



Little, Least and Saunders's Terns

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Though both the BOU (1971) and *BWP* (Cramp 1985) treat Least Tern *Sterna antillarum* as a subspecies of Little Tern *S. albifrons*, the AOU (1983) and *British Birds* (86: 2) recognise it as a full species. The accompanying photographs provide an interesting comparison of two very similar species in their various plumages, which is particularly appropriate since a small tern showing characters of *S. antillarum* appeared at Rye Harbour, East Sussex, during the breeding season in each of the years from 1983 to 1992. What was probably the same bird was also seen at West Wittering, East Sussex, and at Colne Point, Essex, in 1991 (Yates & Taffs 1990; Clifton 1992).

Other races of Little Tern occur in West Africa (*guineae*), and in east Asia to Australasia (*sinensis*). Five subspecies of Least Tern have been described, but recent research (Thompson *et al.* 1992) suggests that the status of at least three of them—those found in the USA—warrants reassessment.

BWP treats Little and Least Terns as forming a superspecies with the very similar Saunders's Tern *S. saundersi* of the Red Sea, the South American Peruvian Tern *S. lorata*, Yellow-billed Tern *S. superciliaris*, and the Antipodean Fairy Tern *S. nereis*. Perhaps Damara Tern *S. balaenarum* of southwest Africa, though the most distinct of this group, should also be included within the superspecies. Although both the specific status of Saunders's Tern and its status as a Western Palearctic species are somewhat uncertain, it is of considerable interest to include photographs of Saunders's Tern for comparison along with those of Little and Least Tern.

This invited 'transatlantic' article has been written especially to commemorate the twenty-fifth anniversary this month of the American Birding Association. We greatly value our contacts with the ABA, whose interests in so many ways parallel our own, and offer them our warmest congratulations on this milestone in their history. EDS

Distribution

The race *albifrons* of Little Tern breeds from western Europe eastward to Russia, hardly extending beyond *BWP*'s chosen boundaries for the Western Palearctic, migrating south to winter coastally around most of Africa. Least Tern breeds in the USA, Mexico, the Bahamas, and the Caribbean, wintering south to northern South America. Most one-year-old Least stay on the wintering ground in their first summer, but a few are seen within the breeding range at least as far north as California and Virginia.

Saunders's Tern breeds from the Red Sea and Somalia east to Pakistan, and winters southeast to Sri Lanka, the Laccadive and Maldive Islands and the Malay peninsula (Sibley & Monroe 1990) and perhaps south to East Africa. The uncertainty in the non-breeding distribution is a consequence of the difficulty of separating *S. albifrons* from *S. saundersi* in non-breeding plumage.

Plumages and moults

LITTLE TERN

Its small size, prominent white forehead, black crown and nape, and rather long black-tipped yellow bill make the summer adult Little Tern very distinctive. In flight, it is pale grey above, though the wings are whiter at the base of the primaries and on the secondaries, and the rump is also white. The white tail is strongly forked, but lacks the longer outer-tail streamers of Common *S. hirundo* and Arctic Terns *S. paradisaea*. Two (occasionally one or three) outer primaries are very dark grey-black above, the outermost with a pale shaft, though this is often difficult to see in the field, particularly on a perched bird.

The primary-moult sequence, which is common to all races of *S. albifrons*, and to *S. antillarum* and *S. saundersi*, explains why the outer primaries are so dark. Adult-summer birds commence primary moult with the innermost primary (p1*) in late June; this moult is suspended during migration, and is continued in the winter quarters, usually being completed by December. (Populations of Least Tern breeding in the southern United States, the Caribbean and Mexico begin primary moult in late May, and complete it in October.) While the first cycle is in progress, a second primary-moult cycle commences at p1 in October, continuing only until April, by which time seven to nine of the inner primaries have been replaced. A third cycle commences (again with p1) in February, which ceases at p2/p4, rarely at p1 or p5, again in April. Thus, at the beginning of the breeding seasons both *S. albifrons* and *S. antillarum* generally have the outer two primaries, and *S. saundersi* generally the outer three, remaining from the first cycle. These feathers at this time are five to seven months old, and because of wear are very dark, while the inner seven to nine primaries are fresher and much paler. By the end of the breeding season, the outer primaries (p9 and p10) are black and the middle ones dark, reducing the contrast. This flight pattern is lost altogether in the winter quarters once the first cycle of primary moult is

* In this paper, primaries are numbered descendently, following *BWP*.

complete and the outer primaries have been replaced. The second and third moult cycles remain incomplete; the primary moult starts anew with p1 in late June.

