

## **PHYLLUM CNIDARIA (11,000 spp, mostly marine)**

### **4 Classes**

**Hydrozoa (4,000 spp)**

**Scyphozoa (200 spp) - reduced polyp, developed medusa, no velum**

**Cubozoa (several spp) - cub-shaped jellyfish**

**Anthozoa (6,000 spp) - no medusa, complex polyp**

**Two body forms - POLYP (e.g. sea anemones)**

**- MEDUSA (e.g., jellyfish)**

**Radial symmetry, mouth surrounded by tentacles**

**Blind Digestive Tract (no anus)**

**Diploblastic (2 germ layers, ectoderm & endoderm)**

**No mesoderm - instead MESOGLEA (a collagen glue w/ or w/o cells in it)**

**Blastopore → mouth**

**Cnidocytes - stinging cells unique to this phylum**

**Some organ systems present**

**Interstitial cells - totipotent**

**Skin/Exoskeleton - Epidermis - calcareous in some anthozoans**

**Cnidocytes - (Cnidocil, Nematocyst) - barb, chemical toxin, entangling filament, & many neighbors.**

**Used once, reabsorbed, new ones from interstitial cells.**

**Endoskeleton - Hydrostatic and hydraulic fluid pressure**

**Muscular/motor - Epitheliomuscular cells with contractile fibers (e.g. move arms, pulse bell, tumble)**

**Digestive - Gastrovascular cavity - intra- and extra-cellular digestion (Nutritive cells and gland cells)  
Most carnivorous (plankton to fish)  
Dinoflagellates symbionts of coral (CaCO<sub>3</sub>)**

**Respiration - diffusion**

**Excretory - diffusion**

**Circulatory - diffusion**

**Nervous System - Nerve Net - 2-way conduction, some coordination, only sensory & motor neurons**

**Sensory - Tactile receptors in epithelium, statocysts, & ocelli  
(in some) in margin of bell (Rhopalia)**

**Reproduction - Excellent regeneration (interstitial cells)**

**Asexual - budding - buds will detach, or in colonial  
forms remain attached on stalks**

**Sexual - usually dioecious - interstitial cells give rise to  
gametes (not in gonads - no sterile cells)**

**Most anemonies are monoecious**

**Fertilization is external → Planula Larva**