Mammal Study 40: 19–22 (2015)

Short communication

The first record of a true albino common bottlenose dolphin *Tursiops truncatus* from Japan

Noriko Funasaka[1,*], Tetsuo Kirihata[1], Hidehiro Kato[2] and Seiji Ohsumi[3]

[1] *Taiji Whale Museum, 2934-2 Taiji, Taiji-cho, Higashimuro-gun, Wakayama 649-5171, Japan*
[2] *Tokyo University of Marine Science and Technology, 1-5-7, Konan, Minato-ku, Tokyo 108-0075, Japan*
[3] *The Institute of Cetacean Research, 4-5, Toyomi-cho, Chuo-ku, Tokyo 104-0055, Japan*

The common bottlenose dolphin *Tursiops truncatus* is found worldwide in temperate and tropical waters (Jefferson et al. 2008). It has a dark coloration, and the color pattern varies from light gray to black on the back and sides, fading to white on the belly (Fig. 1a) (Wells and Scott 1999; Jefferson et al. 2008).

In general, the external body color and color pattern of wild animals are important to provide camouflage for reduced visibility to predators or to enhance the ability to hunt prey (Searle 1968; Hearing and Tsukamoto 1991). Analyses of coloration in cetaceans proposed several functions such as communication with conspecifics in addition to acquisition of prey and protection from predators (Perrin 2009). Skin color is also important for protecting the skin from damage by short-wavelength radiation, particularly ultraviolet B, and maintaining thermoregulatory ability through increased heat absorption on the skin surface (Searle 1968; Hearing and Tsukamoto 1991). Coloration in mammals is almost entirely dependent on the presence of melanin pigment in the skin, hair, and eyes (Hearing and Tsukamoto 1991). Albinism is caused by lack of melanin, leading to a pale skin color and red or pink color of the eyes due to blood vessels that can be observed through colorless tissue (van Grouw 2006). However, if the production of melanin is reduced but not entirely blocked, it can result in leucism, in which the skin and hair are white, whereas the eyes are colored normally (reviewed in Fertl and Rosel 2009).

Despite strong selection pressures against albino and leucistic animals, anomalously white animals have been recorded in many mammalian species, including cetaceans (Fertl and Rosel 2009). Fertl et al. (1999, 2004) reviewed at least 20 different cetacean species with anomalously white pigmentation. Among common bottlenose dolphins, 13 anomalously white dolphins including three true albino have been previously reported worldwide since the first report in 1962 (Table 1). These reports are almost always based on sighting records of animals at sea; therefore, live capture and rearing of these anomalously white cetaceans in aquaria are quite rare. Here, we report basic information of an anomalously white dolphin found and live-captured in Japan for identify true albino in common bottlenose dolphins.

Materials and methods

On January 17, 2014, a school of more than 450 common bottlenose dolphins was observed 14 miles south-southeast off the coast of Taiji (33°21'N, 136°03'E), Wakayama Prefecture, Japan during a dolphin drive fishery. They were observed waters with a bottom depth of approximately 1,700 m and surface water temperature of 19.9°C. One anomalously white dolphin was involved in this school of normally pigmented dolphins. This anomalously white dolphin was live-captured on January 18, 2014 and safely transported to Taiji Whale Museum.

This dolphin was initially kept for 27 days in an outdoor tank (Tank A: capacity, 170 m^3; width, 7 m; length, 15 m; depth, 2.5 m) beginning on January 18, 2014 to enable the first stage of acclimation to the captive environment. Thereafter, this dolphin was transferred to a different tank (Tank B: capacity, 620 m^3; longest diameter, 16.3 m; maximum depth, 5 m) on February 15, 2014, which has a blind roof and system-controllable water temperature. The average water temperatures at noon in the tanks during the rearing period were 12.6°C in Tank A and 20.0°C in Tank B. This dolphin received about 8 kg/day of a diet comprised of Atka mackerel *Pleurogrammus azonus* and Pacific herring *Clupea pallasii* as of July 2014. The health condition of the dolphin has been properly checked by observing daily behavior and checking the results of periodic blood testing under the supervision of a veterinarian.

*To whom correspondence should be addressed. E-mail: funasaka.ta@gmail.com