

CETACEANS IN HONG KONG – FINLESS PORPOISE



Besides Chinese white dolphin, the Indo-Pacific finless porpoise (*Neophocaena phocaenoides*) is another cetacean species living in Hong Kong waters year round. They are not as charismatic and acrobatic as the dolphins. On the contrary, they evade any approaching vessel, making it difficult to observe them at sea. Nonetheless, they are actually lovely creatures that also deserve our attention and protection. If you know them more, certainly you can see their adorable side.

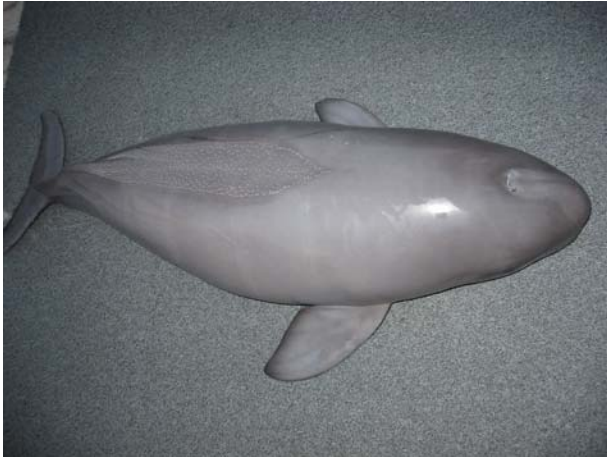
Finless Porpoise vs. Chinese White Dolphins

Difference #1: Taxonomy ~ Both species belong to the Order Cetacea, but finless porpoise is categorized in the family “Phocoenoide” (True porpoise), while Chinese white dolphins is in the family “Delphinidae” (Ocean dolphin).

Difference #2: Appearance ~ Porpoises are generally smaller in size, and finless porpoise is no exception. At birth finless porpoise is only around 70 cm long, and the maximum length of an adult can reach up to 1.8 m. On the other hand, a Chinese



white dolphin calf is around 1 m long at birth, and the adult can reach up to 2.6 - 2.7m long. Besides, finless porpoise in Hong Kong does not have a stunning colourful life cycle as the



Chinese white dolphin does. Finless porpoise calf is generally in light gray, and its colour darkens with age. Finally, as their name implies, "finless" porpoise does not have dorsal fin. Instead, rows of denticles can be found on their dorsal region. Chinese white dolphin does bear a prominent dorsal fin. Also, the finless porpoise does not possess a protruding rostrum, while the Chinese white dolphin has a long and slender rostrum.

Difference #3: Teeth ~ The teeth of these two resident species are also remarkably different from each other. Teeth of finless porpoise are small and are spatulate-shaped; while teeth of Chinese white dolphins are large and sharper. Scientists believe this may be related to their different feeding habits.



Difference #4: Behaviour ~ All members of porpoises are rather elusive, and finless porpoise is no exception. They surface secretively, often exposing only a small portion of their body, and disappear when there is any approaching vessel. On the contrary, Chinese white dolphin is more playful and approachable with lots of aerial behaviours displayed.

