OCE 2001

Marine Organism Classification

* Domain Archaea – prokaryotic cells
  + Extremophile bacteria in hydrothermal vents
* Domain Bacteria – prokaryotic cells
  + Bacteria that live on/in other marine organisms
  + Bacteria that photosynthesize
  + Includes what used to be in Kingdom Monera
* Domain Eukarya – eukaryotic cells
  + “Kingdom Protista”
    - Algae – photosynthetic protists
      * Seaweed
        + Brown Algae – Sargassum, Giant Kelp
        + Green Algae – sea lettuce
        + Red Algae
      * Phytoplankton
        + Diatoms
        + Coccolithophores
        + Dinoflagellates
    - Protozoans – heterotrophic protists
      * Zooplankton
        + Radiolarians
        + Foraminiferans
  + Kingdom Plantae
    - Phylum Anthophyta – flowering plants
      * Sea grasses, mangroves
  + Kingdome Animalia
    - Phylum Porifera – sponges
    - Phylum Cnidaria – jellyfish, corals
    - Phylum Mollusca – clams, oysters, snails, squid, octopus
    - Phylum Arthropoda – lobster, crab, krill
    - Phylum Echinodermata – star fish (sea stars)
    - Phylum Chordata
      * Subphylum Vertebrata
        + Class Chondrichthyes – cartilaginous fish (sharks, rays)
        + Class Osteichthyes – bony fish
        + Class Reptilia – sea turtles, sea snakes

Also now includes birds (“Class Aves”) – pelicans, osprey, penguins

* + - * + Class Mammalia

Order Carnivora

Sea otter, polar bear

Family Odobenidae – walrus

Family Otariidae – sea lions (“eared”)

Family Phocidae – seals

Order Sirenia – manatees

Order Cetacea

Suborder Odontoceti – toothed whales

Dolphins, killer whales, sperm whales

Suborder Mysticeti – baleen whales

Blue whale, gray whale, humpback