Chronological perspectives on Scanian passage graves

New radiocarbon dates from Gillhög, Öllsjö 7 and Carlshögen

By Anna Tornberg

The project "Radiocarbon dates and archaeogenetic analyses of kinship and pathogens in Scanian passage graves" (Ebbe Kock foundation, 2022–2024, dnr. EK2022-0027) has led to 24 new radiocarbon dates for three Scanian passage graves: Gillhög, Öllsjö 7, and Carlshögen. The project aimed to explore the extent of burial reuse of these megaliths due to archaeological finds of later typologies. Several finds of late Middle Neolithic (MNB) Battle Axe Culture (BAC) artefacts in the Gillhög grave, and a complete BAC vessel in Öllsjö 7 were of special interest for the project "Violence and Warfare in the Nordic Corded Ware Complex: An Interdisciplinary Approach" (Tornberg & Vandkilde 2021–2024, RJ dnr. P20-0469), where possible MNB inhumations in Scania could be compared to the substantial number of new dates from eastern Denmark (n=101) and explored in relation to violence in the 3rd millennium BCE (Tornberg & Vandkilde, forthcoming; Tornberg, submitted). All remains underwent osteological analysis and individuals from Gillhög and Öllsjö 7 were additionally analysed for aDNA. Individuals from Gillhög and Carlshögen were also studied for mobility, using laser ablation strontium isotope analysis (Tornberg et al., forthcoming).

Reuse of earlier megalithic monuments on a more regular basis is known from Falbygden, southwestern Sweden (Blank 2021, p. 66) and has been attested through sporadic radiocarbon dates in both Denmark (Allentoft et al. 2024) and Scania (Tornberg 2016; Bergerbrant et al. 2017; Malmström et al. 2019). A more comprehensive radiocarbon analysis for Scanian passage graves have previously not been conducted, which is why the extent of later reuse in this area has been unknown. Here, I provide the new radiocarbon data from the three Scanian sites. All radiocarbon dates reported here have been performed by the radiocarbon facilities at the Geological department at Lund University. These dates are all from unique individuals. Human remains from the Öllsjö 7 grave have also previously been radiocarbon dated (Tornberg 2016; Bergerbrant et al. 2017), and due to differences in sampling strategies between projects, it is possible that some of the radiocarbon dates correspond to the same individuals when including the complete dataset.

A brief introduction to the sites

The three sites are located in three different areas of Scania: Gillhög in the west, Öllsjö 7 in the Northeast, and Carlshögen in the Southeast (fig. 1). The difference in location might influence to what extent the graves have been reused as well as in which time period due to possible local differences in both burial practice and population density.

Gillhög is archaeologically known especially for the vast quantity of Funnelbeaker (FBC) pottery seemingly intentionally destroyed and deposited outside the entrance (Rydbeck 1932). The grave was excavated in 1931 by Otto Rydbeck together with John-Elof Forssander, Harald Olsson, and Monica Rydbeck. The Crown Prince Gustaf Adolf also attended the excavation (Rydbeck 1932). The chamber of the grave only contained microscopic fragments of bones, and it was evident that the grave had been disturbed both in prehistoric and historic times. A coin from the 1700s provides evidence of historical disturbance and artefacts of Middle and Late Neolithic (LN) types were found commingled, which attests to prehistoric disturbance (Rydbeck 1932).

Öllsjö 7 was excavated by John-Elof Forssander and Sigge Hommerberg in 1943 and the grave has been described in length and in local



Fig. 1. Distribution of the sites: 1) Öllsjö 7, 2) Carlshögen, 3) Gillhög. Map created by Tornberg using ArcMap 10.5.1. by Esri.

context by Märtha Strömberg (1947). Interestingly, the passage grave was clearly modified, plausibly in the Late Neolithic, to resemble a gallery grave. A lower, Middle Neolithic, layer, was then sealed off by a stone paving, one of the gable stones was removed and the passage was destroyed. The lower layer contained FBC pottery sherds, as well as Middle Neolithic A (MNA) flint and amber objects and a complete BAC vessel. The upper layer was clearly of later date and attested to LN and Early Bronze Age (EBA) activity: bone and flint artefacts, pottery sherds and a EBA II bronze disc, possibly attributable to a folding stool (Strömberg 1947).

