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### **Gardner-Webb Undergraduate Researcher Not Hindered by Sunburn or Bee Stings**

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# Gardner-Webb Undergraduate Researcher Not Hindered by Sunburn or Bee Stings

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Office of University  
Communications

May 6, 2019

## *McKenzi Sexton '18 Discovers More than 2,000 Insect Pollinators Near Campus*



Photos by Lee Anne Tourigny

BOILING SPRINGS, N.C.—Bee stings, beetles, sunburn and rainy weather—Gardner-Webb University senior McKenzie Sexton, of Hickory, N.C., encountered them all in her research of insect pollinators. Her experience, though, was an introduction to her prospective career. A biology major, Sexton wants to work in the field of conservation genetics, where genetic methods are used to prevent extinction of endangered species.

“This project was an amazing opportunity and will definitely help me in future endeavors,” Sexton shared. “An opportunity like this allows you to use what you’ve been taught in a way that’s exciting to you. It cements the concepts you’ve learned and introduces you to a wealth of new ones.”

She was one of 13 students who received grants from the GWU Undergraduate Research Scholars program for the summer 2018 terms. Working with a faculty mentor, the students dedicated 40 hours a week for five weeks to the project and are required to present their findings in a professional forum. Sexton will present her research in November at the State of North Carolina Undergraduate Research and Creativity Symposium in Raleigh, N.C.

“The goal of my project was to determine the local insect assemblage responsible for pollinating plants in three different habitat types in the Boiling Springs (N.C.) area,” Sexton described. “Determining the diversity and abundance of a community of pollinators is important to develop conservation strategies.”

Her mentor, Dr. Joseph Oyugi, professor of biology, helped her set up nets and gave her advice on field techniques. She went to 15 different study sites to record and photograph the pollinators. “Once the project began, and it seemed like the rain and clouds would never let up or that everything was going wrong, Dr. Oyugi assured me of the unpredictability of field ecology and that those days were not lost,” she related. “He definitely eased many of my concerns over the course of the research session and helped me learn what it takes to work in the field, sharing some of the misadventures he had for the sake of science.”



Also during the same time as her research, she received an incredible three-week internship experience, and she had to balance her time between the two projects. Despite the challenges, she observed a total of 2,342 individual insects that mainly fell into four different insect orders: Hymenoptera (bees), Diptera (flies), Lepidoptera (butterflies and moths), and Coleopteran (beetles). She is continuing the research by conducting statistical analysis of her data in her ecology class. She is also studying how the plants are affected by the absence of insect pollinators.

“Personally, I was surprised by the seemingly unconventional insect pollinators I found,” Sexton elaborated. “I did not expect certain plants to be frequented mostly by beetles, for example. I found and learned about the tumbling flower beetles, which launch themselves away and ‘tumble’ when presented with danger. Flower flies were also very common and have a way of mimicking bees, which was the group found to be the most abundant in all three habitats. I also found a couple of bizarre and beautiful moths, including the Hummingbird Clearwing, a moth that looks much more like a cross between a bumble bee and a hummingbird than a moth.”

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