Katie Wilkinson research studentship report

Is fish abundance & biodiversity richer on cleaning stations?

Florence Greatrix

In the autumn semester of my second year, I had started to think about what to do for my final year project when the opportunity to travel to Tobago to study fish behaviour arose. I knew that this chance was too good to miss, and in June I found myself on a plane with another UEA student, two staff from UEA and a group of students on a field trip with Cardiff University.

Having spent months learning to identify the hundreds of reef fish that we'd see on Booby reef, I thought I'd instantly recognise every fish on our first snorkelling session upon arrival. This was definitely not the case! Fish identification in the water can be hard, as they're constantly on the move and don't always look the same as in photographs. However, after a few days working with the Cardiff students, my identification improved significantly and I was confident enough to rely on these skills which proved to be essential for my project.

My project idea changed and evolved throughout the process, but it was always related to cleaning behaviour as this interested me from the outset. Cleaning is an interspecific communication that occurs throughout the animal kingdom, and this behaviour on coral reefs has been of particular interest to scientists for decades.

Over the first few days I observed less cleaning activity than I had expected and had been seen in previous years, so my hypothesis needed to be something not reliant on many observations of cleaning itself. For this reason, after discussions with my supervisor and other

staff I chose to investigate the presence and behaviour of visitors to cleaning stations in comparison to other areas of the reef.

The 15 cleaning stations that I chose were large areas of brain coral with a Sharknose Goby (pictured) perched on it. I then chose a nearby area of brain coral with no cleaner present, and compared the visitors to each. I found that there were a significantly higher frequency of visitors to cleaning stations, but there was no difference in the number of species visiting.

A Sharknose Goby perched on a piece of brain coral, waiting for its next client.

I am also investigating the effects of nearby damselfish territories on my results, as they could chase away potential visitors to my stations.

In order to gain enough data for my project, I was snorkelling for at least 6 hours per day for two weeks. This was tough (and surprisingly chilly!) at times, especially on my very sunburnt back, but I never ceased to be amazed by the incredible ecosystem that I was lucky enough to observe each day. From an academic perspective, I gained valuable skills in data collection and analysis and field ecology as a whole. I also developed my presentation skills as on the final day we each had to present a talk about our project. As I am considering a masters course after graduation, the expertise I've developed from this experience will be vital for my future studies.

On top of this, I was staying in the beautiful village of Charlotteville which isn't often visited by tourists and met some wonderful locals. I also met the great, like minded students from Cardiff who I went on to travel with after the trip. We made some great memories that I will never forget. I am so grateful to the Katie Wilkinson Research Scholarship for helping me to make this dream a reality and for inspiring me to make the most of every moment.

The UEA girls at the end of a great day snorkelling!

Enjoying the sunset with the Cardiff students!