

# The Influence of Predator Detection on Life History Strategies in DAPHNIA

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## **PURPOSE OF STUDY**

Some organisms, such as water fleas (*Daphnia*), allocate their energy resources to growth, maintenance, and reproduction differently in response to predators. Water fleas, for example, produce helmets and tail spines in the presence of predators. Reallocation of energy can benefit a current reproductive effort, future reproductive efforts, or both. The researchers will evaluate changes in energy allocation of *Daphnia* in the presence of fish predator odors.

## **STUDY UNDERWAY**

- The researcher will grow *Daphnia* in water in which predators are living in controlled concentrations to measure growth, spines, egg number, and egg size.
- A MANOVA will be used, followed by post hoc two-factor ANOVA tests when the MANOVA results show significance.
- A second experiment will use a two-factor ANOVA test to determine how individuals from the above treatment combinations respond to full-strength odor of the predator.

## **BENEFITS**

- The results of this experiment may reveal the survivorship strategy of the water flea.
- Understanding these strategies will allow better understanding of species response in a perturbed environment.



*Irene Roselli's field site is located in the Melrose Migrant Trap in Melrose, New Mexico.*



*Irene Roselli was born and raised in Belen, NM, received a BS in biology from New Mexico Tech, and is pursuing a master's degree in applied ecology/animal behavior at ENMU. She expects to graduate in May 2007.*

