

## ADDITIONAL INFORMATION ON THE BIRDS OF THE CAMPECHE BANK, MEXICO

STEVE N. G. HOWELL<sup>1</sup>

40 Cae Glas Road

Rumney

Cardiff CF3 8JU, United Kingdom

Abstract.—The four main islands of the Campeche Bank, Mexico, were censused, 9–18 Oct. 1984. Feral cats and petroleum development were noted as recently arrived hazards to the breeding seabirds. Eighty-three species of North American migrants were recorded, 39 of which are new to the Bank and bring the total known from the islands to 106 species. Most notable were 140 individuals of six species of raptors, the majority being Sharp-shinned Hawks (*Accipiter striatus*).

### INFORMACIÓN ADICIONAL SOBRE LAS AVES DEL BANCO DE CAMPECHE, MÉXICO

Resumen.—Las cuatro islas principales del Banco de Campeche, México, fueron censadas del 9 al 18 de octubre de 1984. Se advirtió que tanto los gatos como el desarrollo petrolífero son nuevas amenazas para las aves marinas que se reproducen en las islas. Se registraron 83 especies de aves migratorias norteamericanas, de las cuales 39 resultaron nuevas para el área. Con ellas, el total de especies conocidas en estas islas aumenta a 106. En particular, fueron observados 140 individuos de 6 especies de rapaces, la mayoría de ellos *Accipiter striatus*.

The Campeche Bank is an extensive coral reef in the Gulf of Mexico between 120 and 160 km northwest of the Yucatán Peninsula and about 750 km south of the Mississippi Delta. Boswall (1978) summarized the birds of Arrecife Alacrán, the Bank's most eastern island group, following his visit there in September 1975. Paynter (1953) recorded 36 species of migrant birds, on the same four islands I visited, during 27 Aug.–3 Sep. 1952. The only other recent visit to any of the islands by an ornithologist was that of Siebenhaler (1954) who stopped briefly at Arrecife Alacrán and Cayos Arcas in early October 1952.

#### STUDY AREA AND METHODS

During 9–18 Oct. 1984 I visited the four main islands of the reef to observe trans-Gulf migration and determine the status of breeding species. I visited Isla Pérez (22°23'N, 89°41'W), the main island of Arrecife Alacrán, from 9–15 Oct.; Cayo Arenas (22°07'N, 91°25'W) on 16 Oct.; Isla Triángulo Oeste (20°57'N, 92°25'W) on 17 Oct.; and Cayos Arcas (20°13'N, 91°59'W) on 18 Oct. While on Isla Pérez I covered the island 10 to 12 h daily and attempted to detect arrivals and departures of migrants. My visits to the other islands were short trips, each of 2.5 to 3 h duration, made in conjunction with monthly supply deliveries by the Mexican navy. Isla Pérez is only about 1 km long by 250 m wide and

<sup>1</sup> Current address: Point Reyes Bird Observatory, 4990 Shoreline Highway, Stinson Beach, California 94970 USA.

thus quite easily covered by one observer in a day. Cayo Arenas and Triángulo Oeste are smaller and less vegetated than Pérez while Cayos Arcas is about 1.2 km long by 400 m wide, but sparsely vegetated; all three islands could be covered reasonably thoroughly in a few hours. The majority of passerine migrants were very tired and could be approached to within a few feet, thus enabling positive identification of more species than might otherwise have been possible.

The vegetation and substrates of the islands I visited were briefly described by Paynter; Boswall described Arrecife Alacrán more fully. Isla Pérez had not changed markedly from Boswall's description. However, judging from Paynter's notes, Cayos Arcas has changed. He noted that the island was mainly covered by low fleshy plants and that a few coconut palms (*Cocos nucifera*) and Australian pines (*Casuarina* sp.) were growing around the lighthouse. In October 1984 Cayos Arcas was predominantly covered with grasses (0.15 to 0.75 m) on a sandy substrate with several scattered clumps of bushes (1.0 to 5.0 m); there were no coconut palms and only four Australian pines. Fosberg (1962) pointed out that violent storms in the region can cause radical changes in island vegetation and this may explain the changes on Cayos Arcas. On Cayo Arenas I noted a small stand of Australian pines (20.0 to 25.0 m) not mentioned by Paynter.

Up to four people (lighthouse keepers and marines) live on each island. One feral cat resided on Isla Pérez and I noted four or five others on Cayos Arcas. Neither Paynter nor Boswall encountered feral cats and their presence on two of the islands threatens the nesting seabirds.

Petroleum development in the Gulf of Mexico is another recently arrived hazard to the breeding seabirds. A drilling platform was sited a few km north of Cayos Arcas, four large tankers were anchored offshore and I found a tar slick several m long on the east shore of the island.

