

Palynological Sampling in Western Jutland 2021-22

Anthea Work Package #2

Department of Archaeology and Heritage
Studies

Havananda Ombashi
Mette Løvschal

Report

PALYNOLOGICAL SAMPLING IN WESTERN JUTLAND 2021-22

ANTHEA WORK PACKAGE #2

By Havananda Ombashi¹ & Mette Løvschal^{1,2,*}

¹ Aarhus University, Department of Archaeology and Heritage Studies

² Moesgaard Museum

* Contact: lovschal@cas.au.dk

DOI: 10.7146/aulsps-e.478

ABSTRACT

A palynological sampling programme was carried out in three areas of Western Jutland in 2021-22. Our goal was to collect new sediment samples from archaeological excavations and peat deposits to reconstruct patterns in past heathland use and development. The location of the case areas was determined by the potential of the sites for combination with existing palynological data (Solsø Hede) and/or archaeological data (the Vejen area). At Solsø Hede, a pollen core was obtained near Solsø. At Vejen, two separate sediment collections took place. To the north of Vejen, in Gammelby Mose, peat sediments were collected. To the south of Vejen, at Kongehøj, 15 samples were collected from a Bronze Age house floor plan. The sampling programme formed part of the research project called ANTHEA (Løvschal 2021), which focuses on the deep history of anthropogenic heathlands. The project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement no. 853356).



Figure 1. Solsø Hede (56,127020/8,636041). Top 50 cm (left) and bottom 50 cm (right) of the core, containing visibly large organic material at the base.



European Research Council
Established by the European Commission

A N T H E A



AARHUS UNIVERSITY

SOLSØ HEDE

A field survey and sediment collection were carried out at the site known as matrikel 3bc. Permission had been granted for this by the municipality and the landowner concerned, Thorkild Vad.

This location was chosen in an attempt to collect pollen from a sediment with a higher resolution across a shorter time span than the existing Lake Solsø core (Odgaard 1994). Obtaining a peat sediment core of this kind would then enable a comparison analysis between the known longer time-spanning core from Solsø and the shorter, hopefully higher-resolution core from the peat nearby. The landowner had previously found peat on this site. A soil test carried out with a Russian peat corer resulted in a shallow soil sample containing up to 30 cm of peat in the assigned area. However, a similar soil sample test was carried out in the vicinity, where historical peat cuttings had taken place, and a core of 150 cm long peat was obtained (Figure 1).

Three subsamples (each 5 cm long) were taken from either the base or the centre of the peat cores and submitted for radiocarbon dating at Beta Analytics:

- 150 cm depth (base of core): 6100 ± 30 BP
- 100 cm depth: 2180 ± 30 BP
- 75 cm depth: 1500 ± 30 BP

GAMMELBY MOSE, VEJEN

A field survey and sediment collection were carried out at the sites known as matrikel 1aq, 6c and 17a. Permission had been granted for this by the municipality and the landowners concerned, Asta Bøgedal, Niels Aksel and Kirsten Fjord.

A soil corer with a 3 cm diameter was used for an initial field survey, until peat sediments were found beyond 30 cm in depth. Peat was only found at matrikel 17a. Upon the finding of peat sediments, a Russian peat corer with a 5 cm diameter was used to form a transect of 13 sampling cores between the coordinates 55,511285/9,065988 and 55,511021/9,066043. In the centre of this transect, the deepest peat was found (up until 70 cm), and two side-by-side peat cores were obtained at the coordinates 55,511157/9,066038. A 5 cm long subsample from the base at 65 cm was collected and sent for radiocarbon dating at Beta Analytics:

- 65 cm depth (base of core): 7990 ± 30 BP

KONGEHØJ, VEJEN

Sediment collection was carried out at the archaeological excavation of Kongehøj by Sønderkov Museum, led by Martin Egelund Poulsen (Poulsen 2017; Poulsen & Dollar 1995). At the time this was done, several floor plans of Bronze Age houses had been exposed and partly excavated. The combination of settlement and funerary contexts, as well as the nearby peat core from Gammelby Mose, made this location an attractive choice for collecting pollen samples.

The large floor plan was situated across an area with changing geological subsoils, ranging from coarse sand with stones to stone-free, silt-like sediments in the north-western corner of the plan. Samples from almost all post holes across the floor plan were collected, surrounding central coordinates of 55,456109/9,106085. Several samples contained sandy material, whereas a few contained large amounts of well-preserved charcoal and organic sediments.

SAMPLE STORAGE

Solsø Hede. The peat sediments collected here are stored as 25 cm or 50 cm long cores, tightly wrapped in cling film and plastic bags in the fridge in the Vådlaboratorium (4215-112). The cores are labelled "SOL 1-3", with the depth and top of the core included on the labels.

Gammelby Mose. Sediments from the peat core (VEJ1) were subsampled every 1 cm and individually stored in small sample bags in the Moesgaard Archaeo-science Laboratory (4215-039). The box is labelled "Pollen samples, Havananda".

Kongehøj. All the samples collected here are stored in the fridge in the Vådlaboratorium (4215-112). The samples are labelled according to the finds list from the excavation in a cardboard box labelled "Pollen samples, Havananda".

REFERENCES

Løvschal, M. 2021. Anthropogenic Heathlands: Disturbance ecologies and the social organisation of past super-resilient landscapes. *Antiquity*, 1-6.

Odgaard, B.V. 1994. The Holocene Vegetation History of Northern West Jutland, Denmark. *Opera Botanica* 23.

Poulsen, M.E. 2017. Bebyggelse og landbrug i overgangsperioden mellem yngre stenalder og ældre bronzealder – betragtninger fra et sydjysk indlandsområde. *By, marsk og geest* 29, 5-29.

Poulsen, M.E. & Dollar 2015. Bronzealderbønder i det sydjyske indland. Treskibede langhuse fra ældre bronzealder på Kongehøj II. *By, marsk og geest* 27, 5-19.