New finds from the remains of besieging constructions in the Castle Park of Viljandi

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In 2015 excavations continued in the Castle Park of Viljandi, to shed new light upon the besieging constructions in the surroundings of the medieval castle and the Late Iron Age hill fort. While in 1999–2007 remains of besieging constructions were studied in the southern part of the Castle Hills area,[1] now research interest was paid to a small, evidently man-made hillock on the northern tip of the plateau west of the High Castle and its adjacent outer bailey (Fig. 1) – the plateau with the so-called Alley of Philosophy (*Filosoofia allee/puiestee*). The diameter of the slightly oblong, evidently, levelled hillock rising up to 0.5 m above the ground surface, was about 13–15 m along the axis of the plateau, and *ca*. 8 m perpendicularly to it. The hill may originally have been higher and more compact. It must also be noted that on the northern slope of the plateau big pieces of spring lime, similar to those found from Pähklimägi Hill when excavating the trebuchet platform in 1999 and 2000 (Valk 2000; 2001) were found.[2] The investigation site of 2015 lay in the distance of *ca*. 110 m from the edge of the High Castle – a suitable distance for using trebuchets.

It seemed likely that the archaeologically investigated hills south of the plateau and the research object of 2015 on its northern tip may have belonged into the same system

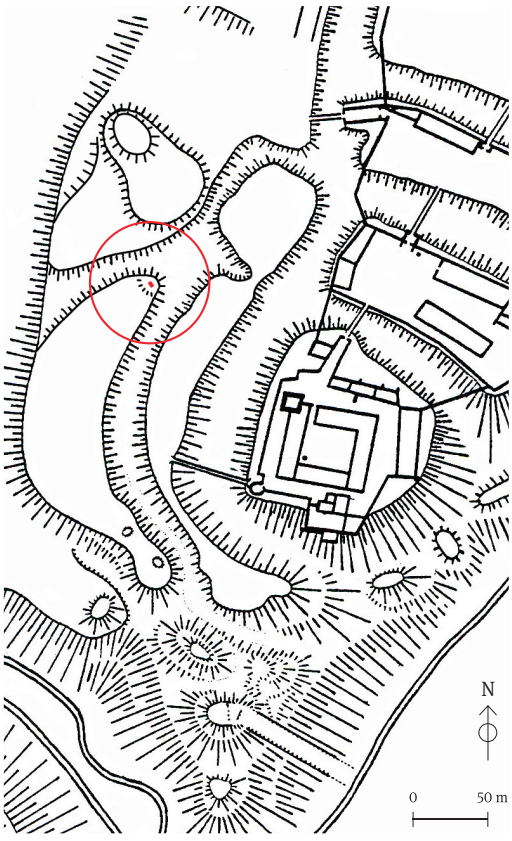

Fig. 1. *Location of the excavation area of 2015 in Viljandi Castle Hills.*
Jn 1. *Kaevandi asukoht Viljandi Lossimägedes 2015. aastal.*
Drawing / Joonis: Riina Vesi

[1] Annual surveys of fieldwork can be found in *Archaeological Fieldwork in Estonia* for the years 1999–2007.
[2] The trebuchet platform originates from 1223 when the crusaders besieged the hill fort of the Estonians.

of besieging constructions from 1223. Although the plateau with the Alley of Philosophy is presently flat, it is possible that in case there once were similar structures on it, they were evidently removed or levelled when making the manor park, either in the late 18th or in the 19th century.

The trench of 3 × 2 m (Fig. 2) was made on the sharply declining slope of the hillock, on its castle side. All the soil was sieved on 5 mm eye diameter meshes. The top layer of 15–20 cm consisted of dark brown soil, the formation of which had greatly been influenced by erosion processes. It was followed by a homogeneous layer of disturbed loam with the thickness of *ca*. 1.2 m in the upper part of the trench and *ca*. 45–50 cm in its other end, adjacent to the moat.