Taxonomy

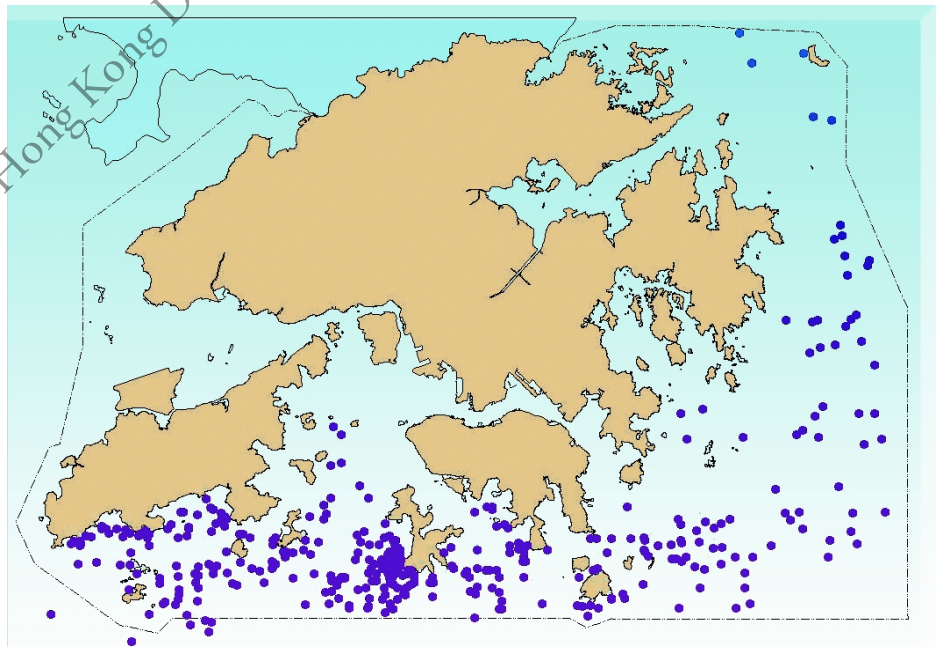
Currently, cetacean experts worldwide recognize two species of finless porpoises: Indo-Pacific finless porpoise (*Neophocaena phocaenoides*) and narrow-ridged finless porpoise (*Neophocaena asiaeorientalis*).

The main feature of Indo-Pacific finless porpoises is that they bear more than 10 rows of

denticles on their back, so they are previously known as the “wide-ridge form”. Those finless porpoises occurred along the rim of Indian Ocean and South China Sea (including Hong Kong) belong to this species. On the other hand, the narrow-ridged finless porpoises have only few rows of denticles with a prominent ridge, and they are also known as the “narrow-ridge form”. Those porpoises living in the Yangtze River, East China Sea (including the one in Matzu Islands of Taiwan), Bohai and Yellow Sea as well as waters of Japan and South Korea belong to the narrow-ridged species. There are likely further subdivisions of these two species to population or even subspecies level, but further genetic works will be needed for further clarification on the complex taxonomy of finless porpoises.

Where to Find and How Many in Hong Kong?

Although finless porpoise and Chinese white dolphin are neighbours in Hong Kong, their distributions are quite different. Finless porpoise mainly occur in southern and eastern waters of Hong Kong, and seasonal variation in their distribution is evident. From December through May, they mostly occur in southern waters including South Lantau waters, around Cheung Chau, Lamma Island and southern waters of Hong Kong. On the contrary, they tend to occur more in eastern waters of Hong Kong (including waters around Po Toi, Ninepins and Sai Kung) from June through November, and some may also shift offshore to mainland Chinese waters south of Hong Kong. It appears that finless porpoises rarely meet Chinese white dolphins. It is believed that their “habitat partitioning”



(i.e. segregation in different habitats spatially and temporally) are related to their feeding ecology and reproductive season. Finless porpoises prefer living in oceanic waters, while

Chinese white dolphins have a strong preference for estuarine waters. And it is possible that finless porpoise only come close to shore in southern waters of Hong Kong during winter and spring months, which coincides with the absence of Chinese white dolphins in these waters at the same time.

During 1998-2000, a 2.5 year comprehensive study commissioned by AFCD was conducted on finless porpoises in Hong Kong. Using line-transect survey method, the study estimated that there were around 217 finless porpoises dwelling in Hong Kong and adjacent waters. The number is assumed to be the minimum population size, but the population could well extend much further offshore from Hong Kong, and it could be much larger than the porpoise number estimated so far. This figure has not been updated ever since, and no information is available on trends in abundance in recent years, although the porpoises appear to occur more frequently in South Lantau waters since 2006.

Social Organization and Behaviour

Finless porpoises form mostly small pods, which are usually composed of 2-3 members.



Occasionally researchers observe pods of up to 30 finless porpoises. With their lack of dorsal fin and cryptic behaviour, they are impossible to be identified individually for study on their social structure.

