



# Archaeological studies in the church of Juuru

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## INTRODUCTION

The rural parish church of St Michael<sup>1</sup> in Juuru (Germ. *Joerden*) that today belongs to the local Lutheran congregation, is situated in the southern part of the historic province Harjumaa, ca. 45 km south from Tallinn. The church (Fig. 1) has been standing on the crossing of local roads, far from strategic roads and administrative centres. The archaeological research in the church (for a short summary in Estonian, see Kadakas 2017b) was undertaken because of the replacement of the rotten timber floor with a new one in the south-western corner of the nave and the western part of the southern range (Fig. 2). A ca. 15–20 cm thick layer of upper soil, consisting of various demolition and construction debris was removed. It was decided to peel off the upper soil, which had been contaminated by fungus, to keep the pollution from spreading and to provide a solid base for the new floor.



Fig. 1. Juuru church from the west.

Jn 1. Juuru kirik läänest.

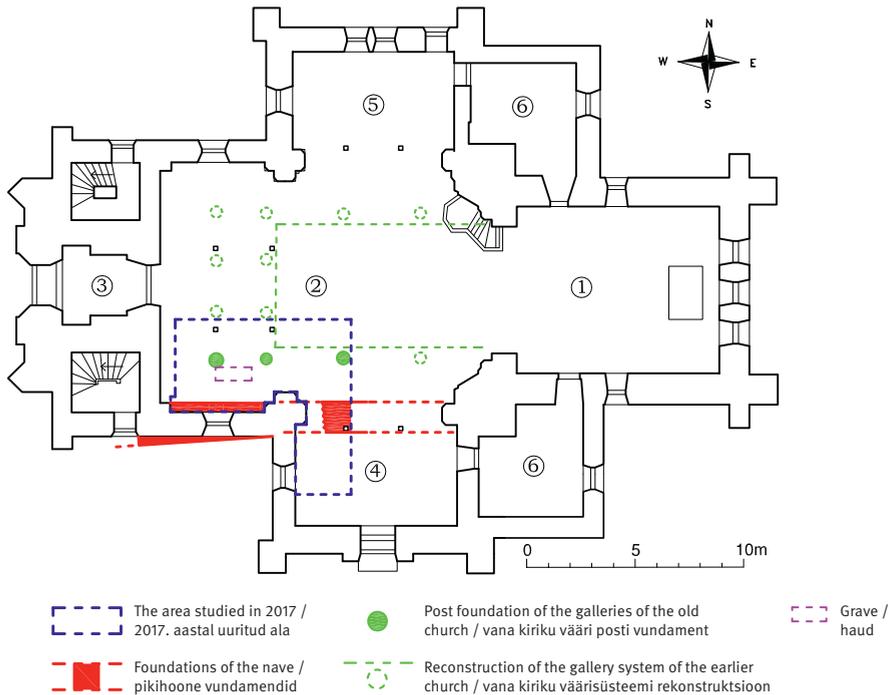
Photo / Foto: Villu Kadakas

## HISTORICAL BACKGROUND

In the 1220s only two parishes (Hageri and Kose) were established in the prehistoric province of Harjumaa<sup>2</sup>, but by 1241 the lands of Hageri parish had been split and a new parish formed. Its church was built into the prehistoric village Juuru (Johansen 1933, 194, 391). Very little is known about the medieval events or building campaigns of the church

<sup>1</sup> In the Middle Ages the church was dedicated to St George (LECUB 1905, 107; see also Paucker 1849, 140; Markus 2002, 26).