The Carlshögen passage grave was first excavated in 1875 by A. Kurck and later in 1965, and 1968–1969 by Märtha Strömberg. The finds from the excavation by Kurck have been elaborated in Bagge and Kaelas (1952). Strömberg has then made a thorough analysis of the grave and the local context in her Hagestad book (1971). As an appendix to this book, Johannes Lepiksaar has reported on his osteological analysis of the human remains (Strömberg 1971, pp. 382–389).

The grave contained flint and ceramics of both FBC and BAC type as well as several amber beads, and flint objects of LN type (e.g. daggers) (Strömberg 1971, pp. 30–74).

Radiocarbon results

The data show that the use of the three passage graves differs and that all graves include individuals post-dating the original FBC population (table 1).

The remains from Carlshögen are denoted by the place of burial in the chamber in accordance with Strömberg (1971, p. 43) as B–E, and the number separates different individuals within the specific unit. All the units belong to the southern part of the chamber where most remains were found in a commingled state.

The dates from Gillhög all come from the passage since the osseous remains in the chamber were only microscopic and hence could not

Site name/sample/individual	14C BP	Cal 14C	Relative date	Lab no.
Carlshögen B1	4135 ± 35	-2785-2615	MNB	LuS 18044
Carlshögen B2	4140 ± 35	-2875-2620	MNA/MNB	LuS 18045
Carlshögen C1	4155 ± 40	-2885-2620	MNA/MNB	LuS 18046
Carlshögen D1	4145 ± 45	-2880-2615	MNA/MNB	LuS 18047
Carlshögen D2	4150 ± 45	-2880-2615	MNA/MNB	LuS 18048
Carlshögen E1	4175 ± 35	-2885-2660	MNA/MNB	LuS 18049
Gillhög 1 GI:I:28	3705 ± 35	-2205-2015	LNI	LuS 18051
Gillhög 1b GI:I:18	4495 ± 35	-3355-3090	MNA	LuS 18052
Gillhög 2 GIV:II:11	4425 ± 35	-3115-2915	MNA	LuS 18053
Gillhög 3 GI:I:24	3800 ± 35	-2350-2130	MNB/LN	LuS 18054
Gillhög 5 GIII:I:22	3695 ± 35	-2200-1960	LNI	LuS 18055
Gillhög 6 GIV:II:7	4045 ± 35	-2670-2465	MNB	LuS 18056
Gillhög 7 GIV:II:67	4060 ± 40	-2850-2470	MNB	LuS 18057
Gillhög 8 GII:I:1	3780 ± 35	-2305-2040	LNI	LuS 18058
Gillhög 9 GIII:I:24	3830 ± 40	-2460-2195	MNB/LN	LuS 18059
Öllsjö 7, Gg1	4470 ± 35	-3340-3020	MNA	LuS 17803
Öllsjö 7, Gg2	4510 ± 35	-3360-3095	MNA	LuS 17804
Öllsjö 7, Gg3	4530 ± 35	-3365-3095	MNA	LuS 17805
Öllsjö 7: 2a	4365 ± 35	-3040-2900	MNA	LuS 17809
Öllsjö 7: 2b	3305 ± 35	-1645-1500	EBAI	LuS 17810
Öllsjö 7: A	4470 ± 35	-3340-3020	MNA	LuS 17802
Öllsjö 7: V	3210 ± 40	-1545-1400	EBAII	LuS 17806
Öllsjö 7: XI:1	4390 ± 40	-3105-2900	MNA	LuS 17807
Öllsjö 7: XI:2	4370 ± 40	-3100-2895	MNA	LuS 17808

Tab. 1. Dataset of new radiocarbon dates from passage graves in Scania. The letter notation in the Carlshögen samples corresponds to the placement in the grave according to Strömberg (1971, p. 43); the notation in the Gillhög samples corresponds to G=passage, area of the passage, layer, and find number. The Gg notation in the Öllsjö samples corresponds to the lower FBC layer while the rest of the samples derive from the upper layer.

