

04. Marine mammals

Raphaëla Le Gouvello Education packet - Windsurfing solo across the Indian Ocean

<http://www.respectocean.com>



Wildlife / biodiversity



Dolphin



Dolphin



Whale

Question

Read the text carefully. What are the differences between cetaceans and fish?

What is a cetacean?

Cetaceans are marine mammals, the best known of which are dolphins, whales and sperm whales. There are 84 species of cetaceans, divided into two major groups, the odontoceti (toothed whales) and the mysticeti (baleen whales, also called whalebone or great whales).

- ▶ Odontoceti have teeth and feed on fish and squid. This group includes **dolphins** and **sperm whales**.
- ▶ Instead of teeth, mysticeti have hundreds of comb-like baleen plates that filter food out of the water. They eat mostly small fish and crustaceans. This group includes **whales** and **rorquals** (fin whales).

The different species vary tremendously in size. The blue whale, which is the largest animal on the planet, measures up to 33 meters (108 feet) in length and weighs approximately 100 tons. But **common porpoises**, which are in the dolphin family, grow to only 2 meters (6.5 feet). The cetaceans most commonly seen in the Indian Ocean are: long-beaked dolphins, spotted dolphins, bottle-nose dolphins and humpback whales. Raphaëla is sure to see some of these cetaceans during her crossing ... and maybe even some rorquals (fin whales), sperm whales, or orcas (killer whales).

A brief description

- ▶ **They nurse...** Females nurse their young from birth. The presence of mammary glands, or teats, is a basic characteristic of mammals, whether they live on land or sea. The nursing period can be long or short depending upon the mammal. In cetaceans, it generally lasts several months, during which the young stay near their mothers and nurse several times a day.

- ▶ **They breathe...** Cetaceans, like all mammals, marine or land, fill their lungs with air. They hold their breaths when they dive, and must come back to the surface to breathe. Sperm whales hold the record for the lowest dives, descending up to 3,000 meters (9,800 feet) and remaining under water for more than two hours without coming up for air! To accomplish this, once their blood and muscles have been enriched with oxygen, they empty their lungs of air and slow their heartbeats down. Humans can only dive as low as 200 meters (656 feet), maximum, the latest record for a breath-held dive! Beyond this, humans must use special submarines, such as Ifremer's Nautile, to explore the depths.

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Walrus



Walrus

Activities

- ▶ Look up several cetaceans of your choice. For each one, indicate their size, weight, where they live, whether they live alone or in groups, what they eat, etc.
- ▶ Draw a picture of your favorite cetacean, adding words to indicate the different parts of its body.



Dugong (sea cow)

Navigating and hunting food in water: echolocation

To navigate through often dark waters, cetaceans use sonar, a sort of biological transmitting system that produces ultrasounds. These sounds reflect off objects and “echo back” to the animals. The cetaceans analyze these echoes to get a “picture” of their surroundings. They can then move about freely, avoiding objects and identifying their prey, even in the darkest waters. The high technology sector has borrowed this system and developed it for human use: certain boats, in particular fishing boats and submarines, are equipped with sonar.

Communication

Marine mammals communicate through sounds emitted from their nasal cavities. These low-frequency sounds carry well in water and can sometimes travel even hundreds of miles. For example, groups of dolphins coordinate hunting parties using a wide array of sounds, from clicks to whistles, while male humpback whales “sing” to attract females.

Lifestyle

Marine mammal lifestyles vary greatly from species to species. In general, they live in groups of from two to three to several dozen animals. Living in groups allows them to hunt fish schools together in an organized way and to protect individuals from attacks by predators. Some cetaceans travel very long distances. This is the case of the humpback whale, which, after feeding and resting in cold waters during the polar summer, migrates thousands of kilometers to reproduce in warmer waters.

Other marine mammals

One webbed-foot on land, the other in water: that’s the life of the pinniped (seals, otters and walrus). Their flippers allow them both to swim and to move about to some degree on land. These marine mammals feed in the sea but must come up on land to reproduce. Don’t forget that some 60 million years ago, all mammals lived on solid ground!