

## OBSERVATIONS OF PELAGIC SEABIRDS WINTERING AT SEA IN THE SOUTHEASTERN CARIBBEAN

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**ABSTRACT.**-I report observations, including several significant distributional records, of 16 species of seabirds wintering at sea in the southeastern Caribbean during cruises from Bonaire to the Orinoco River (5-13 January 1996, 3-12 March 1997, and 23 December 1997 - 1 January 1998). A few scattered shearwaters (*Calonectris diomedea* and *Puffinus lherminieri*) were seen. Storm-Petrels (*Oceanites oceanicus* and *Oceanodroma leucorhoa*), particularly the latter species, were often seen toward the east. Most tropicbirds (*Phaethon aethereus*) and gulls (*Larus atricilla*) were near Tobago. Boobies were common; *Sula leucogaster* outnumbered *S. sula* by about 4:1 and *S. dactylatra* was scarce. Frigatebirds (*Fregata magnificens*) were strictly coastal. Several skuas (*Stercorarius skua*) were seen off Venezuela. Jaegers were common, with a ratio of 90 *Stercorarius pomarinus* to 8 *S. parasiticus* to 2 *S. longicaudus*. Only two tern species were seen: *Sterna maxima* was widespread and 4,000 *S. antillarum* were noted southeast of Tobago.

**KEY WORDS.**-Charadriiformes, Netherlands Antilles, pelagic distribution, Pelecaniformes, Procellariiformes, seabirds, Caribbean Sea, Trinidad and Tobago, Venezuela

The status of pelagic seabirds wintering in the southeastern Caribbean is poorly known since birders and ornithologists seldom venture out to sea in the region. Our current knowledge of pelagic seabird distribution in the region is summarised by Bond (1985) and Raffaele (1983, 1998) for the West Indies, ffrench (1991) for Trinidad and Tobago, Meyer de Schauensee and Phelps (1978) for Venezuela, and Voous (1983) for Aruba, Bonaire and Curaçao (the southern Netherlands Antilles). Herein I report observations of pelagic seabirds wintering at sea in the southeastern Caribbean, based on observations made during three recent cruises.

### METHODS

On three occasions between 1996 and 1998 (5-13 January 1996; 3-12 March 1997; 22 December 1997 - 2 January 1998), I escorted a group of birders aboard

the educational cruise ship Yorktown Clipper between Curaçao and the Orinoco River, traversing approximately 2,000 km per trip (Table 1). Because the focus was on visiting islands as well as on cruising, many of the longer passages were traversed at night. While at sea during the day, fellow birders and I maintained a sea watch, recording sightings of bird species and their numbers.

The observers were all experienced birders with binoculars, some of which were image-stabilised. The number of observers at any given time ranged from one to 15, averaging about five. Observations were made from various points on three decks ranging from 3-15 m above sea level. An intercom system was used occasionally to alert birders to seabirds of special interest. Because we could move rapidly along or across the ship's decks, certain seabirds could be observed for prolonged periods. The weather on all trips was relatively clear, sunny and breezy, except for periodic rain showers during part of a day in the vicinity of Tobago. While at sea, the ship's crew periodically supplied me with coordinate data.

### RESULTS AND DISCUSSION

The following accounts highlight the most significant observations for 16 species of wintering seabirds identified at sea during the cruises.

**Cory's Shearwater (*Calonectris diomedea*).** -We observed three individuals during the cruises, all on the afternoon of 27 February 1997. Two individuals were observed at 10°59'N, 62°29'W, north of the Paria Peninsula of Venezuela. This observation represents the first sight record of Cory's Shearwater in Venezuelan waters (S. L. Hilty, pers. comm.). The third bird was observed at 11°11'N 61°03'W, west of Tobago and within distant sight of the island. Although previously recorded from Trinidad (ffrench 1991), this observation represents the first record for Tobago. All three individuals cruised low to the water, zigzagging to catch the wind off the waves and heading generally southeastward. The first two crossed our bow and were in view for about 1 min; the third overtook the ship from behind and stayed in our vicinity for several minutes, affording us close views, before gradually

drifting off to the southeast, toward Trinidad. All three birds were the size of a Ring-billed Gull (*Larus delawarensis*). They were uniformly smoky brown above and immaculate white below with no obvious contrast between the head and upperparts and no prominent white band at the base of the tail as in Greater Shearwater (*P. gravis*). On all three birds we saw the yellow bill, a diagnostic feature of this species. Harrison (1983) shows the range of this species to be just outside the arc of the Lesser Antilles, so it would not be unusual to find a few individuals at the extreme western edge of their normal range.