In late June, simultaneously with the commencement of the first wave of primary moult, most individuals begin to lose their black crown, the white forehead becoming more extensive at the expense of the black. Most Little Terns migrate at this stage, with a partially white crown, the black being finally lost in the winter quarters, when it is reduced to a band around the back of the head. In winter, all three species have a grey rump and tail, the same shade as the mantle; only the outer rectrices are white.

There are corresponding seasonal changes in the bare-part colours: the yellow on the bill of the breeding adult becomes blackish, being all dark by the end of September, and black by winter. From late February, the yellow reappears at the bill base, and at the same time the black crown feathers reappear. Legs and feet are bright yellow to reddish-orange in the breeding season, becoming duller, greyish or brownish, usually with some yellow, out of the breeding season.

Juveniles, too, are readily identifiable by their small size, even smaller than the adults that are usually in attendance. The crown is pale buff, fading to white, with black streaks, and there is a darker area through the eye, extending to the nape. The back is pale buff-grey, while the mantle, scapulars and tertials are white, with prominent dark brown subterminal U-shaped marks. In flight, the wings show more pattern than those of the summer adult, with dark grey lesser coverts and outer primaries providing a dark leading edge to the full length of the wing. The primaries are progressively darker from p1 to p10, unlike those of summer adults, whose outer two primaries are very much darker than the remainder. The rest of the wing is pale buffish-grey, the white-tipped secondaries and inner primaries making the wing paler towards its rear edge. The rump and tail are light grey. The smaller size of the juvenile is particularly noticeable in flight, a consequence of the blunter, more rounded wing-tips and the less deeply forked, darker-tipped tail.

Juveniles have blackish bills with paler cutting edges, and their legs and feet are variably greyish-pink to yellowish-brown.

The post-juvenile moult typically commences in August, birds replacing their darkish mantle, scapular, head and tertial feathers in approximately that sequence, so that by October they are in first-winter plumage, and are much whiter above, superficially like adult-winter birds. The dark-tipped tail feathers and dark juvenile lesser coverts are retained, however, the latter usually showing as a carpal bar on perched individuals, and giving them a very similar flight pattern to that of the juvenile. First-summer normally show the adult-winter head pattern, but a few have markings intermediate between adult winter and adult summer. In most cases, first-summer show some yellow on the bill, yellowish legs, and some black on the crown. The juvenile primaries have all been replaced by April or May, but a second cycle has begun in late winter. In early summer, they may show obvious primary moult, with missing feathers between the pale new inner primaries and the darker outer primaries. The carpal bar is retained until the second winter, and is

then replaced; second-winters may thus be separated from first-winters by the combination of carpal bar and fresh, pale inner primaries contrasting with worn, dark outer primaries.

Table 1. Average measurements (mm) of Little *Sterna a. albifrons*, Least *S. antillarum* and Saunders's Little Terns *S. saundersi*

Average wing length for Least given by Thompson *et al.* (1992) was 167 mm
Data from Cramp (1985)

Feature	Little		Least	Saunders's
	ADULT	JUVENILE	ADULT	ADULT
Wing	178	170	163	166
Bill	29.4	—	28.0	28.0
Tail-fork	38.6	15.1	40.7	28.6
Tarsus	16.7	—	15.3	—

LEAST TERN

Though marginally smaller, with a proportionately deeper tail-fork (table 1), adult summer *S. antillarum* is very similar to adult summer *S. albifrons*. The head patterns appear to be almost identical, and the primary-moult sequences are similar, so that both show the same basic wing pattern, with dark outer primaries prominent in flight. *S. antillarum*, however, has a grey rump and a grey tail, both the same colour as the mantle and differing from *S. albifrons*, which has a wholly white or very pale grey rump and tail. When fanned, the tail of Least Tern is seen to have largely white outer feathers. (It should be noted, though, that the other races of *S. albifrons*, together with *S. saundersi*, can have grey rumps and grey tail-centres.) The timing of the moult to winter plumage is more advanced than in Little Tern, with the head and body feathers often replaced by September and the last primaries new in October (Thompson & Slack 1983).

Juveniles of both *S. albifrons* and *S. antillarum* are quite similar, but *S. antillarum* is far more contrasty, with a broader, blacker carpal bar extending around the bend of the wing, always conspicuous on a standing individual. As with Little Tern, the head pattern can be quite variable, although, apart from light streaking, the crown is generally pale, and the black on the head is usually restricted to the area from in front of the eye to around the back of the head, sometimes extending down the nape in a V. The bill is frequently entirely black.

