

Permit 2015-002

Name:

Todd A Blackledge

Department or Organization:

University of Akron

Email Address:

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Web Address where the public can learn more about this proposed activity (optional):

<http://gozips.uakron.edu/~tab27/>

Are you requesting renewal of a previously approved permit applicaton?

No

Type of activities at The University of Akron Field Station and Bath Nature Preserve
Research

Title of project or class name and course number:

Biomechanics of spider silks

Date/Dates requested:

June 2015 through August 2018

Number of people in group:

1-5

I am requesting permission to use a Research Area.

Yes

I am requesting permission to use a Sensitive Area.

No

I am requesting permission to use areas outside of the designated Research or Sensitive Areas.

No

I would like to use the Martin Center for Field Studies and Environmental Education for this prop...

Yes

Will the activity involve destructive sampling/collecting?

Yes

Which Research Areas?

18 Acres

Beefy's Woods
Garden Pond
Grandview Alley
Round Top
South Woods

Please indicate any preparation or set-up you will need in the Martin Center for Field Studies an...

We will rarely utilize the building itself, but might occasionally use a microscope for spider identification.

Please explain how the material will be collected (including equipment), and an estimate of how m...

Spiders and silk from webs will be collected periodically throughout the field season. All collections will be conducted by hand. Occasionally webs may be dusted with cornstarch prior to photographing them. No more than 5-10 specimens of a species will be collected on any night, with perhaps as many as 20-40 specimens collected in total in any one year. We expect to collect a diverse variety of species over the course of a single season

Provide a brief description of (1) your proposed activities, (2) goals, and (3) impacts of your u...

This project aims to understand how the chemistry of spider silk glues helps to adapt spiders to particular microhabitats. This NSF funded project seeks to compare the adhesive properties of spider webs, which are highly tuned to finescale changes in humidity, and the chemical compositions of different species' glues evolved as those specialized in different microhabitats. We expect that species adapted to open, drier locations will show different chemistry and adhesive properties compared to species in closed forest, nocturnal (and hence very moist) environments. By understanding the relationship between the chemical compositions of different silk glues and how they function optimally in different conditions. This will inspire new approaches to designing synthetic adhesives that mimic that function optimally in wet environments

By checking this box, I agree to the above terms and state that all of the above information is c...

I agree