



Archaeological investigation on Madsa hill fort

Heiki Valk and Pikne Kama

Tartu Ülikool, ajaloo ja arheoloogia instituut, arheoloogia osakond (University of Tartu, Institute of History and Archaeology, Department of Archaeology), Jakobi 2, 51014 Tartu, Estonia; heiki.valk@ut.ee

The hill fort of Madsa *Liinamägi*¹ ('hill of fort') is situated in Valgamaa County, former Karula parish, in the central part of Karula Uplands. The forested hill (Fig. 1) is located *ca.* 3.4 km south-east of the historical parish centre, *ca.* 1.5 km south of the former Rebäsemõisa manor, immediately west of Rebäsemõisa–Koobassaare road, and its northern slope begins *ca.* 100 m south of Madsa farmstead. The relative height of the hill is 27.5 m and its absolute height is 110 m above the sea level; its diameter at the foot is *ca.* 135 m. The slopes of the hill are steep, especially on the eastern, southern and western side.

It is possible to distinguish two areas suitable for occupation on the hill: the top plateau and a lower plateau on the western slope of the hill (Fig. 2). The measures of the rather flat top plateau (*ca.* 400 sq. m), including its sloping south-western part, are *ca.* 33 m in the north–south and 15.5 m in the east–west direction. The second plateau on the upper part of the western slope, *ca.* 3–4 m lower from the flat hill top, is *ca.* 45 m long and up to *ca.* 8 m metres wide in the middle part, getting narrower in both ends. Its total size is *ca.* 250 sq. m in all²; a larger area is excluded considering the steep slope both above and below it. The lower plateau has a sloping surface which becomes fairly



Fig. 1. View to Madsa hill fort from the north.

Jn 1. Vaade põhjast Madsa linnamäele.

Photo / Foto: Pikne Kama

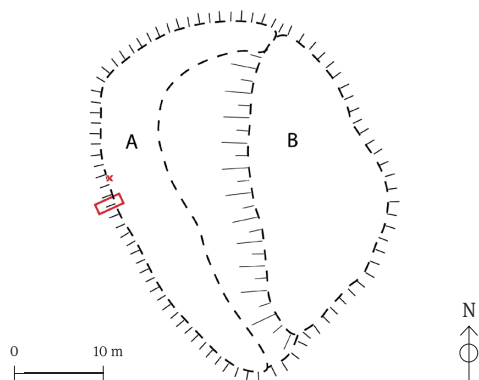


Fig. 2. The top of the hill, with the location of the trench, test pit, lower plateau (A) and upper plateau (B).

Jn 2. Mäe tipp koos kaevandi, prooviaugu ja alumise platooga (A) ning ülemise platooga (B).

Drawing / Joonis: Pikne Kama, Maria Smirnova

¹ In contemporary maps, the hill is named *Liinumägi*, but in older records it is called *Liinamägi*.

² The measurements on the hill top are based on points taken with a total station, but as the edges of the plateaus were not always clear, the result is somewhat arbitrary.

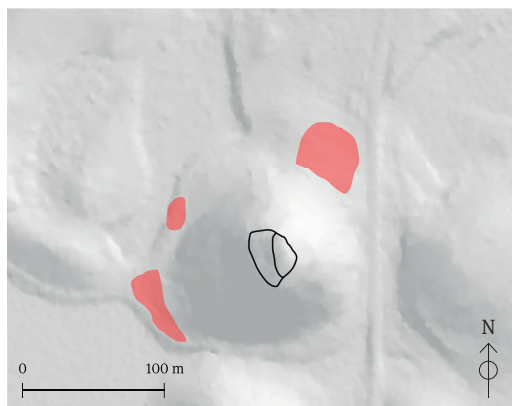


Fig. 3. The location of Madsa hill fort with occupation traces around its foot.

Jn 3. Madsa linnamäe asukoht koos asulakihi laikudega mäe jalamil ümber.

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Fig. 4. The trench with the fire place at the depth of -40 cm. View from the north-east, down the hill.

Jn 4. Kaevand koldekohaga 40 cm sügavusel maapinnast. Vaade kirdest, mäelae poolt.

Photo / Foto: Heiki Valk

horizontal at its lower edge, having a rather distinct outer border. In spite of the slanted surface, an *in situ* layer was only found from this area.

