



Historical wrecks and coastal structure in Kadriorg, Tallinn

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INTRODUCTION

From March to September 2017 OÜ Muinasprojekt carried out archaeological surveillance at Kiikri St. 2 in Tallinn during the construction of the basements of three apartment houses. The studied area is located within the heritage protection zone of Tallinn Old Town (No. 2589 in the National Registry of Cultural Monuments), east to Pikksilma Street and north-east to Kiikri Street (Fig. 1). The area measured 10 412 m² and three apartment houses were planned to be built there. The building area incorporated the protection zone of the 19th century Russian wreck ‘Tver’ (Reg. No. 27886) that the Minister of Culture had declared a national monument in 2007, more precisely 115–250 metres south-east of the wreck. The two so-called ‘Tivoli wrecks’ – a 14th century cog and a large boat from late 15th century, discovered and unearthed in May 2015 at Pikksilma St. 2, were located 80–200 metres north-east from the planned buildings (Roio 2015; Roio *et al.* 2016; Roio *et al.* 2017). According to information obtained from the study of these wrecks and data from maps the area was still under water in the beginning of the 20th century. In the 1920ies and 1930ies the area was raised when the coast in Kadriorg was being re-planned as a recreational area, later known as Tivoli or Luna Park (Fig. 2).

The relief of the area is level, slightly slanting seawards in the south-north direction, the absolute heights of the plots range from 1.67 to 3.09 metres. The geo-technical report of the plot (Parbo 2015) stated that the area was a former sea bed, later filled mostly with oil shale ash. Water level was relatively high due to proximity of the sea. The fill on natural soil divided into three different layers: a layer of gravel and sand beneath asphalt and on green areas a



Fig. 1. Location of the Kiikri finds. Blue line – Kiikri finds, red line – Tver wreck, green line – Tivoli wrecks.

Jn 1. Kiikri tänava leidude asukoha skeem. Sinine joon: Kiikri uuringuala, punane: Tveri vrakk, roheline: Tivoli vrakid.

Map / Kaart: National Registry of Cultural Monuments, geo-portal of Estonian Land Board, Kiikri Ehitus OÜ / Kultuurimälestiste riiklik register, Maa-ameti geoportaali, OÜ Kiikri Ehitus



Fig. 2. Location of the Kiikri and Tivoli wrecks at the western border of the Kadrioru park.

Jn 2. Kiikri ja Tivoli vrakkide leiualad Kadrioru pargi lääneservas.

Photo / Foto: Sander Ilves, Postimees / Scanpix

layer of soil with a soily fill or oil shale ash beneath it measuring in total 2.35 to 3.40 metres. Ground water was 1.35 to 2.25 metres deep. The in-fill consisted of partly hardened ash, construction debris and household waste that covered the historical wrecks.

PRELIMINARY INVESTIGATIONS AND SURVEILLANCE

The basement of the southernmost building had been dug without archaeological surveillance in November and December 2016. By the time archaeological studies commenced, the earth from the dig had been partly removed north-east of the intended building and construction of the basement was in progress. The construction company submitted photos of the done dig to the archaeologist, giving some information about the extraction and character of the soil. The removed soil was studied in summer 2017, concurrently with exploring the wrecks. No finds or archaeological layers were discovered, the soil consisted mainly of returned in-fill mixed with construction debris. Dried-up layers were mostly missing on Litorina and partly also on Ancyclus layers, i.e. dusty sand with even grains that winds had blown from the dune ridges. The intact layer was *ca.* 8000 years old¹, no traces of layers that could include historic wrecks were recorded either on or inside the profiles.

In the southern part of the middle building a clear layer of metal waste was discovered on top of a hardened ash layer and below a layer of broken glass, containing finds from World War II – cartridges, helmets etc. (Fig. 3). The constructors claimed that similar finds had been recovered during the dig for the first building.

¹ Personal comments of archaeologist Tanel Moora and geologist Ülo Kestlane to the authors in 2017.

When the upper layer of the construction area had been removed, geo-radar studies were carried out over the entire area in mid-June (Tõnisson *et al.* 2017). Hannes Tõnisson, Kaarel Orviku and Kadri Vilumaa from the Ecology Centre of Tallinn University made 58 profiles, measured and mapped several anomalies – both visible and unknown communication lines and objects, but all apparently essential. Working depth was set at 4 to 5 metres from the ground. The study brought out 9 anomalies, with potential archaeological significance. The general impression of the geologists was that the area had been a higher clayey elevation, which offered shelter to ships. The previous Tivoli wrecks, too, were discovered behind this height. It is possible that the studied object was located entirely on the former elevation. Georadar studies were of great assistance to the fieldwork, drawing attention to anomalies and minimizing risk to valuable finds. In September another georadar study with 11 profiles was carried out, which pointed out both the unearthed and so far yet undetermined contours of the ship, which later was taken under state protection. The borders of the protected monument-to-be were set considering the contours of the wreck (Tõnisson & Orviku 2017).