Audubon's Shearwater (*Puffinus lherminieri*). -We observed one at 11°08'N, 66°11'W, between Bonaire and Mochima National Park near Puerto la Cruz, Venezuela, on 6 January 1996. Two were noted at 11°20'N, 64°47'W, southwest of Isla Margarita, Venezuela, on 7 January 1996. And one was noted between Isla Margarita and Tobago, 10°58'N, 61°52'W, on 27 December 1997. Each bird was alone and out of sight of land. These fast-flying, dark, small seabirds never followed the ship but twice made close approaches. Although the species nests on Little Tobago Island and was eagerly sought, we failed to note it on any of our visits to Tobago, although we passed 1 km east of Little Tobago on 7 March 1997 and again on 28 December 1997.

Wilson's Storm-Petrel (*Oceanites oceanicus*). -This species was seen much less frequently than Leach's Storm-Petrel and was not noted at all west of Isla Margarita. Two individuals were closely observed at 11°20'N, 61°02'W as they pattered on the surface of the sea within sight of the northern tip of Tobago, west of Charlotteville, on 8 January 1996, and two individuals were closely observed pattering on the surface of the sea at 10°32'N, 60°48'W, east of Manzanilla, Trinidad, at dawn on 31 December 1997. The high count was 18 birds in the Columbus Channel on 4 March 1997. There are a few previous sight records from Tobago, which French (1991) regarded as hypothetical. From our experience it would seem that the Columbus Channel would be an auspicious area in which to search for both species of storm-petrels.

Leach's Storm-Petrel (*Oceanodroma leucorhoa*). -Often seen within sight of land, this species was most frequently spotted as widely separated pairs, less frequently in loose flocks of up to 12 birds, and least often as single individuals. It was most common in the Columbus Channel between Trinidad and Venezuela. The species was thinly and evenly distributed (average of 1/hr) at sea from Bonaire to Trinidad, at sea east of Trinidad, in the Columbus Channel, and in Galleon's

Passage between Trinidad and Tobago. It was absent southeast of Trinidad in an area characterized by the muddy outflow of the Orinoco River, sharply defined by colour and extending for several hundred km seaward from the Venezuela coast. In contrast to our lack of sightings, three of the four known Venezuelan specimens were taken at or very near the mouth of the Orinoco Delta, and the fourth was taken just northward, at the mouth of the Río San Juan in the Gulf of Paria (S. L. Hilty pers. comm.). During two passages (13 January 1996 and 6 March 1997) east of Manzanilla, Trinidad, and out of sight of land (roughly 10°30'N, 59°30'W), as many as 12 individuals of this species were captured by hand on the upper decks of the ship after striking the superstructure during the night (photographs obtained). The high count was 122 birds on 4 March 1997 in the Columbus Channel.

Red-billed Tropicbird (*Phaethon aethereus*). -This species was seen on every daylight passage around Little Tobago, with greatest numbers always seen in the vicinity of the nesting areas on the eastern side of the island, as on 7 March 1997 and 28 December 1997. Their numbers diminished sharply away from Little Tobago, with the southernmost observed at 11°09'N, 60°27'W, southeast of Little Tobago and due east of Scarborough, Tobago. Away from Tobago, we observed only a single individual at 11°32'N, 62°48'W, between Bonaire and the coast of Venezuela, on 7 January 1996. The high count was 43 birds, observed by a land-based group from our ship at Little Tobago on 7 March 1997.

