

Analysis of ancient and herbarium plant DNA

Analysis of plant DNA from historical and ancient samples provide a rich source of information about e.g. development of agriculture, subsistence strategies, biodiversity and evolution.

The DNA content of plant material can be preserved for long periods of time if desiccated or waterlogged, and such materials are frequently found in archaeological excavations.

Finds of plant materials can inform about role in human culture and which plants are present in a region at different time periods.



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Sorghum bicolor, an example of the wide range of plants cultured for human consumption, is included in this project



Effi Schweizer, public domain

Desert caves have been used as granaries in the past and preserve material very well

DNA fragments and accumulate chemical modifications over time, and may be mixed with DNA from other organisms. Plant material frequently contain enzymatic inhibitors, complicating analysis.

The SciLifeLab Ancient DNA unit specializes in analysis of degraded DNA and with this project, the unit is developing expertise and services relating to plant DNA.



Photo: Benjamin Franck, public domain

Plant material collected as part of rescue archaeology connected with the construction of the Aswan dam may be analyzed as part of the project



Photo: Mikael Wallerstedt

Ancient DNA unit clean room laboratory dedicated to ancient DNA work to minimize risk of contamination



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Herbarium material have been collected for hundreds of years and the Swedish museum of natural history alone has 4.5 million specimens

Herbarium material is also included in the project, and is a rich source of information about biodiversity, population genetics and evolution.

The project includes researchers in the field as well as sample collections at Uppsala University, Swedish museum of natural history, University of York, and Bar-Ilan University.

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