Diversity of Life – Animals

CNIDARIA
(jellyfish, anemones, corals)

A Phylogeny of the Animal Phyla

Cnidaria - jellyfish, corals, anemones

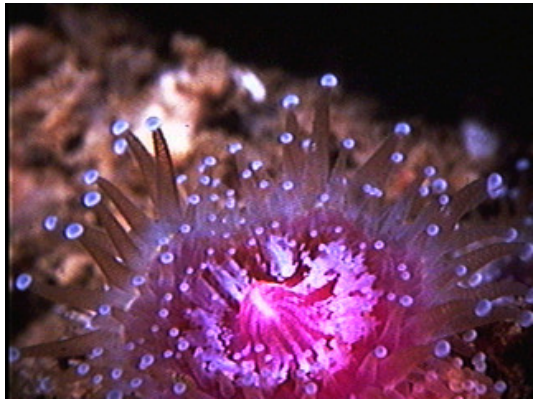
- Description

  Animals that are

  - diploblastic
  - gastrovascular cavity
  - single opening (mouth + anus)

Cnidaria - jellyfish, corals, anemones

Jelly fish

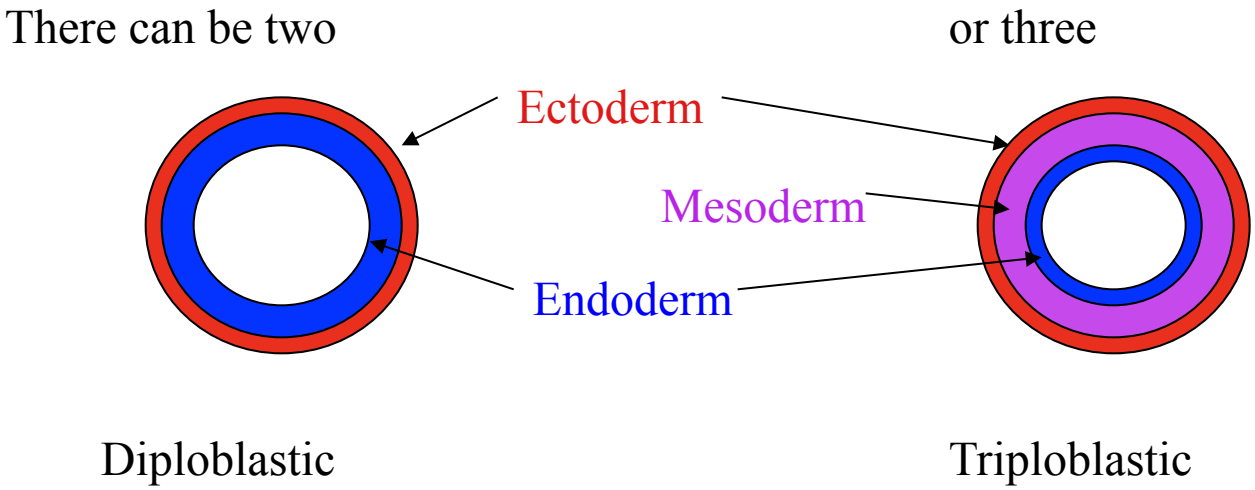


Anemones

Corals

Hydroids

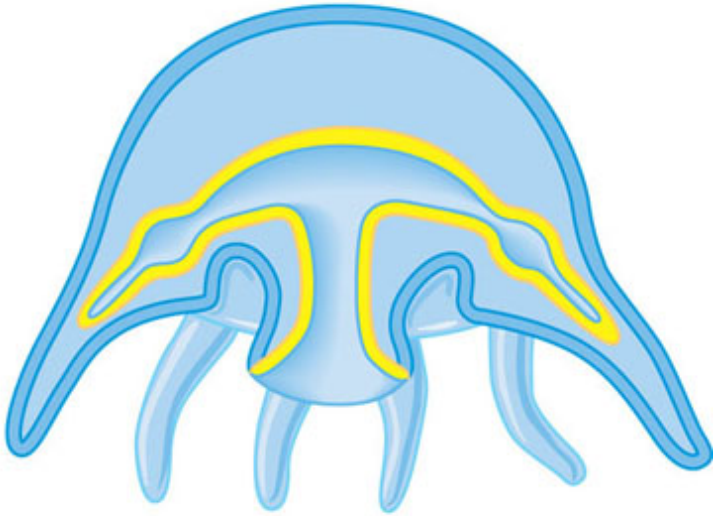
Cnidarians are diploblastic animals (2 germ layers)



