

NEW AND NOTEWORTHY RECORDS OF BIRDS FROM THE EASTERN YUCATÁN PENINSULA

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ABSTRACT.—Thirteen species of birds are recorded for the first time from Mexico's Yucatán Peninsula, and significant new distributional information within the peninsula is reported for 56 additional species. The distributional records reported here fall into three major categories: (1) northward extensions into semi-evergreen forest of species previously known to occur in more humid tropical forest, (2) mainland records of species normally restricted (or nearly so) to offshore islands, and (3) miscellaneous new records of uncommon species. *Received 17 June 1988, accepted 1 Dec. 1988.*

The avifauna of Mexico's Yucatán Peninsula has been studied in a series of reports (Peters 1913; Griscom 1926a, b; Traylor 1941) that culminated in the classic monograph by Paynter (1955a). The latter author listed 429 bird species from the peninsula, including the surrounding ocean and offshore islands. Later publications (Paynter 1955b, Storer 1961, Klaas 1968, Parkes 1970, Gatz et al. 1985, Scott et al. 1985) have increased the species list slightly (to 437 species). Over the three decades since Paynter's studies, construction of new roads and airfields has increased the accessibility of the eastern portion of the region where relatively little ornithological work had been done previously. The present paper summarizes significant new distributional data that we and our colleagues have gathered in the eastern Yucatán Peninsula during the course of ongoing studies of migratory and resident bird communities.

STUDY AREA

The Yucatán Peninsula is a large (240,000 km²), essentially flat sedimentary shelf that juts northward into the Gulf of Mexico and Caribbean Sea from the igneous tectonic core of Central America. The physiographic limits of the peninsula include all of the Mexican states of Yucatán, Quintana Roo, and Campeche (parts of Chiapas and Tabasco are also included according to some definitions), the Petén region of northern Guatemala, and the entire nation of Belize. The present study concerns only the Mexican portion of the peninsula, particularly Quintana Roo and adjacent portions of the state of Yucatán. Lundell (1934), Paynter (1955a), and Lee (1980) contain descriptions of the geology, physiography, climate, and vegetation of the Yucatán Peninsula. Lynch et al. (1985) present a generalized vegetation map that is based on satellite imagery. For present purposes, we summarize only the major features of vegetation and climate that might influence bird distribution.

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Annual precipitation tends to increase from NW to SE, with extreme values ranging from ca 450 mm on the NW coast of the state of Yucatán to ca 4000 mm in southern Belize (Russell 1964, Garcia 1965). Within the Mexican portion of the peninsula, maximum annual rainfall (1500–2000 mm) occurs in southernmost Quintana Roo and adjacent Campeche. Rainfall in the northern half of the peninsula is strongly seasonal, and surface water there is restricted to sinkholes, seasonal pools, and a few scattered lakes. Marshes and lagoons are scattered around the perimeters of the Yucatán. One such wetland is located within the 528,000 ha Sian Ka'an Biosphere Reserve on the Caribbean coast of central Quintana Roo. A narrow, discontinuous zone of dune vegetation flanks much of the Yucatán coast. Despite its limited area, this vegetation type has considerable biogeographic significance, both to plants (Moreno-Casasola and Espejel 1986, Espejel 1987) and to birds (see below).

The NW–SE gradient in the Yucatán rainfall and edaphic conditions is paralleled by corresponding zonation in the natural vegetation, although patterns are complicated by the effects of long-term human settlement in the region. In an effort to adopt a simple vegetation classification that could be used by ornithologists, Paynter (1955a) applied the term “rain forest” to the native forest of the entire eastern and southern portions of the Yucatán. Similarly, some large-scale vegetation maps (Leopold 1950, Rzedowski 1983) also lump the sub-humid forests of central and northern Quintana Roo with the much wetter forests to the south. However, annual rainfall in Quintana Roo is both too low and too seasonal to support even tropical wet forest, much less rain forest as these vegetation types conventionally are defined. Thus, according to the Holdridge scheme of vegetation classification (Holdridge *et al.* 1971), the climate of northern and central Quintana Roo supports Dry Tropical Forest (Thien *et al.* 1982). Elsewhere in the Mexican portion of the Yucatán, climax vegetation ranges from low thorn scrub on the northern coast, through a series of moderate-height deciduous, semi-deciduous, and semi-evergreen forest types in most of the area, to tall semi-evergreen forest in limited areas of southern Quintana Roo and adjacent Campeche (Miranda 1958, Fig. 1). Tropical evergreen forest occurs still farther south in sections of eastern Belize that receive more than ca 3500 mm of annual precipitation (Wright *et al.* 1959, Russell 1964).

The main biogeographic questions addressed in the present paper are the extent to which: (1) bird species typically associated with lowland wet forest in Middle America penetrate the drier, more seasonal forests of the northern Yucatán, and (2) species normally considered to occur only on offshore islands also occur on the Yucatán mainland.

METHODS

Distributional data reported here were gathered over the period 1974–1988. Lopez-Ornat and MacKinnon de Montes have resided in Quintana Roo since 1981 and 1974, respectively. Lynch has visited the peninsula some 15 times since 1979, mostly during October–March when many Nearctic migrants are present. Lopez-Ornat and Lynch have conducted mist-netting studies at 20 sites in northern and central Quintana Roo in habitats that represent a wide range of natural and disturbed vegetation types. Eight sites were clustered within 15 km of the coastal village of Puerto Morelos, in northeastern Quintana Roo (7182 net-h); the remaining 12 sites were in the Sian Ka'an Biosphere Reserve in east-central Quintana Roo (15,174 net-hrs). Lynch and associates have performed more than 1000 point counts (Lynch *et al.* 1985) of birds in Quintana Roo, Yucatán, Campeche, northern Belize, and the Petén region of northern Guatemala. Additional distributional data, particularly for aquatic species, have been obtained from surveys of coastal areas and exploratory trips throughout the Yucatán.

