

Geological Mapping of Ornö, an Island in the Stockholm Archipelago, Sweden

Nick Tubbs - Charlie Eardley - Fabian Braeuer - William de Falbe

The team of four spent 6 weeks mapping part of Ornö, an island in the Stockholm Archipelago, Sweden. The island is known for its beauty, being a popular spot for Stockholm city-dwellers to come and get outdoors over the summer; for only letting foreigners visit since 1997 due to military operations; and has historically been a source of Feldspar for the ceramics industry. Boy, did we find a lot of Feldspar!

The area was formed of around 10 mappable units between the two mapping pairs. With the exception of the almost omnipresent Pegmatite that seemed to be lurking behind every corner and outcrop we could find, the rest of the area was dominated by schist to gneiss grade metamorphism. One meta-sediment unit was identified and consisted of alternating competent and less competent layers that were tentatively attributed to metamorphosed sand-mud couplets, though thin sections are required to confirm this. Multiple meta-igneous units were observed, ranging from feldspar-rich acidic bodies to more mafic compositions, often displaying compositional banding. One such picked out some of the complex folding within the region, which represents one of the many stages of deformation recorded in the area. Abundant migmatites were observed along the coastline. It is thought that the rocks within our mapping area are Archaean, and were likely formed as part of the Svecofennian orogeny that formed much of the continental crust making up the Baltic shield. Abundant evidence of ductile deformation was seen that suggest this may be correct!

We stayed, very fortunately, in a typical Swedish holiday home around 200 yards from the ferry - we didn't know how lucky we were until we found out the buses hardly covered any of the island: it could have been a long walk for the weekly shop on the mainland! Thankfully the buses took us nicely to within our mapping areas, so we rapidly became well known to the two drivers, one of whom lent us his bikes for the duration of our stay; however, two bikes between four of us meant giving each other lifts on the pannier rack! This, our noisy progress through some pretty impenetrable forest, and the ability we had to suddenly and accidentally find ourselves in someone's garden made us small-time local celebrities, even getting featured in the island's Facebook news site!

Most of the island's summer inhabitants are Stockholm holiday makers with a second home out there, but locals or not almost everyone we met were taken aback by our choosing to come to their little island, warning us there wasn't much going on out there. However, during our stay we managed to go swimming in some beautifully warm lakes, and some painfully cold seawater; managed to not go swimming on a kayaking excursion; and even went to the island's annual barn dance!

Despite the forest, the clouds of mosquitos and flies that made sudden appearances if you stood still for too long, and the price of food (£4 for a loaf of bread, so we started baking our own!), we learned a great deal about mapping as well as ourselves. We could not have achieved what we did without the generosity of the Class of 2005 Fund, so we are extremely grateful for their support.



Figure 1: View of the archipelago from a hilltop dominated by banded gneiss seen on the left

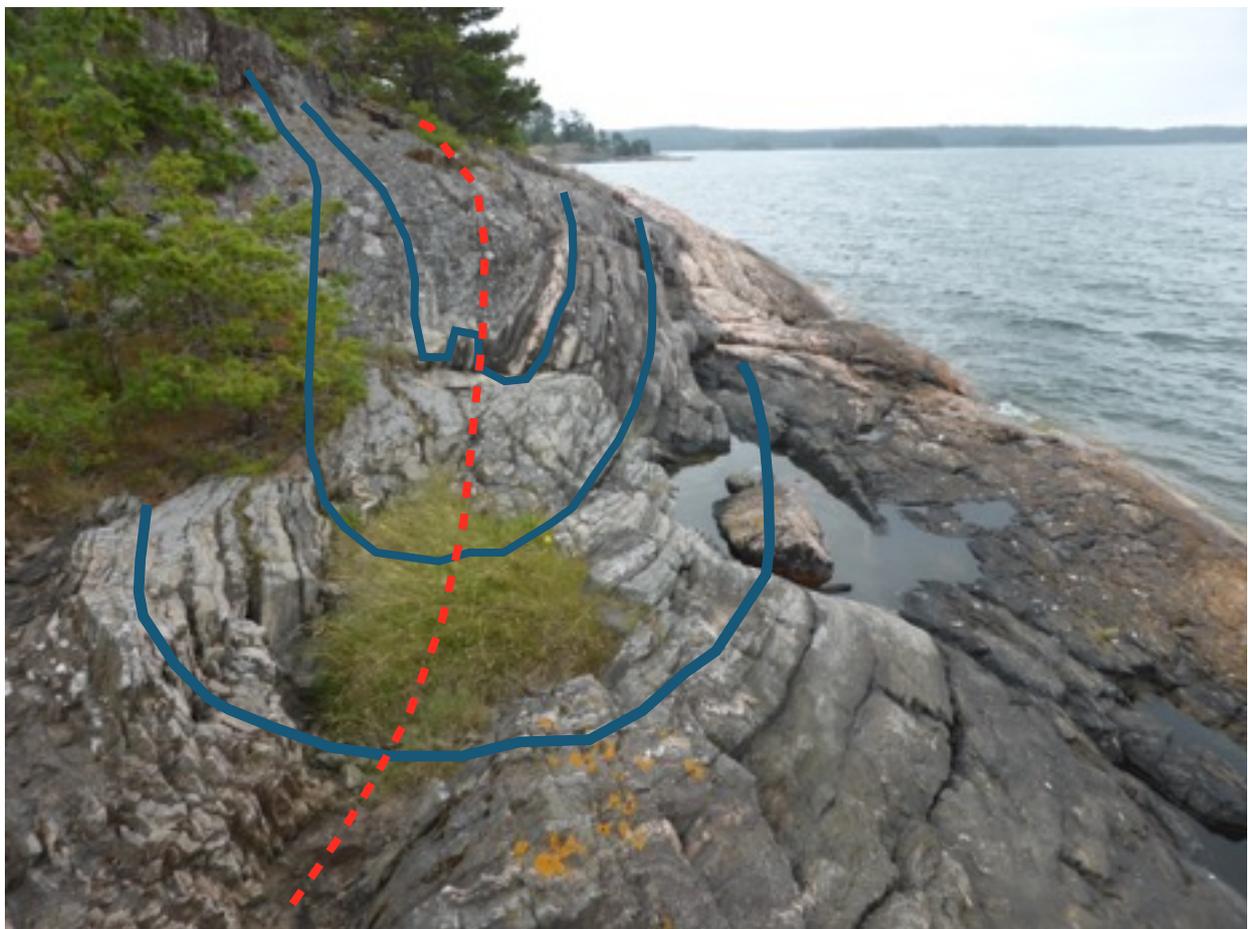


Figure 2: Metasediment centre left with bedding foliation (blue lines) and estimate of folded axial trace (red dashed line). A pink Pegmatite intrusion on the coast, right



Figure 3: Graphic texture of Quartz ingrowing within a Potassium Feldspar megacryst, a texture normally seen under a microscope



Figure 4: The team, sat on banded gneiss. Left to right: Charlie, William, Fabian, and Nick