

1033 Katrina Moore, Anahita Sadrossadat, Zhuoyang Zhang, Craig McGowan, Monica Daley

Bold and fast? Does kangaroo rat (*Dipodomys deserti*) behavior correlate with locomotor performance?

Animal locomotion enhances fitness and survival by enabling individuals to acquire mates, escape predation, and find resources. However, locomotion is only one of many behaviors that are important for animal function

and survival. Behavioral plasticity is essential in changing environmental conditions and context as it may enhance an individual's ability to adapt. Here we investigate variance among individuals in behavior expression and locomotor activity levels of desert kangaroo rats (*D. deserti*). We aim to analyze the potential for correlation in expression of multiple behaviors, hence exploring whether kangaroo rats exhibit "behavioral syndromes" that relate to their locomotor activities. We sampled 9 *D. deserti* individuals from a population in the Mojave Desert and recorded their behaviors for 15 minutes in a modified novel-environment-test arena in the field. Preliminary results suggest a correlation between expression of exploratory behaviors such as walking, eating, and interacting with novel objects. This indicates a gradient of activity and exploration among individuals in a novel environment, which may be an important measure of boldness (or risk tolerance). Therefore, we predict a correlation between the amount of exploratory behavior and locomotor performance with higher speeds, distance traveled, and jump heights in individuals with higher overall exploratory behavior. We hope this research can lead to greater understanding of animal behavior expression and plasticity, thus enhancing wildlife management and conservation efforts.