

# THIS MUST BE THE PLACE

## Perspectives on the Mesolithic–Neolithic transition in Östergötland, Eastern Middle Sweden

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## **Off road – a broadened perspective**

In the previous chapter, several Mesolithic and Neolithic sites from the central parts of Östergötland were presented. The two roads and the railway extend along a straight line through the forests of Väderstad and over the plain between Mjölby and Motala. Archaeological work was carried out in two wide search trenches continuing many kilometres through a prehistoric countryside.

Early Neolithic remains have been discovered at sites all over Östergötland. Activities dated to the Early Neolithic have often been found through radiocarbon dating at archaeological excavations of other kinds of prehistoric sites. Sometimes, pottery is encountered with characteristic decoration, axes with a pointed butt and thin butted axes may also be discovered. Features at many archaeological excavations have been radiocarbon dated to the Early Neolithic period. It is not possible to present all these sites here.

The purpose of this chapter is to broaden the spatial perspective by introducing further sites and find-spots, which might provide an understanding of the different forms and varieties of the Neolithic process in western Östergötland. There are several Early Neolithic farms situated outside the area that was excavated, although it has not been possible to make room for these in this publication. The aim is to confirm the view that the Neolithic process occurred on older Mesolithic sites, not only in the research area, but also in a wider region.

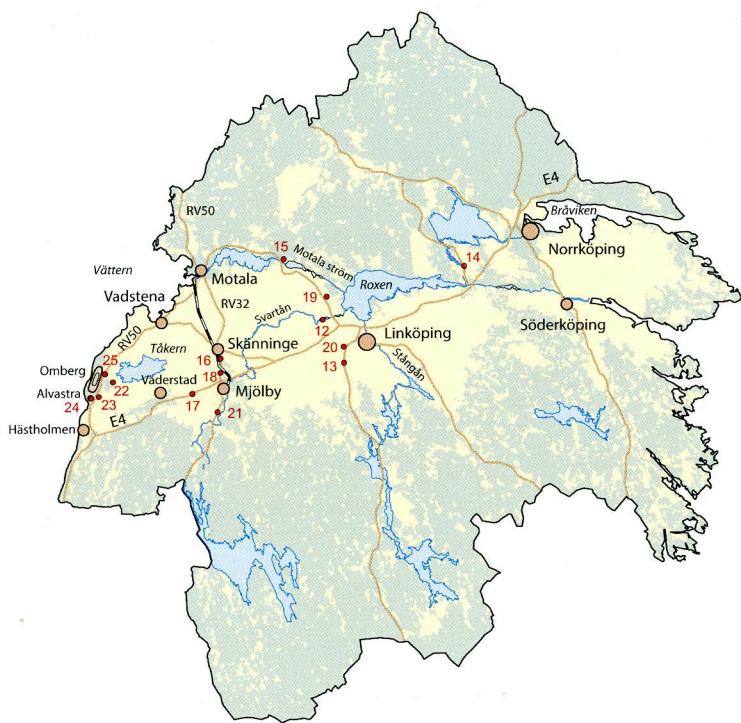


Figure 19. Östergötland, places and sites mentioned in the text:  
12 Ledberg, 13 Åby, 14 Kimstad, 15 Kungs Norrby, 16 Sunnanå, 17 Mörby, 18 Högby,  
19 Stora Sjögestad, 20 Trädgårdstorp, 21 Bleckenstad, 22 Holmen, 23 Alvastra Pile Dwelling,  
24 Alvastra megalithic tomb, 25 Charlottenborg.

### A Stone Age focal point – the Alvastra district

Without a doubt, the surroundings of Lake Täkern belong to the most intriguing parts of Östergötland. The areas to the south and west of Alvastra are particularly abundant in Stone Age remains. Many stray finds have been encountered along the shores of Lake Täkern, but Mesolithic inhumation graves have also been found. Neolithic monuments can be seen here; Östergötland's only megalithic grave and Alvastra pile dwelling. In the area, there are figurative rock-carvings and large barrows

dated to the Bronze Age and Iron Age. During the twelfth century AD, a royal manor was built here, and Sweden's first Cistercian Abbey was founded in AD 1143.

In order to understand the Neolithic process and its variations in Östergötland, a detailed description of the Alvastra region is necessary. What made this area so attractive? Today, Lake Täkern covers an area of 45 square kilometres, which is a much smaller area of water than it was during the Stone Age. During the 1840s, the land surrounding Lake Täkern was drained and the water level was lowered several metres in order to reclaim farmland on the former shores of the lake. Despite its relatively wide expanse of water, the lake is nowadays not much more than a metre deep. The shallow water is hence quite warm and nutritious, due to the many tributary streams from higher land to the east. Fish continue to thrive in the lake, mainly pike and perch. Täkern has several tributaries and there is an outflow to the north through the stream *Mjölnaån* into Lake Vättern. A characteristic of Lake Täkern is the wide stretches of reeds around the shores. These days, Täkern is a renowned place for bird watching; many migrating species such as swans and cranes stop here in the spring on their way northwards. In between the two lakes Täkern and Vättern, the mountain Omberg is situated, forming a ten kilometre long and three kilometre wide bedrock horst. The highest level over the sea is 264 metres, which means that Omberg was an island in the sea after the glacial ice melted 12000 years ago. Apart from being a well-known landmark in the region, Omberg protects the surroundings of Lake Täkern from the prevailing westerly winds. Consequently, the climate zone of the sheltered environment of the eastern slopes of Omberg is more like the southernmost parts of Sweden, or parts of Denmark. With such a higher mean temperature, the slopes of Omberg constitute a unique biotope for plants, including relict plants originating from periods of warmer climate.

