SUMMER 2025

BUGGED

Department of Entomology Newsletter

Department of Entomology
MICHIGAN STATE UNIVERSITY

Photo by Bill Ravlin

From the Chair

BY HANNAH BURRACK

Although we are still in the middle of summer, the start of a new academic year is just around the corner. In this issue of Bugged, we are pleased to recognize our 2025 Department Award winners. These students and staff are the heart of Michigan State University (MSU) Entomology, and I am proud of their accomplishments and leadership. A very special awardee is Dr. Joseph Noling, our Distinguished Alumnus recipient. Dr. Noling received his BS and MS from MSU Entomology with a focus on nematology, followed by a PhD at UC Riverside. Following his graduate work, Noling served as a faculty member at the University of Florida from 1985 through his retirement in 2018. His work on nematode management in strawberries and vegetables was instrumental in supporting the growth and development of these thriving Florida industries. Joe was unable to join us last spring for our awards celebration, but I am so pleased that he will be visiting the department on August 21st to connect with current members, meet long-time friends, and present a seminar featuring highlights from his career.

This summer has already been full of new discovery and impactful science. Recent publications from MSU Entomology Department members have worked to provide a vocabulary for communicating about insect decline, tracked the negative effects of severe heat on blueberry pollen and the pollinators that feed on it, and described a new species of cockroach. Outreach and engagement impacts include the development of a new interactive decision tool for apple pest management, cooperative projects with urban vegetable farmers through the Bee Urban Growers (BUG) Project, and collaborations between the Bug House and Jan Tichy for an upcoming exhibit at the Broad Art Museum. You'll read highlights of some of these efforts in this and future issues of Bugged, but also be sure to check our department news feed for real-time updates.

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We have also been fortunate to welcome two Entomology Research and Outreach Fellows (EROF) to the department this summer! Look inside to meet them and learn about their paths to Entomology and what they have been up to with their mentors, Amanda Lorenz and Martín Brubaker. This is the fourth year of the EROF program, and we have come full circle as the grass-roots cohort of students who conceived and established the program have passed the torch to new leaders. I am deeply grateful to Dan Turner, Elizeth Cinto-Mejia, Ariana Hernandez, Elisabth Darling, Jenna Walters (MSU Entomology alumni), and Jen Rodel (who will graduate next academic year) for their work in nurturing EROF from concept to a sustainable program with ongoing support, thanks in large part to donations from the family of Jordon and Mary Tatter.

Support from the Tatter family is also the driving force behind the brand-new Tatter Family Entomology Graduate Fellowship. This fellowship will provide an outstanding graduate student full stipend and tuition support for up to two years. We will be recruiting the first fellow in Fall 2025, and we expect them to join our community next year. In addition to the excitement of new discoveries, next steps, and big plans, we acknowledge that these are in uncertain times for science and scholarship, but this new fellowship will provide support for the best and brightest in Entomology to conduct graduate studies at MSU. You can read more about this program, our goals, and how prospective fellows can apply inside Bugged.

If you are inspired to support MSU Entomology, one option this summer is through our CrowdPower campaign in support of the Bug House. We have big plans to expand free science education programming to weekends during the next year. You can read more about the campaign and donate here. The campaign will be active through the end August, and every bit helps! Please reach out if you are interested in other ways to support and be part of our community.