Boobies (*Sula* spp.). -These were the most abundant birds seen at sea in the southeastern Caribbean. We saw them from first light till last, near shore as well as far from shore, with almost equal ratios of adults to immatures. On all three trips, of any 100 boobies observed, the species ratio was approximately 80 Brown Boobies (*S. leucogaster*) to 20 Red-footed Boobies (*S. sula*), with an occasional Masked Booby (*S. dactylatra*). Only on St. Giles (off northern Tobago) and Little Tobago did we see any boobies ashore. As gulls do in other oceans, boobies congregated in the air near fishing trawlers. We saw such clouds of boobies on all three cruises, and around them we generally found jaegers (*Stercorarius* spp.) as well. Boobies were common everywhere in the main Caribbean basin but were absent from the Gulf of Paria, the Columbus Channel, the open Atlantic (except in the vicinity of northern Tobago), and the Orinoco River outflow. We noted that Masked Boobies were more common in the western Caribbean and were scarce from Isla Margarita eastward. We also noted that the white morph of the Red-footed Booby was dominant from Isla Margarita westward (roughly 50:1)

whereas the brown morph was dominant farther east (roughly 10:1). High counts of all species were made on 6 January 1996, during a full day at sea between Bonaire and the coast of Venezuela: Brown Booby, 2800; Red-footed Booby, 457; and Masked Booby, 14.

Magnificent Frigatebird (*Fregata magnificens*). -We never saw this species out of sight of land. It was commonly seen near Curaçao, Bonaire, Isla Margarita, and Trinidad and Tobago but was absent from the Orinoco River outflow and the Columbus Channel. Large numbers were noted over St. Giles, where they breed (French 1991).

Great Skua (*Stercorarius skua*). -The occurrence of this species in the southern Caribbean was a surprise; although there are several sightings of unidentified skuas in the Caribbean (e.g., Raffaele et al. 1998), the only previous southern Caribbean records of this species were from Belize (Howell and Webb 1995) and two sight records (presumably of this species) near Chichiriviche, Falcon, Venezuela (S. L. Hilty pers. comm.).

On 7 January 1996, as we sailed southeastward from Bonaire toward the Venezuelan coast at 11°15'N, 62°38'W, we spotted a lone, brown, gull-like bird ahead standing atop a patch of bright yellow *Sargassum*. It remained standing as the ship passed within 15 m of it. We recognised it as a skua by the combination of its massive chest, heavy hooked bill and short tail. The rusty feathering on the head, neck, and back and the lack of a pale collar were consistent with a Great Skua rather than South Polar Skua (*C. macormicki*). The latter species is cold greyish-brown with a conspicuous pale collar. The only credible records of South Polar Skua from the region were a sighting at Icacos Point, Trinidad, on 13 July 1980 (Manolis 1981) and a specimen from Zulia, Venezuela (S. L. Hilty pers. comm.).

Several hours later, at 11°02'N, 61°54'W, we noted a flock of approximately 100 Brown Boobies resting on the sea ahead; they took to the air individually as we passed. The last seven birds of the flock were Great Skuas, flashing prominent white wing patches on both surfaces of the wings and appearing uniformly reddish-brown without a pale collar. One skua dashed at a booby in front of our bow, grasped the secondaries of the booby's left wing and bore it down to the surface, directly in our path; moments later both birds took to the air as the ship closed on them. The skua pursued the booby, which disgorged a small fish that was retrieved by the skua. Additional sightings included one at 10°56'N, 62°44'W, between Isla Margarita and Tobago, on 8 January 1996, and another seen by

Richard Coles between Isla Margarita and Tobago on 3 January 1999.

Jaegers (*Stercorarius* spp.). -Although Harrison's (1983) range maps show the Caribbean as being devoid of jaegers, one of the surprises on these cruises was the large number of jaegers seen. Adults were few, being outnumbered at least 100:1 by immatures. On our 1996 cruise, before the authoritative work by Olsen and Larsson (1997) became available, we attempted to identify immature jaegers by use of National Geographic Society (1987), Harrison (1983), Kaufman (1990) and Robbins et al. (1983). These texts illustrated only a few of the many plumages of both light and dark morphs, so we were able to identify only a handful of the immature jaegers. Our ability increased dramatically with the knowledge obtained from the superb colour illustrations in Olsen and Larsson (1997).

