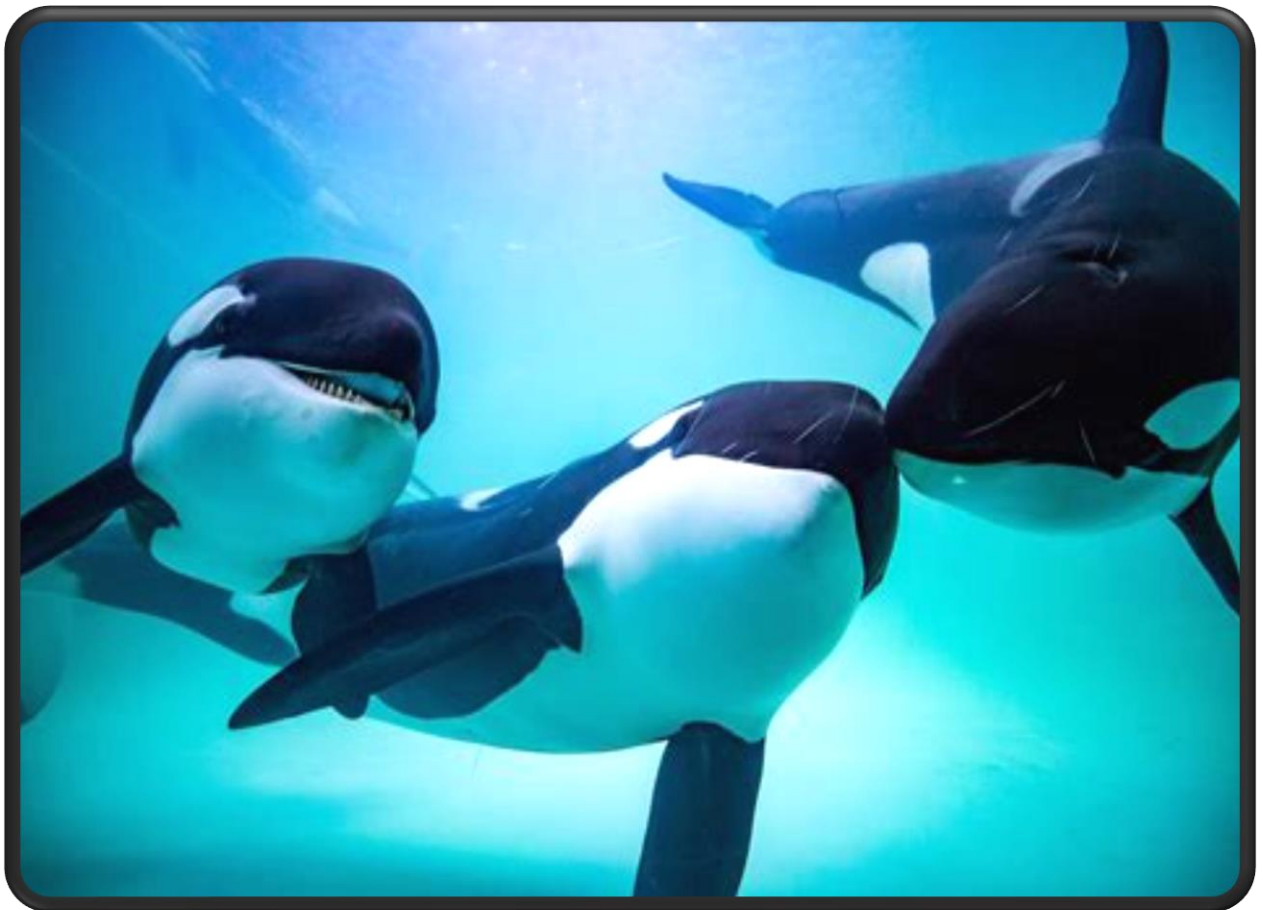

ORCINUS ORCAS, HUMAN ALL TOO HUMAN?

Giuseppe Gillespie

07/05/2021





The only surviving member of the “kingdom of the dead” *Orcinus* genus, the *Orcinus Orca*, or as it’s more familiarly known as, the *Killer Whale* has long been a recognisable species of oceanic dolphin (despite “whale” in its colloquial name), even ascending to stardom in various media such as in the 1993 film *Free Willy* – the eponymous character being played by a captive Orca named Keiko, and the 2013 documentary on captive killer whales *Blackfish*.

