

**Ugebrev 13 – den 10. september 2009**

### **The late night show**

The colours are changing here in Zackenberg. Not only due to the fast advancing autumn colouring the mountain slopes inevitably brown for this year, but also because the sun everyday sets remarkably earlier impressing us with daily variations of radiant red, orange and pink on the surrounding mountains tops, and several mornings nightly frost has even brushed over the valley with white creating the most incredible flora - though it is short lived and disappears again during the day. The drift ice filling up the fjord, however, has stayed for quite some days now. It is just such a pleasure waking up in the morning to see what new colours the sun is offering this day.

Since the last plane left we have been five persons at the station; Jørgen, Norbert, Casper, Charlotte and I. We have all moved to house number nine, melting everything in to one building complete with offices, private rooms, kitchen, storage rooms, living room, bathrooms etc. We have changed the daily routines somewhat all sharing in on the cooking - more challenging for some than others, while Jørgen does all the bread and yoghurt making.

Well, we are actually seven at the station. A fox pup from this year seems to have settled perfectly at the station. It comes around several times a day to see if we by any chance should have left some edibles for it. Likely in that hope it fell into a sleep right next to Casper having lunch on the veranda, well at least the famous "fox sleep". It is much adjusted to us; it sleeps on the Argo road – hardly moving away till the last second, at the door steps of houses, under houses. Tempting as it is, however, we can not feed the tiny fox or encourage it to get more accustomed to our presence. In the end a dependent fox is likely an even more doomed fox when we finally leave the valley. The seventh inhabitant on the other hand takes what it wants and is very reluctant to go away. It is an old musk ox bull that has discovered the lush vegetation growing within, say ten meters... of all the station buildings. It comes around in the evening and grazes all night, so we have all gotten some surprises getting out in the morning or late at night.

We are having a really nice working and living atmosphere here. Casper is getting the hang of all his plant physiological measurements for his master thesis. Charlotte is already an expert in her GeoBasis measurements and Norbert is passing time servicing the methane station that is running smoothly up until now. Jørgen is a fantastic logistician. Besides knowing A LOT about Greenland and happily sharing his knowledge he has also given us a thorough bear safety course. Before handling us the flare guns and riffles that we so eagerly wanted to fire, he went through the different behaviours of bears and how to react properly in accordance with their state of mind. This introduction was spiced with personal encounters that made us remember that bears are not first of all a man killing being. And then we had the action and he showed us where to hit an attacking bear and we practised at a bear that Jørgen made for the occasion. It was killed thoroughly... several times.

Otherwise the valley is getting quiet. The geese seemed to all have agreed on leaving the last Sunday in August. More than a thousand pink footed geese flew over the station that day. It was very impressive to see the huge Vs in the air, even more so that they had energy to spare for the constant chatting. Well, some geese must have missed out on that date; singly or in pairs some geese are still in the area and appear very lonely for their upcoming travel south.

I am here to continue the BioBasis monitoring that has been run by Lars, Jannik and Sonja since early May this year. The BioBasis programme has been running since 1995 and we basically collect the same data every year on the exact same dates using the same methods every year. By

deploying this strict methodology we are able to see if and how the changing climate affects the general biology from year to year and at a population level. The new ZERO motto "Still counting" surely fits the BioBasis monitoring programme. We count every living creature we have here; we even count previous living stuff, such as carcasses or leftovers such as foot prints, scats and casts. It is an extensive sampling scheme that is expanding every year with new stuff to measure. One thing though that is obviously correlated with the changing climate, but somewhat problematic to come to terms with, is the ever increasing number of instruments used for the sampling. Walking around in the field to do the weekly measurements I carry thermometers, soil moisture measurer, DGPS, a chamber and analyzer to measure the photosynthesis and respiration of plants, an NDVI and a RVI instrument to measure the greenness of the vegetation, nets to filter trapped arthropods from the water and binoculars to be ever prepared to count and determine passing birds and distant mammals on the go. On top of this then come all the protective measures such as flare gun, radio and raffle. I think I know how it feels to be one of those insects with spines and attachments sticking out everywhere – can be quite difficult to walk in a door.

It is, however, still simple to count the number of lemming winter nests left from the previous winter. This year has been somewhat a catastrophe for the local lemming population. A total of 54 nests have been made inside our defined 1 hectare lemming study area. This is the second lowest number since 1995, and in so called *lemming years* there may be more than 400 lemming nests in the same area. Of these 54 nests, 52 were made in the beginning of the season. The winter is usually the prime time for lemmings: As the days become shorter the size and weight of the testes increase preparing them for the mating season under the snow, where they are safe from predation by birds. The past winter, though, has been extremely poor in both snow cover and depth, and this has been too little for the lemmings to make good use of: Only 3 of the 54 nests have been used for breeding, hence the few nests made later in the season.

Well, the late night show is about to begin, I hope. At least the northern lights shined yesterday at this time: Stripes of flaring green from east heading on west adding yet another special colour to the sky of the Zackenberg Valley.

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