We realize the potential pitfalls of faunistic studies based on sight records (e.g., Austin *et*

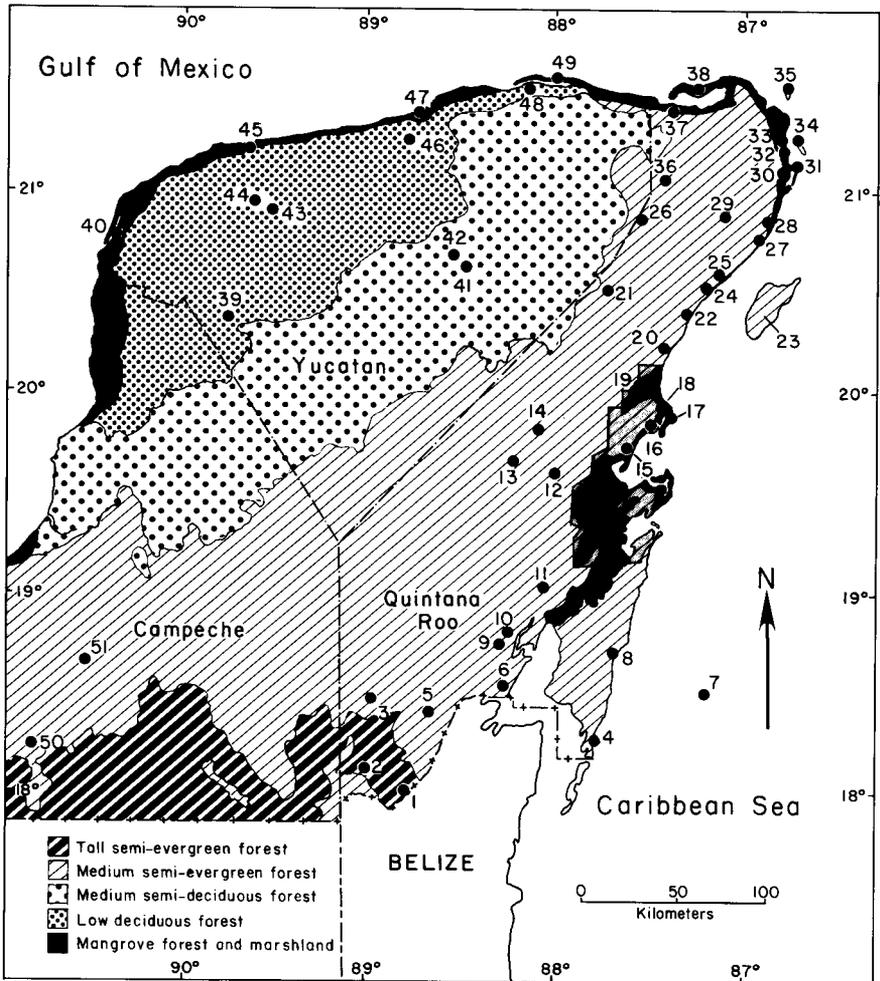


FIG. 1. Simplified vegetation map of the northern Yucatán Peninsula, showing localities mentioned in the text. Quintana Roo: (1) La Unión, (2) Tomas Garrido, (3) San Jose, (4) Xcalak, (5) Kohunlich, (6) Chetumal, (7) Banco Chinchorro, (8) Mahahual, (9) Bacalar, (10) San Felipe Bacalar, (11) Limones, (12) Felipe Carillo Puerto, (13) Senor, (14) Tabi, (15) Sian Ka'an reserve (shaded area), (16) Vigia Chico, (17) Punta Allen, (18) Boca Paila, (19) Chunyaxche, (20) Tulum, (21) Coba, (22) Akumal, (23) Isla Cozumel, (24) Xcaret, (25) Playa del Carmen, (26) Nuevo X-Can, (27) Punta Celiz, (28) Puerto Morelos, (29) Vallarta, (30) Cancun, (31) Isla Cancun, (32) Puerto Juarez, (33) Punta Sam, (34) Isla Mujeres, (35) Isla Contoy, (36) Kantunilkin, (37) Chiquila, (38) Isla Holbox; Yucatan: (39) Uxmal, (40) Celestun, (41) Xcalacoop, (42) Chichén Itzá, (43) Kanasin, (44) Merida, (45) Progreso (Arrecife Alacran lies off the map, approximately 125 km N of Progreso); (46) Telchac, (47) Telchac Puerto, (48) Río Lagartos, (49) Las Coloradas Campeche: (50) Escarcega, (51) Candelaria.

al. 1981), and recognize that even specimen-based distributional records can be unreliable if not accompanied by adequate documentation (e.g., Parkes 1970). We rigorously excluded questionable identifications from the present report, and note that most of the records reported below are based either on mist-netted birds or on repeated sightings by more than one qualified observer. In addition, we have photographed many of the species in question. Copies of field notes documenting our sight records are available upon request from the authors.

The following account is restricted to species that are either: (1) new to the entire Mexican portion of the Yucatán Peninsula (indicated by an asterisk), (2) state records for Quintana Roo or Yucatán, (3) insular forms rarely or never previously reported from the mainland of the peninsula, or (4) widespread but rare forms for which there were three or fewer published records for the Mexican portion of the peninsula (Campeche, Quintana Roo, Yucatán). We have included accounts of breeding activity for a few uncommon species. For the purposes of this paper, we have not considered undocumented listings in popular field guides or checklists (e.g., Blake 1953, Peterson and Chalif 1973, MacKinnon de Montes 1986) to constitute verified records of species occurrences in the study region.

Common and scientific names, and the arrangement of families and species follow the A.O.U. check-list (A.O.U. 1983). Observers are indicated as follows: RG—Russell Greenberg, SH—Steve N. G. Howell, AL—Arturo Lopez Ornat, JL—James Lynch, BM—Barbara MacKinnon de Montes, EM—Eugene Morton; DN—Daniel Niven, WR—William Robertson. "Photo" indicates that a reported occurrence is verified by one or more photographs.

SPECIES ACCOUNTS

Red-footed Booby (*Sula sula*).—This booby breeds on scattered islands off the coast of Belize and elsewhere in the Caribbean. The only previous record for the Mexican portion of the Yucatán Peninsula is a specimen collected near Chetumal in southern Quintana Roo (Paynter 1955a). In May 1984, AL identified a Red-footed Booby that had been captured by a local fisherman at Puerto Morelos in NE Quintana Roo. In June 1985, AL photographed another individual that was perched along the shore at Puerto Morelos. There is an unconfirmed record of breeding by this species on Arcife Alacran off the northern coast of Yucatán state (C. C. Lockwood, in litt. to BM).

American White Pelican (*Pelecanus erythrorhynchos*).—Paynter (1955a) cites a sight record of several individuals of this Nearctic migrant from the extreme NW coast of the state of Yucatán. We (SH, AL, JL—photo, BM, EM) have observed flocks of as many as 200 American White Pelicans on every winter visit we have made to the lagoons between Río Lagartos and Las Coloradas on the NE coast of Yucatán (February 1982, 1983, 1986, 1988). The species has been observed during winter on one or more occasions at the following additional coastal localities: between Progreso and Dzidzantun, Yucatán (JL), and Isla Holbox, Quintana Roo (SH, BM). The American White Pelican is clearly a regular winter visitor to the northern coast of the peninsula, and small numbers of birds have been observed as late as 24 June at Las Coloradas (BM).

