

Question: Abstract title (ALL CAPS)

BEHAVIORAL PLASTICITY BUFFERS TEMPERATURE CONSTRAINTS ON FORAGING TIME FOR A MONTANE MAMMAL

Question: List authors (in order) with a number in parenthesis after each name to denote affiliation.

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Question: Enter abstract text (limit 300 words)

Contemporary climate change is altering temperature profiles across the globe. Increasing temperatures can reduce the amount of time during which conditions are suitable for animals to engage in essential activities, such as securing food. Behavioral plasticity, the ability to alter behavior in response to the environment, may provide animals with a tool to adjust to changes in the availability of suitable thermal conditions. The extent to which individuals can alter fitness-enhancing behaviors, such as food collection, to proximately buffer temperature variation, however, remains unclear. Even less well understood are the potential performance advantages of flexible strategies among endotherms. We examined the degree to which individuals altered rates of food collection in response to temperature, and the corresponding nutritional benefits, using the American pika (*Ochotona princeps*), a temperature-sensitive, food-hoarding mammal, as model species. From July – Sept, 2013-2015, we used motion-activated cameras and *in situ* temperature loggers to examine pika food-caching activity for 72 individuals across 10 sites in western Wyoming. We quantified % nitrogen by cache volume as a metric of cache quality. We found a strong negative effect of temperature on the rate at which pikas cached food. Individual responses to temperature varied substantially in both the level of food-collecting activity and in the degree to which individuals shifted activity with warming temperature. After accounting for available foraging time, individuals that exhibited greater plasticity collected a significantly higher amount of nitrogen by cache volume. By varying food-collection norms of reaction, individuals were able to plastically respond to temperature-driven reductions in foraging time and, through this increased flexibility, simultaneously amass a higher-quality overwinter food resource. Our results show that, given sufficient resource availability, plasticity in foraging activity may help temperature-limited endotherms to adjust to climate-related constraints on foraging time.