DRAWINGS FOR LABORATORY EXERCISE 20
FROM BASAL TO BILATERAL ANIMALS
PORIFERA, CNIDARIA AND PLATYHELMINTHES

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"Whoever does not draw, does not observe." Leonardo da Vinci

Laboratory drawings must:

- Be titled
- Have the magnification at which they were drawn.
- Have the genus and species names underlined or italicized.
- Have all parts labeled.
- You must put each slide on your own microscope, find the requested structure and then draw it. Do not just look at the slide on someone else’s microscope. If students’ drawings are identical it will be considered cheating and you will get a zero for the drawings.
- Draw what you actually see on your slides – Do not copy photographs from A Guide to Biology Lab by Thomas Rust – those photographs are just to help orient you to what you see on your slides – your slides are similar, but they are NOT identical. You will get NO credit for drawings that are copied.

I. Phylum Porifera (p. 250-253 in lab manual)
   A. Leucoselena
      Drawing #1 - Use the compound microscope on high power to draw the shape of several of the spicules.

II. Phylum Cnidaria (p. 253-257 in lab manual)
   A. Class Hydrozoa
      1. Hydra
         Drawing #2 - Put a living Hydra in a drop of water on a depression slide. If there are no living Hydra available, use a whole mount slide. Hydra only display the polyp body form.
         Drawing #3 - Whole mount of discharged nematocysts (stinging structures found within cnidocytes). You must use high power (450X) to see these. On scanning look for a faint pink smear on the slide then move to
higher powers.

2. *Physalia* (Portuguese man-of-war) - a complex colonial hydrozoan  
   See the entire preserved specimen in a bottle on the center  
   table first. Note the float called a pneumatophore which is  
   one specialized member of the colony. (Its appearance led to  
   the name of the genus which is Greek for bladder) Now:  
   **Drawing #4** - Slide of cross sections of tentacles - cnidocytes with  
   undischarged nematocysts. You must use high  
   power (450X) to see these cells well.

3. *Obelia* - colonial hydrozoan  
   **Drawing #5** - Slide of organism. Draw both feeding polyps and  
   reproductive polyps.

4. *Gonionemus*  
   **Drawing #6** - Dissecting scope view of organism. Take a  
   preserved *Gonionemus* out of the bottle on the  
   center table and put it in a plastic Petri dish full of  
   water. See diagram on page 256 of Dolphin lab  
   manual.  
   Do not use the glass Syracuse dishes as you do  
   not want preservative from the *Gonionemus* to  
   hurt the living *Dugesia* later in the lab.  
   You are observing the medusa body form.

III. Phylum Platyhelminthes (flat worms)  
   A. Class Turbellaria - free-living (p. 258-259 in lab manual)  
      1. *Dugesia* (common American planarian)  
         **Drawing #7** - Put a living *Dugesia* in a glass Syracuse dish with  
         fresh water. If a living *Dugesia* is unavailable use a  
         whole mount slide.

   B. Class Trematoda (flukes) - parasitic. You will not use a slide of *Clonorchis  
      sinensis*, the human liver fluke. You will use:  
      1. *Fasciola hepatica* (sheep liver fluke). See photograph in Rust guide.  
         **Drawing #8** - Whole mount. View the slide on your dissecting  
         microscope so you can draw the entire organism.

   C. Class Cestoidea (tapeworms) - parasitic  
      (p. 261-263 in lab manual)  
      1. *Taenia pisiformis* (a species of dog tapeworm - the rabbit is  
         the intermediate host)  
         The following two structures are on the same slide.  
         **Drawing #9** - Scolex  
         **Drawing #10** – Mature proglottid. Do not draw a gravid  
         proglottid (one that is full of eggs). Draw a
proglottid in which you can see the reproductive organs.