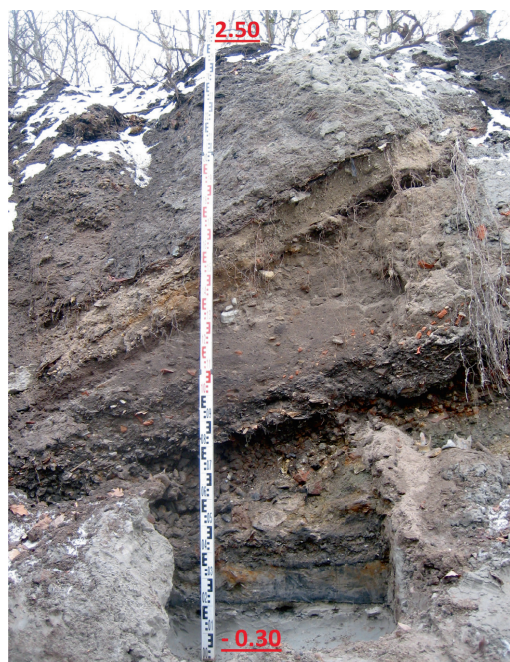


Fig. 3. Profile of the south-east wall of the excavation area, covered by deposits of household waste, ash and sea sediments.

Jn 3. Uuringuala kaguseina profiil prügi- ja tuhalademete ja meresetetega.

Photo / Foto: Reet Maldre, Tanel Moora

WOODEN HARBOUR BARGE

In the end of July, when excavation had reached the central part of the middle building, archaeologist noticed approximately half a metre long timber details that bristled out of the former sandy seabed. The details turned out to be boat frames. Groundwater, that kept flowing in, was pumped out and the survived parts of a larger boat or a smaller barge were cleaned out (Fig. 4).

The survived quarter of the vessel gave a fairly good understanding of a peculiar vessel with a low board and flat bottom. It measured 5.18 m in length, 1.60 m in width, the survived 20 frames fastened 10–20 cm wide bottom planks. Considering these measurements, the total length of the vessel may have been up to 10 metres and its width 3.4 metres. The Kiikri barge was remarkable for its high quality timber and extremely neat construction. The thin outer planking was fastened to the frames by copper nails, whose both ends had been riveted – a testimony that the keelless vessel had been accurately built in a state shipyard. Dendrochronologist Alar Läänelaid (TÜ) took samples of the pine planks and managed to average some of the annual rings, yet for reasons unknown they could not be dated according to his comparative chronologies (e-mail from Läänelaid 8 December 2017). The vessel was probably bought from abroad and brought here from far, which could explain difficulties in dating the find.



Fig. 4. Marine archaeologist Vello Mäss identifying the first find – apparently a barge from the 18th – 19th century.

Jn 4. Merearheoloog Vello Mäss esimest leidu tuvastamas – ilmselt on tegemist 18.–19. sajandi praamiga.

Photo / Foto: Ants Kraut

A renowned member of Swedish Society of Maritime Archaeology and one of the best experts in maritime archaeology in North Europe Christer Westerdahl published a study on marine cultural landscapes in 1989, which describes and illustrates a very similar flatbottom vessel (Westerdahl 1989, 45). Professor Westerdahl describes such vessels as logistics aids that were used in large harbours and shipyards – non-self-propelled barges. It is common knowledge that in military harbours big warships were moored not to piers, where they did not have sufficient space, but rather to mooring piles that were rammed to the seabed, and hundreds of crew members could not leave or return to the ships. In addition to the crew-members also various marine equipment and supplies had to be transported to the ships. This is where the flat-bottomed capacious barge that was manually hauled was most useful. Precisely such military harbour port was commissioned by Czar Peter I at the end of the Great Northern War in 1714 in Tallinn.