Madsa Liinamägi was first described in the report of potential archaeological monuments of Karula parish in 1942 (Kerem 1942, 13) as a possible hill fort. The site was first visited by archaeologists in 1996, but as no occupation layers were discovered from the hill top (Vindi 1996, 5–6), it was considered to be a pseudo hill fort, i.e. a site reflected as a hill fort in oral lore or place names, but having no archaeological features. In 2012–2013 some hand-made pottery sherds³ from the first millennium AD were found from different areas on the foot of the hill (Kama 2012, 3–6; Kama 2013) (Fig. 3). This discovery gave reason for archaeological re-visiting of the site in 2014 (Kama 2014, 5–14). Digging additional test pits on the hill top gave no positive results, but two pits on the lower plateau yielded archaeological finds, and one of them revealed also an intensive dark occupation layer. This gave an impetus for trial investigations with the aim to date the use of the stronghold and to clarify the extent and character of the occupation layer.

INVESTIGATIONS IN 2015

In June 2015 a small trench (1 × 3 m) (Figs 2, 4) was made on the outer edge of the lower plateau where a test pit had given a positive result. The small size of the trench was caused by the fact that there were big trees on its three sides: a broader dig was impossible because of their roots. On the fourth side, sloping down the hill, coring showed the lack of an *in situ* dark occupation layer already within the lower end of the trench area.

The character of the investigated layers is reflected in the profile of the trench (Fig. 5). The top 15–18 cm under the forest humus consisted of eroded soil, greyish in the higher

³ Finds: TÜ 2067.

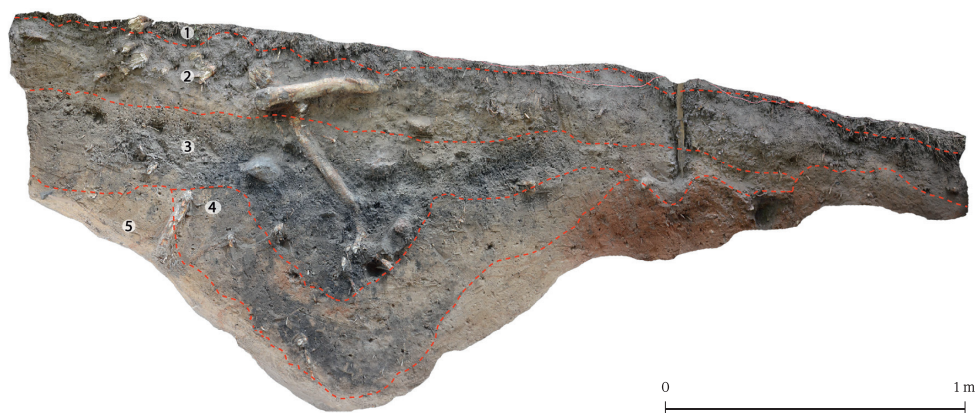


Fig. 5. Profile of the trench. 1 – forest soil, 2 – disturbed eroded sand, 3 – dark layer of fireplace, 4 – disturbed loam, 5 – intact sandy loam.

Jn 5. Kaevandi profiil. 1 – metsakõdu, 2 – erodeerunud liiv, 3 – tume koldekiht, 4 – segatud saviliiv, 5 – looduslik puhas saviliiv.

Drawing / Joonis: Pikne Kama

and brownish in the lower part (Fig. 5: 2). The soil contained some fragments of hand-made pottery, rather small in size. Below it, at the extent of ca. 2 m in the higher part of the trench, there was dark grey soil which contained fragments of burnt stones and pieces of charcoal – remains of a fireplace (Fig. 4; 5: 3). A layer of lighter greyish soil around the fireplace was coherent with it. Stones of the fireplace (diam. up to 10–12 cm) were often burned to rubble in the upper part of the pit, but were more intact in its lower part. A burnt granite slab (33 × 15 × 2–3 cm) indicated the presence of a stove somewhere nearby. The bottom of the fireplace was deepened into the intact sandy loam for 25–35/40 cm. Surprisingly, there was a pit stretching up to 80 cm (or outside the trench area maybe even more), measured from the former ground surface, into the ground under the fireplace (Fig. 4; 5: 4). The pit, which was filled with disturbed soil (partly loam or clay, partly dark soil) and contained no finds, may have been used e.g. for baking. Probably, the area with the fireplace, deepened into the ground and filled with a dark occupation layer, indicates the existence of a building.

