



PICOS SERT TEAM BLOG

2016

DAY 1- BILBERRY SURVEY



Today we visited the Picos de Europa national park to gather the data pertaining to the impact of deer grazing on Bilberry. The project has been running annually since 2013 when the fences went up, although due to unforeseen weather circumstances, data has only been collected once before. Following an unenviably early start to the day, we headed to the mountain. Under the expert tutelage of Anita and Luz for guidance, we were led on a physically challenging hike through an assortment of environments (including many large hills! Yikes!) which some coped with better than others! Along the way we stopped at several hotspots to take in the beautiful mountain views and grab a snap or two before heading onward. We were given an in-depth insight into the ecology of the area, including the plight of wolves and even the local bears. Think VERY carefully about whether to join them when they offer an optional hike up hills along the trail. This is hard work! (image here from optional hill) We will leave it up to you to decide if it's worth it.

Having arrived at the site, we were tasked with completing a few activities which even the more determined of people would have struggled with, although there was some fun to be had from trapping each other in the boxes. (liz in the box). Ultimately, when all was said and done, the stunning picturesque views and first hand experience working with leading academic professionals to guide you through the scenery really made the experience.

Upon return of the exhausting expedition, the only thing on the menu was to grab a nice cold pint and wait for all this to blow over.

James - "it was definitely a day for suncream and hats"

Stuart - "when liz tells you to eat something, you better do it"

Abby - "snacks are a must"

By Abby & Stuart

Rising bright and early, our first day in the Picos National Park was assessing deer impact on bilberry, in relation to its management for capercaillie. The project has been running annually since 2013, but bad weather meant this was only the second outing for data collection. With Anita and Loz leading the way, we gleefully followed along the mountain trail, taking in the beautiful scenery and a few sips of water. During our walk, we stopped at various viewpoints to take a couple of pictures, whilst being given an overview of the ecology of the park. It was amazing to hear and see how much of the park has changed in so little time. Apparently, the bears aren't as happy as they used to be, all the original Picos bears were shot and the replacements aren't as well mannered. The final ascent was a long and strenuous one, with some bouncing up the hill like a jack rabbit, whilst others taking a more steady approach. When I got to the top I couldn't get some water down my throat quick enough, it felt good to get my heart and lungs working!





Having arrived at the site, we were tasked with getting down and dirty with some bilberry; counting the minute branches, crawling around a cage like a hamster, whilst getting cooked by the sun was quite a challenge. At one time, it seemed like two/three bilberry branches were morphing into one, perhaps the heat was starting to get to me, or maybe I was just going mad! At least we got to see Anita & Liz crawl around too ;). After seeing a beautiful lizard orchid (above left) on the way down, we crossed onto the path to the final site of the bilberry love affair. Thankfully, the final count was in woodland and these branches didn't seem to be morphing. We took a slow amble back to the road and waited for our transport to take us back to camp. It was a fairly tough first day, however, I found it heartening that our team's work was part of an ongoing project helping to conserve the biodiversity of this stunning place.

By James

DAY 2 - PITFALLS

The pain of being awoken so early was soothed by the sight of the sun rising from behind the mountains and the sound of exotic birds in the trees. The little crevasse in the Picos mountains slowly came to life as the weary ecologists emerged from their tents.

Muesli was on the menu for breakfast, nothing like oats to fuel you for the day...





We were up and out very rapidly to try and arrive at our destination before the siesta heat hit, however even in the 'cool' morning air it was still exasperatingly hot. The site was based atop a small mountain that we had to hike up, it was quite literally breath-taking...

We were studying the most effective way of clearing a plant called Broom as it has become an issue for grazers such as deer in out competing Bilberry; so you can guess what that means... Quadrats !

We also laid pitfall traps to investigate the effect of grass cutting on invertebrates. After the quadrat counting, pitfall laying, broom trekking fulfilled day we headed back to input our data. Now, as tedious as this may sound it was surprisingly enjoyable, the incentive of going to the bar once finished worked a treat ;)

Data input done, time to party- first stop- The Bar. Almost everyone was huddled round a mini wooden table playing UNO in the cool evening breeze, drinking Spanish wine... how classy. Those who could keep up walked down to a little village in the mountains where we found a little pocket of music and festivities. We were completely submerged in Spanish culture, we enjoyed Spanish music and rum until the early hours of the morning. Not a bad day !

By Josh, Ellie, Keana and Lewis



DAY 4- ECOTONES



This morning we visited a small ski resort which is used to attract tourists and help the local economy. We investigated the impacts that human activity in the winter has on the environment, in terms of soil health and species abundance. However, after arriving at the site we were blocked by two guard hounds – making the day too risky to continue with any surveys.

We did, however, speak about the ski slopes and the impacts of such activities. Having a thriving tourist business during the winter, enables financing during times where farming yields are less. Accommodating these skiing tourists, brings in further economic opportunities for the locals. However, we learnt that erosion from slopes can have negative effects, such as fragmentation and flooding at the end of the slope, which in turn effects wildlife. The land is also used for landfill, which provides finance for the government and land owners, but, this damages the soil health and water supply. The wildlife around this area has had to adapt to dry environments and soils, plant adaptations include hairy, waxy leaves and specially adapted root systems

As we were not able to survey in this environment, we instead visited a nearby valley consisting of various vegetation – grassland, heather, shrub and broom. We collected data across the ecotones to investigate the levels of vegetation and pollinators inhabiting each environment. This was completed by placing a quadrat in each environment using the haphazard method and taking several measurements within it. This was repeated twice to achieve a more complete result. We also followed a transect line, tallying how many of each insect species we saw to calculate pollinator numbers. This was done to understand which species prefer which type of shrub.

When following a transect line, a simple count of strides is involved to know how far to walk- counting individual strides on a tape measure!



Overall, this activity enabled us to gain experience working within the field, facing challenging temperatures for those used to standard British weather! We also learnt to adapt and change plans depending on circumstances, such as not so friendly hounds! To end the day, disaster struck when Kat was invaded by a tic, however Ian saved the day.

We learnt that insects act as landscapers, as they will take seeds to nests to eat, then, uneaten seeds will grow into plants. We also learnt that blue and purple are generally pollinator's favourite coloured plant (due to clear vision), so get planting!

We also found out that watermelon may just be the perfect end to a hot working day!

By Kat, Hayley, Abi and Mel



DAY 6 - COVADONGA

Morning and afternoon were spent surveying the old mine site at Covadonga. Buferrera mine was a mercury mine that had began work in the middle of the 19th Century and had been worked, abandoned, worked and abandoned again. It was found that only one side of the valley was contaminated.

Elements such as arsenic and magnesium are widespread through the valley, whereas mercury contamination is localised. We were interested in the mine site for a few reasons, first being that mine sites are places where rare species are found; this is due to less competition in the area. Also, some types of common plants have adapted to the chemicals through genetic variants. They then can be used to restore bare land, from extracting metals from the soil. The second reason we were interested in the site was to see if the cows were grazing on the contaminated areas and the effect that it was having.



Today we were looking at the amount of grazing taking place in the valley. We measured this by recording: 1) Vegetation height, 2) Nibbles and 3) Cow poo.

Vegetation height and nibbles were measured at 5 quadrats per site, each quadrat of a size 1x1 metre.

In each quadrat the minimum, maximum and average vegetation height was taken. As well as percentage cover of all plants, species abundance and nibbles of each plant species. Two cow poo transects were also done at each site.



And all of this was done in the presence of *so many* curious cows, coming through the clouds into our view. We did manage to get all the data we needed after Anita gave them a stern talking to! Definitely a unique experience.

By Miriam, Maddie and Ewan