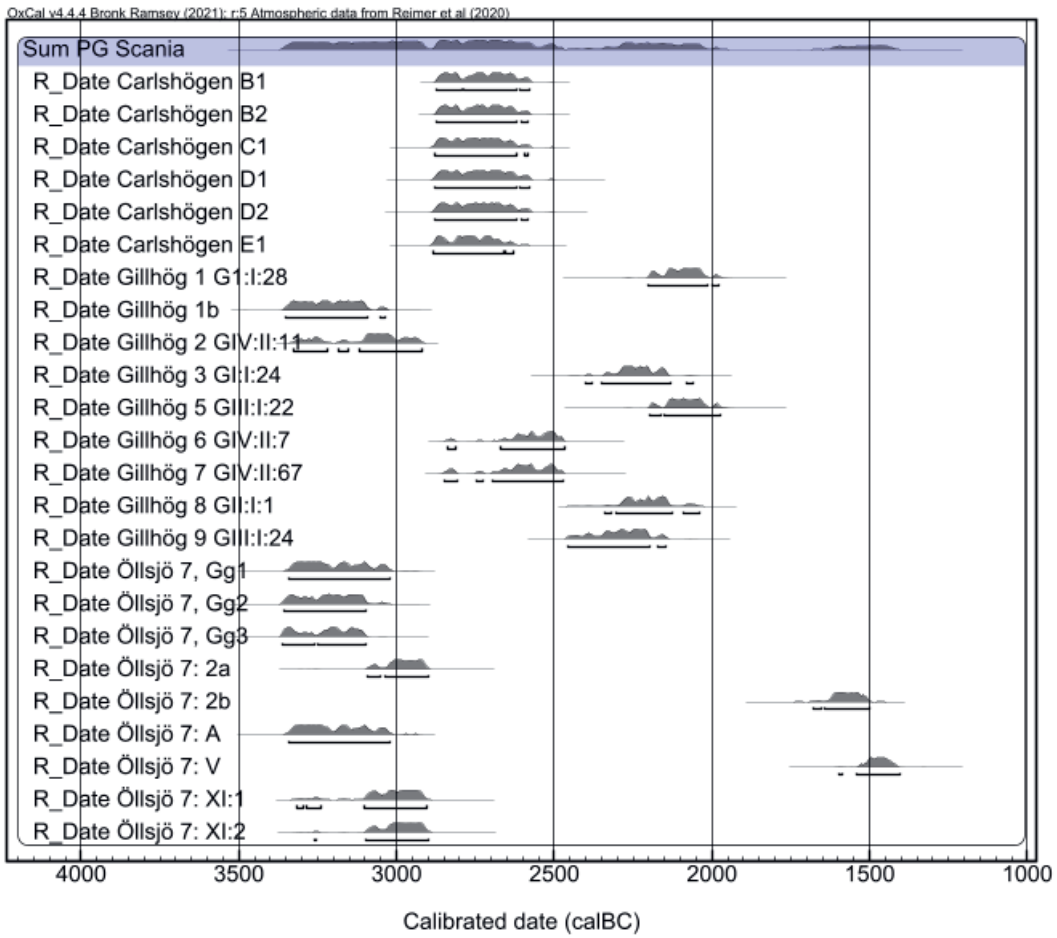


Fig. 2. Calibrated dates and sum plot of the new radiocarbon dates from the three Scanian passage graves. Figure cretaed by Tornberg using Oxcal 4.4. online.

with certainty be identified to species. All remains follow the system of registration organized by Rydbeck. The marking "G" denotes the passage (Sw. *gång*) followed by the square within the local coordinate system (I–IV), the layer, and the find number.

The Öllsjö remains are from both the lower FBC layer (Gg) and the upper LN layer (referred to as the gallery grave layer at LUHM and in the Strömberg (1947) publication). The marking corresponds to markings on the remains.

Although all graves include later inhumations, there are clear differences between them; while Gillhög seems to have a more or less continuous use from the original FBC population throughout the LNI, there is a distinct break in use in the Öllsjö grave. The Carlshögen grave provides substantially deviating dates which are all late for a FBC context but well held together (fig. 2).

