Abstracts

The Effect of Manmade Temporal ponds on Insect Diversity within a Recreated Arid Wetland

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Transitional ecosystems, such as that of vernal ponds, are understudied and provide a unique view about the impact of disturbance on relative biodiversity. This topic was explored by examining a manmade pond within the Rio Bosque Wetlands Park, El Paso, Texas, that displayed similar growth and contraction in terms of vegetation coverage and water table size, that a natural vernal pond experiences. Three plots were constructed, each plot being 15 meters apart, with plots being divided into 4 sections each, being 1 x 1 meter in size, and separated from one another by 3 meters. Collection of insects was done via sweep netting in a 4 x 4-sweep pattern within each respective section. It was hypothesized that relative insect abundance would increase in correlation with both water table and vegetative cover. Results demonstrate that this was in fact true, with certain orders of arthropod being more prevalent than others. These results may support the idea that factors such as vegetative cover and water table extent may have a direct tie to species diversity.

Hemipteran Prefaces for Native versus Non-native Flora within a Recreated Arid Wetland

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In studying the effect of nonnative flora on the overall impact on biodiversity, we investigated the association between four plant species (two native and two non-native) and the abundance of arthropods found within the Rio Bosque Wetlands Park, El Paso, Texas. The four plant species were paired off based upon three factors: native vs. non-native, growth habit (forb vs. shrub), and proximity (closeness of each plant to one another). We chose the arthropod order, Hemiptera, as our focus group for this study because they have great diversity, and because many members of this order are capable of vectoring agricultural diseases. The ability for non-native flora to act as a source of vector pests is relatively unexplored and is of significance because our target non-native flora are often found growing in disturbed areas that are easily mimicked by that of agricultural farmland. This could produce losses in biodiversity and economic value. Our collections did reveal a relative abundance of Hemiptera, notably planthoppers, several of which were identified as agricultural pests and were found living on the selected nonnative flora.