

Tuesday, Feb 27, 2018

Researchers learn the art and science of bee identification at OU

This past week, a group of 15 student and professional researchers from around the U.S. and Canada gathered at Oakland University for a training workshop on bee identification. Participants spent three days learning how to identify bee specimens from the *Lasioglossum* genus, a diverse genus of bees notoriously difficult for researchers to identify.

The workshop was organized by Dr. Mary Jamieson, a professor in Oakland University's Department of Biological Sciences and Dr. Rufus Isaacs, a professor in Michigan State University's Department of Entomology. It was also part of OU's **Professional and Continuing Education Program**.

Jamieson pointed out that there are more than 3,500 bee species in the U.S. and that many food crops rely on them for pollination.

"For most of these bee species, we know very little about their population status and ecology, especially for bees in the *Lasioglossum* genus, many of which are important pollinators," she said.



*Dr. Jason Gibbs, bee expert and assistant professor at the University of Manitoba, gave a public lecture at OU. Fun Fact: there are 465 bee species in Michigan, 83 of which are in the *Lasioglossum* genus.*

The workshop was led by renowned taxonomist Dr. Jason Gibbs, who formerly worked in Isaacs' lab as a postdoctoral researcher. Gibbs is the foremost expert on North American bees in the *Lasioglossum* genus and showed participants how to distinguish between different types of bees. He also gave public talks on native bees and how to support them.

Gibbs, now an assistant professor at the University of Manitoba and curator of the Wallis Roughly Museum of Entomology, also took time to answer questions and help participants identify bee specimens they had brought with them for their own research projects.

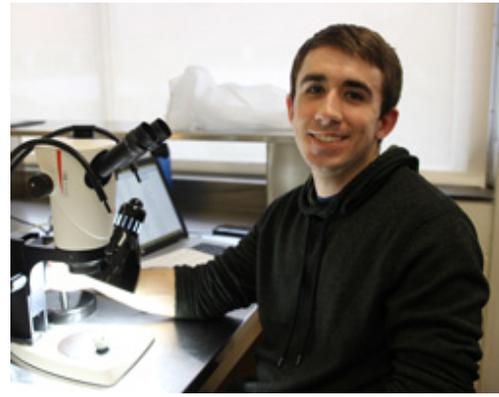
"All of the participants are working on some kind of bee-related research," Jamieson said. "Many of them have collected thousands of bee specimens, so it's helpful to be able to bring some here and get positive identifications as a point of reference."

Two of the workshop participants – Caleb Wilson and Kyla Scherr – are graduate students in Jamieson's lab at OU.

Scherr's research project involves identifying which bee species are visiting strawberry crops at 10 field sites in the metro Detroit area, one of which is **OU's Student Organic Farm**.



Kyla Scherr, OU graduate student



Caleb Wilson, OU graduate student

“Once we determine the type of bees pollinating the crops, then we can find ways to support the bees,” said Scherr, a doctoral student in biological sciences. “We can also give farmers and gardeners recommendations on which cultivars produce the largest strawberries.”



Kyra Lightburn, University of Guelph (Canada) graduate student



Melina Lozano Duràn, pollinator restoration coordinator at the Atlanta Botanical Garden.

Scherr added that identifying

Lasioglossum bees is

tricky because of the subtle differences between them, such as surface textures, colors and whether the skin is shiny or dull.

“A lot of times it’s a subjective process, so you need to see a positive example and negative example to really see the distinct characteristic that you’re looking for.”

For his master’s thesis, Wilson is researching bee diversity at 15 farms in rural and urban areas ranging from northern Macomb County all the way to downtown Detroit. He noted that bee diversity plays a vital role in supporting crop production.

“Certain bee species are better at pollinating certain crops,” he explained. “So the more diverse bee communities you have, the more complete fertilization of plants you will have in that area.”

Scherr and Wilson’s research projects are supported through the **New Innovators in Food and Agriculture Research Award**. The grant from the Foundation for Food and Agriculture Research was awarded to Dr. Jamieson in 2016. The organization also provided

funding for the bee identification workshop.

In addition to OU students, the workshop drew researchers from universities and organizations in California, Georgia, and Rhode Island, as well as from states in the Great Lakes Region.

Kyra Lightburn, a graduate student at the University of Guelph in Ontario, Canada, attended the workshop to learn how to identify bees for her research project on wild bee community structure in pasture lands.



Michael Kilewald, MSU undergraduate student, and Kelsey Graham, MSU postdoctoral research associate. Both work in Rufus Isaacs' lab on a USDA-funded project: Enhancing Great Lakes Landscapes for Healthy Pollinators.

“A lot of the bees I caught from my sampling last summer are *Lasioglossum* bees,” she said. “My adviser recommended I join this course because it was expected to be very intensive and focused on the most difficult to identify *Lasioglossum* bees.”

Along with furthering her own research, Lightburn is eager to pass on the knowledge she gained with researchers back home.

“We have a good lab group that shares information that they’ve learned from attending workshops or just from working on their own projects,” she said. “This was my first formal workshop experience, and I’m here to learn as much as I can and share it with others.”

Melina Lozano Duràn, pollinator restoration coordinator at the Atlanta Botanical Garden, said the workshop strengthened her background in native bee conservation, work she has been involved in for the past seven years.

"I will be able to better identify *Lasioglossum* specimens from the Spring Native Bee Survey at the Atlanta Botanical Garden and seven other pollinator gardens around the City of Atlanta," Duràn said. "I can also share the knowledge with students and volunteers through our Education Department."

To learn more about programs in OU’s Department of Biological Sciences, visit oakland.edu/biology.



Lasioglossum Bee Specimens



Lasioglossum bee close-up (photo by Joseph Ferraro)



Bee Identification Workshop participants



50 people gathered at the Rochester Meeting House for an event supporting pollinator conservation. Attendees included professors from OU, MSU, and University of Michigan-Flint; bee identification workshop participants; members of the Michigan Wildflower Association and Rochester Garden Club; and farmers and business owners around Oakland and Wayne counties. The event featured talks by Dr. Mary Jamieson, Dr. Jason Gibbs and Detroit-based artist and macro photographer Joseph Ferraro, along with a silent auction to benefit Six Rivers Land Conservancy in Rochester and OU's Student Organic Farm.