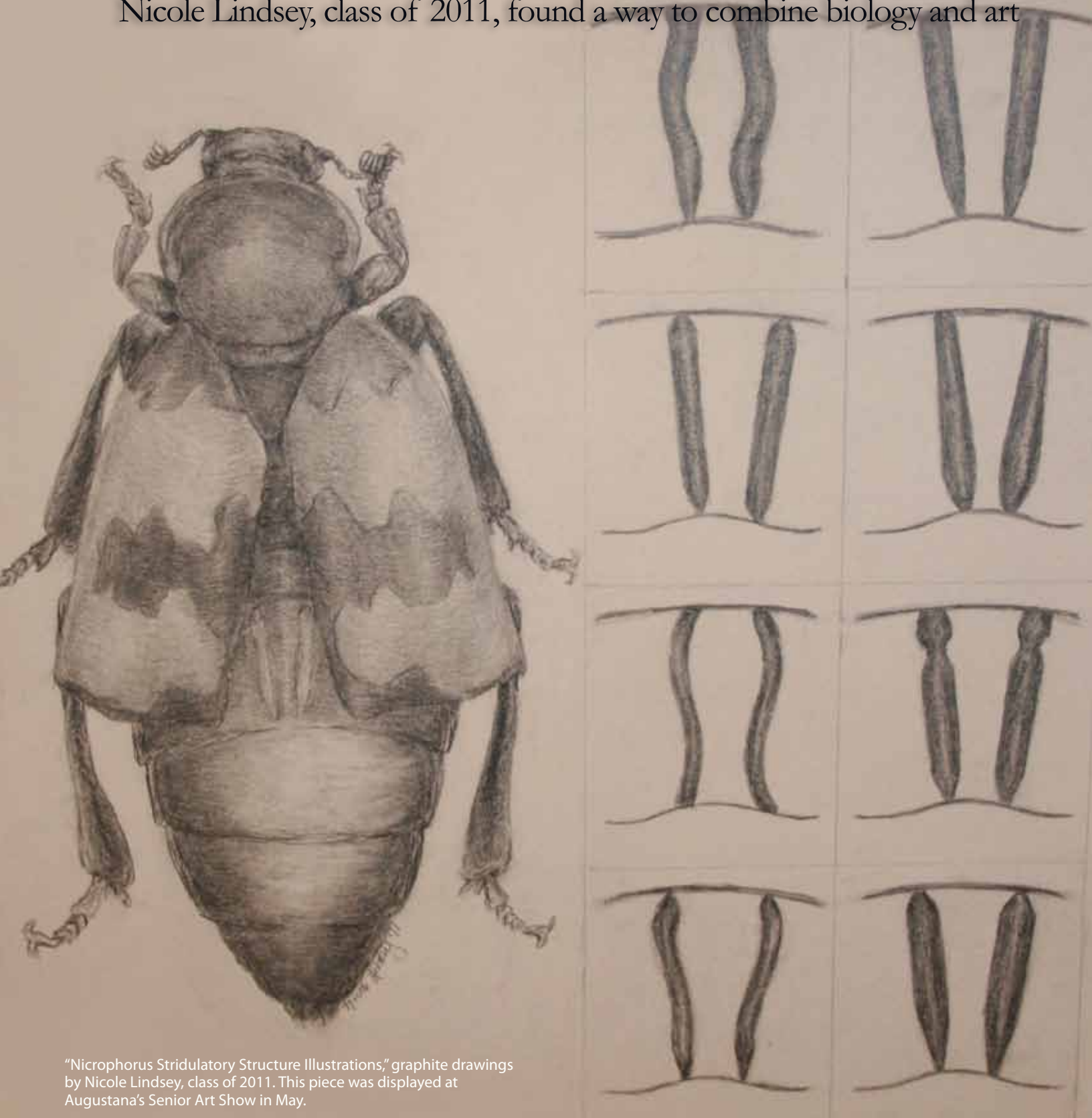
the scientific Illustrator

Nicole Lindsey, class of 2011, found a way to combine biology and art



"Nicrophorus Stridulatory Structure Illustrations," graphite drawings by Nicole Lindsey, class of 2011. This piece was displayed at Augustana's Senior Art Show in May.

At the Senior Art Show in May, laced between a wall of powerful and poignant paintings, graphic designs and symbolic sculptures, was a graphite drawing of *Nicrophorus marginatus,* otherwise known as a "Burying Beetle."

The artist was Nicole Lindsey, a 22-year-old from Spirit Lake, Iowa. The piece was one in a series Lindsey created for Dr. Carrie Hall, one of the Biology Department's newest faculty members. By all accounts, the drawing was a highly scientific illustration of the *par stridens*– the beetle's mechanism for producing sound.

At its core though, it was a complex and beautiful composition of countless fine gray lines that together wove an intricate texture and formed the shapes and shadows of the creature's head, thorax and abdomen.

It was, without question, art.

It was also science.

And for Lindsey, class of 2011, it represented the opportunity to combine two of her greatest passions – art and biology.

Finding Her Way

In high school, Lindsey says she was intrigued by science and art and took as many classes of each as she could. From an artistic standpoint, she was drawn to drawing and printmaking; from a scientific perspective, she craved lessons in biology, anatomy and physiology.

