

ENTOMOLOGY & NEMATOTOLOGY *Department*

May – June 2024 Newsletter

UF/IFAS Entomology and
Nematology Department

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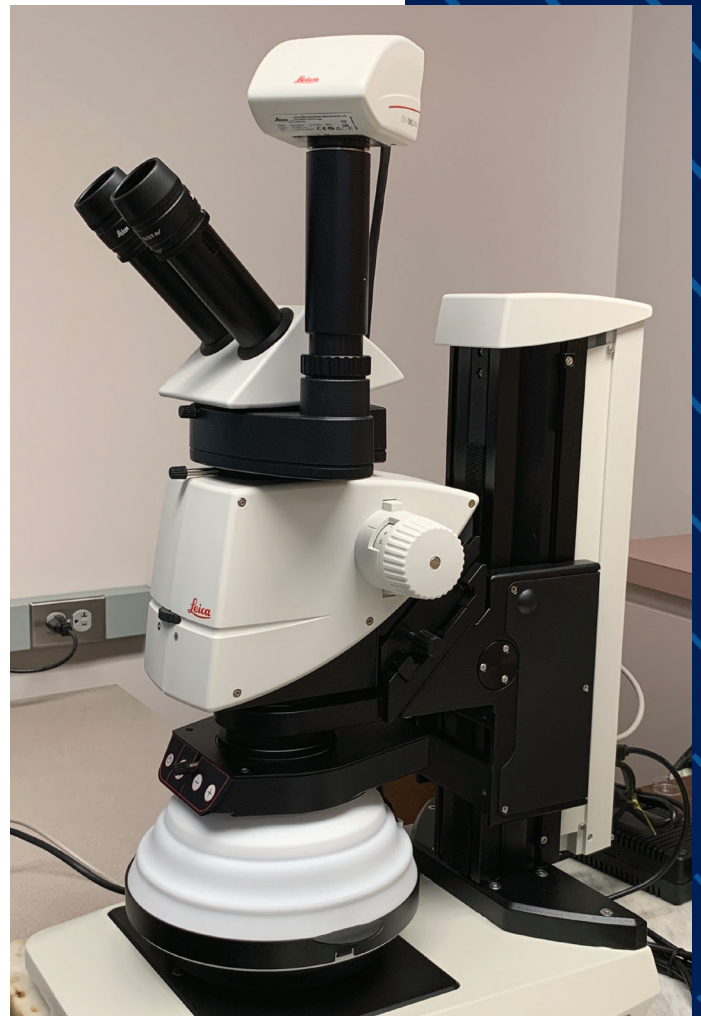
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Insect ID LAB

The Entomology and Nematology Department has a large collection of insect images available for use in your extension, teaching, and research work. The collection is available online and currently includes about 16,000 images. Starting from the departmental homepage, go to 'About Us', then 'Resources'. About halfway down is a link for the 'Entomology and Nematology Insect Photography Database'. You'll need to login with your Gatorlink credentials.

If you prefer to take your own photos, we have some equipment that may help. Our Leica setup features a 20MP camera mounted on either a dissecting or compound microscope. The LAS X software has focus stacking capability to ensure that your subject is in sharp focus. This is a departmental resource, so talk to [Lyle Buss](#) if you'd like to try it out!

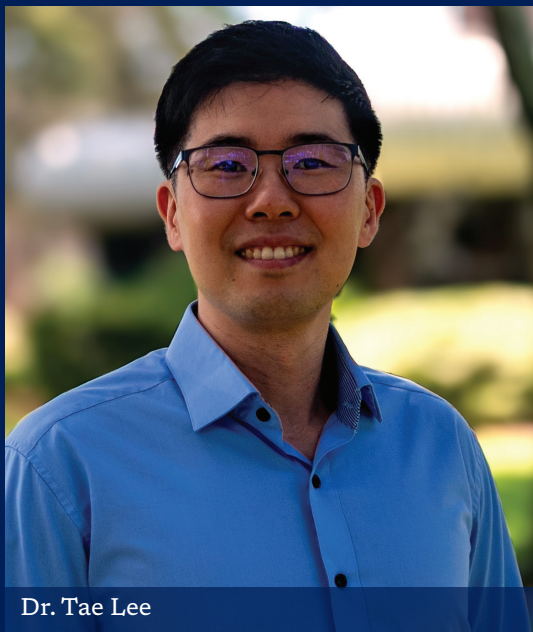


Insect ID

The multicolored Asian lady beetle, which comes in various colors. The black dots, or lack thereof, on the elytra (the forewings that cover the flight wings) can be misleading. However, you can easily identify this beetle by the distinctive 'M' shape on its pronotum—the part that protects its head. Sometimes, connecting the dots is all it takes to spot this signature marking! Whether their elytra are red with dots, orange with dots, orange without dots, or black with red dots, spotting that 'M' on the pronotum confirms you've encountered the multicolor Asian Lady beetle. Having trouble identifying this beetle? [Click here.](#)



