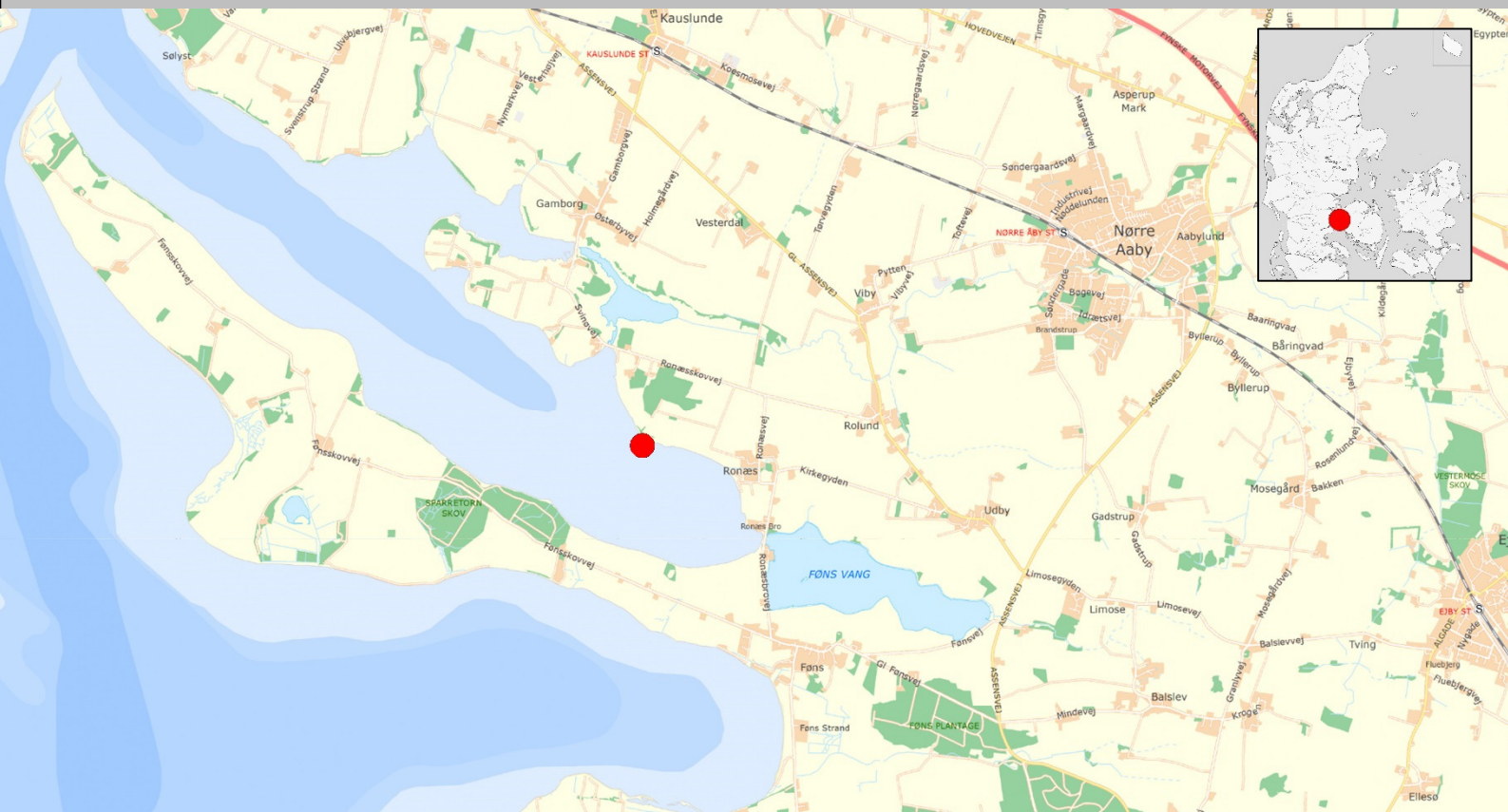


LMR 14546, Ronæs Skov (FHM 4296/86)



Analysis of a waterlogged archaeobotanical sample, x5

Fenna Feijen, cand. mag.

Afdeling for Konservering og Naturvidenskab, Moesgaard Museum

Nr. 14 2017

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History

The samples were collected by Museum Langeland from a submarine settlement presumably belonging to the Ertebølle culture. Sample x5 was taken from the bottom filling of a wooden structure. The research goal of this analysis is reconstruction of the landscape and vegetation at time of deposition. And, if possible, helping to determine the function of the wooden structure. The samples were evaluated and analysed by cand. mag. Fenna Feijen at the Department of Environmental Archaeology and Conservation, Moesgaard Museum.

The analysis

From sample X5, a subsample with a volume of 500 ml. was analysed. The subsample was wet-sieved, using three sieves stacked on top of each other, with 0.25 mm as the smallest mesh size. Subsequently, plant macrofossils were taken out from the different-sized residues, using a stereomicroscope with enlargement of maximum 40x. The two largest fractions were completely analysed, but the smaller fractions were only partly analysed, as it would be too time-consuming to analyse them completely. The seed numbers in these fractions were multiplied, in order to correct for volume. Seeds were identified using literature and the reference collection from the Department of Environmental Archaeology and Conservation, Moesgaard Museum. In table one, the plant macrofossils are presented. Plant remains which have been identified to genus level only are marked with sp. All the remains in sample X5 are waterlogged, charcoal or carbonized seeds are absent. Other remains are also mentioned in the table. X means a small amount of remains and xxxxx a lot.