The prevailing wind on Isla Pérez was easterly, generally light, backing to northeasterly on 11 Oct. when it was accompanied by a few showers, the only rain of the period. On 14 Oct. the wind had changed to southeasterly overnight and continued from that direction until 18 Oct. Each day was hot and sunny with a build-up of clouds during the day; by dawn the clouds had disappeared.

#### RESULTS AND DISCUSSION

*Migrant species.*—Table 1 gives minimum totals for migrant species recorded on each island. Migrants arrived at Isla Pérez day and night with no overall pattern. However, certain Ciconiiformes, Falconiformes and Passeriformes did show trends in their arrival timings.

##### *Ciconiiformes*

Cattle Egrets, Snowy Egrets, and Little Blue Herons appeared from late morning into the afternoon; the earliest flock arrived at 1000. Birds often stopped to rest several hours before forming larger flocks, which departed to the south and south-southwest during mid to late afternoon.

TABLE 1. Minimum totals of migrants on the Campeche Bank islands, 9-18 Oct. 1984.

	Isla Pérez	Cayo Arenas	Trián-gulo Oeste	Cayo Arcas
Least Bittern <i>Ixobrychus exilis</i>	1			
Great Blue Heron <i>Ardea herodias</i>	4			
Great Egret <i>Casmerodius albus</i>			4	
Snowy Egret <i>Egretta thula</i>	4			
Little Blue Heron <i>E. caerulea</i> <sup>a</sup>	3			
Cattle Egret <i>Bubulcus ibis</i>	720	2		1
Green-backed Heron <i>Butorides striatus</i>	2			
Yellow-crowned Night-Heron <i>Nycticorax violaceus</i>	3			
White Ibis <i>Eudocimus albus</i> <sup>a</sup>	3			1
Blue-winged Teal <i>Anas discors</i> <sup>a</sup>	3			
Osprey <i>Pandion haliaetus</i> <sup>a</sup>	1			
Northern Harrier <i>Circus cyaneus</i> <sup>a</sup>	2			
Sharp-shinned Hawk <i>Accipiter striatus</i>	108	8	1	3
American Kestrel <i>Falco sparverius</i> <sup>a</sup>	3	1		
Merlin <i>F. columbarius</i> <sup>a</sup>	1	1		1
Peregrine Falcon <i>F. peregrinus</i> <sup>a</sup>	9		1	
Sora <i>Porzana carolina</i> <sup>a</sup>	2			
Purple Gallinule <i>Porphyryla martinica</i>	1			
Common Moorhen <i>Gallinula chloropus</i> <sup>a</sup>	1			
Black-bellied Plover <i>Pluvialis squatarola</i>	50			
Greater Yellowlegs <i>Tringa melanoleuca</i>			3	
Lesser Yellowlegs <i>T. flavipes</i>	1			
Solitary Sandpiper <i>Tringa solitaria</i> <sup>a</sup>	1			
Willet <i>Catoptrophorus semipalmatus</i>	10			
Upland Sandpiper <i>Bartramia longicauda</i> <sup>a</sup>		1		
Ruddy Turnstone <i>Arenaria interpres</i>	120	25		2
Sanderling <i>Calidris alba</i>	70			30
Western Sandpiper <i>C. mauri</i>	1			
Least Sandpiper <i>C. minutilla</i>	2			
Short-billed Dowitcher <i>Limnodromus griseus</i>	20			
Common Snipe <i>Gallinago gallinago</i>	1			
Pomarine Jaeger <i>Stercorarius pomarinus</i> <sup>a</sup>		1		
Herring Gull <i>Larus argentatus</i> <sup>a</sup>	1			
Forster's Tern <i>Sterna forsteri</i> <sup>a</sup>	4			
Black Skimmer <i>Rynchops niger</i>	1			
White-winged Dove <i>Zenaida asiatica</i> <sup>a</sup>	1			
Mourning Dove <i>Z. macroura</i> <sup>a</sup>	5			
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	1			
Nighthawk sp. <i>Chordeiles</i> sp. <sup>a</sup>	1			
Chuck-Will's-Widow <i>Caprimulgus carolinensis</i> <sup>a</sup>	2			
Belted Kingfisher <i>Ceryle alcyon</i>	3			
Eastern Wood-Pewee <i>Contopus virens</i>	4			
Least Flycatcher <i>Empidonax minimus</i>	2			
Great Crested Flycatcher <i>Myiarchus crinitus</i> <sup>a</sup>	1			
Eastern Kingbird <i>Tyrannus tyrannus</i>	1			
Scissor-tailed Flycatcher <i>T. forficatus</i> <sup>a</sup>	1			
Northern Rough-winged Swallow <i>Stelgidopteryx serripennis</i> <sup>a</sup>	17			
Bank Swallow <i>Riparia riparia</i>	19			
Cliff Swallow <i>Hirundo pyrrhonata</i>	14			
Barn Swallow <i>H. rustica</i>	855	1	3	20
Ruby-crowned Kinglet <i>Regulus calendula</i> <sup>a,b</sup>	1			

TABLE 1. Continued.

