



Top The Dunlin in breeding plumage showing the relatively short but thick down curved bill, the dark orange chestnut back, whitish face and neck and black belly patch. The wing coverts are so worn that only the shafts of the feathers remain at the tips. Also note the unmarked white flanks and a single fine dark streak under the tail. Photo Ian Southey

Middle Right The Dunlin as first seen at Kirk's. There are enough new feathers on the back and belly to make the identification easy. Photo Phil Battley

Upper Middle Left Most Dunlin subspecies have longer and heavier dark streaking right across the breast and down to the belly patch than this bird. Photo Ian Southey

Lower Middle Left Not much of a picture but it is clear that there is no white on the 8th primary (see arrow) showing that this Dunlin probably belongs to the subspecies sakhalina and not arcticola. Photo Ian Southey

Bottom A comparison of the jizz of the Dunlin with a Curlew Sandpiper behind. The Dunlin has a larger high crowned head and hunched back while the Curlew Sandpiper has a more elongated body and a longer, finer bill. Photo Ian Southey

A Dunlin on the Manukau.

Discovery

While checking roosting waders for bands at Kirk's mudflats on the Manukau on April 15th, Tony Habraken spotted a gingery backed sandpiper running around at the back of the flock. By the time he had finished the bird had gone and he couldn't be sure what it was. But news travels fast and David Lawrie went to sort it out on the 18th along with Jenny Hensley and myself. He picked a horrible day but when I joined them after a particularly nasty squall of rain they had already found the bird feeding on the wet mud with Wrybill at no great distance. Identifying the bird as a Dunlin (*Calidris alpina*) was easy. It was moulting into breeding plumage with a distinctly orange cast to the cap and mantle and black blotches on the belly. It seemed very hungry and fed busily right across the mud flat for most of the time it was there. Once it called when taking flight, a long slightly trilled "chirreep".

Interest peaked on the 21st when nine eager twitchers were lined up at Kirk's looking for it in much better weather. It wasn't there but a late dash to the nearby Kidd's shellbanks produced the bird with a small flock of Wrybill. That was the last time it was seen for over a month. It was thought to have migrated with most of the other small sandpipers but Tony found it again on May 28th at Kidd's and it was in spectacular breeding plumage. The Dunlin has been well settled there since and usually roosts with the Wrybill – in every way the bright spot in our winter wader flock.

Identification

Compared to many Dunlin pictures ours seems a brightly marked bird with a dark orange chestnut back with very small dark centres to the feathers and whitish face, neck and breast with short fine and notably pale grey streaks becoming black toward the shoulders. The belly patch is large and solid with a few fine white tips to the feathers and the sides, under wing and under tail coverts are pure white. It has wing coverts that have been abraded to the shafts at the tips and very tatty ends to the primaries (the large outer flight feathers). Although the wing feathers

of young and adult birds grow at about the same time in the subspecies of Dunlin bordering the Pacific, the primaries of young birds are less robust and wear more quickly than adults. The extreme wear suggests that this bird is at the end of its first year.

Even with only traces of breeding plumage a Dunlin is not hard to identify. At other times of year though it is another drab, medium-sized sandpiper. They are most like Curlew Sandpipers as both species have a black down curved bill. To really distinguish them is best to see the pattern on the rump which is white with an obvious dark stripe running down the centre on a Dunlin but fully white in Curlew Sandpipers. In addition this Dunlin has a very obvious white wing bar, fairly broad and stretching along the secondaries and inner primaries breaking up on the outer primaries, which makes a flashy contrast to the more commonly seen sandpipers. There are the white tips to the innermost secondaries that can be seen as small white marks on each side of the body even when the wings are folded when the bird is feeding if viewed from directly behind.

In comparison to Curlew Sandpipers, Dunlins have a deeper bill, especially toward the tip. It also has a distinctively dumpy jizz with a large high crowned head and a rounded back tapering abruptly to the tail and shorter legs in contrast to the slender elegance of a Curlew Sandpiper. At rest the primaries of a Dunlin are said to be about equal to or shorter than the tip of the tail while the primaries of a Curlew Sandpiper should be definitely longer. Observing this Dunlin, they sometimes seem both shorter and longer, but not by much. The pattern on the face is generally said to be plain. When first seen this bird had a very indistinct pale eyebrow that went as far back as the eye and a darker stripe from the base of the bill to the eye but they have virtually vanished in breeding plumage. Curlew Sandpipers have similar but bolder facial markings.

Subspecies and origins

The series of ice ages during the Quaternary Period have had a strong influence in the evolution of birds in the Arctic. It has left an evolutionary imprint in the ten recognisable subspecies of Dunlin spread around the Arctic Circle. In non-breeding plumage they are very hard to distinguish but there are plumage differences between breeding birds. This give us a chance to determine where this particular bird came from.

The least likely subspecies to occur here are the most easily discounted. They are *arctica* from western Greenland, *schinzii* from Iceland to Western Europe and *alpina* from northern Scandinavia to the Yenesei River Delta in Siberia. These Dunlins are small, with strong differences between males and females, and moult their primaries on the non-breeding grounds. More practically they generally are a not particularly bright cinnamon colour on the back, have a buffy wash on the head and neck and have a small and often incomplete black patch on the belly.

