

My project: Investigations to see the difference in floral preference of bumble bees

Experiments:

Fieldwork collecting bees and volatile samples, first attempt beehavioural experiments to see how bees react to single compounds, microscope work identifying sex and species of bee, molecular experiments using PCR and DNA extraction to identify the genotype of bees

Challenges:

- The method behind our beehavioural experiments didn't create any reaction from the bees
 - Supervisor gave some feedback on method and it has been adapted to remove some aspects that could have deterred the bees
 - Added new dimension to the method to include looking at colour choices
 - Learnt that research doesn't always go as planned and that you need to use problem-solving skills and perseverance to continue
- Learning a wide range of lab and fieldwork techniques
 - Realised that often experiments do not produce results and that there are many steps where mistakes can be made
 - Be patient while carrying out molecular work and make close attention to the details and instructions given in order to produce high quality results
- Long hours to fit into both field experiments, lab work, and writing up the findings and project.
 - Having good time management and scheduling when to carry out the different tasks
 - Maintaining a balance outside my research with other projects, socialising, living independently, etc.

Achievements:

- Leant a lot about the different aspects of both plants and bees and how they have evolved to create new beehaviours
- Added new ideas to project as also noticed patterns in pollen of plants and bees beehaviour
 - Able to look at difference in choice of bee based on sex as well as species
- Presented my project so far in the lab meeting
 - Got good feedback from presentation and new ideas and areas of improvement for my project
- Managed to remain productive in writing up my project and explain my ideas
- Started to learn to use R to create network to see the connections between plants and bees
- Discussed with PhD and Masters students their projects and experience of research and gained advice on how to manage timing and motivation
 - Learnt about the range of opportunities available as well as the challenges of applications

Next Steps:

- Attempt DNA extraction from tissue
- Continue to improve and develop beehavioural experiments to gain some more data on choices of blended vs singular compounds
- Continue to develop my confidence with R programming to create my own networks independently
- Complete the first draft of my project write up to ask for feedback

Summary:

So far, I have really enjoyed my research and have learned a lot about the process of carrying out data collection and the steps needed to ensure that the results are of high quality. Additionally, I have been able to read the literature surrounding my project to support new ideas and gain more knowledge to support my project. I look forward to the next half of my research and will be able to piece all the data together to get some clear ideas about bees and their flower choices.