Riley Reed

PhD Candidate

riley.reed@wsu.edu | Bugmanriley.com | ORCID ID: 0000-0002-0926-1456

Education

- Washington State University — Expected fall 2026
  Ph.D. in Entomology
  GPA: 3.970

- Washington State University — 2021
  B.S. in Agricultural Biotechnology
  GPA: 3.550
  Cum laude

Teaching

- Discover Insects: Laboratory for Non-Science Majors — Fall 2023
  Teaching assistant, 23 students
  I taught one lab section each week, graded all assignments, and designed some of the lecture materials.
- Ecological and Integrated Pest Management — Spring 2022
  Teaching assistant, 61 students
  I delivered a lecture on the limitations of pesticide technology, graded homework assignments and half of the final reports.
  Rated above average or better by 67% of responding students (18)
- Discover Insects: Laboratory for Non-Science Majors — Fall 2021
  Teaching assistant, 25 students
  I taught one lab section each week, graded all assignments, designed some of the lecture materials and test questions.
  Rated above average or better by 100% of responding students (13)

Publications

- Zhang, G., Kuesel, R. W., Olsson, R., **Reed, R.,** Liu, X., & Hopkins, B. (2024). Pesticide exposure patterns in honey bees during migratory pollination. *Journal of Hazardous Materials*, *480*, 135910. https://doi.org/10.1016/j.jhazmat.2024.135910
- Price, B., **Reed, R**., Hopkins, B., & Zhu, G. (2024). *A Guide to the Small Hive Beetle: An Emerging Pest in Washington State.* Washington State University Extension. https://pubs.extension.wsu.edu/a-guide-to-the-small-hive-beetle-an-emerging-pest-in-washington-state

- Zhu, G., Bush, T. N., Burgstahler, K. S., Green, N., Cook, H., Rampone, E., Helmreich, S., **Reed, R.** M., Milnes, J. M., & Crowder, D. W. (2023). Estimating the potential distribution of yellow spotted stink bug (Erthesina fullo) using ecological niche models. *Entomological Science*, *26*(4), e12566. https://doi.org/10.1111/ens.12566

Publications (In Review)

- **Reed, R**., & Hopkins, B. (In review). A scientific note on observations of bumble flower beetles (*Euphoria inda*) in honey bee (*Apis mellifera*) hives. *The Journal of the Kansas Entomological Society*.

Grants & Fellowships — Total Funding: $30,625

- FFAR Fellowship — 2022-2025
  Each year $5,000 from the FFAR Foundation are matched by funds from Bejo Seed. https://ffarfellows.org/
- WSU Entomology Graduate Student Association minigrant — 2023
  Awarded $125 to purchase supplies for Entomological Society of America Pacific Branch student activities.
- GPSA RSO Affiliate Funding — 2023
  $500 awarded to the WSU Entomology Graduate Student Association to fund community outreach activities.

Awards and Honors — Total Funding: $18,000

- FFAR Fellows Lighting Talks, 2nd place — 2024
- Washington State Beekeepers Association Scholarship ($5,000) — 2023
- Entomology Games, WSU Team, PBESA 2nd place — 2023
  Team: **Riley Reed**, Dowen Jocson, Stephen Onayemi, Joseph Montoya
- WSU Department of Entomology Outstanding PhD Student of the Year ($2,000) — 2023
- Foundation for the Preservation of Honey Bees Scholar ($5,000) — 2023
- Washington State Beekeepers Association Scholarship ($5,000) — 2022
- The Beekeepers of Indiana Scholarship ($1,000) — 2020

Research Experience

- Improving vegetable seed pollination through improved honey bee nutrition — 2021-present
  PI: Brandon Hopkins
  Graduate Research Assistant: **Riley Reed**
  Designed experiment, inspected colonies, decoded waggle dances collected and analyzed data.

- Fungal control of small hive beetles (*Athena tumida*) 2023-2024
  PI: Brandon Hopkins
  Graduate Research Assistant: **Riley Reed**
  Designed experiment, started and managed beetle colony, applied treatments, analyzed data.
- The impact of oxalic acid on external *Varroa destructor* morphology: a potential mode of action 2023
  PI: Brandon Hopkins
  Graduate Research Assistant: **Riley Reed**
  Designed experiment, managed colonies, applied treatments, prepared mites for scanning electron imaging.
- Viability of ozone fumigation as a method of sterilizing combs in commercial beekeeping operations 2021-2022
  PI: Brandon Hopkins
  Graduate Research Assistant: **Riley Reed**
  Designed experiment, identified diseases and pests, collected samples, analyzed data.
- Varroa control via fumigation in indoor storage 2021
  PI: Brandon Hopkins
  Co-PI: Kelly Kulhanek
  Undergraduate researcher: **Riley Reed**
  Inspected colonies, collected samples, analyzed data, and wrote reports.
- Using cold storage to force brood breaks in honey bees for varroa mite control 2018
  PI: Brandon Hopkins
  Undergraduate researcher: **Riley Reed**
  Inspected colonies, collected samples, and analyzed data

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Presentations Total: 33

- Improving Pollination Quality in Vegetable Seed 2024
  Presented during a guest lecture for the WSU Honey Bee Biology course.
- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them 2024
  Presented during the Washington State Crop Improvement Association Annual Conference.
- The Impacts of Supplemental Feeding on Honey Bee Foraging Habits in Carrot Seed 2024
  Presented during the Entomological Society of America annual conference
- Improving Varroa Mite Control Through Spring Cold Storage 2024
  Presented at the poster session during the FFAR Fellows Danforth Plant Science Center visit.
- Improving Varroa Mite Control Through Spring Cold Storage 2024

Presented at the poster session during the FFAR Fellows Bayer facility visit.

