Bimonthly Report for 2015 Chopsticks for Salamanders Small Grant

Grantee Information
Recipients: Dr. Thomas McElroy and Kate Donlon
Project: Conservation Genetics and Mark-Recapture Monitoring of a Rare Salamander, (*Plethodon petraeus*), with a Highly Restricted Range

Photo Credit: Jacob Hutton

Summary of Project to Date

Mark Recapture Study

Previously tagged *Plethodon glutinosus* individuals are doing well in captivity and weekly monitoring has shown high tag retention rates and good visibility. Based on these initial results, we felt confident to begin tagging *Plethodon petraeus* in the field. A single 25x25 meter plot was selected for a trial study and surveying. To date, we have completed a primary tagging period that consisted of three evenings of surveys and tagging. 32 individual salamanders have so far been captured, tagged and released. One recapture, a juvenile Pigeon Mountain Salamander, has been documented. We look forward to expanding the mark recapture study to include multiple plots and more sampling periods for spring fieldwork.

Slimy salamander included in captive long term tag retention study. Six tagging locations are being monitored with a combination of three colors, orange, red and yellow.

Photo Credit: Kate Donlon

Preliminary Genetic Analysis

Preliminary population genetic structure analysis that included six of the eight-microsatellite markers detected significant genetic divergence among the sampled sites from the northern and southern locations of the species range. Genetic divergence was greatest between sites that were further apart (~17km). Sites that were close together also showed significant divergence (~2 km). The remaining sampled locations will be added to future analyses. These results were presented in a poster format at SEPEEG (The SouthEastern Ecology and Evolutionary Genetics) in October.

Goals for the next two months include:
1) Include remaining locations in genetic analysis
2) Sequence mitochondrial region from individuals throughout the range
3) Select locations for additional mark recapture plots