Hannah J. Burrack
Chairperson

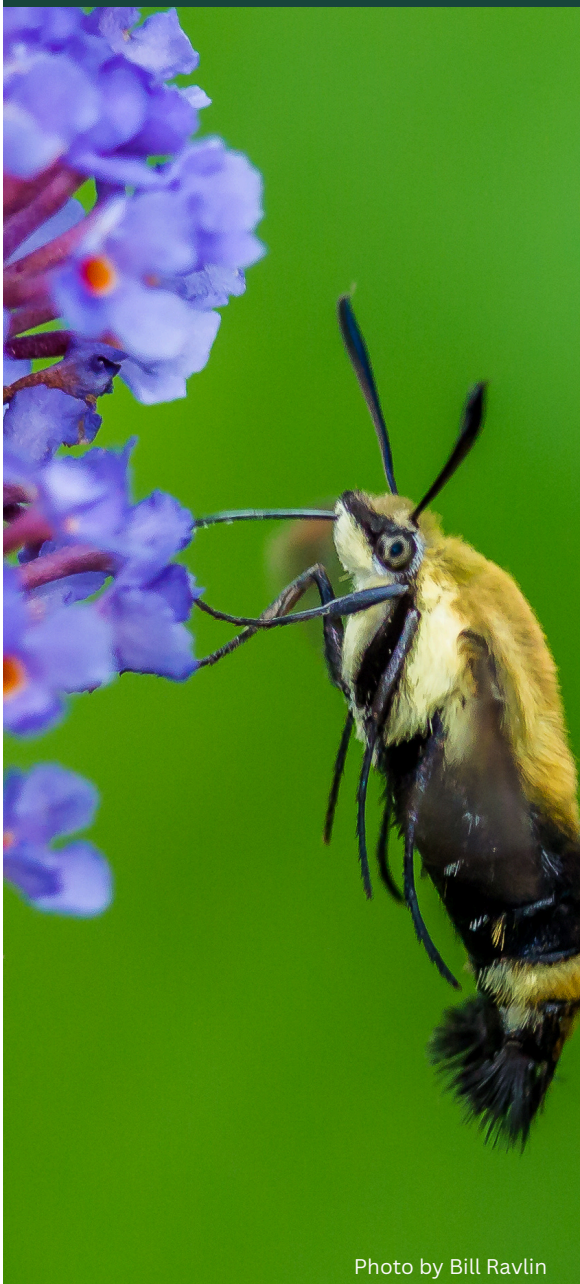


Photo by Bill Ravlin

2025 Award Winners

Department Awards
Outstanding Undergraduate Student Award:
Joshua Striegle

Outstanding M.S. Student Award:
Saniya Henderson

Outstanding Ph.D. Student Award:
Cynthia Fiser

Outstanding Graduate Student in Extension Award:
Ray Rantz

Outstanding Graduate Student Teaching Award:
Christopher Brown

Outstanding Entomology Staff Award:
Steven Van Timmeren

Outstanding Postdoc Award:
Abigail Cohen

Sara Elizabeth Klein Undergraduate Scholarship in Entomology:
Sabrina Bak and Mckayla Schrah

J.E. and Jean M. McPherson Graduate Student Travel Awards:
Cynthia Fiser ~ Jennifer Roedel ~ Ignatius Andika ~ Rekha Bhandari ~ DeShae Dillard ~ Mikaela Shutter-Trexell

Larry Gut Memorial International Travel Awards:
Cooper Krueger ~ Sharron Miller ~ Kelly Waters

Bug House Fellows:
Mars Baas ~ Sara Bauer ~ Cori Bouck ~ Charlotte Caldon ~ Andy Carlisle ~ Damian Chavero ~ August Duckworth ~ Nathaniel Fellows ~ Emily "E" Inch ~ Karissa Johnson ~ Ann Joseph ~ Cole Moras ~ Charlie Rudolph ~ Vivian Smith ~ Joshua Striegle

Department of Entomology Distinguished Alumnus Award
Joseph Noling

Graduate Fellowship Awards
The Gordon E. Guyer Endowed Fellowship in Aquatic Entomology:
Kelly Waters

The Merritt Endowed Fellowship in Entomology:
Kelly Waters

The Rhodes (Gene) Thompson Endowed Fellowship:
Martín Brubaker

The Robert R. Dreisbach Endowed Memorial Fellowship:
DeShae Dillard, Kevin Postma, and Shatrughan Shiva

The Paul Wooley Endowed Fellowship:
River Mathieu and Mikaela Shutter-Trexell

The Olsen Entomology Fellowship:
Rekha Bhandari and Claire Schregardus

The Fred Stehr & Family Fellowship for Service in Entomology:
DeShae Dillard

Research Proposal Awards
Scriber Scholars in Butterfly Conservation Award:
Sylvie Martin-Eberhardt

