Records of tropicbirds in the North Atlantic and upper Gulf of Mexico, with comments on field identification

A review of the occurrence of Red-billed Tropicbirds suggests that "some sight records of White-tailed Tropicbirds may be suspect"

David S. Lee, David B. Wingate, and Herbert W. Kale II

Despite its seemingly accidental occurrence, recent records of the Red-billed Tropicbird, *Phaethon aethereus,* in the North Atlantic suggest that it may occur more frequently than is generally believed.

On October 9, 1975, an individual was found sick on a beach near Jacksonville, Florida. On May 16, 1979, Lee collected two specimens *ca.* 40 miles east of Oregon Inlet, Dare County, North Carolina, and on September 1, 1979, a sick Red-billed Tropicbird was found beached near Stuart, Martin County, Florida. These birds represent the third through sixth documented records of the species for eastern North America. Additionally a photo record at the North Carolina State Museum of Natural History (hereafter, N.C.S.M.) is available for May 1981.

Details on these occurrences are presented below. Such evidence of Red-billed Tropicbirds in this region suggests that some of the sight records for White-tailed Tropicbirds, *Phaethon lepturus,* may be suspect. There is little value in questioning earlier identifications, but we take this opportunity to briefly review the nature of tropicbird records from eastern North America, including the upper Gulf of Mexico, and to discuss the more obvious field identification problems.

Although numerous reports of tropicbirds, chiefly of White-taileds, are available from the western North Atlantic and Gulf of Mexico, few are supported by specimens or photographs. Until recently (see Peterson 1980) the White-tailed Tropicbird was the only tropicbird recognized in popular field guides as occurring in this area. This had the effect of leading observers to the belief that there was no reason to question tropicbird sight identifications and of limiting the information necessary for them to quickly make species specific identifications in the field. Considering also that most of the distinguishing field characters are on the dorsal surface, whereas flying tropicbirds are normally seen only from below, the likelihood that some previous records were misidentified becomes even greater.

Red-billed Tropicbirds are pantropical and range in the Pacific to southern California between Long Beach and Catalina Island, near San Clemente Island, off San Diego (A.O.U. Check-list 1957). In the North Atlantic they are known to breed only as far north as the Virgin Islands but are reliably reported ranging north to the Bahamas, at least to Latitude 23°N, in the nonbreeding season. White-tailed Tropicbirds nest throughout the Caribbean and Bahamas as well as on Bermuda at Latitude 32°N and are reliably documented as ranging north in the western Atlantic to North Carolina near the coast and even farther north in the Gulf Stream, or east of it, with records of accidentals as far north as Nova Scotia.

Peters and Burleigh (1951) and the A. O. U. Check-list (1957) recorded Red-billed Tropicbirds from the Newfoundland banks based on P. E. Freke's assertion that he "noticed" this bird there in August 1876. Palmer (1962) found this record unsatisfactory, and Godfrey (1966) considered the bird's occurrence in Canada hypothetical. The first specimen record of the Red-billed Tropicbird for continental eastern North America was of an immature female (A.M.N.H. 776556) found dead June 10, 1963 on the shore of Bergen Beach, Jamaica Bay, Kings County, New York (Bull 1964). Bull noted that this bird was probably driven to Long Island by a tropical disturbance of June 4 that originated south of the Bahamas two days previously. On July 3, 1973 a moribund Red-billed Tropicbird was recovered from a tenth floor window ledge in Providence, Rhode Island (Finch 1973) and the specimen is now at the Museum of Comparative Zoology, Harvard University. Three records exist for Florida. The first is a sight record by J. Johnson on July 9, 1964, 31 miles off Cape Canaveral (Stevenson 1964).