Cnidaria - Body plans

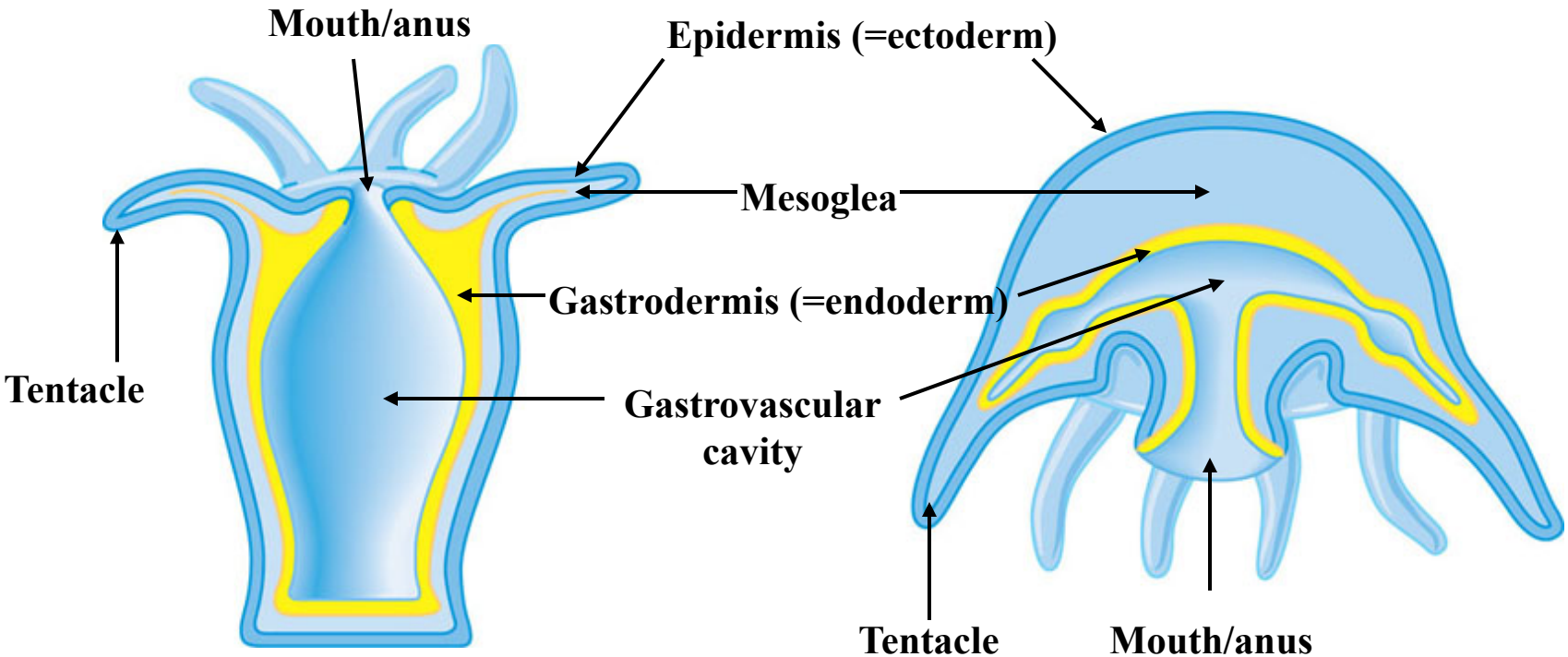
Both forms are present in the life cycles of most cnidarians

