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Puerto Rico—Stopover for Migrating Roseate Terns

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ABSTRACT

In this paper we report observations of banded Roseate Terns (Sterna dougallii) seen and photographed in Puerto Rico. The birds were from northern breeding colonies in the United States and are the first reports of this species at a stopping place on their spring and fall migrations.

INTRODUCTION

Western Atlantic Roseate Terns (*Sterna dougallii*) breed in colonies in Nova Scotia, Canada (NS), northeastern US (NE), Florida Keys (FK), Puerto Rico (PR) and the Virgin Islands (VI). Over 80% nest in colonies in Massachusetts (MA), New York (NY) and Connecticut (CT) (Nisbet and Spendelow 1999). Recoveries, mostly of dead birds (Hays et al. 2002) show an October/November movement of Roseate Terns to the north coast of South America (Hamilton 1981; Nisbet 1984). Roseate Terns have been netted on the coast of Bahia, Brazil, December through March (Hays et al. 1997, 1999). No recoveries have been made that give us a good idea of the timing and routes taken by migrant Roseate Terns.

Here we report the first records of birds from northern breeding colonies sighted in PR during their spring and fall migration periods.

METHODS

In 1988, Jeffrey Spendelow initiated a metapopulation study of Roseate Terns, working with cooperators in the NE (Nisbet and Spendelow 1999). Banders in these colonies gave each Roseate a Bird Banding Laboratory (BBL) numbered metal band in combination with three color bands to give the birds individual four-band combinations (Spendelow et al. 1994). Combinations of this sort had been put on adult and young Roseate Terns on Great Gull Island (GGI), NY, since 1968 (Hays 1970) and were continued there as part of the metapopulation study.

Since 1991, birds in the NE study colonies were given a BBL metal band on one leg and a metal “field readable” (FR) band on the other (Spendelow et al. 2008). The BBL bands used in MA and CT measured 5.7 mm in height and the FR band, 7 mm. Cooperators on GGI added a color band over each metal band on young from 1991 through 2003 and on adults through 2007. After 2003 and 2007, no color bands were used on Roseate Terns on GGI. BBL bands of different materials and height have been used on GGI since the first Roseate Terns were banded there: aluminum band, 1966 - 1982, height, 6.52 mm; Incoloy band, 1983-1988, height 5.7 mm. Swedish steel band, 1989 to present, height 7.23 mm.

In 1991, cooperators in PR and VI banded adult and young Roseate Terns with three colored plastic bands in different combinations with the BBL band. These combinations were not renewed and FR bands were never used in the Caribbean (Pierce and Saliva, pers. comm.). In 2009, young Roseate Terns were not banded in PR (Saliva, pers. comm.) or in the VI (Pierce, pers. comm.).

From 1994 to 2003, Spendelow individually color banded Roseate Terns on Falkners Island, CT (41° 13'N, 72°39'W), using six band combinations consisting of the BBL Incoloy metal band on one leg with two plastic bands over it, and the FR metal band on the other with two plastic bands over it. Since 2004 he has used six band combinations on Roseates in MA (Spendelow, pers comm.).

Numbers of Roseate Terns nesting in NS have fluctuated from a high of 145 pairs in 1999 to a low of 72 pairs in 2009. Since 1996, most have nested on two islands: Country Island (45°6' N, 61°32' W) and North Brother (43°38'N, 65°49' W). Cooperators have banded on Country Island from 1996 through 2009 and on North Brother from 2002 through 2009. Most young in most years on both islands were given a BBL Incoloy band on one leg and a FR band on the other. Color bands were added for adults in some years. In 1996, Whittam and Leonard (1999) banded adult Roseate Terns on Country Island with a BBL Incoloy band on one leg, a FR band on the other, and one color band on each leg over the metal band. These combinations were not renewed. In 2003 and 2004 on Country Island, transmitters were attached to some of the adult BBL Incoloy bands and a FR band was placed on the opposite leg. In addition, each bird was given a colored plastic band (Boyne pers. comm.). Heights of BBL and FR bands were the same as those used in MA and CT.

Since 2001, Ricardo Zambrano has banded Roseate Terns at two sites in the FK: Marathon (24°43'N, 81°5'W) and the Dry Tortugas (24°37'N, 82°52'W). Through 2009, he banded 27 adults: 2003 (10), 2004 (10), 2005 (7), and a total of 836 chicks, placing a BBL band on one leg and a FR band on the other. He did not use color bands and his BBL aluminum bands measured 6 mm in height.