A protected bay in Lake Vättern is situated just south of Omberg, *Hästhömen*. During medieval times, this was an important harbour where journeys over Vättern to Västergötland started and ended, a voyage of just less than thirty kilometres. Bronze Age rock-carvings occur only a few hundred metres from this bay; boats depicted on the rocks show that sea journeys were probably undertaken during this period. People

most certainly travelled across Vättern even during the Stone Age. The fact that Östergötland's only megalithic grave is situated on the southern slopes of Omberg is hardly a random occurrence. There are many signs of lively communication across Lake Vättern. Cambrian flint from Mount Kinnekulle in Västergötland has been found in Östergötland (Browall 1999:297). Lindahl and Gejvall pointed (1950) out similarities in the shape of Late Neolithic chamber graves in both counties. After a technical analysis, Birgitta Hultén (1998:56) interpreted the pottery in the Alvastra megalithic grave, as almost identical with pottery from megalithic graves in Västergötland. A conjunction of components made the area attractive. One was the generous ecological biotopes producing a rich variety of plants and animals; another was the excellent conditions for communication.

During the 1840s, extensive work was performed on the land in order to lower the water level of Lake Tåkern. The population of Östergötland increased considerably during the nineteenth century, with a growing need for farmland. Lowering lakes and draining marshes and wetlands to reclaim land was undertaken in many places throughout the county. During the same period, new fields were cultivated in the rocky woodlands on the southern side of the plain. Many ancient monuments were affected by this work on the land; barrows and stone settings were destroyed during this quest for more farmland. Archaeologists were only called in for exceptional cases, primarily if human skeletons were unearthed in the removal of stones and masses of earth from the barrows. However, the work also meant that many previously unknown prehistoric finds were brought to light. The megalithic grave on the southern slopes of Omberg was discovered when some large stones were blasted in a field. When parts of a skeleton were revealed, an archaeologist was contacted.

During the nineteenth century, the work of digging ditches for draining the land was done by hand. The farmer drove a horse- or ox-drawn plough or harrow. The grain was cut with a sickle or scythe and was then raked together. Prehistoric artefacts with their distinct form could therefore easily be detected. A few examples include a flat axe of copper, several polygonal porphyrite axes, flint axes with a pointed butt, flint blades and parts of a human skeleton. Many artefacts were sold to museums or collectors. The rich assemblage of artefacts and large number

of prehistoric sites that are known today in the Alvastra and Tåkern area are a result of the combination of a profusion of prehistoric remains and the farming methods of the past centuries, along with the early archaeological notice of the area.

As we can see, the abundance of prehistoric finds has long been the focus of attention of archaeological research. During the end of the 1970s and beginning of the 1980s, the archaeologist Hans Browall, who had previously taken part in the archaeological excavations of the Alvastra pile dwelling, carried out systematic field surveying. In contrast to the extensive occurrences of axes, which were difficult to set into a context, finds were now discovered indicating settlement sites. Around thirty Stone Age settlement sites with Mesolithic assemblages mixed with finds from later periods were registered (Browall 1980; 1986; 1999; 2003). A common characteristic is that the settlement sites are located on slightly hilly ground, adjacent to former shores. An interesting settlement site is situated at *Holmen*, from where a large number of Mesolithic artefacts have been recovered, including twenty-four pecked axes, three Lihult axes and several micro-blades of flint. All the artefacts were found in a ploughed field and no archaeological excavation has taken place. Other interesting finds are bone or antler items, of which one was a chisel decorated with a geometrical triangular motif; there were also pointed tools, possible picks of antler, a fragment of a human skull, etc. Several radiocarbon samples from bone and antler artefacts date the settlement site to a period of 6700–6005 BP (approximately 5700–4800 cal BC) Browall 1999:297).

Amongst the Neolithic skeletons, a funeral from the Mesolithic was discovered. Bones from this skeleton were radiocarbon dated to  $7088 \pm 62$  BP (6080 BC (95.4%) 5800 BC, Ua-38179, Browall 2003, Wilhelmson & Ahlström 2009, Fornander 2011b). There are several problems related to the skeleton, but this will not be elaborated here; a confusion of finds may have occurred between these finds and assemblages from other excavations in the area (Fornander 2011a:43).