Discussion

Many of the seeds from sample x5 are from salt tolerant plant species. Strand-asters (*Aster tripolium*) and strand-trehage (*Triglochin maritima*) grow in saltmarshes and on salt meadows, but they also occur in brackish environments. Sandkryb (*Glaux maritima*) grows on salt meadows, dune valleys or on beaches, on rocky or sandy soil. The aforementioned three species occasionally grow in freshwater environments. Strandgåsefod (*Suaeda maritima*) grows on beach meadows, sandy beaches and sheltered coasts. Kveller (*Salicornia europaea*) only grows in saltmarshes and on tidal flats, closer to the sea than the other species.

Grassland or ruderal terrain is represented by several species, including glat vejbred (*Plantago major*) and liden nælde (*Urtica urens*). Tiggerranunkel (*Ranunculus sceleratus*) and sværtevæld (*Lycopus europaeus*) grow in freshwater marshes. Seeds of woodland species

include Birk (*Betula* sp.) and el (*Alnus* sp.). Cultivated plants are absent from the sample. Remains of edible plants like hindbær (*Rubus idaeus*) and hassel (*Corylus avellana*) are present in low concentrations, making it unlikely that they are consumption waste.

In a marine environment, the possibility of reworking of sediments is quite high. In this way, plant seeds from older layers can be deposited together with more recent material. In addition, plant seeds could have been transported by currents over long distances to the place of deposition. This results in a mixture of plants from different habitats. (Cappers, 1993). This seems to be the case with the plant macrofossil assemblage from Ronæs skov x5, as plants from different vegetation types are represented.

Conclusion

The find of many plant macrofossils from salt-tolerant plants in x5 indicates the presence of a saltmarsh, beach and tidal flats in the vicinity of the site. Freshwater marshes, grassland and woodland could also have been present nearby. There are no clear signs of culture present, as cultivated plants or charred seeds are absent. It is not possible to determine the function of the wooden structure, based on the plant macrofossil assemblage.

Literature

- Cappers, R.T.J. 1993. Seed Dispersal by Water: A Contribution to the Interpretation of Seed Assemblages. *Vegetation History and Archaeobotany*, vol. 2, no. 3, pp. 173–186
- Mossberg, B., L. Stenberg and S. Ericsson 2005. *Den Store Nordiske Flora*. København: G.E.C. Gads Forlag.
- Van der Meijden, 2005. *Heukels flora van Nederland*. Wolters-Noordhoff, Groningen.

Sample number Sample size ml.	X5 500	Dansk navn
Saltmarsh/beach plants		Kyst og strand
<i>Aster tripolium</i>	70	Strand-asters
<i>Glaux maritima</i>	4	Sandkryb
<i>Salicornia europaea</i>	292	Kveller
<i>Suaeda maritima</i>	39	Strandgåsefod
<i>Triglochin maritima</i>	8	Strand-trehage
Grassland, ruderal		Græsland/ruderat
<i>Arctium</i> sp.	1	Burre
<i>Chenopodium ficifolium</i>	4	Figenbladet gåsefod
<i>Lapsana communis</i>	1	Almindelig haremadv
<i>Plantago major</i>	4	Glat vejbred
<i>Sonchus asper</i>	2	Ru svinemælk
<i>Stellaria media</i>	8	Almindelig fuglegræs
<i>Urtica urens</i>	2	Liden nælde
Marshes/ aquatic		Fugtig bund/åbent vand
<i>Juncus</i> sp.	272	Siv
<i>Ranunculus sceleratus</i>	8	Tiggerranunkel
<i>Lycopus europæus</i>	4	Sværtelvæld
<i>Ranunculus</i> subg. <i>Batrachium</i>	1	Vandranunkel
woodland		Skov
<i>Betula</i> sp.	1	Birke
<i>Corylus avellana</i>	3	Hassel nøddeskal
<i>Rubus idaeus</i>	2	Hindbær
<i>Alnus</i> sp.	2	El
Unclassified		Økologi variabel
<i>Atriplex</i> sp.	22	Mælde
<i>Carex</i> sp.	2	Star-slægten
Chenopodiaceae	26	Salturt-familien
Fabaceae	1	Ærteblomst-familien
Poaceae	11	Græs-familien
Polygonaceae	6	Pileurt-familien
<i>Ranunculus</i> sp.	2	Ranunkel
<i>Rumex</i> sp.	1	Skræppe
<i>Stellaria</i> sp.	8	Fladstjerne
<i>Viola</i> sp.	2	Viol
other remains		Andre fund
wood	x	Træ
buds	x	Knopper
thorn	x	Torn
caddisfly	1	Vårflue
beetles	xx	Biller
moss	x	Mosser

Table 1. The results of the analysis. For explanation see the text

Rapporterne fra Afdeling for Konservering og Naturvidenskab, Moesgaard Museum fremlægger resultater i forbindelse med specialundersøgelser af arkæologisk genstandsmateriale.

Hovedvægten er lagt på undersøgelser med en naturvidenskabelig tilgangsvinkel. Heriblandt kan nævnes arkæobotaniske undersøgelser, vedanatomiske undersøgelser, antropologiske undersøgelser af skeletter samt zooarkæologiske undersøgelser.

Der optræder også andre typer dokumentationsfremlæggelser, som f.eks. besigtigelse af marinarkæologiske lokaliteter og metodebeskrivelser af konserveringsteknisk karakter.

Alle rapporter kan downloades fra Moesgaard Museums hjemmeside.

Eftertryk med kildeangivelse tilladt.