

First Record of an Anomalously White Killer Whale, *Orcinus orca*, Near St. Lawrence Island, Northern Bering Sea, Alaska

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An anomalously white Killer Whale (*Orcinus orca*) was sighted swimming with a group of normally-pigmented Killer Whales near St. Lawrence Island in the northern Bering Sea. The white whale had a tall, straight dorsal fin, indicating a mature male. Most sightings of white or albinistic Killer Whales have been of individuals that were smaller than their companions. This sighting of an adult white male is unusual, given that albinistic individuals may not survive as long or attain as large a size as their normally-pigmented conspecifics due to the wide range of physical and physiological abnormalities commonly associated with partial or complete albinism.

Key Words: Killer Whale, white cetacean, *Orcinus orca*, albinism, Bering Sea.

On 27 August 1993, we sighted an all-white Killer Whale (*Orcinus orca*) swimming with approximately 11 other Killer Whales 5.5 km southwest of St. Lawrence Island, in the northern Bering Sea, Alaska at 63°47'N, 171°45'W. The water depth was <50 m and sea state was calm. The whales were first spotted about 500 m from our vessel, swimming slightly towards us and parallel to our course, and we could see them clearly through 10×40 binoculars. The white whale was large with a tall, straight dorsal fin, indicating a mature male. It was a creamy yellowish color over all of its exposed body—the head, back, and dorsal fin. There did not appear to be any dark pigmentation. The placing of the typical pigmentation pattern of a Killer Whale was visible, with the normally white saddle behind the dorsal fin showing as a lighter, whiter color. We were unable to see the whale's eyes so cannot confirm it was a true albino (pigmentless pink eyes) or leucistic (normal dark eyes). This represents the first report of a white or possibly albinistic Killer Whale for the Bering Sea.

The group we encountered included a second mature male with a tall dorsal fin. This second male was normally-pigmented and its fin was slightly taller than that of the white whale. The remaining whales were normally-pigmented adult females or subadults. The closest approach of the group was about 400 m, and all of the whales, including the white one, were behaving normally, swimming and surfacing for air.

Anomalously white cetaceans are reported infrequently. Hain and Leatherwood (1982) and Fertl et al. (1999) reviewed the literature and compiled unpublished observations, and found that such individuals have been sighted in 20 cetacean species. Although details are scarce, most sightings of white Killer Whales have been of individuals that were

reported as “small” or smaller than their companions (Carl 1959; Pilleri and Pilleri 1987; Scheffer and Slipp 1948). There are two reports of white female Killer Whales that appeared to have calves, both of which were also white (although one calf had a black border on the dorsal fin: Carl 1959). These breeding females must have been at least 15 years old (Olesiuk et al. 1990). The tall dorsal fin of the white male we sighted indicates that he was physically mature and therefore at least 21 years of age (Olesiuk et al. 1990).

Our sighting of such a long-lived albinistic Killer Whale is unique, because on average, albinistic individuals may not survive as long or attain as large a size as their normally-pigmented conspecifics. Hain and Leatherwood (1982, from Searle 1968) noted a wide range of pathological conditions that are commonly associated with partial or complete albinism. These included lowered fertility, anemia, defects of the eyes and ears, defects of the central nervous system, and increased susceptibility to infection. Other conditions also occur that can mimic albinism. A captive “white” Killer Whale with pale, ghostly outlines of the usually white markings was diagnosed with Chediak-Higashi syndrome (Ridgway 1979), which presumably caused or contributed to its death. Most of the conditions that accompany lack of pigment would increase mortality rates, diminishing the average body size and shortening the average lifespan.

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Literature Cited

- Carl, C.** 1959. Albinistic killer whales in British Columbia. Report of the Provincial Museum, British Columbia 1959: 29–36.
- Fertl, D., L. T. Pusser, and J. J. Long.** 1999. First record of an albino bottlenose dolphin (*Tursiops truncatus*) in the Gulf of Mexico, with a review of anomalously white cetaceans. *Marine Mammal Science* 15: 227–234.
- Hain, J. H. W., and S. Leatherwood.** 1982. Two sightings of white pilot whales, *Globicephala melaena*, and summarized records of anomalously white cetaceans. *Journal of Mammalogy* 63: 338–343.
- Olesiuk, P. F., M. A. Bigg, and G. M. Ellis.** 1990. Life history and population dynamics of resident killer whales (*Orcinus orca*) in the coastal waters of British Columbia and Washington state. Pages 209–243 in *Individual recognition of cetaceans: use of photo identification and other techniques to estimate population parameters*. Edited by P. S. Hammond, S. A. Mitzroch, and G. P. Donovan. Report of the International Whaling Commission, Special Issue 12.
- Pilleri, G., and O. Pilleri.** 1987. Records of cetaceans in the Mediterranean Sea and North Atlantic Ocean in the period 1982–1986. *Investigations on Cetacea* 20: 267–280.
- Ridgway, S. H.** 1979. Reported causes of death of captive killer whales (*Orcinus orca*). *Journal of Wildlife Diseases* 15: 99–104.
- Scheffer, V. B., and J. Slipp.** 1948. The whales and dolphins of Washington State with a key to cetaceans of the West Coast of North America. *American Midland Naturalist* 39: 257–337.
- Searle, A. B.** 1968. *Comparative genetics of coat color in mammals*. Logos Press Ltd., London.

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Evidence for Double Brooding by a Mallard, *Anas platyrhynchos*, in Eastern South Dakota

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Documentation of double brooding by ducks is uncommon in the northern hemisphere. We report double brooding by a Mallard (*Anas platyrhynchos*) in eastern South Dakota during 1999. A radio-marked female hatched her clutch, reared her brood to 15–25 d post-hatch, and re-nested. The female successfully hatched and reared her second brood to 50 days post-hatch. These data plus a band recovery in October of 2001 from the first brood provide circumstantial evidence of double brooding by this female.

Key Words: Mallard, *Anas platyrhynchos*, brood rearing, double brooding, second nesting.

Renesting by ducks after disturbance during laying, incubation, or after clutch loss is not uncommon (Sowls 1955; Swanson et al. 1986). Some duck species in North America will re-nest after brood loss, especially if brood mortality occurs soon after hatch (Bjarvall 1969; Doty 1975). Few cases in North America, with the exception of Wood Ducks (*Aix sponsa*) (Fredrickson and Hansen 1983; Moorman and Baldassarre 1988; Fielder 1992), document the production of a second brood when at least one duckling from the first brood is known to have survived (double brooding). In the southern hemisphere, evidence for double brooding exists for several Australian duck species including the Pink-

eared Duck (*Malacorhynchus membranaceus*), Chestnut Teal (*Anas castanea*), Grey Teal (*Anas gibberifrons*) and Australian Wood Duck (*Chenonetta jubata*) (Braithwaite 1976a, 1976b). A White-cheeked Pintail (*Anas bahamensis*) in the Bahamas re-nested and hatched a second clutch after successfully fledging her first brood (Sorenson et al. 1992).

Eleven female Mallards (*Anas platyrhynchos*) in an unusually dense population near the Delta Waterfowl Research Station in Manitoba abandoned broods to re-nest, but fates of individual broods were not presented; this population consisted largely of artificially maintained and hatchery-reared Mallards, many of which overwintered on site (Titman and