

Hailee Amethyst Nolan

Fort Collins, CO

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Education

Master of Science, Ecology

Colorado State University, Fort Collins, CO

GPA: 3.8

Graduate Certificate in Data Analysis

Bachelor of Science, Restoration Ecology

Minor: Entomology

Colorado State University, Fort Collins, CO

Associate of Arts

Front Range Community College, Fort Collins, CO

Publications

Mooney, E., Swift, A., **Nolan, H.**, & Schorr, R. *Facultative ant mutualism in the rare hops azure butterfly, Celastrina humulus (Lycaenidae)*.

Mooney, E. H., Fahland, A. C., **Nolan, H. A.**, Swift, A. M., & Schorr, R. (2023). *Host-plant phenology mediates facultative ant mutualism in the rare butterfly, Celastrina humulus (Lepidoptera: Lycaenidae)*. **Environmental Entomology**, 52(6), 1082–1094.

Underwood, J.C., Moody, J.A., Martin, D.A., Nolan, H.A., and Sullivan, J., 2025, *Physical, chemical, and biological results from a Lagrangian study of water and sediment transported by Powder River in central Wyoming and southeastern Montana, between June 27 – July 3, 2019*: U.S. Geological Survey data release, <https://doi.org/10.5066/P144NZCO>.

Manuscripts in Preparation / Under Review

Nolan, H., Davis. T.S, Stewart, J. *Wildfire is associated with a short-term increase of pathogenic pinewood nematode (*Bursaphelengus xylophilus*) in populations of sawyer beetles (Coleoptera: Cerambycidae)*

Nolan, H., Davis, T.S, Stewart, J. Spruce beetle kill is not associated with an increase of pathogenic pinewood nematode (*Bursaphelenchus xylophilus*) in populations of sawyer beetles (Coleoptera: Cerambycidae), but presence of spruce beetle kill impacts sawyer beetle size.

Research Experience

Student Researcher — Davis Lab of Forest Health, Entomology, Ecology & Biodiversity
Colorado State University | July 2021–Present

Supervisor: Dr. Seth Davis

- MSc research on *Monochamus* beetles as vectors of pine wilt disease and *Bursaphelenchus xylophilus*
- Quantified vector infection probability as a function of spatial and temporal distance to disturbance
- Conducted extensive field trapping, molecular nematode screening (LAMP), and statistical modeling

Research Advisor — MURALS (Multicultural Undergraduate Research Art and Leadership Symposium) First Year Scholars Academy

Colorado State University | Sept 2025–Present

- Mentored three first-year undergraduates
- Designed and taught research methods comparing microbial communities in burned vs unburned ponderosa pine
- Field sampling of bark and needles; lab work included fungal plating, Baermann funnels, and microscopy of nematodes, tardigrades, ciliates, and rotifers.

Research Intern — DAAD RISE Program

University of Göttingen, Germany | Summer 2022

Supervisor: Dr. Benjamin Wildermuth

- Forest zoology project examining Douglas fir introduction and impacts on arthropod diversity and functioning.

- Implemented lure traps and artificial caterpillars to quantify biodiversity and predation rates in forest canopy

Student Researcher / Field Technician — Colorado Natural Heritage Program

UCCS, Mooney Lab, Colorado Springs, CO | Summer 2021

Supervisor: Dr. Emily Mooney

- Studied ant–butterfly mutualisms in the rare hops azure butterfly (*Celastrina humulus*)
- Ant tending interactions as a function of hops flowering phenology

Student Researcher / Lab Technician — Hufbauer Lab of Applied Evolutionary Ecology

Colorado State University | Sept 2020–May 2022

Supervisor: Dr. Ruth Hufbauer, Dr. Laure Olazcuaga

- Prepared experiments on ecological and population genetics, rapid evolution, and population rescue processes.

Peer Mentor/Teaching Assistant: CSU Bridges to Baccalaureate/Wolves to Rams

Colorado State University | July 2020-August 2023

Supervisor: Heather Matthews, Orlando Cruz

- Teaching assistant, peer mentor to students in community college to university transfer communities
- Helped transfer students find research opportunities at CSU.

Research Intern — U.S. Geological Survey/RECCS (Research Experience for Community College Students)

US Geological Survey, Boulder CO | Summer 2019

Supervisor: Dr. Jennifer Underwood, Dr. John Moody

- Worked on a startup project along the Powder River, analyzing biomass flux travelling through the river per day as a way to potentially track contaminants in a water system.
- Hydrology measurements and DNA extraction.

Oral Presentations

- **2025** Western Forest Insect Work Conference — *Assessing Disease Transmission Following Fire Disturbance in Rocky Mountain Forests*
 - **2025** Front Range Student Ecology Symposium — *Assessing Disease Transmission Following Fire Disturbance in Rocky Mountain Forests*
 - **2024** ESA Annual Meeting — *Assessing Disease Transmission Following Fire Disturbance in Rocky Mountain Forests*
 - **2024** WFIWC Graduate Symposium — *Presence of Bursaphelenchus xylophilus in Monochamus beetles...*
 - **2024** ESA North Central Branch — Student Paper Competition
 - **2019** RECCS Symposium — Oral Presentation - *Modeling Downstream Changes: A Lagrangian Study of Sediments and Microbial Communities along the Powder River*
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Poster Presentations

- **2019** RECCS Symposium — Poster- *Modeling Downstream Changes: A Lagrangian Study of Sediments and Microbial Communities along the Powder River*
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Grants, Awards, and Fellowships

- Entomological Society of America Student Competition — President's Prize (2024)
 - DAAD RISE Internship Award (2022)
 - Linda S. Hamilton "Conserving Colorado" Award (2021)
 - Ernest and Bernice Dice Scholarship (2022) - \$2000
 - Thomas A. and Anne L. Shepherd Diversity Scholarship (2021) - \$1,621
 - Susan C. and Laurence E. Riordan Scholarship (2021) - \$11,498.00
 - William Mike Fenner '54 Scholarship (2020) - \$2000
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Teaching, Mentorship, and Community Engagement

- Research Advisor — MURALS
- Peer Mentor / Teaching Assistant — Wolves to Rams & Bridges to Baccalaureate

- Peer Mentor — SACNAS Conference
 - Volunteer — C.P. Gillette Museum of Arthropod Diversity
 - Secretary / Social Media Officer — CSU Gillette Entomology Club
 - Xi Sigma Pi Honor Society
 - Entomology Presentations for Elementary Students – Timnath Elementary
 - Volunteer- Lory State Park Trail and Invasive Species Maintenance
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Technical Skills

- Statistical analysis (R and JMP)
- GIS and Remote Sensing (ArcGIS Pro)
- **Lab experience:** molecular assays (LAMP, PCR), fungal plating, Baermann funnel, water quality testing, soil analysis, sediment size analysis and vacuum filtration, population censusing, arthropod identification
- **Fieldwork:** Flight interception traps, lure traps, light traps, beat sheet collecting, transect and quadrat sampling, implemented artificial caterpillars to analyze predation rates in the forest canopy, bark punch collection, increment borer collection, pressure chamber ecophysiology measurements, forest stand measurements- BAF prism and DBH, larvae monitoring of ant tending, insect collection, pinning, and display, hydrology measurements, environmental monitoring, insect identification, tree identification, rangeland plant identification, EPT index for aquatic insects, invasive species control, seasonal trail maintenance with 40+ hour work weeks, living on site.