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# PREVALENCE, DISTRIBUTION, AND CONTROL OF SHELL-BORING POLYCHAETES ON OYSTER FARMS FROM CALIFORNIA TO ALASKA

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## RESEARCH QUESTIONS

1) What is the prevalence and distribution of shell-boring worms in the US west coast?
2) Which treatments can oyster growers use to control them?
3) Can environmental variables help predict cold and hotspots of infestation?

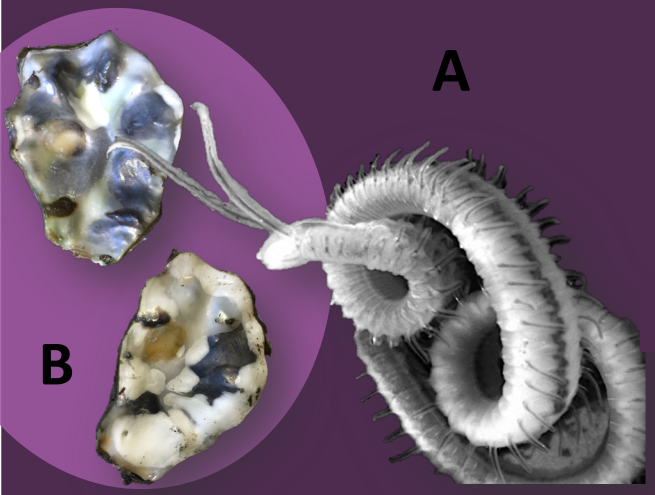



Fig 1. (A) Shell-boring parasite, *Polydora Websteri,* and (B) the mud-filled blisters it creates on oyster shells.

## PREVALENCE & DISTRIBUTION

We found burrows and blisters on oyster shells from all states (CA to WA & AK). Prevalence was highly variable across farm, growth method (on/off bottom), season and state. We confirmed the presence of *P. websteri* and *P. hoplura* among other shell-boring polychaetes.

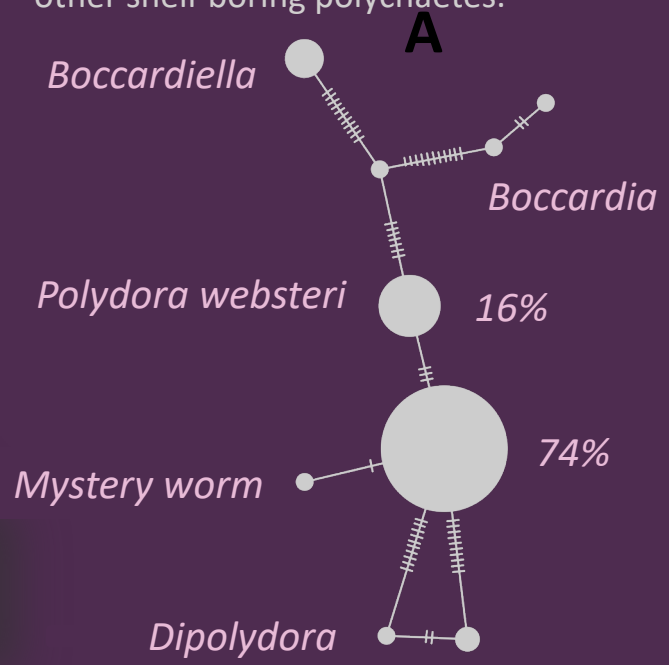
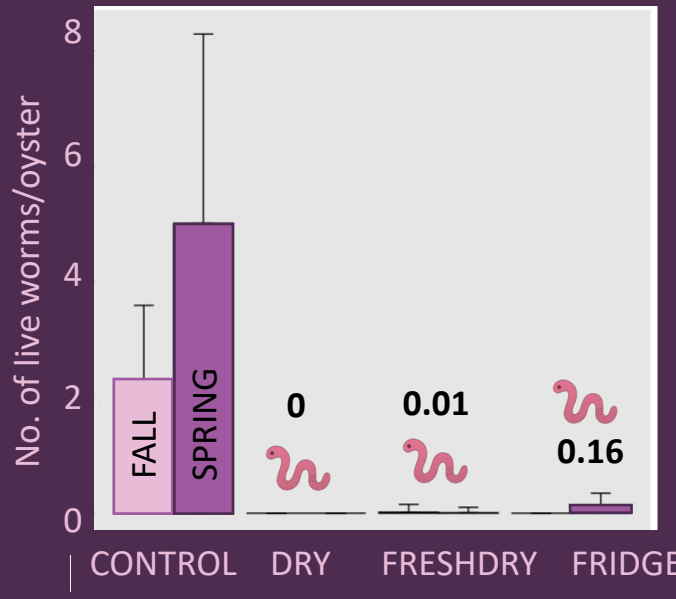



Fig 2. (A) Haplotype network of species found in WA, and (B) Pooled prevalence of shell-boring worms in the US west coast.

## CONTROL TREATMENTS

We co-developed 3 treatments with oyster farmers to apply on farms: (i) cold-air drying for 3 days, (ii) outdoor drying for 2 days, (iii) and freshwater dip + 2 days of drying. Drying was the most effective one but led to 4% oyster mortality in the Fall.




## ENVIRONMENTAL VARIABLES

We are developing models to test whether salinity, water temperature, and pH, among others, are significant explanatory factors to predict the success of shell-boring polychaetes in different places.