Improving Cylindrical papershell (*Anodontoides ferussacianus*) conservation through life history research and outreach

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Introduction

- Freshwater mussels are members of the Mollusks, the second largest group of animals in the world.
- Mussels are an interesting and valuable group of organisms that are in need of conservation efforts.
- The **Cylindrical Papershell** is a native mussel found in substate of mud and sand, frequently in smaller streams.

Purpose

- To improve Cylindrical Papershell conservation efforts through improved understanding of its life history requirements.

Objective

- (1) Collect naturally infested fishes from creeks and small rivers that hold cylindrical papershell in an effort to obtain fishes with attached glochidia, (2) expose various fishes to Cylindrical Papershell glochidia in a laboratory study in order to determine which fishes facilitate glochidia metamorphosis (3) share the results of my study with the public and natural resource professionals.

Methods

Naturally infested fish

- Using a backpack electrofisher, collect fishes that are naturally infested with glochidia and attempt to recover juvenile Cylindrical Papershell.
- Fishes brought to UMN were held in species-specific aquaria.
- Recover glochidia and juveniles and identify them using scanning electron microscopy (SEM).

Laboratory infested fish

- Expose fish in the laboratory to Cylindrical Papershell glochidia.
- Fishes were held in species-specific aquaria at UMN.
- Recover glochidia and juveniles and identify them using scanning electron microscopy (SEM).

Outreach

- Publish my study in an article for the Freshwater Mollusk Conservation Society newsletter.
- Present research at the St. Croix River Research Rendezvous.
- Use various social media platforms to educate and entertain public on freshwater mussels and share progress and results.

Results

Naturally infested fish

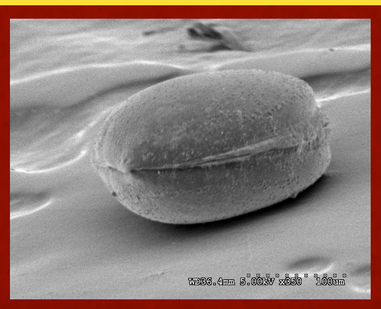
- Sampled in Dodge Center Creek and collected 12 fish species potentially infested with glochidia.
- Recovered juveniles from 7 of the 12 fish species.

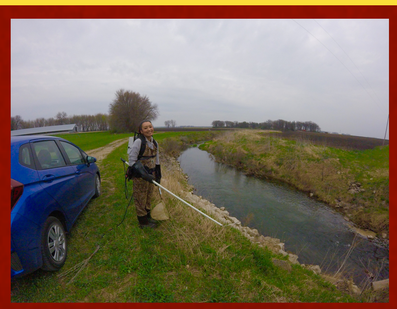
Laboratory infested fish

- Infested 8 fish species.
- Recovered 42 juvenile mussels from the first fish species infested. (common shiners)

Outreach

- Shot and edited videos and pictures in the laboratory and the field.
- Present footage on various social media platforms.





Discussion

- Previous research has shown that C. Papershell uses a wide variety of fishes as it's host. My preliminary results are in agreement with these findings.
- More research needs to be done in order to make better management decisions.
- Preliminary efforts through social media have shown to draw a relatively large audience. Additional footage for Facebook and other platforms are going to be explored. (Twitter, Instagram)

Literature cited

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