



## Finds from the moats of Põltsamaa castle

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### INTRODUCTION

The castle of Põltsamaa (Germ. *Oberpahlen*) that belonged to the Livonian branch of the Teutonic Order (Figs 1–2) originates probably from the second half of the 13th century. The convent house is suggested to have been built in the second half of the 14th century, after the end of major construction activities in the castle of Viljandi (Germ. *Fellin*) (Tuulse 1942, 148–151). The castle – a four-winged convent house and a large outer bailey – was bordered from the north by the Põltsamaa River and from other sides by moats, connected with it (Fig. 1). In 1570–1578 Põltsamaa castle was the residence of Duke Magnus, the ruler of the newly created Kingdom of Livonia and vassal of Ivan IV the Terrible during the war between Livonia and Russia in 1558–1583. The castle was reconstructed into a Renaissance palace in the 17th century and it got a rococo interior design in the 1770s. Since the fire in World War II in 1941 the castle has stood in ruins. Former archaeological research is limited to rescue excavations which yielded finds mainly from early Modern times – in the gate building (Tvauri 1999; 2007), as well as in the churchyard and castle courtyard (Malve & Roog 2016). Some research related to the conservation and restoration of the castle ruins took place also in 2020 (Russow *et al.* 2021, 17–18). The work included the removal of debris from the north-west corner of the outer bailey, and survey and recording of surfaces of the inner side of the curtain wall.

In the spring of 2021 Põltsamaa municipality ordered the cleaning of moats of the castle. Archaeological monitoring of the work was performed by the Learned Estonian Society. After pumping out the water, wet sediments of high organics contents were removed from the moats by a powerful excavator almost until intact white fine loam. The bottom layer of up to 10–20 cm was reviewed on the spot with metal detectors.



**Fig. 1.** Põltsamaa castle and its moats. A – eastern moat, B – southern moat.

**Jn 1.** Põltsamaa linnus ja selle vallikraavid. A – ida-poolne, B – lõunapoolne vallikraav.

Map / Kaart: Land Board / Maa-amet



Fig. 2. Metal detecting in the eastern moat of Põltsamaa castle.

Jn 2. Detektoriuuringud Põltsamaa linnuse vallikraavis.

Photo / Foto: Heiki Valk

The research area involved two units – the eastern and the southern moat –, separated by the Church bridge (Fig. 1). Mud from the eastern moat was removed to the adjacent castle park, fill from the southern moat was transported, due to the lack of suitable area for deposition in the vicinity, to the northern foot of Kuningamägi hill at the border of Põltsamaa town. In both areas of redeposition the removed mud was levelled by bulldozer into a 15–20 cm thick layer and its contents were checked, after drying and being washed by spring rains, both visually and by using metal detectors. Detecting was performed by Aleksandr Kotkin, Aleksandr Smirnov and Igor Tsakuhhin from the history club Taaler and by local metal detectorists Kaido and Andres Keske.

## THE EASTERN MOAT

The southern and central part of the eastern moat (Fig. 1: A) had formerly been cleaned until the bottom. The wet muddy sediments, as well as soil from the slopes contained only waste and rubbish from the Soviet period. Of similar character was also most of the fill from its northern part, but the northern 35 metres, originally of bigger depth, had not been fully emptied during former cleaning activities. After the removal of the over one metre thick layer of sediments, detecting the bottom layer yielded several finds of archaeological value (Figs 2–3). The northernmost 10 metres could not be checked profoundly because of permanent influx of water and quick formation of a pond there.

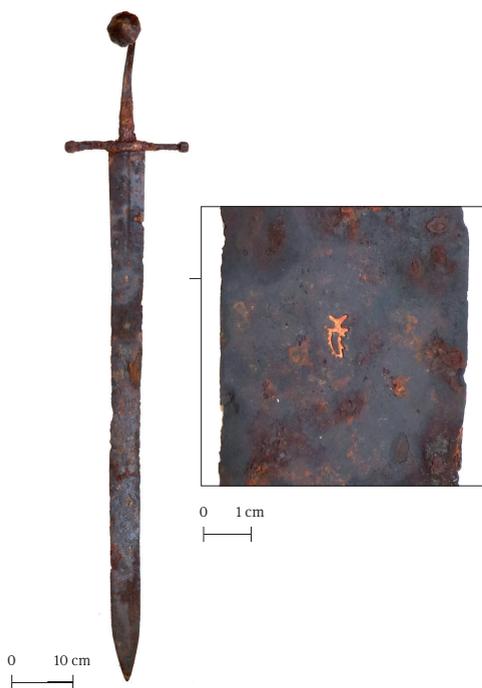
The most remarkable find was a well-preserved medieval 14th–15th centuries' 'hand-and-a-half' sword, lifted from the mud by the excavator. The ca. 110 cm long weapon (Fig. 4) with a full-length fuller has a slightly bent handle part, probably damaged by the excavator. The sword is furnished with the master's or owner's sign – a copper alloy incrustation on the blade.

