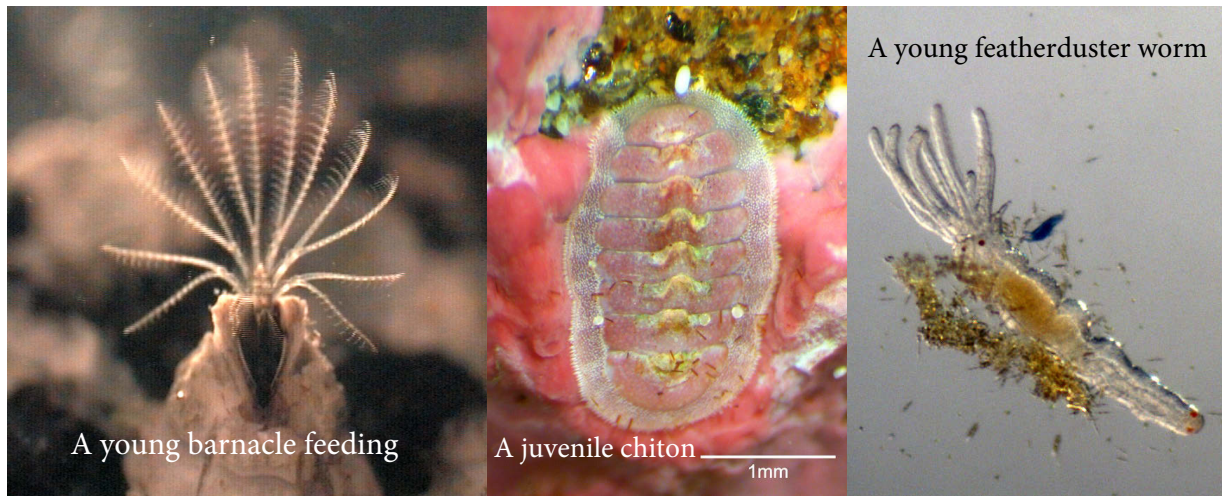


Emlet lab REU projects:

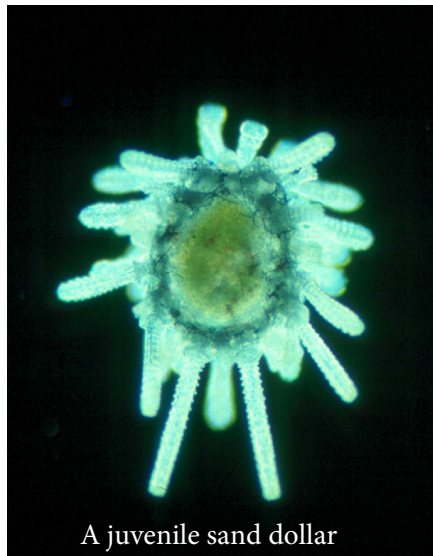
What does it mean to be small?

Following settlement and metamorphosis, post-larval benthic marine invertebrates begin life in their new habitat as tiny juveniles with a body plan very similar to the adult. Surviving juveniles may increase in size up two or three orders of magnitude in length or mass. A common assumption is that ecology of juvenile invertebrates is like that of adults, but their small size alters virtually every environmental interaction from feeding to physical stresses and predators. An REU interns in my laboratory will explore very basic ecology and natural history and collect information that is essentially non-existent for juvenile stages of most organisms.

Examine **feeding biology** of small animals – suspension feeding in barnacles, young polychaete worms, and bivalves, rasping in chitons, and sea urchins, feeding by young crabs.



Predation on newly metamorphosed juveniles – who eats these tiny juveniles? Do they have a different set of predators such as flatworms, omnivorous crustaceans, polychaetes, “herbivorous” snails? How do these predators capture prey, how does the prey respond?



Temperature/desiccation tolerance of larvae and juveniles. Many of these tiny juvenile become intertidal adults. How does the settlement surface (its roughness, color, etc) impact survival? How do intertidal barnacles survive? How much water can they lose and survive? What is their temperature tolerance. Does it differ from larval stages?



A barnacle cyprid larva and young juvenile

None of these questions or organisms come with instructions on how to study or answer the questions. A big part of this work will be to specify the question(s), the observations, and the experimental manipulations in order to **evaluate juvenile biology and performance**.