POLYP



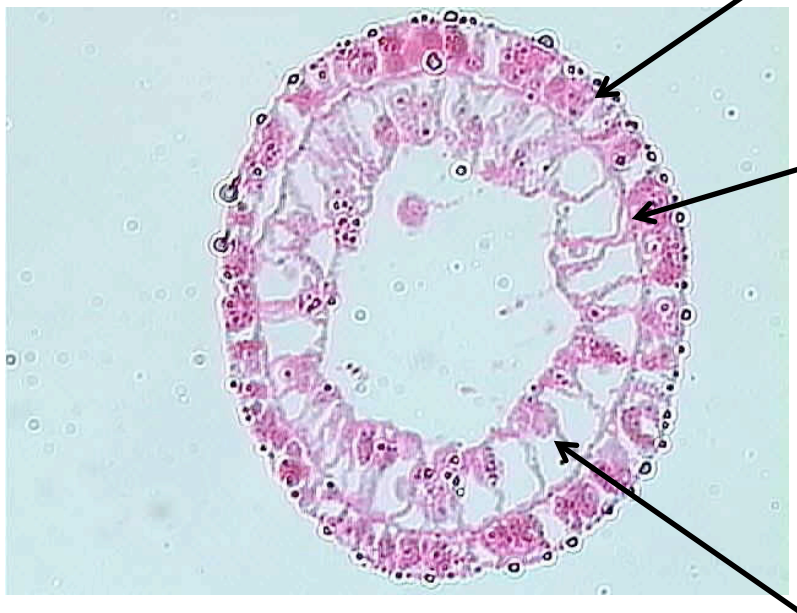
MEDUSA

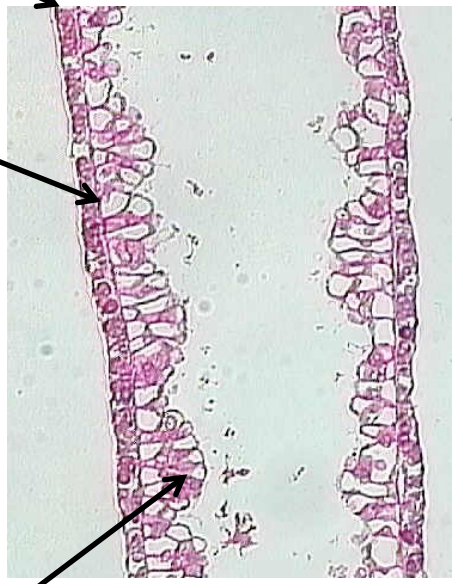
Cnidaria - Body Plans



Note: No Mesoderm

Cnidaria - Body Plans



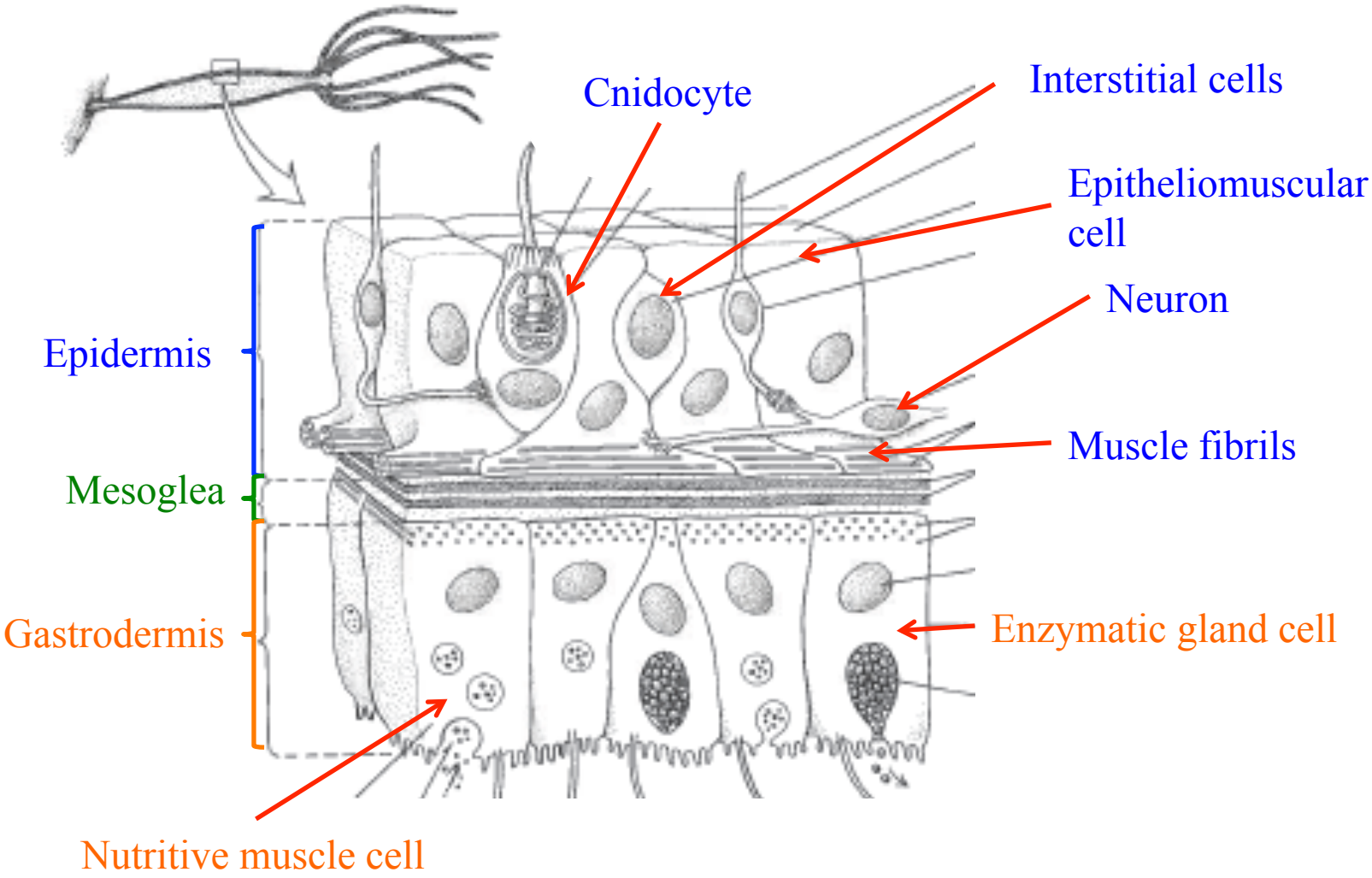


Epidermis (ectoderm)

Mesoglea

Gastrodermis (endoderm)

Cnidaria - Body Plans



Cnidaria - Body Plans

Epidermis **Epitheliomuscular cells** – form outer covering of animal
- contractile

Interstitial cells – produce other kinds of cells including sperm and egg

Cnidocytes – feeding cells

Neurons – nerve cells: part of the nerve net

Muscle fibrils – contractile fibres – allow movement

Cnidocytes – feeding cells

Neurons – nerve cells: part of the nerve net

Gastrodermis **Nutritive muscle cell -** takes in food from gastrovascular cavity