These bulky carnivorous mammals are the largest of the dolphins and can live between 50 – 80 years in the wild and are known to feast upon fish, seal, shark, squid, sea lion, penguin, and true to its namesake, other types of whales. Using echolocation in communication and hunting, the Killer Whale is a sophisticated predator. Often hunting in groups called *pods* (up to 40 members strong), Killer Whales are known to utilise cooperative hunting techniques to catch and kill their prey^[1].

Unlike its now extinct brethren the *Orcinus Paleorca*, *Citoniensis*, and *Meyeri*; the Killer Whale is abundant and can be found in every ocean across the globe, however, despite this the *Conservation Status* of the Killer Whale is currently unknown according to the ***International Union for Conservation of Nature (IUCN) Red List of Threatened Species Version 2021-1***^[2]. It is estimated that there are around 50,000 killer whales globally and the *Southern Resident Killer Whale population* has been listed as endangered as of 2005 under the Endangered Species Act (ESA) issued by U.S. Congress (1973)^[3].

The ever-present threat of climate change poses a danger to land and marine animals alike. The delicate natural ecosystems that these animals inhabit are undergoing climatical changes such as changes in weather, temperature, and water level, which often result in serious negative outcomes such as shortages of prey and habitat degradation leading to forced migration to new locations with less or no food.

The orca is no exception and in addition to facing the adaptation required to survive climatical changes, they must also adapt to problems that humans have a hand in causing such as over-fishing leading to shortages of food. In particular the Pacific Northwest Resident Orcas who exclusively hunt fish are in danger of decline due to reduced stocks of fish found in the ocean.

Other Orca communities such as the West Coast Community (UK Waters) consist of only 8 or 9 members as of 2014 and will most likely go extinct as no new calves have been sighted in the pod for the past two decades^[4]. There is speculation that chemical pollutants could be a major cause in the decline as Persistent Organic Pollutants do not degrade and are passed from mother to calf increasing infant mortality rates among the population.

Two of the most prevalent Persistent Organic Pollutants that pose a risk to the Orca are PCBS (Polychlorinated Biphenyls) and DDT (Dichloro-Diphenyl-Trichloroethane). *“Made from carbon-based petroleum products, they degrade extremely slowly and can persist in the environment for decades or more. Biological effects of these compounds in animals (including humans) include cancer, endocrine system or immune system disruption, and interference with brain development in the foetus.”*^[5]

There are 10 known types of orca globally (Excluding misc. Northern & Southern Hemisphere types) and they all come in various sizes and markings, however, whether these differences warrant classification of subspecies or new species of orca altogether cannot be agreed upon by researchers. As a result, orca are differentiated by *Ecotype* – Population groups of a species that exhibit behavioural, structural, or physiological differences within other members of the same species.

Orcinus orca

A diversified portfolio

KILLER WHALES

Ecotypes & Forms

SOUTHERN HEMISPHERE

NORTHERN HEMISPHERE

1 Antarctic Type A Killer Whale

males - females

some have slight open saddle

6 Resident Killer Whale

males - females

full dorsal fin may be forward-slanted, with wavy trailing edge

dorsal fin rounded at top with pointed trailing tip

6



The best-known killer whale, a medium-large (to 2.2 m), black and white form that lives in coastal waters of the North Pacific. Saddle patch often has a large black transverse (open) saddle (not found in other killer whales). A fish specialist - some populations feed almost exclusively on salmon. Females may live to 80-90 years.



7

2 Pack Ice Killer Whale (large type B)

large oval eye patch

dorsal cape, sometimes shows narrow white border

7 Bigg's Killer Whale (transient)

eye patch usually starts slightly downward & towards the rear

generally pointed dorsal fin

7



A large (perhaps 8 m), black and white form - similar to resident killer whale except it lacks an open saddle. Occurs in coastal and offshore waters of the North Pacific. A mammal-eater, it feeds mostly on harbor seals and minke whales but will also take sea lions, otters, calves of large whales, etc. Named after pioneer killer whale researcher, Michael Bigg.

