

**Abstract of Paper Presented at the Annual Meeting of the Association of
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DeLancey, B., and W. B. Worthen. Changes in microhabitat selection and head dimensions between three different ontogenetic stages of *Desmognathus quadramaculatus*.

In previous research, immature *Desmognathus quadramaculatus* preferred deeper water and had diets with a higher percentage of aquatic prey than their mature counterparts. Here I attempt to partition the effects of developmental stage and body size. I sampled *D. quadramaculatus* salamanders in drainages in northeastern Greenville Co., SC, in the summer and fall of 2010, comparing snout-vent length, head width/length ratio, water depth, and distance from land between and within larval, immature, and mature developmental stages. Head width/length ratio and snout-vent length were positively correlated in larval salamanders, uncorrelated in immature salamanders, and negatively correlated in mature salamanders. Water depth was also positively correlated with snout-vent length in larval salamanders but a negative correlation was found across the entire data set. No significant correlations between water depth and snout-vent length were found in immature and mature age classes. Larval salamanders were also found farther from land and in deeper water than immature and mature salamanders. If head width/length ratio can be used as a proxy for trophic niche or territoriality, then developmental changes in allometric growth suggest that resource partitioning may be more directly related to age/developmental class than body size alone.