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Demographic Responses to Pleistocene Climate Change in Interior Highlands Woodland Salamanders (Genus *Plethodon*)

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The Pleistocene (~2.5 million to 12,000 years ago) was characterized by climate fluctuations and glacial cycles, which greatly impacted many species' distributions. Changes in population size associated with range expansion and contraction are expected to leave specific genetic signatures in populations. Closely related species occupying the same geographic area might be expected to respond similarly to climate fluctuations; however, growing evidence suggests that species often respond uniquely to environmental changes. The Interior Highlands (Ouachita Mountains and Ozark Plateau) are home to several species of plethodontid salamanders and experienced significant environmental changes throughout the Pleistocene. We used mitochondrial DNA sequences from seven species of Woodland Salamanders (Genus *Plethodon*) occurring in the Interior Highlands to test if species showed similar changes in effective population size (N_e) in response to Pleistocene climate change. We found that several species showed evidence of a recent increase in population size, likely as a result of range expansion following the retreat of glacial ice sheets after the Last Glacial Maximum. However, other species showed evidence of stable or slightly decreasing population size. Although some species appeared to have similar demographic responses to Pleistocene climate change, our results support the idea that species, even those closely related, will respond individually to environmental changes.