

WHITE-FRONTED TERNS IN SOUTH AUSTRALIA AND NOTES ON THE IDENTIFICATION OF SIMILAR TERNS

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SUMMARY

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Further occurrences of the White-fronted Tern *Sterna striata* in South Australia are detailed. They indicate that the species is an occasional rather than accidental visitor, which may be confused with three similar-looking species, the Roseate, Arctic and Common Terns. Diagnostic features of each species are discussed and described.

INTRODUCTION

The White-fronted Tern *Sterna striata* breeds during the southern summer in New Zealand and on offshore islands, the Auckland Islands and the Chatham Islands (Falla *et al.* 1966). After the breeding season, many birds migrate to south-eastern Australia. While some stragglers might occur throughout the year, most return to their breeding grounds across the Tasman Sea in the spring (Hindwood 1946). Banding recoveries have shown that both adults and immatures take part in this migration (Serventy *et al.* 1971 : 216). The numbers of birds reaching Australia fluctuate from year to year; and winter storms may sometimes cause heavy mortality (McKean 1960). Most birds occur along the coasts of New South Wales and Victoria, and only strays occur as far north as Queensland and as far west as South Australia (Serventy *et al.* 1971 : 216).

Condon (1969 : 54) wrote that White-fronted Terns are "probably accidental" in South Australia, and he listed three records of beach derelicts: Encounter Bay, September 1929 (preserved as a skeleton in the South Australian Museum); Sellicks Beach, August 1935 (skin, S.A.M. B17930); Outer Harbor, September 1956 (a skin in the S.A.M. is probably referable to this record, but it has no collection data on the label or in the register book). Additionally, a later record was published (Glover 1969 : 80) of the remains of a bird found on the Coorong Beach during May 1968 (S.A.M. B28521). I know of no other reliable reports of this species in South Australia.

RECENT OBSERVATIONS

Single White-fronted Terns were seen by myself at Parson's Head (southern Fleurieu Peninsula), on 8 August and 29 August 1971. David Close and myself saw three near the Pages Islands, situated about 15 km N-E of Cape Willoughby, Kangaroo Island, on 14 May

1974, and at least another three at sea S of Cape Gantheaume, Kangaroo Island, on 26 and 27 August 1976.

The first bird seen at Parson's Head was an immature that was watched for about 40 minutes through 10x binoculars at ranges down to 20 m from the shore. It was feeding in a small cove, making repeated dives into the surf of breaking waves, and often becoming completely submerged apart from its wing-tips. In size it was obviously smaller than nearby Crested Terns *Sterna bergii*, and also differed from them by having a much whiter plumage and a black bill.

Description: Bill long, thin and wholly black. Forehead white to above eye, behind which the feathering formed a neat black cap. Lores white apart from a small black patch in front of the eye. Back and upperwings pale grey with leading edge of wing, from body to wrist, darker. Scapulars heavily mottled and barred dark brown. Outer primaries darker. Tips of inside tail feathers darker than rest of tail. Remainder of plumage white.

The second bird seen at Parson's Head was an adult. This was seen for about five minutes at ranges down to 20-30 m. It was also watched diving into very turbulent water close to shore.

Description: Long, thin and wholly black bill. Small white forehead patch not reaching to the crown. White lores apart from black smudge before eye. Mantle and upperwings very pale grey. Primaries pale grey except the outermost which had a thin black edging. Rest of plumage brilliant white.

Although the white of the forehead was restricted in extent, it was not clearly demarcated from the black cap. Thus the bird was probably not in full nuptial plumage.

The three birds seen near the Pages Islands consisted of one adult and two immatures. They were watched for about 30 minutes, sometimes to within 10 m, from the fishing vessel "Tape-roo" as they fed with many gulls and Crested Terns over a massive school of fish about 500 m away from the islands. The White-fronted Terns were continually diving into the rough sea from about 10-15 m above the surface. They were easily recognised from the other terns by their smaller size and black bills. Descriptions of all three were written in the field:

1. Adult. Very pale grey back and upperwings. No dark areas or tips to the primaries apart from the outer edge of the outermost feather, which was blackish. Forehead white to crown.

Lores white. Black from just before the eye and from the crown back to the nape. Rest of plumage white. Outer tail streamers very long. Bill wholly black.

2. Immature. As adult but tail streamers shorter, back and scapulars heavily mottled and barred dark brown. Outer primaries slightly darker.