The chronology of the fireplace was established by two radiocarbon dates, both from charcoal pieces. One of them, taken from the depth of 20–30 cm gave the result 1458±50 BP, cal. 433–633 AD.⁴ The other sample from the bottom of the pit under the fireplace from the depth of 50–60 cm yielded the date of 1391±55 BP, cal. 554–766 AD.⁵ As a whole, the dark layer which included the fireplace can broadly be regarded as one stratigraphic unit, belonging to the same time period. The overlapping period of two radiocarbon dates is 554–633 AD, which suggests approximate limits for the use of the hill fort.

Archaeological finds⁶ from the trench were mostly fragments of hand-made pottery – similar in character both from the eroded soil (although smaller there) and the fireplace. Most of the fragments were of reddish colour (Fig. 6: 2–3, 6–9, 11), reminding pottery from the Roman Iron Age, some were greyish brown or darker. Several fragments (mostly reddish) contained coarse fragments of stone rubble (Fig. 6: 6–8, 10, 11), but also some sherds of fine ware with thin

⁴ Tln 3844; calibrated by OxCal 4.2 by using the IntCal13 calibration curve (Bronk Ramsey 2009); 95.4% probability.

⁵ Tln 3843.

⁶ Finds: TÕ 2510: 1–94.

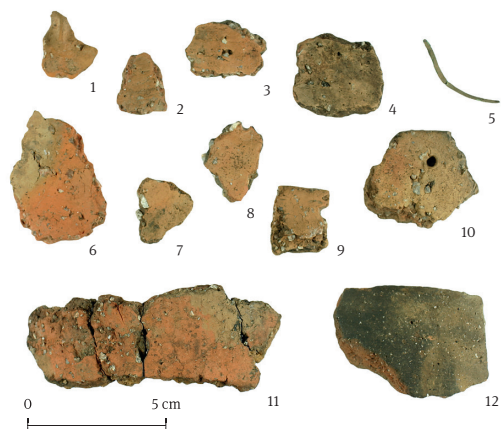


Fig. 6. Finds from the trench and test pit 3 m north-west of its centre. 1–4, 6–12 – pottery fragments, 5 – supposed fragment of a spiral ring (bronze).

Jn 6. Leide kaevandist ja selle keskpunktist 3 m loodesse tehtud šurfist. 1–4, 6–12 – savinõukillud, 5 – oletatav pronksist spiraalsõrmuse katke.

(TÜ 2510: 91, 29, 56, 50, 79, 38, 44, 69, 28, 76, 72, 12.)

Photo / Foto: Heiki Valk

walls occurred. The pieces of a large rimmed vessel with a dark, greyish or black smoothed surface (Fig. 6: 12) must specially be noted. The surface of several fragments bore slight traces of striation (Fig. 6: 2–4, 6, 10), some sherds had holes penetrating the rim (Fig. 6: 8–10) which occur on several settlements and hill forts of south-eastern Estonia (including the famous Rõuge hill fort). The closed and well-dated pottery complex from Madsa hill fort gives a foothold for the study of Pre-Viking Age pottery of south-eastern Estonia. Beside pottery, a few pieces of daub and some tiny fragments of undetermined animal bones⁷, and a ring-like iron artefact (TÜ 2510: 30) were gained. In addition, the fireplace contained a probable grinding stone (TÜ 2510: 73), and a piece of a crucible (TÜ 2510: 70) was discovered from its bottom. The XRF-analysis⁸ from its inner surface showed that it had been used for melting brass.

To study the extent of the dark buried soil, a test pit was made 3 m north-west of the central point of the trench (Fig. 2). The uppermost 20–25 cm of eroded soil was followed by a dark grey occupation layer which stretched until the depth of 70–75 cm, containing also some small-size burnt stones. From the dark soil a piece of bronze wire of triangular section (Fig. 6: 5), possibly originating from a spiral ring, some pottery fragments, including a slightly striated fragment with penetrating holes (Fig. 6: 10), and a coarse fragment of hand-made pottery with a line impression (from striation?) (TÜ 2510: 80) were unearthed.

