

Plan Overview

A Data Management Plan created using DMPTool

Title: Copy of Influence of leaf-quality tree in the secondary production of shredder chironomid species dwelling headwater streams in Cerrado biome

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Project abstract:

The influence of leaf-litter quality on shredder aquatic insect assemblages can drive the pathway of energy through food webs across aquatic-terrestrial borders. Herein, the effect of leaf-litter from two tree species, representing low (*Licania tomentosa*) versus high (*Magnolia ovata*) leaf-quality, on the secondary production and emergence in shredder chironomid species in headwater streams was analyzed. As low leaf-quality reduces breakdown rates, it was predicted that this characteristic would influence the secondary production and emergence of shredder chironomids, while high leaf-quality with elevated breakdown rates would promote high biomass and richness among the shredder community due to rapid resource consumption. The adult shredder chironomid species were collected from 10, 30, 50, 70 and 90 days of leaf-litter colonization experiments and leaf-breakdown rates of species were determined. The secondary production of six-shredder chironomid species was estimated using the Integrated Production (IP) equation, with the temporal stability of shredder chironomid emergence (S) as a measure of resource subsidy exported from the streams. The stream water temperature influenced the biomass of chironomid species in the leaf-litter. However, there were no significant differences in the shredder community richness, IP and S between low and high leaf-quality tree species over the course of our experiments. The

remaining biomass of both leaf species affected *Stenochironomus figueiredoensis*, which exhibited consistently higher S values in the later stages of the experiments. The findings show that allochthonous leaf-litter quality, together with environmental conditions, can affect the secondary production and subsequent emergence of the shredder chironomids species assemblage in headwater streams.

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Copy of Influence of leaf-quality tree in the secondary production of shredder chironomid species dwelling headwater streams in Cerrado biome - Description of Data and Metadata produced by the project

Data Creation and Collection

What data will be collected or created?

It was collected data concerning to the environmental characteristics of air and water temperature, stream width, stream depth, stream superficial flow, pH, dissolved oxygen, water conductivity, oxygen %. Additionally, *Magnoliva ovata* and *Licania tomentosa* leaf-litter biomass were measured along 90 days of breakdown experiment. Adult chironomid were collected along 10,30,50,70 and 90 colonization days and they will be identified until lowest taxonomy level. Shredder chironomids reached until species level.

In laboratory the specimens were counted and the biomass estimated using a length-mass equation and the percentage of cellulose+lignin of leaf species were analysed.

How data will be collected or created

It was created data concerning to headwater coordinates, environmental water mean and standard deviation, shredder chironomid biomass and emergence frequencies, leaf-litter remanent biomass, leaf-litter fibers % to each colonization period.