Fig. 2. *Trench on the remains of a besieging construction. a – from the SSW (before digging the post hole), b – from the south (after digging the post hole).*
Jn 2. *Kaevand piiramisrajatise jäänuseks oleval künkal. a – lõunaedelast, b – lõunast.*
Photo / Foto: Heiki Valk

The disturbed sandy loam (with a minimum content of soil) which formed the body of the hillock contained some small-sized pieces of granite and limestone (diameter 10–15/20 cm), as well as a few medieval bricks (29–30 × 13–14 × 8–9 cm) and some tiny brick fragments. An assemblage of stones in the area of *ca*. 1.5 m² in the depth of 40–50 cm close to the hill top may have served to fix some irregular timber structures (branches, cut young trees) of the hillock. The small number of pottery sherds – only 12 fragments of wheel-thrown vessels[3] – indicate that the area where soil was taken from (most likely, the western edge of the same plateau) belonged to the peripheral zone of life activities in the surroundings of the stronghold. From the soil heaped up into the hummock no finds from Late Medieval or Early Modern Times were detected; there existed some finds from Modern Times only in the top layer disturbed by erosion.

From the 147 unearthed bone fragments, 81 were mammal bones, determined at the level of species. Among those, 29 (35.8%) belonged to cattle, 18 (22.2%) to sheep/goat, 21 (25.9%) to pig, 9 (11.1%) to sheep/goat/pig, 2 (2.5%) to dog, 1 (1.3%) to hare. In addition, foal were represented with 5, foal family and goose with 1, undetermined birds with 1, and undetermined mammals with 49 finds.[4] The number of animal bones from the fill was, considering

[3] The finds: VM 11488 A: 1–16.
[4] Identified by Eve Rannamäe (TÜ).

the scantiness of pottery, disproportionally high. This enables us to suggest that most of the bones originate not from the Final Iron Age or early medieval occupation activities, but they represent the food of the people who created the hummock.

The heap of disturbed loam covered the horizontal layer of dark grey natural intact soil (thickness 10–15 cm; partly removed during the construction work) which gradually transferred into intact natural loam. From the top part of grey soil a small silver coin, minted in Gotland in the 12th or 13th century,[5] and a spur fragment (Fig. 3: 1), once adorned with tin alloy, were found. In Old Rus areas, similar spurs with a clearly expressed angle at transition to the end part are numerous and originate mostly from the 12th – mid-13th century (Kirpichnikov 1973, 65–66, type III, table XIX: 2, 3; Kirpichnikov & Medvedev 1985, table 147: 3–5); in Poland such spurs date from the 13th – early 14th century (Hilczerówna 1956, 57–58). The spur represents an intermediate form between the U- and V-shaped spurs, and is a rare form for Estonia.[6]

From the grey soil also a round rusty object (diameter 27 mm) appeared, which first seemed to be an arquebus bullet (Fig. 3: 2), dating the whole structure into the 15th – 17th centuries (the sieges of 1481, 1560 or of early 17th-century Swedish–Polish wars). However, the XRF-analysis[7] and the weight of the object (38.1 g; iron bullet with such diameter should weigh *ca*. 75 g)[8] clearly showed it to be a pyrite piece of natural origin.

Fig. 3. *Finds from Viljandi. 1 – fragment of spur adorned with tin alloy, 2 – natural bullet of pyrite.*
Jn 3. *Leiud Viljandist. 1 – tinaga kaunistatud kannuse katke, 2 – looduslik püriidikuulike.*
(VM 11488: 10, 16.)
Photo / Foto: Heiki Valk

In the bottom of the trench there were three large rocks (diameter up to 40–50 cm), located in a compact row and separated from the dark grey natural soil by a thin, *ca*. 3 cm layer of fill loam. Evidently, the stones had been transported there during the construction work. Close to the rocks there was an irregular layer of smaller loose granite stones (diameter 10–15/20 cm) which also may have fixed some, presently fully decayed organic material. In their vicinity there was a sooty fireplace (diam. 60–70 cm) with no artefact finds.