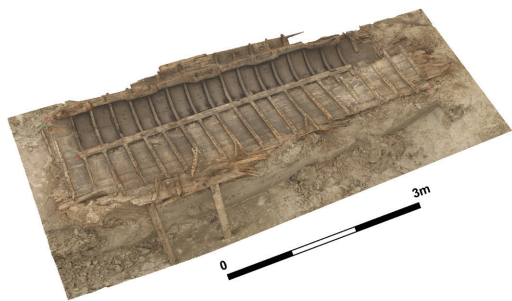


Fig. 5. A 3D model was made of the barge before and after its displacement.

Jn 5. Praamist tehti enne ja pärast teisaldamist 3D mudel
Model / Mudel: Reet Maldre

Reet Maldre from the Archaeological Research Collection of Tallinn University made a 3D model of the discovered vessel on site (Fig. 5). Another model from the already displaced barge was made by the team of Arheovision, led by Hembo Pagi. The wreck was lifted from the basement pit and placed onto trestles, enabling to document it also from underneath. After documenting, timber samples were taken and a selection of metal elements were sent for further analyses, as advice from the National Heritage Board was to sink the vessel into the sea, to an area in the Tallinn Bay between the island Naissaare

and the shoal Littegrund that has previously been used for similar purpose. Upon consultation with conservation experts who have studied the preservation of re-sunken vessels (Peets 2015; Tint 2018) this plan was discarded, since it is not certain that the historic ship will preserve for the future research. Access to the vessel, a historic monument, that is sunken at such depth may also be problematic. Hence it was decided to store the ship at the Museum of Coastal Folk in Viimsi, Harjumaa. The enthusiastic team of the museum, led by Director Janek Šafranovski, has the necessary experience and interest to preserve and expose the vessel.

BIG WARSHIP

Major finds both in measurements and of historic significance were yet to be discovered when excavations for the basement of the middle building at Kiikri Street commenced. In the beginning of August details of a totally other kind of ship came to light when the backhoe lifted buckets of mixed ash and seabed sand. As soon as the first two metres long hewed rounded log with a diameter of over 20 cm was unearthed, it was clear that it was a frame of a ship – a significant detail of a big vessel. The first impression, influenced by the surrounding sand and ash, was that the object may have been washed ashore by the sea. Further cleaning brought to light several boards and beams, gradually it turned out that it was the bottom of a large ship (Fig. 6).

As this find was of great historic significance the members of the Expert Council of Archaeological Monuments decided it was necessary to continue with archaeological studies also outside the building area. Archaeological excavations were to specify the character



Fig. 6. Excavated stern of the ship. Outer planking in the back, keel in centre, frames, keelson and inner planking in the front.

Jn 6. *Laeva ahtriosa väljakaevatult. Tagaplaanil välisplangutus, keskel kiil, esiplaanil kaared, kiilson ja siseplangutus.*
Photo / Foto: Ants Kraut

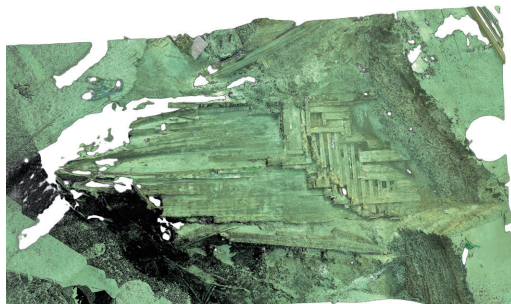


Fig. 7. Two 3D models were made of the cleaned out ship details, using different methods.

Jn 7. Laeva väljapuhastatud osast tehti kaks eri meetodiga 3D mudelit.

Model / Mudel: MTÜ Arheovision

and construction of the wreck. The pit was extended for five metres westwards, towards the ships bow, with a 9 metres wide dig. In addition to the earlier unearthed keel, 45 cm in diameter and some frames with an approximate diameter of 25 cm, a 2.5 metres long section of the keelson and a few other frames were cleaned out, bringing the number of discovered frames to 14. The excavated length of the ship from the stern to the excavation wall measured 20.46 metres, the maximum width of the outer planking was 9 metres, consisting of over twenty pine planks that were tightly placed against each other and fixed to the solid outer planking with iron nails. Slightly

further from the fairly compact assemblages of ship elements, some additional pieces were found, possibly displaced during demolition or washed away by the waves. These included also a few bigger beams, boards and frame details (Fig. 7). The aim was to preserve the part of the wreck that remained outside the building area and for that a cross section was made of the wreck at the line of the basement dig (Fig. 8). This clearly demonstrated the construction of the ship bottom: the oak keel, the pine frames, the 40 to 50 cm wide and 8–9 cm thick bottom planks from oak, beneath those half as thick and up to 30 cm wide outer planks from pine. The



Fig. 8. Cross-section of the wreck at the line of the basement pit. Cross-section of the keel in the centre, two outer plankings with frames above. The dismantled parts of the stern's outer planking and the keel were placed onto the frames.