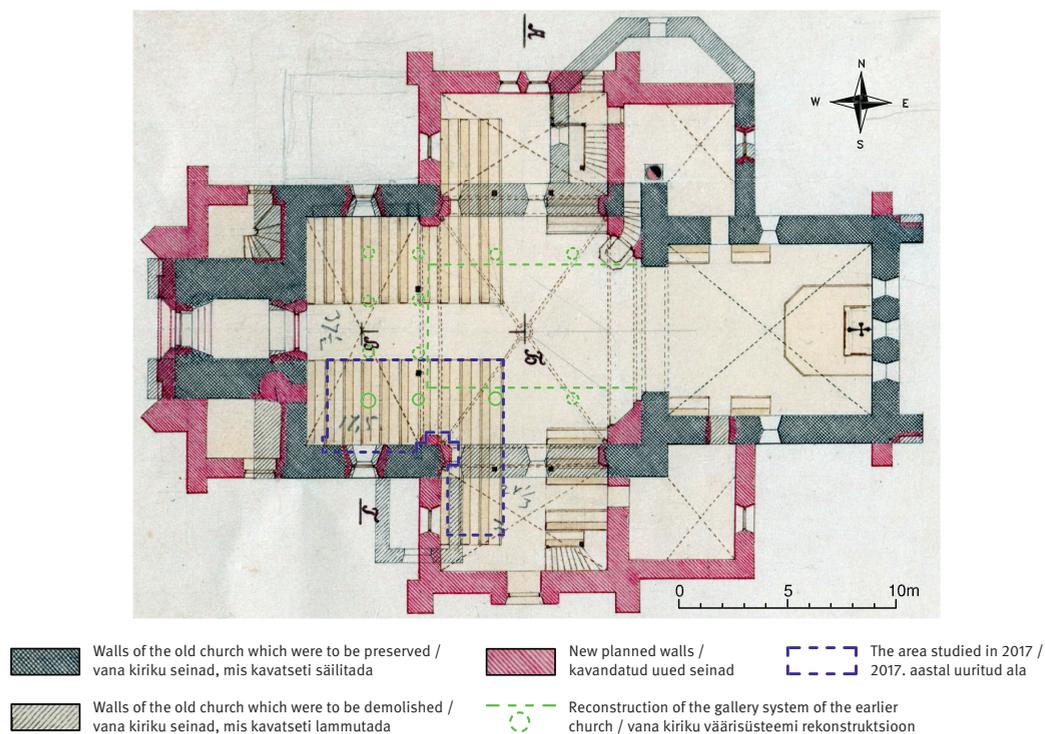
<sup>2</sup> It included only the southern part of the medieval province of Harjumaa.



**Fig. 2.** Plan of Juuru church. 1 – chancel, 2 – nave, 3 – western tower, 4 – southern range, 5 – northern range, 6 – sacristy.  
**Jn 2.** Juuru kiriku plaan. 1 – kooriruum, 2 – pikihoone, 3 – läänetorn, 4 – lõunatiib, 5 – põhjatiib, 6 – käärkamber.  
 Drawing / Joonis: Villu Kadakas

based on written sources. In 1469 a chantry of the Holy Virgin was established (LECUB 1910, 685), and in 1498 the altars of the Holy Virgin, St Andreas and St Michael the Archangel were consecrated (LECUB 1905, 107; see also: Paucker 1849; Markus 2002, 26). The building was probably damaged during the Livonian War (1558–1583) or the succeeding wars like most of the rural churches of Estonia, but no written sources exist regarding the village or church of Juuru in particular.

According to the studies of renowned art historian Villem Raam the only medieval part of the church, still preserved above the ground is the quadrangular chancel (Raam 1997). It belonged to the initial stone church which was built approximately by the turn of the 13th century. This unvaulted building consisted of a rectangular one-aisled nave and a slightly narrower chancel. It still has a period specific triple window (Fig. 3) with pointed arches preserved in its eastern wall. Probably in the first half of the 15th century the chancel was vaulted. The date of the southern porch is unknown, the very large sacristy was added in the Early Modern period (Fig. 3). Only in 1847 a western tower was built. In 1893–1895 the whole building was reconstructed (architect Erwin Bernhard; Fig. 3). The old nave together with the sacristy and southern porch was demolished and replaced with a new nave of the same size, with additional ranges in south and north. Only the chancel and the lower part of the western tower survived of the old church (Raam 1997; see also Markus 2002, 22–31). According to Voldemar Vaga, professor of art history of the University of Tartu, the walls of the medieval nave were preserved (1965, 100).



**Fig. 3.** Plan of Juuru church. Drawing from 1893. Rebuilding plans of the old church  
**Jn 3.** Juuru kiriku plaan. Joonis 1893. aastast. Vana kiriku kavandatud ümberehitused.  
 (RA EAA.33.3.2012)

Drawing / Joonis: Erwin Bernhard, additions / täiendused: Villu Kadakas

The reconstruction of 1893–1895 has recently been described in detail by Kalev Kask (2011), sexton of the church and history teacher of the local school. It has been mentioned in the contemporary newspaper that only the chancel and the lower part of the western tower of the old church remained standing (E. P. 1895). Little is known of the demolished parts of the old church: a ground plan drawing (Guleke 1896, Table 1) and some photos of the exterior (MT 107 F; Markus 2002, 22–23) have survived. Nothing is known of the interior of the old nave.

