

# Didymo: A Rapidly Appearing Algae in North America

by Mark Kirk, Allegheny College Student

*Didymosphenia geminate*, more commonly known as Didymo or Rock Snot, is a specie of algae that has recently become a potential threat to Pennsylvania waterways. Like all species of algae, Didymo is a single-celled organism. The single celled Didymo really has no negative impact on waterways. It's when they cluster into groups known as colonies that they produce negative effects on a waterway. Didymo is an ugly brown or yellow in color. It often looks like fiberglass insulation and feels like cotton with no sliminess, which is very unique to a specie of algae. Didymo actually looks like someone took a giant sneeze into the body of water! It is



very disgusting looking and very recognizable. Didymo prefers shallower waters not exceeding five feet deep in low, stable flowing or standing waters. This could include shallow, small ponds or streams that are open to a lot of sunlight.

Only in the recent year of 2007 has Didymo become a frequent organism in our local areas as it has started to appear in Maryland and the Delaware River in New York. The spe-

cie has been experiencing excessive growth and has rapidly been spreading into new habitats throughout North America. Although it presents no direct harm to human health, Didymo has negative impacts on the aquatic life of a watershed. Like all forms of algae, when it dominates the habitat it resides within, other aquatic organisms suffer. With this algal bloom, eutrophication can occur and one-time healthy water can be reduced in water quality and oxygen levels can be drastically decreased for other aquatic organisms. This means water sensitive macroinvertebrates such as caddisflies, mayflies, and stoneflies all suffer severely when Didymo takes over. Also, trout seem to suffer significantly when Didymo takes over an aquatic habitat.

Although Didymo has yet to become prevalent within our watersheds, we must begin to act now to prevent spreading of this harmful specie. And a common reason that Didymo spreads so rapidly is due to human activities. Boats and equipment used in Didymo infested waters can transport the algae and because Didymo is a rapidly growing species, the smallest amounts can thrive in almost any conditions. This is an extremely tolerant specie and can survive in very poor conditions. Equipment should be inspected for any presence of algal life and cleaned thoroughly with hot water and some kind of detergent, which will surely kill any Didymo. The best way to kill Didymo is to let your equipment dry. Didymo can survive for months on end with only the slightest moisture. However, completely dried up, Didymo can be killed quickly. The spread of Didymo must be contained. A specie like this has the ability to spread limitlessly and we can prevent it by being the first and greatest line of defense!

**Website Sources:** Pennsylvania Fish and Boat Commission and Federation of Fly Fishers.

Mercer Elementary - pg. 2	Testing Tip - pg. 2
Feature Creature - pg. 3	Watershed Project - pg. 3

## An Update from Mercer Elementary:

The 5th and 6th grade students of Mercer Elementary Creek Connections kicked off the school year with a Chemical Test / Scavenger Hunt day at Munnell Run Farm. After performing chem tests on water from Munnell Run Farm as part of World Water Testing Day, students explored the farm's wetland, riparian zone, farmland, and gardens as they checked off "signs of fall" on their scavenger hunt sheets. This year in MECC we plan to spend even more time at the creek as we move all of our meetings to the Farm due to construction at our school. We are continuing our very successful juice pouch recycling program with TerraCycle (over 3000 juice pouches recycled last year!) and will continue to monitor Munnell Run Creek by performing chemical tests and examining macroinvertebrates. New to MECC this year, we are learning about the Creek Connections program and school days in Costa Rica by participating in the "E-Pals" program and exchanging e-mail and handwritten messages with 5th grade students from Green Valley School in Atenas, Costa Rica. We had to cancel our field trip to Westminster College's composting facility due to weather (the compost piles were all under snow!), but we are looking forward to rescheduling that trip in the spring as we continue testing Munnell Run Creek, getting ready for the symposium, and designing our MECC t-shirts (what color will we wear this year? - look for us at the symposium at Allegheny College to find out!).