The first Florida specimen record and third for the eastern United States, was of a sick bird found by Ron Davin at Ponte Vedra Beach, St. Johns County, south of Jacksonville Beach, October 9, 1975. The bird, an adult female, was held captive by Mrs. Vere Brumbaugh, Jacksonville, until it died January 30, 1976. The specimen is in the collection of the Florida State Museum (F.S.M. 19291). It had no apparent molt and weighed 496 grams; primaries and tail feathers were badly frayed and worn from two months' captivity. Measurements: right wing chord 250 mm, left chord 270 mm, culmen 64.2 mm, tarsus 26.3 mm. The second Florida specimen and sixth for the eastern United States, was of a bird found moribund on the beach a meter or so south of the St. Lucie-Martin County line on September 1, 1979—just ahead of hurricane *David,* which passed through the area on September 3—by a Mrs. Patterson, who transported it to Ms. Jean Henry, Martin County Audubon Wildlife Hospital. It died there several days

later. One tail streamer, 130-150 mm long, broke off and was lost during captivity. The specimen, a female, is at the University of South Florida (G. E. Woolfenden 5223). Measurements: wing chord 295 mm, culmen 59 mm, tarsus 28.8 mm, ovary 11 x 2 mm. The emaciated bird contained no fat and weighed 350 grams. The skin and body skeleton were saved. Mallophaga present were Ishonecra: *Saemundssonia phaetona*.

The two North Carolina birds collected May 16, 1979 both approached the charter boat "Gal-O-Mine" in direct line flights at approximately 35-40 feet above the surface of the sea, then hovered as if to land on the boat's observation tower. The first bird, observed at 0945, was an immature female (N.C.S.M. 7183) with the following data: weight 607.8 grams, gonads 2 x 8 mm, total length 480 mm, wingspan 1033 mm, wing chord 317 mm, tail 130 mm, tarsus 33 mm, body temperature 38.5°C. The primaries looked worn and the innermost ones were new, just beginning to emerge from the sheaths. Thus, although the bird was obviously sub-adult, based on its yellow bill and lack of "streamers", the molt and condition of feathers indicated it was past its first year. The second specimen, collected at 1005, was an adult female with a red bill and full streamer (N.C.S.M. 7182) with these data: weight 624.9 grams, gonads 2 x 10 mm, total length 905 mm, wingspan 1033 mm, wing chord 317 mm, tail 539 mm, tarsus 35 mm, body temperature 40.0°C. No molt was observed, but the central tail feather was still partly ensheathed. George Watson of the United States National Museum, examined both specimens and concluded that they were *Phaethon aethereus mesonauta*, the race that breeds in tropical parts of the North and mid-Atlantic.

Two large flying fish (Exocoetidae; probably *Cypselurus*), along with partial remains of other unidentified fishes, were removed from the stomach of the immature bird. The stomach of the second bird contained no recognizable food items because it apparently regurgitated during collecting.

The following external parasites were identified: Mallophaga Amblycera: *Austromenopan* (probably *beckii* see Timmermann 1954) and Acarina: Allotidae *Laminalloptes phaetontis*. *Phaethon aethereus* is known to host at least two other species which were not recovered from the North Carolina specimens. Two cestodes (*Tetrabothrins* sp.) were found in the intestines. *Tetrabothrins magellanicus* has been reported for the Red-tailed Tropicbird, *P. rubricaudus*, in the Indian Ocean (Deblock 1966). Mercury concentrations (ppn wet weight) were .66 and .78 in the muscle and .75 and .59 in the kidney, respectively, for the adult and immature birds. Mercury was not present in the liver. This species apparently does not regulate mercury ingested with its food. The kidneys of birds properly regulating mercury levels should have concentrations much higher than the muscle. Investigations of other seabirds generally show higher metal concentrations in older birds (Whaling *et al.* 1980).

A PHOTOGRAPH RECORD of an adult Red-billed Tropicbird was obtained by Wayne Irving (N.C.S.M.) May 6, 1981. The single bird flew around the headboat "Captain Stacey" in the Gulf Stream off Morehead City, North Carolina. Beyond the continental shelf, *P. aethereus* has now also been recorded from Bermuda at 32°18'N, 64°45'W. An earlier sight record from Bermuda (Verrill 1901) has been rejected (by us) as unreliable on the basis of many proven errors in A. Hyatt Verrill's Bermuda identifications. On June 8, 1968, Wingate obtained and prepared as a specimen an immature female *P. aethereus* that had beached on Elbow Beach, Paget Parish, Bermuda, in starving condition with an eye injured or diseased (ova minute, no weight taken). A possible second Bermuda record was seen by Wingate September 11, 1979 in the wake of hurricane *David*. The bird appeared very large with a slow wingbeat and barred upper plumage, but as it lacked elongated tail feathers, the possibility of confusion with an immature *P. lepturus* recently departed from a nest cannot be discounted. This is especially true because the bird was sighted inside Castle Harbour, where a vagrant tropicbird would not normally be expected to occur.