The material culture from the Stone Age differs from other areas in Östergötland in that there are hardly any occurrences of worked quartz. The only finds of quartz that are described come from the cultural layer that was found together with the Mesolithic skeletons in the megalithic

grave (Ahlbeck 2009:129ff). Flint does not occur naturally in the region and it does not seem plausible that people here produced tools in any different kind of raw material during the Stone Age. It seems more reasonable that the lack of quartz is the effect of a research tradition entirely focused on recovering flint. There is also a lack of Funnel Beaker settlement sites with houses and farms of a similar type as the sites found at several other places in Östergötland. Stray finds are more likely to represent votive offerings in wetland than settlement sites. This probably does not mean that there was no Funnel Beaker settlement in the area, but instead that few development projects leading to archaeological excavations have been carried out in these parts. No major roads have been built, neither has any housing development taken place in the surroundings of Täkern and Alvastra during modern times. This kind of construction work, which involves stripping the topsoil from extensive areas, is needed to be able to find the remains of prehistoric buildings. A possible exception might be found at a site in Charlottenborg (figure 19), where pottery, transverse arrowheads, cores and flakes of flint were uncovered during a minor test excavation. There are no Early Neolithic radiocarbon dates from the site, the dating is entirely based on the decoration on the pottery, with a date of around 3300 BC. Accordingly, we know nothing of whether there might have been any Mesolithic activity on the site, nor how long the site was used. Radiocarbon dating indicates activity on the site in much later periods, during the Iron Age (Browall 2003:35). This makes it difficult to interpret such finds as animal bones on the site.

Stray finds discovered in the Alvastra area are artefacts traditionally considered as belonging to the material culture of the Funnel Beaker people. Considering the knowledge generated from the extensive areas that have been archaeologically excavated as a result of development projects in other parts of Östergötland, an informed guess would be that there are many undiscovered Funnel Beaker settlement sites in the Alvastra area.

### **The dolmen and the pile dwelling in Alvastra**

Östergötland's only Early/Middle Neolithic burial monument, a dolmen, is situated on the side of Mount Omberg. The megalithic grave on Omberg is significant in several ways. The construction of monuments in the

landscape is often considered to have played an important part in the process of the Neolithic transition (cf. Bradley 1998, Shanks & Tilley 1987, Thomas 1993). The only known skeletons dating from the Early Neolithic period in Östergötland were discovered in the Alvastra dolmen. The period when the dolmen was constructed, length of use and scientific analysis of the human bones in the dolmen are important points for the understanding of the Early Neolithic period and the Neolithic transition in these parts of Östergötland. Another important feature that cannot be overlooked is the neighbouring site of Alvastra pile dwelling, which has had a prominent role in Swedish Neolithic research.

The dolmen is situated on the southern side of Omberg. Geologically, the mountain Omberg, balancing on the western shore of Vättern, is a horst. Since the end of the Ice Age and Palaeolithic/Early Mesolithic times, it has constituted a prominent landmark. Vättern has a complicated history; after the Ice Age, the land rose more rapidly in the northern end of the lake than in the southern end. However, the water levels during the Neolithic period would probably not have affected the placing of the megalithic grave. The monument was firmly positioned a good distance inland, facing south towards the valley below.

The grave was discovered by chance in 1916, when the farmer used dynamite to blast a few boulders in a field to make future ploughing easier. After the blasting, bones and a human skull became visible among the stones and archaeological expertise was called in to view the site. This is a significant area in the mythology of Swedish history. For instance, dolmen was considered the abode of the medieval Swedish royal family of Sverker. Since the nineteenth century, archaeologists and archaeological excavations have been a common sight in the Alvastra area. A number of areas in the surroundings of Omberg, Täkern and Alvastra have been archaeologically investigated, not infrequently in order to provide support for the medieval tales. Therefore, the discovery of human skulls in the megalithic grave was first thought to be from an execution site; this was a logical component in the attempt to recreate a medieval setting. Finds of Neolithic pottery and stone tools soon led to the realisation that this was a prehistoric burial monument, a dolmen. The site has subsequently been excavated on several occasions; bones of humans and animals, pottery, quartz flakes, fragments of axes, flint scrapers, etc.

have been found (Frödin 1918; Janzon 1984; 2009). Bones from no less than 25 different species were identified, including dog, pig, sheep/goat, cattle and horse. The human bones were calculated to at least 30 individuals (Janzon 2009).