Faculty and Staff News



We're thrilled to welcome **Dr. Tae Lee** as our new Instructional Assistant Professor for the Urban Entomology program! Dr. Lee will be expanding our Urban Entomology program and teaching courses like Biology & Identification of Urban Pests, Principles of Urban Pest Management, and Urban IPM Practicum.

In addition to teaching, he'll be coordinating our distance education certificate programs in Urban Pest Management and Pest Control Technology. He'll also be advising our undergraduate students, helping them navigate their academic journeys.

We're excited to have Dr. Lee join our team and can't wait to see him grow and thrive in our department. Let's give him a warm welcome!

Ms. Virni Mattson and **Dr. Christine Miller** were awarded the Large Grant Leadership Award (aka the "Golden Gator" Award) at the IFAS Award Ceremony in May.



Dr. Andrew Short, Ms. Virni Mattson, Dr. Christine Miller and Dr. John Davis

Dr. Bryony Bonning and Ms. Janice Shott were recognized at the IFAS Research Awards Ceremony in May and presented with 2023 Large Grant Leadership awards. Bonning leads the NSF Industry-University Cooperative Research Center Phase II award of \$1 million that supports the Center for Arthropod Management Technologies (CAMTech), while Shott handles pre- and post-award management for this complex grant.



Dr. Andrew Short, Janice Shott, Drs. Bryony Bonning, and Damian Adams

The 17th

Annual Florida Agricultural Experiment Station Research Awards Ceremony

Congratulations to all the awardees of the **17th Annual Florida Agricultural Experiment Station Research Award Ceremony!** We extend special recognition to the faculty and staff of Entomology and Nematology for their high-impact publications and large grant leadership awards. Additionally, we commend those honored for their leadership awards.





17TH ANNUAL

**FLORIDA AGRICULTURAL EXPERIMENT STATION
RESEARCH AWARDS CEREMONY**

LIST OF AWARDEES
(in order of appearance)

<p>2024 UF/IFAS VP Promise Awards Jeanette Andrade Daniel Czyn</p> <p>2023 UF/IFAS Awards of Excellence for Graduate Research Best Thesis, Agricultural Systems: Jessica Griesheimer Chair: Xavier Martini Co-Chair: Carey Minteer</p> <p>Best Thesis, Human Systems: Rachel Biderman Chair: Laura Greenhaw</p> <p>Best Overall Thesis, Natural Resources: Kaili Gregory Chair: Conor McGowan</p> <p>Best Dissertation, Natural Resources: Fernando Aristizabal Chair: Jasmeet Judge</p> <p>Best Dissertation, Human Systems: Alexandra Cuaycal Bastidas Chair: Claudio Gonzalez</p> <p>Best Overall Dissertation, Agricultural Systems: Clebson Tavares Chair: Bryony Bonning</p> <p>2024 UF/IFAS Richard Jones Outstanding New Faculty Research Award Carlos Silva</p> <p>2023 Excellence Awards for Assistant Professors Heqiang "Alfred" Huo Jeongim Kim</p> <p>2024 UF/IFAS UFRF Professors Yiannis Ampatzidis Zhanao Deng Mariola Ferraro Grady Roberts Nian Wang</p> <p>2024 UF/IFAS Plant Breeding Innovation Award Diego Jarquin</p>	<p>FY23 Plant Patents José Chaparro David Clark Manjul Dutt Paul Lyrene Jude Grosser</p> <p>2024 UF/IFAS Research Service Award Audy Spell</p> <p>2023 UF/IFAS High Impact Research Publications High Impact 1: Rafael Muñoz-Carpena, Alvaro Carmona-Cabrero, Ziwen Yu</p> <p>High Impact 2: Mario Murad Leite Andrade, Janam Acharya, Juliana Benevenuto, Yolanda Lopez, Patricio Muñoz, Marcio Resende, Esteban Rios</p> <p>High Impact 3: Zhixin Wang, Frederick Gmitter, Jude Grosser, Yu Wang</p> <p>High Impact 4: Philip Hahn and Joseph Cammarano</p> <p>High Impact 5: Catherine Campbell, Jorge Ruiz-Menjivar, Alia Delong</p> <p>High Impact 6: Abdullah Alomar, Daniel Perez-Ramos, Dongmin Kim, Natalie Kendzierski, Bradley Eastmond, Barry Alto, Eric Caragata</p> <p>High Impact 7: Lauren Stutts, Scott Latimer, Zhaniya Batyrshina, Gabriella Dickinson, Gilles Basset</p>
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Dr. Xavier Martini's paper "Repelling whitefly (*Bemisia tabaci*) using limonene-scented kaolin: A novel pest management strategy" published in 2022 in Crop Protection was selected as a UF/IFAS High Impact Publication. In this paper Dr. Martini and his team demonstrate the benefits of combining two types of repellents to control whiteflies in tomato crops.

