Documentation
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Arctic Tern
(Sterna paradisaea)

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On July 17, 1980, ourselves and Ray Wlodarski observed an adult Arctic Tern (Sterna paradisaea) on the dredge disposal area adjacent to the pier in Huron, Erie County, Ohio. We observed this bird for nearly 50 minutes at distances as close as 53 feet. During most of this period, the bird was sitting on a mudflat among a large flock of common terns (S. hirundo), Forster's terns (S. forsteri), black terns (Chlidonias niger), Caspian terns (Hydroprogne caspia), herring gulls (Larus argentatus) and ring-billed gulls (L. delawarensis). However, it was also observed in flight around the disposal basin for approximately five minutes. This article provides a detailed written description of this bird and is accompanied by recognizable photographs taken by Don Tumblin. It concludes with a discussion on identification of breeding plumaged Arctic terns.

In direct comparison with the other terns, the Arctic was noticeably larger than black terns but slightly smaller than common or Forster's. While lengths of Arctic, common and Forster's terns were similar, the Arctic did not appear to be as heavy as the other two species.

The bill appeared to be changing into its non-breeding colors. While its base color was a uniform deep red, the entire bill was becoming black. It lacked a distinct black tip. A prominent feature was the short, slim bill. It was noticeably smaller than those of common and Forster's terns, being closer in size and shape to the black tern's bill.

When standing, the uniformly dark red-colored legs were noticeably shorter than the common and Forster's terns. My impression was that the tarsi were between one-half and two-thirds the length of a common tern. When walking, these short legs caused the Arctic tern to waddle much more than the other two species.

Its plumage was essentially that of a breeding adult. The cap and nape were solid black, with the cap extending exactly to the eye. The cheek coloration varied with the lighting conditions. At times, the bird appeared to have only a narrow white line below the cap while the remainder of the cheek was a very light gray. Under other lighting conditions, up to three quarters of the cheek appeared to be whitish with the remainder light gray. The throat and upper breast were light gray, blending into a darker pearly gray on the lower breast and belly. The upper back was also light gray, shading into a darker gray on the lower back and wing coverts. The back colors of all three species were similar. The rump was pure white. The tail appeared to be entirely white although the outer edge could not be clearly seen. At rest, the wings appeared to extend to the tip of the tail.

In flight, the upper wing coverts and most of the flight feathers were uniformly medium gray. Only the outer 1-2 primaries were grayish-black. The underwing surface was much whiter than the other two species, especially under the primaries where large translucent patches were quite noticeable and extended to the outermost primaries. Most of the primaries had narrow black tips, creating a black trailing edge to the underside of the wings. When feeding, the bird was observed capturing fish by swooping down to the surface rather than diving to capture prey.

Artic Tern (center) at Huron harbor July 17, 1980 taken by Don Tumblin.

When identifying Arctic terns, an observer is confronted with misleading discussions in the popular field guides which tend to emphasize the wrong characteristics. While bill color, tarsi length, wing vs. tail length and plumage characteristics described in these books are true for Arctic terns, they may be found on other terns as well. These field marks should be closely observed on any suspected Arctic tern. However, singly or collectively, they do not provide an adequate basis for the identification of this species for the reasons discussed below.

In perfect breeding plumage, bill color of an Arctic tern is uniformly blood red while the common tern is orangish-red with a black tip. In the fall, bill color of these species is notoriously variable. At this time, Arctic terns may have black-tipped bills while commons frequently have all red bills (Finch, et al., 1978). In addition, common tern bills frequently become deep red as they start to turn black for the winter.

Arctic terns have shorter tarsi than commons, with no overlap between the two species (Godfrey, 1966). However, apparent tarsal lengths can be quite deceptive and depend upon how the bird is standing and how the belly feathers are arranged (Stallcup, 1976). Common terns frequently appear to be "short-legged", at least until they stand up and rearrange their belly feathers.