On several occasions, the finds have been examined and analysed from many different angles; interesting observations have been made, but a large number of questions have also arisen. All the pottery found inside the dolmen is undecorated, but is considered to be Neolithic (Janzon 2009; Hultén 1998). Together with other potsherds found immediately outside the entrance of the dolmen, several sherds of a decorated ceramic vessel were discovered, belonging to a pedestalled bowl. Chronologically, these are all of a Middle Neolithic date. Other significant artefacts found inside the dolmen are pieces of quartz and two shale pendants. The quartz is worked in a bipolar technique, an indication of Mesolithic activity on the site before the dolmen was built, while the items of shale are probably Late Neolithic. These objects do not provide any clues as to when the dolmen was built, but they illustrate that it was used during a long time. There are now a number of radiocarbon dates from the site (Brovall 2003; Wilhemson & Ahlström 2009; Fornander 2011b). Elin Fornander has presented (2011:68ff) twenty-two isotope test results of which thirteen originate from humans and nine from various species of animals, such as cattle, horse, sheep/goat and pig. In the same way as the artefacts, the radiocarbon dates do not indicate any accordance in date. All the animal bones are of a much later date than expected. The age of the animal bones shows that people regularly returned to the spot right up until the end of the Scandinavian Iron Age, the Viking Age. As in Neolithic times, activities of a ritual nature were carried out at the dolmen. Furthermore, two individuals who were buried in the megalithic grave were dated to the Iron Age. To make the chronology of the site even more complicated, one of the skeletons was dated to the Mesolithic period,  $7088 \pm 62$  BP (6080 BC (95.4 %) 5800 BC, Ua-38179). Similar to the artefacts, the radiometric dates show that the dolmen was a known place, where the people of the neighbourhood performed activities during the course of a very long period. Of course, the meaning of the site changed during several thousand years of use.

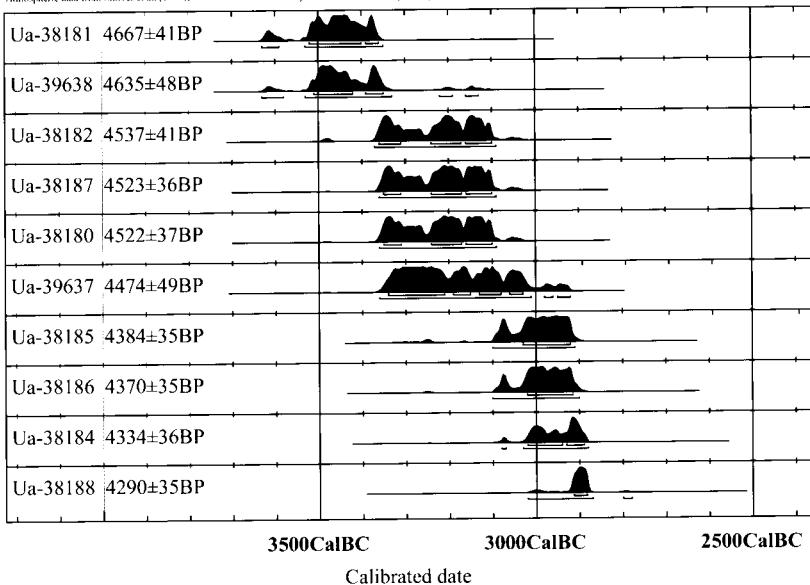


Figure 20. Radiocarbon dates from the dolmen at Alvastra. After Fornander 2011b.

How did the chronology relate to the expected time-span of the radiocarbon dates and the Early Neolithic period? Ten of the twenty-two radiocarbon dates were Neolithic; these were all from human bones. Even these, range over a relatively long period;  $4667 \pm 41$  BP– $4290 \pm 35$  BP.

The importance of performing a large number of radiocarbon tests must be emphasised once again. An interesting point is the long chronological continuity that emerges in the radiometric dating. People were buried in the dolmen during the period of 4667–4290 BP, an interval of 377 radiocarbon years, or during 3530–2870 cal BC, which is as much as 660 calendar years. The first (radiocarbon dated) individual to be buried in the dolmen was dated to 3530–3350 cal BC. This is likely to be at the time of the construction of the dolmen. Just outside the dolmen, sherds were encountered of the already mentioned ‘pedestalled bowl’. Expressive decoration on Funnel Beaker pottery is quite often found inside and outside megalithic graves in Scandinavia. Above all, the shape of the pottery and the decoration is a direct parallel to pottery from megalithic graves on the other side of Lake Vättern in Rössberga, Västergötland

(Hultén 1998:58). The pottery is concluded to be dated to the first centuries of the Middle Neolithic period (Hultén 1998:56, Janzon 2009:79), which fits well into the chronology of radiocarbon dated bones.

The construction of the megalithic grave is concluded to have commenced during an earlier period than was formerly thought, around 3500 cal BC, (Janzon 2009, Skog 2009:135), compared with the previous dating of 3200 cal BC (Browall 1991, Janzon 1982). This dating is significant. Construction of the dolmen was carried out during the Early Neolithic, the same period as many other dolmens were built in Scandinavia (Andersson 2003, Larsson, M. 2012, Sjögren 2003), and not when the transitional stage had already started in 3200–3100. Nevertheless, perhaps the fact that the dolmen was used during such a long time is more interesting than the question of when it was built. The circumstance that it was used as a cultic site right up until the Viking Age is intriguing. Discussions have long been held concerning whether the dolmen and the neighbouring pile dwelling were contemporaneous. The time-span of the radiocarbon dates distinctly shows that the dolmen already existed and was used for burials at the time when the pile dwelling was constructed.

