



Carmen Blubaugh

"It's great when an experiment goes just as you predict, but even better when you discover something important that you never expected." —Carmen Blubaugh, Ph.D. student, Entomology

THE STUDENT: Carmen Blubaugh grew up in Rensselaer, Indiana, the daughter of high school teachers and granddaughter of small family farmers. As an undergraduate in environmental studies at Florida Atlantic University, she was part of a student club that planted a butterfly garden, and she found plant-insect interactions to be "elegant and amazing." By the time she graduated in 2006, that little pollinator patch set Blubaugh on an academic course toward "research related to ecosystems services that beneficial insects provide." She returned to her home state and Indiana University, where she earned a master's degree in 2010. She then came to Purdue to work with Assistant Professor of Entomology Ian Kaplan.

THE RESEARCH: Kaplan is an effective advisor because he guides rather than drives her research, Blubaugh says. His lab works at the interface of ecology and agriculture, applying theoretical principles from population and community ecology toward the sustainable management of crop pests. Blubaugh's research targets ground beetles that eat weed seeds and how environmental resources such as cover crops and mulch affect the populations of these beneficial insects.

FULL MOON MYSTERY: Blubaugh expected to find batches of beetles under cover crops at Purdue's Meigs Farm. And she did, until last September, when the beetles instead congregated in bare

plots. What she calls a "really insane activity surge" lasted a few days and then disappeared—and then repeated in consecutive months. "I spent two months being confused and frustrated," she says. "Now it looks like my ground beetle activity is affected by rodent activity—something I hadn't even been thinking about." She found mice cowering under cover during full moons where the beetles normally would be. Much of Blubaugh's research is turning out to be based on these predator-prey interactions. "It drove home the need for a whole-system perspective," she says.

OTHER DEPARTMENTS ON CALL: Purdue's emphasis on interdisciplinary collaboration has therefore been particularly helpful, as experts in both weed science and rodent ecology have aided the entomologist. "Everyone has specialized skills, but when you're on a farm, it all goes together," Blubaugh says.

THE THRILL OF DISCOVERY: After completing her doctoral degree, she intends to remain in academia. "I love having the opportunity to keep working for the sake of discovery as well as for ecological pest-management tools," she says. In her spare time, she and her dog Rosie hike through historic neighborhoods and along the Wabash Heritage Trail, and she is a regular at the Saturday-morning farmers market.