Least Bittern (*Ixobrychus exilis*).—Previous Yucatán records were a specimen taken on Banco Chinchorro, off the southern coast of Quintana Roo (Paynter 1955a), and a photographic record and several sightings from Coba in the central part of the state (BM; Scott et al. 1985). AL has observed the species at Vigia Chico, in the Sian Ka'an reserve (May 1983), and at Puerto Morelos (January 1984), both in Quintana Roo. The two birds were observed as they crossed the road in areas of *Cladium* marsh. In February 1987, AL netted a Least Bittern in a stand of black mangrove (*Avicennia*) scrub within the Sian Ka'an reserve.

Bare-throated Tiger-Heron (*Tigrisoma mexicanum*).—Paynter (1955a) encountered this species at one locality in southernmost Quintana Roo and noted Griscom's (1926a) earlier breeding record from the coast of central Quintana Roo. We have found tiger-herons to be widely distributed throughout the coastal region of the state in mangroves, seasonally flooded low forest, and along the margins of pools, inlets, and beaches. Quintana Roo: Mahahual (RG, DN), 40 km W of Mahahual (JL, WR), Sian Ka'an reserve (AL, BM—photo, DN), Tulum (JL), Akumal (AL), Xcaret (JL), Punta Celiz (JL), Puerto Morelos (AL), Isla Cancun (BM), 15 km N of Cancun (AL, JL), Chiquila (SH). A nest containing two eggs was found in red mangrove (*Rhizophora*) scrub at the Sian Ka'an reserve on 22 March 1986 (AL—photo); and a nest with two downy young was found in a *Rhizophora* tree in Laguna Nichupte, behind Isla Cancun, on 18 July 1979 (BM—photo).

Jabiru (*Jabiru mycteria*).—This rare stork is known to breed in Belize and in the extensive marshes of the Tabasco lowlands, but Paynter's (1955a) sight record from extreme southern Quintana Roo is the only published record of the species for the Mexican portion of the Yucatán Peninsula. We (AL, JL) have observed one to two individuals on 14 separate occasions within the Sian Ka'an reserve in east-central Quintana Roo. Extreme dates are 25 November and 22 March. A pair was attending a nest from 13 January 1987 to 19 February 1987 when the birds abandoned the nest and two eggs (AL—photo). The species also was sighted 2 km W of Francisco Villa, Quintana Roo in January 1984 and December 1985 (SH).

Fulvous Whistling-Duck (*Dendrocygna bicolor*)*.—The first peninsula records for this resident species are sightings on 22 January 1984 and 1 April 1984 (possibly the same individual) at Isla Cancun, Quintana Roo (BM—photo).

Northern Shoveler (*Anas clypeata*).—This species is known to overwinter in small numbers on the coast of Yucatán state, but there is only a single previous record for Quintana Roo (Paynter 1955a). In February 1984, JL observed one shoveler in a temporary pond, just W of Tulum,

and several individuals in the extensive marshes 40 km W of Mahahual; both localities are in east-central Quintana Roo.

Hooded Merganser (*Lophodytes cucullatus*)*.—The first record for this Nearctic migrant on the peninsula is a female observed by AL 2 December 1983 2 km W of Puerto Morelos in NE Quintana Roo. The bird, which was watched at close range for several minutes, was swimming in a seasonal pool at the edge of a small clearing surrounded by semi-evergreen forest.

Masked Duck (*Oxyura dominica*).—The only published record of this secretive species for the Yucatán Peninsula is a specimen from southern Campeche (Storer 1961). In January 1984, JL photographed a live female Masked Duck that had been captured by a local boy in the coastal lagoon just W of Puerto Morelos, Quintana Roo.

Lesser Yellow-headed Vulture (*Cathartes burrovianus*).—At the time of Paynter's (1955a) monograph, the Yellow-headed Vulture was not clearly distinguished from the much more widespread and common Turkey Vulture (*C. aura*) in southern Mexico. Klaas (1968) reported one specimen from the SW coast of Campeche, but there are no other published records for the peninsula. We have positively identified Lesser Yellow-headed Vultures (perched or low-flying birds observed through binoculars at close range) at a number of coastal localities and in areas of savannah in all months between September and April. Quintana Roo: Boca Paila, within the Sian Ka'an reserve (AL, JL, BM), marshes 40 km W of Mahahual (RG, JL, DN), Puerto Morelos (AL, JL), 10 km S of Cancun (BM), Cancun (BM), 12 km N of Cancun (AL, JL), Isla Contoy (BM), Isla Holbox (SH); Yucatán: 12 km E of Las Coloradas (AL, JL), Río Lagartos (SH, AL, JL), and Celestun (SH, BM).

Black-shouldered Kite (*Elanus caeruleus*).—Paynter (1955b) did not observe this species and considered it to be "extremely rare on the peninsula." He reported one specimen from southern Quintana Roo, and there are several records from Campeche. We have observed the species at scattered sites throughout the study area, always in areas of grass or other low vegetation. Quintana Roo: Road between Chetumal and La Unión (SH), several points along road between Chetumal and Xpujil, Campeche (SH, BM), 10 km S of Bacalar (JL), 36 km W of Mahahual (BM), Sian Ka'an reserve (RG, JL, DN), Isla Cancun (BM); Yucatán: 10 km E of Kanasin (BM); Campeche: and several points along road between Escarcega and Candelaria (JL). The range of the species is expanding globally, and its spread in the peninsula has no doubt been aided by the proliferation of cattle pastures over the past few decades.

White-tailed Hawk (*Buteo albicaudatus*).—Paynter (1955a) listed three records of this species from the state of Yucatán, and Storer (1961) re-

ported a specimen from Campeche. We have observed the White-tailed Hawk at four localities in Quintana Roo: 2 km W of Francisco, Villa (SH, BM), Sian Ka'an reserve (AL—photo, RG, DN), 6 km W of Puerto Morelos (JL, EM), and Cancun (BM). One of two individuals seen at the Sian Ka'an reserve was eating a Green-backed Heron (*Butoroides striatus*).

Zone-tailed Hawk (*Buteo albonotatus*)*.—We have observed this species, which has not previously been recorded from the peninsula, at five localities. Quintana Roo: 10 km S of Puerto Morelos (February 1986 and February 1987—JL), Cancun (February 1986—BM), Isla Cancun (February 1987—BM); Yucatán: Chichén Itzá (November 1984, January 1987—SH—photo), and Celestun (February 1987—SH). The species probably is a winter visitor.