### **Alvastra pile dwelling**

In a depiction of the Alvastra area, a brief description of Alvastra pile dwelling cannot be avoided. A few published radiocarbon dates set the construction of the remarkable structure to around 3100 cal BC (Browall 2003, 2011; Skog 2009; Larsson, M. 2012). Archaeological excavations of the remains of the pile dwelling started already in 1908; since then, it has been excavated on several occasions. Surrounded by marshland, two platforms were constructed over the course of around a century. These were built of timber, with rows of raised logs giving the building a palisade-like appearance. Each platform was divided into four or five rooms with a hearth in every room. Thousands of artefacts were encountered on the platform and immediately surrounding it, including a complete human skull and bones originating from a further fifty individuals (Browall 2011). Radiocarbon dates from the pile dwelling and from the megalithic grave indicate that they were used during the same Neolithic period. The dolmen was used for burials during several hundred years; radiocarbon

dates indicate a period between 3500 cal BC and 3020–2870 cal BC (Fornander 2011b:124). The pile dwelling was constructed around 3100 cal BC (Skog 2009:135, Larsson, M. 2012:142). According to dendrochronology, it was constructed in two stages during a short time, around fifty years (Bartholin 1978; 1996:455). Pottery was recovered, with a linear decoration typical of the later Middle Neolithic phase of the Funnel Beaker Culture. Moreover, an abundance of pottery from the Pitted Ware Culture was discovered. Browall interprets (2003:57) the site as a place for rituals devised to bridge over a transitional phase between the end of the Funnel Beaker Culture and the beginning of the Pitted Ware Culture.

The pile dwelling was constructed during a period of change in Östergötland and in other parts of eastern Middle Sweden, generally involving the abandonment of the Funnel Beaker lifestyle of farming and cattle herding. Farms and special purpose places, which had been used since the Mesolithic period, seem to have been deserted. The megalithic grave and the pile dwelling in Alvastra were constructions that continued to be visible in the landscape even after their *original* function had been discontinued. In the megalithic grave as well as at the pile dwelling, animal bones and human bones occurred with radiocarbon dates from the entire prehistory. Ritual practices continued to be performed at both sites over a long period, although in new forms and with different meaning. For the people of the neighbourhood, they were still well known places; their significance was adapted to fit into the contemporary society. The area around Lake Täkern and Alvastra appears to be the only part of Östergötland where the Funnel Beaker Culture still lived on during the Middle Neolithic period. This was probably made possible through the active contact with neighbours on the other side of Lake Vättern, the Funnel Beakers of Västergötland.

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Lab-no	Feature	Sample	Date	Site	References
Ua-9133	Ditch	Charcoal (unidentified)	4435±75 BP	Abbetorp, area 10	Petersson, M. 2004
Ua-25033	Pit	Charcoal (unidentified)	4605±60 BP	Abbetorp, area 10	Petersson, M. 2004
Ua-8602	Cultural layer	Charcoal (unidentified)	4825±60 BP	Abbetorp, area 10	Eriksson, A. et al 1999
Ua-8746	Ditch	Charcoal (unidentified)	4915±65 BP	Abbetorp, area 10	Petersson, M. 2004
Ua-9747	Pit	Charcoal (unidentified)	5025±65 BP	Abbetorp, area 10	Petersson, M. 2004
Ua-25494	Pit	Charcoal (unidentified)	8285±80 BP	Abbetorp, area 10	Petersson, M. 2004
Ua-9889	Pit	Charcoal (unidentified)	8880±70 BP	Abbetorp, area 10	Petersson, M. 2004
Ua-8608	Hearth	Charcoal (unidentified)	4795±60 BP	Abbetorp, area 12	Eriksson, A. et al 1999
Ua-9828	Pit	Charcoal (unidentified)	4880±75 BP	Abbetorp, area 2	Helander, A. & Zetterlund, P. 2001
Ua-9637	Well/Waterhole	Apple/Hawthorn ( <i>Malus/Crataegus</i> )	5085±80 BP	Abbetorp, area 4	Petersson, M. 2004
Ua-9501	Cultural layer	Deciduous tree	4880±80 BP	Abbetorp, area 12	Molin, A. & Molin, F. 2003
Ua-9504	Posthole	Deciduous tree	5100±110 BP	Abbetorp, area 12	Molin, A. & Molin, F. 2003
Ua-4566	Pit	Oak ( <i>Quercus</i> )	4895±70 BP	Abbetorp, area 2	Petersson, M. 2004
Ua-8427	Pit	Oak ( <i>Quercus</i> )	4895±80 BP	Abbetorp, area 2	Eriksson, A. et al 1999
Ua-9299	Pit	Hazel ( <i>Corylus</i> )	7140±75 BP	Abbetorp, area 2	Petersson, M. 2004
Ua-9294	Pit	Rowan/Whitebeam ( <i>Sorbus</i> )	4580±80 BP	Abbetorp, area 2	Petersson, M. 2004
Ua-9825	Pit	Charcoal (unidentified)	4655±80 BP	Abbetorp, area 2	Helander, A. & Zetterlund, P. 2001
Ua-9648	Pit	Maple ( <i>Acer</i> )	7445±85 BP	Abbetorp, area 4	Petersson, M. 2004
Ua-9446	Cultural layer	Pine ( <i>Pinus</i> )	8550±65 BP	Abbetorp, area 4	Petersson, M. 2004
Ua-8414	Pit	Pine ( <i>Pinus</i> )	8730±65 BP	Abbetorp, area 6	Eriksson, A. et al 1999
Ua-38181	Dolmen	Bone (human)	4667±41 BP	Alvastra	Fornander 2011b

