

# The Effects of Ingestion of Copper-Contaminated Algae in Sailfin Mollies, *Poecilia latipinna*

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## Research Questions

- Are growth, reproduction, mortality and tissue concentrations of Sailfin Mollies affected by varying concentrations of ingested copper-contaminated algae?
- Do wild-caught and aquaculture-raised Sailfin Mollies respond differently after ingestion of copper-contaminated algae?



Figure 1. Male Sailfin Molly  
Figure 2. Female Sailfin Molly

## Research Methodology

- Breed mature wild-caught and aquaculture-raised Sailfin Molly separately. Only offspring will form part of toxicological tests
- Expose algae to three different concentrations of copper sulfate
- Sailfin Mollies will be exposed to the algae treated with three different concentrations of copper sulfate
- Measure change in growth, reproduction, mortality and tissue concentrations

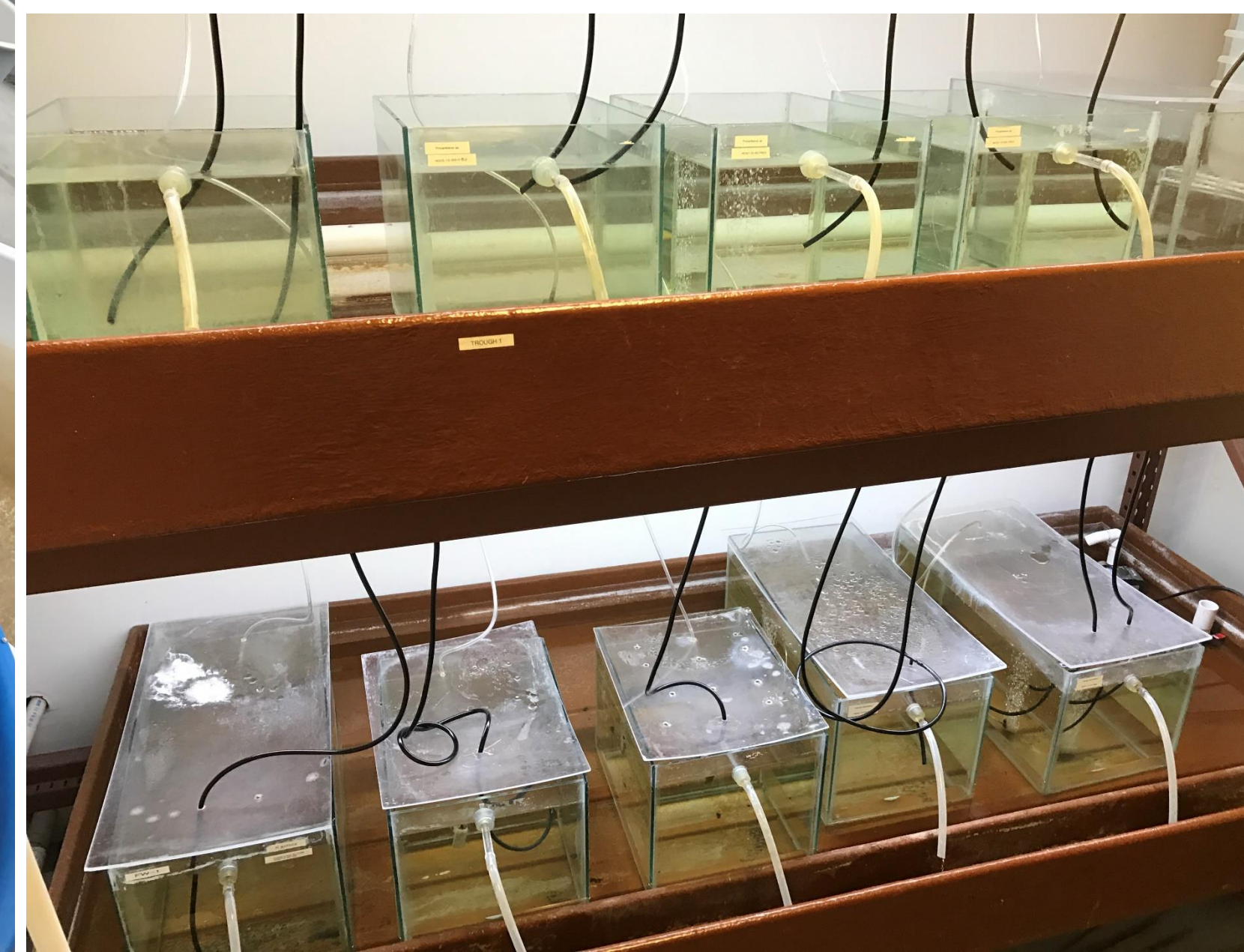
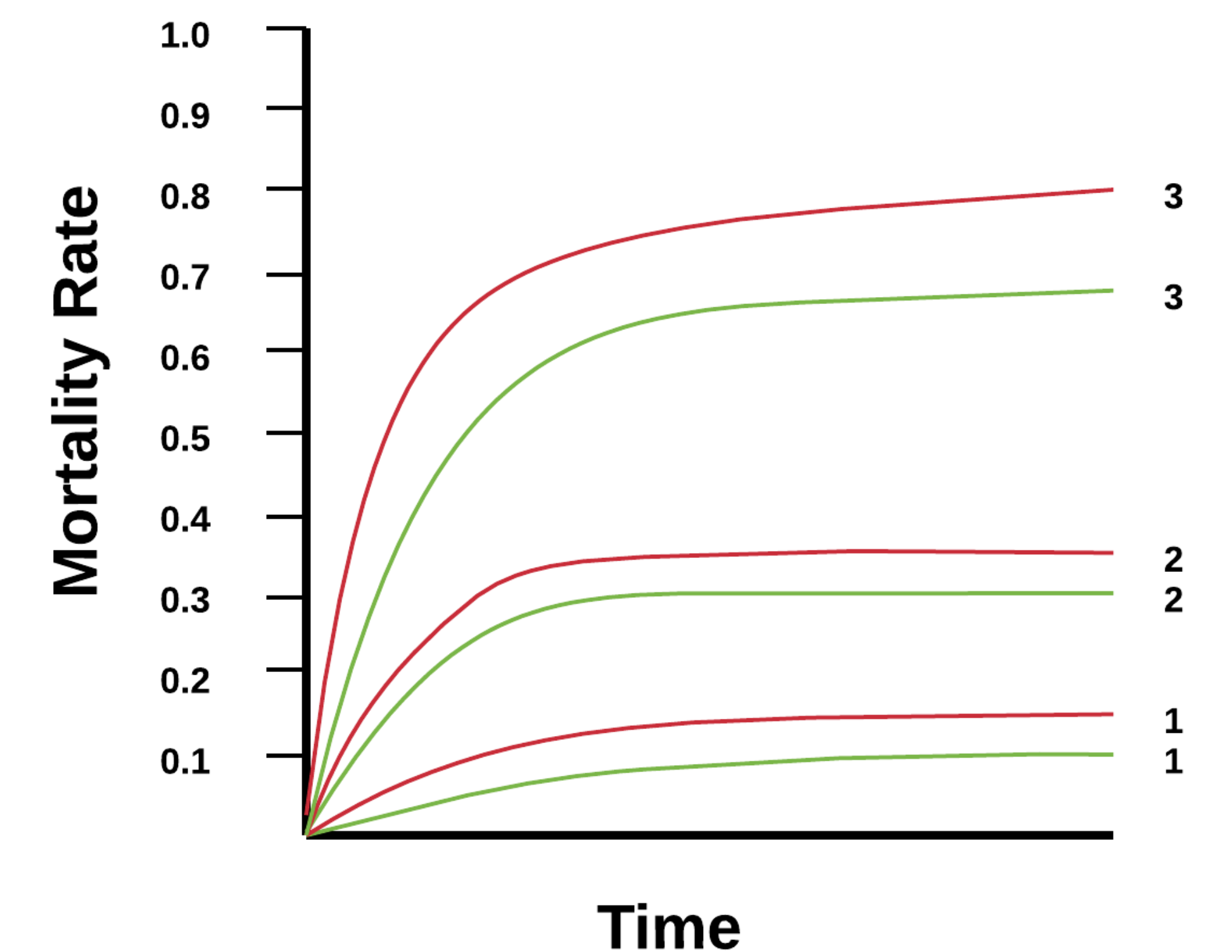


Figure 3: Outdoor tanks where periphyton is being cultivated  
Figure 4: Culture room where parental broodstock will be kept

## Expected Results

- Reduced growth
- Reduced reproduction
- Increased mortality
- Increased bioaccumulation of copper in tissues
- Aquaculture-raised sailfin mollies will experience more detrimental effects than wild-caught sailfin mollies



Graph 1. Expected changes in mortality rates of both wild-caught (green) and aquaculture-raised (red) Sailfin Mollies, in treatments 1 (low CuSO<sub>4</sub>), 2 (medium CuSO<sub>4</sub>) and 3 (high CuSO<sub>4</sub>)

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