Black-and-white Hawk-Eagle (*Spizastur melanoleucus*).—Paynter (1955a) did not observe this species and reported only an 1879 record from Tizimín, Yucatán. We have observed this hawk-eagle at two localities in Quintana Roo: 10 km W of Puerto Morelos (JL, EM), and Puerto Morelos (AL). The latter specimen, which was killed by a car, was preserved as a mounted specimen by a local resident.

Black Hawk-Eagle (*Spizaetus tyrannus*).—Paynter (1955a) recorded one specimen from Campeche and one from southern Quintana Roo. We have observed the species at three localities in central and northern Quintana Roo: road between Felipe Carillo Puerto and Vigia Chico (RG, SH, DN), Puerto Morelos (SH), and 5 km S of Cancun (JL).

Collared Forest-Falcon (*Micrastur semitorquatus*).—Paynter did not observe this species, and it has been known on the Peninsula only from specimens collected near Chichén Itzá, (Yucatán), Puerto Morelos, (Quintana Roo), and in southern Campeche (Traylor 1941, Paynter 1955a, Storer 1961). We have found this forest-falcon to be widely distributed in both semi-deciduous and semi-evergreen forest throughout the peninsula. It readily responds to imitations or tape-recorded playbacks of its call, and has been mist-netted several times. Quintana Roo: 10 km W of Felipe Carillo Puerto (JL, EM), Sian Ka'an reserve (SH), 4 km NW of Tulum (JL, EM), 4 km SW of Coba (JL), 20 km S of Playa del Carmen (JL), 4 km N of Playa del Carmen (JL, BM), 10 km W of Puerto Morelos (JL, EM), 7 km S of Puerto Morelos (AL, JL), Puerto Morelos (SH, JL); Yucatán: 6 km E of Xcalacoop (JL, EM), Uxmal (JL, EM), Sayil (SH), and 20 km SE of Uxmal (JL, EM).

Merlin (*Falco columbarius*).—This Nearctic migrant had previously been observed on Isla Mujeres, Isla Cozumel, and Cayo Culebra Quintana Roo, but the only mainland records cited by Paynter (1955a) were two specimens from the north-central coast of Yucatán state. We have observed Merlins at both coastal and insular localities. Quintana Roo: 16

km S of Boca Paila (RG, AL, JL, DN); Sian Ka'an reserve (RG, DN), Akumal (JL); Puerto Morelos (AL, JL), Isla Cancun (BM); Yucatán: lagoon between Río Lagartos and Las Coloradas (AL, JL), Arrecife Alacran (BM), and Uxmal (SH). Extreme dates are 1 October and 1 June.

Peregrine Falcon (*Falco peregrinus*).—Paynter (1955a) obtained one specimen from SW of Campeche, and cited an earlier record from Banco Chinchorro, in SE Quintana Roo. We have observed the species at 8 additional localities. Quintana Roo: Sian Ka'an reserve (six observations—RG, AL, DN), Isla Cancun (BM), Puerto Juarez (BM), Isla Holbox (SH); Yucatán: Las Coloradas (SH, AL, JL), Río Lagartos (AL, JL), Celestún (SH); Chinchorro and Campeche: Isla Perez (SH). Extreme dates are 23 October and 26 April.

Black-throated Bobwhite (*Colinus nigrogularis*).—This quail is abundant in the dry secondary vegetation of Yucatán and Campeche, but Paynter (1955a) reported only one sight record from the western border of Quintana Roo. We have observed the species in central and northern Quintana Roo: Sian Ka'an reserve (RG, DN), Felipe Carillo Puerto (SH), and 9 km N of Playa del Carmen (JL). Like the Black-shouldered Kite, this species probably has benefited from increased ranching in Quintana Roo.

Sungrebe (*Heliornis fulica*).—Previously reported only from southernmost Quintana Roo (Traylor 1941), BM observed this species 27 January 1985 on Lago Coba in the central part of the state.

Lesser Golden-Plover (*Pluvialis dominica*)*.—The first peninsula records for this Nearctic migrant are as follows (all in Quintana Roo): road between Limones and Mahahual (DN), Vigia Grande, in the Sian Ka'an reserve (AL), Puerto Morelos (AL), Isla Cancun (BM). The species, which in the Yucatán is greatly outnumbered by the Black-bellied Plover (*P. squatarola*), has been observed in October, March, and April.

Snowy Plover (*Charadrius alexandrinus*).—Paynter (1955a) reported this normally migratory plover from several localities on the coast of Yucatán state. During winter, we have observed it on numerous occasions along the Quintana Roo coast, sometimes in flocks of as many as 100 individuals: Boca Paila (RG, SH, AL, JL, DN), Puerto Morelos (AL, JL), Isla Cancun (BM), and Isla Holbox (SH). The species is known to breed along the northeastern coast of Mexico and in the West Indies (A.O.U. 1983), and the fact that it occurs at all seasons at Isla Cancun (BM) and Boca Paila (SH, AL) suggests that there may also be a small resident population on the peninsula.

Semipalmated Plover (*Charadrius semipalmatus*).—Paynter (1955a) considered this species a rare winter visitor. He observed Semipalmated Plovers only on Isla Cozumel and Isla Mujeres and cited an earlier record

for the central coast of Quintana Roo. There are no published records for Yucatán. We (AL, JL, EM) have observed this species in the winters of three different years (1982, 1983, 1988) at Río Lagartos, Yucatán. Additional localities in Yucatán: Telchac Puerto (BM), Progreso (SH), Celestun (SH); Quintana Roo localities (all coastal): Xcalak (RG, DN), Boca Paila (RG, AL, JL, DN), Vigia Grande (AL), Tulum (RG, JL, DN), Puerto Morelos (AL, JL), Isla Cancun (BM), and Isla Holbox (SH). Extreme dates are 17 September and 22 May.

American Avocet (*Recurvirostra americana*)*.—This migratory species has not previously been reported from the peninsula. In January 1983, JL observed approximately 30 avocets in the coastal lagoon between Progreso and Telchac Puerto, Yucatán; a month later JL observed 25–30 avocets (possibly the same group) between Río Lagartos and Las Coloradas, Yucatán, and 10 were seen at Río Lagartos in March 1988 (DN). In all cases avocets were associated with Black-necked Stilts (*Himantopus mexicanus*).