Enzymatic gland cell - secretes enzymes to 'pre-digest' food

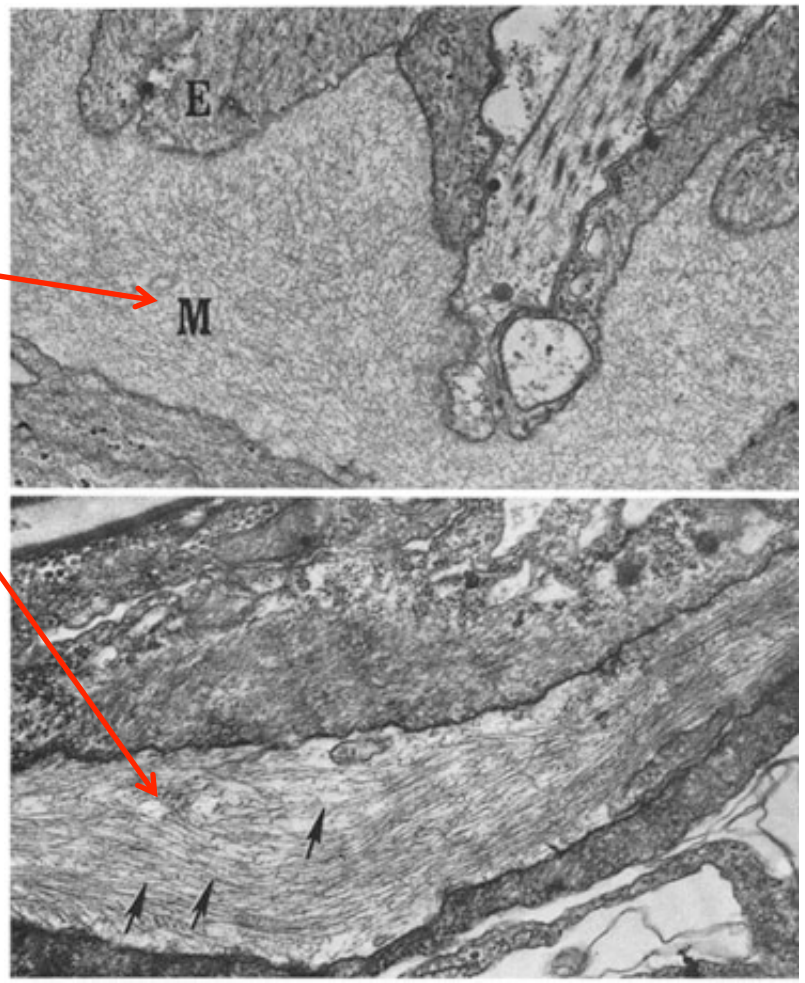
Cnidaria - Body Plans

Mesoglea

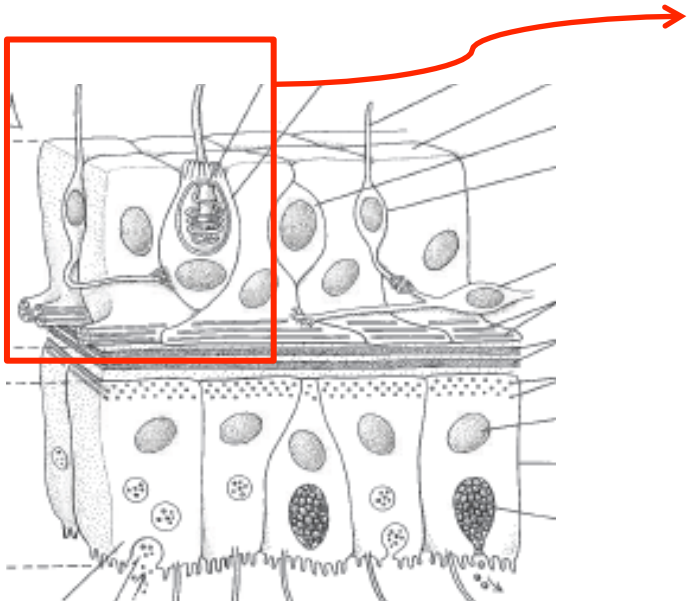
Cnidaria - Body Plans

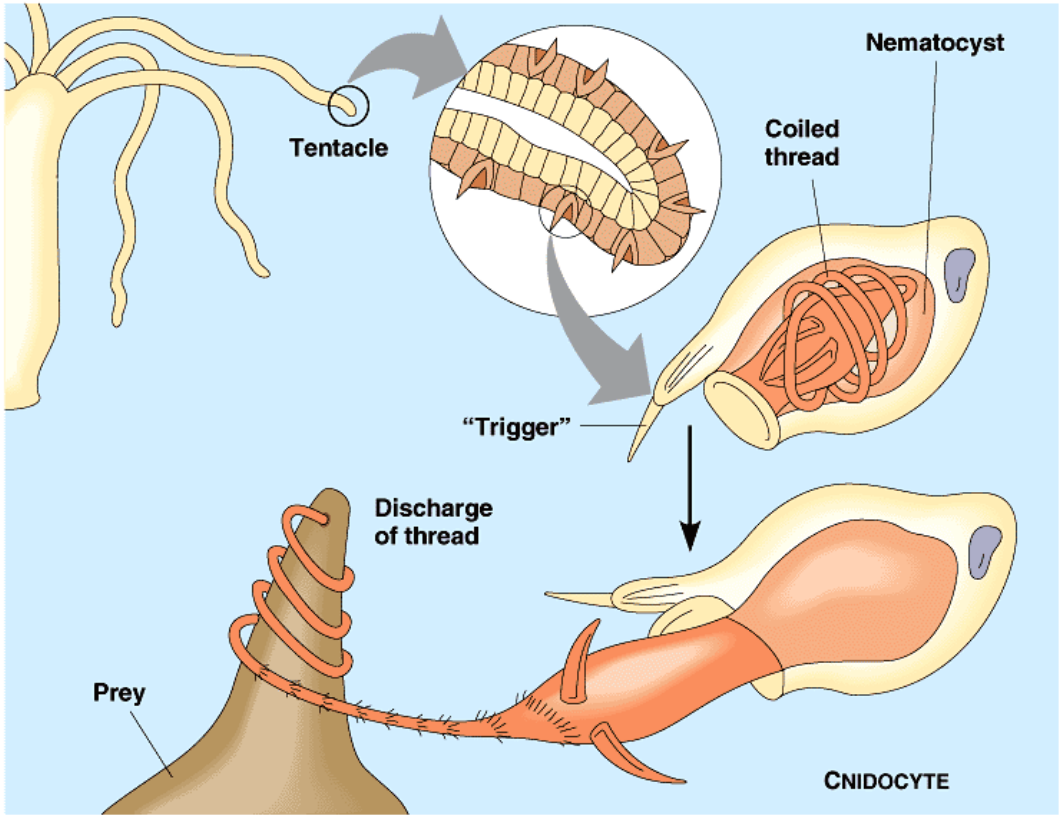
Mesoglea

Fibres of collagen &
