

Permit 2007-011

Field Name	Field Value
Name	Todd A. Blackledge
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Web_Address	http://www3.uakron.edu/biology/blackledge/index.htm
Renewal	No
Permit_Number	
Activity	Research
Project	Effects of orb weaving spiders on plant-pollinator interactions
Dates	summer 2007-summer 2008
Group_Size	3
Research_Area	Yes -- Grandview Alley
Sensitive_Area	No
Other_Areas	Yes
Public_Areas	Yes
Building	Yes
Prep_Work	none - current storage space for spider research is sufficient.
Sampling_Collecting	No
Sampling_Methods	
Description	<p>This project tests the hypothesis that spiders can influence plant-pollinator interactions by altering the visitation of pollinators such as bees to flowers. We will measure the numbers of pollinators visiting flowers as well as pollen removal and deposition at three sets of flowers. A spider on a web will be placed next to one treatment, an empty web next to a second treatment, and an empty frame (used to support webs) next to the third control treatment. Focal observation will be conducted to measure the numbers of insects visiting flowers, contacting webs, and being captured by spiders. We predict that the capture of pollinators by spiders and avoidance of webs will reduce visitation to flowers and hence reduce pollen removal. The experiment will be conducted on the grounds of the Martin Center for Field Studies and Environmental Education, south of the cattle tank experiment. Butterfly milkweed, <i>Asclepius tuberosa</i>, will be purchased from local nurseries and placed in a latin square grid of 9 plants approximately 3m distance from one another. Plants will be left in their pots and simply placed</p>

	<p>on the ground for 1-5 days of observation (depending on weather). They will sometimes be housed in three large tents (2m x 2m) along the brushline to isolate plants from pollinators prior to use. Spiders will be collected 1-5 days prior to use and allowed to spin webs on frames that can be suspended on wooden dowel rods near the plants. Spiders will be released near their original collection locality after use. <i>A. tuberosa</i> is not native to BNP, although it is a common ornamental plant in the area. All plants will be confined to pots throughout the experiment and flowers will be collected immediately after observation to allow collection of pollinia. Therefore, no seed set will occur. They will also be removed from the preserve at the end of the experiment. Other impact will be minimal as general pollination services won't be greatly impacted because we are only bringing in a small number of flowers (~120 over the July-August field season) and the spiders already occur in high densities on the preserve.</p>
Agreement	Accept