Jn 8. Laevavraki ristlõige vundamendisüvendi joonelt. Keskel kiilu ristlõige ja kahekordne välisplangutus, selle peal kaared. Kaarte peale on paigutatud demonteeritud ahtriõhmad välisplangud ja kiil.

Photo / Foto: Vello Mäss

sea had over centuries washed a 20 to 40 cm thick layer of sand in between the base planks. Especially in the stern part, where the keel and the frames that held the planks together had been removed, it could give the impression as if several different ship bottoms or other details had been placed on top of each other. The part of the vessel that remained inside the building area was over 15 metres long, it was documented and then sawed off, its details – planks, beams and a three metres long section of the keel, were placed on top of the wreck frames that remained outside the building area and were covered with sea sand (Fig. 8). The upper surface of all details remained below ground water level, which should safeguard their long-term preservation. Expert assessment compiled by AS Maves confirms that the level of the ground water dispersing in Quaternary sea sands at Kiikri 2 will recover after construction activities in the area have ended to approximately the same level when construction geology was made there, higher than sea level, thus leaving the ship wreck below ground water (Tamm 2018). Therefore, a third of the wreck was left in its original position in the depth of three meters to wait for future scientists, as advised by experts of the Council of Archaeological Monuments.

The big ship at Kiikri Street is dendrochronologically dated to 1674 AD *terminus post quem* by Alar Läänelaid. No timber under the bark had survived, nor any sapwood, and therefore it was not possible to determine just how many growth rings were missing. Even if it is known that the oaks which have grown in North Poland normally have 15 sapwood rings, it is not sufficient to determine the approximate number of missing rings, since it is possible that also some heartwood rings have been hewed off from the sides of the boards. Hence it can be concluded from the dendrochronological study that the oaks, which were used for the ship boards were felled after 1674. Assuming the average number of sapwood rings is 15, the oaks have been felled in 1689 (Läänelaid 2017a).

Also the triangular cross section of the ship frame was measured and dated. The frame had not been made of oak, but pine and had the total of 197 growth rings. It was dated according to Östergötland pine chronology to 1690 AD. The growth ring probably reached the under-bark timber surface and was in good agreement with the boards dating. The ship must have been built after the mentioned year (*ibid.*).

Although it appeared that the most valuable part of the wreck had probably seen secondary use and that the survived bottom part was covered with several metres thick ash layer, it intrigued for interesting assumptions. The gradual unearthing of frames, followed by two different types of planking, the beams and the keel displayed a rather clear picture of what had survived: the bottom of a large ship, built in classical construction method, where regular and extraordinarily strong outer planking had been neatly fitted into the roller of the massive keel, applying carvel technique, on top of which another thinner planking had been attached (Fig. 9), fixed with iron nails in protection against mechanical damage and possibly also shipworm (*Teredo navalis*). This suggests that the warship was meant to sail in distant salty waters. It was common practice in the military harbours for sailing ships that old hulls which went out of use were demolished until waterline, then transported out of the harbour to shallow waters where they were further dismantled, since high-quality wood and ship constructions could be used elsewhere. The dismantling technology of the Kiikri warship shows that it was done with similar devotion as its construction. First, the keelson was taken off the frames, then the tightly fitted floortimbers, followed by expensive and massive outer planking and the huge keel. The thinner and cheaper layer of protective outer planking was left to the place of dismantling and remained there until the present day. For reasons unknown the dismantling of the warship was interrupted, or discontinued and instead was after some time



Fig. 9. Dismantling the tight outer planking of the stern.
Jn 9. Ahtriosa tiheda alumise välisplangutuse
 lahtivõtmine.

Photo / Foto: Ants Kraut

buried under the coast fill. When the military harbour went out of use and was liquidated, there was no need for the above mentioned non-self-propelled barge and this, too, was pushed to a demolition area.