mucopolysaccharides



Cnidaria - Feeding





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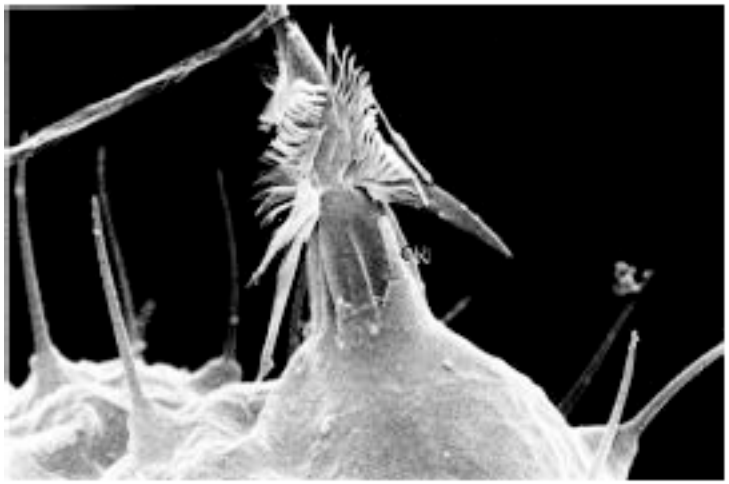
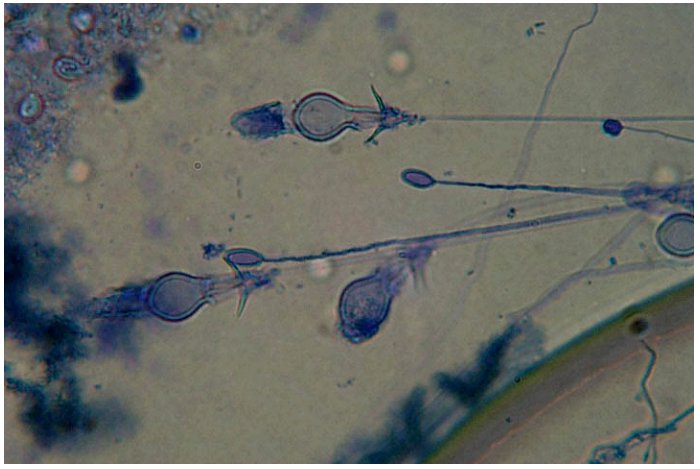
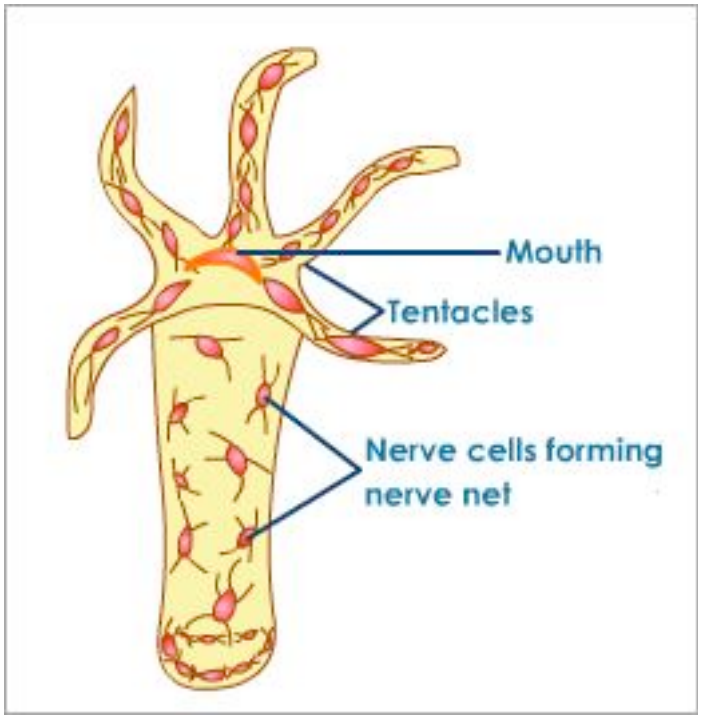
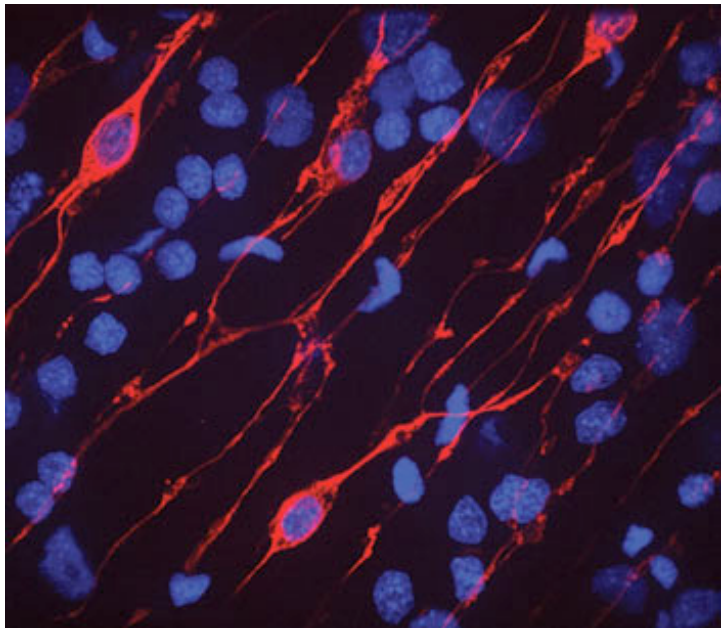