A unique find was also a faceted cube of copper alloy (Fig. 5: 1) with a tiny ring – evidently, the striking head of a flail. The weapon might date from the period of the Livonian War – similar items are depicted on the images of Russian cavalry of that time.<sup>1</sup> Finds from the moat

<sup>1</sup> Oral comment by Ain Mäesalu (TÜ).



**Fig. 3.** Distribution of in situ finds from the eastern moat.  
**Jn 3.** Kohapealt saadud leidude levik idapoolses vallikraavis.  
 Map / Kaart: Greta-Krislin Lutter



**Fig. 4.** Sword from the eastern moat of Põltsamaa castle bearing the master's or owner's sign.  
**Jn 4.** Meistri- või omanikumärgiga mõök Põltsamaa linnuse idapoolses vallikraavist.  
 (TÜ 2931: 8.)  
 Photo / Foto: Riina Rammo, Jaana Ratas



**Fig. 5.** Finds from the eastern moat of Põltsamaa castle.  
 1 – flail striking head, 2 – padlock body, 3 – lead alloy cover of a Frechen stoneware jug.  
**Jn 5.** Leide Põltsamaa linnuse idapoolses vallikraavist.  
 1 – piitsnuia otsik, 2 – lukukorpus, 3 – Frecheni kivi-  
 keraamilise kannu plüsulamist kaas.  
 (TÜ 2931: 9, 17, 14.)  
 Photo / Foto: Triinu Borga



**Fig. 6.** Finds from the eastern moat of Põltsamaa castle.

1, 2 – metal casting ladles, 3, 4 – axes.

**Jn 6.** Leide Põltsamaa linnuse idapoolsest vallikraavist.

1, 2 – metallivalamiskulbid, 3, 4 – kirved.

(TÜ 2931: 4, 13, 21, 48.)

Photo / Foto: Triinu Borga



**Fig. 7.** Finds from the eastern moat of Põltsamaa castle.

1 – glass bottle, 2 – glass production waste.

**Jn 7.** Leide Põltsamaa linnuse idapoolsest vallikraavist.

1 – klaaspudel, 2 – toorklaasi tükid.

(TÜ 2931: 46, 59.)

Photo / Foto: Triinu Borga

involved a small axe (Fig. 6: 3), a bigger axe from the 14th–15th centuries (Fig. 6: 4), and a corpus of a medieval padlock without contents (Fig. 5: 2).

The mud revealed also a limestone cannon ball 22 cm in diameter (: 57), a cast iron cannon ball of a 102 mm calibre (: 11), and a fragment of a smaller similar item (diameter over 7 cm) (: 51). Lead bullets were represented by 12 mm (: 28, 43), 17 mm (: 42) and 18 mm (: 27) calibre units, and four fragments of fully deformed bullets (: 45). In addition, also a big oblong lead bullet with a flat bottom (Fig. 8: 3) was found. A big limestone cannon ball (diam. 41 cm) that stood on the bank of the moat was also included in the archaeological collections (: 58).

The northern part of the eastern moat yielded also two massive metal casting ladles (Fig. 6: 1, 2), made of cast iron and with holes for fastening the handle in the handle part. One of them had preserved intact, the handle part of the other was broken. Judging by the XRF analysis<sup>2</sup>, they had been used for casting non-ferrous alloys containing traces of copper, zinc, lead and tin. The wholly preserved item was 30 cm long and 23.5 cm wide, the other was somewhat smaller – 21 cm in width.