Ph.D. Hutson Endowment Research Proposal Award:
Rekha Bhandari and DeShae Dillard

M.S. Hutson Endowment Research Proposal Award:
Timothy Harrison

Undergraduate Hutson Endowment Research Proposal Award:
Charlotte Caldon

Spartan Threads: How One Student's Path Was Woven Years Before He Knew It

Coming to East Lansing from the Philippines, Fulbright scholar Solo Arman Peralta Mercene was a long way from home, but during his first semester at MSU, a familiar image on the back of a green car stirred a distant childhood memory.

It was a sticker of MSU's mascot Sparty.

"It struck me with a wave of nostalgia, reminding me of the gruff man featured on my dad's favorite sweater from when I was just six years old," Solo recalled. It was a Sparty sweatshirt his father wore– years before Solo had ever heard of the university.

Solo grew up in the Philippines, attending the University of the Philippines Los Baños where he received a Bachelor of Science in Agriculture with a major in Entomology in 2018. His studies ultimately led him to serve as the lead agricultural entomologist at the Regional Crop Protection Center for the Philippine Department of Agriculture.

Then, in 2019, the fall armyworm (Spodoptera frugiperda), an invasive and destructive corn pest, was reported for the first time in the Philippines. Ultimately, it fell to Solo to lead the management efforts across five island provinces.

“It was an incredibly challenging task, especially since my academic focus had been on insect taxonomy, specifically Reduviidae, during my undergraduate studies,” recalled Solo. “Now, I found myself thrust into regional and national planning, tasked with finding swift solutions to protect our nation's corn production.”

Even with four years of experience at the department, he felt a pressing need to expand his knowledge and further his education, knowing that the livelihoods of countless Filipino farmers relied on the decisions he made. A Fulbright scholarship allowed him to pursue a master’s degree in entomology at MSU.

After two years of study under Dr. David Mota-Sanchez and Dr. Erich Grotewold, Solo successfully defended his thesis on May 6 titled “The Impact of Maysin on the Growth of Fall Armyworm and Corn Earworm” and concluded his studies. His research revolving around the management of pests like Spodoptera frugiperda (fall armyworm) will allow him to make a difference in the fight against them in the Philippines.


Photo by Mike Boyce

As Solo prepares to return home and apply his research to the challenges facing Filipino farmers, he reflects on the unexpected connections that have shaped his journey.

He remembers quietly marveling at the coincidence that he had unknowingly carried a symbol of MSU with him since childhood. “It’s remarkable to think that a simple sweater from my past could somehow connect to the journey I’ve taken,” he said.

For Solo, the memory of his father’s MSU sweater now serves as a reminder of how life’s unexpected paths can lead to places one never imagined—places like MSU, where he feels his academic journey has come full circle.

Tatter Family Entomology Graduate Fellowship

Scan to read full story

Introducing the Tatter Fellowship

The MSU Entomology Department is excited to invite applications for the Tatter Family Entomology Graduate Fellowship (TFEGF)! The TFEGF is intended to support outstanding graduate students pursuing graduate training in Entomology at MSU.

This fellowship will provide a fully-funded graduate research assistantship ($35,000 annual salary for the 2026-2027 academic year), benefits, tuition, and $5000 in research and travel support. The TFEGF will be awarded for one year and is renewable for a second year based on program progress. One Tatter Family Entomology Graduate Fellowship will be awarded for Fall 2026 and one for Fall 2027. Thereafter, the TFEGF will be awarded biannually.
Prospective MSU Entomology students and current MSU Entomology students with at least two years remaining in their degree program are eligible to apply. Applications for the Fall 2026 award cycle will open September 1, 2025 and will close November 21, 2025.

For more information on the TFEGF and to apply, visit the fellowship website. This unique fellowship opportunity is possible through the Tatter Family Endowment for Excellence in Entomology, which was established by the late Mary Tatter and family in honor of Jordan Tatter who was a 1960 graduate of MSU Entomology. As Tatter's son, Stephen Tatter, M.D., PhD., shared when the endowment was created, "My mother and father were passionate about the importance of entomology, agriculture and natural resources in our world. They believed supporting Michigan State University was the best way to pursue this passion." We are honored to carry on the legacy of the Tatter Family by supporting the next generation of entomologists.

