NAME _____

DATE _____

Introduction to Invertebrates

In this lab you will examine the characteristics of several invertebrates and use a dichotomous key.

Proceed to a workstation and pick up a sample of the invertebrate offered at that station.

Use the following key to identify the invertebrate in your sample, and then draw the invertebrate. Use a compound microscope or stereomicroscope as appropriate for your observations.

Dichotomous Key

1. Radial symmetry……..*Hydra*
1. Bilateral symmetry or asymmetrical…….2

2. Bilateral symmetry…….3
2. Asymmetrical, or shape changes…….7

3. Appendages jointed…….*Daphnia*
3. Appendages not jointed, or lacking appendages…….4

4. Body segmented…….5
4. Body not segmented…….6

5. Body segments (except head) similar…….*Aeolosoma*
5. Distinct trunk and tail regions…….Rotifer

6. Distinct head with sense organs…….Planarian
6. No distinct head, no obvious sense organs at the anterior…….Vinegar Eel

7. Asymmetrical; shape constant…….*Paramecium*
7. Shape changes…….*Amoeba*

Classifying

To determine the group to which these organisms belong, compare their characteristics with the following descriptions. (You may not observe all the characteristics listed for a group.)

Kingdom Protista Example(s) studied: _____

Protists are mainly unicellular eukaryotes that may have plant-like, animal-like, or fungus-like characteristics. The following characteristics apply to most animal-like protists.

- Symmetry varies. Protists may be radial, bilateral, or asymmetrical.
- Unicellular
- No tissues or organs, but the cell may have highly specialized structures (organelles) that carry out specific functions, such as digestion and movement

Phylum Annelida Example(s) studied: _____

- Symmetry bilateral
- Alimentary system with both mouth and anus.
- Triploblastic (three tissue layers)
- Body highly segmented, with most segments similar
- May or may not have distinct head with sense organs

Phylum Arthropoda Example(s) studied: _____

- Symmetry bilateral
- Alimentary system with both mouth and anus
- Triploblastic (three tissue layers)
- Body highly segmented. In some arthropods, most segments are similar, In others, some segments may be fused, creating distinct body regions (such as head, thorax, and abdomen or cephalothorax and abdomen).
- Usually a distinct head with sense organs

Phylum Cnidaria Example(s) studied: _____

- Symmetry radial (or biradial)
- Sac-like gastrovascular cavity (coelenteron) with a single exterior opening that serves as both mouth and anus
- Tentacles often surround the oral (gastrovascular) opening.
- Diploblastic (two tissue layers), but no true organs
- Cnidocytes (stinging cells) contain nematocysts, organelles found in no other animal phylum.

Phylum Nematoda Example(s) studied: _____

- Symmetry bilateral
- Alimentary system with both mouth and anus
- Triploblastic (three tissue layers)
- Body simple, often with no distinct head or visible sense organs

Phylum Platyhelminthes Example(s) studied: _____

- Symmetry bilateral
- Gastrovascular cavity often highly branched with a single exterior opening that serves as both mouth and anus
- Triploblastic (three tissue layers)
- Body highly flattened dorsoventrally

Phylum Rotifera Example(s) studied: _____

- Symmetry bilateral
- Alimentary system with both mouth and anus
- Triploblastic (three tissue layers)
- Body segmented, at least externally, with a head, trunk, and tail
- Head with whorls of cilia whose movement can give the illusion of a rotating wheel

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