

Insect fossils from house floor samples in Iceland

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I present the preliminary results from a interdisciplinary project, where samples collected during archaeological excavations in several Viking long-houses and a Medieval peat house have been sediment analysed. The sampled localities is Viking age settlements at Bessastadir, Hofsstadir in Garðabæ, Eriksstadir, Breidavik and the Medieval peat house at Keldur.

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. The project is practically running when this abstract is published and only a brief preliminary report can be presented. As a complement, natural deposits surrounding Bessastadir and Hofsstadir in Garðabæ will be cored.

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 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.

The different episodes during a house "life and death" produces different types of fossil insect remains. One group are those transported to the settlement during construction or those inhabiting the remnants of the building during abandonment, living in the natural surroundings, not necessarily confined to the cultural environment. The other group is made by the insects who are adapted to or dependent on the human environment and therefor living in close association with man (synantropic). All insects have primarily a natural living environment, but in northerly posts like Iceland there may be insect species that are not able to survive in the natural surroundings.

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 *Otiorrhynchus arcticusc* and *Otiorrhynchus nodosus* living on plants in the surroundings. These species are not synantropic and a first interpretation point to that they probably generated from the building material in the roof. 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 three other Viking long houses contained very little fossil remains, but the few remains found are similar to the Bessastadir samples and are to be considered as non synantropic, and therefor propably generated from the house construction period.

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