

## SPONGE LAB ACTIVITIES

### A. Sponge Reaggregation

1. Cut a small piece of *Microciona prolifera* (redbeard sponge) into very small pieces using scissors and place them in the center of a square of nylon netting. Wrap the material around the sponge pieces and dip it into a small beaker of filtered seawater. Squeeze the sponge material through the fabric until the water is only *faintly* colored by the disaggregated cells. (If you add too much sponge to the water you could have problems with reduced oxygen and/or a bloom of bacteria.)
2. Repeat with a small piece of *Cliona* (yellow sulfur sponge) using a separate beaker of filtered seawater.
3. Label three petri dishes (M, C, and M+C), fill with sea water, and place a clean slide on the bottom of the dish. Into the dish labeled M, add cells collected from bottom of the beaker with the redbeard sponge. Into the dish labeled C, add cells collected from bottom of the beaker with the yellow sulfur sponge. And into the dish labeled M+C, add cells collected from bottom of each beaker. Place the dishes in a cool area where they will not be disturbed. After one hour, carefully transfer the slides to another labeled petri dish with fresh sea water.
4. Take the remaining pieces of sponge in the fabric and press them once again into water in a small beaker until the color gets quite dark. Make a wet mount from this beaker and examine the cells. Disaggregated sponge cells will characteristically send out *very* thin pseudopodia, which will pull other cells in, thereby reaggregating the cells. Do you see any pseudopodia? Do you see any movement of choanocyte flagella?
5. Change the water in the petri dishes two to three times per day (preferably first thing in the morning, last thing in the evening, and once more midway through the day). After about 3 days examine the reaggregated cells using a dissecting microscope. Do you see any clumps of cells? Using a razor blade, remove a mass of sponge from the bottom of the dish, make a wet mount, and examine it using a compound microscope. Do you see any pseudopodia?