

Biological Data of Pygmy Killer Whale (*Feresa attenuata*) from a Mass Stranding in New Caledonia (South Pacific) Associated with Hurricane Jim in 2006

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Abstract

Despite its distribution throughout the tropics and subtropics, the pygmy killer whale (*Feresa attenuata*) is one of the most poorly known species of odontocetes (Cetacea: Delphinidae). We used the opportunity of a mass stranding of six animals in New Caledonia (early February 2006) to gather information about their biology. Four animals, including three males and one female, were found dead, and morphometrics, including dental counts, were collected. Two live mature males of 236 and 246 cm total length (TL), respectively, were closely monitored and sampled via blood analysis. As it was not likely to survive, the second animal was euthanized and necropsied. Following the euthanasia of the larger animal, the smaller one, which was probably staying out of social solidarity, returned on its own to the open sea. The necropsy revealed the presence of cardiopulmonary collapse and enlarged and congested testes. Blood parameters confirmed a deteriorating health status for both animals, enhanced by starvation. Some of the relative morphometric measurements of all six stranded pygmy killer whales seemed to be larger for these animals living in the southwest Pacific as compared to the literature for this species. We hypothesize that this group of pygmy killer whales was probably pushed through the Coral Sea toward the New Caledonian lagoon by Hurricane Jim, which occurred in the area from 26 January until 2 February. These observations reveal January as a potential part of the mating season in this area for this rare, elusive, and unknown species. It also supports the notion that early sacrifice of distressed, terminal animals could be a way to improve the survival rate of other less traumatized individuals during cetacean mass strandings.

Key Words: hematology parameters, cetacean, blood chemistry, odontocete, gregarious, climate event, mortality mitigation, mating season

Introduction

Pygmy killer whales (*Feresa attenuata*; Gray, 1874) are toothed whales from the family Delphinidae, with body lengths ranging from 2.1 to 2.6 m (for a complete description, see Donahue & Perryman, 2009). Maximum known weight is 225 kg (Jefferson et al., 2008). This species can be easily confused with other large, black-colored odontocetes, even by experts such as in Ecuador, Southeast Tropical Pacific (Castro, 2004), which was later correctly identified as false killer whales by Baird (2010). Despite distribution throughout the tropics and subtropics, pygmy killer whales are rare throughout their range and considered as "Data Deficient" in the *IUCN Red List* (Taylor et al., 2008); the species is listed in Appendix II of CITES. It is one of the most poorly known species of odontocetes (McSweeney et al., 2009).

In the western Pacific Ocean, at least 10 reliable sightings (between 1968 and 1995) of pygmy killer whales and five individuals identified at stranding (between 1990 and 2009) are known from the eastern coast of Australia (Atlas of Living Australia [AOLA], 2012), but only two sightings have been recorded in New Caledonia (Garrigue & Poupon, 2013). The presence of the pygmy killer whales is better documented in the eastern Pacific Ocean with several observations in the Hawaiian archipelago where a 22-y study described a small population of island-associated individuals around the main Hawaiian Islands (McSweeney et al., 2009). These animals only represented 1.2% of odontocete sightings through 40,709 km of trackline