Jaeger sightings were far more numerous in the area roughly 10-12°N by 65-67°W, between Bonaire and Isla Margarita and south of Aves de Barlovento, Islas las Aves, Isla Blanquilla, Islas los Roques, Isla la Orchila, and Islas los Hermanos and northwest of Isla la Tortuga, than they were anywhere else in the southern Caribbean. Jaegers were frequently seen harassing boobies; the concentration of jaegers in that area might be attributed to the high number of boobies that nest and feed there. On all three trips, of any 100 jaegers observed, the species ratio (of those identified to species) was approximately 90 Pomarine Jaegers (*Stercorarius pomarinus*) to 8 Parasitic Jaegers (*Stercorarius parasiticus*) to 2 or fewer Long-tailed Jaegers (*Stercorarius longicaudus*).

The Pomarine Jaeger was by far the most numerous species observed, usually seen harassing boobies or resting on the surface of the sea with flocks of boobies. They were usually solitary, although we could frequently spot other jaegers in the far distance. Individuals of this species sometimes rode the aerial bow wave of the ship or followed closely behind, offering excellent opportunities for close comparison with illustrations in Olsen and Larsson (1997). Besides the large numbers seen between Bonaire and Isla Margarita, as many as 20 Pomarine Jaegers per cruise were observed in the Columbus Channel. This species was observed in all seas around Trinidad and Tobago except for the Orinoco River outflow. On 13 January 1996, we observed several individuals of this species chasing Laughing Gulls (*Larus atricilla*) in the vicinity of Soldado Rock (off southwestern Trinidad) and later observed an adult light-morph Pomarine Jaeger resting in the Gulf of Paria within 1 km of Port of Spain, Trinidad. Our high count was 525 birds on 10 March

1997, during an all-day passage between Isla Margarita and Bonaire.

Although less common than the previous species, the Parasitic Jaeger's distribution was similar to that of the Pomarine Jaeger. We observed it on all three cruises, often in the company of Pomarine Jaegers and often within sight of land. For example, while moored at Pampatar, Isla Margarita, we observed four Parasitic Jaegers harassing Brown Boobies (*Sula leucogaster*) within the harbour on 26 December 1997. Parasitic Jaegers were observed sparingly around Trinidad and Tobago (three to four seen during each circumnavigation) and were more common on the Caribbean side than on the Atlantic side. Unlike the Pomarine Jaegers, this species did not follow the ship. Two were observed in the Columbus Channel on 4 March 1997. The high count was 52 birds on 10 March 1997, during a passage between Isla Margarita and Bonaire.

The Long-tailed Jaeger was the least common species of jaeger on all three cruises. Although we saw only one adult, the unique, buoyant flight style of this species enabled us to identify it at any distance. All sightings were during passages between Bonaire and Isla Margarita, with none seen anywhere near Trinidad and Tobago. This species followed the ship closely, flying lightly like a small gull. No more than one was seen during a day.

Laughing Gull (*Larus atricilla*). -This was the only species of gull observed from the ship during the three cruises. Except for our observations of the species around Trinidad and Tobago, our only sightings were of apparently migrating single birds far out at sea between Isla Margarita and Tobago. Apparently this species prefers the larger islands and is only incidentally pelagic. Having witnessed the clouds of Laughing Gulls that accompany fishing fleets elsewhere, we found it interesting to note their absence from such fleets at sea between Bonaire and Tobago. The high count was 85 birds on 8 January 1996 at 11°21'N, 60°33'W, within sight of northwestern Tobago.

Terns. -At least nine species of terns nest in the southern Caribbean: Large-billed Tern (*Phaetusa simplex*), Roseate Tern (*Sterna dougallii*), Bridled Tern (*S. anaethetus*), Sooty Tern (*S. fuscata*), Least Tern (*S. antillarum*), Royal Tern (*S. maxima*), Sandwich Tern (*S. sandvicensis*), Brown Noddy (*Anous stolidus*), and Black Noddy (*A. tenuirostris*). However, the only species we observed in the Caribbean proper on any of the cruises was Royal Tern. We observed this species widely throughout the

region, including the Orinoco River outflow and the open Atlantic. Usually seen singly, it was most numerous at 11°10'N 60°55'W, within sight of land off southwestern Tobago, where our high count was 120 on 27 December 1997. Although Bridled and Sooty Terns and Brown Noddy should have been present on Little Tobago and other islands during our March visit, none was seen from our ship.