Help Kids Discover the Magic of Insects

The Bug House is seeking donations to expand programs and outreach

The Bug House is seeking donations to expand programming by adding an additional open house each month. The 12 new Saturday events will feature a brand-new story time program specifically designed for young learners. The program will include bug-themed story readings led by Department Chairperson, Dr. Hannah Burrack, Bug House-branded giveaways and guided encounters with our live insect collection.

WLNS recently featured the Bug House and this fundraiser in a story; watch the video or read the article here.

Last year, the Bug House welcomed more than 8,000 local students, teachers and families. An additional 200 attendees per month are expected with these added open houses. The Bug House aims to spark curiosity, reduce fear and share a passion for insects with the next generation through these immersive learning experiences.

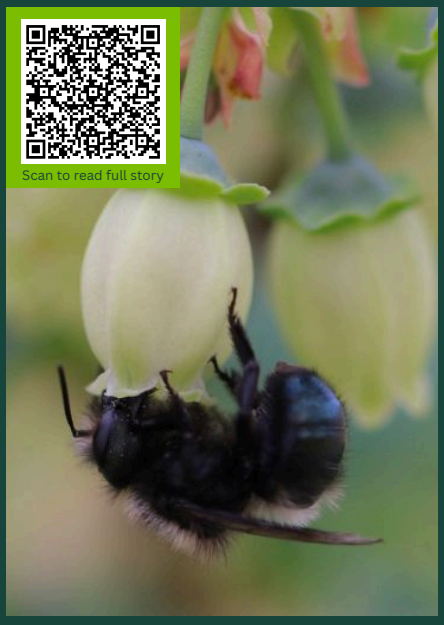
News

New Parthenogenetic Cockroach Discovered in U.S. and Austria by researchers at MSU

A previously undescribed species of Nocticolid cockroach has been found in Florida and identified for the first time by MSU Entomology graduate student Junkai Wang and advisor Anthony Cognato. They have named the species Nocticola vagus.

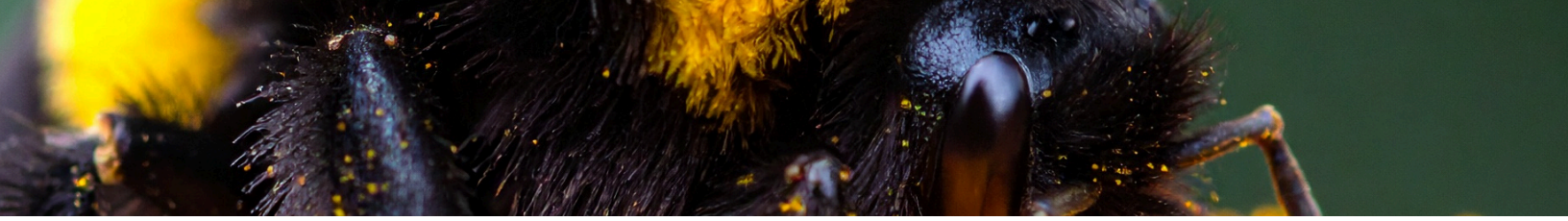
Mostly found in Africa and Asia, the discovery of this species marks the first Nocticolidae species reported in the Western Hemisphere. Researchers also identified specimens in the exotic pet trade from Malaysia and in a zoo greenhouse in Vienna, Austria.

Extreme heat affects blueberry pollen nutrition, bee health and plant reproduction, study finds



A recent study led by a recent MSU Entomology graduate, Jenna Walters, PhD., has found that extreme heat can negatively impact plant pollination and bee survival by altering the nutritional composition of the pollen.

"Extreme heat affects blueberry pollen nutrition, bee health, and plant reproduction" (Walters et al. 2025) examined how exposure to extreme temperatures at different floral developmental stages affects the nutritional composition of pollen in highbush blueberry plants, as well as the resulting impacts on bee health and plant reproduction.