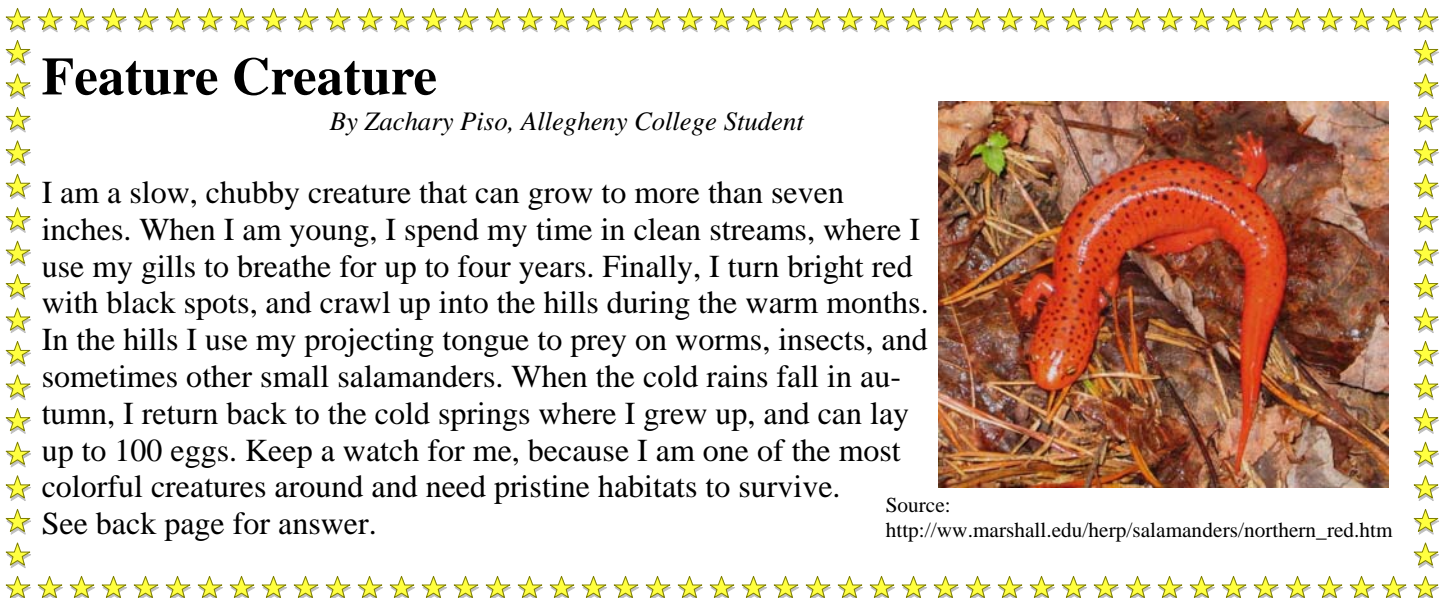
## Testing Tip

*By Perry Bruno, Allegheny College Student*

Everything we do here as part of Creek Connections gives us information about our environment that will allow us as humans to do our best to protect our world. Although we should do our best to get the most accurate data possible; the important thing is to never put yourself at risk. There are chemicals that we use and procedures we do as Creekers that may be dangerous and should not be taken lightly. When in the creek doing macroinvertebrate sampling always be sure to have stable footing so that you don't fall and get hurt. In the classroom the hazards are more chemical. Hazard signs can be found on the labels telling you what to watch out for. Here are some of those symbols you will see on test kit reagents and other chemicals you will see in a scientific laboratory if you pursue a scientific career:







# Feature Creature

By Zachary Piso, Allegheny College Student



Source: [http://www.marshall.edu/herp/salamanders/northern\\_red.htm](http://www.marshall.edu/herp/salamanders/northern_red.htm)

I am a slow, chubby creature that can grow to more than seven inches. When I am young, I spend my time in clean streams, where I use my gills to breathe for up to four years. Finally, I turn bright red with black spots, and crawl up into the hills during the warm months. In the hills I use my projecting tongue to prey on worms, insects, and sometimes other small salamanders. When the cold rains fall in autumn, I return back to the cold springs where I grew up, and can lay up to 100 eggs. Keep a watch for me, because I am one of the most colorful creatures around and need pristine habitats to survive. See back page for answer.

## Watershed Project

By Gemma Padchonga, Slippery Rock Elementary student

I am one of the students from Slippery Rock's Watershed Project. Here is some information about what we learned from this project.

What is a Watershed?

A watershed is the water that does not evaporate. It goes into rivers, lakes, ponds, or streams. The water in a watershed might become polluted and harm the things that live in it.

The people who live in a community are part of the watershed and affect the watershed. They may pollute the water in the watershed.

Why Study Water and Watersheds?

We should study water and watersheds to know how important it is to not pollute our water. Also, you can tell others about the importance of clean water. Our water may cause other water to be polluted.

What is Water Pollution?

Pollution is the bad things that end up in our water. These things can affect people's health and plant and animal life.

Sampling Waterways for Pollutants:

During the Watershed Project eight tests were done on the water in the stream next to the Slippery Rock Area Elementary School. These tests included: temperature, pH, total dissolved solids (TDS), dissolved oxygen (DO), nitrogen, phosphorus, alkalinity, and turbidity.

On Friday, November 14, 2008 some 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders from my school, Slippery Rock Area Elementary, worked with some students from Allegheny College. I did the tests of pH and turbidity.

pH:

The pH measures if the water is acidic or not. A pH less than 7 is acidic. Rain usually is acidic, it measures about 5.6.

For the pH test I took the pH meter and put it into the pH solution to make sure it would work. Then I took the pH meter and put it into the water samples A & B and I came up with 7.4 for A and 7.2 for B. A pH between 5.0 and 8.5 is good for animal and plant life.

Turbidity:

Turbidity is the measure of how cloudy the water is. The cloudier the water is, the higher the turbidity. If the water is cloudy, things living in the water will have some trouble.

What I did: For the turbidity tests I filled one of the columns with distilled water and the other column with sample A. I thought that they were both clear so they had 0 turbidity. We did the same with sample B but the distilled water was clearer so we had to add the Standard Turbidity Reagent. We added one 0.5 ml dropper full and came up with 1 which I had to multiply by 5 and got 5 Jackson Turbidity Units (JTUs).

It was fun and I learned some things. Remember you are part of your watershed!

**DON'T POLLUTE YOUR ENVIRONMENT!!!**



Above: students from Meadville Area Middle School looking for macroinvertebrates in Mill Run behind their school.

**FEATURE CREATURE ANSWER:**

This issue's Feature Creature (pg. 3) is a Northern Red salamander, *Pseudotriton ruber ruber*.

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