8



3 Gerdache Killer Whale (small type B)

often has yellow cast due to diatoms

large oval eye patch, narrower than Pack Ice Killer Whale

8 Offshore Killer Whale

front saddle

dorsal fin rounded at tip

8



A smaller form (to 6.7 m) rarely observed because it occurs mainly over outer continental shelf of eastern North Pacific. Group size usually large (100-200); ranges widely; some groups travel between Alaska and southern California. Apparently feeds extensively on sharks and teeth are often worn to gum line due to rough skin of sharks.

9



4 Ross Sea Killer Whale (type C)

often has yellow cast due to diatoms

large oval eye patch, narrower than Pack Ice Killer Whale

9 Type 1 Eastern North Atlantic

conspicuous saddle

relatively large eye patch

9



A smaller (to 6.6 m), black and white form, currently known only from the North Atlantic. Off Norway, feeds on herring and mackerel, which are cooperatively herded into dense schools; some individuals have also been seen to take seals. Teeth of this form are often worn smooth to the gum line - perhaps from feeding on sharks also.

10



5 Subantarctic Killer Whale (type D)

often has yellow cast due to diatoms

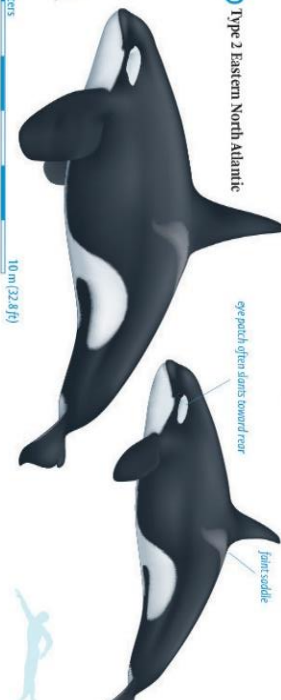
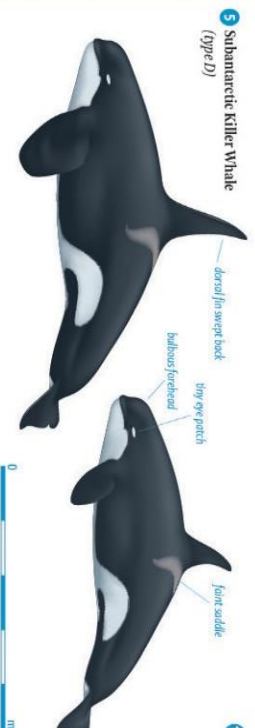
narrow forward-slanted eye patch

10 Type 2 Eastern North Atlantic

eye patch often slants toward rear

front saddle

10



A large (to 8.5 m), black and white form (only recently recognized, but with distinctive back-slapping white eye patch. Few reported, observed, but currently known only from the North Atlantic where it is known to prey on other cetaceans, especially minke whales.