Glass finds were represented by a fully preserved bottle from the end of the 17th or the first quarter of the 18th century (Fig. 7: 1) – a transition form from round to onion shape<sup>3</sup> and fragments of three similar items (: 30, 52, 53). Also fragments of some other 18th–19th cc. glass vessels, including a jar and a bowl for sour milk were found. Stoneware<sup>4</sup> was represented by the lead cover of a late 16th – 17th century Frechen jug (Fig. 5: 3), two fragments of 17th–18th century Frechen vessels (: 5, 26) and two fragments of 19th century mineral water bottles (: 50, 54). From the mud also a fragment of a black glazed 17th century stove tile (: 18) was found. The almost full lack of redware from the Rococo palace period (from the 1770s to World War II), most common in Estonia in the 18th and 19th centuries, indicates former cleaning activities.

Smaller finds include two 1/6-öre coins from 1666 (: 1, 20), two fragments of clay pipes (: 10, 19), a copper button (: 49), two plaques – one of copper alloy and silvered, the other of lead alloy (Fig. 8: 1, 2), and a tiny 19th century thimble of English origin with the text *Remember me* (: 60).<sup>5</sup>

<sup>2</sup> Performed by Ragnar Saage (TÜ).

<sup>3</sup> All glass estimations by Monika Reppo (TÜ).

<sup>4</sup> Estimations by Erki Russow (TLÜ AT).

<sup>5</sup> Estimation by Monika Reppo (TÜ).

The unearthed sediments contained also a few small fragments of a Soviet military plane, crushed in World War II, some animal bones and human bones – a skull and two tibiae. Since all bones were of black colour, they seem to have lain in the mud for a longer time.

From the eastern bank of the moat an assemblage of fragments of raw glass – numerous pieces of 3–10/12 cm diameter, were found from the depth of 5–10/15 cm under the turf when checking metal signals. These finds, partly with melt, partly with broken surfaces, were of different colour, varying from white, light and dark green to black (Fig. 7: 2). Probably, this assemblage dates from the 18th century when Põltsamaa manor owned numerous glass manufacturing factories in the neighbouring areas (Tvauri 2012).

From the moat also a considerable amount of unused World War II ammunition – 11 similar intact mortar projectiles, probably, from one set, and numerous cartridges were found.

### THE SOUTHERN MOAT

Sediments of archaeological value had almost totally been removed from the southern moat (Fig. 1: B) until intact loam during previous cleanings in the Soviet period. According to information from local inhabitants, numerous cannon balls of stone had been found then.

Reviewing the bottom and slopes of the moat unearthed three cannon balls of cast iron, one of them round, with a diameter 5–5.5 cm (: 22), and two bigger items, strongly deformed when striking the stone wall. One of them (: 33a, b; diam. 12.8–14.5 cm) was split into two halves, found in the distance of ca. 3 metres from each other. The measures of the other ball, flat from one side, were 15.2 × 12.8 × 10.7 cm. Also an 1/6-öre coin from 1672 (: 47), three horse shoes (: 23, 35, 36), a big key (: 38), an iron buckle from a horse harness (: 37), and two supposed chandelier fragments (: 39, 40) from Põltsamaa church that was destroyed in fire in 1941, were found. The finds involved also a German grenade from World War II.

It appeared that the pseudo-Gothic opening under the Church bridge has been constructed as a decoration element only above the water level: in bigger depth there was no opening, just a stone wall.

### CONCLUSIONS

Sediments from the moats of Põltsamaa castle had mostly formed only after the last cleanings in the Soviet period. In spite of that, the bottom of the northern part of the eastern moat that had remained intact yielded some considerable finds, including a medieval sword. While weapons can be regarded as expected items from castle moats, the finds of metal casting ladles are unique indicators of craft activities in the castles of Livonia.

The low number of finds from the late 18th century until World War II, i.e. the time when the medieval castle functioned as a rococo palace, can be explained by the repeated removal of the sediments of that time. The fact that the moat needed a new cleaning, after being cleaned in the Soviet time, indicates very quick formation of sediments, evidently, due to vegetation. This makes it possible to suggest that castle moats must have constantly been cleaned also at the time when they functioned as fortification elements.



**Fig. 8.** Finds from the eastern moat of Põltsamaa castle. 1, 2 – plaques, 3 – lead bullet.

**Jn 8.** Leide Põltsamaa linnuse idapoolsest vallikraavist. 1, 2 – naastud, 3 – pliisulamist kuul. (TÜ 2931: 12, 15, 41.)

