Name(s)

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Project Number

S0410

Project Title

Analysis of Red Coralline Algae from the Intertidal Region of Shell Beach, California

Abstract

Objectives/Goals

The goal is to establish a database of DNA sequences for the rubisco gene (rbcL) for crustose coralline algae found in the intertidal region of Shell Beach, California.

Methods/Materials

I start by collecting red coralline algae samples from Shell Beach, California. Then I extract the DNA sequences from each samples I collect in the lab. The DNA extractions are then sent to the University of North Carolina where the samples are polymerized and amplified. When I receive the samples back, I match my sequences with GenBank's sequences using the Sequence Alignment Editor.

Results

A total of seventy-two different samples of both articulated and crustose were collected from Shell Beach during the summer of 2009. Presently, only twelve samples have been successfully identified. The identified genera include: Lithophylium species, Pseudolithophyllum species, and Bosiella species. Nineteen of the samples sequenced did not match any known species. However, within these unidentified samples, some are identical sequences.

Conclusions/Discussion

To date, I have identified one genus of articulated coralline algae, Bosiella sp., and two genera of crustose coralline algae, Lithophylium sp. and Pseudolithophylium sp. Because there are limited sequences of red coralline algae for the rubisco gene (rbcL) in GenBank, it is difficult to identify the algae from Shell Beach with GenBank sequences. In the future, I hope to identify the other red coralline algae that I have collected from Shell Beach#s intertidal region and add new sequences to GenBank.

Summary Statement

This project is the establishment of DNA sequences for the rubisco gene for red coralline algae.

Help Received