Kask discovered the architectural drawings of architect Bernhard from the National Archives of Estonia (RA EAA.33.3.2012; Kask 2011). It appeared that these include some survey drawings of the old church, as well as a ground plan drawing with the plans of both the old and new church depicted (Fig. 3). These enable to get additional information of the medieval church, as well as the rebuilding campaign.

### PREVIOUS FIELD RESEARCH

Late Iron Age artefacts have been gathered and graves recorded during road construction at the end of the 19th century (Kruusimägi 2015, 117) and in 1958 during the building of a bus stop shelter (Metssalu 2014) north of the churchyard. In 2014 archaeological fieldwork was conducted by Jüri Metssalu during conservation of the southern gatehouse of the churchyard (Metssalu 2014). Based on these finds, the existence of a Late Iron Age cemetery in the area of the later churchyard has been identified.

In 2016 topsoil was removed right outside the church, near the southern wall of the nave, in order to lay isolation material for the foundation. Armin Rudi, inspector of archaeology of the National Heritage Board, recorded a foundation which does not run parallel to the church wall: it protrudes *ca.* 40 cm near the south-western corner, but not at all near the middle part of the nave wall (Fig. 2). It was concluded that the foundation belongs to the medieval nave and that the old and the new nave were not aligned. This result was puzzling because the existing medieval chancel is correctly aligned with the existing nave (Pöld 2016).



**Fig. 4.** Hardened soil of the late medieval floor in the south-western part of the nave. Foundation of the southern wall of the nave (left above), single grave, foundations of a previous gallery posts (middle), existing gallery posts with a square floor slab for foundation (right).

**Jn 4.** Hiliskeskaegse põrandatihenedud pikihoone edelaosas. Pikihoone lõunaseina vundament (vasakul ülal), üksik haud, vanema vääri postide vundamendid (keskel), olemasoleva vääri postid vundamendiks asetatud ruudukujulise põrandaplaadiga (paremal).

Photo / Foto: Villu Kadakas



**Fig. 5.** The foundation of the southern wall of the old nave between the nave and the southern range.

**Jn 5.** Vana pikihoone lõunaseina vundament pikihoone ja lõunatiiva vahel.

Photo / Foto: Villu Kadakas

#### REMAINS OF THE MEDIEVAL NAVE

As expected, the inner edge of this foundation came to light during the floor replacement of 2017 (Figs 2, 4). This inner edge of the foundation is in correspondence with the medieval side wall of the nave, depicted on the plan by Bernhard: the medieval wall has been wider inside than the present one, running also between the wall buttresses. As a surprise, the inner edge, in contrary to the outer one, runs parallel to the wall. Because of limited possibilities to study the foundations, it remained unclear, if this foundation comes from the medieval period or has been built in 1893–1895 together with the new wall.

Another section of foundation of the southern wall of the nave came to light under the arch between the nave and the southern range (Figs 2, 5). This 1.4 m thick section must come from the medieval church without doubt, because it has no function after the reconstruction of 1893–1895. Distinctively, it has been cut close to the wall pillar, which gives credit to the theory that new foundations were built for the new walls. This foundation came to light in a very limited extent, which does not enable to correctly assess its alignment regarding the new church walls. However, no misalignment could be detected.

According to the ground plan of Bernhard the eastern wall of the southern porch should have come to light (Fig. 3). Unfortunately, only mixed soil with demolition debris was detected in the upper layers in this area,

formed during the reconstruction of 1893–1895, when this area was extensively disturbed. The oldest coin of the assemblage – a Danish bracteate from 1265–1332 (see below) – was found from this mixed soil, which might indicate an early origin of the porch or at least the southern portal of the nave.

### **SPECIFICS OF RECONSTRUCTION OF 1893–1895**

Based on the visual study of the existing walls<sup>3</sup>, it was possible to confirm the statement in the contemporary newspaper (E. P. 1895) and the conclusion of Raam (1997), that the side walls of the old nave were fully demolished in 1893–1895. However, it appears that this conclusion contradicts the details depicted on the ground plan of architect Bernhard (Fig. 3). According to this drawing the inner side of the western wall and the western parts of the side walls of the nave were initially not intended to be demolished at all. Only the western part of the extraordinarily thick western wall was to be razed to make room for the new staircases, and the medieval winding staircase was to be blocked.

