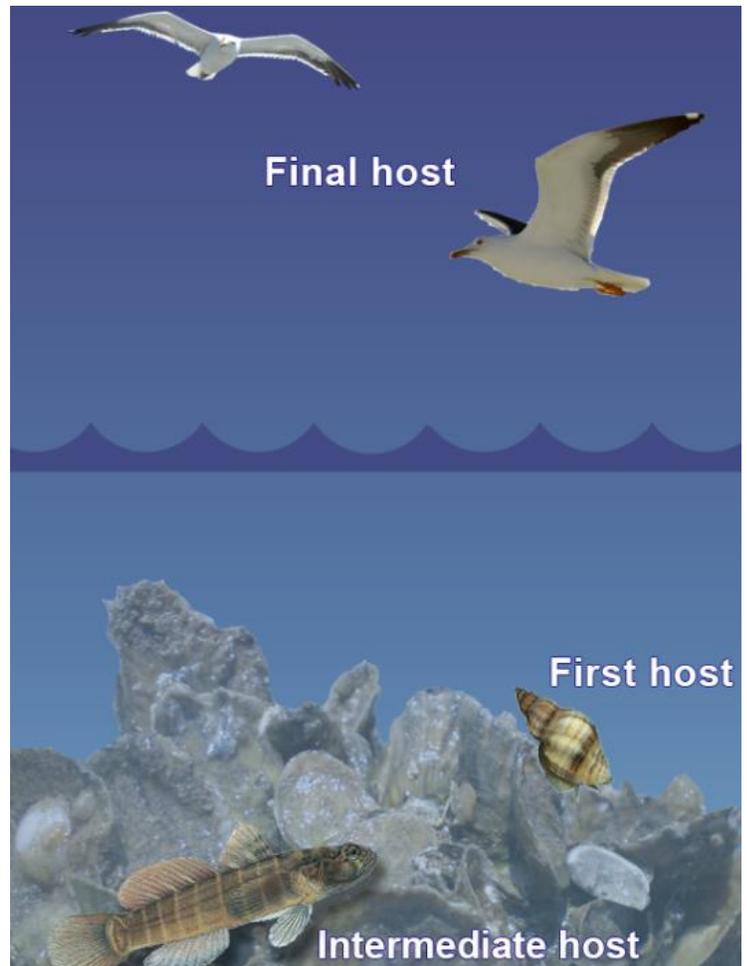


## Parasites as Positive Indicators of Biodiversity and Ecosystem Health

### **What we are researching and why:**

Parasites have a bad reputation, but actually most parasites in our tidal creeks do not infect humans. Instead, they are part of a complex and important ecosystem process. Many parasites require very specific hosts in order to complete their lifecycles. For example, in the photo to the right, a type of parasite called a “trematode” may use a snail as its first host. After developing inside the snail, the parasite will then swim out and infect a small fish like the one at the bottom of the photo. At this point, in order for the parasite to complete its lifecycle, the fish must be eaten by a final host such as a sea gull.



**Having a high diversity of parasites can therefore be a good thing!** Why? Because certain types of parasites *need* other organisms like snails, clams, mussels, shrimp, fish, or birds to reproduce. More parasites can signify the presence of more hosts, making for a healthier ecosystem.

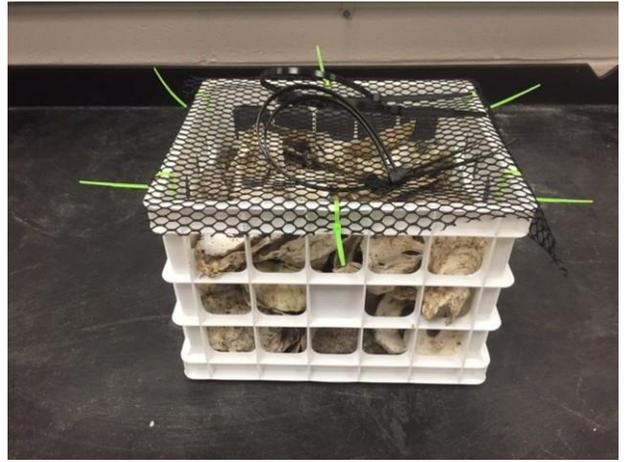
We are collecting parasites from the small fish and snails that live in our tidal creeks using the collecting device on the back of this page. We are interested in seeing if different types of shorelines have different kinds of parasites and what that can tell us about the health of the surrounding environment. We are collecting parasites from:

- Natural shorelines (sandy with oyster shell, or marsh)
- Hardened shorelines (seawalls, riprap, bulkhead)
- Hybrid shorelines that are a blend of both

## How we collect parasites:

Behold, the crab/fish “condo” collecting unit:

- A plastic milk crate filled with oyster shell
- 8.5 inches long, by 7 inches wide by 6 inches deep



These are not traps. All organisms including crabs and fish can freely come and go. However, because the oyster shell provides good, stable habitat, it tends to serve as an ideal home for all kinds of critters.

We attach these condos under docks using rope, or stake them in waist-deep water using wooden stakes. The “condos” will not be visible to anyone, even at low tide, because they need to stay covered with water at all times. When we check on them, we remove all of the little fish, crabs, etc. and examine them for parasites in the lab at a later date.

## We would love your help! We just need:

Shoreline access – we are interested in deploying our condo units for at least a full year on multiple tidal creeks in NC. We would deploy two of these collecting devices on each property and check on them every 6-8 weeks, a process that usually takes about 30 – 45 minutes.

## How you can contact us:

The primary contact person for this work is Christopher Moore, a Ph.D. student in the lab of Dr. April Blakeslee at East Carolina University.

## THE BLAKESLEE LAB

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