Dr. Carey Minter was recently named as a Board Member for the **North American Invasive Species Management Association** (NAISMA). NAISMA's mission is to empower invasive species management in North America.

Dr. Clebson Tavares was awarded the 2023 UF/IFAS Award of Excellence for Graduate Research, Best Dissertation Award. Clebson graduated in May 2023 and continued in Dr. Bryony Bonning's lab for postdoctoral research. His dissertation is entitled: "Midgut surface proteome of *Diaphorina citri* and toxicity of gut-targeting insecticidal proteins for use in citrus greening management".

A scholarship has been named in honor of emeritus professor **Dr. Philip Koehler** through the National Pest Management Foundation by former student, Jerry Gahlhoff. Students studying urban entomology can apply for the Phil Koehler scholarship through NPMA. Applications for the upcoming year will open on October first. Click [here](#) for more information.

Dr. Lisa Taylor's lab is featured in a YouTube documentary titled "**What Jumping Spiders Teach Us About Colors**" by Veritasium. The video asks its audience what spiders can teach us about the world, and Dr. Taylor's spider lab is part of a team helping to solve this mystery.



Dr. Carey Minter



Drs. Clebson Tavares and Ruchir Mishra



Dr. Phil Koehler

UF in Thailand

ENY 4905: BEEKEEPING IN ASIA, HONEY BEES OF ASIA
SUMMER A 2024, May 19 – June 14, 2024

In collaboration with Burapha University in Chonburi, Thailand, UF CALS students and faculty spent four weeks traveling to locations throughout the country - which boasts all nine honey bee species! Whether working with local beekeepers, engaging with Burapha University faculty and laboratory facilities, scouring the countryside in search of wild honey bee colonies, or experiencing local culture, our UF friends were kept very busy.

While temperature and humidity could sometimes soar to the 100 mark (Fahrenheit, not Celsius!), everyone



Dr. Jamie Ellis, PhD Student Kaylin Kleckner, and M.S. Student Julia St. Amant

braved the tropical conditions to experience cities such as Chang Mai, Bangkok, and Ko Samui. The students were excited to discover the amazing diversity of honey bee species and the creative ways people have come to manage them.



Gordon Research Conference & Gordon Research Seminar

Several UF faculty and students attended the prestigious Gordon Research Conference (GRC) and Gordon Research Seminar (GRS) on Genetic Biocontrol in Barcelona, Spain in May 2024. This is the second meeting of this series, which convened the leading experts in integrative science of genetic biocontrol field including genetic engineering, microbiology, social/regulatory science, community engagement, modeling, population genomics, and ecology.

Of note, the first inaugural meeting was held in Ventura, CA in 2022 and Dr. Al Handler (USDA-ARS-CMAVE, UF) served as Co-chair for the 2022 conference. **Dr. Yoosook Lee** served as Co-chair of the 2024 GRC conference, along with Chair Dr. Omar Akbari (UC, San Diego), and Valerie Nguyen (ENY PhD candidate, advisor Yoosook Lee), who chaired the prior GRS for early career scientists.

Dr. Yoosook raised close to \$160K in funding to support the conference and was able to provide registration fees for all speakers and discussion leaders for 2024 GRC.