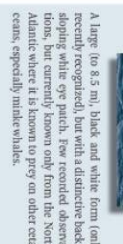
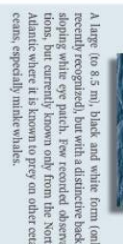
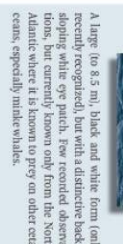
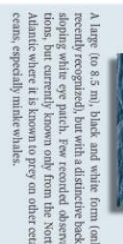
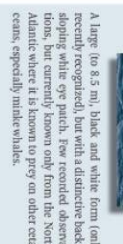
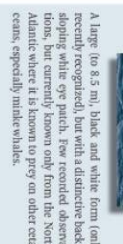
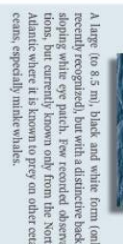
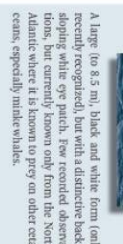
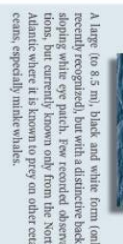
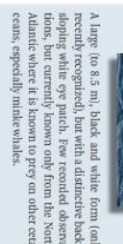
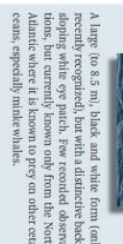
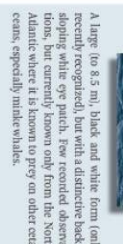
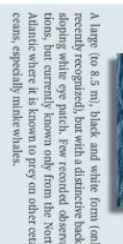
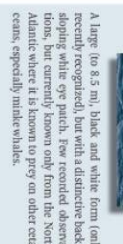
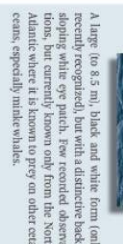
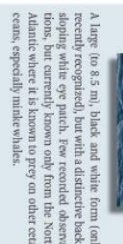
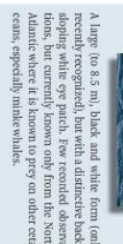
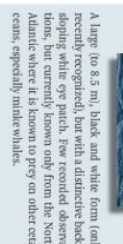
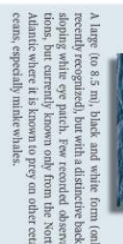
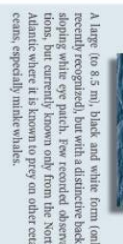
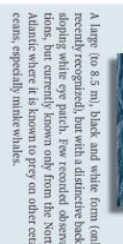
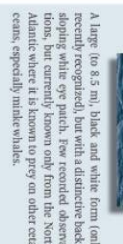
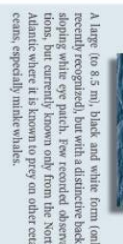
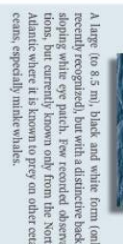
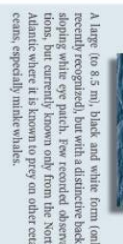
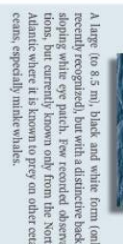
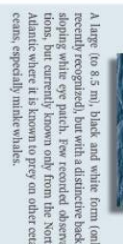
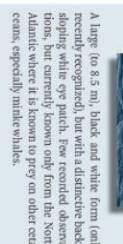
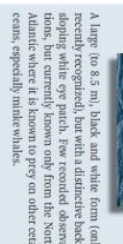
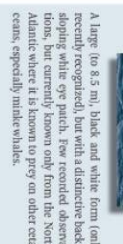
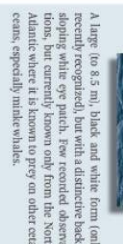
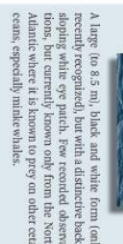
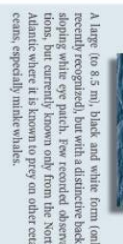
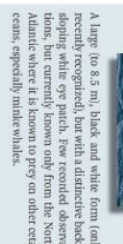
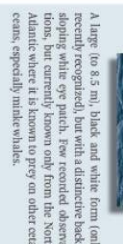
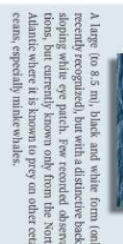
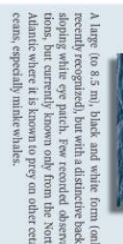
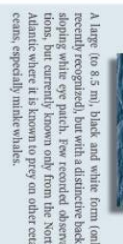
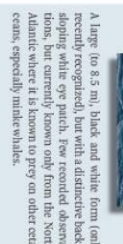
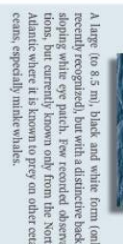
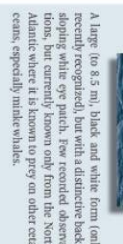
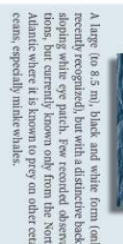
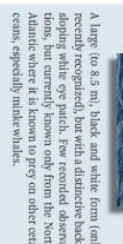
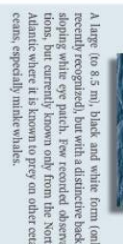
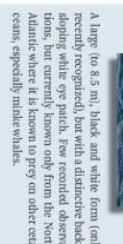
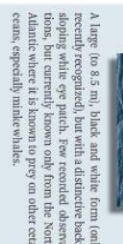
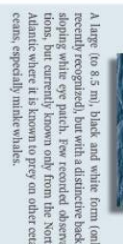
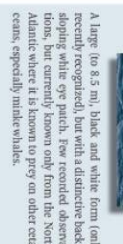
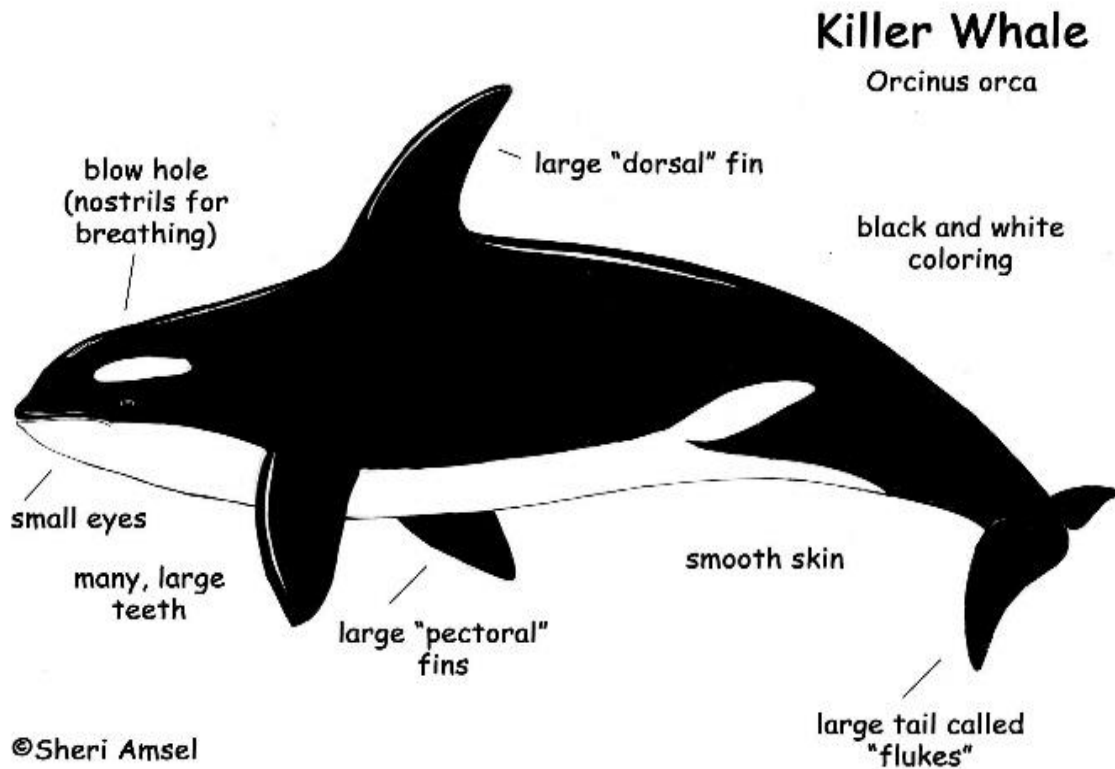


