Keeping Them ALIVE!

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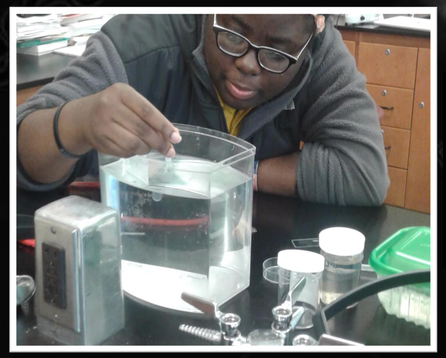
Introduction

The goal of this project was to determine if Daphnia could survive outside of their usual habitat. We tested the Daphnia's resistance to lowly polluted waters. We chose to do our project on Daphnia because we wanted to find an alternative way to test the level of pollutants in water. In this experiment we also put the Daphnia under a microscope and counted the change in heartbeats in springwater, tap water, and rain water.

Research Problem

How high of a tolerance do Daphnia have for low contaminant waters? Our purpose was to determine how high of a tolerance Daphnia have for certain samples of water.



Hypothesis

We hypothesized that the Daphnia would survive, but we would suffer the loss of a great many of them. We realized that the smaller Daphnia may have a much lower tolerance.

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Procedures

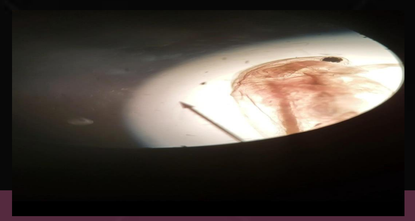
We ordered Daphnia cultures and put them in distilled and rain water. We monitored their progress. They were fed pellets and observed under the microscope. We put 2-3 Daphnia in a sample of each water and let them live there to test their tolerance. We scooped out one daphnia at a time to test heartbeat in rain water, spring water and distilled water.

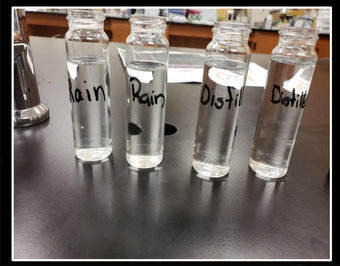
Materials

- Daphnia
- Tank
- Pellets
- Rain water
- Tap water
- Spring Water
- Microscope with depression slide

Data

Names	Spring Water	Tap Water	Rain Water
Chris	46	88	N/A
George	29	43	31
Mary Winchester	28	40	32
Khalil	30	33	30





Results

Our first culture died within a day. Our next attempt brought more success and they lived past the span of our last culture.The different samples of water caused the Daphnia to become stressed out and their heartbeat increased. When placed in separate bottles off rain and distilled water, they stayed all lived.

Discussion

I think there is more to test. It should be considered that Daphnia can live longer based on previous environment and care. What we could have done is to include more samples of water to test the Daphnia in.
The average heartbeat showed that tap water stressed them out the most.

Conclusion

Our hypothesis was only partially correct. The Daphnia survived quite well, but we were right in saying that we would lose many(referring to the lost of our smaller species).

References

1. https://www.caudata.org/daphnia/
2. http://ei.cornell.edu/toxicology/bioassays/daphnia/
3. https://www.carolina.com/teacher-resources/Interactive/living-organism-care-guide-daphnia/tr10492.tr

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