

# NCUR Application

Name of Student: Jessie Clark

Class: Senior

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Department/Major:  
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Biology

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Attach File: <http://>

Title of Presentation:

Survey of Ants (Hymenoptera, Formicidae) at Two Elevations in the Northern Black Hills in South Dakota

BHSU IRB, IACUC or Biosafety #:

N/A

Abstract:

The purpose of this research is to survey the ant species (Hymenoptera, Formicidae) found at two elevations in the northern Black Hills of South Dakota. Few ant studies have been done in western SD and no collections are known for the northern Black Hills. Ants significantly impact ecosystems and exhibit intriguing behavior. To understand the ecology of the Black Hills it is essential to know what ants are there. My advisor and I made monthly collections (April through September 2016) at two locations: 1) near O'Neill Pass (elevation 2059 MSL) in an aspen-pine forest and 2) Crow Peak State Game Area (elevation 1248 MSL) in a ponderosa pine-common juniper forest. One day per month for each site, 40 pitfall traps were set along two 200m perpendicular transect lines and 50 baited vials placed 0.3m above the ground, 6-7m on either side of the transects. We also did opportunity collecting at each site. At the end of each field day, ants in traps and vials were collected. Species identification is being determined using ant keys (Creighton, 1950, Antwiki). Representative ants have been sent to the MCZ at Harvard University for verification. Nearly 5000 ants have been collected, including eight genera and 15 species at O'Neill Pass and eight genera with 14 species at Crow Peak (67% of the species overlap). A larger percent of pitfall traps had ants at the higher elevation than at the lower elevation (64.2 and 41%, respectively), while the opposite was true for baited traps (18.3 and 25%, respectively). Species richness and dominance will be compared for both elevations over the season. We have found new records for a number of ant species in SD and the Black Hills. These results will provide the foundation for future research in ant ecology, behavior, and genetics.

**I certify that: My project is at or near completion and the abstract accurately represents my findings:**

Yes

### **Statement of Student Responsibilities:**

If my project is accepted for NCUR and I receive funding, I agree to:

- complete my project before departure
- make a trial presentation to my faculty advisor before departure
- present my paper/project at NCUR and attend other sessions
- all required IRB, IACUC and Biosafety approvals have been received
- give presentation at Black Hills Research Symposium (BHRS)
- Represent BHSU in a professional & responsible manner