Diagram of Killer Whale



Orcas are known to be highly intelligent and cunning, capable of forming complex social structures with communities "*which can contain several to as many as 50 individuals*^[6]", it helps that they are also an apex predator, meaning they aren't subject to natural predation themselves. They also exhibit peculiar human-like behaviours such as "*Killer whales imitate others, and seem to deliberately teach skills to their kin*^[7]" and it has been suggested that *the killer whale's use of dialects and the passing of other learned behaviours from generation to generation have been described as a form of animal culture*^[8].

Despite the negative connotation of their name, there has been no recorded fatal attacks on humans conducted by wild killer whales, and only one well-documented instance of a wild orca biting a human in the past 50 years, that of September 9th, 1972 when a Californian surfer reported being bitten at Point Sur State Conservation Area. Orcas in captivity however are another story. To date there have been dozens of reported attacks and incidents against trainers and at least 6 deaths^[9]. According to National Geographic reasons for increased hostility in captive-bred orcas include increased stress due to the incapability of artificial enclosures to provide adequate space for swimming and diving, and the presence of artificial social groups, with members often being transferred between facilities, breaking the orca's need to form complex social relationships^[1].

Thus concludes this brief look at the apex predator of the ocean (contrary to ubiquitous belief it is not in fact the Great White), these are complex marine mammals with the capacity for reason and social relationships, who use numbers and clever tactics to efficiently hunt, one could almost say that their behaviours and social structure resemble that of a very primitive form of a familiar hominid that which is human, all too human.

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