

Esa Mikkola

THE MIKKELI TUUKKALA CEMETERY – THE 2009 EXCAVATIONS AND NEW INTERPRETATIONS

Esa Mikkola, National Board of Antiquities, PL 913, 00101 Helsinki, E-mail: esa.mikkola@nba.fi

In autumn 2009, seven inhumation graves and one cremation burial were found at Tuukkala in Mikkeli in eastern Finland (Fig. 1). The graves were found in an area, which was supposed to have been entirely excavated in 1886. The original purpose of the 2009 excavations, caused by a district heating pipe line project, was therefore only to check – just in case – the previously excavated areas and to collect the possible stray finds left behind or lost in earlier investigations.

The Tuukkala site is situated on a sand terrace ca. 5.5 km south from the Mikkeli town centre. The buildings of a former garrison occupy the western edge of a sand terrace, located ca. 92–94 metres above sea level. There is a small lake behind the buildings at the western edge of the terrace, which slopes towards the south and southwest. In the east the terrace is bordered by a hill. At present, the Lake Saimaa is located ca. 900 metres east from the site.

RESEARCH HISTORY

The Tuukkala inhumation cemetery was found in July 1886, when the soldiers of the 22nd Reserve Company started to level down a sand mound in the western part of the exercise field adjacent to the garrison. The oval shaped mound was ca. 32 metres long (N–S) and 30.5 metres wide (W–E). Its maximum height was ca. 1 metre (Aspelin 1886, Heikel 1889: 182). The top of the mound had already been levelled before 1886, as it featured a shallow depression, less than 10 metres in diameter (Tuderus 1886a).

The soldiers continued the levelling of the southern part of the mound for three days before

the work was interrupted by the Company commander Maj. Victor Tuderus, who later wrote a short account on the finding of the cemetery (Tuderus 1886a, cf. Paasonen 1886). There are several invaluable observations included in the account. Major Tuderus wrote that bones were found just after an hour's work on Saturday, July 10, 1886. After he had identified them as human bones, the skeletons were carefully unearthed with shovels and finally by hand. However, no documentation was considered necessary and the finds from the different graves were not kept separate. The majority of the artefacts were found on Monday, July 12, 1886. The number of finds decreased considerably on Tuesday, July 13th 1886, when the work was also halted. Most of the skeletons had been found at the southern edge of the mound with their feet facing the south or southeast, whereas the feet of the skeletons found closer to centre of the mound were facing the east. Most often the burnt bones were found near the soil surface (Tuderus 1886a). The exact number of the graves then destroyed is not known, but 20–30 is a credible estimate (see also Table 1). According to the Field Sergeant, who was possibly supervising the levelling in person, a total of 26 graves were found in those three days. According to the Sergeant Major, however, the graves were even more numerous. Later on, Pirkko-Liisa Lehtosalo-Hilander (1988: 193) has concluded on the basis of the find material (see below) that at least 7–8 female burials and 4 male burials were destroyed during this first phase of investigation.

The State Archaeologist, professor J.R. Aspelin, arrived to Tuukkala and a large part of the mound was excavated under his supervision