In plumages other than adult summer and juvenile, Little and Least Terns are apparently alike.

Calls

Massey (1976) discussed in detail the calls of Little and Least Terns. The calls are important since the considerable vocal divergence between the two is one of the main reasons for regarding them as separate species. The most frequent call given by either species in the breeding season is the 'basic' or 'advertising' call. With Little Tern, this is a difficult call to transliterate, perhaps best described (*BWP*) as a harsh, grating, repeated 'kyik', while with Least Tern it



18. Juvenile Little



19. Juvenile Least



20. First-winter Least



21. Second-winter Least



22. Adult summer Little
24. Below, adult summer Least



23. Adult summer Little
25. Below, adult Least in August





26. Adult summer Saunders's



27. Second-winter Saunders's



28. Adult summer Little



29. Adult summer Saunders's

18. Juvenile Little Tern *Sterna albifrons*, Kent, August 1987 (R. J. Chandler). This individual is starting to acquire a few plain, pale-grey, first-winter lower scapulars

19. Juvenile Least Tern *Sterna antillarum*, Texas, USA, August 1992 (R. J. Chandler). Note that the black of the head pattern is more restricted than on Little Tern *S. albifrons*, and that the carpal bar is blacker and more extensive

20. First-winter Least Tern *Sterna antillarum*, Texas, USA, August 1992 (R. J. Chandler). Has acquired plain, grey, first-winter mantle and scapulars and has lost much of the light crown-streaking, but still retains the juvenile wing feathers

21. Second-winter Least Tern *Sterna antillarum*, Florida, September 1988 (R. J. Chandler). All feathering new except for outer primaries, which are still being replaced

22. Adult summer Little Tern *Sterna albifrons*, Spain, June 1993 (Tim Loseby/Windrush Photos)

23. Adult summer Little Tern *Sterna albifrons*, Kent, August 1987 (R. J. Chandler). Crown starting to moult, and bill darkening

24. Adult summer Least Tern *Sterna antillarum*, California, USA, April 1992 (R. J. Chandler)

25. Adult Least Tern *Sterna antillarum* in moult to winter plumage, Texas, USA, August 1992 (R. J. Chandler). Crown gaining some white, and bill turning black; note that whitish shafts to outer primaries, which are eight or nine months old (and are not diagnostic), are visible for once

26. Adult summer Saunders's Tern *Sterna saundersi* at nest, Oman, May 1991 (Hanne & Jens Eriksen). Three black outer primaries, 'square' white forehead and olive-yellow legs are together diagnostic of Saunders's Tern

27. Second-winter Saunders's Tern *Sterna saundersi*, Oman, September 1993 (Hanne & Jens Eriksen). Note dark bill and legs, darker feathers on forewing, five dark outer primaries (adult would have three), and head pattern close to that of summer adult

28. Adult summer Little Tern *Sterna albifrons* in flight, Norfolk, May 1992 (David Tipling/Windrush Photos). Note blackish outer two primaries, grey central primaries and pale grey inner primaries of the three moult cycles

29. Adult summer Saunders's Tern *Sterna saundersi* in flight, Abu Dhabi, UAE, May 1993 (Simon Aspinall). Note black outer three primaries, not two as on Little Tern *S. albifrons*



is a louder, more strident, higher-pitched, paired 'kee-zink, kee-zink' or 'puedeck puedeck'; this call led to the Rye Harbour bird being nicknamed 'Squacaker' (Yates & Taffs 1990).

Saunders's Tern

The differences between Little and Saunders's Terns are minor, and apparently restricted to breeding birds and their habitat, which is exclusively marine for *S. saundersi*. Typical *S. saundersi* in adult-summer plumage differs from *S. albifrons* in its smaller size and paler mantle and wings, contrasting more strongly with the darker outer primaries, of which there are normally three, not two, the result of arrested moult at p7 rather than p8. The outer primaries, including their shafts, are pure black. There is less white on the forehead and above the eye, making the white forehead patch appear square. The darker grey of the rump, concolorous with the mantle, extends to the central tail feathers. The legs are olive, dark reddish-brown or pinkish-brown, with yellow, when present, often limited to the rear of the tarsus and the soles of the feet. Measurements (table 1) suggest that the tail is less deeply forked than that of *S. albifrons*.

It is clear, however, that *S. saundersi* may be quite variable, and that many, if not most, of the features supposedly distinguishing it from *S. albifrons* intergrade with characters of that species. Even on classic *saundersi*, the black primary shafts can rarely be discerned in the field, and the distinctive leg colour is often hidden in the bird's own shadow (Bundy *et al.* 1989).

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