

## NOTES

### FIRST RECORD OF THE BRIDLED MORPH OF THE COMMON MURRE IN THE PACIFIC

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The Common Murre (*Uria aalge*) is one of the most numerous marine birds in the Northern Hemisphere (Ainley et al. 2002), widely distributed in both the Atlantic and Pacific oceans. In the Atlantic, breeding colonies range from eastern Canada to Iceland, the British Isles, and Norway. In the Pacific, the species breeds in the Gulf of Alaska, Bering Sea, Sea of Okhotsk, and down the west coast of North America into California (Gaston et al. 1998). Northern populations tend to move south in the winter and are generally restricted to waters of the continental shelf (Gaston et al. 1998).

Atlantic populations are frequently dimorphic, with the "bridled" morph distinguished from the nonbridled by having a white eye-ring and white extending down the auricular groove. Bridling is thought to be controlled by a recessive variant of a single gene on one of the autosomes (Jefferies and Parslow 1976). The proportion of the bridled morph in Atlantic increases from south to north, particularly in the eastern Atlantic, from 0% bridled in Portugal through Britain and Norway to 50% bridled at Bear Island, Svalbard (Birkhead 1984). Aside from a report of a single male with incomplete bridling (white down the auricular groove but not around the eye) at Cape Thompson, Alaska (Swartz 1966), the bridled morph has never been reported in the Pacific.

Here, we report on the first sighting in the Pacific of a completely bridled adult Common Murre at a colony in central California. On the afternoon of 15 June 2008, Schmidt observed a single bridled individual from a blind on Southeast Farallon Island, part of the Farallon National Wildlife Refuge, California (37° 42' N, 123° 00' W). The individual was characterized by a thin but complete white ring around both eyes that extended back along the auricular groove. All other plumage characteristics appeared normal. The bird was in the middle of a dense colony of breeding nonbridled murrelets in an area regularly monitored by biologists. It did not appear to have a mate or nest and was wandering around other breeding birds, most of which were rearing chicks, occasionally interacting with apparently random individuals. The bridled bird stayed long enough for Schmidt to return to the field station, retrieve a camera, and bring Warzybok to the blind to confirm the sighting. The total observation time was approximately 30 minutes. The individual behaved normally and did not appear to attract any special attention from the other murrelets. We did not approach or capture it because of the risk of disturbing the breeding murrelets, but Schmidt photographed it (Figures 1–3), from a maximum distance of 5 meters. The area was monitored regularly for the remainder of the breeding season as part of a continuing study, but the bridled bird was not seen again. It is possible that it remained on the island but in an area not visible to biologists.

Common Murrelets have been studied in detail at Southeast Farallon Island since 1968, and several plumage variations have been observed at this colony, including incomplete attainment of breeding plumage, leucism, and melanism. There have been no records of individuals with any form of bridling, however (PRBO unpublished data).

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Figure 1. Bridled morph of the Common Murre on Southeast Farallon Island, 15 June 2008. A murre of the typical unbridled morph can be seen to the left.

*Photo by Annie E. Schmidt*



Figure 2. Bridled morph of the Common Murre on Southeast Farallon Island, 15 June 2008. View from the right as the bird wandered through the colony.

*Photo by Annie E. Schmidt*

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Figure 3. Bridled morph of the Common Murre on Southeast Farallon Island, 15 June 2008. Front view shows eye rings on both sides of the head.

*Photo by Annie E. Schmidt*

There are several possibilities for the origin of this unusual individual. It is possible that a bridled individual from an Atlantic population found its way to California. Atlantic murrelets tend to have slightly shorter bills and wings than Pacific murrelets (Gaston et al. 1998). The photos do not show any conclusive size difference but since we could take no measurements, we cannot rule out this possibility. There are no published reports of Atlantic alcids in the Pacific. However, Pacific alcids have occasionally been recorded in the Atlantic (e.g., Haraldsson 1995, Hopkins et al. 2006). The recent occurrence of a Pacific Gray Whale (*Eschrichtius robustus*) in the Mediterranean Sea (reported in popular media in May 2010, e.g., [http://news.bbc.co.uk/earth/hi/earth\\_news/newsid\\_8672000/8672970.stm](http://news.bbc.co.uk/earth/hi/earth_news/newsid_8672000/8672970.stm) and [www.cbsnews.com/stories/2010/05/11/tech/main6472926.shtml](http://www.cbsnews.com/stories/2010/05/11/tech/main6472926.shtml)) suggests it is now more possible for marine organisms to take the Northwest Passage, perhaps increasing the chance that individuals may move from the Atlantic to the Pacific.

A second alternative is that the gene for the bridled variant also occurs in the Pacific, either sharing its origin with the Atlantic populations or arising independently. As this allele is thought to be recessive, it may occur in the Pacific population at such low frequencies that it is rarely expressed because of the infrequency of pairings of individuals carrying the allele. Because relatively few Pacific murre colonies are monitored intensively, an extremely small number of bridled individuals may be going unnoticed. A further possibility is that a new mutation arose in this individual and was expressed immediately. In the lack of a genetic sample from this individual, distinguishing between these alternatives it is impossible.

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