

Lecture #18 – Fishes

I. Craniata Relationships

A. Craniata

1. Myxinoidea (Hagfishes)
2. Vertebrata ("True" Vertebrates)
 - a. Petromyzontoidea (Lampreys)
 - b. Gnathostomata (Jawed Animals)
 - 1) Chondrichthyes (Cartilaginous Fishes)
 - 2) Osteichthyes (Ray-finned Fishes through Tetrapoda)

II. Craniata

- A. Synapomorphic Characters
- B. Myxini (= Myxinoidea) - Hagfishes are the most basal lineage
 1. Slime
 2. Scavengers

III. Vertebrata

- A. Synapomorphic Characters
- B. Petromyzontoidea = Cephalaspidomorphi (Lampreys) - next most basal lineage
 1. Larval characteristics similar to lancelets (e.g., Amphioxus)
 2. Parasitic

IV. Gnathostomata (jawed fishes)

- A. Chondrichthyes Cartilaginous Fishes (Sharks, skates, and rays)
 1. Cartilage skeleton
 2. Special senses
 - a. Ampullary organs of Lorenzini
 - b. Lateral line system
- B. Osteichthyes (Bony Fishes through Tetrapoda)
 1. Actinopterygii
 - a. Diversity of Ray-finned fishes
 2. Sarcopterygii (Lobed-finned fishes through Tetrapoda)
 - a. Coelacanth

Reading: Chapter 15 - pages 308-316.

Questions: Page 315 – 13.

Reading: Chapter 16 - pages 317-340.

Questions: Page 339-340 – 1, 2, 3, 5, 6, 7, 9, 10, 11, 12, and 15.

