

-Research Project Abstract

Plethodon hubrichti, or the Peaks of Otter Salamander, is a striking amphibian endemic to a 19-km stretch of the Blue Ridge Mountains within west-central Virginia. This range borders the Blue Ridge Parkway; and, although limited, maintains a healthy population of *P. hubrichti*. This lungless salamander (family Plethodontidae) thrives in the cool, humid habitat created by these elevated mountain peaks. For many years, it was thought that this salamander could not be located outside of the primary population's range. However, a small population of *P. hubrichti* has been discovered less than a km away within a wooded area containing many large boulders. It is presupposed that this newly-found population is completely isolated from the species' primary distribution, although this rocky region may be weakly connected by a peninsula stretching up a steep elevation gradient. Both the main and newly-discovered distributions are resistant to expansion due to competition with the widespread *Plethodon cinereus*, or the Red-backed Salamander. This competition is due to territorial interactions and interspecific food competition within the sympatric reaches of *P. hubrichti*'s range. Therefore, it is likely that two separate populations of *P. hubrichti* would remain in isolation, eliminating the possibility of gene flow between them. Could these two populations of salamanders, if separated for a significant time period, possess observable genetic differences? Tail clippings (~.75") were collected from salamanders within both populations, placed in ethanol, and brought back to the lab for analysis. To observe any potential genetic variability, mitochondrial DNA was isolated from the tail tip samples and amplified via PCR techniques. Once the PCR product was obtained, this sample was sent off for analysis of the Cytochrome b gene.

-Important Submission Note:

This project is an ongoing study that will be completed before research week. Results and figures/illustrations to come.