Macaw Management Workshop (continued)

(nestboxes, habitat enrichment, captive breeding), public education, and ethology. The workshop is being sponsored by the Department of the Interior, the Office of International Affairs, and the Panamerican Section of the ICBP. For additional information, contact: Macaw Management Workshop, CSTB, 218 Conway, San Antonio, Texas 78209-1716, U.S.A. Telephone: 512-828-5306; Fax: 512-828-5911.

Request for Information on Caribbean Populations of Roseate Terns

Joanna Burger, Michael Gochfeld, Jorge Saliva, and others are developing the U.S. Fish and Wildlife Service's recovery plan for the Caribbean Roseate Tern (*Sterna dougallii*). Anyone able to provide information on this species in the Caribbean should contact one of the above individuals. Information needed include (1) present and local colony sites with estimate numbers of nests and habitat information, (2) estimates of reproductive success, (3) human intrusion or exploitation, such as egging, (4) types and impact of predators, (5) feeding areas, food availability, and food types, (6) distribution outside the breeding season, and (7) management successes or failures. Joanna Burger can be reached at:

Biological Sciences
Rutgers University
Piscataway, New Jersey 08855
U.S.A.

Larus Competition in Caribbean

Graduate students in the American Association for the Advancement of Science (AAAS) Caribbean Division area (West Indies and countries in or bordering the Caribbean Sea) may submit abstracts of dissertation research for consideration in the competition for the Robert I. Larus Award. The Larus Award pays for the winning student's costs to attend the national AAAS annual meeting.

The submissions will be screened by a scientific review committee that will select semi-finalists to present their papers at a special meeting in the Caribbean region (probably in Puerto Rico) to be held December 1990 or January 1991. Faculty members whose students are in the competition must sign the abstracts and have them sent by 1 November to Lucy Gaspar, Puerto Rican Resource Center for Science and Engineering, UPR Station, Río Piedras, Puerto Rico 00931-3334, telephone 809-765-5170, Fax 809-751-0625.

Abstracts of Selected Papers Presented during the Annual Meeting of the Society of Caribbean Ornithology, Kingston, Jamaica, August 1990

G. Thomas Bancroft and Reed Bowman. AGE AND SEASONAL DIET OF NESTLING WHITE-CROWNED PIGEONS. Ornithological Research Unit, National Audubon Society, 115 Indian Mound Trail, Tavernier, Florida 33070 U.S.A. We studied the diet of nestling White-crowned Pigeons by collecting regurgitation samples from live chicks in south Florida. We examined 207 samples collected from chicks 3 through 15 days old from 1986 to 1989. Crop milk was found in 99% of the samples. Fruits of 12 plant species were found in 202 samples. *Metopium toxiferum* was the most important fruit, making up over 60% of the diet by weight and volume. *Guapira discolor* (19%) was second in importance, followed by 2 native *Ficus* species (9%) and *Erithalis fruticosa* (7%). *Avicennia germinans* represented 1% of the diet. The percentage of crop content composed of fruit increased from less than 20% at day 3 to more than 50% at day 15. Total weights of crop contents did not vary significantly with age indicating that adult pigeons were gradually shifting the diet of nestlings from crop milk to fruit. Nestling diet showed a distinct seasonal shift, with *Ficus* and *Guapira* being most important in June and early July, whereas *Metopium* and *Guapira* were most important during late July through September.

Kelly Brock and Bradley N. White. THE ROLE OF MOLECULAR GENETICS IN THE CONSERVATION OF CARIBBEAN AMAZON PARROTS. Queen's University, Kingston, Ontario, Canada K7L 3N6. Captive breeding has become a valuable tool in the conservation of endangered species, but many programs are developed after wild populations dwindle below some self-sustaining level. At that point, problems associated with inbreeding increases as the proportion of related individuals in the population increases. With recent advances in molecular technology it is possible to estimate how closely related individual animals are to each other and use this information to guide breeding programs. DNA was extracted from the blood of 24 captive Hispaniolan Parrots (*Amazona ventralis*), and digested with the restriction enzyme Alu I. The resultant fragments were separated according to size by gel electrophoresis and transferred to a nylon membrane by Southern blotting. Minisatellite DNA probes, Jeffreys' 33.15 and per locus, were used to generate DNA fingerprints. Similarity coefficients, $\bar{D}$, were estimated for the founder base individuals ($\bar{D}$ = 0.17), first degree relatives ($\bar{D}$ = 0.58), second degree relatives ($\bar{D}$ = 0.47), and inbred first relatives

($\bar{D}$ = 0.67). Comparisons will be made for other Caribbean amazon parrots that are members of founder bases in other captive breeding programs.