	Isla Pérez	Cayo Arenas	Triángulo Oeste	Cayo Arcas
Swainson's Thrush <i>Catharus ustulatus</i> <sup>a</sup>	1		1	
Thrush sp. <i>Catharus</i> sp.	3			
Wood Thrush <i>Hylocichla mustelina</i>	2			
Gray Catbird <i>Dumatella carolinensis</i> <sup>a</sup>	5	3		
White-eyed Vireo <i>Vireo griseus</i> <sup>a</sup>	5			
Philadelphia Vireo <i>V. philadelphicus</i> <sup>a</sup>	3			
Red-eyed Vireo <i>V. olivaceus</i>		1		
Tennessee Warbler <i>Vermivora peregrina</i> <sup>a</sup>	12			
Nashville Warbler <i>V. ruficapilla</i> <sup>a</sup>	1			
Northern Parula <i>Parula americana</i>	2			
Yellow Warbler <i>Dendroica petechia</i>	3			
Chestnut-sided Warbler <i>D. pensylvanica</i> <sup>a</sup>	3			
Magnolia Warbler <i>D. magnolia</i>	400	7	1	
Cape May Warbler <i>D. tigrina</i> <sup>a</sup>	4		1	
Black-throated Blue Warbler <i>D. caerulescens</i>	1			
Black-throated Green Warbler <i>D. virens</i>	30	3		
Yellow-throated Warbler <i>D. dominica</i>	3			
Palm Warbler <i>D. palmarum</i>	14	6		
Black-and-White Warbler <i>Mniotilta varia</i>	9	1		
American Redstart <i>Setophaga ruticilla</i>	11	2		
Ovenbird <i>Seiurus aurocapillus</i>	8			
Northern Waterthrush <i>S. noveboracensis</i>	4			
Common Yellowthroat <i>Geothlypis trichas</i>	28	1		
Hooded Warbler <i>Wilsonia citrina</i>	8	1		
Wilson's Warbler <i>W. pusilla</i>	3			
Scarlet Tanager <i>Piranga olivacea</i> <sup>a</sup>	2			
Rose-breasted Grosbeak <i>Pheucticus ludovicianus</i> <sup>a</sup>	3			
Blue Grosbeak <i>Guiraca caerulea</i> <sup>a</sup>	1			
Indigo Bunting <i>Passerina cyanea</i> <sup>a</sup>	19			2
Dickcissel <i>Spiza americana</i> <sup>a</sup>	3			
Savannah Sparrow <i>Passerculus sandwichensis</i> <sup>a</sup>	1			
White-crowned Sparrow <i>Zonotrichia leucophrys</i> <sup>a</sup>	2			
Yellow-headed Blackbird <i>Xanthocephalus xanthocephalus</i> <sup>a,b</sup>		2		

<sup>a</sup> Species not previously reported from the Campeche Bank.

<sup>b</sup> Species new to the avifauna of the Yucatán Peninsula.

Assuming a minimum flight speed of 45–50 km/h (derived from Tucker and Schmidt-Koenig 1971), the Cattle Egrets probably departed the northern Gulf coast the night prior to their arrival on Pérez. Leaving Pérez in late afternoon they would be expected to reach the Yucatán mainland in late evening or after dark. The single Least Bittern arrived at 0810 and the three White Ibis all appeared overnight and were seen to depart south–southwest at 0700.

*Falconiformes*

The total of six species, involving at least 140 individuals, was unexpected, particularly considering the reported rarity of Sharp-shinned Hawks in the Yucatán Peninsula (Paynter 1955). Female Sharp-shinned Hawks outnumbered males by 3:1, and all were immatures. The only adult raptors identified were 2 Peregrine Falcons at Pérez. The lighthouse keepers on each island informed me that hawks are common visitors each autumn. Their late migration timing presumably accounts for the paucity of records by other ornithologists who all visited the islands between May and early October.