Finless porpoises are so elusive that they seldom play, breach and socialize at water surface. In a typical surfacing, they only expose the backs on water surface, resembling some tires rolling on water surface. They seem to be more active during feeding activities. From land-based observation sites, researchers found that finless porpoises like to chase their prey near water surface. Besides, the porpoises are easily startled, and they make a quick dive once there is any approaching vessel. The combination of their elusive behaviour, dark body colour and the lack of dorsal fin make them one of the most difficult cetacean species to be observed and studied in the field.

Diet

After analyzing stomach contents of those stranded porpoises in Hong Kong, researchers found that they prefer to feed on a wide variety of fish species, numbering over 20 species such as anchovies and cardinalfishes. Other than fishes, porpoises also prey on cephalopods (e.g. squid) and crustaceans (e.g. prawns). This is quite different to Chinese white dolphin, which do not prey on cephalopods and crustaceans at all.



Threats Faced by Local Porpoises in Hong Kong

Local finless porpoises are currently facing a number of threats within their living habitat:

Habitat degradation ~ While coastal development in Hong Kong has increased rapidly in recent years, finless porpoises living in remote areas are eventually affected. For example, two offshore wind farm projects have been proposed in waters around Ninepin Islands and Lamma Island, which may affect those finless porpoises living nearby.



Fishery Bycatch ~ In the past, injury marks caused by fishing net entanglement have been observed on some porpoise carcasses in Hong Kong. Some carcasses were even found inside some fishing net, suggesting that fishery bycatch could be a serious threat to the porpoises.

Vessel strike ~ The southern waters of Lantau is a major shipping channel for the high-speed ferries traversing between Hong Kong and Macau/Zhuhai. When more finless porpoises move to these waters during winter and spring, it is possible that they can be hit

or even killed by these fast moving vessels. They can also be displaced from their favourable habitats due to the presence of frequent ferry traffic moving nearby.

Water pollution ~ The serious impact of pollutants in seawater imposed on the finless porpoises should not be overlooked. It has been found that specimens from finless porpoise carcasses in Hong Kong contain high level of organochlorines (e.g. PCBs and DDT) and heavy metal (e.g. mercury). It is believed that these environmental contaminants can weaken their immune system and impair their reproductive capability.

Conservation Status of Finless Porpoises Worldwide

Finless porpoises are widely distributed in inshore and offshore shallow waters along the coastline of western Pacific Ocean and eastern Indian Ocean. They occur from the Persian Gulf in the west, to Indonesia in the south and to Japan in the east. In fact, the species has been recorded in a plethora of regions and countries, including United Arab Emirates, Saudi Arabia, Bahrain, Kuwait, Iraq, and Iran in Middle East, and Pakistan, India, Sri Lanka, Bangladesh, Thailand, Malaysia, Brunei, Singapore, Cambodia, Vietnam, mainland China, Taiwan, Japan and South Korea in Southeast Asia. However, besides the populations residing in Yangtze River of China, Inland Sea of Japan, and Hong Kong



waters that received some level of research attention and conservation effort, most other porpoises in the rest of their range are very poorly known, with only stranding records in most places.

Up to date, the species finless porpoise has been categorized as “Vulnerable” by the IUCN Red List of Threatened Species. And only the Yangtze River finless porpoises have been classified as “Endangered” due to the rapid decline in the past decades in association with severe habitat degradation throughout the population range. In addition, the CITES has listed finless porpoise in Appendix I, which means international commercial trade of finless



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porpoise is strictly prohibited. In some areas including Hong Kong, mainland China, Japan and Taiwan, this species is also legally protected, but the implementation of legislation is generally weak, offering only limited protection to the species (e.g. no hunting is allowed).

Overall, the finless porpoise is in no immediate danger of global extinction as they are widely distributed in the world. But several populations are probably seriously threatened, including those in Yangtze River and the Inland Sea of Japan. Some others have probably been lost before they could be documented.

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