

November student spotlight:



Heather Slinn is a PhD candidate at the University of Guelph and originally from Ottawa, Ontario, Canada. She is currently working in the labs of Drs. Jonathan Newman and Lee Dyer. Her current project focuses on understanding the natural history of the interactions between plants and their seed dispersers which are critical for terrestrial communities. Seed dispersers can have profound impacts on plant fitness and plant community composition by transporting seeds away from parent plants to maximize offspring success or providing the necessary conditions to trigger germination through scarification. However, it is not known how passage through dispersers' guts affect seed fungal communities. Ecological filters that alter fungal community assemblages can affect plant fitness by providing chemical defense against antagonists and increasing germination. For instance, chemically mediated

mutualistic interactions, where fungi and associated defensive compounds are passed from parent to offspring through the seed coat, have been well documented in temperate systems (e.g., this occurs in cool season grasses). In the tropics, much less is understood about these interactions. Heather's research seeks to identify changes to the seed fungal community of *Piper sancti-felicis* (Piperaceae) after passage through bat guts. *Piper* is the same plant genus that the common spice, black pepper comes from. Her research evaluates the antifungal properties of an important class of secondary metabolites (alkenylphenols). This is extracted from fruit to assess whether it acts as a filter for fungal colonization prior to dispersal.

When she finishes her PhD, Heather would like to continue her work as a postdoc investigating fungal mediated interactions in *Piper*. She is hoping to graduate in 2 years.

What is your favorite fungus and why?

Cordyceps because it is awesome at infecting the brains of arthropods and manipulating behavior.

What is your favorite fact/thing about fungi?

Fungi make an extraordinary diversity of secondary metabolites that play all sorts of important ecological functions, but also serve critical roles in pharmacy (e.g. taxol) and other biotechnology. We understand such a small percentage of this diversity, there is huge application potential.

Who is your mycology role model?

I don't have a single role model, but there are many women that I admire. Posy Busby at Oregon State, Betsy Arnold at the University of Arizona and Sue Hartley at York University in the UK. I met Sue at ESA a couple of years ago when I was giving a poster presentation on plant-insect interactions. She asked me what I was thinking about doing next, and I told her about my new work on fungi in Piper. Her eyes lit up in excitement and I looked down at her name tag and I got really excited because I hadn't recognized her.

Any great stories from field work?

I nearly set La Selva Biological Station on fire once. Faulty drying oven. I'm still not sure who put that fire out. There is no alarm system. I also found a juvenile Terciopelo in my room. They are one of the most venomous vipers in

Latin America. I repeated that story to tourists at the station. They looked terrified.

What do you like to do in your free time? What are your hobbies?

Running, biking, reading, working on my Spanish, joking around as much as possible and drinking wine (Malbec is my favorite).

What are you passionate about?

I am passionate about promoting and supporting minorities in STEM. If you'd like to follow me for this, my handle is @h_slinn.