Dr. Al Handler was instrumental in planning the 2024 GRC, who shared his experience for 2022 GRC preparations with Dr. Yoosook Lee and Valerie Nguyen, especially in early 2023 when active fundraising planning took place. Multiple UF students and faculty served as speakers and discussion leaders for this GRC and GRS.

Dr. Bryony Bonning (ENY faculty, Director of NSF CAMTech) presented work on pathogen receptor

identification in the insect gut using gut binding peptides as receptor identification tools, that can be translated into other arthropod systems. Dr. Bianca Burini (ENY faculty) presented her work on genetically engineering *Aedes aegypti* mosquitoes using CRISPR/Cas9. By knocking out the salivary gland protein SGS1, she demonstrated an impact on the progression of both malaria parasites and the chikungunya virus in the target mosquito species. Dr. Al Handler (ENY courtesy faculty) presented research on discovery of new testis-specific genes in fruit fly pest species that can be targets for male sterility by gene-editing. Dr. Al Handler and **Dr. Eric Caragata** were speakers for the GRS Mentoring Component and shared their career paths and had lively discussions with students and postdocs attending GRS. Dr. Yoosook Lee served as discussion leader for Mentoring Component and facilitated the Q&A.

Dr. Kirsten Pelz-Stelinski (ENY faculty; Director of the Mid-Florida REC) presented her work in transforming a symbiont of the citrus greening disease vector, a first successful attempt to genetically engineer a Wolbachia symbiont for vector-borne disease control in the world. Dr. Eric Caragata (ENY faculty) served as a discussion leader for GRC PowerHour and promoted open discussion on various issues in achieving equity in science. The discussion topics included imposter syndrome, international student support, networking, and mentoring that are relevant to all members of the scientific community.

Valerie Nguyen served as Chair of the pre-meeting Gordon Research Seminar (GRS) on Genetic biocontrol, which is run by students and postdocs to increase their opportunities to engage and present their work in less stressful environments. Daniel Perez Ramos (ENY PhD candidate) served as GRS Keynote session discussion leader and also assisted Valerie in facilitating discussions throughout the GRS. He also presented his research during the GRC poster session.

Overall, the conference had very active engagement among attendees. The meeting provided for new collaborative opportunities for UF scientists but also as a venue to learn of potential postdoc opportunities for graduate students as well.



Valerie Nguyen, PhD candidate



Co-chair of the 2024 GRC, Dr. Yoosook Lee

Student News

Dr. Carey Minter's Lab MS student, Philip Clark, was awarded First place in the Florida Invasive Species Council's Graduate Student Poster Competition.

Also from Minter lab, MS Student, Emily Le Falchier, was awarded 3rd place in the Florida Invasive Species Council's Graduate Student Presentation Competition. Emily was also awarded 2nd place in the Florida Invasive Species Council's Graduate Student Poster Competition.

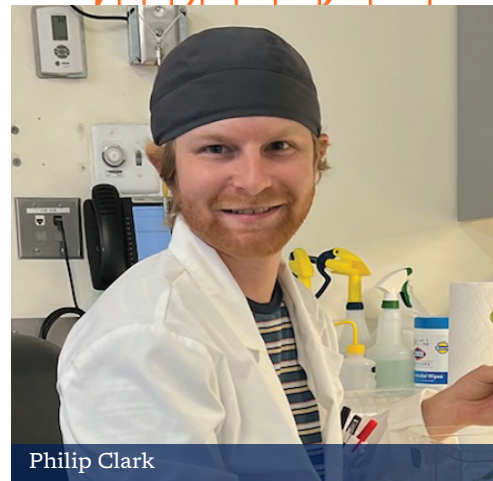
Congratulations to James Boothroyd for receiving the Sigma Xi grant for \$1000. James will use this grant to CT scan insects at UF to look at the diversity of traits they invest in when they lose their weapons.

Congratulations to undergraduate researcher, Giovanna Avellar Figueredo, for acceptance into the UF University Scholars Program for the 2024-2025 academic year.

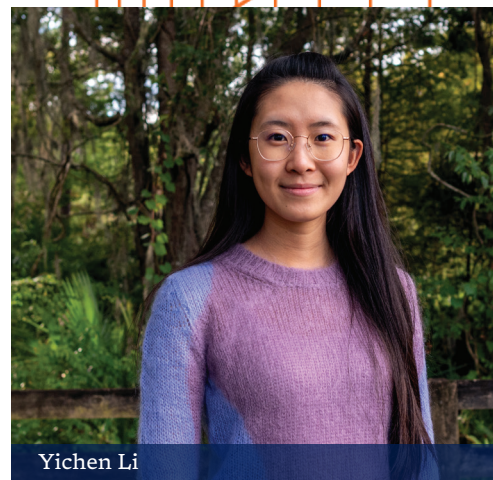
Yichen Li successfully defended her MS thesis in May. She will be heading to University of Cambridge for her PhD and work with Professor Rebecca Kilner.