- The Small Hive Beetle, An Emerging Pest In Washington 2024
  Presented during a monthly Washington State Beekeepers Association "Ask a Washington Beekeeper" webinar.
- Varroa and Viruses in Honey Bees 2024
  Presented as a DVM Masterclass for the Washington State Veterinary Medical Association.
- The Small Hive Beetle, An Emerging Pest In Washington 2024
  Presented during the Washington State Beekeepers Association annual conference.
- My Time as an Ignite Scholar 2024
  Presented as guest speaker during the annual WSU Ignite Undergraduate Research Program Orientation Dinner
- Honey Bee Feeds and High Quality Seeds 2024
  Awarded 2nd place in the Foundation for Food and Agriculture Research Fellows Lighting Talk competition.
- Three P's in a Pod: Pests, Parasites, and Pathogens Of Washington Bee Hives 2024
  Presented during the Othello Sandhill Crane Festival
- Beekeeping 101 2024
  Presented to the Connell FFA Sales Career Development Event team.
- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them 2024
  Presented during a WSU pesticide applicator's license recertification course
- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them 2024
  Presented during a WSU pesticide applicator's license recertification course
- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them 2024
  Presented during a Syngenta Seed School
- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them 2024
  Presented during a WSU pesticide applicator's license recertification course
- The Potential For Indoor Storage To Improve Control Of Varroa Mites In Honey Bee Colonies 2024
  Presented during the annual American Bee Research Conference.
- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them 2023
  Presented during the Far West Agribusiness Association's annual meeting

- The Good, The Bad, And The Buzzy: The Impacts Of Pesticides On Pollinators And How To Protect Them — 2023
  Presented during a WSU pesticide applicator's license recertification course
- Improving Varroa Mite Control Through Spring Cold Storage — 2023
  Presented during the poster session at the Entomological Society of America annual conference
- The Small Hive Beetle, An Emerging Pest In Washington — 2023
  Presented during the Washington State Beekeepers association annual conference.
- Improving Crop Isolation Through Supplemental Feeding — 2023
  Presented during the Washington State Beekeepers association annual conference.
- Improving Pollination Quality in Vegetable Seed — 2023
  Presented during the FFAR Fellows professional development retreat.
- Improving Varroa Mite Control Through Spring Cold Storage — 2023
  Presented during the poster session of the Entomological Society of America Pacific Branch annual conference
- Improving Pollinating Quality in Seed Crops — 2023
  Presented during the Marilyn & James Hyde seminar series in the Washington State University Department of Entomology
- Better Parasite Control Through Indoor Storage — 2023
  Presented during the Washington State University Department of Entomology 3MT competition
- Improving Pollination Quality in Vegetable Seed — 2023
  Presented during the Columbia Basin Vegetable Seed Association annual meeting
- Viability Of Ozone Fumigation as a Method of Sterilizing Combs In Commercial Beekeeping Operations (poster) — 2023
  Presented during the American Bee Research Conference poster session.
- Viability Of Ozone Fumigation as a Method of Sterilizing Combs In Commercial Beekeeping Operations — 2023
  Presented during the Foundation Luncheon at the American Beekeeping Federation Annual Conference.
- Improving Colony Health During Vegetable Seed Pollination — 2022
  Idaho Honey Conference, presented via zoom.
- Diagnosing and Managing American Foulbrood (AFB) in Honey Bees (infographic)
  Presented virtually during the Entomological Society of America/Entomological Society of Canada joint annual conference
- Improving crop isolation through supplemental feeding and diverse forage — 2022

Graduate student research showcase at the Washington State Beekeepers Association annual conference

- Washington's Honey Bees & WSU Bee Program Overview 2022
  Presented during the International Carrot Conference facility tours in Othello, WA

