

Study Guide for Limnology, Chapter 4

Survey of Limnology and Oceanography

Chapter 4, Diversity of Aquatic Organisms: Rotifers, Annelids, and Arthropods

The purpose of learning this information is to introduce the cast of characters, namely the smaller aquatic organisms.

Terms:

metazoan, detritus, hermaphroditic

1) Rotifers

- a) Are rotifers unicellular or multicellular?
- b) Are rotifers made of prokaryote or eukaryote cells?
- c) How did the rotifer get its name?
- d) Be able to identify the anatomy of a rotifer *Philodina* (see Figure 4.1c).
- e) How is the body divided?
- f) What sensory structures does a rotifer have?
- g) What internal organs does the rotifer have?
- h) What do rotifers use to swim and capture food particles?
- i) Describe the economic importance of rotifers.
- j) Become an expert.*
 - i) Kingdom Animalia
 - (1) Phylum Rotifera: *Philodina*

2) Annelida & Arthropoda

- a) Complete interactive text (*Biology: The Dynamics of Life, Section 27.2, Section 28.1, and Section 28.2*)
- b) Become an expert.*
 - i) Kingdom Animalia
 - (1) Phylum Annelida
 - (a) Class Oligocheata
 - (i) Earthworm-like worms: *Lumbriculus* (blackworm) (see Figure 4.6b,c)
 - (b) Class Euhirudinea: leech (see Figure 4.6d,e)
 - (2) Phylum Arthropoda
 - (a) Subphylum Crustacea (Crustaceans)
 - (i) Class Brachiopoda (Branchiopods): fairy shrimp, tadpole shrimp (see Figure 4.7a,b), *Daphnia* (see Figure 4.8)
 - (ii) Class Copepoda (Copepods): cyclops
 - (iii) Class Malacostraca (Malacostracans): isopod, ghost shrimp, crayfish
 - (b) Class Insecta (Insects): diving beetle, mosquito larvae, giant water bug, dragonfly larvae, damselfly larvae

*Note: "Become an expert" means the following. In your lab experience you: identified and named organisms, classified organisms, described their relationships and diversity, described and drew their morphology (also note size) and if possible anatomy, identified where they are most often found, as well as described their movement (swimming and escape behavior), feeding, life history, etc.