We observed Least Terns only once. On 31 December 1997, our ship emerged from the Orinoco River and was heading northwestward toward the Columbus Channel. Between 1100-1200 hr, we overtook and gradually passed a single-species flock of Least Terns that stretched from 9°28'N, 60°35'W to 9°36'N, 60°42'W. The birds were flying just above the surface of the Orinoco River's brown water in a band about 50 m wide. We observed no feeding, only an orderly array of terns in flight. We counted the birds and, after we had left the flock behind, we came to the consensus that it had consisted of about 4,000 individuals. We searched unsuccessfully for other tern species, including Yellow-billed Terns (*S. superciliaris*), in the flock. Such a large aggregation appears unprecedented.

Landbird species. -On each trip a few presumably migrating landbirds either accompanied the ship or landed aboard it. These incidents were common during passages between Bonaire and Tobago and less common elsewhere. Species included Merlin (*Falco columbarius*), Gray-breasted Martin (*Progne chalybea*), Southern Rough-winged Swallow (*Stelgidopteryx ruficollis*), and Barn Swallow (*Hirundo rustica*).

Conclusions.-The unprecedented numbers of various seabird species observed during these cruises, including a few species significant distributional records, reveal that much remains to be learned regarding the pelagic distribution of seabirds in the southeastern Caribbean. As seabird nesting colonies become increasingly threatened by human activities, quantitative studies of seabird distribution should be conducted to further assess the status of each species in the region.

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TABLE 1. Itineraries of three cruises aboard the Yorktown Clipper, 1996-1998.

Date and Localities visited

01/05/96 moored at Willemstad, Curaçao; departed for Bonaire at 1200  
 01/06/96 arrived at Kralendijk, Bonaire, N.A.; departed for Mochima National Park, Venezuela, at 1300  
 01/07/96 arrived at Mochima National Park at 1400; departed for Tobago at 1900  
 01/08/96 cruised from Mochima National Park to Tobago  
 01/09/96 arrived at Scarborough, Tobago, at 0700; departed for the Orinoco River at 1800  
 01/10/96 cruised to the Orinoco River; arrived at Curiapo, Venezuela, at 1400; departed for Ciudad Guayana, Venezuela, at 1900  
 01/11/96 arrived at Ciudad Guayana, Venezuela; departed for El Toro tributary, Venezuela, at 2100  
 01/12/96 arrived at El Toro tributary, Venezuela, at 0600; departed for Trinidad at 1100  
 01/13/96 arrived at Port of Spain, Trinidad, at 1200  
 03/03/97 moored at Port of Spain, Trinidad; departed for the Orinoco River at 2000  
 03/04/97 cruised through the Columbus Channel to the Orinoco River  
 03/05/97 arrived at Río Arature anchorage at 1330  
 03/06/97 explored the Orinoco River; departed for Tobago at 1030  
 03/07/97 cruised to Tobago; arrived at Charlotteville, Tobago, at 1000; departed for Isla Margarita at 1200  
 03/08/97 cruised from Tobago to Isla Margarita; arrived at Pampatar, Isla Margarita, at 1900  
 03/09/97 moored at Pampatar, Isla Margarita; departed for Bonaire at 1000  
 03/10/97 cruised from Isla Margarita to Bonaire  
 03/11/97 arrived at Kralendijk, Bonaire, at 0600; departed for Curaçao at 1200  
 03/12/97 arrived at Willemstad, Curaçao, at 0600  
 12/23/97 moored at Willemstad, Curaçao; departed for Bonaire at 2300  
 12/24/97 arrive at Kralendijk, Bonaire, at 0600; departed for Isla Margarita at 1800  
 12/25/97 cruised from Bonaire to Isla Margarita  
 12/26/97 arrived at Pampatar, Isla Margarita, at 0530; departed for Tobago at 1000  
 12/27/97 cruised from Isla Margarita to Tobago; arrive at Charlotteville, Tobago, at 8:00pm  
 12/28/97 moored at Charlotteville, Tobago; departed for the Orinoco River at 1300

12/29/97 arrived at Río Arature anchorage, Venezuela, at 1400; departed for El Toro, Venezuela, at 1900  
 12/30/97 moored at El Toro tributary and later at Caño Paloma, Venezuela; departed for Trinidad at 2300  
 12/31/97 cruised from the Orinoco River to Trinidad  
 01/01/98 arrived at Port of Spain, Trinidad, at 0900