[5] Identified by Mauri Kiudsoo (TLÜ AT).
[6] Oral comment by Ain Mäesalu (TÜ).
[7] Established by Ragnar Saage (TÜ).
[8] Considering the density of iron as 7.87g/cm³.

Not far from the edge of the present-day moat (the size and shape of which were, probably, different in earlier times), in the distance of *ca*. 25 cm from the three rocks a big post hole (Fig. 4) was unearthed. The hole with the diameter of 90 cm stretched for 75 cm into intact mineral loam. Its original depth was, judging by the upper edges of the wedged stones which had surrounded the post, *ca*. 90 cm. The post itself had had the diameter of *ca*. 35 cm. As the upper part of the stones was surrounded by ordinary fill soil and the post hole did not appear higher, the big post has been erected when heaping up the hill.

Fig. 4. *Wedged post hole dug into intact natural loam. a – from the SSE (before digging), b – from the NNW (after partly digging).*
Jn 4. *Looduslikku saviliiva kaevatud, kividega kiilutud postiauk. a – lõunakagust (enne kaevamist), b – põhjaloodest (pärast osalist tühjendamist).*
Photo / Foto: Heiki Valk

The strength and construction of the stone wedging which included also half of a brick must especially be stressed. On the castle (and former hill fort) side the hole was wedged with stones in its full depth (3 layers of stones). The stones were mostly of oblong shape (diam. 10/15–20/30 cm), set standing in an upright position. On the opposite side of the post there was only one layer of stones in the upper part of the post hole. Such construction shows that the post had to withstand the strokes of falling objects coming from the direction of the castle (or hill fort). Evidently, the post belonged to a larger construction, built and used when besieging the castle or hill fort.

The lack of datable finds from the fill soil leaves the time of the construction of the besieging structure open: 12th – 13th-century items from the grey soil may originate also from life activities in the vicinity of the stronghold before the construction work. However, radiocarbon dating from a bone fragment from the loam gave the result 790±30 BP, calibrated as 1190–1279 cal. AD (at 95.4% probability) or 1223–1264 (68.2% probability).[9] As this find, probably, originates from the food consumed by the people who heaped up the hillock, the structure is likely to belong to the same context with the besieging constructions discovered in the southern part of the Castle Hills area (Valk 2000; 2001; 2006; Rammo *et al*. 2004) – those from the siege of Viljandi hill fort in 1223.

[9] Poznan radiocarbon laboratory, sample no. Poz-85346; calibrated by OxCal 4.2.3 by using the IntCal13 calibration curve (Bronk Ramsey 2009; Reimer *et al*. 2013).

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UUED PIIRAMISRAJATISE JÄÄNUSTE LEIUD VILJANDI LOSSIMÄGEDES

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Viljandis jätkusid probleemuuringud Lossimägedes. Kaevamised toimusid Filosoofia alleega/puiesteega platoo linnapoolses otsas – madalal künkal, kuhu viib laululava poolt tulev trepp (jn 1). Arvestades Viljandi linnuse piiramiseks rajatud tehiskünga ste olemasolu Lossimägede lõunaotsas, võis siingi eeldada, et tegemist on samalaadse rajatisega. Künka tehislikule iseloomule viitasid ka trepi kõrval mäenõlval leiduvad suured allikalubja tükid, milliseid leidus rohkesti piiramisrajatise asukohaks olnud, aastatel 1999–2001 arheoloogiliselt uuritud Pähklimäe pinnases.