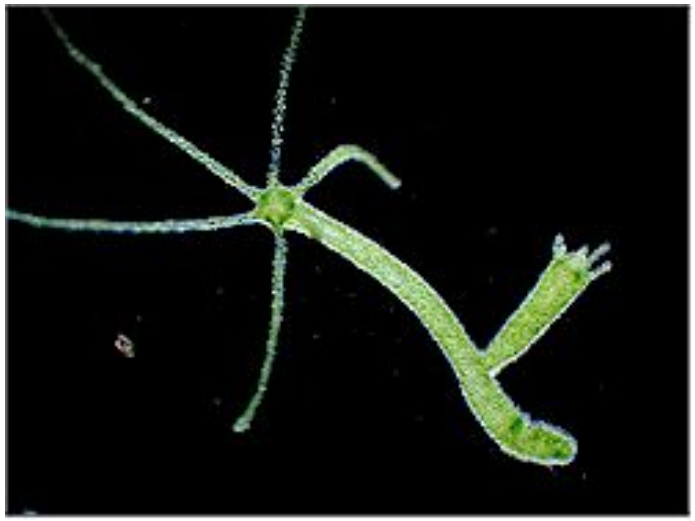
Cnidaria – Nerves and Movement





Cnidaria - Types of Cnidarians

1. Hydrozoa - *Hydra*, Portuguese-man-of-war, fire corals
   - both polyp and medusa in life cycle



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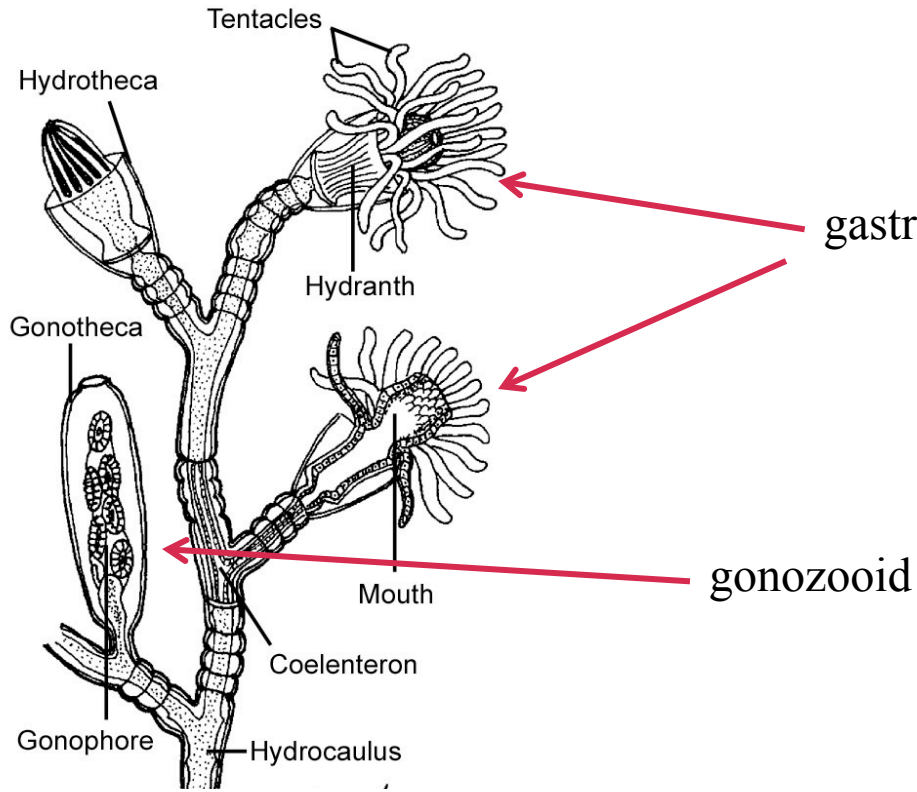
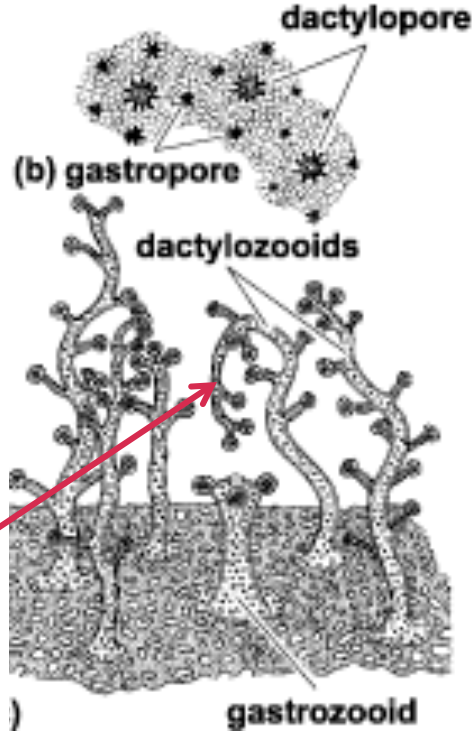


