

Public Abstract

First Name:Brittany

Middle Name:Hunter

Last Name:Ousterhout

Adviser's First Name:Ray

Adviser's Last Name:Semlitsch

Co-Adviser's First Name:Rex

Co-Adviser's Last Name:Cocroft

Graduation Term:SP 2016

Department:Biological Sciences

Degree:PhD

Title:EFFECTS OF PHENOTYPE- AND CONDITION-DEPENDENT FACTORS ON JUVENILE DISPERSAL OF THE RINGED SALAMANDER (*AMBYSTOMA ANNULATUM*)

Dispersal is the movement of individuals from their natal population to a different breeding population. Long distance dispersal movements are rare, with most individuals staying within their natal population (hereafter residents). The frequency with which individuals disperse to new population or settle near natal sites has strong consequences for individual survival and fitness, as well as ecological and evolutionary processes. Despite the importance of dispersal, there have been limited empirical tests of the factors affect whether an individual disperses or is philopatric.

My dissertation research used laboratory and field experiments to measure effects of phenotype- and condition-dependent factors on movement in a mole salamander (*Ambystoma annulatum*). The primary objectives of my study were to i) describe the effect of natal density on juvenile phenotype, and ii) determine the effect of individual variation in phenotype-dependent factors (i.e., behavior, morphology, and body condition) and condition-dependent factors (i.e., natal population density and juvenile habitat quality) on dispersal. Collectively, these studies indicate that both aquatic natal habitat and its non-additive effect on juvenile phenotype, as well as juvenile terrestrial habitats should be considered when managing amphibian populations and metapopulations.