Joanna Burger and Michael Gochfeld. HEAVY METAL LEVELS IN CULEBRA TERNS. Biological Sciences, Rutgers University, Piscataway, New Jersey 08855, and Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, New Jersey 08854. We examined lead, cadmium, and mercury levels in adults of Bridled, Sooty and Roseate terns and Brown Noddy nesting on Culebra, Puerto Rico (1989). Metal levels differed significantly among species, with Bridled Terns having the highest levels of lead and cadmium, and the lowest levels of mercury. Roseate Terns had the second highest levels of all three metals. We compared these levels for Sooty Tern and Brown Noddy with levels from Australia; and levels were higher in Australia for lead and cadmium for both species. We also compared temporal patterns for Sooty Terns nesting on Culebra from 1983-1990.

M. Carrington and W. Hoffman. EFFECTIVENESS OF WHITE-CROWNED PIGEONS AS SEED DISPERSERS. National Audubon Society, 115 Indian Mound Trail, Tavernier, Florida 33070. In south Florida, White-crowned Pigeons (*Columba leucocephala*) feed extensively in the West Indian tropical forests on the main (inhabited) Florida Keys, but nest on small, isolated mangrove islets in Florida Bay. White-crowned Pigeons are essentially frugivorous, and may fly long distances daily, so we suspect they are major seed dispersers. To test their role in long-distance seed dispersal, we compared the upland flora of beach berms on the main Florida Keys, on the nesting islets, and on other islets in Florida Bay that are not being used for nesting. We hypothesized that main-key beach berms would have more diverse flora, but a lower percentage of pigeon-dispersed species, and that nesting keys would have a flora enriched with pigeon-dispersed species. We expected berms on non-nesting bay keys to be depauperate both in pigeon-dispersed species and total species. The berms on nesting keys had floras significantly enriched in known pigeon-dispersed plants, confirming the importance of White-crowned Pigeons as seed dispersers, but overall with fewer species than the other berms. Elevational and historical differences among the three groups seem to be controlling overall species richness.

Alexander Cruz, Tammie K. Nakamura, William Post, and James W. Wiley. THE SHINY COWBIRD IN THE CARIBBEAN REGION: A FUTURE THREAT FOR JAMAICA AND THE CAYMAN ISLANDS. University of Colorado, Boulder, Colorado 80309, Charleston Museum, Charleston, South Carolina 29403, and U.S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Laurel, Maryland 20708. The Shiny Cowbird (*Molothrus bonariensis*), an avian brood parasite, is endemic to South America, Trinidad, and Tobago, but during the last 100 years the species has spread through the West Indies and it is currently colonizing south Florida. The cowbird's presence in the West Indian region may represent natural expansions, introductions, or both. The species will likely spread to western Caribbean areas not yet colonized, such as Jamaica and the Cayman Islands. Successful colonization by the Shiny Cowbird depends on the availability of suitable habitats and host species. The Shiny Cowbird occurs in a wide variety of habitats, but it prefers open areas. In pre-Columbian times, most islands were heavily forested and therefore not suitable for cowbirds. However, with the destruction of forests in the post-Columbian period, the conditions necessary for the spread of cowbirds into the region were created. Human alteration of natural habitats continues on most West Indian islands. This trend facilitates the continued spread of the Shiny Cowbird through the region. The potential negative implications for host species in Jamaica and the Cayman Islands, as well as the evolutionary and ecological significance of the cowbird colonization, are discussed based on work on other islands.

Audrey C. Downer and Catherine Levy. LIFE HISTORY OF THE WHITE-CHINNED THRUSH *TURDUS AURANTIUS*. Gosse Bird Club, P.O. Box 1002, Kingston 8, Jamaica. The rate of endemism among Jamaica's breeding birds is high (22%); despite this, Jamaica's birds are not well studied from the point of view of their ecology. As almost all the island's endemic species are forest dependent, and if the present rate of habitat deterioration and/or destruction continues, then it may be necessary to apply conservation efforts to save some of the species. Added to this are the unavoidable dangers of natural disasters; e.g., hurricanes. Conservation of Jamaica's avifauna will not be successful unless it is guided by information on the life history of each species. Much information has accumulated in various publications over many years, and an attempt is being made to collect and collate it in order to prepare life histories of the Jamaican endemics. Thus, a review of some of the known literature is undertaken and an indication of elements of the life history of the first endemic chosen, the White-chinned Thrush (*Turdus aurantius*), is discussed. The authors feel that this is a matter of urgency, even if it demonstrates forcibly how much we do NOT know about certain species.