Inaugural Global Symposium on Insects for Food, Feed & Food Security in Africa

In June, MSU Entomologist Dr. Eric Benbow co-organized the inaugural Global Symposium on Insects for Food, Feed & Food Security in Africa in Kampala, Uganda, alongside former MSU Entomology postdoctoral researcher Dr. Deborah Amulen Ruth. The event brought together more than 100 international experts to explore the role of insects in sustainable agriculture, food security and economic development. MSU Entomology was also represented by Ph.D. student Kelly Waters and M.S. student Kat Yoskowitz, who attended the symposium.

EntSoc Insect Biodiversity Task Force Aims to Standardize Terminology Surrounding Insect Decline

The topic of insect decline has gained attention recently, but communication and terminology around it has been inconsistent making it difficult to connect insect biodiversity data with efforts to coordinate comprehensive mitigation strategies. For these reasons, The Entomological Society of America established the Insect Biodiversity Presidential Task Force, of which MSU Entomology Ph.D. student DeShae Dillard was a member, to create a glossary around insect decline.

Scan to read full story

Bee Palooza 2025 will focus on our pollinating neighbors

The 12th annual Bee Palooza pollinator celebration is back for another un-bee-lievably fun afternoon! Presented by the Department of Entomology at MSU, Bee Palooza is a free event for all ages to “bee our neighbor,” focusing on supporting Michigan pollinators and plants. Join us at the MSU Horticulture Gardens, 1066 Bogue Street in East Lansing, MI 48824, on Sunday, Aug. 24, 2025, from 1-4 p.m. Bee Palooza is free and open to the public, making it an accessible way for everyone to learn about and contribute to pollinator conservation efforts.

Scan to read full story

Cognato receives CANR Research Fellow Career Award

Anthony Cognato, Ph.D., of the Department of Entomology, was honored with the College of Agriculture and Natural Resources (CANR) Research Fellow Career Award on May 8, 2025.

The CANR Excellence in Research Award program recognizes the outstanding contributions of CANR researchers to the research mission of MSU. In particular, the awards focus on the impact that their achievements have had on academic and/or external stakeholder communities. The Research Fellow (Career) Award recognizes individuals with 15 or more years of research experience.

Insect Artist Jennifer Angus Visits MSU

Artist Jennifer Angus, renowned for her striking insect-based installations, has a long-standing connection with MSU's Department of Entomology. Best known for transforming spaces with intricate patterns made from real insects, Angus blends art and science to challenge perceptions of the natural world. She returned to MSU recently to give a lecture and reconnect with the department, following her role as a panelist at the 2024 Excellence in Insect Science Symposium.

New farm manager named at MSU Entomology, Plant Pathology Research Centers

Lance Forsberg has been named farm manager at the MSU Entomology and Plant Pathology Research Centers located on south campus. The farms are managed by MSU AgBioResearch and provide a space for scientists to conduct research on a variety of plant agriculture-related challenges. The Entomology and Plant Pathology Research Centers consist of 167 acres of fruit trees, small fruits, vegetables and other specialty crops.

Cherry Industry Honors MSU Entomology Alumna for Pest Management Work

MSU Entomology alumna Nikki Rothwell has been named the 2025 Cherry Industry Person of the Year.

Rothwell received her master's in entomology from MSU and worked as a graduate research associate at the Northwest Michigan Horticultural Research Center. The 137-acre research center is located in the five-county northwestern region of Michigan that produces almost half of the U.S. supply of tart cherries and 83 percent of sweet cherry production in Michigan.

Rekha Bhandari Receives Traditional Scholarship from ASEV

MSU Entomology Ph.D. student Rekha Bhandari has been awarded a scholarship from the American Society for Enology and Viticulture–Eastern Section (ASEV-ES)!

The scholarship will support her research on insect vector dynamics in the grape sour rot complex and developing integrated pest management strategies for vineyards.

