Generalization of Prey Fear Response to Predation Risk in Deer Mice

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DURF Abstract

Risk of predation is an important consideration for a foraging individual, and can have far-reaching implications for basic foraging decisions. Recognition of predation risk can be made through both direct and indirect cues that in turn elicit behavioral changes in prey. In this study, we exposed *Peromyscus maniculatus* in two different environments to native and novel owl calls to measure the predation risk effect in relation to food consumption. The two environments differed by the amount of sound the substrate produced during foraging. We predicted that *P. maniculatus* in the novel owl call treatment would consume the least amount of seeds due to an increase in vigilance and other safety related behavior. We also predicted that mice would consume significantly fewer seeds in the noisy substrate in comparison to the quiet substrate, which was confirmed by the data. However, there was no difference in the amount of seeds consumed according to the different owl calls; all treatments yielded similar results. Still, mice consumed fewer seeds in the novel owl call treatment when compared to the control. Our data also indicate that juvenile mice do not alter the amount of food consumed according to substrate. Our findings suggest that mice may be more prone to generalize their fear responses instead of specializing to individual predators. They also suggest that mice learn to exhibit a generalized fear response with age.