3. Immature. As other immature, but viewed from above the outer primaries darker, leading edge of wing darker; and mottling and barring of back was very heavy, and extended over most of the upperwing coverts towards the wrists.

It was not possible to assess accurately the number of White-fronted Terns seen south of Cape Gantheaume, as single birds were repeatedly seen during the two days over about 15 km of sea. On 27 August three together were identified as White-fronted Terns, and later another pair which included one adult in full nuptial plumage. The three consisted of two adults, one in winter plumage and the other possibly in nuptial plumage, and one immature. Thus it was probable that more than three individuals were seen, the frequency of the sightings of single adults suggesting this. All these birds were seen from the fishing vessel "Taperoo" about 12-15 km S-E of, to 12-15 km S-W of, Cape Gantheaume. The first sighting occurred when the boat was drifting in calm seas with many albatrosses and petrels around it, being fed on shark liver. The tern flew amongst the other birds and appeared to dive after the remaining morsels of offal, repeatedly coming within 10 m of the boat and staying for about 10 minutes.

Description: Adult. Back and upperwings very pale grey with edge of outer primary blackish. Black cap with a small white forehead patch reaching midway between bill and crown. Bill long and black. Outer tail streamers very long.

Sightings of further single birds during the same day and the next were all of birds in similar plumage, and therefore possibly of the same individual. The immature seen with two adults appeared the same, except that it had slightly darker shoulders, heavily barred scapulars and shorter tail streamers. The adult in nuptial plumage was seen once very close to the boat, and was probably seen more distantly on two other occasions. It resembled the other adults seen, and had similar very long and white outer tail streamers, but when seen very closely, the black cap was seen to be complete apart from a thin, clearly demarcated white band extending across the forehead next to the black bill.