Joseph Noling Receives 2025 Distinguished Alumni Award

Joseph Noling, an MSU Entomology alumnus, was honored with the 2025 Distinguished Alumni Award for his influential career in nematology and pest management. With decades of research and extension work in Florida, Noling earned national recognition for advancing nematode management strategies and improving grower outcomes worldwide.

Meghan Milbrath and Pollinator Performance Center in MSU Today

MSU Entomologist Dr. Meghan Milbrath conducts vital pollinator research at the Pollinator Performance Center, working with veterinarians, students and even a retired K-9 named Maple to protect honeybee colonies.

From disease detection to hands-on teaching, the center supports impactful research and outreach. The by-product of this research? 7,500 pounds of Spartan honey for campus dining halls.

Faculty Milestones

Julianna Wilson
Reappointed as Assistant Professor

Marisol Quintanilla
Promoted to Associate Professor with tenure

Meet the 2025 Entomology Research and Outreach Fellowship Fellows

Araya Pore

Mentor: Dr. Amanda Lorenz
School: Lansing Community College/Michigan State University 2023

“My name is Araya Pore and I’m a 2023 MSU alumnae and second-year student at LCC studying biotechnology. I’m working with Dr. Amanda Lorenz in the Bug House this summer to positively promote the department and its developments as well as providing a safe space for the public to learn about insects, arachnids, and isopods through visual aids and personalized interaction.

My primary focus for this summer is to create a presentation for the 2025 MidSURE symposium about the husbandry of insects and how to care for them with respect to their natural environment.

I’m so grateful for this opportunity and so excited to continue doing great work at Michigan State! Go Green!”

Hieu Mai

Mentor: Martín Brubaker
School: Michigan State University

“I'm a sophomore at MSU majoring in Biochemistry and Molecular Biology with a minor in Pharmacology and Toxicology. I enjoy watching and playing sports, especially basketball and football. I also love cooking and have been doing it since I was 9.

For the summer, I'm a technical aide for Martín Brubaker's woolly apple aphids research project at the Wilson lab. For Martín's research, I'm currently doing a lot of phenology and efficacy trials on woolly apple aphids. I'm also doing a poster on whether commercially available wasps (Aphidius colemani and Aphidius ervi) can be used for controlling rosy apple aphids. With this project, I'm learning how to do bioassays as well as the clerical work that goes into research like writing abstracts and lit reviews.

This program has been one of the most interesting experiences I've had, and I have learned so much more than I expected.”

Feature Undergraduate Student

Dylan Minor

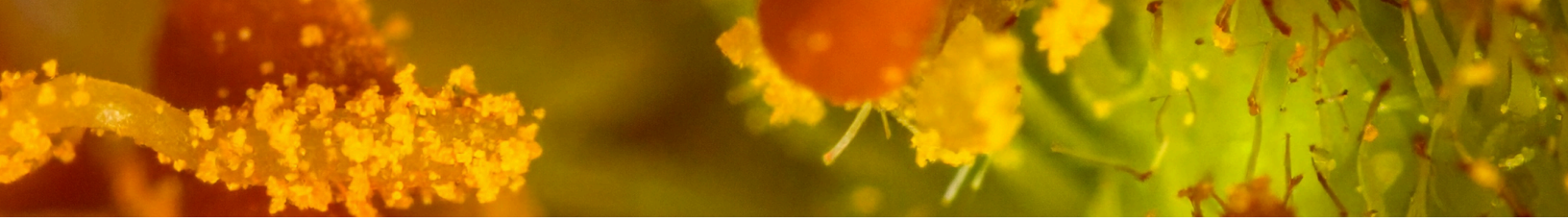
Hometown: Auburn Hills, MI
Major or Minor: Minor
Expected Graduation: Fall 2025

What insect or entomology topic fascinates you, and why?
Learning about the different native insect pollinators in Michigan and their impact in both their habitats and our agricultural needs has always been a fascinating topic that drives me to learn more about their biology, ecology, and conservation efforts to eventually better protect these unsung heroes.

