

Diary 8 - 30 July 2013

The Joy of Studying Vegetation

Time flies here at Zackenberg. I have now been here for 3 weeks and only have one week left. I am here to study vegetation together with Caroline Ernberg Simonsen (AU) and Loïc Pellissier (AU). We have beforehand laid out 200 plots randomly spread out across 1A going all the way up to Aucella at about 800 m.

Every day we make a big lunch pack and leave the station after breakfast to walk to a different area to do sampling. Some days we walk for less than half an hour if we have plots near the station but other days (when we have plots at the top of Aucella), we walk for 2-3 hours all the while enjoying the beautiful landscape and starting to look forward to seeing which vegetation type and which species, we are going to find today. When we reach the area, we picked out for the day we take out the GPS, excitement and curiosity growing as we approach each plot. Is the old vegetation map correct? Are we going to hit a nice species rich snow bed or is it going to be another boring abrasion plateau with almost no species (all though sometimes at the end of the day you really start hoping for abrasion plateaus J)? Or one of the nice heath types (*Cassiope* heath, *Dryas* heath, *Vaccinium* heath, *Empetrum* heath), that at first glance look very species poor, but where, if you are persistent, you can find species hidden under the dense cover of *Cassiope*? Or maybe a dried out fen (due to the very sparse snowfall this winter everything is really dry up here) that you cannot decide whether to assign to the category fen or grassland?

When we have located the plot, the measuring starts. As I have always been a fan of saving the best for last (and also since it is better to do the measurements before we start roaming around the plot), we start out by writing down the coordinates and elevation, measuring inclination and aspect, laying out a chain across the plot to get a measure of micro topography, taking photographs of the plots from different angles, measuring vegetation heights at different locations inside the plot, measuring pH, soil moisture, soil temperature and taking soil samples, all the while looking forward to the last and best part: the species list! Here we look through the entire plot (1m²) to find all species there, measure their heights, and score their cover inside the plot. Even though at first glance most sites look fairly species poor you often get surprised (and thrilled) at how diverse they can be. Our most species rich plot so far has been 24 species within 1m².

So you can imagine that sometimes we sit with our noses to the ground for a fair amount of time. And even though we have been told many times to often look up and around for polar bears it can be really difficult to remember when first you are intensely focused on finding more and more species inside your plot. So one day when I was sitting there entirely absorbed in with what I was doing, I suddenly heard this ppppffffffffffhyyy sound close by and of course at once looked up. But since I could not see anything, and I was in a big flat area with no real hills for anything to hide behind, I thought to myself that I must have been imagining things and returned to my exiting species list. BUT I had not been imagining things, and as I bend down, there it was again and this time when I looked up there was a big musk ox very close nearby. He looked straight at me and said his ppppffffffffffhyyy sound and started to rub his horns against his legs and so remembering what Lars had told us the first day about musk ox behaviour when wanting to defend their territory (and knowing when to back off) I grabbed all my equipment (that was of course spread all around the plot), and not feeling like I had the time to put it all in my bag pack, I started my retreat as fast as I could, catching a last glimpse of the plot, trying to remember the cover value of the different species for which I had luckily finished measuring heights. I was glad and relieved to see that he was content with me leaving the area and did not want to follow me, but I must admit that my heart was beating a little faster than usual, and not because of the quick getaway J.

This was a little taste of what my week here has contained. Of course, a lot of other things have happened as well. Nice people have left, new and also very nice people have arrived. We have had several polar bear alarms from Daneborg (and one from Lars half way to Daneborg) but none of them has come all the way to the station even though one day we thought one had, but later found out (by finding footprints) that it must have been an Arctic wolf. Caroline was the only one lucky enough to have seen it though.

Now there is only one week left here and I must say that I still really hope to see a polar bear even though my hope is declining also because all the ice has left the fiord. But we will see. You never know what will happen here at Zackenberg...

In fact: after having just finished this letter, the ship arrived, two days early!

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