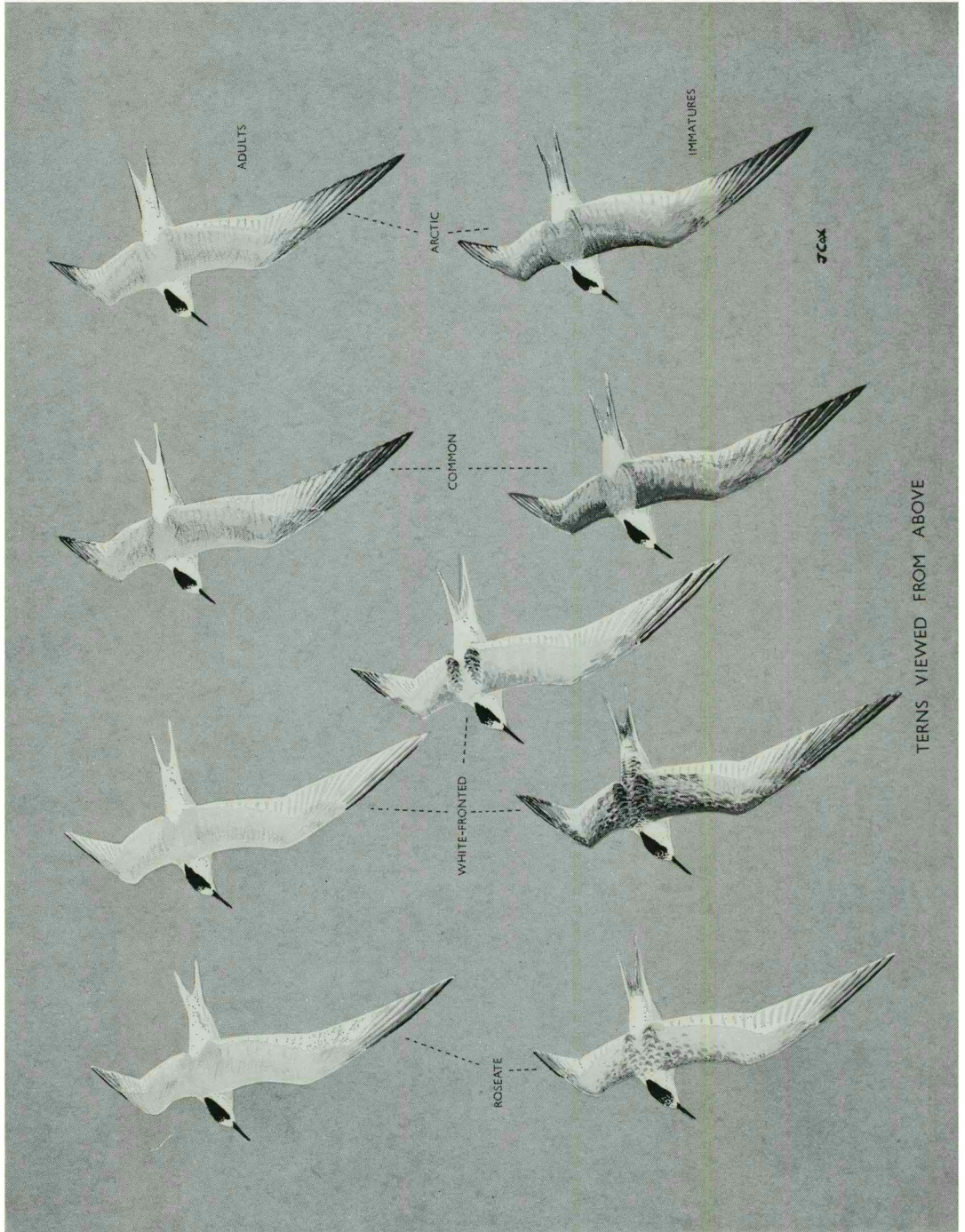
IDENTIFICATION

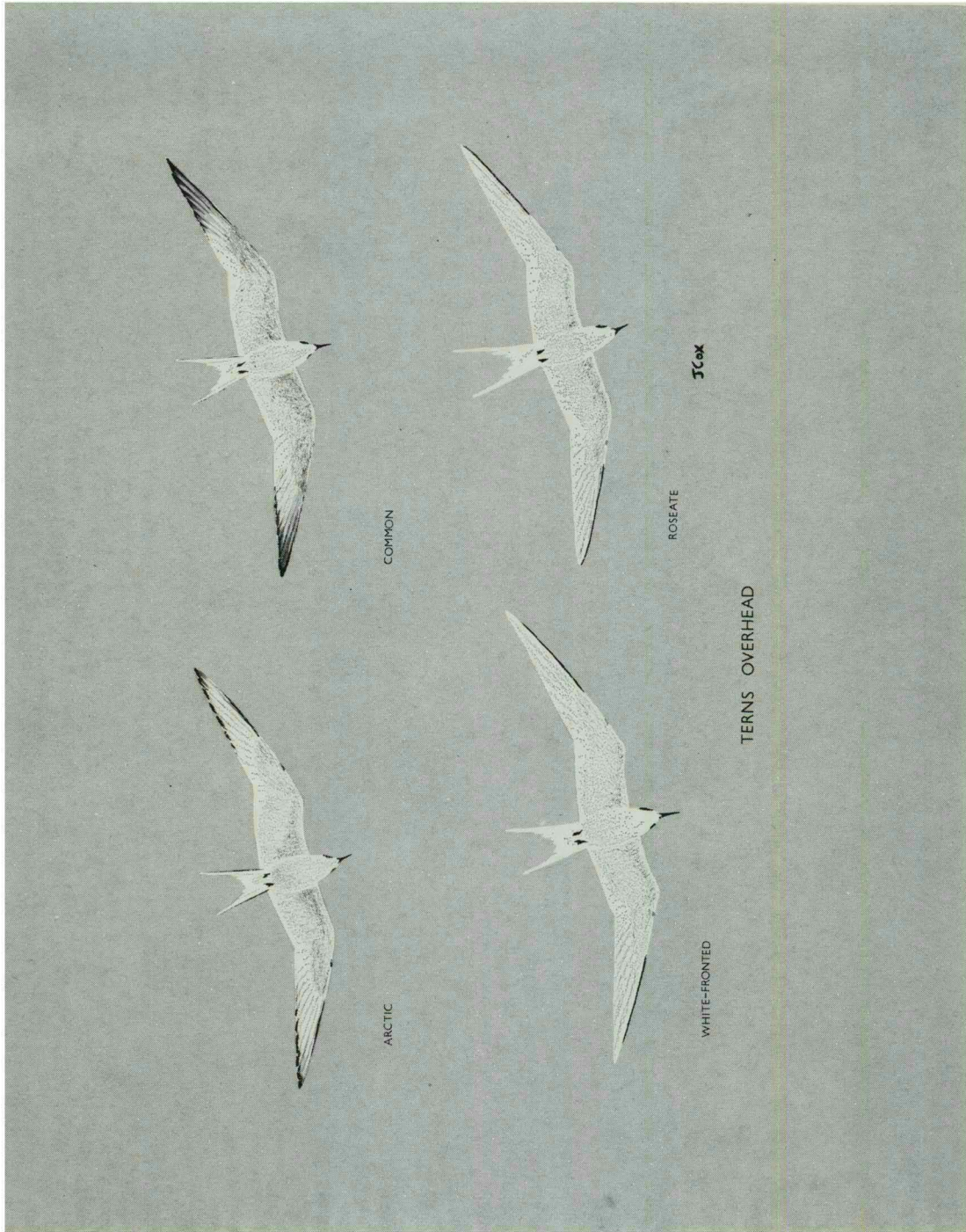
The White-fronted, Common *S. hirundo*, Arctic *S. paradisea* and Roseate *S. dougalli* Terns are difficult to differentiate in the field.