Whimbrel (*Numenius phaeopus*)*.—This transient migratory species has not previously been reported from the peninsula, but we have found that it occurs regularly along the eastern and northern coasts. Quintana Roo: Vigia Chico (DN), Playa del Carmen (JL), Puerto Morelos (JL), Isla Cancun (BM—photo), Isla Holbox (SH); Yucatán: Río Lagartos (AL, JL, EM), Las Coloradas (AL, JL), and Celestun (SH). Sightings have been made in all months between October and April.

Marbled Godwit (*Limosa fedoa*).—Paynter (1955a) considered this species to be an “extremely rare” migrant on the peninsula. He observed it only at Santa Clara, Yucatán, and cited earlier records from Isla Cozumel. We have observed the species on several separate occasions between December and February at two localities. Quintana Roo: Isla Cancun (BM); Yucatán: Río Lagartos (RG, AL, JL, EM, DN).

Stilt Sandpiper (*Calidris himantopus*)*.—The first published reports for this Nearctic migrant on the peninsula are sightings on 7 April 1978 (BM) at Isla Cancun, Quintana Roo, and 25 January 1987 (SH) and 9 April 1988 (AL, JL) at the salt evaporating ponds near Las Coloradas, Yucatán. On the latter occasion, 200–250 Stilt Sandpipers were feeding in small flocks associated with large numbers of other shorebirds, including Greater Flamingo (*Phoenicopterus ruber*), Lesser Yellowlegs (*Tringa flavipes*), Western Sandpiper (*Calidris mauri*), Least Sandpiper (*C. minutilla*), Semipalmated Sandpiper (*C. pusilla*), and Ruddy Turnstone (*Arenaria interpres*). About half of the April birds had partially or completely molted into breeding plumage. The January record may seem somewhat surprising, as the species is thought normally to overwinter in temperate South America (A.O.U. 1983). However, S. N. G. Howell has informed

us (In litt.) that he has observed the species between November and January in Nayarit, Jalisco, Colima, Michoacan, Distrito Federal, Mexico, Tlaxcala, Veracruz, Tabasco, Campeche, Yucatán, Oaxaca, and Chiapas.

Common Snipe (*Gallinago gallinago*).—Paynter (1955a) reported this species from two localities in Yucatán state, and Storer (1961) recorded specimens from one locality in Campeche. We have observed the Common Snipe at four localities in Quintana Roo: 40 km W of Mahahual (JL), Tulum (RG), Coba (BM), and Isla Cancun (BM). At the latter locality, the species has been recorded in August, November, December, and January.

American Woodcock (*Scolopax minor*)*.—Although the American Ornithologists' Union (1983) mentions the Yucatán as within the distribution of this Nearctic migratory species, the first specific published records for the peninsula are from Quintana Roo: Cancun (18 December 1986—BM), and Isla Cancun (20 February 1987—BM).

Bonaparte's Gull (*Larus philadelphia*)*.—Apart from a questionable sight record that Paynter (1955a) dismissed as a misidentification of the locally common Laughing Gull (*L. atricilla*), Bonaparte's Gull has not previously been reported from the Mexican portion of the peninsula. On 28 and 30 December 1983, AL observed an individual of this species standing next to a shallow pool 0.5 km inland from the beach at Puerto Morelos in NE Quintana Roo. The bird, which was in winter plumage, was identified by the following combination of characteristics: noticeably smaller and paler than a Laughing Gull, legs and feet red, tail white, extensive white patch on the distal portion of the wing, and a black spot behind the eye. The bird appeared following a period of cool, cloudy weather and northerly winds.

Ring-billed Gull (*Larus delewarensis*)*.—The first peninsula records for this species are as follows: Quintana Roo: Isla Cancun (five sightings in 1977 and 1978—BM), and Cancun (SH); Yucatán: Río Lagartos (DN), Progreso (AL, JL), Celestun (SH). Extreme dates are 10 October and 25 July. Ring-billed Gulls are uncommon but regular winter visitors to the northern coast.

Caspian Tern (*Sterna caspia*).—Paynter did not observe this species, and reported only one previous sight record from Isla Cozumel, Quintana Roo. We observed the species in the winters of 1982, 1986, 1987 and 1988 at Río Lagartos, Yucatán (RG, AL, JL, DN); localities for Quintana Roo: Boca Paila (SH, JL), and Isla Holbox (SH). In most cases, the species was associated with the much commoner Royal Tern (*S. maxima*). Caspian Terns are regular winter visitors to the coasts of the peninsula, and one individual has been observed at Boca Paila in summer (July 1988—SH).

Least Tern (*Sterna antillarum*).—Paynter (1955a) reported this species from two localities along the coast of Yucatán state and suggested that it might prove to be a breeding resident. In May 1985 and June 1986, AL observed small breeding colonies (5–15 pairs) of Least Terns along the Quintana Roo coast at Boca Paila and on two small cays in Bahía de la Ascensión, all in the Sian Ka'an reserve (photo). BM has observed breeding by this species at Isla Cancun in June of several summers. The species arrives at Cancun by the third week of April and is gone by the third week of September (BM).

Black Tern (*Chlidonias niger*).—The only previous records for the Mexican portion of the peninsula are from the coast of Yucatán state (Paynter 1955a). The species is a regular transient and non-breeding summer visitor to the northeastern coast of Quintana Roo: Sian Ka'an reserve (SH, AL), Isla Cancun (BM), Isla Mujeres (BM), and Isla Holbox (SH).

Pale-vented Pigeon (*Columba cayennensis*).—Paynter did not see this pigeon, and the only records for the Mexican portion of the peninsula are from southern Campeche (Traylor 1941). We have observed the species on several occasions in low, seasonally flooded woodland at the Sian Ka'an reserve, Quintana Roo (SH, AL, DN), and along the road between Limones and Mahahual (SH).

White-crowned Pigeon (*Columba leucocephala*).—The only previous peninsula records for this Caribbean species are from Isla Cozumel and Cayo Culebra, Quintana Roo, and a single specimen from the Quintana Roo mainland (Paynter 1955a). We have observed up to 40 White-crowned Pigeons at a time on several cays in Bahía de la Ascensión within the Sian Ka'an reserve (SH, AL—photo), and at three localities on the mainland of Quintana Roo: Sian Ka'an reserve (SH, AL), Tulum Pueblo (SH), and Puerto Morelos (JL). Additional insular records for Quintana Roo: Isla Cancun (BM), Isla Mujeres (JL), and Isla Contoy (BM). The breeding season on the cays is July and August, during which period birds fly back and forth daily to the mainland to feed. The species appears to vacate the cays between September and May (AL).

