

SHORT NOTE

New plumage variant of the white-flipped penguin (*Eudyptula minor albosignata*)

CHRIS N. CHALLIES

22A Highfield Place, Avonhead, Christchurch 8042, New Zealand

White-flipped penguins (*Eudyptula minor albosignata*) differ from other New Zealand forms of the little penguin (*E. minor*) by being larger, lighter coloured dorsally, and having a distinctive white anterior border to their flippers. Most also have some white on their tail and/or lower rump (Kinsky & Falla 1976). The extent of these white areas is so variable the white-flipped penguin could be considered variously leucistic or even polymorphic (*pers. obs.*). In extreme examples the cheeks, flanks and rump are white (Fig. 1; see also Fig. 6 in Kinsky & Falla 1976). Described in this note are 3 related penguins with similar but distinctive plumage.

In Aug 2005 an unusually light-coloured female penguin was observed in a monitored white-flipped penguin colony in Harris Bay near Christchurch, New Zealand (43° 35' S, 172° 30' E), in company with a locally bred male. She bred and moulted in the colony during the next 4 seasons, fledging 6 chicks in total with 2 different mates.

Both males had typical white-flipped penguin markings. A photographic and descriptive record was kept of her plumage through the year, as well as that of her chicks before they fledged.

The female's new post-moult plumage had distinctive white tips to all the feathers on its upper body that would normally have been wholly blue-grey. The amount of white varied from the outer third of the web of the feathers on the sides of the body to small flecks along the mid-dorsal line (Fig. 2). Unlike the whitest penguins seen previously, the boundaries between the white sides and dark back were graded rather than well defined (*cf.* Fig. 1 & 2). Other distinctive features included white on the forehead and a white spot over the eyes. The flippers had the typical 'white-flipped' pattern, but differed in having wider than usual white margins and the dark feathers tipped white. As the plumage aged during the year, the white and blue tips to the feathers were progressively worn away. This gave the bird an increasingly bleached, almost isabelline, appearance. Prior to moulting, the female's back was a very light brown with a faint blue tinge, and the areas on the cheeks,

Received 10 Jul 2012; accepted 12 Aug 2012

Correspondence: challies@xtra.co.nz



Fig. 1. A white-flipped penguin with the white cheeks, flanks and rump typical of those with the greatest extent of white plumage. The bird behind had similar markings. This morph is uncommon occurring at about 1 in 500-1000 birds in the wider population.

flanks and rump that had earlier been white were straw coloured.

Two of the chicks reared by this bird had the same white plumage pattern; the other 4 had typical white-flipped penguin markings (Fig. 3). The light-coloured chicks were hatched in 2006 and 2009 when she was paired with different males. They appear from photographs to have had identical juvenile plumage but marginally more white than their parent.

The plumage patterns of all penguin species are typically uniform within age classes with variants occurring at frequencies of only 1 in many 1000s of birds (e.g., Everitt & Miskelly 2003). White-flipped penguins appear to be the exception in having varying amounts of white on their plumage, especially on the flippers but also the body. The 3 birds described here are similar to the whitest birds seen previously in the amount of white they have on their cheeks, flanks and rump, but differ uniformly in other respects. As these distinguishing features appear heritable (cf. Fig. 2 & 3), this variant is most likely the result of a mutation.

ACKNOWLEDGEMENTS

I wish to thank the anonymous reviewers for their comments on an earlier draft.

LITERATURE CITED

Everitt, D.A.; Miskelly, C.M. 2003. A review of isabellinism in penguins. *Notornis* 50: 43-51.



Fig. 2. The light coloured female in her post-moult plumage showing the distinctive features described in the text. Behind her is the typical 'white-flipped' male she was paired with in 2006. Both birds had just completed their moult and were ready to return to sea.



Fig. 3. One of the light coloured chicks with its typical 'white-flipped' sibling. At 47 days of age their juvenile plumage is fully grown with only a few tufts of down remaining. Their parents were the 2 birds shown in Fig 2.

Kinsky, F.C.; Falla, R.A. 1976. A subspecific revision of the Australasian blue penguin (*Eudyptula minor*) in the New Zealand area. *Records of the National Museum of New Zealand* 1: 105-126.

Keywords White-flipped penguin; *Eudyptula minor albosignata*; plumage; leucism