Emily Le Falchier



Philip Clark



Yichen Li



Giovanna Avellar Figueredo



James Boothroyd and Dr. Christine Miller

EDUCATION & OUTREACH:



Invasive Ant Bootcamp



Left to right, back row: Craige Hodge, Jake Farnum, Corbin Puckett, Lyle Buss, Cole Icenhower, Elijah Ohaegbulam.
Second row: Christian Estevez, Eddie Humphries, Jason Williams, Karen Corsetti, Max Gosselin, Liz Myers, Athena Conde, Abby Pope.
Third Row: Andrea Lucky, Christina Kwapich, Elizabeth Cash (kneeling), Jamie Frederick (kneeling). (front – kneeling)
Ryan Antalek, Miles Maxcer, David Harvey.

Invasive Ant Bootcamp (IABC) is an annual workshop run by [Dr. Andrea Lucky](#), designed to train participants to identify and manage invasive ants. The course had a very diverse mix of participants this year, including students, teachers, agency personnel, and industry professionals. Thank you to the UF ENY faculty who served as instructors: [Lyle Buss](#), [Drs. Roberto Periera](#), [Faith Oi](#).

Watch this [testimonial video](#) and be prepared to mark your calendars for IABC '25 in early May next year!

The 3rd Agricultural Acarology Workshop



Dr. Alexandra Revynthi

The third Agricultural Acarology Workshop was held on May 6-10, 2024 at Tropical Research and Education Center. Fifteen participants (national and international) learned about mite morphology, taxonomy, biology, and behavior.

The workshop is a five-day, hands-on activity introducing the participants to the four most important families of plant-feeding mites and their predators. It is organized every year by [Dr. Alexandra Revynthi](#) and [Dr. Daniel Carrillo](#).

This year, invited speakers were: Dr. Samuel Bolton (FDACS-DPI), Dr. Ronald Ochoa (USDA-ARS), [Dr. Jorge Peña](#) (UF Emeritus Professor), Dr. Orlando Combita (Ohio State University), Dr. Daniel Jr. De Andrade (UNESP), Dr. Marcelo da Costa Ferreira (UNESP) and Dr. Theodoros Stathakis (AUA).

Graduate students Marielle de Moraes Berto, Maria A. Canon, Marcello De Giosa, and Paola Villamarin assisted with the organization and gave several presentations on the ecology, biology, and rearing of mites. Postdoctoral researchers Dr. Livia MS Ataíde and Aline Tassi talked about the ecology of spider and flat mites, respectively.



Dr. Marcelo De Giosa



Incredible Insects

A dynamic Exhibition at the Florida Museum of Natural History



Allison Dehnel and Dr. Adam Wong



The Florida Museum of Natural History, in collaboration with the UF/IFAS Entomology and Nematology Department, proudly presents the “Incredible Insects” exhibition series! Running from May 25 to September 2, 2024, this exhibit features many of our faculty members participating in the “Science Up Close” program, where professors work in the museum’s live lab.

Dr. Adam Wong’s lab took part in the “Science Up Close” from May 29 to June 2.

The Wong lab showcased several exciting demonstrations during the “Incredible Insects Exhibition,” including:

- An AI-powered video tracking system to monitor fly behavior.
- Various behavioral assays to study fly foraging, sleep, and locomotion.
- Microbial culture plates.
- Informative posters highlighting *Drosophila* as an important biomedical model, detailing scientific breakthroughs from *Drosophila* research.

Other researchers who showcased their research thus far has been:

- Dr. Andrea Lucky’s Lab
- Drs. Mallinger lab & **Jaret Daniels**’ lab
- **Dr. Lawrence Reeves**

Don’t miss the chance to see our incredible faculty in action! Check out this [link](#) to see the schedule of which labs will be featured in the museum’s working lab. Or follow our Facebook page where we keep you updated.



Photo courtesy from Florida Museum of Natural History



Dr. Crow's Lab

Our grads go everywhere & do great things!