Lab-no	Feature	Sample	Date	Site	References
Ua-38182	Dolmen	Bone (human)	4537±41 BP	Alvastra	Fornander 2011b
Ua-39638	Dolmen	Bone (human)	4635±48 BP	Alvastra	Fornander 2011b
Ua-38187	Dolmen	Bone (human)	4523±36 BP	Alvastra	Fornander 2011b
Ua-38180	Dolmen	Bone (human)	4522±37 BP	Alvastra	Fornander 2011b
Ua-39637	Dolmen	Bone (human)	4474±49 BP	Alvastra	Fornander 2011b
Ua-38185	Dolmen	Bone (human)	4384±35 BP	Alvastra	Fornander 2011b
Ua-38186	Dolmen	Bone (human)	4370±35 BP	Alvastra	Fornander 2011b
Ua-38184	Dolmen	Bone (human)	4334±36 BP	Alvastra	Fornander 2011b
Ua-38188	Dolmen	Bone (human)	4290±35 BP	Alvastra	Fornander 2011b
Ua-9509	Hearth	Charcoal (unidentified)	5090±65 BP	Bäckaskog	Molin, F. et al 1999
Ua-9506	Hearth	Charcoal (unidentified)	6040±65 BP	Bäckaskog	Molin, F. et al 1999
Ua-27657	Hearth	Charcoal (unidentified)	4930±45 BP	Hallingtorp, area C	Larsson, L. K. 2008
Ua-30119	Hearth	Elm ( <i>Ulmus</i> )	5164±57 BP	Hulje	Petersson, M. 2014
Ua-30201	Posthole	Birch ( <i>Betula</i> )	5558±155 BP	Hulje	Petersson, M. 2014
Ua-31067	Ditch	Cereale ( <i>Hordeum</i> )	4963±86 BP	Hulje	Petersson, M. 2014
Ua-38680	Hearth	Cereale <i>Hordeum</i>	4784±35 BP	Hulje	Guinard, M. & Stenbäck, N. 2009
Ua-31062	House pit	Gras (Poaceae)	4659±34 BP	Hulje	Petersson, M. 2014
Ua-31060	Posthole	<i>Salix</i>	4581±48 BP	Hulje	Petersson, M. 2014
Beta-84381	Hearth	Charcoal (unidentified)	4720±50 BP	Hulje	Carlsson, T. et al 1996
Beta-84383	Hearth	Charcoal (unidentified)	4880±40 BP	Hulje	Carlsson, T. et al 1996
Ua-7474	Posthole	Charcoal (unidentified)	4559±80 BP	Hulje	Carlsson, T. et al 1996

Lab-no	Feature	Sample	Date	Site	References
Ua-31061	Hearth	Herb	4599±30 BP	Huije	Pettersson, M. 2014
Ua-31064	Posthole	Herb	4989±42 BP	Huije	Pettersson, M. 2014
Ua-31066	Pit	Herb	4938±33 BP	Huije	Pettersson, M. 2014
Beta-53516	Posthole	Charcoal (unidentified)	5593±50 BP	Högby 243:a	Larsson, M. 1996
Beta-53517	Posthole	Charcoal (unidentified)	7950±50 BP	Högby 243:a	Larsson, M. 1996
Beta-54073	Hearth	Charcoal (unidentified)	7350±180 BP	Högby 243:a	Larsson, M. 1996
Beta-55167	Hearth	Charcoal (unidentified)	6920±200 BP	Högby 243:a	Larsson, M. 1996
Beta-55168	Hearth	Charcoal (unidentified)	7910±200 BP	Högby 243:a	Larsson, M. 1996
Beta-55169	Hearth	Charcoal (unidentified)	8840±130 BP	Högby 243:a	Larsson, M. 1996
Beta-57137	Posthole	Charcoal (unidentified)	7740±80 BP	Högby 243:a	Larsson, M. 1996
Beta-57138	Posthole	Charcoal (unidentified)	7680±120 BP	Högby 243:a	Larsson, M. 1996
Beta-57139	Pit	Charcoal (unidentified)	7860±70 BP	Högby 243:a	Larsson, M. 1996
Beta-54075	Posthole	Charcoal (unidentified)	7500±180 BP	Högby 243:b	Larsson, M. 1996
Beta-54076	Hearth	Charcoal (unidentified)	7590±70 BP	Högby 243:b	Larsson, M. 1996
Beta-54078	Hearth	Charcoal (unidentified)	7100±20 BP	Högby 243:b	Larsson, M. 1996
Beta-54080	Pit	Charcoal (unidentified)	8970±100 BP	Högby 243:b	Larsson, M. 1996
Beta-54797	Pit	Charcoal (unidentified)	7531±250 BP	Högby 243:b	Larsson, M. 1996
Beta-55128	Hearth	Charcoal (unidentified)	7180±230 BP	Högby 243:b	Larsson, M. 1996
Beta-55129	Pit	Charcoal (unidentified)	8330±380 BP	Högby 243:b	Larsson, M. 1996
Beta-54798	Pit	Charcoal (unidentified)	3780 - 3639 BC	Högby 86	Larsson, M. 1996
Beta-57144	Grave	Charcoal (unidentified)	3636-3382 BC	Högby 87	Skiöldébrand, M. 1997

