How Bloodworms Affect the Biodiversity In Cold Spring Harbor
Cold Spring Harbor High School

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Abstract

The *Glycera Dibranchiata*, also known as the bloodworm is a type of worm that lives buried in the shallow waters of marine coasts. The bloodworm burrows in the sand of these shallow water to hide from their predators and to look out for their prey. Bloodworms are commonly used as a fish bait which is essential to harvest food for markets. The concern of global warming has recently been at an all time high, which includes the concern of rising sea levels. The result of these rising sea levels could result in an increase in the population of bloodworms because it will be difficult for predators to reach them. An increase in the population of this species could result in a boom in the fishing market because of the increased amount of fish bait.

Purpose

For our project, we want to study if the increase of bloodworms in the harbor will be good for other species. Since the bloodworms have lots of benefits for species in the harbor, we believe that an increase in the amounts of bloodworms will be good for species. With a good supply for fish, the amount and health of fish will increase. This will be good for food markets that sell fish.

Review of Literature

https://sdbiodiversity.ucsd.edu/info/projects_bloodworms.html

https://ecology.wa.gov/Blog/Posts/August-2018/Eyes-Under-Puget-Sound-Critter-of-the-Month-%E2%80%94-Bloo

https://www.nhm.ac.uk/discover/news/2014/september/fishing-bait-bloodworms-have-bee-sting-bites.html

Methodology

As mentioned in our abstract, the *Glycera dibranchiata* is found in shallow marine waters. To carry out our collection we went to the spit just outside of the Cold Spring Harbor Labs, which is abundant with different kinds of species, including the bloodworm. To collect our samples we will use shovels to dig into the moist rocky sand of the spit, revealing a number of organisms including our bloodworm. To bring the organism back to the lab, we put it in a clear plastic tube with a screw-on top so they could not escape.

Group 1	G1-001		Crustacea	Asian Shore Crab	Hemigapsus sanguineus	40.86754 North	-73.47149 West
Group 1	G1-002		Mollusca	Barnacle	Cirrapedia	40.86754 North	-73.47149 West
Group 1	G1-003		Anthopoda	Shore Fly	Ephydra sp.	40.86754 North	-73.47149 West
Group 1	G1-004		Anthropoda	Jumping Spider	Salticidae	40.86754 North	-73.47149 West
Group 1	G1-005		Platyhelminthes	Worm	Polychaeta	40.86754 North	-73.47149 West
Group 1	G1-006		Anthropoda	Hover Fly	Syrphidae	40.86754 North	-73.47149 West
Group 1	G1-007		Amphipoda	Amphipod		40.86754 North	-73.47149 West
Group 1	G1-008		Anthropoda	Fly (small)	Ephydra sp.	40.86754 North	-73.47149 West
Group 1	G1-009		Platyhelminthes	Worm (big)	Phylum annelide	40.86768 North	-73.4867181 West
Group 1	G1-010		Mollusca	Blue Mussel	Mytilus sp.	40.86768 North	-73.4867181 West
Group 1	G1-011		Mollusca	Barnacle	Cirrapedia	40.86768 North	-73.4867181 West
Group 1	G1-012		Anthropoda	fly (small)	Ephydra sp.	40.86768 North	-73.4867181 West
Group 1	G1-013		Amphipoda	Amphipod	not sure	40.86768 North	-73.4867181 West
Group 1	G1-014		Amphipoda	Amphipod	not sure	40.86768 North	-73.4867181 West
Group 1	G1-015		Arthropod	Hover Fly	Allograpta obliqua	40.86768 North	-73.4867181 West
Group 1	G1-016		Crustacea	Flatback mud crab	Eurypanopeus depressus	40.86768 North	-73.4867181 West
Group 1	G1-017		no sample				
Group 1	G1-018		Amphipoda	Amphapod	not sure	40.86778 North	-73.47181 West
Group 1	G1-019		Mollusca	Barnacle	Cirrapedia	40.86778 North	-73.47181 West
Group 1	G1-020		no sample				
Group 1	G1-021		Amphipoda	Amphipod	not sure	40.86778 North	-73.47181 West
Group 1	G1-022		Amphapod	Amphipod	not sure	40.86778 North	-73.47181 West
Group 1	G1-023		no sample				
Group 1	G1-024		Platyhelminthes	Marine worm	Polychaeta	40.86778 North	-73.47181 West
Group 1	G1-025		Marine Worm				
Group 1	G1-026						

Limitations

Although this experiment was good, it failed to recognize the following items:

- Possibly didn't collect all new species
- We weren't able to determine the quantity of the bloodworm in the spit

Delimitations

This experiment was strong because:

- We found evidence of increased biodiversity
- We were able to identify our species

Conclusion

One key thing that we learned from this project was that there has been more species that have came into the waters of Cold Spring Harbor since the Davenport study and there is a possibility that there could be more

Future

Future projects that can be held in the Cold Spring Harbor spit is another collection of species in that area during different seasons and also a collection in 10 years to see how the biodiversity has changed