The authors are not familiar why half a year after the completion of fieldwork the National Heritage Board stated in the expert assessment of declaring Kiikri wreck a national monument (Roio 2018), which later was quoted in the decree of the Minister of Culture (Kultuuriministri määrus 2017), that the monument consisted of details of at least three different objects. Based on the data obtained from the site and consultations with various experts it is certain that it was not a 'structure' from three different wrecks. The object was a wreck of a single large sea-going vessel that had previously, i.e. prior to covering it with oil shale ash, been drastically dismantled. It is possible that the short time that the members of the Expert Council of Archaeological Monuments could spend at the excavation site did not allow them to properly orientate among all the discarded ship details. This may have given rise to speculations about three different wrecks

that were piled up to form a 'structure' to support an artillery battery. Yet no such structure has been depicted on Tallinn city plans. The big sea-going vessel that was dismantled on the coast of Kadriorg in Tallinn cannot be regarded as a flat bottomed, low draft single-mast barge that ought to present information about the development of sailing ships in the 18th century (Roio 2018, 7, 12). The barge is not a sailing ship.

The origin and exact nature of a 'barge-balefant' as described by Heino Gustavson cannot be precisely explained, despite the fact that both Maritime Terminology Council at Estonian Maritime Administration and various military historians have made efforts to define it (Gustavson 1994, 16).² Experts knowledgeable in artillery know that handling muzzle-loading cannons required of wheeled gun carriages to enable cleaning and re-loading of the gun barrels after each shot. All this required ample solid platform, for which old wrecks were hardly suitable.

Despite all the efforts we do not know the exact time of wrecking or construction type of the so-called Kiikri warship. As mentioned above, A. Läänelaid suggests that the ship was

² According to information from historian Robert Treufeldt, two quadrangular two-storied timber barges were located at the southern coast of the Tallinn Bay in the first half of the 18th century, which carried dozens of cannons – one in Kadriorg named 'Olifant' and the other at the coast near Maarjamäe named 'Bök' (pers. comm to Vello Mäss, October 2018). On the plan of Tallinn from that time both names have been calligraphically written in Russian alphabet. It is possible that Heino Gustavson mistook the hard sign in 'прамъ алефантъ' for the letter 'b' as in 'прам балефантъ' (Gustavson 1994, 16). The 18th century Baltic fleet of Russia had 18 such 'monstrosities' in their armament, constructed in St Petersburg and from there transported to Tallinn, Ruotsinsalmi, Viapori and Mariehamn. Five of these barges were named 'Olifant', one of these floating forts, supplied with 76 cannons, served from 1719 to 1724 in Tallinn. This quadrangular battery measured 35.4 × 10.7 metres.

built after 1690 (Läänelaid 2017a). At that time, more precisely in 1693 warships started to be built for the Baltic fleet in Solombala shipyard in Arkhangelsk, under the guidance of Dutch shipbuilders. High productivity sawmills were set to work in Solombala, hundreds of carpenters were employed. Until 1715 thirteen liners were set afloat there, all of which were brought around Scandinavia to the Baltic Sea. Apart from Arkhangelsk, numerous warships for the Baltic fleet were also built in the shipyards of St Petersburg, Luga, Lodeynoye Pole, Säsi and Novaya Ladoga, and even more in the harbour towns of the Volga river basin up to Astrakhan (Böhovski 1982; Veselago 1872). To supplement domestic production, ships were also bought from Great Britain. This makes it very difficult to track down the origin of the Kiikri warship. In 1764 two liners, built in Arkhangelsk and equipped with 66 cannons, went on fire in the Tallinn military port – ‘Svyatoy Pyotr’ and ‘Svyatoy Aleksandr Nevsky’. They were transported away from the port and left to burn off the land. One of these ships could have floated to the shore in Kadriorg and might have been looted, but this cannot be proved. A possibility to determine the origin of the Kiikri wreck would be to excavate the survived fore part of the wreck, still in the ground and under state protection, and upon analysing it try to decide whether the ship had been built according to either Dutch or British traditions.

WOODEN BOAT

Two other noteworthy finds came to light from the northern part of the building site, more towards Reidi Road and closer to the sea and the ‘Tver’ wreck. One discovery included the few base remains of a 7 to 8 metres long wooden boat, flattened under a thick layer of ash. Fortunately, in addition to a dozen thin floor and side boards, a part of the low keel and a section of a frame had survived (Fig. 10, below). Also this boat was taken to the collection of the Coastal Folk Museum and will hopefully contribute to the study of a possible 19th century vessel, helping thus with the reconstruction of a similar historic boat that is currently at hand in the museum.



Fig. 10. A log construction, a probable landing bridge and a boat were unearthed from the south part of the construction area of the third building.

Jn 10. Palkrajatis, oletatav laevasild ning paat tulid välja ehitusala kolmanda hoone lõunaosast.