What's been your favorite class or lab experience so far, and why did it stand out to you?
So far, my favorite class regarding entomology has been ENT 404 (Fundamentals of Entomology). Learning about different orders of insects has been a very informative learning experience to better understand the variety of orders of both insects and arthropods and their respective biology and ecology. This was boosted by Dr. DiFonzo's passion to teach and mentor her students to make sure they have a successful future in Entomology and/or change their outlook on insects for the better.

Are there any specific projects, research, or extracurricular activities you're involved in related to entomology?
The MSU Bug Club has really built the bridge between me and others who are passionate about entomological work and culture. Their openness and inclusive environment allowed a reserved person like me to expand my social circle with a passion for Entomology.

Have you had any memorable interactions with faculty, mentors, or peers who've influenced your academic journey?
Dr. Lorenz has been an invaluable mentor to help me with learning and performing academic research. The study I'm a part of is to observe and sample the current biodiversity of insects and other arthropods around the exterior of the MSU Broad Art Museum. With Dr. Lorenz's guidance, I've learned valuable skills in field work, microscopy, and identification of insects and other arthropods that will further advance my skill in Entomology.



DeShae Dillard

Hometown: Bothell, WA
Previous education: B.A. Biology, Gonzaga University | M.S. Entomology, North Carolina State University
Advisor: Douglas Landis and Hannah Burrack

What sparked your initial interest in entomology, and how has it evolved over time?
Ironically, I had no interest in entomology before undergrad and actively avoided insects. That changed when, as a freshman at Gonzaga University, I was invited to join a research project on spider mating behavior. I accepted the opportunity because it was rare for freshmen to do research, and it was the first time a professor had taken a personal interest in mentoring me, not because I was drawn to insects or arthropods. Through that project, I was introduced to insect diversity and spent hours identifying specimens under a microscope. The incredible morphological variety fascinated me, and I was hooked. I ended up spending the rest of my undergraduate years studying insects. Though I initially had no clear career plan, my research experience led me to graduate school. During my M.S., I came to fully appreciate how essential insects are to ecosystem function, which has only deepened my commitment to the field.

Could you tell us a bit about your current research?
My research examines fly community diversity in agroecosystems to better understand the ecosystem services they provide, such as pollination, decomposition, and biological control. I aim to highlight both their ecological and economic value and raise awareness of flies in research and conservation.

Are there any challenges you've faced on your journey to becoming an entomologist, and how have they shaped your perspective?
One of the biggest challenges I've faced as an entomologist is the lack of representation in the field and the difficulty of finding mentors who understand my experience. For much of graduate school, I often said that if you know this is something you struggle with, pursuing entomology might not be the best path. More recently, though, I've tried to lean into my experience with impostor syndrome to help create a space where my mentees feel seen, supported, and confident that they belong. Rather than focusing on how I don't fit into entomology, I've reframed that experience to ensure others know that they can.

What's your favorite part about being at MSU?
Pursuing my Ph.D. at MSU has opened many doors, but the most impactful opportunity has been working at the Kellogg Biological Station. I didn't plan to work there initially, but doing so has led to presenting my research to leading scientists from around the world and regularly being asked to represent the station and its work. Being recognized by so many outstanding scientists has been a special experience and has instilled a sense of confidence I didn't know was possible.

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Embracing Diversity

SCAN TO DONATE

Donate To MSU Entomology

Just as insects create the biological foundation for ecosystems, you provide the basis of support that allows our entomological work to continue. Your support provides access for students to hands on learning, advanced training, and travel to network and share their results. It empowers faculty to conduct innovative and impactful research, your support allows us to share the wonders of insects with children of all ages. To show our appreciation for your generous support this year, we will send you the second in our series of commemorative coins featuring Sesia spartani, which represents our theme for this year Embracing Diversity. Each year, when you submit your tax deductible donation to MSU Entomology, we will send you the next coin in the series. Collect all five by committing your support over five years, and we will send you a shadow box to display your collection. Entomology is a gateway to a more inclusive community. Not only does your gift support the department, but you are changing lives in the process. Become a part of Bugs Work! Donate today.