Mourning Dove (*Zenaida macroura*).—This migratory dove has been reported previously from Yucatán and Campeche, but the sole Quintana Roo record is from Isla Cozumel (Paynter 1955a). We have observed Mourning Doves at four localities in Quintana Roo: between Chunyaxche and Chumpon (RG), Puerto Morelos (AL), Isla Cancun (BM), and Puerto Juarez (BM). Extreme dates are 3 October and 16 March.

Short-billed Pigeon (*Columba nigrirostris*).—This pigeon, which is widely distributed in the humid lowlands of Middle America, was not seen by Paynter (1955a), who reported one earlier specimen from southern Quin-

tana Roo. JL and his field assistants have mist-netted this species on three occasions in the vicinity of Puerto Morelos, in northern Quintana Roo (photo), and we have one sight record from Isla Cancun (BM).

Ruddy Quail-Dove (*Geotrygon montana*).—This dove is widespread in humid lowland forests of Central America and South America, but it was encountered by Paynter (1955a) only in the wet forests of Campeche and extreme southern Quintana Roo. Paynter mentions an 1893 specimen (“probably accidental”) from northern Yucatán, and Klaas (1968) collected a specimen between X-Can and Nuevo X-Can, in NE Yucatán. JL has observed the species throughout Quintana Roo as far north as Puerto Morelos, where several specimens have been mist-netted (photo).

Black-billed Cuckoo (*Coccyzus erythrophthalmus*).—This Nearctic migrant was previously known on the peninsula from a century-old record from Isla Cozumel (Paynter 1955a) and a mist-netted specimen from northern Yucatán (Rogers et al. 1986). In September 1979, the car being driven by JL and EM struck and killed a Black-billed Cuckoo just E of Chichén Itzá, Yucatán (photo). A second individual was mist-netted in Puerto Morelos, Quintana Roo in February 1985 (AL—photo).

Striped Cuckoo (*Tapera naevia*).—The only previous record for the peninsula was Paynter’s (1955a) report of a specimen from southernmost Quintana Roo. In July 1985 AL observed a singing individual of this species in seasonally flooded low forest in the Sian Ka’an reserve. In January 1986, a Striped Cuckoo (probably the same individual or its mate) was mist-netted by AL at the same locality.

Burrowing Owl (*Speotyto cunicularia*).—The only previous peninsula records are from northern Yucatán (Paynter 1955a) and southern Campeche (Storer 1961). On 12 September 1979, BM observed a Burrowing Owl on Isla Cancun, Quintana Roo.

Little Hermit (*Phaethornis longuemareus*).—Paynter (1955a) saw the species at one locality in southern Quintana Roo and reported an earlier record from southern Campeche. In addition to sighting this hummingbird at several localities in southernmost Quintana Roo, we have seen it 10 km N of Felipe Carillo Puerto (JL, EM), Puerto Morelos (JL), and on the western outskirts of Cancun (JL).

White-necked Puffbird (*Bucco macrorhynchos*).—This species was previously known from the humid forest of southern Quintana Roo and Campeche (Paynter 1955a). We have observed it at the following localities in central and northern Quintana Roo: 20 km S of Felipe Carillo Puerto (JL, EM), Sian Ka’an reserve (AL, RG, DN), 5 km NE of Felipe Carillo Puerto (found dead—SH), 10 km N of Chunyaxche (BM), Playa del Carmen (road-killed specimen—JL, EM), and Puerto Morelos (RG, SH). All sightings have been in semi-evergreen forest.

Yellow-bellied Sapsucker (*Sphyrapicus varius*).—This winter visitor has been recorded twice previously from Yucatán state and once from coastal Quintana Roo (Paynter 1955a). We have observed the species at three localities. Quintana Roo: 8 km S of Puerto Morelos (two individuals mist-netted—JL), Isla Cancun (BM), Isla Mujeres (BM); and Yucatán: Uxmal (BM). Extreme dates are 23 October and 8 March.

Barred Woodcreeper (*Dendrocolaptes certhia*).—Previously known only from southernmost Quintana Roo and adjacent Campeche (Paynter 1955a, Storer 1961), this woodcreeper has been observed or mist-netted at the following localities in central and northern Quintana Roo: 5–10 km NE of Felipe Carillo Puerto (SH), Sian Ka'an reserve (RG, AL, DN), several locations within 10 km of Puerto Morelos (JL), and 14 km S of Cancun (BM).

Caribbean Elaenia (*Elaenia martinica*).—This small flycatcher is widespread throughout the Caribbean islands, including those off the Quintana Roo coast (Paynter 1955a), but it has not previously been recorded from the mainland of the peninsula. Between February 1984 and February 1985, JL mist-netted more than 30 Caribbean Elaenias in a brushy old-field 8 km S of Puerto Morelos, Quintana Roo (photo). Several individuals have been netted in similar habitat in the Sian Ka'an reserve (AL). Additional sight records on the Quintana Roo coast: Bacalar (BM), Boca Paila (RG, DN), El Meco (BM), 8 km NE of Felipe Carillo Puerto (SH), Puerto Morelos (SH), Isla Cancun (BM), 34 km W of Cancun (BM). The species has not been noted on the mainland during summer, suggesting that it may be a winter migrant that breeds on offshore islands. At the locality south of Puerto Morelos and in the Sian Ka'an reserve, the Caribbean Elaenia occurred with overwintering Least Flycatchers (*Empidonax minimus*), as well as the resident Greenish Elaenia (*Myiopagis viridicata*) and Yellow-bellied Elaenia (*Elaenia flavogaster*).

Sepia-capped Flycatcher (*Leptopogon amaurocephalus*)*.—This rain-forest flycatcher has not previously been reported from the Mexican portion of the Yucatán, although it occurs in Belize (Russell 1964). We have observed the species at two localities in southern and northern Quintana Roo: 15 km S of San José along the road to Tomas Garrido (JL), and 1 km S of Puerto Morelos (RG).

Stub-tailed Spadebill (*Platyrinchus cancrinus*).—Paynter (1955a) found this species to be common in southern Quintana Roo but did not encounter it north of Tabi in the central portion of the state. Traylor (1941) and Storer (1961) reported specimens from Campeche. We have found this spadebill to be abundant throughout Quintana Roo, north almost to Chiquilá. Numerous individuals have been mist-netted at Puerto Morelos (JL) and in the Sian Ka'an reserve (RG, AL, JL, EM, DN).

The species occurs in semi-evergreen forest and seasonally flooded low woodland.