John Fletcher and Peter Vogel. SEASONAL ABUNDANCES OF MIGRANT SHOREBIRDS AT

YALLAHS POND, JAMAICA. Gosse Bird Club, P.O. Box 1002, Kingston 8, Jamaica, and Department of Zoology, University of the West Indies, Kingston 7, Jamaica. A total of 16 species of migrant shorebirds of the families Charadriidae and Scolopacidae were observed at Yallahs Pond in southeastern Jamaica during a 7 year period. A factor analysis on the common species (Least, Semipalmated and Western sandpipers pooled as "peeps") revealed 3 seasonal patterns: (1) an autumn and spring abundance peak (Black-bellied Plover, Spotted Sandpiper, peeps, Greater and Lesser Yellowlegs); (2) a predominant autumn peak (Semipalmated Plover) or spring peak (Stilt Sandpiper); and (3) maximum or near maximum abundance during the winter months December to February (Killdeer, Ruddy Turnstone, and Sanderling). Rare species comprised Willet (3 observations), Piping Plover, Short-billed Dowitcher, and Pectoral and White-rumped sandpipers (1 observation each).

Orlando H. Garrido and Alfonso Silva Lee. SEABIRDS NESTING IN SOUTHERN CUBA. Museo Nacional de Historia Natural, Capitolio Nacional, La Habana, Cuba. Twenty-two species of seabirds are reported from Cuba, of which 8 are known to nest: Laughing Gull (*Larus atricilla*), Roseate Tern (*Sterna dougallii dougallii*), Bridled Tern (*S. anaethetus recognita*), Sooty Tern (*S. fuscata fuscata*), Least Tern (*S. antillarum*), Royal Tern (*S. maxima maxima*), Sandwich Tern (*S. sandvicensis acuflavidus*), and Brown Noddy (*Anous stolidus*). An updated evaluation of the distribution and status of nesting seabirds on Cuban cays is presented, including Cayo Los Ballenatos, Cayo Inglés, Cayo de Dios, Cayo Trinchera, Cayo Oro, and Cayo Sal.

Orlando H. Garrido and Carlos Wotzkow. TRES EJEMPLOS DE TRANSFORMACION DE HABITATS EN CUBA: SU IMPORTANCIA EN EL INCREMENTO DE LA AVIFAUNA. Museo Nacional de Historia Natural, Capitolio Nacional, La Habana, Cuba. El archipiélago cubano está constituido por 4,195 islas, cayos e islotes, incluyendo a Cuba y la Isla de la Juventud (antiguamente Isla de Pinos). Excepto estas dos ningún otro cayo tiene ríos y solo Cayo Largo y Cayo Rosario poseen lagunas interiores de agua dulce con salinidad fluctuante. Durante los últimos 25 años el incremento de hábitats acuáticos ha sido notable. En 1966 el volumen de agua almacenada era de 380.1 millones de m^3 y en la fecha, sobrepasa los 6,800. Como consecuencia de estas transformaciones muchas especies de aves han incrementado su número. Cerca de 106 especies han cambiado sus efectivos poblacionales en presas, arroceras y otros hábitats apropriados. Entre las especies que han incrementado el número se hallan el Yaguasín *Dendrocygna bicolor*, la Yaguasa de Vientre Prieto *D. autumnalis*, el Pato de Bahamas *Anas bahamensis*, el Pato Agostero *Oxyura dominica*, la Gallareta de Pico Rojo *Gallinula chloropus*, la Gallareta de Pico Blanco *Porphyrula martinica*, la Gallinuela de Agua Dulce *Rallus elegans*, el Aguila Pescadora *Pandion haliaetus*, el Gavilán Caracolero *Rostrhamus sociabilis*, el Carabo *Asio flameus*.