It is especially difficult to tell the Common from the Arctic, and the White-fronted from the Roseate, when the birds under scrutiny are in non-breeding plumage. The identification points of adults in nuptial plumage have been adequately described many times (see Slater 1970) and require no discussion here.

At close range, adult eclipse-plumaged, White-fronted and Roseate Terns may be distinguished from Common and Arctic Terns by their primary feathers. Viewed from above, these appear wholly pale grey, apart from a black edging to the outermost feather, while from below they do not show dark tips. Common and Arctic have the outer three or four primaries appearing dark, and there is a gradual transition through the middle feathers in depth of colour to the pale grey inner primaries. Viewed from below, their outer primaries show black tips. White-fronted and Roseate Terns possess a much whiter appearance than the other two which are more greyish. Immature White-fronted have darker outer primaries and shoulders, but differ from the Common and Arctic by having their backs, scapulars, upperwing coverts and rumps heavily mottled and barred dark brown (as in S.A.M. B4864), the extent varying according to age, and older birds typically have only their scapulars heavily marked. Immature Roseate differ from the other three by having their back and upperwing lightly mottled ashy-brown, and by having little trace of dark on their shoulders or primaries. In all plumages both the Roseate and White-fronted have white outer tail feathers, which in the Common and Arctic have respectively, dark grey and blackish outer webs; but these are difficult to see in the field.

The Common and Arctic Terns in immature or eclipse plumage are very similar. The most useful distinguishing points are their primary feathers. When viewed at close range overhead, those of the Arctic are wholly translucent, and this accentuates their black tips which appear as a narrow band along their trailing edge (though this is nowhere near as obvious as Slater (1970 : P1.49) has pictured this feature). Common Terns have only their four inner primaries translucent. Underneath, their outer primaries gradually darken towards their black tips, which only appear as a dusky band. Immature Arctic have the translucent primaries as in adults, but immature Common have all their primaries opaque (Slater 1970 : 327-329). Other characters which help to distinguish immatures are that the Common has a grey rump and greyer secondaries, and tends to have a large dark shoulder patch,





whereas the Arctic has a white rump, whiter secondaries and a smaller dark shoulder patch; but these marks are very difficult to see. The Arctic also has a shorter bill and tarsus than the Common, but these would be noticeable only if a bird is landed, preferably next to a Common.

It was written in Slater (1970) that immature Roseate may be distinguished from immature White-fronted by their more extensive black cap, with their forehead never appearing pure white. A skin of an immature White-fronted in the South Australian Museum (B4864) is of a bird with a very small amount of white on the forehead. Hindwood (1946: Plates 19 and 20) also showed that immature White-fronted have a small white forehead patch which may be mottled. Immature White-fronted and Roseate can however, be readily recognised by the differences in their back and wing markings described above. The differences between these two species when they are in eclipse adult plumage are much more subtle. While both have a black outer web to the outer functional primary, that of the White-fronted is usually clearly demarcated from the other pale primaries, whereas the primaries of the Roseate tend to darken gradually towards the outer feather, which is consequently not so clearly defined from the other feathers. If both species were seen together (which would be extremely unlikely), the smaller size and slimmer build of the Roseate should be apparent. Slater (1970: 101) wrote that the White-fronted has a lesser amount of white edging on the trailing edge of the wing than the Roseate; but this cannot be used as a field mark on most birds, for specimens of the Roseate that I have examined only have a thin white border to the outermost functional primary (which is subject to great wear), and have their next inner primaries dark to the tip. Because of their great likeness, I believe many adult eclipse-plumaged White-fronted and Roseate Terns will prove very difficult to identify in the field in regions away from their normal wintering or breeding grounds.