New test pits on the upper plateau did not reveal any traces of occupation layers in this area. As the grey soil layer (*ca.* 10–12 cm) seemed even too thin for forest environment, and as the top of the upper plateau was considerably flat, it seems that the hill top has been once levelled for some reason. This might also be the reason for the lack of the occupation layers there. However, when sieving the eroded soil from the test pits made on the lower plateau, in all 11 sherds of hand-made pottery were found, one with a pinched surface (Fig. 6: 1).

The results of the trial investigations show the presence of occupation traces on the lower plateau of Madsa hill fort. Although, in general, the turf was followed by eroded soil which covered intact mineral loam, the trench and the test pit with positive results show that *in situ* occupation layers may have locally preserved in pits. The thickness of the eroded soil greatly differed in the test pits, varying from 10–15 cm to 55–60 cm. The fact that there was no original forest soil below the eroded soil enables to suggest that it has been removed to make the area of the lower plateau suitable for occupation. It seems likely that before former levelling there has been some occupation layer also on the flat hill top: some pottery fragments from the lower plateau may have been washed down the slope by erosion. However, the upper plateau may also have originally had a different function than the lower one.

⁷ Reviewed by Eve Rannamäe (TÜ).

⁸ Made by Ragnar Saage (TÜ).

DISCUSSION AND CONCLUSIONS

Madsa *Liinamägi* is the second hill fort, presently known from Karula uplands. The other known site – the hill fort of Rebäse (Vindi 1996, 1; Valk *et al.* 2011, 54–59) is located in the distance of only 2 km towards north-west. While Rebäse hill fort is bound with the basin of Gauja River by a former creek on its foot, the Madsa hill fort has no direct connection with waterways.

The interrelations and temporal connections between the two adjacent strongholds are greatly unclear. The overlapping part of two radiocarbon samples from Madsa gives the possible range of 554–633 cal. AD. However, considering that the charcoal may originate from the inside of trunks, the eventual age may also be somewhat younger. Calibrated radiocarbon dates from Rebäse hill fort: 891–1156; 987–1208; 1034–1259; 1015–1273 cal. AD (Valk *et al.* 2011, 57, 69) – indicate its use in the Viking Age and the Final Iron Age. However, some pottery pieces with textile impressions refer also to the Roman Iron Age (50–450 AD) occupation on Rebäse hill fort. So it can be that the hill fort was established in Rebäse at first during the Roman Iron Age, then rebuilt in Madsa in the Pre-Viking Age, but moved for some reason back to Rebäse. However, as Rõuge-type pottery from the two sites is rather similar, also the simultaneous existence of the sites in the early Pre-Viking Age cannot be excluded.

Madsa hill fort is an early example of a hill fort with an accompanying settlement site, typical for the second half of the 1st millennium AD in Estonia. Probably the main living area was at the foot of the hill. The fact that occupation traces were found only on the narrow and sloping plateau on the west slope of the hill fort, and not on its top, is probably the main reason why the site was not discovered before. The case of Madsa hill fort indicates the need for re-visiting also other sites called *Liinamägi* where no traces of occupation or fortifications have been found. It cannot be excluded that faint traces of occupation layers may have preserved on the slopes. Thus, toponyms may serve as indicators of former hill forts with no visible fortifications or occupation layers – those of short-time or temporary use.

ACKNOWLEDGEMENTS

This research was supported by the Estonian Ministry of Education and Research institutional research funding IUT20-7 ‘Estonia in Circum-Baltic space: archaeology of economic, social, and cultural processes’.

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ARHEOLOOGILISED UURINGUD MADSA LINNAMÄEL

Heiki Valk ja Pikne Kama

Madsa *Liinamägi* (jn 1) asub Karula kihelkonnas, Rebäsemõisa mõisast u 1,5 km lõunas ja Madsa talust sada-kond meetrit lõuna pool. Linnamägi avastati 2014. aastal, tuginedes toponüümile ja kahel eelneval aastal mäe jalamilt leitud kultuurkihi laikudele (jn 3). Mäe ülaosas võib eristada kaht platoode. Suurem ja üldiselt tasane ovaalne platoo ($33 \times 15,5$ m; u 400 m^2) asub mäe tipus, sellest 3–4 meetrit madalamal mäe lääneküljel oleva astanguga piirnevat kaldus pinnaga, keskel kuni 8 m laiust ja otstes kitsenevat ala (u 250 m^2) võib tinglikult nimetada alumiseks platooks (jn 2). Kaks 2014. aastal alumisele platoole tehtud prooviauku kinnitasid, et seal esineb tumedat kultuurkihti ja arheoloogilisi leide.