The "normal" season of occurrence of *P. lepturus* in North America is difficult to assess owing to the occurrence of numerous storm-driven birds and the possibility of confusion with *P. aethereus* which partly mask extreme dates of occurrence. We think it probable, however, that the early June to mid-September dates reported by Lee and Booth (1979) may be typical for all areas except south Texas and Florida. It appears that the majority of coastal *P. lepturus* records from north of the Carolinas are of true vagrant and/or storm-driven individuals. From North Carolina south, the bird's status would probably best be described as expected but uncommon. Lack of systematic offshore surveys throughout much of the area, however, make this statement somewhat speculative.

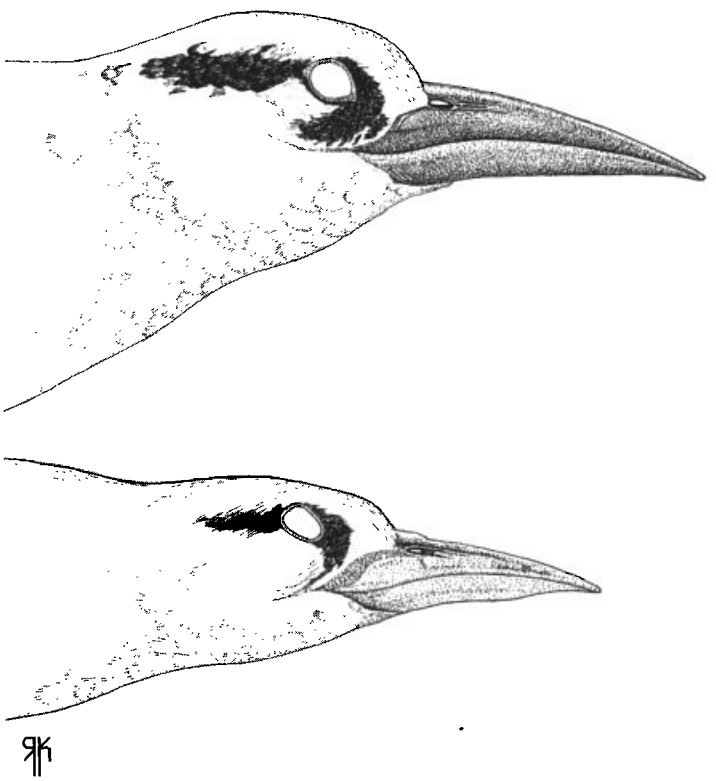

Figure 1. Phaethon aethereus *adult (N.C.S.M. 7182) upper and* lepturus *adult (N.C.S.M. 6828).*