Lab-no	Feature	Sample	Date	Site	References
Beta-57150	Grave	Charcoal (unidentified)	2854-2354 BC	Högby 87	Skjölddebrand, M. 1997
Beta-52785	Pit	Charcoal (unidentified)	4990±50 BP	Linneberg	Helander A. & Zetterlund, P. 1998
Ua-27336	Posthole	Charcoal (unidentified)	4200±40 BP	Landstorp	Larsson, L. K. 2008
Ua-27347	Hearth	Charcoal (unidentified)	3965±40 BP	Landstorp	Larsson, L. K. 2008
Ua-27331	Posthole	Charcoal (unidentified)	4840±45 BP	Landstorp	Larsson, L. K. 2008
Ua-9619	Posthole	Birch ( <i>Betula</i> )	7735±65 BP	Lugnet	Ericsson, A. & Österström, K. 1999
Ua-9620	Posthole	Birch ( <i>Betula</i> )	7765±110 BP	Lugnet	Ericsson, A. & Österström, K. 1999
Ua-9531	Hearth	Pine ( <i>Pinus</i> )	8090±85 BP	Lugnet	Ericsson, A. & Österström, K. 1999
Ua-9532	Hearth	Pine ( <i>Pinus</i> )	8120±80 BP	Lugnet	Ericsson, A. & Österström, K. 1999
Ua-38960	Ditch	Herb	3824±33 BP	Lärstad	Lindblom, C. & Dardel, E. 2009
Ua-38961	Pit	Herb	4712±32 BP	Lärstad	Lindblom, C. & Dardel, E. 2009
Ua-29783	Posthole	Hazel nutshell ( <i>Corylus</i> )	4964±35 BP	Nyckelby	Helander, A. 2011
Ua-29768	Ditch	Charcoal (unidentified)	4761±35 BP	Nyckelby	Helander, A. 2011
Ua-30065	Ditch	Linden ( <i>Tilia</i> )	4567±36 BP	Offerplats Hulje	Petersson, M. 2013
Ua-9731	Posthole	Birch ( <i>Betula</i> )	6600±75 BP	Rondellen	Sundberg, K. 2000
Ua-9732	Posthole	Deciduous tree	5095±100 BP	Rondellen	Sundberg, K. 2000
Ua-9733	Posthole	Pine ( <i>Pinus</i> )	8540±95 BP	Rondellen	Sundberg, K. 2000
Ua-8947	Pit	Charcoal (unidentified)	4885±60 BP	Rondellen	Sundberg, K. 2000
Ua-41713	Hearth	Birch ( <i>Betula</i> )	4015±33 BP	Russingstorp	Lagerstedt, A. & Söderberg, M. 2013
Ua-41710	Ditch	Cereale (unidentified)	4646±65 BP	Russingstorp	Lagerstedt, A. & Söderberg, M. 2013
Ua-41714	Ditch	Hazel nutshell ( <i>Corylus</i> )	4065±34 BP	Russingstorp	Lagerstedt, A. & Söderberg, M. 2013

