Invited lecture: Diversity, ecology, and evolution of whip spiders.
Place: Washington and Lee University, Lexington, VA, USA.
Number of undergraduate students: ~30
Date: Nov/2018

At the lecture on whip spiders, I thought it was really interesting that there were so few discovered species of whip spiders in comparison to other types of spiders, and it was cool to trace their history through natural selection with features such as being able to process oxygen underwater that came about when certain spiders survived floods and hurricanes.

On Friday, I learned that whip spiders look like they are from a horror movie and they also have 3 sets of eyes. I also thought it was really interesting how they could survive underwater for 26 hours!
I found both of the talks very interesting especially the one about the whip spiders, I didn't even know they existed before then!

I attended the lecture on Friday and had to leave about 25 minutes early to go to an appointment. I really liked Gustavo Silva de Miranda and wrote down a few questions for him. He mentioned that the spiders had chemoreceptors, receptors for temperature, and receptors for humidity changes among others and I know from my summer research that ants do as well in their antennae. I was curious to hear if he knew how they compared to one another? Also I was curious to see how the structure of their mushroom bodies compared to one another and if they also did not contain hippocampi because I also researched the MBs of ants this summer and find it fascinating that ants can perform functions humans need a hippocampus for without one (spatial navigation/memory, long term memory, habituation learning, etc.). Thanks!

I attended both of the Bonus seminars last week! From Gustavo Silva de Miranda's lecture, I thought seeing the whip spider morph was the most interesting, in addition to learning about its hydrophobic shell. I was amazed at how fast it could regenerate!

I found the hypothesis of speciation around southern Florida due to hurricanes very interesting (mainly the implication that it rained whip spiders). The hydrophobic properties of whip spiders were also impressive.

Though there were many interesting topics covered about the Amblypygi, I found it most interesting not only that there are so few species of whip spiders (~220) but that they have also not experienced much evolutionary change over time compared to other related species.

In regard to Dr. Silva De Miranda's talk, I loved how passionate he seemed about his research. It was really cool to see someone love a topic so much and study it with such dedication. I was really intrigued by the thought of practically applying the hydrophobic nature of the whip spiders in ways that could better human life. The idea that if we can identify and harness what makes these spiders hydrophobic and maybe implement that technology with our army is such a cool concept to me.

For the talk on Friday on whip spiders, I thought it was really interesting the role that the mushroom bodies in the brain of ship spiders play in mapping their ways home. This is really similar to that of the ants.

I found this lecture to be the most intriguing lecture I've been to outside of class during my time here at W&L. Gustavo was a very interesting guy whose background and knowledge of the subject enticed me. I think the most interesting thing I learned was when he played the video of the two males competing with one another for territory since whip spiders are extremely territorial. I learned that the width of their legs, which can often have a wingspan of a foot, determine who has dominance of that territory. If they are the same length, they fight for the territory. All in all, very interesting lecture and would love to hear what other information he finds in the coming months/years. Thank you.

As for Gustavo's talk, he was right - I did end up finding that amblypygids awesome! The most interesting thing I learned from his talk (there were many) was how these whip spiders had a completely hydrophobic exterior and were even able to survive for 26 hours under water. I can see many possible biosynthetic applications stemming from these colloidal secretions that self assemble into a hierarchical structure.