Vermilion Flycatcher (*Pyrocephalus rubinus*).—This flycatcher, which is common in the dry coastal scrub of northern Yucatán state (Paynter 1955a) and has been taken in southern Campeche (Storer 1961), has not previously been reported from Quintana Roo. In February 1983, JL observed a male Vermilion Flycatcher in an area of dry savannah within the Sian Ka'an reserve.

Acadian Flycatcher (*Empidonax virescens*).—This Nearctic migrant overwinters from Nicaragua southward (A.O.U. 1983). Paynter (1955a) cited two earlier, questionable records for the Yucatán, neither of which was supported by specimens. In early October 1985, AL mist-netted 27 Acadian Flycatchers in the Sian Ka'an reserve. All were captured in areas of low, seasonally flooded woodland or savannah. One study skin was preserved. In March 1986, WR observed an Acadian Flycatcher and heard its song in the Sian Ka'an reserve.

Yellow-bellied Flycatcher (*Empidonax flaviventris*).—Paynter (1955a) and Storer (1961) reported specimens from southern Campeche, and Rogers et al. (1986) mist-netted two individuals in northern Yucatán. In October 1985, AL netted a Yellow-bellied Flycatcher in the Sian Ka'an reserve. The species was observed 8 km NE of Felipe Carillo Puerto, Quintana Roo, in February 1987 (SH) and at X-Can, Yucatán in February 1984 (SH).

Fork-tailed Flycatcher (*Tyrannus savana*).—Paynter (1955a) recorded this species at one site in southernmost Quintana Roo. In February 1984, AL observed an individual in an area of *Cladium* savannah in the Sian Ka'an reserve.

Veery (*Catharus fuscescens*).—This Nearctic migrant overwinters in South America, and the only previous mainland record for the peninsula is a specimen from Yucatán (Paynter 1955a). We have mist-netted Veerys during fall migration at two locations in Quintana Roo: Sian Ka'an reserve (AL) and 7 km S of Puerto Morelos (JL). The species has been observed at Coba (RG) and Cancun (BM).

Gray-cheeked Thrush (*C. minimus*).—This Nearctic migrant has previously been known from one mainland record (Campeche) and one specimen from Isla Cozumel, Quintana Roo (Paynter 1955a). We mist-netted five individuals on the mainland of northern Quintana Roo during spring and fall of 1985 and 1986: Sian Ka'an reserve (AL) and 7 km S of Puerto Morelos (AL, JL).

Swainson's Thrush (*C. ustulatus*).—This migratory species was previously known from two records in Yucatán and two in Campeche (Paynter

1955a, Storer 1961, Rogers et al. 1986). We have mist-netted eight individuals and observed several others between October and March at four localities in Quintana Roo: Coba (BM), 7 km S of Puerto Morelos (JL), Sian Ka'an reserve (RG, AL, DN), and Cancun (BM). These records lend support to Paynter's (1955a) suggestion that small numbers of Swainson's Thrushes may overwinter on the peninsula.

Golden-winged Warbler (*Vermivora chrysoptera*).—This uncommon warbler had been recorded on several offshore cays during fall migration (Paynter 1953, 1955a), but, except for an unverified 1886 report, previously was not known to overwinter on the peninsula. We have observed the species at three mainland localities. Quintana Roo: Tulum (February—AL), Puerto Morelos (October—JL); and Yucatán: Chichén Itzá (February—JL).

Orange-crowned Warbler (*V. celata*).—The only previous records of this Nearctic migrant for the peninsula are two specimens mist-netted by Parkes (1970) along the coast of Yucatán state. We have three records for Quintana Roo: Sian Ka'an reserve (AL—one mist-netted), Akumal (BM), and Isla Cancun (BM).

Nashville Warbler (*V. ruficapilla*)*.—Except for a doubtful record from Campeche (Paynter 1955a), the first records of this migratory species for the peninsula are as follows: one individual observed at close range by JL and EM on Isla Contoy, Quintana Roo, 11 February 1983; one observed by SH on Isla Perez, Campeche in October 1984.

Cap May Warbler (*Dendroica tigrina*).—This Nearctic migrant overwinters on islands in the northern Caribbean, and the only two previous mainland records for the peninsula are from northern Yucatán and southernmost Quintana Roo (Paynter 1955a). In addition to observing the species on Isla Contoy (JL, EM), Isla Cancun (BM), and Isla Holbox (SH), we have recorded it during fall and winter at several coastal localities in Quintana Roo: Bacalar (JL, EM), Mahahual (JL), Puerto Morelos (JL, EM), and Cancun (BM). At the latter locality, as many as 15 individuals have been observed in a single day. The species is also widely distributed on the islands off the coast of Campeche (SH).

Black-throated Blue Warbler (*D. caerulescens*).—Like the previous species, the main winter range of this migratory warbler comprises the larger islands of the northern Caribbean. The only Yucatán record reported by Paynter (1955a) is from Isla Cozumel. S. N. G. Howell has also observed the species on Isla Holbox, Quintana Roo, and Isla Perez, Campeche. JL has observed and mist-netted the species several times during fall and winter on the mainland in the vicinity of Puerto Morelos, Quintana Roo, where it is an uncommon, but regular, winter visitor. Other

mainland localities include the Sian Ka'an reserve, Quintana Roo (SH), and X-Can, Yucatán (SH). The species has been seen in all months between October and February.

Swainson's Warbler (*Lymnotherpis swainsonii*).—The only records cited by Paynter (1955a) for this uncommon Nearctic migrant are from two localities in southernmost Quintana Roo and one in southern Campeche. We have observed or mist-netted Swainson's Warblers on numerous occasions between October and February within a 10-km radius of Puerto Morelos, Quintana Roo (RG, JL, EM), and in or near the Sian Ka'an reserve (10 individuals mist-netted and several observed in October, January, February, and April—SH, AL). Gilberto Chavez-Leon (pers. comm.) has netted several individuals farther south, at San Felipe Bacalar, and we have observed it several times on Isla Cozumel (SH, JL, EM).

Kentucky Warbler (*Oporornis formosus*).—Paynter (1955a) encountered this Nearctic migrant only in southernmost Quintana Roo and Campeche and considered the species to be uncommon and restricted to wetter forest. Rogers et al. (1986) mist-netted two fall migrants and one winter bird in Yucatán state. Although Kentucky Warblers are more abundant in Belize and southern Quintana Roo than in the drier forest farther north, we have found the species to be widespread and reasonably common in the semi-evergreen forest of central and northern Quintana Roo, where we have mist-netted dozens of individuals. Kentucky Warblers do seem to avoid the semi-deciduous woodland of the northwestern peninsula, and we have observed the species at only one locality in the state of Yucatán. Selected localities in Quintana Roo: 18 km S of San Jose along the road to Tomas Garrido, Kohunlich ruins, 2 km N of La Unión San Felipe Bacalar, 5 km E of Limones, Señor, 22 km S of Felipe Carillo Puerto, 5 km W of Felipe Carillo Puerto, Sian Ka'an reserve, Coba, 10 km NW of Tulum, 2 km S of Playa del Carmen, Punta Celiz, 7 km S of Puerto Morelos (photo), 1 km S of Puerto Morelos, Vallarta, 4 km W of Cancun, 12 km N of Kantunilkin, Isla Cozumel; and Yucatán: 17 km E of Xcalacoop. Extreme dates are 25 August and 14 April.