gastrozooid

gonozooid

dactylozooid



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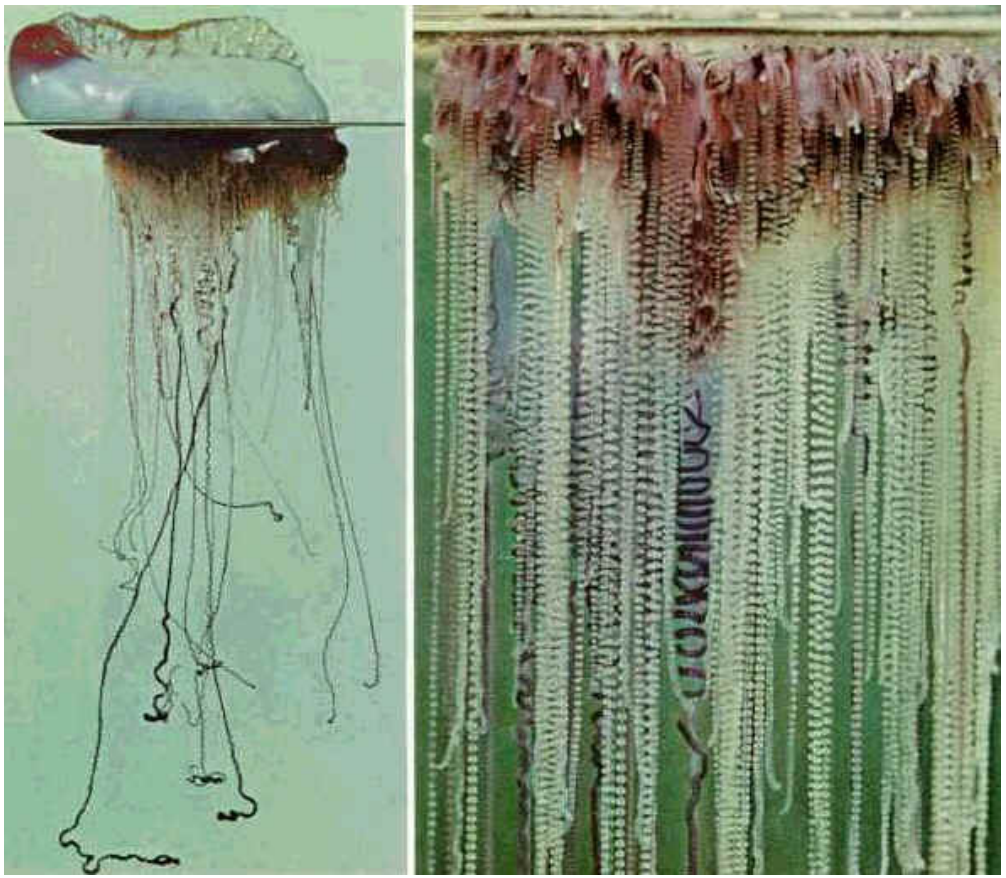