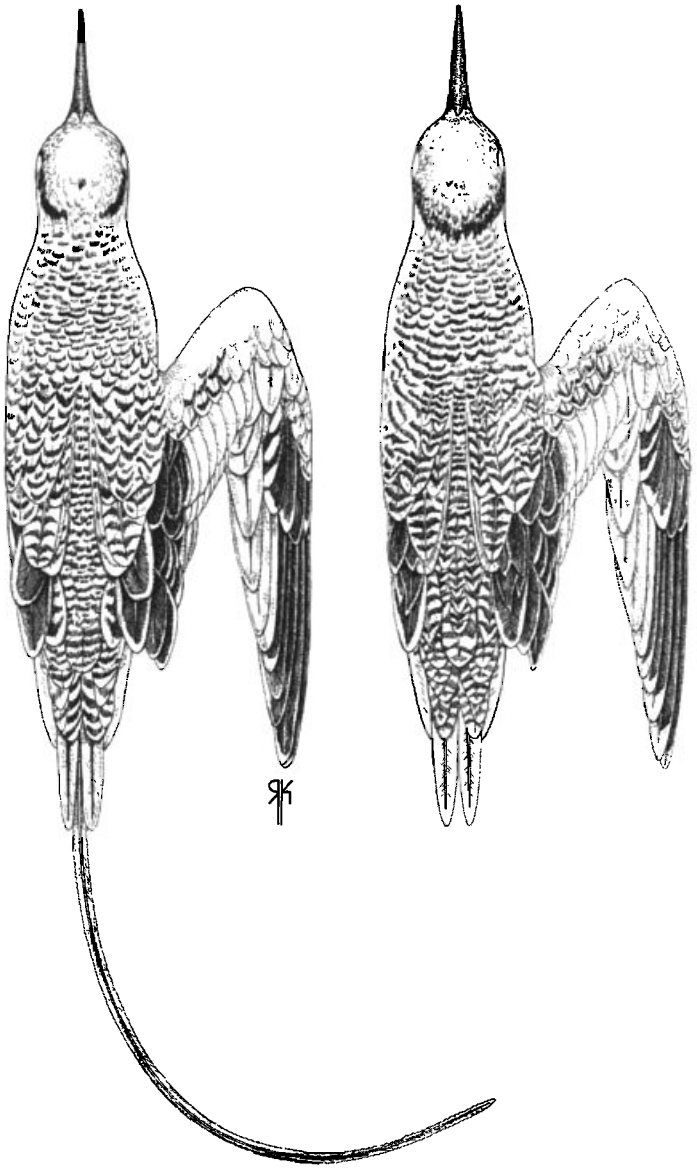

Figure 2. *From left to right: adult and immature* Phaethon aethereus.

Adult tropicbirds can readily be recognized even at some distance by their "streamered" tails. At distances where their tails are not evident, or in the case of immature birds, their long, pointed wings, bill, and tail are suggestive of a large tern in flight. The tropicbird's rapid, steady, deep wingbeat, however, should separate it from any gulls or terns expected in North American waters. Tropicbirds normally occur singly except near their breeding grounds. Our experiences, and first-hand reports from charter boat captains, show that the birds frequently follow boats and seem to be attracted to those with high rigging, over which they hover as if to land. Because of their light ventral surface and their high (30-200 feet), direct flight, individuals are often not seen until they are relatively close to the boat. They are more likely to be heard before they are seen.

THE LARGER SIZE, slightly broader wings, and slower wingbeat of *P. aethereus* make it comparable to a Royal Tern in flight. In contrast, the smaller *P. lepturus* has narrower wings and faster wingbeat (slightly faster than a Common Tern). Bill color is unreliable as a field mark because of extreme individual and age variation, and because it is difficult to see accurately when being viewed from a rolling boat. Immatures of both species have yellowish bills that change gradually to red in *P. aethereus*, and to orange or orange-red in breeding *P. lepturus*. Differences in plumage pattern are useful only at close range and also are difficult to see because they involve the dorsal surface (Figs. 1-2). Nevertheless, under good light conditions the wings have a translucent quality, thus the black tertials and secondary coverts of *P. lepturus* can be seen from below as very dark shadows. The barring of the dorsal plumage of *P. aethereus* at all stages, is much finer and denser than that of immature *P. lepturus*, which is coarse and sometimes widespaced. The dorsal aspect of immature *P. lepturus* should therefore appear distinctly barred at any distance, whereas *P. aethereus* may appear to be a uniform pale gray when viewed from afar. The presence of barring on any tropicbird with elongated central tail feathers automatically confirms its identity as *P. aethereus*, because adult *P. lepturus* are never barred.

An illustration of the difficulty involved in separating the two species is seen by the single *Phaethon* "specimen" record reported as *P. lepturus* by Pearson *et al.* (1942) for North Carolina. According to the description of the bird, found dead on the beach on July 5, 1939, it "was in immature plumage, as the back was fully barred with wavy, black lines. The long, central tail feathers worn by the adults also were absent." The original record card in the museum files said it was an adult. In view of the information discussed above, we must question the validity of this identification since the description could refer to either species. A photograph reportedly taken of the specimen, and the salvaged skull, apparently no longer exist. Most eastern North America sight records do not contain any descriptions other than the presence of long central tail feathers. We hope that future bird students will attempt to identify and report field characters.

