CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY

Name(s)
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Project Number
S0420

Project Title
Eelgrass: A Study on Botanical Genetics

Abstract

Objectives/Goals
My objective was to test if ribulose 1, 5 bisphosphate (RuBP) would act as a universal gene for eelgrass and its close genetic relatives. Success would be determined by biogeographic and habitat comparison between the species.

Methods/Materials
Use the National Center for Biotechnlogy Information's (NCBI) blast tool to search RuBP sequences for multiple plant species that have a genetic similarity of 90% and higher. Compare these genomes in phylogenetic trees that can be made in "Clustal W". Make sure the sequences contains only the RuBP sequence. Analyze results.

Results
There are mixed showings. Although habitat shows a significant sensible relationship between the species, the geographical location has almost no comprehendible relationship.

Conclusions/Discussion
The mixed results reveal two discoveries. The first is that there is a glimmer of hope for RuBP. The native habitats do show success but it is daunted by the sister graph of biogeography. This is where the second, and most urgent realization was made. There is little research that has gone into genetics and plants. The Human Genome Project continues to thrive and catalogue, whereas only 10% of the world's plants have been barcoded for DNA. If more plants were available to test, more connections could have been made. Unfortunately, "could" remains only a hypothetical word until more work is to be done.

Summary Statement
The RuBP gene gives mixed messages about its reliability as a universal plant gene; however, it highlights the lack of research that has gone into botanical genetics.

Help Received
San Diego Super Computer Biology Workbench for access to Clustal W; National Center for Biotechnology Information for genome database