Simon Guerrero. ALGUNOS ASPECTOS DE LA NIDIFICACION DE LA CIGUA PALMERA, *DULUS DOMINICUS*. Sociedad Pro-Conservacion de las Aves, Calle 29 Este 6, Ensanche Luperon, Santo Domingo, República Dominicana. La Cigua Palmera (*Dulus dominicus*) es endémica de la isla Hispaniola y pertenece a la única familia monoespecífica (Dulidae) endémica de las Antillas. Es, además, una de las pocas especies que construyen nidos compuestos (compound nests), en los cuales cada pareja ocupa compartimientos separados. La Cigua Palmera anida preferentemente en las copas de la Palma Real (*Roystonea hispanoliana*), una palmera endémica de la Hispaniola. En el presente estudio se reseñan las características principales de los árboles seleccionados por esta especie como lugares de anidamiento. Al parecer esta especie prefiere anidar en aquellas palmeras cuyas frondas no están en contacto con las frondas de otras especies de árboles. Esta conducta selectiva podría constituir un mecanismo de protección contra ciertos depredadores terrestres, y habría de tomarse en cuenta a la hora de implementar un adecuado plan de manejo.

Jerome A. Jackson. HABITAT CONDITIONS IN THE VICINITY OF IVORY-BILLED WOODPECKER SIGHTINGS IN EASTERN CUBA. Department of Biological Sciences, Mississippi State University, Mississippi State, Mississippi 39762. The forests of Cuban pine (*Pinus cubensis*) from which all recent sightings of Ivory-billed Woodpeckers (*Campephilus principalis*) have come have been heavily cutover within the past 30 years. Apparently, virgin pines were found only as isolated trees, although some steeper slopes that were not visited appear to have small remaining stands of old trees. Dead and misshapen trees were apparently left by loggers and these were likely important to the survival of the Ivory-bill. Mixed forests of deep valleys and large palms on some slopes may also be important to the birds' survival. Control of fire has had the effect of allowing development of a dense understory, which in turn has limited pine reproduction. Fire is likely an essential component of the Cuban pine ecosystem and could play a positive role of management for the Ivory-billed Woodpecker.

Arturo Kirkconnell and Rosa M. Posada. ASPECTOS ECOLOGICOS DE LAS BIJIRITAS

MIGRATORIAS (AVES: PASSERIFORMES) EN CUBA. Museo Nacional de Historia Natural, Capitolio Nacional, La Habana, Cuba. Ecological data of migratory warblers was obtained during a two year study at the Parque Zoológico del Vedado in the City of Havana. Basic parameters of bird communities were determined: relative abundance (RA), diversity (H'), equity (j'), structural subniche, aggregation, and saturation curve. Highest RA occurred during the months of October, January, and April. Both the correlation between diversity and species' richness (S; $r_{H'\text{-}S} = 0.948^{***}$) and between diversity and equity ($r_{H'\text{-}j'} = 0.727^{***}$) were statistically significant and high. A dendrogram shows overlapping of feeding heights of several species within 6 different groups. *Dendroica palmarum*, *Wilsonia citrina*, and *Geothlypis trichas* fed with similar intensity from ground level to the highest part of the canopy. Data gathered from 5 years of observations of the arrival and departure of warblers and of sex ratio are also given. Four warbler species dominate in the formation of mixed flocks: *Dendroica palmarum*, *Setophaga ruticilla*, *Mniotilta varia*, and *Parula americana*. Agonistic interactions were more frequent among different migratory species than between these and those that are permanent residents.

Gloria C. Lee. PUERTO RICO'S LEAST TERN STATUS SURVEY. U.S. Fish and Wildlife Service, Caribbean Field Office, P.O. Box 491, Boquerón, Puerto Rico 00622. In Puerto Rico, Least Terns (*Sterna antillarum antillarum*) have been reported nesting from May to August. The extent of breeding activities in the island was assessed by visiting suitable nesting areas and historical nesting sites in 1988. Information on productivity parameters was collected for the colonies located at the Cabo Rojo salt flats. Surveys indicated that populations of Least Terns in Puerto Rico are small and localized. Three nesting colonies were found at the Cabo Rojo salt flats beginning in May (7 and 16 nests at Candelaria, and 9 nests at Fraternidad). Factors affecting Least Tern nesting success rates are habitat alteration, severe weather, predation, and human disturbance. The colony of seven nests at Candelaria failed. Predation by dogs is presumed to have contributed to the failure of this colony. A maximum of 19 hatchlings was observed at the second colony found by Candelaria Lagoon for a hatching success rate of 0.68. Although no chicks were seen at the Fraternidad colony, pieces of egg shells were found close to some nests, suggesting that hatching had occurred. Elsewhere in the island, two chicks were observed in July at a sand extraction site near El Tuque, Ponce, where earth-moving machinery was seen operating at that time. One chick was observed at the salt flats by Playa Santa, Guánica and two nests were reported at Punta Miquillo, Río Grande. No estimates of initial numbers attempting to breed at these localities were available.

