

Tales from the Garden Blog 2

It's amazing how much you can learn in just a few weeks! Since starting our work placements here we have got to see so many different aspects of daily work at the Garden. Coming from universities from the opposite end of the country it has also been a beautiful change of scenery, living on site with Waun Las National Nature Reserve virtually on our door step.



In the Lab (Sarah Trinder and Charlie Long)

The varied work so far has been fantastic. A science lab might not be the first thing that springs to mind when you think of the Botanic Garden. However, there is something exciting afoot taking place in the labs on top of the hill. Slowly but surely the DNA barcode of each of the 1143 species of Welsh flora is being sequenced. So, what is DNA barcoding? And how does it relate to the plants found in the Garden or even your back yard?

A barcode is a small section of DNA, so-called because of its ability to uniquely identify a specimen like the barcode you would find in a supermarket. This method can work for all sorts of material, be it hundreds of years old, or a tiny grain of pollen. Its applications are equally endless; tracking the movements and visits of pollinators, identifying components of herbal medicines; even as tool in forensic investigations.

This year we will be greatly involved in the barcoding project and are so excited to be part of such significant research. We get stuck in to the whole process. Firstly, a plant is collected from either the Garden or on a special expedition. Then this is pressed and added to our herbarium, a really important collection that serves reference to all the work we do. The herbarium also contains donated collections, some dating back to the early eighteen hundreds. These provide really interesting insights into how a plant's genetics have changed over time. Next a sample of plant material is taken. From this sample we can extract its DNA which then is amplified and finally sequenced. These sequences will become available globally to serve as a reference for each species.

As you can see, we've got plenty to keep us busy over the year. Thankfully we have a growing team of volunteers all keen to help with the progress. Keep your ears open for further updates of how we're getting on! We will be here for a whole year working on all of the Garden's conservation and research projects.

Sarah Trinder (University of York) & Charlie Long (Durham University)

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The team (Josie Maidment, Sarah Moore, Adelaide Griffith, El Jaskowska, Charlie Long and Sarah Trinder)