Organism Classification

OCB 3017

* Domain Archaea – prokaryotes
  + Includes the extremophile bacteria like those found in hydrothermal vents
* Domain Bacteria – prokaryotes
  + Includes *Vibrio, E. coli, Staphylococcus,* all that used to be in Kingdom Monera
  + Includes photosynthetic bacteria – Cyanobacteria
    - *Anabaena, Gleocapsa*
* Domain Eukarya – eukaryotes
  + Protists
    - Algae – photosynthetic
      * Microscopic – phytoplankton
      * Macroscopic – seaweed, *Sargassum*
    - Protozoans – heterotrophic
      * Part of the zooplankton
  + Plants – multicellular, photosynthetic
    - Nonvascular plants - mosses
    - Vascular plants
      * Seedless - ferns
      * Seed
        + Gymnosperms
        + Angiosperms

Mangroves, sea grasses (turtle grass, manatee grass), dune plants

* + Animals – multicellular, heterotrophic, have mobility at some point in life cycle
    - Parazoa – no embryonic tissues
      * Porifera – sponges
        + Yellow tube sponge, fire sponge, lavender tube sponge
    - Eumetazoa – true embryonic tissues
      * Radially symmetrical animals – 2 embryonic tissues
        + Cnidarians – brain coral, branching coral, rose coral, star coral, sea fan, sea feather

Class Anthozoa – sea anemones, corals

brain coral, branching coral, rose coral, star coral, sea fan, sea feather

Class Hydrozoa – hydra

Class Scyphozoa – “jellies”

* + - * + Ctenophores
      * Bilaterally symmetrical animals – 3 embryonic tissues
        + Acoelomate – no true gut

Platyhelminthes – flatworms

Class Turbellaria – free living

Class Trematoda - flukes

Class Cestoda - tapeworms

* + - * + Coelomates – true gut

Protostomes

Mollusca

Class Polyplacophora - chitins

Class Gastropoda – snails

Class Bivalvia – clams, oysters

Class Cephalopoda – octopus, squid

Annelida

Class Oligiochaeta – earthworms

Class Hirudinea – leeches

Class Polychaeta – many marine species, feather dusters, sand worms, reef building worm found here in florida

Nematoda

Round worms

Arthropoda

Chelicerates – horseshoe crab

Crustaceans – crab, lobster, barnacle

*Limulus polyphemus, callinectes sapidus*

Insects and relatives

Deuterostomes

Echinoderms

Class Ophriuroidea – brittle stars

Class Echinoidea – sea urchins

Class Asteroidea – sea stars

Class Holothuroidea – sea cucumbers

Class Crinoidea – sea lilies

Chordates

Subphylum Urochordata – tunicates

Subphylum Cephalochordata – lancelets

Subphylum Vertebrata

Agnatha – jawless fish

Gnathostomes – jawed animals

Jawed Vertebrates

* Class Chondrichthyes – sharks, rays
* Class Osteichthyes – bony fish, ray finned fish
  + Tuna, grouper, sailfish, seahorses, eels, red drum, snapper
* Class Amphibia
* Class Reptilia – includes birds
  + Sea turtles, sea snakes, pelican, penguin, seagull, osprey, killifish
* Class Mammalia
  + Carnivores – sea otters, polar bears, pinnipeds (walrus, seals, sea lions)
  + Sirenians – manatees
  + Cetacea
    - Odontocetes – toothed whales
      * Dolphins, porpoises, orca
    - Mysticetes – baleen whales
      * Gray whale, right whale, blue whale