On 10, 12 and 22 May 2008, Gabriel Lugo spot checked the north coast of Puerto Rico in the area near the lighthouse in Arecibo Harbor (18°29'N, 66°42'W), photographing Roseate Terns (10 May 08:00-10:30 EDT, 12 May 08:27-10:15, 22 May 09:33-10:33). On 19 May, between 11:57 and

13:27, he checked the coast in the municipality of Barceloneta (18° 29' N, 66° 32'W) about 15 km east of Arecibo Harbor.

In early September 2009, Lugo photographed and observed adult and young Roseate Terns on the north coast of PR at three different localities: on 1 and 8 Sep, near the mouth of the Grande de Manati River (18° 28'N 66°32'W) from 15:08 to 15:50 and 07:34 to 07:56, respectively; on 5 Sep at the mouth of the Cibuco River near Vega Baja (18°29'N, 66°22'W) from 14:06 to 14:45 as well as Isla de Roque (18°29'N, 66°33'W) from 18:00 to 19:00. On 20 Sep, Sergio Colon, a local observer, reported to Lugo an adult Roseate Tern at the mouth of the Camuy River (18°29'N, 66°50'W).

Lugo used a pair of Nikon 10x45 binoculars to check for banded birds in the groups of terns he found on the beaches in Puerto Rico. He used a SONY Alpha 100 digital camera with a 75-300 mm lens and was able to get within 3-15 m of most birds. He relied on his photographs in reporting numbers on FR bands as well as any color codes he saw. Sean Sime, a professional photographer, provided a pixel count for the bands worn by the young Roseate Terns in Lugo's photograph taken 1 Sep 2009.

RESULTS

On 10 May 2008, Lugo found five to eight Roseate Terns with all black bills at Arecibo Harbor. These individuals were easily distinguished from the majority of the birds, which had varying amounts of red at the base of their bills. Several of the black-billed birds, but none with red on their bills, wore both a BBL band on one leg and a FR metal band on the other. Two of these birds were individually identifiable from FR codes clearly readable in Lugo's photographs. Both birds had been originally banded on GGI. The first was banded as a chick 26 Jun 2001 and given FR 61L5. Spendelow added color bands when he trapped it as a six-year-old on a nest 25 Jun 2007 at Bird Island, MA, (41°40'N, 72°43'W). The color code, clearly visible in Lugo's photograph was complete and matched the combination Spendelow had given FR 61L5. The

second bird, wearing FR 22D2, was banded as a chick on GGI 20 Jun 2004.

On 12 May 2008, Lugo returned to Arecibo and saw at least five black-billed Roseate Terns, but neither 61L5 nor 22D2 was in the group. On subsequent checks in Barceloneta on 19 May and Arecibo Harbor on 22 May, he saw only birds with red-based bills.

On 1 Sep 2009, Lugo photographed two different young Roseate Terns each interacting with an adult near Barceloneta. The pictures were clear enough to show each young wore BBL and FR bands, one with the FR on the left, and the other with FR on the right. The FR codes could not be read in the photographs; however, in the picture of the bird wearing the FR band on the left leg, the BBL band is heavy and about the same height or a little taller than the FR band. The pixel count for the FR band in this picture was 10 and for the BBL band nine. In the picture of the young wearing the FR band on the right leg the BBL band is also heavy and looks about the same height as the FR band, but it is hard to see it clearly because the leg is bent and partially obscured by the right leg. Pixel counts for these bands: FR band 10, BBL band 8. The young retained juvenal wing coverts and their backs were gray. On 5 Sep, Lugo found an adult Roseate Tern at the mouth of the Cibuco River wearing a red plastic band above the BBL band on the left leg. The color of the plastic band over the FR band on the right was not identifiable. At Camuy on 20 Sep, the adult Roseate Tern reported to Lugo by S. Colon wore a BBL and FR band.

DISCUSSION

By mid-May, most Roseate Terns breeding in FK (Zambrano, pers. comm.) and the Caribbean (Benjamin and Joanne Trimble, pers. comm., Shealer and Saliva 1992) have developed at least some red at the base of their bills. In contrast, NE Atlantic Roseate Terns arrive in their nesting colonies with completely black bills in early May. Traces of red, often hard to see, only begin to appear on their bills in early June (Donaldson 1968,

Cooper et al. 1970, Cormons 1976). The timing of acquisition of the red in the Florida and Caribbean birds differentiate them as a group from the more northern nesters.

The two Roseate Terns with bands photographed by Lugo in PR in May 2008 were originally banded on GGI. Other double-banded, black-billed Roseate Terns Lugo photographed, based on the color of their bills, are probably also from northern colonies. Lugo saw no black-billed birds after 12 May.

To determine the colony of origin for the September birds, we have considered the following. Only a few Roseate Terns from Europe have been netted on the east coast of South America (Hays et al. 1999). We therefore think it unlikely the birds photographed in Puerto Rico came from an eastern Atlantic colony.

