“AQUATIC AND TERRESTRIAL INSECT BIODIVERSITY IN A TEMPERATE WETLAND AND POND”

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Abstract:

Wetlands and pond margins are complex habitats that act as ecotones between terrestrial and aquatic ecosystems. They are rich in biodiversity and draw organisms from both terrestrial and aquatic environments. Some invertebrates live their entire lives in water or on land, while others live as larva and nymph in water and emerge at the stage of adulthood. There are differences between invertebrates to be found in these two ecosystems on either side of the ecotone. Some of the major aquatic groups are the mayflies (Ephemeroptera), and the dragonflies (Odonata). Some orders such as the Beetles (Coleoptera) have terrestrial and aquatic species, while other groups such as the ants (Formicidae) are strictly terrestrial. Plants potentially act as terrestrial islands in aquatic habitats and also serve as emergence substrates for a range of aquatic insects. We used floating pit traps in a wetland and in the margin of a pond to make a comparison of aquatic and terrestrial insects found in the ecotone between aquatic and terrestrial habitats. Traps were set with or without contact with vegetation. We hypothesized that traps in contact with vegetation would accumulate a more diverse sample of both terrestrial and emergent aquatic.

Introduction

A wetland is an area of land which is saturated with moisture either permanently or seasonally. Such areas may also be covered partially or completely by shallow pools of water. Wetlands are considered the most biologically diverse of all ecosystems. Are complex ecosystems that act as interface between terrestrial and aquatic habitats (Lefevre et al. 2003). A pond is a body of standing water, either natural or man-made, that is usually smaller than a lake, which also serves as a long life and growth of aquatic and terrestrial insects.

Some of insects enter into this world through ponds and wetland and some of them even live all their in ponds or wetlands whereas others live their larval and nymph stages in both until and leave them on reaching adult stage. We can detect differences between invertebrates found in both ecosystems. Some of the largest aquatic groups are found are mayflies (Ephemeroptera) and dragonflies (Odonata). Also we can find some kinds of aquatic and terrestrial beetles (Coleoptera) and some kind of ants (Formicidae). Plants are essential to these ecosystems as the y act as terrestrial island and contain nutrients for aquatic insects that live.

Proposal

The purpose of this study was to determine and learning the aquatic and terrestrial insect present between Wetland and Pond located in Camp Johnson 20 at the same time. We examined different in the species richness between both using floating pit traps in the margin of a Pond and Wetland. We hypothesized that trap in contact with vegetation would accumulated more diversity sample of both terrestrial and emergent aquatic insect.

Materials and Methods

We will compare the diversity of invertebrates found on samples with the ones found at special tubes situated at Lily Pad, both pond and wetland localized at Camp Johnson. We prepare 100 tubes with 25 cm of water touching the water and bank and vegetation touching the bank and vegetation. They were found for the number of aquatic insects found within the pit traps in the water and bank and vegetation touching the bank and vegetation. The pit traps in the water touching the vegetation were found 34 species, and the pit traps no touching the vegetation was found 9 species. The pit traps in the bank touching the vegetation was found 42 species, and the pit traps no touching the vegetation was found 0 species.

Discussion

I put 100 pit traps, 50 pit traps in the wetland and 50 pit traps in the pond for a total of 100. But only appear 83, this was because it was raining in the 2 weeks the pit traps was left. In those pit traps left in the water of the wetland touching the vegetation was found more species than those that not. It was found in the pit traps touching the vegetation in the water 26 species versus 7 species in pit traps no touching vegetation in the water. In the pit traps touching the vegetation on the bank of the pond there were found more aquatic and terrestrial insects, than yes pit traps that wasn’t touching the vegetation. It was found 64 species in the pit traps touching the vegetation versus 0 species in the pit traps that wasn’t touching the vegetation.

It was found in the pit traps in the water touching the vegetation, having the more richness. The pit traps in the water touching the vegetation was found 34 species, and the pit traps no touching the vegetation was found only 9 species. The pit traps in the bank touching the vegetation was found 42 species, and the pit traps no touching the vegetation was found 0 species.

With these results we can conclude we can find more aquatic and terrestrial insects because these plants are essential for the survival of these insects. Also they play a role for their developmental and housing.

References

• http://academics.smcvt.edu/Vermont_rivers/ ©2008 Saint Michael's College

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