094.80
General Operating Costs:	
Banking charges	111.30
Telephone	650.87
Mailing, copying, & stationery supplies	510.35
TOTAL EXPENSES:	$20,864.18
December 31, 1997 Bank One Account Balance	$15562.58

EL PITIRRE

Contents (continued from inside back cover)

Continued on back cover