Dr. Billy Crow's Field Plant Nematology class took a week long field trip to different USDA, State, University, and Industry nematology programs in NC, SC, and GA. The students learned a lot about nematology, different career opportunities, and had a great time. Among the many stops were visits with Entomology and Nematology alumni Dr. Ruhiyyih Dyrda-Young with BASF, Dr. Lesley Schumacher with USDA, and Dr. Clemen Oliveira with Certis Biologicals.



Pollinator Palooza 2024



Dr. Bernie Mack

From [Dr. Adam Dale](#)'s lab, [Dr. Bernie Mach](#) participated in Pollinator Palooza 2024! This fantastic event attracts gardening enthusiasts passionate about planting pollinator-friendly plants to support native pollinators. At the booth, Bernie educated over 700 attendees about butterflies and helped dispel myths about these beloved pollinators.

This event was a wonderful collaboration with First Magnitude Brewing Company, the Florida Museum of Natural History, and faculty from our department. We are proud of Bernie for their dedication and enthusiasm in spreading awareness about the importance of pollinators!



From the Ornamental Entomology and Acarology laboratory at the [Tropical Research and Education Center in Homestead](#), we are excited to invite you to "[Tropical Insights](#)". This is a space for discussion, education, and information concerning Agricultural and Environmental topics directly impacting southern Florida. In Tropical Insights we want to focus on the people in our community. We want to learn about their backgrounds, struggles, needs, and, of course, their actions in facing those challenges. We also want to connect with the University of Florida Research and Extension and experts worldwide to get their ideas for solving our community's leading issues. Let's discuss up-to-date alternatives to address the agricultural and environmental problems we face together. Connect with us and be part of Tropical Insights!



2024 Bug Camp

Bug Camp 2024 hosted 45 students this year, 15 more than last year! Campers enjoyed hands-on experiences with various insect-related activities: they learned to catch and pin insects, went on field trips, took field notes, created maggot art, participated in night collecting, explored aquatic insects, and much more. Despite the hot and sometimes stormy weather, their enthusiasm never wavered.

A huge thank you to all the volunteers who made this summer camp the best it could be. Without their assistance, Bug Camp wouldn't have been the buzzing success it was!

Photos Credit: Dr. Tae Lee



Volunteer for the Student Outreach Program!

Are you passionate about education and outreach? Do you want to make a positive impact in the community? Join our Student Outreach Program led by our Outreach Coordinator, Vashti!

If you're interested in becoming a volunteer, please don't hesitate to reach out to Vashti via [email](#). We'd love to have you on board!



Bug Week is a distinguished social media initiative by UF/IFAS Communications in partnership with the Entomology and Nematology Department's Communications Specialist, Randy Fernandez. This year, the collaboration has produced a series of captivating and informative social media reels, each designed to delve into various aspects of entomology. The content includes the crucial role of pollinators, constructing DIY bee hotels, the importance of insect pinning, engaging arts and crafts for children, and guides on identifying lady beetles.

This effort underscores the exceptional work of the UF/IFAS Entomology Department, renowned globally for its innovative research and educational outreach. By highlighting their expertise and dedication, the reels aim to not only inform but also ignite a passion for entomology among viewers.

Don't miss these engaging reels. Keep an eye out for next year's Bug Week to continue exploring the fascinating world of insects and to see firsthand why UF/IFAS Entomology and Nematology stands as a world leader in the field. Share your favorite videos with friends and family or strangers who may have an interest in insects.

Featuring Dr. Rebecca Baldwin, this reel highlights the importance of [insect collections](#) and why this is a crucial lesson for future entomologists.

Pollinator Month may be over, but that doesn't mean our pollinator friends are taking a break!

Help them out with this DIY [Bee Hotel](#). This simple project will have all the pollinators swarming to your yard! This was made by IFAS Communications.

By the way, make sure you also check out this [pollinator reel](#) created by Randy Fernandez. Special thanks to Robert Annis for providing some b-roll footage, including shots of the monarch butterfly and Sweat Bee.

If you love paper crafts or want to keep the kids busy with a creative activity, try making the simple [lady beetle paper](#) automaton. The instruction page can be found in the video reel—it's a beetle-y good time.

Has a lady beetle ever caught your eye, and you want to verify if it's a [multicolored Asian lady beetle](#)? Here's a video guide to help you solve the mystery!