It is not possible to identify, why these parts of walls were eventually not preserved, although the new ones were built exactly on the same line and were even thinner than the previous ones. There is no evidence about poor technical condition of these walls, which could have caused such a decision. It cannot be excluded that these sections of walls were planned to be demolished from the very beginning, but the intention to preserve was pretended during the planning phase because of political reasons.

Namely, problems arose when acquiring the permission to build a new church from the governor of Estonia, duke Sergey Shakhovskoy. During this period of extensive Russification in the western provinces of the empire, building Russian Orthodox churches and conversion into this faith was encouraged by the state authorities in various ways. It was the erection of a new Russian Orthodox church in 1892, a huge building only 600 m away, by the same architect Bernhard (Kruusimägi 2015, 134–138), which obviously inspired the Lutheran congregation of Juuru to plan a new large church (Kask 2011). Duke Shakhovskoy saw no reason for two large churches in the same area (Kask 2011). This was rather a nicely formulated pretext, in order to hide the political motivation to beguile the local population into the Russian Orthodox faith. In the shade of a reconstruction project of the old church, virtually a new nave was erected (Kask 2011). In order to assure a smooth process to get the permission, a modest plan which pretended to preserve as much as possible, was presented to the authorities.

Two similar dressed masonry details with a faceted corner, once probably within a medieval portal, were detected in the outer masonry of the new church. One has been placed into the wall next to the northern side door which leads to the stairs, and the other precisely as a reflection of the other, next to the similar southern door. The existence of such single similar details with exactly the same position within the side façades seems intentional, as if symbolic representations of the old church building.

### **REMAINS OF FLOORS AND SOIL LAYERS**

Only the underground foundation of the southern wall of the old church is preserved under the floor. Consequently, the floor of the old nave has been approximately on the same level as the present one from the beginning, and all the above floor structures of the old nave have been completely removed. No remains of the floor structures of the old nave could be

<sup>3</sup> The lower part of the outer surfaces of the walls has been stripped of plaster, which offers good possibilities to compare the wall masonry of different building parts.

discovered, probably because these had been removed during the reconstruction of 1893–1895. It was feared before the fieldwork that the floor of the old church might have been even higher than the present floor, but fortunately all the soil and finds, which have accumulated under the floor of the old church, were well preserved and disturbed only while digging a single grave (see below).

The uppermost layer consisted of loose soil mixed with demolition debris, where some copper coins from the late 17th until the 19th centuries could be collected. Based on analogies (Risti church: Kadakas *et al.* 2012, 179; Haljala church: Kadakas 2017a, 115), it can be supposed that this area was covered with timber pews on top of a timber floor during the 17th–19th centuries, and that the coins have probably got under the floor through the gaps between the floorboards. It can also be supposed that during the same period the central walkway was covered with regular square limestone slabs (52 cm = *ca.* 1 ell of Tallinn). Today the walkways are covered with larger slabs, but some slabs of the old standard were discovered. These have been reused in 1893–1895 for the foundations of the posts of the new organ gallery (Fig. 4).

Under this loose Early Modern layer, a hardened soil layer with a lot of organic material was discovered all over the studied area of the nave (Fig. 4). In spite of the construction plan, which prescribed to remove the soil even deeper, this hardened layer was preserved, as proposed by the archaeologist, because no contamination of it with fungus was likely. In order to get basic information about the function and age of this layer, some coins were detected with a metal detector and gathered. All these appeared to be coins from the 15th and 16th centuries, until the rule of the Swedish king Johan III. Therefore, this hardened layer can be interpreted as a floor of the corresponding period. No information was obtained whether this hard soil functioned as the floor surface itself or if it was covered with additional material, e.g. limestone slabs.

It is common in the rural parish churches of Estonia, especially in the smaller ones, that a large part of the medieval floor has been disturbed while digging graves during the Early Modern period. As a surprise, in the studied area of the nave of Juuru church, place of only one grave was detected (Figs 2, 4). A rectangular area of loose soil within the hardened soil of the Late Medieval floor was very distinctive. Consequently, the south-western part of the nave of Juuru church has not been a popular burial ground.