When standing, the wings of an Arctic tern should be the same length as or shorter than the tail while then wings of a common tern should be longer than the tail. These relative lengths will vary with the stage of molt (whether or not a bird is molting may be quite difficult to determine in the field). They are not valid for birds actively molting wing and tail feathers. In addition, the position of the bird with respect to the observer is critical for an accurate determination of this characteristic. A bird must be in full profile (perfectly perpendicular to the observer's line of sight) to correctly determine these relative lengths.

Apparent plumage characteristics can be greatly affected by lighting conditions. Back-lighting or subtle shadows created by the bird's movements will frequently cause the underparts and cheeks of a common tern to appear gray with a narrow white line under the cap (i.e. similar to breeding Arctics). Another important fact is that contrary to the field guides, the breast and belly of common terns are light gray, not white, and the differences in underpart coloration between the two species is not nearly as distinct as is illustrated in these books. Hence, these plumage characteristics should be used with caution.

Fortunately, there are several characteristics which separate Arctic from common terns. These characteristics require the bird be seen perched and in flight. Whenever possible, all should be used for the positive identification of breeding plumaged adult Arctic terns.

Arctic terns normally have shorter bills. According to Godfrey (1966), male Arctic's bills average 31.5 mm while commons average 37.1 mm. However, there is a slight range of overlap between the two species. Typical differences in bill size are shown in the accompanying photos and photos in American Birds 30: 43. Another important difference is the bill shape; Arctics have noticeably slimmer bills, particularly at the base.

A second distinguishing characteristic is tail coloration. Arctics have all white tails while commons have grayish outer edges to their white tails (Stallcup, 1976). However, edges of a tail can be quite difficult to see, especially when the bird is perched, and this field mark may not be too useful.

The most distinctive characteristics are the wing patterns in flight. From above, Arctics are much grayer, only the outer 1-2 primaries are a darker grayish-black. Commons have much more extensive dark coloration on the primaries; the outer four primaries are dark grayish-black from the base to the tip. These outer primaries create the appearance of a dark "wedge" on the outer wing. Differences in upper wing patterns are adequately shown in Robbins, et al., 1966.

From below, the primaries of the Arctic tern allow light to pass through and appear to be translucent while the common tern has opaque primaries (Finch, et al., 1978). Hence, the undersides of the primaries appear to be bright white on the Arctic and dull whiteish-gray on the common. This difference is quite distinct under all lighting conditions. In addition, the outer eight primaries are narrowly tipped with black on the Arctic tern, creating the impression of a dark trailing edge. The common tern lacks a dark trailing edge. Its primaries are more broadly tipped with black and the outermost primary is entirely black. These differences are clearly shown in Finch, et al. (1978).

In flight, the two species have different silhouettes. These differences will be obvious only to those observers experienced with both species. The Arctic tern has a smaller, more rounded head and a thicker neck. The projection of the rump and tail behind the wings are nearly twice the projection of the neck, head and bill in front of the wings in the Arctic tern. For the common tern, these projections are nearly equal (Finch, et al., 1978). To adequately assess these differences, the bird should be viewed from a straight profile only (Stallcup, 1976).

In summary, identification of breeding plumaged Arctic terns should not be taken lightly since common terns frequently superficially resemble Arctic terns. Any suspected Arctic tern must be viewed in flight and perched. All of the above field marks should be closely scrutinized and assessed with regards to lighting conditions. When taken as a whole, these field marks will build a case for the positive identification of this species.

Literature Cited

Finch, D.W., W.C. Russell and E.V. Thompson. 1978. Pelagic birds in the Gulf of Maine. Am. Birds 32: 281-294.

Godfrey, W.E. 1966. The birds of Canada. National Museum of Canada Bulletin No. 203. pp. 189-191.

Robbins, C.S. B. Bruun and H.S. Zim. 1966. Birds of North America. Golden Press, New York. pp. 142-143.

Stallcup, R.W. 1976. Pelagic birds of Monterey Bay, California. Western Birds 7: 113-136.

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