

First Specimen of Arctic Tern (*Sterna paradisaea*) for South Carolina

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Introduction

Arctic Tern, considered hypothetical in South Carolina by Post and Gauthreaux (1989), was placed on the provisional list of South Carolina birds in 2004 based on a written description by Steve Patterson (Worthington et al. 2004), and moved to the definitive list based on video taken by Jack Peachey in 2004 of a bird off Murrells Inlet (Slyce et al. 2005). Here we report on the third documented record and the first specimen for South Carolina, salvaged in May 2009.

Results

On 22 May 2009, in the course of a survey for nesting sea turtles, the second author (Marshall) found, brought home, and photographed a dead medium-sized tern from Debidue Beach, Georgetown Co., SC. The tern looked fresh and had not been there the day before. After photographing the bird, Marshall discarded the carcass. However, upon consulting field guides, he tentatively identified the bird as an Arctic Tern and contacted the third author (Allen), who suggested he retrieve the bird and freeze it, which he did. Marshall later transferred the tern to Allen, who alerted the first author (Hill) and offered him the tern, at this point tentatively identified as a Common/Arctic type, for the teaching collection at Coastal Carolina University. Allen eventually transferred the tern to Hill, who was able to confirm that the bird was an Arctic Tern. Hill then transferred the tern to the Charleston Museum, where it was preserved as a standard skin with detached left wing, Charleston Museum #2010.018. The bird was a male, with no molt. Its flat wing measured 26.4 cm and its wingspan 74.5 cm. Even allowing for slight loss of mass while frozen, the bird was emaciated, with no detectable fat and a mass of 80 g (cf. range of masses of 78 breeding males in New Brunswick 97–124 g, average 111 ± 6.6 g; Hatch 2002).

Photographs taken at the time of recovery showed a short, blood-red bill, long outer rectrices with gray on the outer webs, and gray underparts, all characteristic of Arctic Terns. Distinction from the much more common Common Tern (*Sterna hirundo*) was confirmed by measurement of the short legs. Tarsi shorter than 17.0 mm conclusively separate Arctic from Common Terns (Hatch 2002); the right tarsus on this bird measured 14.0 mm.



Figure 1. Two photographs of the Arctic Tern after it was salvaged from Debidue Beach, SC. Photos by T. Marshall.

Discussion

Arctic Terns breed no closer to the recovery site than Massachusetts (1200 km northeast). During both spring and fall migrations birds seen from the coast at the latitude of the Carolinas may be largely windblown, stray or sick birds (Hatch 2002).

At Cape Hatteras, North Carolina, which extends well to the east, observations from offshore boats and occasionally from shore have established that Arctic Terns are rare but regular in spring migration, mostly in the last third of May. Seasonal totals range from single digits in some years to mid-double digits for other springs (Brinkley 1994; Davis 2003, 2004, 2005a, b, 2007; Southern 2009), with the variation likely due to weather patterns. Even in the ocean off Cape Hatteras, the species is much rarer (if present at all) in fall migration, when birds from the Americas likely migrate through the eastern Atlantic Ocean (Hatch 2002). Fall sight records are also clouded by formidable identification issues.

To the south of South Carolina, in Georgia and Florida, Arctic Tern is considered an accidental or casual spring migrant offshore, but with many more records than for South Carolina (Stevenson and Anderson 1994; Beaton et al. 2003). There are specimen records from both states, and the species is accidental on shore in Georgia, with several sight records from the coast and one specimen record from inland (Beaton et al. 2003).

The date of recovery of the present specimen is consistent with patterns established in surrounding states.

On the same date that this bird was recovered, observers in South Carolina and southern North Carolina observed dozens of Leach's (*Oceanodroma leucorhoa*) and Wilson's Storm-Petrels (*Oceanites oceanicus*) from shore, including many inside inlets and several dead individuals at the surf line (CEH, unpublished obs.; Ritch Lilly and John Fussell, pers. comm.). The appearance of the tern thus probably coincides with a rare occurrence of either weather or food patterns that pushed pelagic birds into shore along the SC bight. Indeed, weather buoy station 41004, approximately 95 km south of the beach where the tern was recovered, recorded seven days of Easterly winds in late May 2009. Sustained strong (15m/s) winds from the northeast began in the early hours of May 18, shifting to due east at 10–11 m/s by 21 May, and continuing from the southeast at 7 m/s through 24 May, finally dropping to speeds < 5 m/s on 25 May. (Data from the National Oceanic and Atmospheric Administration's National Data Buoy Center, <http://www.ndbc.noaa.gov/>, accessed 5 Jan 2010; 1m/sec=2.2 mph).

Arctic Terns have been reported more frequently in recent years from South Carolina waters, including the video by Peachey mentioned above and sight reports by Nathan Dias et al.; (Davis 2004, 2005a), but as field identification of medium-sized terns at sea remains challenging, further documentation of reports is desirable for the state to better establish patterns of occurrence.

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