

False Killer Whale

Pseudorca crassidens

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The false killer whale (*Pseudorca crassidens*) is one of the larger members of the family Delphinidae, with adult males reaching lengths of almost 6 m and females reaching up to 5 m. The common name comes not from a similarity in external appearance to the killer whale (*Orcinus orca*), but rather similarity in skull morphology of these two species (Fig. 1). In fact, the two species do not appear to be closely related; based on genetic similarity, false killer whales appear to be most closely related to the Risso's dolphin (*Grampus griseus*), melon-headed whale (*Peponocephala electra*), pygmy killer whale (*Feresa attenuata*), and pilot whales (*Globicephala* spp.). There is some evidence of geographic variation in skull morphology, although no subspecies are currently recognized.

Largely black or dark gray in color (usually with a lighter blaze on the ventral surface between the flippers), they are easily recognizable with their rounded head, gracile shape, small falcate dorsal fin located at the midpoint of the back, and distinctive flippers (with a bulge on the leading edge). False killer whales are

slightly SEXUALLY DIMORPHIC, with the melon of males protruding farther forward than in females. Their teeth are large and conical, with 7–11 in each of the upper jaws and 8–12 in each lower jaw.

False killer whales are found in all tropical and warm temperate oceans of the world, and occasional records of their presence in cold temperate waters have also been documented. Although they are typically characterized as pelagic in habits, they do approach close to shore at oceanic islands and are one of the handful of species that regularly mass strand. These oceanic habits have hindered study of this species in the wild, and most of what is known comes from stranded individuals, captive animals, and a few observations of wild groups (usually around oceanic islands). No long-term behavioral or population studies of wild individuals have been undertaken. No estimates of worldwide population size are available, and a few regional estimates based on surveys are imprecise.

False killer whales are considered to be extremely social, usually traveling in groups of 20 to 100 individuals. Details of social organizations are lacking; however, strong bonds between individuals are evident from their propensity to strand en masse (the largest number of individuals mass STRANDING was over 800) and by the affiliative behavior of stranded animals. False killer whales are active during the day, and food sharing in the wild has been recorded on several occasions. The diet of false killer whales appears to be diverse, both in terms of species and size of prey. In general they feed on a variety of oceanic squid and fish, but have also been documented FEEDING on smaller delphinids being released from tuna purse-seines in the eastern

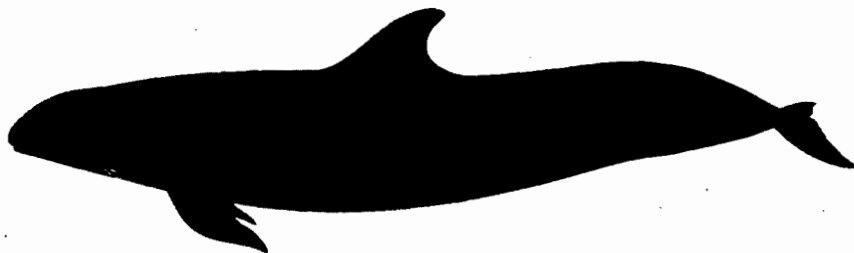


Figure 1 The quite social false killer whale (*Pseudorca crassidens*) does not resemble the killer whale (*Orcinus orca*) in external appearance. The skulls of the two species are, nevertheless, quite similar. Pieter A. Folkens/Higher Porpoise DG.

tropical Pacific. One case of predation on a humpback whale (*Megaptera novaeangliae*) calf has also been recorded, and they have been documented attacking sperm whales (*Physeter macrocephalus*). Nonaggressive interspecific associations with bottlenose dolphins (*Tursiops* spp.) have also been reported. Nothing is known about the DIVING BEHAVIOR of this species, and no predators of false killer whales have been reported, although large sharks likely take some individuals.

Life history information comes entirely from stranded individuals. Because the deposition rates of growth layer groups in the teeth have never been calibrated, there is some uncertainty in life history parameters. Both sexes are thought to mature between about 8 and 14 years of age, although there is some suggestion that males may mature later. Maximum longevity has been estimated at 57 years for males and 62 years for females. Calving interval for one population has been reported as almost 7 years, and calving may occur year-round, with a peak in late winter.

A number of types of interactions between humans and false killer whales have been documented. They are the only "blackfish" to regularly bowride on vessels, and in Hawaii they are regularly encountered by commercial whale- or dolphin-watching vessels. They have been maintained in captivity in a number of aquaria around the world, including Japan, the United States, the Netherlands, Hong Kong, and Australia. They have been successfully bred in captivity in several locations, and there they have produced viable interspecies hybrids with bottlenose dolphins. False killer whales are one of several species of odontocetes that occasionally steal fish from both commercial and recreational fishermen, with these types of interactions noted in Japan, Hawaii, the Indian Ocean, and the Gulf of Mexico. Such conflicts have resulted in direct killing in Japan, and small numbers have been occasionally taken in fisheries, both directly and incidentally as bycatch. They are one of a growing list of species that has been recorded ingesting discarded plastic, and high levels of toxins have been documented in tissues collected from stranded animals. It is unknown, however, whether such toxins contribute to immunosuppression in this species.

See Also the Following Articles

Melon-Headed Whale ☞ Pilot Whales ☞ Pygmy Killer Whale ☞ Risso's Dolphin

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Feeding Strategies and Tactics

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Marine mammals are found in a wide range of habitats, including the open ocean, coastal waters, rivers, lakes, and even on ice floes and land. They feed on a variety of prey species from aquatic plants to microscopic zooplankton to the largest marine mammals, and a diverse array of strategies and tactics are used to locate and capture these prey. Some marine mammals consume huge numbers of prey items at a time (batch feeding), whereas other attack and consume prey items singly (raptorial feeding). Many marine mammals forage in large groups, whereas others feed alone. This article considers the wide range of marine mammal foraging behaviors and the circumstances and habitats that led to the adoption of particular feeding strategies and tactics.

Before embarking upon a review of marine mammal foraging, it is important to make a distinction between a strategy and a tactic, terms which have specific meanings in the field of behavioral ecology. Put simply, a strategy is a genetically based decision rule (or set of rules) that results in the use of particular tactics. Tactics are used to pursue a strategy and include behaviors (Gross, 1996). Tactics may be fixed or flexible; in the latter case they depend on the condition of the individual or characteristics of the prey or environment. For example, a humpback whale's (*Megaptera novaeangliae*) strategy may be to use a tactic that will maximize energy intake at any particular time. The whale may pursue this strategy by switching between the tactics used to capture fish and those used to catch krill, depending on the relative ABUNDANCE of these two prey types.



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