Photo / Foto: Triinu Borga

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## LEIUD PÕLTSAMAA LINNUSE VALLIKRAAVIDEST

Heiki Valk

2021. a kevadel tegi Õpetatud Eesti Selts arheoloogilist järelevalvet Põltsamaa linnuse vallikraavide puhastamisel. Tööd hõlmasid linnusest ida ja lõuna poole, s.t Lossipargi ja Tallinna maantee poole jäävaid kraavilõike (jn 1). Kinnikasvanud vallikraavid tühjendati vedelast mudast suure ekskavaatoriga ning kraavi põhja valgele looduslikule savipinnasele jäänud 10–15 cm paksune tume mudakiht kontrolliti metallidetektoritega (jn 2). Kraavidest teisaldatud pinnas lükati eemal õhukese kihina laiali, vaadati üle metallidetektoritega ja pärast kevadvihmasid ka visuaalselt. Idapoolse kraavi pinnast uuriti lossipargi alal, lõunapoolse kraavi pinnast Kuningamäe jalamil.

Enamik setetest sisaldas vaid nõukogudeaegset prahti: korduvate varasemate süvendustöödega olid arheoloogiliselt huvipakkuvad ladestused eemaldatud. Siiski oli idapoolse kraavilõigu põhjapoolse, s.t Põltsamaa jõe poolse otsa põhi jäänud u 35 m pikkuselt varasematest süvendustöödest puutumata, sest siin oli kraav sügavam kui mujal. Sellest piirkonnast saadi detektoriuuringutel mitmeid leide (jn 3). Kraavi põhjast leiti 14.–15. sajandist pärinev omaniku- või meistrimärgiga pooleteistkäemõök (jn 4), tõenäoliselt Liivimaa sõja ajast pärinev piitsnuia otsik (jn 5: 1) ja kaks massiivset malmkulpi (jn 6: 1, 2), mida oli kasutatud värviliste metallide (vasesulamid, plii, tina) sulatamiseks. Kraavilõigust saadi ka kaks kirvest (jn 6: 3, 4), täiesti terve 17. saj lõpu või 18. saj alguse klaaspudel (jn 7: 1) ja kolme samalaadse nõu põhjad, Frecheni kivikeraamilise kannu pliisulamist kaas (jn 7: 2), mõned 17.–19. saj kivikeraamiliste nõude kil-

lud, kaks Karl XI kuuendiköörlit, kaks ehisnaastu (jn 8: 1, 2) ja kümnekond pliikuuli, sealhulgas üks piklik massiivne tulirelvakuul (jn 8: 3). Kraavi põhjatsa idakaldalt leiti rohukamara alt kogum roheka toorklaasi tükke (jn 7: 3), mis tõenäoliselt kujutab endast 18. sajandil Põltsamaa ümbruses tegutsenud klaasimanufaktuuride toodangut.

Lõunapoolne kraavilõik, kust kohalike meeste sõnul oli nõukogudeaegsete puhastustööde ajal leitud rohkesti kahurikuule, oli arheoloogilisest pinnasest juba varem peaaegu täiesti tühjaks tõstetud. Leiti kaks kraavipõhja tunginud malmist kahurikuuli, üks neist purunenud vastu müüri pörkamisel kaheks tükiks, kolm hobuserauda, oletatavasti sõjaeelse kiriku kroonlühtrist pärit ehisdetaile ja 1672. a kuuendiköörine. Selgus, et Kirikusilla alune teravkaarega läbipääsuava on sellisena rajatud vaid veepinnast kõrgemale jäävas ulatuses: sügavamal ei olnud kaareava, vaid ühtlane kivilaotis.

Vallikraavi pinnasest leiti ka Teise maailmasõja aegset lõhkemata laskemoona – padruneid, granaat ja 11 miinipildujamürsku. Leiti ka tumedaks tõmbunud luid – loomaluid ning inimese kolju ja kaks sääreluud. 19. sajandi ja 20. sajandi algupoole leide oli mudas silmapaistvalt vähe – ilmselt on need varasematel puhastustöödel eemaldatud.

Kuna vallikraav oli pärast nõukogudeaegseid puhastamisi jõudnud ligikaudu poole sajandi vältel mudaga täituda ja kinni kasvada, peab kraavi olema korduvalt puhastatud juba varemgi, ilmselt nii linnuse kui ka Põltsamaa lossi eksisteerimise ajal.