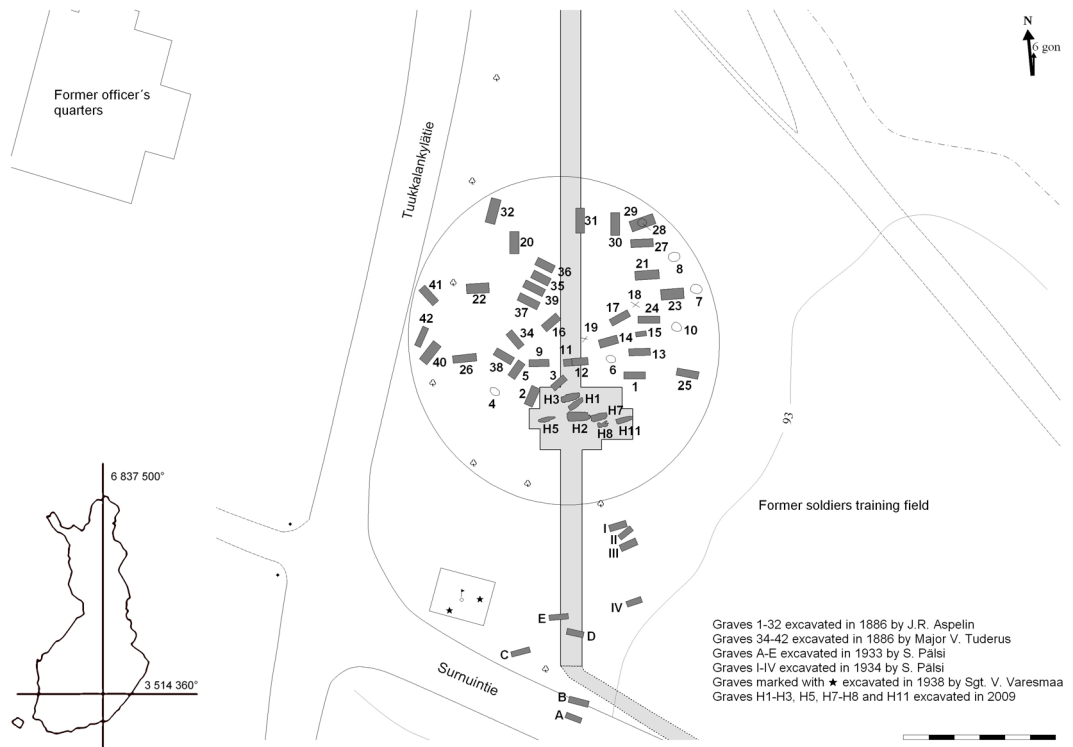


Fig. 1. The Mikkeli Tuukkala site with the 2009 excavation area and trial trenches (graves H4 and H9 not marked on the map), and all the documented graves. Drawing Hanna Kelola/National Board of Antiquities.

between July 21, and August 1, in 1886. As professor Aspelin was the only archaeologist at the site, the drawings of the graves were done by Major Tuderus and only the richest graves were documented in detail. The speed of investigation was indeed staggering: 32 graves – 24 inhumations, 6 cremations and 2 so-called bone heap graves (Heikel 1889, on conflicting terminology see Purhonen 1997: 129–30; Taavitsainen et al. 2009) – were excavated in less than 10 days. These 32 graves, three of which have been described as “with burnt bones” (Aspelin 1886), are also marked in the general map drawn in August 1886. However, the “grave” 33 seen in Heikel’s publication (1899) is actually a collection of stray finds from the mound (Aspelin 1886). There is also some confusion between the numbers in the map and the ones in the find catalogue.

After professor Aspelin’s departure the levelling continued. This time nine inhumation

graves were found, and Major Tuderus alone was responsible for the archaeological documentation. One cremation burial was also found, but it is only mentioned in a letter to Aspelin. Major Tuderus did not send the burned bones to the National Museum because “the grave did not contain any artefacts” (Tuderus 1886b). The general map shows the relative positions of the inhumation graves, but the only point of reference in the map is the road leading to Mikkeli (Tuderus 1886c; Heikel 1886: 216). However, as Major Tuderus wrote in his letter that “despite excavating the grave mound in all directions, only nine graves were found” (Tuderus 1886c), the graves 34–42 must have been found at the western part of the mound.

A tentative combination of the maps drawn in 1886 is included in the Fig. 1, while the rather impressive find material pertaining to the same year comprises: 8 axes, 31 knives, 16 arrowheads, 16 fire steels, 33 pieces of flint, 9

pieces of quartz, 4 pieces of whetstone, 2 iron tools, 26 rings (10 iron, 16 silver/bronze), 1 strap divider, 8 ring brooches, 7 belts with buckles, 4 nails, 5 spinning whorls, 4 neck-bands with silver mounting, 6 round silver brooches, 44 oval tortoise brooches, 63 beads (44 bronze), 27 bronze tubes, 40 chain holders, several pieces of chain, 3 ear spoons, 2 animal-shaped pendants, 11 penannular brooches, 2 pieces of silver, 2 silver finger rings, 4 apron hems and several pieces of clothing, leather and some pieces of wooden coffins (Heikel 1889: 183–93).