She learned about the possibility of combining the two as a scientific illustrator during her college search.

"At that point, that's when I knew that was what I wanted to do. It just clicked."

At Augustana, she got the opportunity to combine her interests during a Science Day activity for high school students organized by Dr. Daniel Howard, assistant professor of biology.

"I knew she liked illustrating and she was interested in helping. We determined that she would set up a station on insect illustration. Essentially, she could show these high school students how to illustrate. She spent a lot of time preparing – doing illustrations with insect samples of hissing cockroaches. I was really impressed with what I saw. She has some amazing artistic skill."

"When Science Day arrived, she came in with her art supplies and she showed students the technical aspects of illustration. What's more though, each student that came to her station walked away with an illustration they had created," Howard said.

Following Science Day, Howard recommended Lindsey to Dr. Carrie Hall, a conservation biologist who was working on her dissertation – an exploration of the structures on endangered beetle species.

"I was looking at how an applied field method to mark the animal affected and impacted their sound. I was also examining how it impacted their reproduction. We determined that that marking technique impacted their ability to reproduce," Hall said.

"I needed detailed drawings of some insects I was working with, so I asked for Nicole's help. She produced three different drawings for me that illustrated my research. As a result of our findings, the U.S. Fish and Wildlife Service changed the policy on the marking technique for


Nicole Lindsey, class of 2011

Nicrophorus americanus, otherwise known as the American Burying Beetle."

For Hall, Lindsey's artwork illustrated elements of her research that photography couldn't show.

"A photograph treats every angle the same way – it really levels the playing field. An illustration can really emphasize what's important. At the same time, representational drawing is extremely difficult. It's trying to create a three-dimensional form on a two-dimensional surface – it's really hard to create that dimension. The artist really needs to understand the fundamentals like light, shadows, edges, perspective, overlap and repetition," said Scott Parsons, assistant professor of Art and Lindsey's drawing professor for the last four years.

Beyond sheer skill and technique, a rich knowledge base is also critical, he said.

"To do scientific illustrations, you need a background in science. To illustrate what's important, you need to *know* what's important."

Howard agrees.

"Our founding, most important biologists were illustrators as well. It was a skill that was considered required. Unfortunately, over the last 200 years, most biologists have lost that. Illustration has become kind of a lost art. It's infrequent that we find a biologist that has the kind of skill Nicole has. She has this classic skill-set – she understands biological principals and she knows how to translate them into something that's artistic and graphically meaningful."

Kindred Spirits

Parsons calls artists and scientists kindred spirits.

"Artists and scientists are both committed to preserving a sense of wonder about the world. They're both curious. And, they can both see the beauty in it all."

For Lindsey, a biology and art double major, it's easy to see the connections.

"Biology is all about forming a hypothesis, conducting an experiment, analyzing the results and discussing the next step. It's the same thing in art, it just all happens on canvas," she said.

While she likes the similarities between the two areas, Lindsey also appreciates their differences.

"As a biology major, I like a method and end-point. As an art major, I had to get used to the idea of not having a method or an end point."

In her "Artist's Statement" Lindsey says: "I love art because it is never wrong. There have been mathematical and naturalistic masters like Michelangelo and Caravaggio, but there have also been abstract and expressionistic masters like Pablo Picasso and Jackson Pollack. They presumably created for the joy the process can give, and their belief in it. The first time I experienced that feeling, I knew I had to get it again. Just like a runner's high, the experience comes few and far between and it may be painful getting there, but it is unforgettable and worth working for. Creating art is both a physical and visual task that requires an artist to be connected totally and devoted to each mark, becoming ingrained into a piece. In the same moment the artist must also be distant enough from it to be open to chance and able to hear constructive criticism from within herself or from others. Eventually I will learn this balance and then I will be making masterful art. Until then, I will enjoy the process. "

Looking Ahead

This summer, Lindsey will work as a research assistant and illustrator for a conservation project organized by Howard and Hall on the American Burying Beetle at the Tallgrass Prairie Preserve in Pawhuska, Okla.

This fall, she'll begin a number of illustration-specific courses at Iowa State University. From there, she'll decide whether to go on to graduate school or attempt to find a job working as a scientific illustrator.

Her goal, she says, is to combine research and art.

"Right now, I'm drawn to research because I like being able to interact with the sciences and researchers. I am a biologist. I'm also an artist. As an illustrator, I'll be able to continually learn about science."

Howard is confident that with her skill and broad training, Lindsey will have endless opportunities.

"There's definitely a demand for artists who have training in the scientific world and the world of art. Think of textbook illustrators, museum curators or historical scientific site preservation. There's definitely a niche. There just aren't that many scientific illustrators around," he said.

Dr. Lindsay Twa, assistant professor of art and director of the Eide/Dalrymple Gallery, agrees.

"[The show in May] was the first time we had a scientific illustration in a Senior Art Show. Her beetle drawings really complemented the other pieces, which were a mix of naturalist and abstract work. It's fun to see the skill and the care that goes into rendering a living figure. Nicole's one of our hardest workers. She puts in long, long hours and she absolutely has the right attitude."