Photo / Foto: Reet Maldre

LANDING BRIDGE OR DEFENCE STRUCTURE?

To supplement the list of discovered vessels at the building site of the Kiikri three apartment houses, finally a construction that was firmly attached to the ground came to light – a long and sturdy timber construction from strong pine logs. The construction ran throughout the entire basement pit in the SE–NW direction. It was a 25.5 metres long and 3.2–2.8 metres wide timber construction, which in the eastern part had survived in two and in the western part in three log layers, built as a carcass of 9 to 12 metres long logs, with the diameter of 25 to 40 cm (Fig. 10, above). At places larger field stones had been placed under and between the lower logs, but not evenly. Yet at this height, straight on the sea sand, they could not be regarded as cell boxes. Since the log construction was under a three metres thick soil layer, it was unclear what might have originally been on top of the logs – more log layers and then flooring or planking? The tenons, which joined the logs longitudinally, were rather complex, intended possibly to resist hard pressure both from above and laterally (Fig. 11). Some characteristic examples of the tenons were stored in the Maritime Museum. From the so-called Kiikri landing bridge Alar Läänelaid succeeded to dendrochronologically date five logs from the cross-sections of 10 logs (from which four samples were averaged based on their similarity). Upon synchronizing the averaged tree ring series with Estonian pine chronology, the logs were dendrochronologically dated to 1706 AD *terminus post quem*. This is the last calendar year of the tree ring, also the creation year of the last existing tree ring of sample No 2. It is possible and likely that a couple of centimetres may have been hewed off from the surface of the bridge logs. Due to this possibility and the visible hewing marks the date 1706 must be regarded as *terminus post quem*. Speculatively the logs may originate from trees that were felled *ca.* 30 years later (Läänelaid 2017b).

At the present stage of study, the function of this construction is unclear. A similar construction is depicted on 18th–19th century maps of Tallinn (Raid 2011, map 12, 14, 16, etc.; Fig. 12). Supplementary studies may clarify whether this was a landing bridge, a pier, coastal fortification or part of a sea fort, but most likely not intended as a bridge for swimmers at the beach. The construction continued into the western wall of the basement pit. It is possible that it was the 110 fathoms long bridge at the end of the present Poska Street, as referred by Heino Gustavson (1994, 16). It may be possible that the survived parts may come to light at the construction of the new Reidi road or adjacent plots, or maybe as a result of supplementary archaeological studies.

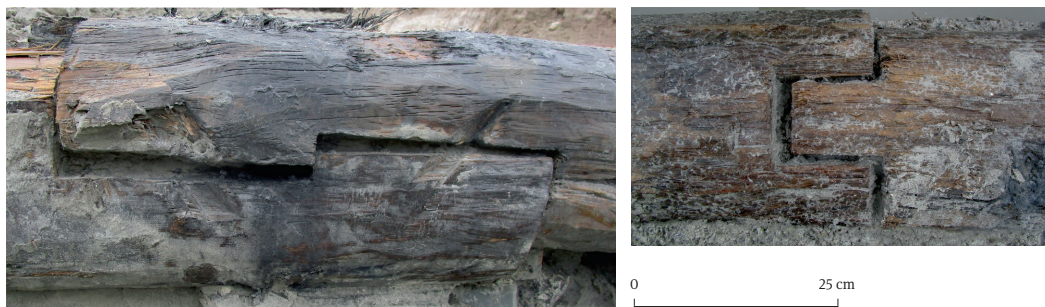


Fig. 11. The construction was built of 9 to 12 metres long logs, connected with each other by complicated tenons.

Jn 11. Rajatis oli tehtud 9 kuni 12 m pikkustest palkidest, mis olid omavahel ühendatud keerukate tappidega.

Photo / Foto: Ants Kraut



Fig. 12. The large timber construction that was discovered at the Kiikri excavation might have been the foundation of a catwalk to the cannon platform 'Olifant', depicted on the 18th–19th century maps. On this plan from 1764 the platform and catwalk have been merged (marked with red circle), although on some later maps (e.g. in 1822), they are again separated.

Jn 12. Kiikri tn kaevamistel leitud suur puitkonstruktsioon võis olla ühendussild suurtükiplatvormile Olifant, mida on kujutatud 18. sajandi – 19. sajandi kaartidel. Sellel 1764. aastast pärineval kaardil on platvorm ja ühendussild omavahel ühendatud (punase sõõri sees), kuid mõnel hilisemal plaanil (nt 1822) kohtab ka lahutatud varianti.