Further to the east Dunlins have an unusual moult pattern, shedding their primaries while they are breeding so the adults migrate south on either new or a combination of old and new primaries. The eastern most of these subspecies is *centralis* which breeds in Central Siberia east of the Taymyr Peninsula. It is similar to *alpina* with few visible differences.

Of the remaining subspecies, there is most information available for the American forms which have the darkest and reddest backs of all. The most easily discounted is *hudsonia* from the Canadian Arctic with clear black streaking or spots in the white areas on the flanks and under the tail and heavy dark streaking on the breast right to the belly patch. Another, *pacifica* from western Alaska has a comparatively long bill and longer, darker streaks on the breast. The last, *arctica* from Northern Alaska, is the most similar of these three to the Manukau Dunlin having a shorter bill and a paler breast,

especially in the centre with notably short, fine streaks and deserves more detailed consideration.

Along the Pacific Coast of Siberia are three subspecies, *sakhalina* from Chukotka, *kistchinski* from the Sea of Okhotsk and *actites* from Sakhalin Island, the last two have only recently been described. They tend to have a more yellowish tint to their backs than the American forms with the least difference in *sakhalina*. *Sakhalina* also has less breast streaking, less black on the crown and smaller black centres to feathers on the back and, in all of these features, has a resemblance to *arctica* and to the Dunlin on the Manukau.

Seeking an expert opinion Bob Gill, Pavel Tomkovich and Julian Greenwood were sent pictures of the Manukau Dunlin and agreed that it was either *arctica* or *sakhalina* but declined to distinguish between the two. The two subspecies have not long been widely accepted as different until the argument was clinched by DNA sequences. The usually published plumage differences

are that *arctica* has more white on the outer edge of the 8th primary feather and a more reddish tone to the back which has been described as a “darker rust colour”. There is often some dark streaking under the tail of *sakhalina*, but not on all birds, while it is absent in *arctica*. Additionally, the original description of *arctica* noted the “throat and breast more heavily streaked” than *sakhalina* and that the difference in back colour is only an average difference.

Looking at the Manukau Dunlin the back seems like the “darker rust colour” described for *arctica* but there is no objective reference to distinguish the tones and the difference is not absolute. There are a few inconspicuous fine dark streaks under the tail on appearing on photographs but the general appearance is clean and white. The streaking on the centre of the breast is fine and definitely grey whereas photographs of *arctica* show crisp black marks, and this may indicate *sakhalina*. In photographs showing the outer primaries there is no white on the eighth primary (third from the outside) although there is a fine

white edge to the seventh primary where it emerges from the coverts. While this feature may be affected by wear, which is considerable, it is difficult to see how the bases of the eighth primary would be substantially more worn than the bases of the seventh. This is the most objective distinguishing feature and consistent with most other characters so it seems most likely that this Dunlin is *sakhalina* from the extreme north-eastern corner of Siberia.

Ian Southey

Footnote

In addition to the four Dunlin records in the Field Guide, another was seen by Tony Habraken at the Limeworks, Miranda on 24/10/94. The distinctive bill, dumpy jizz and a mottled black belly patch were noted (Tony Habraken pers. comm.).

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Reverse Migration - why is the Dunlin here?

Vagrants are often a source of speculation among birders. Many of the less common waders that visit New Zealand may be just at the edge of their normal wintering range or have slightly overshot their normal non-breeding sites in Australia. Often vagrant birds are said to be associated with bad weather, especially being pushed off course by strong winds. Studies of vagrants in America have suggested that weather effects are limited to relatively local birds while longer distance vagrants seem independent of weather. It is thought that they have made systematic navigation errors, flying determinedly in the wrong direction. In Europe the effect of weather has been shown to be much greater but birds there make straight navigation errors too.

Breeding experiments show that there is a high degree of genetic control of the onset, duration and end of the migration period, the direction to travel, including necessary turns. Some of this information

may not be inherited correctly sending birds off course while environmental effects may also obscure key cues. The most common mistakes are mirror image errors where the bird turns left instead of right or vice versa at key points, others show a 180° switch in direction while the remainder seem scattered. Misdirected migrants often travel further than they normally would suggesting that termination cues can be confused.

The current Dunlin is particularly interesting because it was first seen during the period when migrants were actively moving away from New Zealand. It might have spent the summer quietly at Kirk's but very high tides cover this roost forcing the birds that use it to use the nearby and more commonly watched shellbanks at Kidd's, Clark's or Mangere. In addition Tony Habraken considered that it was particularly thin when first seen but has steadily improved in condition. Rather

than remaining hidden all summer it may have made a navigation error. The normal non breeding sites for the various subspecies of Dunlin on the East-Asian Australasian Flyway are spread between Vietnam and Japan with New Zealand more or less south of the breeding grounds. If a Dunlin flew south and east from its non-breeding site instead of north and east it would find New Zealand somewhere near its flight path at a similar distance to the breeding grounds or a little further.

While this is probably not the only way such extreme vagrants reach New Zealand, the timing seems suggestive in this case. Among the other records of Dunlin in New Zealand there is one that appeared at Kidd's in June 1979 in full breeding plumage and remained there until September which may have arrived in a similar way. It will be interesting to see how long this Dunlin stays.

Ian Southey