We think it probably was the color banded adult seen at the mouth of the Cibuco River came from a northern colony, since color combinations had not been used in PR or the VI since 1991 and were not renewed. Zambrano did not use color bands in FK. For possible colonies of origin for the young in Lugo's September photograph, we ruled out PR and VI, as no young were banded in either in 2009. Zambrano, after looking at Lugo's photographs, commented that the BBL bands worn by the birds in the pictures seemed to be taller than the ones he used in FK, but he could not be sure. Because the picture of the bird with a FR on the right leg is less clear, we treat only the young with a FR on the left to determine colony of origin. For this bird, the BBL band looks heavy, a characteristic of both aluminum and steel bands, relative to FR bands; however, it appears to be the same height or a little taller than the FR band. The pixel count suggests the bands are about the same height. The aluminum bands used by Zambrano would be shorter than the FR band, thus ruling out the FK colonies and leaving one or more of the colonies in the NE and NS as sources for this bird, colonies where heights of BBL bands used in 2009 on young vary and include some, like the steel bands used on GGI, that are about the same size as the FR.

Hays and Cormons estimate the age of the young photographed by Lugo in September to be between 11 and 12 weeks, based on their work with known-age birds during the post-breeding period (Hays and Cormons, unpubl.). This estimate would make the likely hatching date for these birds between 10 and 16 Jun, the time of early hatches in northern colonies.

Lugo's pictures from May and September raise many questions and underline the need for more observations. What is the potential importance of the north coast of PR as a stopover place for Roseate Terns on their migrations? Do Lugo's observations suggest that more surveys in the area could yield many more banded birds seen, or do they merely represent a regular but light scattering of birds that typically stop on the coast of PR during migration? What is the range in timing of the flight between PR and the NE in spring and fall? When the 1 Sep pictures were taken, many adults and young Roseate Terns were still feeding near their nesting colonies in the NE during their post breeding dispersal period. Yet, at least one 11-12 week-old juvenile and an adult had apparently completed the 2600 km flight to PR. It is critical to continue to monitor the coast of PR as well as to look for other areas in the Caribbean where Roseate Terns may be found during their migratory periods. The more that is known about this fragile and endangered species the greater is the likelihood that additional protection can be provided.

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Observations on a Six-year Nesting History of a Female Eastern Phoebe

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ABSTRACT

A female Eastern Phoebe (Sayornis phoebe) which I banded 5 Jul 1996, band number 2090-31005, at Jenny Lake near Corinth, NY, was observed to use the same nesting ledge for six consecutive years, 1996-2001. During that time she produced seven clutches totaling 33 eggs (double clutch/brood in 1998) resulting in 28 banded nestlings. When last captured in 2001, she was at least seven years old.

Her identity was confirmed each year by reading her band after hand capturing or mist netting her at the nest. In three of those years (1998, 1999 and 2001), I succeeded in mist netting and banding her mate, each one a different bird. None of her banded mates or offspring was ever recaptured.

In 2002 a new female used the nest site, while none used it in 2003 and 2004. In 2005 it was used by yet another female, a bird then at least six years old, previously banded nearby as an adult in 2000. The nest site has been vacant in 2006-2010.

INTRODUCTION

I have operated since 1970 a feeding/banding station at Jenny Lake, 7 km west of Corinth, Saratoga County, NY, at coordinates 431-0735. The lake is at 377 m (1236 ft) elevation, and the

banding area adjoining the lake is at about 387 m (1270 ft) elevation at a summer camp in a forest clearing surrounded by primarily mature white pine (*Pinus strobus*), eastern hemlock (*Tsuga canadensis*), maple (*Acer spp.*) and oak (*Quercus spp.*). The area is atop the Kayaderosseras Range, a range of Adirondack foothills in the southeast corner of the Adirondack State Park.

About 70 m (230 ft) from my banding operation is situated a community house, used by members of a local campers' association for meetings and activities. The beams and ledges under the roof inside the three-sided open porch of this community house have served at various times in the past as nesting sites for Eastern Phoebes (*Sayornis phoebe*), American Robins (*Turdus migratorius*) and Barn Swallows (*Hirundo rustica*). Here I describe the use of a nesting ledge by a female Eastern Phoebe for six consecutive years, 1996-2001, and summarize some of the climatic conditions faced by these nesting phoebes when they first arrived on this breeding territory.

METHODS

Birds of numerous species were captured for banding near three sunflower seed feeders and a water drip in the clearing near the camp using four 12-m and one 6-m mist nets. Occasionally, as in the case of this phoebe, birds other than seed eaters were mist netted and banded near these feeders.