Abstracts of Jamaica Meeting Papers (continued)

P.M. McKenzie, R.E. Noble, and E. Barry Moser. MOVEMENTS AND HABITAT USE OF SHINY COWBIRDS IN SOUTHWESTERN PUERTO RICO: MANAGEMENT IMPLICATIONS FOR THE COWBIRD REMOVAL PROGRAM. Louisiana State University, Baton Rouge, Louisiana 70803. Shiny Cowbirds were primarily located in six major areas of concentration. Of these, all but one was in mesquite woodland. Overall, cowbirds used mesquite woodland almost 75% of the time but use of this habitat varied among weekly periods and was linked to rainfall received during weekly periods prior to the observation. Habitat use and prey items were most correlated with total rainfall received 2-5 weeks prior to observation (Pearson correlation analysis, $P = 0.0067$ and $P = 0.0149$, respectively). Major food items following periods of sufficient rainfall were caterpillar larvae of Noctuid moths, berries and grass seeds. During periods of drought, cowbirds foraged on such secondary food items as the leaves and inflorescences of mesquite, waste corn, and other grains associated with agricultural and residential areas.

P.M. McKenzie, R.E. Noble, and E. Barry Moser. ICTERID ASSOCIATIONS IN AN EXOTIC HABITAT IN SOUTHWESTERN PUERTO RICO: MANAGEMENT IMPLICATIONS FOR THE ENDANGERED YELLOW-SHOULDERED BLACKBIRD. Louisiana State University, Baton Rouge, Louisiana 70803. While studying the habitat use, movements, and behavior of Shiny Cowbirds in southwestern Puerto Rico, we noted that cowbirds often foraged in large flocks with Yellow-shouldered Blackbirds and Greater Antillean Grackles. When icterid flocks contained at least 50 Shiny Cowbirds and caterpillars were the major prey item, Yellow-shouldered Blackbirds and Greater Antillean Grackles associated with the flock (Fisher's exact probability text, $P < 0.0001$). As with Shiny Cowbirds and Greater Antillean Grackles, Yellow-shouldered Blackbirds have apparently adapted to seasonal caterpillar outbreaks in southwestern Puerto Rico. Recent caterpillar outbreaks are probably related to an abundance of new plant hosts associated with habitat changes. Caterpillar outbreaks are also linked to seasonal fluctuations in rainfall abundance. Mesquite and associated exotic grasses have replaced much of the original, native savannahs. Mesquite woodland should be protected and managed to benefit the endangered Yellow-shouldered Blackbird. Part of the decline of the Yellow-shouldered Blackbird could have been due to pesticide poisoning associated with control of caterpillars in cultivated fields.

Kenneth C. Parkes. THE ORIGIN OF THE CUBAN BOBWHITE *COLINUS VIRGINIANUS "CUBANENSIS"* (GRAY). Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, Pennsylvania 15213. There is a consensus in the literature that there was a distinctive native Cuban subspecies of Bobwhite, whose characters have been much diluted by introduction of mainland races. The purest population of "*cubanensis*" is said to be that on the Isle of Pines. However, odontophorine quails are not known to occur on any other islands as far from the mainland as Cuba. A series of specimens taken on the Isle of Pines in 1912 shows great variation, which is closely matched by specimens of several races from the Caribbean slope of Mexico; they show no resemblance to races from the United States. I postulate that the Bobwhite was introduced into Cuba from eastern Mexico by the Spaniards, probably prior to the 19th Century.

