

Describe a place or environment where you are perfectly content. What do you do or experience there, and why is it meaningful to you?

The two bean beetles charge toward each other, their gold- and pink-painted backs dimly flashing under the lamplights as they collide and roll together on the bottom of the petri dish, legs flailing as if in a catfight. This is unexpected.

“Um, Dr. Musolf,” I say to my mentor, unsure and very confused. “These two males, they look like they’re, well, wrestling?”

This is only our second trial, but we have done several test runs before starting the actual experiment, and I am fairly certain that I have read more articles and papers about bean beetles than the average sixteen-year-old has. Nothing I have read or observed has even alluded to aggressive behaviors, let alone the display I am seeing now. I have only been looking for mating behaviors thus far, and I am afraid that I am wrong to call this fighting. I debate telling my mentor my suspicions at all. But I do tell her, and I am glad, because for the next few minutes, she is breathlessly explaining dominance hierarchies to me, and how what I am seeing looks just like behaviors seen in juvenile crayfish. We begin to search for any articles mentioning dominance hierarchies in bean beetles, or even fighting behaviors, but our closest finding is a study on aggressive behavior in grain beetles that was done fifty years ago. Seeing that males of a certain species are aggressive toward one another might not be groundbreaking news, but this has never been considered in bean beetles.

Spending one’s days watching insects mate is decidedly not a typical pastime of teenagers, and just a year before I doubt I would have found the idea very appealing. Still, I am thankful for the opportunity to conduct my own research. Not only did I learn valuable lessons regarding beetle anatomy, research procedures, and the fact that my phobia of insects will not fade no matter how many squirming beetles I pick up with a pair of forceps, I also discovered a place of comfort and wonder in the lab. I learned to push away my fear of being wrong and speak

up about my observations, lest I miss something as important as insect wrestling. I found purpose, because no matter what I did, anything I learned would contribute to humankind's pool of knowledge. And I felt incredible exhilaration with the realization that I had witnessed something previously unnoticed by any human before me. From those afternoons of watching beetles, I felt like I knew the universe just a little bit better than I had before, as if it had whispered one of its secrets to me and entrusted me as its messenger. Perhaps this is a little too romantic a way to think of insect social behavior, but perhaps it is not, for any insight into the social lives of pests such as bean beetles has implications outside the lab. Understanding how these insects behave as they interact with each other and reproduce could aid in controlling their populations, resulting in fewer destroyed bean crops and more food for those who depend on them. I could have, in my own small way, helped to feed someone in the future.

I find joy in just about anything I do, from writing angst-ridden poetry to discussing social injustice with my friends and teachers. But to be able to somehow affect the world just by sitting in a lab and watching a group of insects run around in a petri dish, that is thrilling. The topic of my research might not sound all too impressive, but its outcome has practical applications in the world around me. Knowing that the time I spend translates into new and valuable information, that I can even slightly contribute to the amount of knowledge available to mankind, that I am useful, is what brings me the greatest possible joy.