Shredder Experiment

1. I looked into the River Continuum Concept it stated that there are different types of microinvertebrate feeders. One of these being known as Shredders. They take large organic materials and begin breaking them down. These shredders are usually  Mayfly ([Ephemeroptera](http://en.wikipedia.org/wiki/Ephemeroptera%22%20%5Co%20%22Ephemeroptera)) and stone fly ([Plecoptera](http://en.wikipedia.org/wiki/Plecoptera)) larvae. I predict that in smaller water ways we will find a larger number of these Shredders. I believe these species can’t survive well in faster moving water. This is due to the organic material being swept away before they can consume it.
2. Equipment needed: Kick nets(or some form of net), Bottletraps (if possible), Tray or container of some sort to place samples in.
3. I plan to have two other people help me. We will work as a team by setting up a kick net downstream and have rocks and other debris kicked up to be pulled into the net. The species will then be recorded. We will record data from two locations a faster moving water and a slower moving water. We will sample three times and total the number of insects found together
4. Results: I found that in the slower moving water fewer Shredders were found. The speed was tested by having two people 15 meters from one another placing an object in the water and using a stop watch to record the time it took for the object to reach from one to the other. The speed of the water at slow location was going at .14 meters a second. The faster moving water was going at a rate of 1.5 meters a second. In the slower moving water I found a total of 3 shredders. I found 2 from order Ephemoptera, and 1 from order Plecoptera. As for the fast moving water I found a total of 11 Shredders. 6 of these species were from Ephemoptera, and 5 from the order Plecoptera.
5. My hypothesis was disapproved by my experiment. I thought that a shredder would prefer slower moving water to get more time to feed on plant matter. But after looking at other student’s data I saw that faster moving water had a much higher level of oxygen. My new hypothesis that macroinvertebrates in the stream prefer to live in areas with higher levels of oxygen in them. The next time I got to Belize I would like to test the sheer number of macroinvertebrates compared to the levels of oxygen in three areas of the stream.
6. Sources.
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8. Robin L. Vannote, G. Wayne Minshall, Kenneth W. Cummins, James R. Sedell, And Colbert E. Cushing “The River Continuum Concept”
9. Barry L. Johnson, William B. Richardson, and Teresa J. Naimo “Past, Present, and Future Concepts in Large River Ecology.” <http://www.jstor.org.er.llcc.edu:2048/stable/10.2307/1312552?Search=yes&resultItemClick=true&searchText=River&searchText=Continuum&searchText=Theory&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3DRiver%2BContinuum%2BTheory%26amp%3Bacc%3Don%26amp%3Bwc%3Don%26amp%3Bfc%3Doff>
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