Sellesse piirkonda rajatigi 2015. aastal väike proovikaevand (1×3 m) (jn 4). Pealmise, kaevandi alale erodeerinud liivaka pinnase all paljandus tugevasti põlenud kivide (läbimõõt kuni 10–12 cm) ja söese pinnasega tulease, kus tume pinnas ulatus maapinnast 25–35/40 cm sügavuseni. Koldekivide all jätkus algse maapinna suhtes vähemalt 80 cm sügavune, osalt segatud saviliiva, osalt segatud mullaga täidetud sissekaeve (jn 5), mis kive ei sisaldanud. Koldekoha lähedusest leitud $33 \times 15 \times 2$ cm mõõtmetega põlenud kivitükk pärineb tõenäoliselt läheduses olnud ahjust ja viitab astangul olnud köetavale hoonele. Võimalik, et ka looduslikku aluspinnase süvendatud ja koldekohaga ala seostub mingi hoonega.

Enamiku leidudest moodustasid koldekohaga seotud savinõukillud (jn 6). Peamiselt esines rooma rauaaja muististele iseloomulikult punakate, robustsete, sageli jämedat kivipurdu sisaldavate (jn 6: 6–8, 10, 11), vahel nõrgalt riibitud pinnaga nõude tükke (jn 6: 2–4, 6), kuid leidis ka peenkeramikat. Leiti ülaserva läbivate aukudega nõude (jn 6: 8, 9) ja suurema hallikasmusta nivendiga nõu tükke (jn 6: 12). Kolde põhjas oli tiiglikatke, millel XRF-analüüs tuvastas pronksi sulatamise jälgi.

Kaevandis avastatud koldekoha sõetükkidest tehti kaks radiosüsinikudateeringut: 20–30 cm sügavuselt võetud proov andis kalibreeritud tulemuseks 433–633 pKr ja kolde all oleva lohu põhjast 50–60 cm sügavuselt võetud proov 554–766 pKr (tõenäosused 95.4%). Kahe proovi kalibreeringute ühisosa 554–633 pKr viitab linnuse kasutamisele tõenäoliselt eelviikingiaja alguses.

Ülemisele platoole tehtud täiendavat prooviaugud ei andnud ühtegi leidu ega märke kultuurkihist, kuid alumisele platoole tehtud šurfidest leiti erodeerinud saviliivast savinõukilde ning üks näpiornamendiga kild (jn 6: 1). Nimetatud leid sarnanevad kaevandist kogutuile. Võimalik, et need on sattunud nõlvadele mäe kõrgema osa tasandamise ja kultuurkihi nõlvale lükkamise tulemusel. Mäe alumisel platool ei tulnud kõrgemalt kandunud varieeruva paksusega (10/15–55/60 cm) pinnase alt nähtavale algset mullakihti. Nimetatud asjaolu viitab võimalusele, et nimetatud mullakiht on linnusenõlvale alumise platoo rajamise ajal eemaldatud.

Kaevandi keskpunktist 3 m loodesse tehtud prooviaugus tuli 20–25 cm paksuse erosioonikihi all nähtavale kuni 70–75 cm sügavusele ulatuv tume kultuurkiht. Sellest leiti tükk pronkstraati, mis võiks pärineda spiraalsõrmusest (jn 6: 5), samuti serva läbivate aukudega savinõukild (jn 6: 10).

Madsa linnamäest ainult kahe kilomeetri kaugusel on sarnane Rebäse linnamägi, kus 2010. aasta kaevamistel koguti peamiselt viikingiaegseid leide, aga ka veidi rooma rauaaja tekstiilkeraamikat. Võimalik, et piirkonna keskne linnus on nende kahe mäe vahel oma asukohta vahetanud. Samas pole välistatud, et eelviikingiajal olid kaks linnust lühikest aega paralleelselt kasutuses.