DISCUSSION

While the Common, Arctic and White-fronted Terns have all been previously recorded in S.A., the former quite commonly in the region of Lake Alexandrina and the River Murray mouth (pers. obs. and Eckert 1969), the Roseate has not been reliably reported. Serventy *et al* (1971:214) wrote that the latter has been seen further south in Western Australia during recent years. This perhaps

parallels the similar south-eastern extensions of the ranges of the Bridled Tern *S. anaethetus* and the Red-tailed Tropicbird *Phaethon rubricaudus* around the coast towards S.A. Roseate Terns could therefore occur in this State, and they should be considered as a possibility when any of this group of terns is seen locally. Similarly, Arctic Terns might occur more frequently in S.A. than the few records indicate, owing to their confusion with Common Terns, as Morris (1974) suggested might also be the case in New South Wales. The only S.A. records are of beach derelicts: one from Brighton 23 November 1923 (S.A.M. B4478), one from Middleton 12 November 1971 (Robinson 1973) and another specimen in the South Australian Museum (B27863). The last, previously labelled as a Common Tern, dated 2 October 1968, and without any other collection data on the label, was probably also from S.A.

The seasonal occurrence of these terns should not be relied upon as a guide to identification. As stated above, some straggling White-fronted Terns could occur at any time of the year in eastern Australia. Common Terns, while normally summer visitors to Australia, could also occur at any time. Glover (1969a) reported a beach derelict from North Glenelg on 27 July 1960; and David Close and myself saw one landed and flying at very close range (an immature with grey rump and dark shoulders), and two others probably of this species more distantly, at the River Murray mouth on 30 July 1976.

On several occasions I have seen other terns of this group of species, but too far away to identify, at sea off rocky coasts of S.A. Hindwood (1946) wrote that White-fronted Terns habitually feed in the broken water close to rocky shores or in the zone of surf. The above-described sightings were of birds behaving similarly, as were the unidentified birds. In my experience, Common Terns usually prefer more sheltered waters, such as lakes, bays and inlets, though I have also seen them along ocean beaches.

In S.A. White-fronted Terns are obviously rare; but the few records suggest, considering the circumstances, that they are probably occasional, rather than accidental, winter visitors (all records May to September). Birds might occur periodically, perhaps when unusually large numbers occur in the eastern States.

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APPENDIX I

A KEY TO THE IDENTIFICATION OF NON-BREEDING WHITE-FRONTED, ROSEATE, COMMON AND ARCTIC TERNs

The object of this key is not to deny the difficulties involved in identification, but to enable future observers to know what plumage markings to look for in the field. Minor identification points, such as comparative bill sizes, are omitted, but may have been discussed in the main text. The degree of ease or difficulty with which some birds may be identified is indicated.

- A. ADULTS. Easily recognised by uniformly pale grey backs and upperwings.
1. From above: outermost primary with dark edging, and white outer tail feathers. From below: no dark tips to outer primaries. Very white appearance—easy—WHITE-FRONTED or ROSEATE.
 - (a) Larger size and dark edge of outer primary clearly demarcated—difficult—WHITE-FRONTED.
 - (b) Smaller size, slimmer build, and dark outer primary not so clearly demarcated—very difficult—ROSEATE.

2. From above: a few outer primaries appearing dark, and dark edges to outer tail feathers. From below: dark tips to outer primaries. General greyish-white appearance—easy—COMMON or ARCTIC.

- (a) In overhead flight: only four inner primaries translucent, and black primary tips not sharply defined—fairly difficult—COMMON.
- (b) In overhead flight: all primaries translucent with clearly defined black tips—not difficult—ARCTIC.

B. IMMATURES. Easily recognised by dark shoulder patches, back markings and dark central tail feathers. All may have dark primaries.

1. Back and upperwings mottled and barred darker, and white outer tail feathers—easy—WHITE-FRONTED or ROSEATE.

- (a) Back, upperwings, scapulars and rump very heavily mottled and barred brown. Shoulders dark—easy—WHITE-FRONTED.

- (b) Upper surfaces more or less uniform grey apart from heavily barred scapular patches—fairly easy—WHITE-FRONTED.

- (c) Upper surfaces of wings and back lightly mottled ashy-brown, shoulders only slightly darker—fairly easy—ROSEATE.

2. Back and upperwings uniformly grey apart from dark shoulders and outer tail feathers dark—fairly easy—COMMON or ARCTIC.

- (a) Overhead the primaries not translucent. From above rump grey—difficult—COMMON.

- (b) Overhead primaries all translucent with clear black tips. From above rump and secondaries white—not difficult—ARCTIC.