### REMAINS OF EARLY MODERN GALLERIES

Three more or less round foundations with a diameter of 45–60 cm were discovered, aligned in east-west direction (Figs 2, 4). These have been cut into the hardened soil of the Late Medieval floor. Based on their location and context, it can be assumed that these once carried the posts or columns of an Early Modern gallery system. Although only three foundations were discovered, the shape of the room, principles of symmetry and geometry enable to reconstruct the number and location of all posts and the overall extent of the galleries. Distinctively the easternmost post has been positioned at a longer distance than the two others from each other. It is likely that the two westernmost posts supported the organ gallery. It probably filled the whole western part of the nave to the same extent as the existing one, but was supported by eight posts, aligned in two rows (Figs 2, 3). The third discovered post foundation probably supported a southern gallery. The distance of the foundation from the western gallery and its location suggest that with the help of only one more post the southern gallery could have

extended to the south-eastern corner of the nave. Probably there was a similar, symmetrically positioned northern gallery as well.

Looking at this reconstruction attempt of the gallery system (Figs 2, 3), it is obvious that there was really a serious lack of space in the old nave by the end of the 19th century. This can be explained by a rather small area of the old nave (*ca.* 160 m<sup>2</sup>). The upper space was probably filled with galleries in the highest possible extent: the area without galleries was only roughly as wide as the chancel arch and made up only about 1/3 of the total area of the nave.

## ARTEFACTS

The fieldwork of 2017 brought to light *ca.* 40 artefacts, including 26 single coins. Some finds – a fragment of a copper alloy spiral tube decoration (Fig. 6: 5) and a piece of wheel-thrown local pottery – may have little to do with the church, but might originate from an Iron Age burial site (see above). A decorated trapezoid copper alloy pendant (Fig. 6: 6) belongs to a type, which has been found from Lügänuše church (Kadakas & Jonuks 2014, 144).

The early church period is represented by a single coin – a Danish bracteate with an image of a crown (1265–1332; Fig. 6: 1). Such so-called crown bracteates have not been found from the context of churches in Estonia. The coins minted slightly before the monetary reform of Old Livonia (1422/1426) are represented only by a single *seestling* of the Teutonic Order, minted in Tallinn (1395–1398; Fig. 6: 2). The period between the monetary reform and the start of the Livonian War (1558) is represented by 8 local coins, mostly of the Teutonic Order. This collection includes 4 *scherfs* (*ca.* 1426–1480; Fig. 6: 4), an anonymous penny minted in Tallinn (*ca.* 1422–1555; Fig. 6: 3) and a schilling of master Johann Freitag vom Loringhofe (1483–1494), minted in Cēsis. The bishopric of Tartu is represented by a *scherf* of Dietrich IV



**Fig. 6.** Artefacts. 1 – Bracteate (1265–1332), 2 – seestling (1395–1398), 3 – penny (1422–1555), 4 – scherf (1426–1480), 5 – spiral tube decoration, 6 – trapezoid pendant.

**Jn 6.** Leide. 1 – Brakteaat (1265–1332), 2 – seestling (1395–1398), 3 – penn (1422–1555), 4 – šerf (1426–1480), 5 – spiraaltorukese katke, 6 – trapetsikujuline ripats.

(AI 7853: 25, 26, 22, 8, 36, 30.)

Photo / Foto: Villu Kadakas

Resler (1422–1441) and a penny of Helmich von Mallinkrodt (1459–1468). Most of these are rather widespread, but coins from Cēsis are rare in the churches of Northern Estonia.

The period of the Livonian War and the following wars between Sweden and Poland is represented by five Swedish silver coins, mostly pennies of Erik XIV, the following period of the Swedish rule until the Great Nordic War by five copper coins: 1/6 (3) and 1/4 (2) öres. The whole period of the Russian Empire is represented by only three copper coins: two from the 18th and one from the 19th century. The very small number of Early Modern copper coins is in sharp contrast with the results from the previously excavated rural parish churches of Risti and Haljala, where these made up *ca.* 3/4 of the whole assemblage (Kadakas *et al.* 2011, 183–184; Kadakas 2017a, 122–123). Most of the upper soil layer with Early Modern copper coins had possibly been removed from Juuru church during the reconstruction of 1893–1895 already. The various possibilities of accumulation of single coins in the rural churches of Estonia have been recently discussed in detail (Kadakas 2017a, 123–125).