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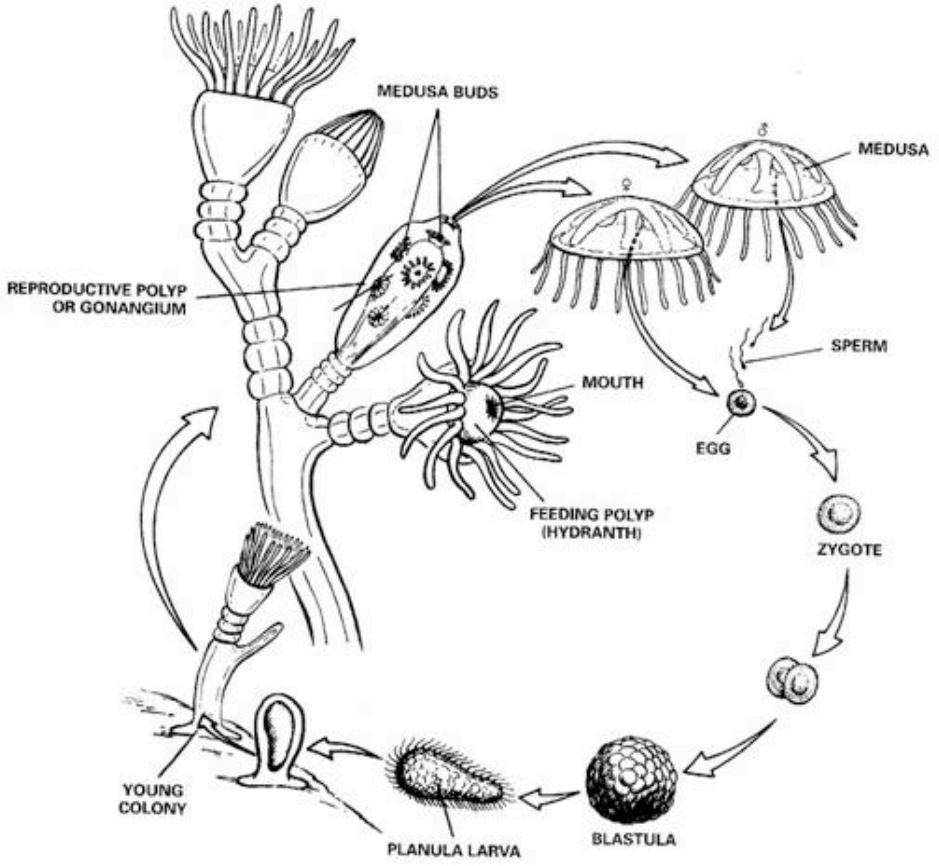
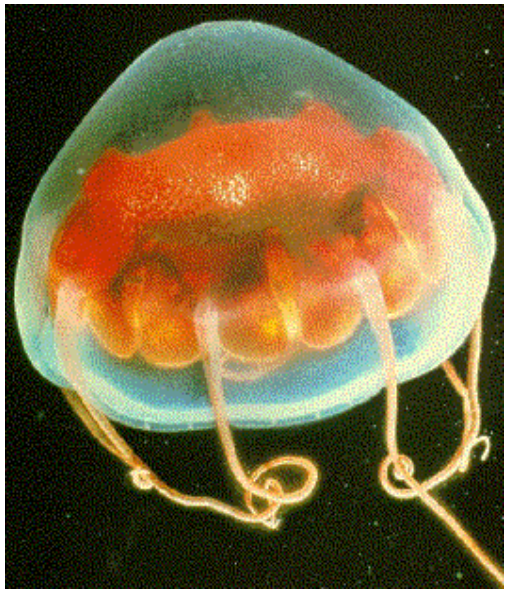
Life Cycle



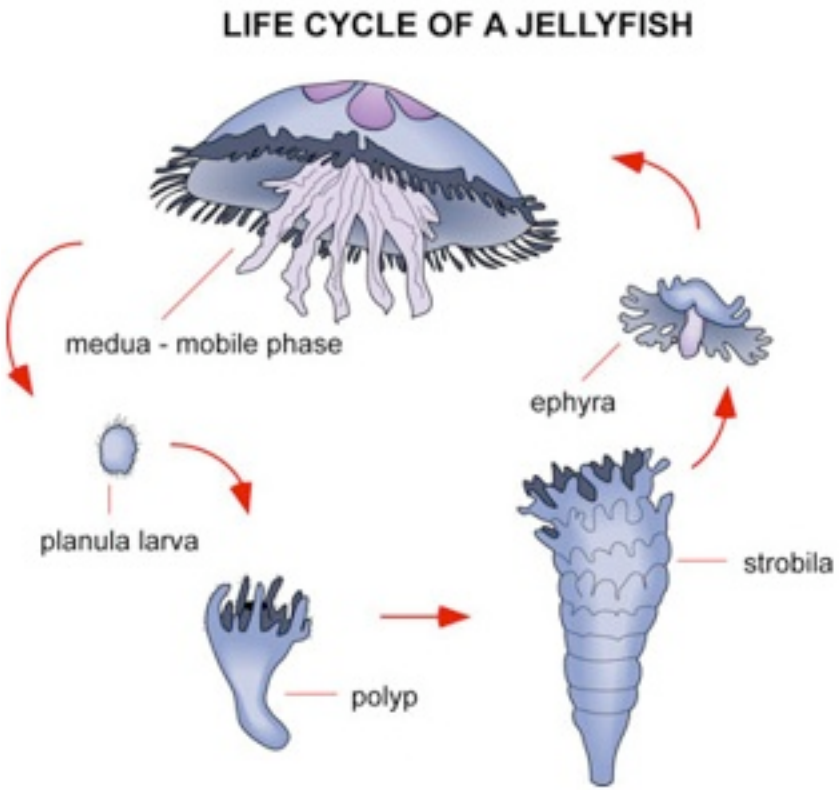
Cnidaria - Types of Cnidarians

2. Scyphozoa - jellyfish
   -exist as a medusa - polyp stage is reduced



Cnidaria - Types of Cnidarians

3. Anthozoa - anemones and true corals
   -exist as a polyp - medusa stage is absent



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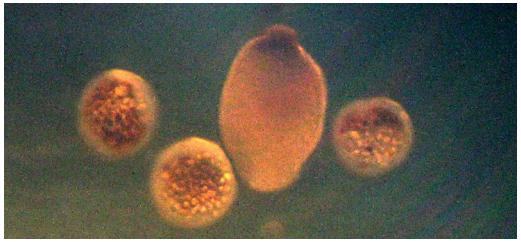
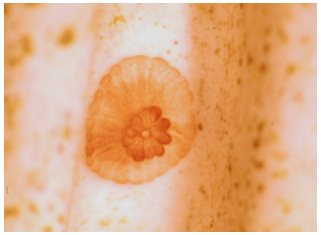
Adult colony

Eggs

Sperm

Planula





Primary polyp