Relation between nature and human settlements in Iceland

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Samples from archaeological excavations in several Viking long-houses and a Medieval peat house was analysed. The sampled localities is Viking age settlements at Bessastadir, Hofstadir in Garðabæ, Eriksstadir, Breidavik and the Medieval peat house at Keldur. Two mires was cored at Hofstadirmyri in Garðabæ and in the surroundings of Bessastadir to locate useful natural deposits for future investigations.

One of the aims of the project is to analyse the fossil insect remains, primarily beetles, for interpretation of the environmental conditions, the relation between settlement and surrounding nature, the indoor environment of the buildings and to compare the different settlements. There is an attempt to make a spatial analysis of a part of the Bessastadir Viking long-house floor, to see the spread of remains and its relations to the building and the soil.

Another aim is to analyse the floor sediment. One of the main difficulties with house floor samples is the preservation degree. The preservation of organic sediments and content of fossil remains is totally dependent on the house history, e.g. the location in landscape and material during construction, the function of the house or activity in different rooms and finally the abandonment history of the house. Complete sediment analysis have not yet been made, but the organic content determined by loss-on ignition analysis in samples from Bessastadir is generally high, with values between 10% up to almost 30%. The distribution of the organic content follows the interpreted interior of the house.

From the Viking age long house at Bessastadir the samples are generally poor in fossil insect remains and the material is dominated by the beetles *Otierrhyncus arcticus* and *Otierrhynchus nodosus* living on plants in the surroundings. These species are not synantropic species (living in close association with human environment) and they where probably generated from the building material in the roof and are direct indicators of the surrounding natural environment. On the contrary the early Medieval settlement Keldur is generally richer, and the composition of the beetles are very synantropic. The most synantropic samples are probably deposits of waste in the house. The investigated samples from the other three Viking long houses are to be considered as non synantropic, and therefore probably generated from the house construction period.

The two mire cores from Hofstadirmyri in Garðabæ and the surroundings of Bessastadir, showed to be useful deposits for future investigations. The fossil remains was well preserved and the stratigraphy relatively well developed. A future investigation will be initiated, but together with pollen-, ditoméanalysis and more detailed sediment analysis, so the stratigraphy can be fully understood. Especially in the Bessastadir locality there is a complicated situation with transgression and regression by the sea.

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