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EVOLUTIONARILY DIVERGENT PATTERNS OF AGE-SPECIFIC  
REPRODUCTION IN THE GARTER SNAKE *THAMNOPHIS ELE-*  
*GANS*

Evolutionary ecology studies of garter snakes (*Thamnophis elegans*) in the vicinity of Eagle Lake (Lassen County) California have reported two distinct life history ecotypes. The lakeshore ecotype exhibits faster growth, higher reproductive output, and shorter lifespan than the mountain meadow ecotype found in nearby, higher elevation meadows. These differences are due to genetic differentiation between the two ecotypes reported in studies of replicate populations of each ecotype in common garden and gene flow experiments. This study was designed to examine differences in age-specific reproduction between the two ecotypes, by assessing the relationship of age to reproductive output in replicate populations of each ecotype. Furthermore, we asked whether reproductive senescence was detectable at later ages. In lakeshore snakes, reproductive output continued to rise even at the oldest ages, while in meadow snakes reproductive output appeared to plateau at later ages, but did not decline. Thus, there was no evidence of reproductive senescence. There was, however, a marked difference in age-specific reproductive profiles between the two ecotypes. In lakeshore snakes, litter mass increased with increasing age at a faster rate than in meadow snakes. This rapid increase in litter mass was correlated with larger body sizes at younger ages in lakeshore snakes, attributable to faster growth rates. However, most reproductive lakeshore snakes were within an age range of 3-7 years, while reproductive meadow snakes were scattered throughout an age range of 4-16 years. This evidence suggests a trade-off between age-specific reproduction and survival, with higher reproduction at younger ages corresponding to shorter lifespan.