Sharp-shinned Hawks arrived at the north end of Pérez throughout the afternoon, the earliest at 1355. All that I saw leaving departed to points between southeast and south-southwest from 0700 to 1400, but mainly before 1000 when cloud build-up began to restrict thermal development. One American Kestrel arrived at 1700 and the single Osprey at 1630. Hunting flights to nearby islands by Northern Harriers and Peregrine Falcons obscured these species' migratory movements.

The phenomenon of autumnal trans-Gulf migration is today widely accepted (e.g., see Lowery 1946) for many species but my data concerning raptors are of interest for the magnitude of movement involved. My observations, which may have corresponded with the peak of raptor passage, indicate a fall trans-Gulf flight of at least several hundred birds annually. Whether a trans-Gulf spring flight of raptors occurs on a similar scale remains to be shown, but the high ratio of immature birds I noted may indicate that their fall route was a result of inexperience and that they reorient themselves in spring to an overland route.

*Passeriformes*

During 10–13 Oct. a noticeable arrival began in early afternoon (1200 to 1400) and continued till at least sunset. Following the overnight change in wind from east to southeast, a heavy arrival involving at least 500 birds began before dawn on 14 Oct. This continued throughout the day, but decreased in the afternoon. I noted a similar trend on 15 Oct. before leaving the island. An exception to the passerine pattern was shown by the swallows which occurred as a steady light passage from early morning to late afternoon.

Turnover of migrant birds occurred on a daily basis and I agree with Paynter (1953) that many survive to reach the mainland. There was, however, some mortality unrelated to raptor predation, particularly among swallows.

*Breeding species.*—I observed only six of the eight species reported to breed on the Campeche Bank by Boswall (1978). Brown Booby (*Sula leucogaster*) and Brown Noddy (*Anous stolidus*) were apparently absent. Only one, sickly-looking, juvenile Sooty Tern (*Sterna fuscata*) was seen, on Isla Pérez. These three species appear to leave the islands in the winter. I saw up to 800 Royal Terns (*Sterna maxima*), 250 Sandwich

Terns (*S. sandvicensis*) and 500 Laughing Gulls (*Larus atricilla*) daily around Isla Pérez, and smaller numbers of Royal Terns and Laughing Gulls at the other islands. Only two species were actively nesting.

*Masked Booby* (*Sula dactylatra*)

Large numbers (mainly adults) flew east past the south tip of Pérez each morning and returned late in the day. A sample count was made from 0535 to 0705, 12 Oct., when 1411 birds (1322 adults, 89 immatures) were recorded. Boswall (1978) reported this species breeding on several islands of Arrecife Alacrán. On Cayo Arenas I estimated 500 pairs to be on territory, most had eggs and a few were feeding downy young. On Cayos Arcas about 250 pairs were scattered over the island but groups on the beach at the south end of the island totalled about 2000 birds, fewer than 10% of which were downy young and juveniles.

*Magnificent Frigatebird* (*Fregata magnificens*)

Each evening from 9 to 15 Oct. a cloud of 2000 to 3000 birds circled over Isla Desertora, near Pérez, where Boswall (1978) reported breeding. On Cayos Arcas the clumps of bushes were covered with an estimated 2500 pairs, males were in full display and some nests had eggs.

#### ACKNOWLEDGMENTS

I would like to thank David F. DeSante, Robert W. Dickerman, Sophie Webb, Edward H. Burtt, Jr., Robert M. Mengel, Eduardo Santana C. and Raymond A. Paynter, Jr., for helpful criticism of earlier drafts of the manuscript, and Patricia Escalante for assistance in the Spanish translation. This is publication number 382 of the Point Reyes Bird Observatory.

#### LITERATURE CITED

- BOSWALL, J. 1978. The birds of Alacrán Reef, Gulf of Mexico. Bull. B.O.C. 98:99-109.  
FOSBERG, F. R. 1962. A brief survey of the cays of Arrecife Alacrán, a Mexican atoll. Atoll Research Bulletin No. 93. Pacific Science Board, Washington, D.C.  
LOWERY, G. H., JR. 1946. Evidence of trans-gulf migration. Auk 63:175-211.  
PAYNTER, R. A., JR. 1953. Autumnal migrants on the Campeche Bank. Auk 70:338-349.  
———. 1955. The ornithogeography of the Yucatán Peninsula. Peabody Mus. Nat. Hist. Yale Univ. Bull. 9, New Haven, CT.  
SIEBENHALER, J. B. 1954. Notes on autumnal trans-gulf migration of birds. Condor 56: 43-48.  
TUCKER, V. A., AND K. SCHMIDT-KOENIG. 1971. Flight speed of birds in relation to energetics and wind directions. Auk 88:97-107.

Received 2 Sep. 1988; accepted 22 May 1989.