

Ben Walton

## **IB Plant Sciences field trip to La Quinta de Sao Pedro, Portugal, March 2016**

In March 2014 I attended a Plant Sciences field trip based on the outskirts of Lisbon. The field centre where we stayed was set in grounds containing a diverse representation of Mediterranean flora, which we studied over the week. This was alongside several trips in the local area to study the different vegetation types. The Iberian peninsula has an enormous diversity of flora, much of which is endemic. It gives an interesting insight into Mediterranean ecosystems in a way only visiting allows. The aim of the trip was to consolidate lecture material as well as using techniques encountered in lab based practical sessions in Cambridge, in the field.

On arrival we focused on the Plants within the "Quinta", where we were based. Were taught simple techniques to identify the plant groups we were likely to regularly encounter through their defining features. These plants illustrate many of the concepts discussed in the years Lectures, such as fire, light and water relations. Long dry seasons in this area mean fire and drought are both regular occurrences, and plants present have a number of adaptations to cope with these challenges.

On the first day we went to visit a coastal ecosystem on the Troia peninsula, looking at plants in the sand dunes and salt marshes. We again focused on how the plants present, their distribution and their adaptations could be explained by what we had learned in lectures in Michealmas and Lent terms.

The next day took us to a site which had been effected by fire fairly recently, at a reasonable altitude. The day was wet, but we were still able to see how succession had taken place since the fire. We also visited a vegetation site more similar to that of British woodland, due to the higher rainfall. It was a community which I had not expected to see during my time there. We also briefly visited a cork oak estate. Cork is a species highly adapted to fire, and also of economic importance, so a useful plant to study.

In the evenings the Lecturers and Post Docs on the trip gave short lectures about their ongoing work. It is interesting hearing about the cutting edge of research going on in the University currently, and also the diversity of research opportunities that exist. One Post Doc held world records for the heat of chillies he had bred.

The final days of the course were spent completing a small research project in and around the field centre. The vegetation had 3 fairly distinct groupings; meadow, forest and vegetation on sandy soil. We investigated how a range of soil properties (such as pH, soil respiration, water relations) affected the physiology of the plants in the area, as well as the root symbioses they form with mycorrhizal fungi, which aid them in nutrient uptake. The experience of using the equipment the department had shipped out in the field was invaluable. The week ended with project presentations, which I always find useful practice.

As well as the academic side of the trip there was also time to socialise and relax. We spent evenings in local restaurants, and on the final day spent the afternoon and evening in Lisbon. It was really great to improve ties with other people on the course from other colleges, which can often be difficult in Lectures. As well as supervisors a network of fellow students is incredibly useful, meaning there is always someone to ask about something you are struggling with.

I strongly believe that trips such as this are one of the best ways to consolidate lecture material, and give a far better, more in depth understanding of the lectures and also importantly their relevance. Having time to design and complete a more extended experiment is also useful preparation for p11. I am grateful to the college for this generous grant.