What students need to see & know for Lab #5   Primitive Invertebrates

Lab #21 in Mader p. 259-277; 178-184 (Symbiosis)

Be sure to make use of Photographic Atlas !

Know names of domain, kingdom, phylum, and bold faced terms below.
Understand characteristics of animals (e.g., p. 260-1) as well as characteristics of each phylum
(fill out table p.275). Answer questions in the lab manual as you go through each phylum.

**For the live material, be sure to observe the animal's movements and other behaviors.**

**Phylum Porifera** = sponges

e.g., *Grantia* slides of the whole organism - look at longitudinal section and cross section with 4x magnification, note osculum and the many incurrent pores; note central cavity
understand how water circulates through the sponge
w/40x mag, note that wall is made up of different cell types
spicules make up the skeleton of the sponge and are often used as a basis for classification
    e.g., compare slides of "Grantia spicules" and "Scypha spicule strew"
other types of sponges to see are *Euplectella* = glass sponge = Venus flower basket
*Spongilla* - preserved in jar and in plastic mount with *Grantia* and *Leucoselenia*
    what is impt here is the variety of sponge types NOT the genus names!

**Phylum Cnidaria**   three classes (see p. 266 in lab manual) exist in polyp & medusa forms

    **Class Hydrozoa**
e.g., *Hydra* - live *Hydra* should be observed with dissecting scope as described in manual
see whole mount slides of *Hydra* show budding, know tentacles, buds, foot, mouth
c.s.slides with gastrovascular cavity, cnidocyte w/nematocysts, gastrodermis, epidermis
e.g., *Obelia* hydroid w.m. slide of polyp colony - note reproductive polyp, feeding polyp
*Obelia* medusa slide shows tentacles, mouth
e.g., *Physalia, Polyorchis* (medusa) preserved in jars; also sample hydrozoans in plastic mount

    **Class Scyphozoa**
e.g., *Aurelia* (a "true jellyfish")   Look at different developmental stages of a life cycle.
slides: planula, ephyra larva, scyphistoma (see Fig. 14.8 photo atlas)
plastic mount of diff stages of *Aurelia* 's life cycle (you do not need to know stage names)
preserved *Aurelia* and other jellyfish

    **Class Anthozoa**
e.g., *Metridium* = sea anemone preserved in jars and in model
    variety of corals on display: *Astrangea* (northern coral), brain coral, eye coral
Phylum Ctenophora - preserved (*Pleurobrachia*), lab manual p. 267; Fig. 14.21 photo atlas

Phylum Platyhelminthes = flatworms

**Class Turbellaria**

e.g. *Dugesia* = planaria live specimens as described in lab manual, but omit Fig. 21.8 slides: identify eyespot, auricle, pharynx, pharyngeal cavity, digestive organ, mouth, head

**Class Trematoda** = flukes # (use photographic atlas and Mader p. 180-1)
e.g., *Clonorchis* = Chinese liver fluke; seen in slide and plastic mount

identify mouth, oral sucker flukes cause *schistosomiasis* (what is that ?!)

**Class Cestoda** = tapeworms# (use photographic atlas and Mader p. 178-9)
understand the term *hermaphroditic* !
e.g., *Taenia* slides: look at different segments (= proglottids) of this parasitic tapeworm

identify: uterus (very large in ripe proglottid), genital pore
in scolex ("head"): suckers, hooks
also preserved & plastimount *Taenia*

#understand the general concepts of fluke and tapeworm life cycles and how the different stages are dispersed between hosts (know the hosts for each parasite)

Phylum Nematoda = roundworms see photographic atlas and Mader p. 182-3
e.g., *Trichinella* = parasite that causes trichinosis slides show larvae encysted in muscle
e.g., *Necator* = hookworm causes hookworm disease

e.g., *Tubatrix* = vinegar eels
e.g., *Ascaris* slides of cross section of male and female (larger) (Fig. 14.37 photo atlas)

preserved *Ascaris* to dissect:
identify sex of organism (male has ejaculatory duct on posterior end and is smaller)
know: mouth, intestine, uterus, ovaries, seminal vesicle, testes, lateral lines

**students may have to look at more than one dissection to see these structures clearly**

Phylum Rotifera = rotifers

Observe live rotifers as described in manual, also look at newer preserved slides
identify structures such as corona, foot, stomach that can be distinguished