Outreach Total: 31

- Biology Graduate Student Association "Family Fun Day" 2024
  Educated community members about a variety of arthropods
- Kamiak Elementary School 2024
  Staffed a table with live and preserved arthropods during the STEAM night and spoke with children about the diversity of Arthropods
- CAHNRS Fall Festival 2024
  Educated WSU students and employees about arthropods while providing an opportunity to handle live specimens
- Edwin-Markham Elementary School 2024
  Spoke to ~40 second grade students about arthropod diversity and the importance of pollinators. Provided live specimens for watching and handling.
- Lind Elementary School
  Taught children in preschool through fifth grade about the importance and diversity of insects while providing an opportunity to directly interact with live specimens. 2024
- Pullman First Grade Field Trip 2024
  Taught approximately 45 first grade students about the importance and diversity of pollinators and other insects while giving them the opportunity to handle or observe a variety of live and preserved specimens.
- Pullman Community Gardens Spring Fair 2024
  Educated community members about insect diversity and live specimens for handling
- Annual WSU Insect Expo 2024
  Managed a table with live arthropods and carnivorous plants For approximately 350 community members to hold while learning about arthropod diversity.
- Adam Savage Earth Day Event 2024
  Managed a table with live arthropods for community members to hold while learning about arthropod importance and diversity.
- WSU International Center Coffee Hour 2024
  Educated approximately 25 college students about the importance and diversity of arthropods while providing and opportunity to handle or observe a wide range of live specimens.
- Colton Elementary Steam Night 2024
  Staffed a table with live and preserved arthropods during the

STEAM night and spoke with children about the diversity of arthropods

- Palouse Clearwater Environmental Institute Halloween event 2023
  Educated community members of all ages about arthropods while providing an opportunity to handle live specimens
- Jefferson Elementary School 2023
  Staffed a table with live and preserved arthropods during the STEAM night and spoke with children about the diversity of arthropods
- Franklin Elementary School 2023
  Staffed a table with live and preserved arthropods during the STEAM night and spoke with children about the diversity of arthropods
- Kamiak Elementary School 2023
  Staffed a table with live and preserved arthropods during the STEAM night and spoke with children about the diversity of Arthropods
- CAHNRS Fall Festival 2023
  Educated WSU students and employees about arthropods while providing an opportunity to handle live specimens
- WSU International Center Coffee Hour 2023
  Twenty five students were given the opportunity to handle a wide range of live arthropods while learning about arthropod diversity
- Clarkston school district 2023
  Fifty 6th graders from a local school were given the opportunity to handle a wide range of live arthropods while learning about arthropod diversity
- WSU International Center Okinawa Summer Camp Program 2023
  Sixty high schoolers visiting from Japan were given the opportunity to handle a wide range of live arthropods while learning about arthropod diversity
- Edwin-Markham Elementary School 2023
  Spoke to ~35 second grade students about arthropod diversity and the importance of pollinators. Provided live specimens for watching and handlings
- Nimiipuu Youth Activities Group 2023
  Educated children of a wide age range about insect diversity in our region and how to catch them
- Pullman Community Gardens Spring Fair 2023
  Educated community members about insect diversity and live specimens for handling
- Annual WSU Insect Expo 2023
  Managed a table with live arthropods for community members to hold while learning about arthropod diversity.
- Palouse Discovery Science Center “Ciders and Spiders” 2022

Educated children about spiders and other arthropods
- Biology Graduate Student Association "Spooky Family Fun Day" 2022
  Educated community members about a variety of arthropods
- What's Buzzing at Koppel? 2022
  Helped children catch and identify local arthropods
- Annual WSU Insect Expo 2022
  Staffed a booth on pollinators
- State Legislators Industry Tour 2021
  Helped prepare for and conduct a tour of WSU honey bee research facilities
- Palouse empire fair 2021
  Staffed honey bee booth and educated community members About beekeeping practices and the importance of honey bees
- Insect Feed 2021
  Helped staff an event to educate the public about the potential of insects as a food source
- Cub Scout outreach event 2021
  Educated a local cub scout troop about spiders

Media

- *Feeding Bees Through Diversity*, FFAR Insights, 2024, https://foundationfar.org/impact/insights/feeding-bees-through-diversity/
- *The Bees Knees*, Home and Harvest Magazine, 2022
- *New WSU honey bee lab studies bee health, nutrition and parasites*, The Spokesman Review, 2022, https://www.spokesman.com/stories/2022/oct/30/new-wsu-honey-bee-lab-studies-bee-health-nutrition/

Service

- Vice President 2024-present
  WSU Entomology Graduate Student Association
- Live arthropod collection lead caretaker 2023-present
  WSU Entomology Graduate Student Association
- Outreach officer 2023-2024
  WSU Entomology Graduate Student Association
- Search Committee graduate student representative 2023-2024
  WSU Honey Bee and Pollinator Health Research and Extension Assistant Professor
- Student competitions planning committee 2023
  Entomological Society of America, Pacific Branch

Related Work Experience

Washington State University 2018-2021

Technical assistant
Worked with a team to manage 200 honey bee colonies, manage a breeding program, and assist with multiple research projects.

Related Experience

- Professional development through the FFAR Fellowship, 150 hours
- Completed Crucial Influence training
- Completed Crucial Conversations training
- 2023 WSU Entomology Games team captain
- Eight years beekeeping experience, 6 years in a research setting
- Experience with R coding
- Certified forklift operator

Memberships

- Entomological Society of America 2016-current
- Washington State Beekeepers Association 2020-current
- American Association of Professional Apiculturists 2022-current
- American Beekeeping Federation 2022-current