

## **THE FIRST ANTARCTIC TERN *STERNA VITTATA* SIGHTING FOR TASMANIA**

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### **INTRODUCTION**

The first confirmed sighting of an Antarctic Tern in Tasmanian waters was made on the 29<sup>th</sup> July 2008 by a party of ten pelagic birders part way between the edge of the continental shelf and Pedra Branca.

Three one-day outings from Southport to the edge of the continental shelf aboard the 58 foot fishing vessel *La Golondrina* skippered by Morrie Wolf were organised over the last days of July to investigate the bird life present at sea in this area during winter. On the second day's outing between noon and 12:20 pm a tern, which at first glance was passed off as a White-fronted Tern, made several passes behind the boat attracted by finely chopped burley that was being fed out over the side. At the time we were travelling towards the continental shelf drop-off at 44:07 degrees S., 147:30 degrees E. As most on board were in possession of digital cameras with telephoto lenses, about 70 shots were taken in the hope that sufficient detail could be obtained to confirm the species' identity (Plates 1-3). Questions were raised at the time in regard to the amount of black shown on the primary feathers in one of the pictures shown on a camera with a large screen. This clearly demonstrated a bird in primary moult that was flying away from us. Another observer had the impression of some red in the bird's bill, which would rule out a White-fronted Tern. This was proven to be the case once we were ashore where the images were reviewed on computer screens and enlarged. As it turned out, pictures were obtained that showed the bird from all angles. These showed sufficient information to allow us to determine not only the colouration of its bill and legs, but also the stage of moult and other plumage details (Plate 1).

### **DESCRIPTION**

The bill was dark red with black, blotchy areas. The legs and feet were dark red and the legs were short. The black cap on top of the head extended forward to just above the eye with a little mottling to join the white of the forehead and lores. The area round the eye to just in front of the eye was black, as one would expect to find in a winter-plumaged Arctic Tern and Antarctic Tern. Plumage below the cap running around the back of the neck to the chin was whiter than the forehead, giving the appearance of a collar. Plumage of the breast area was light grey with



**Plate 1.** Side view showing the right underwing and left upperwing as well as showing the head and bill profile (photo by kind permission of Grant Penryhn).

mottling extending up onto the neck from the under-wing area. The grey extended almost as far back as the vent with the under-tail coverts, tail and rump being white. The under-wing was light grey, of about the same intensity as the lower parts or even perhaps a shade lighter. The inter-scapular area and mantle extending out across the upper-wing coverts were pale blue-grey with no scalloping and much lighter than that in Prions.

The trailing edges of the secondaries were white. The medial borders of the inner five primaries were white. Views of the upper wing showed the outer four primaries, i.e. 6 to 10, had white shafts on that surface. The tips of these feathers were dark with what are known as hook-backs. The trailing edges of these feathers had paler, almost white inner webs compared with the grey along both sides of their shafts (Plate 2).

Evidence of moult showed the innermost five primaries to have been replaced and not yet fully grown (moult score 4 to 5). The sixth primary on both wings was about half grown (stage 3 in moult score). The fifth primaries were at stage 2-3 moult score. The outer two primaries on the left wing showed some evidence of wear at their tips. The outer three median primary coverts showed central dark

shaft streaks, pointing towards the bird being an immature and also showing evidence of wear. The outer two greater primary coverts appeared to have been lost. Two or perhaps three of the greater upperwing coverts in the middle of the secondary area had also been lost.



**Plate 2.** Dorsal view from behind showing stage of primary moult and the secondary moult which is spreading from the mid point of the secondaries (photo by kind permission of Grant Penrhyn).

The best photographs of the tail demonstrated the loss of the 4<sup>th</sup> and 5<sup>th</sup> tail feathers on the left side plus what appears to be the 4<sup>th</sup> and one other (1 to 5) on the right side, though which one is not altogether clear from the photographs reviewed (Plate 3).

The identification features to look for to identify an Antarctic Tern are:

1. the amount of black on the leading edge of the under-wing and the amount of black along the trailing edge of these feathers;
2. depth of fork in the tail and length of streamers, colour of tail feathers and presence or absence of black on the outer tail feathers;
3. bill colouration, size, shape and length;
4. leg colouration and length;

5. head plumage to determine the distribution of the black cap and presence or absence of a white cheek stripe;
6. whether breast and under-parts are white or dark grey, with or without any mottling;
7. markings on the upper wing and back to determine whether the bird is an adult or immature;
8. ratio of bill depth to depth of keel;
9. the stage of wing and tail moult, as current knowledge indicates that the Arctic and Antarctic Terns moult at different times of year.

From the photographs and the above description, we were able to identify the bird as an Antarctic Tern for the following reasons.

1. The narrow black leading edge of the outer primary excluded Common Tern and was not as intense as one would have expected in Arctic Terns.
2. The deep fork and long tail streamers, i.e. the outer tail feathers, excluded White-fronted Tern. The lack of evidence of a black outer edge to the sixth, i.e. the outer tail feathers, tended to exclude the Arctic Tern.
3. The red bill also excluded White-fronted Tern. The depth and length of the bill pointed directly to Antarctic Tern.
4. The red legs and feet ruled out Kerguelen Tern, which has black feet.
5. The amount of black and its distribution in the cap is only of help with birds in breeding plumage and could not be used in this case. The area of white running from the base of bill over the forehead towards the crown is present in non-breeding Common, Arctic, Antarctic, Kerguelan and White-fronted Terns.
6. The grey mottling of the under-parts completely excluded White-fronted Tern. The Common, Arctic and Antarctic Terns in full non-breeding plumage also appeared to be excluded.
7. The lack of any scallop features on the back and upper wings excluded juvenile birds of all species under consideration. The dark 'shaft-streaks' on the three median primary coverts and what would appear to be the outer lesser primary covert in this region of the wing may indicate that the bird was in its second year.
8. The ratio of bill depth to depth of keel was not used as the elevation of the bird's wings may well distort the results of any measurements taken from the photographs.
9. The stage of primary moult appears to fit that of the Antarctic Tern. The timing of moults in this species has not yet been fully documented and is currently under review by Jeff Davies and Danny Rogers who both confirm the identification being correct.



**Plate 3.** View of tail illustrating the difficulty in determining accurately which tail feathers had been lost (photo by kind permission of Grant Penryhn).

### **SUMMARY**

The amount of black on the leading edge of the wings, the deeply forked tail, lack of evidence of black on outer tail feathers, colouration of bill and legs, shape and size of bill, plus the stage of the bird's moult, all point to Antarctic Tern.

On reviewing the number of sightings of Arctic Terns recorded in southeast Australian and Tasmanian waters over the winter months, it would seem that some of these may well have been Antarctic Terns. Should sufficiently detailed field notes and/or photographs of these birds still exist, it is of interest that they be reviewed.

### **ACKNOWLEDGEMENTS**

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Note: grey-scale embedded images in this article are shown at higher resolution in the central pages of this volume.