Biology 10

Ch 26-1 (752-756)

The Invertebrates

Objectives

- Briefly describe the ancestors of animals.
- Explain how each group of invertebrates is more advanced than the previous group.

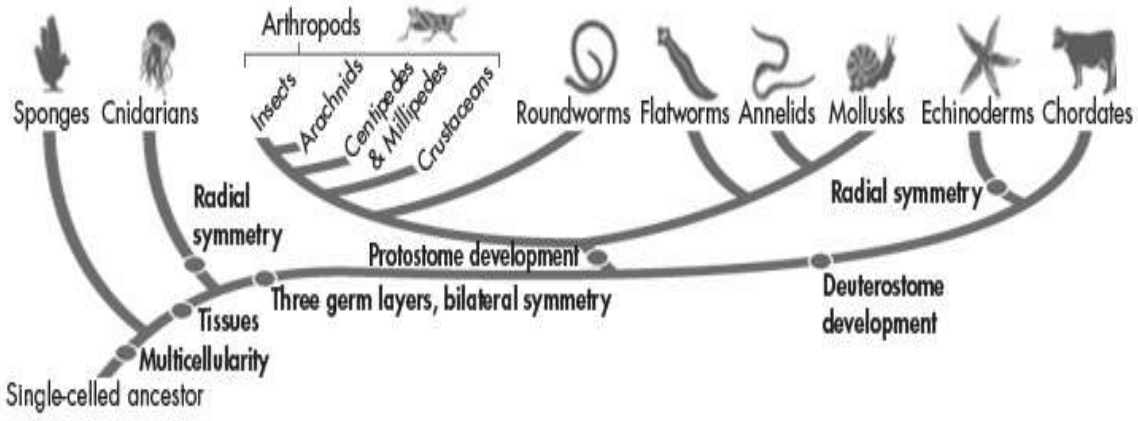
Origin of the Invertebrates

- First cells evolved 3.5 billion years ago (prokaryotic)
- First eukaryotic cells evolved 1.5 billion years ago (protists)
- First multicellular life? Not sure!
  - oldest evidence of multicellular life is around 600 million years ago, fossilized embryos (see fig 26-1, p752)

The Cambrian Explosion

- The Cambrian period was between 530 and 515 million years ago
- During this time, there was a huge “explosion” of animal and plant diversity
- Almost all major animal phyla appeared during this time
  - Burgess Shale in Canada has some extraordinary fossils of the different animals found in this time
  - The basic body plan of an animal was fully realized in this time period as well

Cladogram of Invertebrates (fig 26-3, p754)



Phylum Porifera- General Characteristics

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

Phylum Cnidaria- general characteristics

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

■ * Phylum Platyhelminthes (the Flatworms)

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

Phylum Nematoda (the roundworms)

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

Phylum Mollusca- general characteristics

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

Phylum Annelida-Advancements

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

Phylum Arthropoda:

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)

Phylum Echinodermata

Advancements (ex: symmetry? # of tissue layers, digestive system, etc)	Feeding Style (ex: filter feeding, predatory, herbivore, etc)	Nervous System (ex: sense organs present, brain, ganglion, etc)	Reproduction (ex: asexual, sexual, hermaphroditic, etc)	Examples (at least one from each **class**)