Map / Kaart: Raid 2011, 41

CONCLUSION

During archaeological surveillance at Kiikri St. 2 in Kadriorg in 2017, four historical objects were discovered and cleaned out, the approximate age of two objects was determined by dendrochronological method. A big wooden ship was located in the construction area between buildings 2 and 3, in the pit foreseen for underground garages. A 20.5 metres long stern part of the ship was excavated. The superstructure of the wreck had been dismantled and the rest was left on the sea sand. The base, which at a later time had been covered with ash, was cut from the better preserved fore part at the construction line and the preserved details were stored upon the cleaned out frames, keelson and inner planking and covered with sea sand, which after the end of construction activities will remain below natural ground water level. A 12 to 15 metres long and 11 to 12 meters wide part of the wreck, which lay at the depth of 3 to 4 meters in sea sand under a layer of ash remained unexcavated. This part of the wreck was declared a national monument with the Minister of Culture decree No. 126 from 2.7.2018, type archaeological monument. In the National Registry of Cultural Monuments the wreck bears the number 30953. Since this monument is in the protection area of an earlier protected wreck 'Tver', there was no need to designate another protection area for it.

North of the wreck a long structure of pine logs that ran throughout the entire construction area and had preserved in two or three log layers was excavated. This structure may be a landing bridge or a foundation for an access way to a defence structure. 35 to 40 cm wide logs were placed in rows of three, the structure continued in the west wall of the excavation pit, heading towards the protected wreck 'Tver' in the seabed. Further studies need to clarify whether this object is an 18th century defence structure or it dates from the 19th century and has another function.

Next to the above-described wooden structure, some longer wooden parts of a ship came to light, dating possibly from the 19th century. From the middle part of the construction site of the second building, a part of a ship or barge was cleaned out, preserved in the length of 5 metres and 2 metres wide, which was about a quarter of the entire vessel. This was an 18th–19th century means of transport, used to communicate between large ships anchored at sea and the port. Both the boat and the barge were cleaned out and documented, and then handed over to the Coastal Folk Museum in Viimsi for preservation and study.

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AJALOOLISED LAEVAVRAKID JA KALDARAJATIS KADRIORUS

Ants Kraut ja Vello Mäss

Märtsist septembrini 2017 tegi osahing Muinasprojekt arheoloogilist järelevalvet Tallinnas Kiikri tn 2 ehitatavate elumajade kaevetöödel (jn 1). Uuringuala asus Tallinna vanalinna muinsuskaitseala kaitsevööndis, Tuukri tänava ja mere ning ehitatava Reidi tee vahelisel alal, Pikksilma tänavast ja 2015 leitud nn Tivoli vrakkidest kirde pool, arheoloogiamälestisena kaitse all oleva sõjalaeva “Tver” kaitsevööndis (jn 2). Uuritud ala asus veel 20. sajandi algul meres ning täideti hiljem põlevkivituhaga ja prahiga (jn 3). Enne kaevetöid tegid Tallinna Ülikooli spetsialistid kahe põhjapoolse hoone alal georadari uuringu, lõunapoolsema süvend oli arheoloogilise jälgimiseta välja kaevatud 2016. aasta lõpul. Kiikri 2 ehitusalal arheoloogilise järelevalve käigus avastati ja puhastati välja neli ajaloolist objekti, millest kahe ligikaudne vanus määrati dendrokronoloogilisel meetodil.

Suur puust laev paiknes ehitusalal 2. ja 3. hoone vahelisel alal maa-aluse garaaži jaoks kaevatud vundamendisüvendis. Sellest kaevati välja 20,5 m pik-

kune ahtripoolne osa (jn 6–7). Vraki pealisehitus oli lammutatud ning mereliivale jäetud ja hiljem tuhaga kaetud. Põhjaosa lõigati ehitusjoonelt paremini säilinud vööriosast läbi (jn 8) ja säilinud detailid paigutati väljapuhastatud kaarte, kiilsoni ja siseplangutuse peale ning kaeti mereliivaga, mis jäi pärast ehituse lõppu allapoole looduslikku põhjaveetasest (jn 9), Vraki tammest plangutuse dendrokronoloogiline uuring, mille tegi Alar Läänelaid, andis tammede raiumise ajaks vahemiku pärast 1674. aastat, tõenäoliselt 1689. aastal. Männipuust kaare dateering oli 1690. a., seega ehitati laev pärast nimetatud aastat. Vrakist jäi välja kaevamata 12–15 m pikkune ja 11–12 m laiune osa 3 kuni 4 m sügavusel mereliiva sees ja tuhakihi all. See osa laevavrakist tunnistati kultuuriministri määrusega nr 126 02.07.2018 kultuurimälestiseks liigiga arheoloogiamälestis ja võeti riigi kaitse alla laevavrakkidest rajatisena (nr 30952 Kultuurimälestiste riiklikus registris). Autorid on seisukohal, et määratlus vähemalt kolmest erinevast vrakist koosneva rajatise