Lab-no	Feature	Sample	Date	Site	References
Ua-41372	Hearth	<i>Salix</i>	4780±40 BP	Russingstorp	Lagerstedt, A. & Söderberg, M. 2013
Ua-27318	Posthole	Charcoal (unidentified)	4920±45 BP	Russingstorp	Larsson, L. K. 2008
Poz-5883	Posthole	Oak ( <i>Quercus</i> )	6890±140 BP	Russingstorp	Larsson, L. K. 2008
Poz-5292	Pit	Charcoal (unidentified)	5010±40 BP	Russingstorp	Larsson, L. K. 2008
Poz-5301	Ditch	Charcoal (unidentified)	4920±40 BP	Russingstorp	Larsson, L. K. 2008
Ua-30354	Posthole	Pine ( <i>Pinus</i> )	8931±48 BP	S. Freberga	Carlsson, T. 2012a
Ua-30355	Hearth	Pine ( <i>Pinus</i> )	8750±49 BP	S. Freberga	Carlsson, T. 2012a
Ua-30362	Pit	Al ( <i>Alnus</i> )	4830±34 BP	S. Freberga	Carlsson, T. 2012a
Ua-30357	Pit	Birch ( <i>Betula</i> )	4866±32 BP	S. Freberga	Carlsson, T. 2012a
Ua-30361	Pit	Birch ( <i>Betula</i> )	5072±43 BP	S. Freberga	Carlsson, T. 2012a
Ua-30368	Pit	Birch ( <i>Betula</i> )	4890±32 BP	S. Freberga	Carlsson, T. 2012a
Ua-30370	Pit	Birch ( <i>Betula</i> )	4971±32 BP	S. Freberga	Carlsson, T. 2012a
Ua-30356	Pit	Deciduous tree	4787±32 BP	S. Freberga	Carlsson, T. 2012a
Ua-30359	Pit	Pine ( <i>Pinus</i> )	8899±47 BP	S. Freberga	Carlsson, T. 2012a
Ua-30360	Pit	Pine ( <i>Pinus</i> )	5350±34 BP	S. Freberga	Carlsson, T. 2012a
Ua-30363	Pit	Pine ( <i>Pinus</i> )	8797±44 BP	S. Freberga	Carlsson, T. 2012a
Ua-30365	Hearth	Pine ( <i>Pinus</i> )	9108±47 BP	S. Freberga	Carlsson, T. 2012a
Ua-30366	Hearth	Pine ( <i>Pinus</i> )	8683±60 BP	S. Freberga	Carlsson, T. 2012a
Ua-30369	Pit	Pine ( <i>Pinus</i> )	9355±97 BP	S. Freberga	Carlsson, T. 2012a
Ua-30371	Pit	Pine ( <i>Pinus</i> )	8849±46 BP	S. Freberga	Carlsson, T. 2012a
Ua-30372	Pit	Pine ( <i>Pinus</i> )	9015±144 BP	S. Freberga	Carlsson, T. 2012a

Lab-no	Feature	Sample	Date	Site	References
Ua-30364	Pit	Herb	4751±35 BP	S. Freberga	Carlsson, T. 2012a
Ua-29108	Posthole	Pine ( <i>Pinus</i> )	880±56 BP	S. Freberga	Holm, J. 2009
Ua-29110	Hearth	Birch ( <i>Betula</i> )	4813±42 BP	S. Freberga	Holm, J. 2009
Ua-40114	Pit	Charcoal (unidentified)	4872±36 BP	Stavgård	Petterson, E. 2010
RFTL98	Hearth	Termoluminiscent	6593±536 BC	Storlyckan	Molin, F. & Larsson, L. 1999
Ua-8946	Hearth	Pine ( <i>Pinus</i> )	7865±70 BP	Storlyckan	Molin, F. & Larsson, L. 1999
Ua-8945	Hearth	Pine ( <i>Pinus</i> )	7905±75 BP	Storlyckan	Molin, F. & Larsson, L. 1999
Ua-39794	Ditch	Birch ( <i>Betula</i> )	5010±101 BP	Sund	Åhlström, J. 2010
Ua-39797	Hearth	Birch ( <i>Betula</i> )	4751±43 BP	Sund	Åhlström, J. 2010
Ua-39799	Pit	Oak ( <i>Quercus</i> )	4684±44 BP	Sund	Åhlström, J. 2010
Ua-39796	Ditch	Linden ( <i>Tilia</i> )	5101±38 BP	Sund	Åhlström, J. 2010
Poz-4594	Ditch	Birch + Elm ( <i>Betula</i> + <i>Ulmus</i> )	4890±35 BP	Sund	Larsson, L. K. 2008
Poz-5881	Pit	Charcoal (unidentified)	7960±50 BP	Sund	Larsson, L. K. 2008
Poz-5884	Posthole	Charcoal (unidentified)	7570±50 BP	Sund	Larsson, L. K. 2008
Poz-5885	Hearth	Charcoal (unidentified)	4935±35 BP	Sund	Larsson, L. K. 2008
Ua-27310	Pit	Charcoal (unidentified)	5280±60 BP	Sund	Larsson, L. K. 2008
Ua-27311	Posthole	Charcoal (unidentified)	4885±50 BP	Sund	Larsson, L. K. 2008
Poz-4603	Pit	Pine ( <i>Pinus</i> )	8280±50 BP	Sund	Larsson, L. K. 2008
Poz-5793	Pit	Charcoal (unidentified)	4825±35 BP	Sund	Larsson, L. K. 2008
Poz-5795	Pit	Charcoal (unidentified)	8280±50 BP	Sund	Larsson, L. K. 2008
Ua-27307	Posthole	Charcoal (unidentified)	3825±35 BP	Sund	Larsson, L. K. 2008

Lab-no	Feature	Sample	Date	Site	References
Ua-27309	Posthole	Charcoal (unidentified)	4105±75 BP	Sund	Larsson, L. K. 2008
Ua-38570	Hearth	Pine ( <i>Pinus</i> )	6012±49 BP	Sunnanå	Ahlbäck, N. et al 2009
Ua-38871	Lager	Peat	6576±39 BP	Sunnanå	Ahlbäck, N. et al 2009
Ua-38572	Posthole	Pine ( <i>Pinus</i> )	4668±37 BP	Sunnanå	Carlsson, T. 2012b
Ua-30335	Posthole	Pine ( <i>Pinus</i> )	7758±48 BP	Sunnanå	Carlsson, T. 2012b