Pikisuunas kuni 13 m ja ristisuunas u 8 m läbimõõduga ning platoo suhtes kuni 0,5 m kõrguse künka pealinnuse poolsesse külge, tugevasti langevale nõlvakule tehti 3 × 2 m mõõtmetega proovikaevand (jn 2); kogu pinnas sõeluti 5 mm silmaavaga sõelaga. Ülemise pinnasekihi moodustas 15–20 cm paksuselt tumepruun muld, järgnes algselt horisontaalsele platoole künkaks kuhjatud täitepinnas – kohati veidi mulda sisaldav kollakas saviliiv, mille kiht oli kaevandi mäepoolses osas u 1,2 m paksune. Ühtlaselt läbisegatud pinnas sisaldas veidi tellisetükke ja üksikuid keskaegseid telliseid. Leitud 12 hilismuinasaegset või keskaegset kedranõukildu viitavad läheduses paiknenud asula mõjutsoonile. Pinnases 40–50 cm sügavusel leidunud 10–15/20 cm läbimõõduga raudkivide kogumite algne eesmärk võis olla koos hoida pinnast siduvat puitmaterjali. Kokkukuhjatud pinnas ei sisaldanud leide, mida võiks dateerida keskaja lõppu või varauusaega.

Täitepinnasest saadud 147 luuleiust kuulus 81 liigi tasandini määratud imetajatele (29 juhul määratud veise- (35,8%), 18 juhul sea- (22.2%), 21 juhul (25,9%) lamba- või kitse-, 9 juhul (11,1%) lamba-, kitse- või sealuudeks. 49 juhul jäi imetaja liigiline kuuluvus määramata. Leiti ka kaks koeraluud, jäneseluu, 5 kanaluud, kanalise, hane ja pistrikulise luu ning veidi kalaluid. Luude hulk on võrreldes savinõukildude hulgaga disproportsionaalselt suur. Võib arvata, et valdavalt ei seostu need muinas- või varakeskaegse asustusega, vaid kujutavad endast künka kuhjajate toidujäätmeid.

Täitepinnase all, puutumatul looduslikul saviliival lasus 10–15 cm paksune, kohati kuhjamisaegsete kaevetöödega eemaldatud tumehall algne looduslik alusmuld. Selle pinnase pealt leiti 12.–13. sajandist pärineva, tinaga kaunistatud kannuse katke (jn 3: 1), alusmulla sõelumisel aga väike hõbemünt – 12.–13. sajandi Gotlandi penn. Hallil alusmullal oli ridamisi kolm suurt, 40–50 cm läbimõõduga kivi (suurima mõõtmed 50 × 50 × 35 cm). Et kivide ja mulla vahel paiknes 2–3 cm paksuselt täitepinnast, on kivid kohale toodud künka kuhjamise käigus. Suure kivi alt looduslikust hallist alusmullast leiti algul arkebuusikuuliks peetud ümar, 2,7 cm läbimõõduga kuulike (jn 3: 2), mis osutus looduslikuks püriiditükiks.

Kivireast u 25 cm vallikraavi pool algas suur postiauk, mille nii läbimõõt kui ka algne sügavus oli u 90 cm (jn 4). Postiaugu ülaserv oli ringikujuliselt kiilutud kividega, mille hulgas oli ka katkine tellis. Kiilukivide siseservade põhjal otsustades on post olnud u 35 cm jämedune. Augu pealinnuse poolses küljes ja sellega külgnevates servades leidus enamasti piklikke, enam kui 10–15 cm läbimõõduga ja kuni 25/30 cm pikkuseid ning peamiselt püstjas asendis kiilukive koguni kolmes kihis, praktiliselt kogu augu sügavuses; linnusest kaugemal olev külg oli kividega vaid ülalt kiilutud. Kivide asendist nähtub, et post pidi vastu pidama pealinnuse poolt tuleva väga tugeva löökjõu – linnusest lähtuva heitematerjali survele. Post on paigutatud künka kuhjamise käigus ja kujutab endast osa piiramisrajatise konstruktsioonist.

Täitepinnases leidunud loomaluust tehtud radiosüsinikuproov andis kalibreeritud tulemuseks ajavahemiku 1190–1279 pKr (95,4% tõenäosus). See võimaldab piiramisrajatist seostada teiste analoogsete rajatistega Kaevumäest lõuna pool olevatel küngastel ning Viljandi linnuse 1223. aasta augustipiiramisega.