Marelisa T. Rivera. IMPACT OF *PHILORNIS AGUSTIFRONS* ON GROWTH, DEVELOPMENT, AND SURVIVAL OF PEARLY-EYED THRASHER NESTLINGS IN MAYAGUEZ, PUERTO RICO. U.S. Fish and Wildlife Service, Caribbean Field Office, Boquerón, Puerto Rico 00622. From December 1987 to August 1989, the impact of *Philornis angustifrons* (Loew) on growth, development, and survival of Pearly-eyed Thrasher nestlings on the Mayagüez Campus of the University of Puerto Rico, was studied. The nest boxes were visited and character measurements taken throughout the development period. Each nestling was carefully inspected, noting total larval numbers and their positions on the nestling's body. During the study period, 41.7% prevalence and 11.3 mean intensity were found. The mortality of the parasitized nestlings was 24.0% and it was statistically independent of the parasitism. The parasitized nestlings which died hosted significantly more larvae than nestlings that survived. The mean intensity was significantly related to the parasitized nestling mortality. The parasitism reduced the body mass, the ulna growth, and the development of the retrices and ninth primary. The culmen and tarsometatarsus growth were not affected by the parasitism.

Carlos Ruiz. SOLUCIONES A PROBLEMAS ENCONTRADOS EN EL MANEJO DE LA POBLACION CAUTIVA DE PALOMAS SABANERAS. Departamento de Recursos Naturales, Puerto Rico, y Colegio Universitario de Humacao, Puerto Rico 00661. En Puerto Rico, tenemos cuatro especie de aves endémicas que se encuentran en peligro de extinción. Sólo dos de éstas se están propagando en cautiverio. A saber: la Cotorra Puertorriqueña (*Amazona vittata vittata*) y la Paloma Sabanera (*Columba inornata wetmorei*). Ambas especie han tenido un sinnúmero de problemas asociados al cautiverio junto con otros problemas de la propia especie.

De la Paloma Sabanera sobreviven en el estado silvestre unos 200 individuos entre las municipalidades de Cidra y Cayey y la población cautiva consta de unos 124 individuos. Para llegar a este número hemos tenido que resolver problemas simples como: (1) Tamaño de jaulas adecuadas para reproducir la especie (6' x 8' x 15'), (2) Dieta adecuada para las aves (alimento compactado) y, (3) Adiestramiento del personal para un manejo adecuado de la especie. Dentro de los problemas complejos encontramos: (1) Huevos abandonados por sabaneras que son incubados por Palomas Collarinas (*Steptopelia risoria*) utilizadas como nodrizas o por incubadoras, (2) Pichones de sabanera que nacen en la incubadora o comienzan a ser criados por nodrizas y luego se terminan de criar a mano y, (3) Acondicionamiento de parejas de sabanera para que se reproduzcan de forma natural.

Aún hay vario problemas que nos falta por solucionar como: (1) Determinar el sexo de las aves, (2) La variabilidad genética de la población cautiva, (3) La enfermedad que afecta a las aves cautivas, y (4) Problemas de infertilidad en algunas parejas.

Richard J. Sawicki, Allan M. Strong, and G. Thomas Bancroft. EFFECTS OF PREDATION ON WHITE-CROWNED PIGEON DISTRIBUTION IN FLORIDA BAY. National Audubon Society, Ornithological Research Unit, 115 Indian Mound Trail, Tavernier, Florida 33070. From 1987-1989, we conducted surveys throughout Florida Bay, the southern portion of mainland Florida, and the mainline keys to determine the breeding distribution of White-crowned Pigeons in Florida, U.S.A. We found pigeons nesting on 88 keys over a wide distribution in Florida Bay, Card and Barnes Sounds, and in one location on the mainline keys. Their nesting distribution appears to be limited by the presence of raccoons. Of the 33 keys on which we found evidence of raccoons, only 6 had nesting White-crowned Pigeons. Other potential nest predators did not have any significant influence on nesting distribution. In Florida, White-crowned Pigeon populations are apparently limited by the availability of safe nesting sites and the continued clearing of tropical hardwood forests for development.

Allan M. Strong, Richard J. Sawicki, and G. Thomas Bancroft. MOVEMENT PATTERNS OF BREEDING WHITE-CROWNED PIGEONS IN SOUTHERN FLORIDA. National Audubon Society, Ornithological Research Unit, 115 Indian Mound Trail, Tavernier, Florida 33070. We studied daily movements of White-crowned Pigeons

(*Columba leucocephala*) nesting in Florida Bay, U.S.A., during the 1989 and 1990 breeding seasons. Data are presented from 2 nesting females followed in 1989 and 1 nesting male followed in 1990. Females were typically in attendance at the nest from early evening through the night and into the early morning. Males attended nests during the day. Breeding birds fed both on the mainland and the mainline keys. During a breeding cycle, foraging locations were separated by as much as 28 km. However, during a single day, birds fed in areas < 1 km^2.