osas, millest ühe puhul on tegemist madala süvisega ühemastilise praamiga, on ekslik. Samuti ei saa nõus olla vraki seostamisega suurtükiplatvormiga, mida on kirjanduses nimetatud praambalefantiks (Gustavson 1994). Tõenäoline on Robert Treufeldti seisukoht, et selle termini puhul võis tegemist olla ajalooliselt kaardilt ekslikult välja loetud nimega "Olifant", mis tähistas üht kahest Tallinna lahe kaldal 1719 kuni 1724 olnud suurest arvukate suurtükkidega palkpraamist. Eestlaetavate suurtükkide käsitlemine vajas tugevat ruumikat ja siledat pinda, milleks vanad vrakid kindlasti ei sobinud. Rajatis ehitusseadustiku mõistena on üks ehitise liike, mis on kohtkindlalt aluspinnasega ühendatud. Leitud laeva alumise osa hindamine rajatisena ei vasta seetõttu uuringutel saadud tulemustele, sest vaadeldava veesõiduki puhul sellist merepõhja külge kinnitamist ei täheldatud. Kiikri vraki puhul on tegemist üheainsa suure merelaevaga, mida enne selle põlevkivituhaga katmist on põhjalikult lammutatud. Võimalik, et vrakk on üks neist sõjalaevadest, mille ehitamist alustati 1693. aastal Balti laevastiku tarbeks Arhangelski Solombala verfis. Laeva lammutamise ulatus võib viidata ka ühele 1764. aastal Tallinna sõjasadamas põlema läinud liinilaevale, mis veeti sadamast välja ja jäeti reidile põlema. Nende seisukohtade tõestamine oleks võimalik vaid laeva maa sisse jäänud ja kaitse alla võetud vööriosa välja-kaevamisel ja läbi uurimisel.

Vrakist põhja pool kaevati välja ehitusala läbinud 2 kuni 3 palgikorra kõrguselt säilinud 25,5 m pikkune männipalkidest sõrestik – laevasild või kaitseraja-

tisele viiva tee alus (jn 10 ülal). Kolmes reas 25 kuni 40 cm läbimõõduga palkidest konstruktsioon jätkus kaevandi lääneseinas ning selle suund oli meres asuvale kaitsealusele laevavrakile Tver. Alar Läänelaiu dateeringu ja hinnangu kohaselt (hilisem aastarõngas 1706. a.) võiks nende palkide maha raiumise aeg olla sellest kuni 30 aastat hilisem. Võimalik, et tegemist on H. Gustavsoni poolt 1994. a. nimetatud 110 sülla pikkuse sillaga Poska tänava otsa kohal, mis viis meres asunud kindlustatud rajatisele (jn 12). Kas tegemist on 18. sajandi I poole kaitserajatise või objektiga, millel on mõni muu otstarve, see vajab veel edasisi uuringuid.

Kirjeldatud puitrajatise kõrvalt tuli välja puust pikema paadi katke, mis võib pärineda 19. sajandist (jn 10 all). Teise hoone ehitusala keskel puhastati välja 5 m pikkuselt ja 2 m laiuselt säilinud suurema paadi ehk praami osa, umbes veerand kunagisest alusest (jn 4–5). See kiiluta veesõiduk paistis silma kvaliteetse materjali ja ehitusviisiga, olles ilmselt ehitatud korralikus laevatehases ning sarnaneb mitteiseliikuva praamiga. Sedasorti madalapardalist veesõidukit sai kasutada ainult suhteliselt kinnistes veekogudes – suurtes sadamates ja laevatehastes, kus neid haalati inimjõul paigast paika. Aluse männipalkidest puiduproovid ei andnud selget tulemust, mis võis olla tingitud praami kaugemast päritolust. Nii paat kui ka praam anti pärast väljakaevamist ja dokumenteerimist edasiseks säilitamiseks ja uurimiseks üle Viimsi Rannarahva Muuseumile.