Wilson's Warbler (*Wilsonia pusilla*).—Although this Nearctic migrant is common in the wet forest of southern Belize and northern Chiapas (Russell 1964, JL—pers. obs.), the only previous report for the Mexican portion of the peninsula is a sight record by W. H. Buskirk (*vide* Parkes 1970) from the northern coast of Yucatán state. On 22 January 1978, a black-capped individual of this species was seen at Cancun (BM). On 21 February 1985, a black-capped individual was observed closely 7 km S of Puerto Morelos (JL). Both localities are in NE Quintana Roo.

Golden-crowned Warbler (*Basileuterus culicivorus*).—This uncommon resident was observed by Paynter (1955a) only in southernmost Quintana

Roo, and Storer (1961) recorded one specimen from southern Campeche. We have observed it during fall and winter at scattered locations throughout Quintana Roo in areas of semi-evergreen forest: 3 km N of La Unión (JL, EM), 40 km S of San Jose along the road to Tomas Garrido (JL, EM), 28 km S of Felipe Carillo Puerto (JL, EM), Sian Ka'an reserve (RG, SH, DN), 10 km N of Felipe Carillo Puerto (JL, EM), and Vallarta (JL). Several individuals have been mist-netted at the latter locality.

Bananaquit (*Coereba flaveola*).—The species is widespread on the Caribbean islands, and is common in some parts of mainland Mexico and Central America. The only previous records for the peninsula are from offshore islands (Cozumel, Holbox, Cayo Culebra) and a single specimen collected at Isla Cancun (Paynter 1955a). We were therefore surprised to discover that the species is extremely abundant at all seasons in the coastal scrub of central Quintana Roo between Boca Paila and Punta Allen, where hundreds of individuals have been mist-netted (AL, JL—photo). Bananaquits are far less common elsewhere but have been observed or mist-netted at the following mainland localities in Quintana Roo: Tulum (JL), 7 km S of Puerto Morelos (JL), 5 km W of Puerto Morelos (JL), Cancun (BM—nesting), 34 km W of Cancun (BM). Mainland birds are referable to the white-throated race (*C. f. caboti*), which was previously considered to be endemic to the islands off the coast of Quintana Roo.

Black-throated Shrike-Tanager (*Lanio aurantius*).—This uncommon resident species has been recorded from southernmost Quintana Roo and adjacent Campeche (Paynter 1955a, Storer 1961). In the winters of 1983 and 1986 we observed single individuals of the species near Puerto Morelos, Quintana Roo (JL, EM).

Bobolink (*Dolichonyx oryzivorus*).—Paynter (1955a) reported Bobolinks from Isla Cozumel and one locality in Yucatán state. In 1987, flocks of this migratory species were observed on 23 April, 27–28 April, and 1 May along the Caribbean coast of Quintana Roo. The species has also been observed along the Quintana Roo coast during fall migration (October, November). Localities in Quintana Roo: Chunyaxche (AL), Akumal (AL), Puerto Morelos (AL), and Isla Cancun (BM).

DISCUSSION

Of the 69 species discussed here, 13 are new to the Mexican portion of the Yucatán Peninsula, 31 are state records for Quintana Roo, and 11 are state records for Yucatán. Perhaps because much of our field work has taken place in the winter months, Nearctic migrants make up a disproportionately large fraction ($36/69 = 52\%$) of the species reported.

Our observations confirm Paynter's (1955a) prediction that many of the species he observed only in the humid portions of southern Quintana

Roo and Campeche would eventually be discovered to inhabit northern areas of what he called "rain forest." Seventeen of the species discussed above exemplify this distributional pattern. Nevertheless, we suggest that use of the term "rain forest" for strongly seasonal semi-evergreen vegetation that generally receives less than 1200 mm of annual precipitation is inappropriate and obscures the fact that many species of birds that are widely distributed in true rain forest and tropical wet forest throughout Middle America do, in fact, avoid the zone of drier semi-evergreen forest in central and northern Quintana Roo (Griscom 1926a, Paynter 1955a). In addition, even those species that we have shown to occur farther north in the peninsula than was previously known tend to be more abundant in the humid forests to the south, based on the results of point counts (JL, unpubl. data). Thus, some bird species respond differently to evergreen vs semi-evergreen forest, and we should reflect these distinctions in our classification of vegetation.

We suspect that only a few species have expanded their ranges in the Yucatán Peninsula since Paynter's (1955a) survey was completed. Exceptional cases include the Black-shouldered Kite and the Black-throated Bobwhite, both open-country forms that have followed the spread of cattle ranching into Quintana Roo. Most of our other records probably reflect the greater accessibility of the peninsula to observers in recent years. There are, however, a few species (e.g., Collared Forest-Falcon, White-throated Spadebill, Kentucky Warbler) that are presently fairly common in the semi-evergreen forest of central and northern Quintana Roo, yet were not seen there by Paynter or earlier investigators.

Our data indicate that five species of land birds whose Yucatán distribution was previously thought to be restricted (or nearly so) to offshore islands actually occur regularly along the Caribbean coast of Quintana Roo. The Bananaquit and Caribbean Elaenia maintain large mainland populations, at least during fall, winter, and spring. Although there are no positive indications of breeding for either species in the area of the central coast where they are most numerous, it seems likely that both are resident on the mainland. The White-crowned Pigeon, Black-throated Blue Warbler and Cape May Warbler are not as common along the Quintana Roo coast, but nevertheless are regular winter visitants. For such species, mainland coastal scrub and adjacent low, seasonal tropical forest probably appear structurally similar to corresponding vegetation on the larger Caribbean islands. Certainly, there are well-documented floristic similarities between the coastal flora of the Yucatán coast and that in the Caribbean islands (Moreno-C. and Espejel 1986, Espejel 1987). The fact that this narrow and fragile coastal community occurs in the same zone

where touristic development is rapidly expanding in Quintana Roo should be of great concern to conservationists.

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