Lee (1979) suggested that the inner edge of the Gulf Stream and the edge of the continental shelf in the Hatteras-Oregon Inlet area of North Carolina provide an area of regular seabird concentrations, at least during warmer months. The regular occurrence here of "unexpected" birds indicates that many of them are not simply vagrants. Diversity and modest densities have been documented, with over a third of the known pelagic fauna "discovered" in the last several years (Lee and Booth 1979, Lee and Rowlett 1979). Lee and Platania (1979) have since discovered probable sightings of five additional

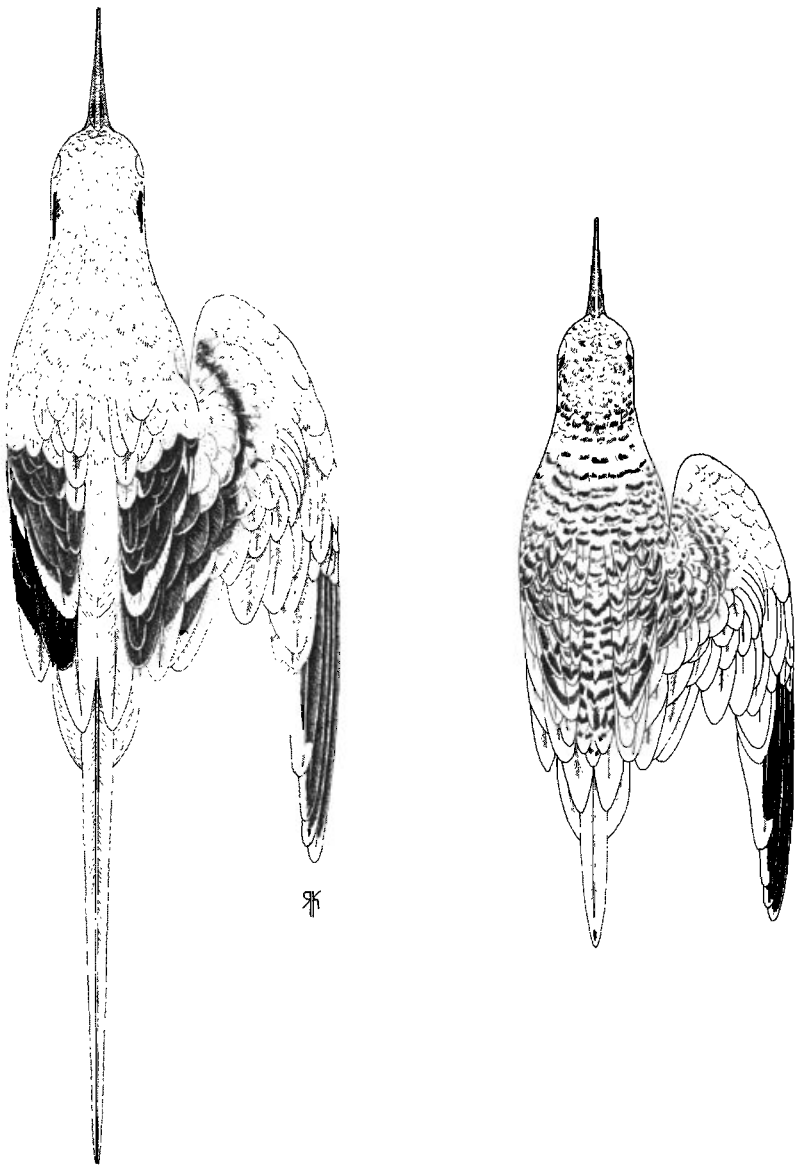

Figure 3. *Adult and immature* P. lepturus.

species. Because of these findings, it would be premature to assume that occurrences such as those reported here for the Red-billed Tropicbird represent nothing more than vagrants. Other coastal areas of eastern North America have not been as intensively surveyed, so the absence of records of various pelagics there has less meaning at this time.

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North Carolina State Museum, P.O. Box 27647, Raleigh, North Carolina 27611 (Lee), *Department of Agriculture and Fisheries, P.O. Box 834, Hamilton, 5, Bermuda* (Wingate), *Florida Audubon Society, 35 1st Court S.W., Vero Beach, Florida 32960* (Kale).