## CONCLUSIONS

In general, during the fieldwork of 2017 it appeared that very little of the old, i.e. the medieval nave of Juuru church has preserved. A short section of the foundation of the southern wall of the medieval nave, which was demolished at the end of the 19th century, came to light. A previous supposition, that in 1893–1895 the walls of the old nave were demolished, was confirmed. It appeared that the floor level of the old church was not deeper than the present one, and all the above floor structures of the old church have been completely removed. However, based on the architectural drawings of 1893, it can be concluded that initially the western parts of the side walls of the old nave were to be preserved during the reconstruction of 1893–1895. The eastern wall of the demolished southern porch, which theoretically should have existed within the studied area, could not be found because of extensive disturbances. Its south-western corner can theoretically be found in the churchyard with a targeted test pit, as well as remains of the portal of the porch.

Three small round limestone foundations were interpreted to have supported the posts of an Early Modern gallery system. The soil layers under the floor of the old church nave were well preserved. Although no historic floor structures were discovered, some general conclusions about the Early Modern floors could be drawn.

The *ca.* 40 artefacts in principle fit into the patterns of rural church finds, identified in the other churches of North Estonia where extensive excavations have taken place. No specifics of Juuru church can be suggested until larger areas are studied. Some finds support a previous hypothesis that a Late Iron Age cemetery has existed in the area of the present churchyard.

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## ARHEOLOOGILISED UURINGUD JUURU KIRIKUS

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Uuringud Juuru kiriku (jn 1) pikihoone edelaosas ja lõunatiiva lääneosas (jn 2) võeti ette seoses mädane-nud põranda asendamisega, mis eeldas põrandaaluse pinnasekihi eemaldamist paarikümne cm ulatuses. 13. sajandi lõpul ehitatud algsest kivist kirikust on maa peal säilinud vaid kooriruum. Keskaegne, ühelöövi-line võlvideta pikihoone lammutati aastatel 1893–1895 ning asendati sama laia, kuid tiibhoonetega varustatud uusehitisega (jn 3). Varem on leitud kirikuaia piirkonnast rauaaja lõpu matmispaiga jäänuseid, 2016. aastal leiti ehitustöödel pikihoone lõunaseina välimine vundamendiaste (jn 2).

2017. aasta kaevamistel paljandus ka interjööri ootuspäraselt vana pikihoone lõunaseina vundament (jn 2, 4, 5). Seinte võrdlemine 1893. aasta projektiga näitas, et kiriku rekonstrueerimine aastatel 1893–1895 ei toimunud päris algse projekti järgi: kui alguses kavatseti pikihoone lääneosa müürid säilitada, siis tegelikult asendati ka need uutega (jn 3). Kahjuks ei leitud vana lõunaeeskoja idaseina, mis kunagi asus lõunatiiva all (jn 3).

Vana pikihoone interjööri hävinud elementidest leiti väärde kolme posti ümmargused, paekividest vundamendid, mis võimaldab rekonstrueerida kogu

väärisüsteemi skeemi (jn 2–4). Kuigi vana pikihoone põrand, mis paiknes samal kõrgusel praegusega, on täielikult hävinud, olid hästi säilinud vana põranda alused pinnasekihid (jn 4) koos ladestunud leidudega. Kiriku kohal rauaaja lõpul paiknenud matmispaigale või asulakohale võivad osutada pronksist rõivakau-nistuse, spiraalitorukese katke (jn 6: 5) ja üks savinõu-kild. Kesk- ja varauusaja ehteid ja riideid esindavad trapetsikujuline pronksplekist ripats (jn 6: 6) ja lille-ornamendiga tinanõõp. Umbes 40 esemeleiu hulgas on 26 münti, kõigi 13.–19. sajandi jooksul valitsenud võimude ajast. Esmakordselt leiti Põhja-Eesti maakiri-kust Taani aegne nn kroonbrakteaat 1265.–1332. aasta-test (jn 6: 1). Varaseim Saksa ordu münt on Tallinnas ajavahemikus 1395–1398 löödud seestling (jn 6: 2). Hiliskeskaegsesse kirikusse ladestunud leidudest on arvukamad Saksa ordu poolt Tallinnas 15. saj – 16. saj I poolel löödud mündid: šerfid (jn 6: 4) ja pennid (jn 6: 3), samuti on esindatud mõned Tartu piiskopi šerfid ja pennid. Rootsi võimu varasest perioodist pärinevad mõned Erik XIV pennid, hilisemast ajast  $\frac{1}{2}$  ja  $\frac{1}{4}$  öörised. Kogu tsaariaega esindab vaid paar vaskraha.