The Carlshögen grave exhibits transitional MNA/MNB or MNB dates only, which could either attest to very late FBC interments similar to that of the east Danish Store Valsby type (Winther Johannsen et al. 2024, with further references) or to the use of megaliths by Pitted Ware groups (PWC) or early BAC populations. There are no artefacts in Carlshögen that is at-

tributable to the PWC but both BAC and FBC artefacts are present. The BAC pottery was of type D or M, equivalent to the second or third phase of Malmer's (1962) chronology. Tilley (1982) places type D in the first phase out of three. In such case, the vessel might correspond to the early MNB or transitional MNA/MNB dates in Carlshögen. If Malmer's typology in fact is related to chronology or rather should be seen as regional differences is however somewhat questioned (Brink 2009, pp. 252–253).

In Gillhög, the dates of the interments correlate well with the archaeological find material. LN artefacts are found in both the chamber and in the passage of Gillhög (Rydbeck 1932) but both BAC and LN artefacts are concentrated in and outside the passage. Actual BAC burials in Gillhög and other Scanian passage graves have previously been questioned (Olausson 2014; 2015) but could now with high likelihood be confirmed due to the combination of BAC artefacts of common burial type (e.g. battle axes) and MNB interments.

A division of the chamber in Öllsjö 7 in the LN seems to be confirmed by the radiocarbon dates here, especially in combination with already published dates, some of which are LN (Tornberg 2016; Bergerbrant et al. 2017). There is no evidence of interments later than the MNA in the lower layer, which could support a solid division post-dating the FBC burials. However, there is substantial intermingling of MNA remains in the LN layer. This phenomenon could either be linked to the modification of the grave in the LN or be caused by post-excavational commingling. It is evident that there is a significant need for radiocarbon dating human remains for secure dating although there seems to be distinct burial phases. The EBAII bronze disc might be correlated to the EBAII interments in the upper layer of the grave.

Discussion and conclusions

This paper provides support for a substantial (re)use of Scanian passage graves in the MNB-EBA. This pattern is in accordance with Falbygden (Blank 2021, p. 66) and partly in accordance with east Denmark where reuse seems to have been practiced in even higher extent (Tornberg et al., forthcoming; Tornberg, submitted). Previous studies have also pointed out the substantial EBA reuse of LN gallery graves in Scania (Tornberg 2016; Bergerbrant et al. 2017), and partly, in Falbygden (Blank 2021, p. 66). The growing amount of radiocarbon data generated from Neolithic megaliths thus clearly demonstrates the necessity of direct dating of human remains to distinguish burial chronology and enable well-founded interpretations of burial practices, and bioarchaeological questions of human lives and past societies.

There seems to be no obvious pattern regarding how and when the Scanian passage graves were used. The Öllsjö grave quite clearly constitutes two separate phases of use and reuse due to the distinct division of layers and a modification of the grave itself. Both Gillhög and Carlshögen, on the other hand, seem to better correlate with a continuous use, either for a lengthier or shorter period of time. The late but tight chronology of Carlshögen is somewhat surprising but is interesting for further studies regarding its connection to the development of the BAC. The low number of individuals of MNA date in Gillhög likely correspond to clearance of earlier remains, either in the MNB or in the LN. The relatively high abundance of MNB dates from Gillhög might indicate that this was done already in this period.

There are several passage graves in Scania that have documented BAC and LN artefacts. Malmer discusses BAC artefacts in these megaliths as connected to actual burials (Malmer 1962, pp. 246–253), while this assumption has been questioned by others (e.g. Olausson 2014; 2015). This paper shows that there are strong indications that later dating artefacts in Scanian passage graves should in fact be considered indicative of actual burials and not other types of ritual activities, at least not solely. The substantial presence of BAC and LN artefacts in Gillhög correlates well with the radiocarbon dates of the human remains. One articulated individual in the passage probably corresponds to the latest burial but could not be dated within this project. This individual was found with a LN type vessel in the pelvic tract (Rydbeck 1932) which quite securely can place the burial in this

period and as such date the end of use for Gillhög. The Öllsjö upper layer equally contained both LN and EBA artefacts and LN and EBA interments. The lack of MNB dates in the lower layer despite a BAC vessel, however, contradicts this pattern. It is possible that the overall poor preservation of bones in the lower layer (Strömberg 1947), as well as a possible partial clearance of the chamber, could explain the lack of MNB human remains. Further analyses of human remains from Scanian passage graves are necessary to more securely establish how, when, and why these graves where used in later periods, and how these burials relate to other contemporaneous burial practices.

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