

Success of Invasive Asian Lady Beetles vs. Native Seven-Spotted Ladybirds

Question: Do invasive lady bird beetles differ in aggression from native ladybirds

Hypothesis: Invasive species are bolder and more aggressive than native species.

Predictions: 1) Invasives will have a greater response to the presence of a predator. 2) Natives will have a greater response to the presence of a nectar-based food source. 3) Invasives will have a greater response to the presence of opposing species.

The Effects of Mimicry on Pollinator Flower Preference

Question: Do hoverflies behaviorally mimic honey bees in pollination behavior and preference?

Hypothesis: Hoverflies will share pollination preferences with honeybees, their model species.

Prediction: When given a choice, hoverflies will prefer the same flower type as honeybees.

Neighbors are also enemies: song familiarity is not predicative of aggression in

Baeolophus aristicristatus

Question: Can the Black-crested Titmouse recognize the difference between songs from familiar or unfamiliar conspecifics?

Hypothesis: We hypothesize that the Black-crested Titmouse will be able to differentiate between familiar and unfamiliar song to distinguish between friend and foe

Prediction: Titmice will respond more aggressively to an unfamiliar conspecific song than to a familiar song.

Effects of Urbanization on Texas Live Oak (*Quercus fusiformis*) Health

Question: How does urbanization effect live oak growth and health

Hypothesis: Urbanization negatively impacts the health of the Texas live oak (*Quercus fusiformis*)

Predictions: 1) Trees in rural environment (Bracken Bat Cave) have highest leaf density and healthier leaves. 2) Trees in urban city environment (Brackenridge Park) have lowest leaf density and least healthy leaves. 3) Trees in intermediate suburban areas (Edge of city) show mid-level effects.

What's More Effective – Advertising or Reward?

Question: Are insects attracted to straggler daisy because of advertising or reward?

Hypothesis: Patches with more ray florets will attract more insects.

Predictions: 1) More insect activity will be observed in patches with a higher mean number of ray florets (petals). 2) Patches with a higher mean number of disk florets will have less insects.