Francisco Vilella. POPULATION BIOLOGY OF THE SMALL INDIAN MONGOOSE IN A COASTAL DRY LIMESTONE FOREST OF SOUTHWESTERN PUERTO RICO: POSSIBLE INTERACTIONS WITH THE PUERTO RICAN NIGHTJAR. U.S. Fish and Wildlife Service, Caribbean Field Office, Box 491, Boquerón, Puerto Rico 00622. The small Indian mongoose (hereafter termed mongoose) was introduced to Puerto Rico in 1877. The species has been attributed with initially decimating and presently limiting the distribution of several species of amphibians, reptiles, and birds. However, very little, if any, data exists to support this. I studied the biology of the mongoose during 1987 on the section of Guánica Forest east of Guánica Bay (hereafter termed Guánica Forest). Removal trapping along five 0.45 km transects (10 traps/transect) located at elevations ranging from 0-200 m was conducted from May to August 1987. During the dawn hours of each mongoose trapping day, the number of single male Puerto Rican Nightjars (hereafter termed nightjar) heard along each trap transect was recorded.

A total of 34 mongooses (16 males, 18 females) were trapped during 720 trap days. At Guánica Forest, mongooses were found to be significantly more abundant below 75 m than above. Samples of food materials from stomach and scat samples indicated the large majority of the diet consisted of Orthopterans, Coleopterans, and centipedes (*Scolopendra* sp.). A strong negative correlation was found between numbers of mongooses and nightjars at Guánica Forest. This relationship is correlational and no inference on causality can be made. Predation by the mongoose could have eliminated the nightjar from its former range and currently limit the species to dry areas unable to support large mongoose numbers. An alternative hypothesis is that the habitat requirements of each differs and each may be limited by the availability of suitable habitat.

Carlos Wotzkow. ASPECTOS REPRODUCTIVOS DE *GLAUCIDIUM* Y *GYMNOGLAUX* (AVES, STRIGIDAE) EN LA CIENAGA DE ZAPATA.

Abstracts of Jamaica Meeting Papers (continued)

Museo Nacional de Historia Natural, Capitolio Nacional, La Habana, Cuba. La biología de *Glaucidium siju* y *Gymnoglaux lawrenci* es prácticamente desconocia, pese a ser dos táxones endémicos de Cuba. En el presente estudio se obtuvo información sobre la distribución, demografía, formación de parejas, conducta vocal, cortejo, cópula, nidificación, éxito reproductivo, preferencia de habitats, forrajeo y alimentación de ambas especies. Se valoró la degradación del habitat de nidificación en el transcurso de un año (febrero de 1989 - junio de 1990), notándose que 17 acciones antrópicas observadas en las área amenazan seriamente la estabilidad del biotopo y de las poblaciones de estos estrígidos que son muy selectivos en la elección de árboles para su reproducción.

Joseph M. Wunderle. THE EFFECT OF HURRICANE HUGO ON BIRD POPULATIONS IN A PUERTO RICAN RAINFOREST. Institute of Tropical Forestry, P.O. Box 25000, Río Piedras, Puerto Rico 00928-2500, *and* Department of Biology, University of Puerto Rico, Cayey, Puerto Rico 00633. Hurricane Hugo caused substantial damage to the canopy and understory of the El Verde rainforest in Puerto Rico. Two weeks after the hurricane, total net capture rates were higher than previous baseline studies, due to increased captures of canopy species, which were previously rare in the forest understory. Nectarivores were the only species which showed either no change or actually decreased in the first netting session. However, after several months some canopy and understory populations declined drastically, others increased, and others were highly variable. Even six months after the storm many populations were still in a state of flux. The hurricane itself probably did not kill many forest birds outright, but its greatest impact was in setting back plant succession and thereby having long-term effects on the terrestrial avifauna.

Meetings of Interest

11-14 November 1990 - **National Symposium on Urban Wildlife**, Stouffer Five Seasons Hotel, Cedar Rapids, Iowa, U.S.A. (Lowell Adams, Symposium Program Chairman, National Institute for Urban Wildlife, 10921 Trotting Ridge Way, Columbia, Maryland 21044, U.S.A.; telephone 301-596-3311)

11-15 November 1990 - **Society of Environmental Toxicology and Chemistry's 11th Annual Meeting** "Global Environmental Issues: Challenge for the 90's," Hyatt Regency