In October 1933, when the levelling of the exercise field was once again undertaken, three or five unfurnished inhumation graves were excavated by Sakari Pälsi. These graves were found south of the excavation area of 1886 (Pälsi 1933). Later on that month, four or five furnished graves were found, and these were excavated and documented by Lieutenant Nordenstreng. Their exact location is not known, but they are reported to have been found next to “the southern edge of the previous find place”. Thus, the most probable location for these graves is the area under the present gravel road called Surnuintie. In May 1934 Sakari Pälsi excavated yet again at Tuukkala, but he found only “a few skeletons, whose scatteredness proves them to originate from the graves investigated in 1886” (Pälsi 1935). In October 1934, as the soldiers continued the levelling work, a rich female burial was found and completely destroyed before the work was interrupted. Pälsi arrived at the site and found four more inhumation burials, which were scantily furnished. Only some of these burials were been mapped, but neither the extent of the area then levelled nor the location

of the find places where scattered bones had been found were marked down. Yet another two inhumation graves were found in 1938, when the foundations for the Tuukkala monument, were dug (Lehtosalo-Hilander 1988: 193).

THE GRAVES OF 2009

The graves were found in an area of ca. 60 sq. metres (Figs. 1–2), and three of them were situated directly on the pipe line. All the graves were rather shallow. For example, the find layer of the grave 5 (H5) was encountered only 15 cm below the present day ground surface. This is explained by the continuous levelling of the exercise field. The exact location of levelled areas is not known, nor do we know which areas have survived undisturbed and may still contain graves. It has also been rather difficult to determine the exact location of these graves vis-à-vis the earlier ones due to limitations in the documentation of excavations pertaining to 1886 and to the 1930’s. Nearly all the graves found in 2009 had been more or less damaged. In all likelihood, these are the graves that escaped destruction on July 13, in 1886. Thereafter, the excavation seems to have continued under Aspelin’s command in the intact part of the mound.

The following descriptions are based on the observations and notes made at the field. The material has not been organised or analysed – osteological analysis is due in January 2010. Therefore, the interpretations to be presented are only tentative.

Grave 1 (H1), found in the original trial trench, was ca. 150 cm long and ca. 50 cm wide. The longitudinal axis of it ran from southwest to northeast (238°) and the skull, had there been

Table 1. A summary of the excavations carried out at the Mikkeli Tuukkala site.

Time	Graves ¹⁾	Person responsible
1886 – July	20–30 (>3)	Major Tuderus
1886 – July/August	32 (6)	Aspelin
1886 – August/September	10 (1)	Tuderus
1933 – October	3 or 5	Pälsi
1933 – October	4 or 5	Lieutenant Nordenstreng
1934 – May	? ²⁾	Pälsi
1934 – October	1	Nordenstreng/Varesmaa
1934 – October	4	Pälsi
1938	2	Sergeant Varesmaa
2009 – September/October	8 or 10 (1)	Mikkola
<i>Total</i>	>93 (11)	

¹⁾ The number of cremation burials given in brackets. ²⁾ Few scattered skeletons.

one, would have faced southwest. The grave seemed to be more or less intact, but several small shovel pits were detected on its surface. The skeleton was quite well preserved but the missing skull. As the grave pit seemed to end abruptly at the cervical spine, the deceased seems to have been buried decapitated, although this has to be confirmed by forthcoming analyses. The grave furnishings were modest and included a fire steel, three pieces of dark grey flint, two iron rings and a small broken bronze belt buckle found at the waist of the skeleton. The finds, which indicate that this was a male burial, were covered by a thin layer of wood or bark.

Grave 2 (H2) was found adjacent to grave 1 on its southern side. The grave was badly damaged and only the lower legs were encountered intact in the grave. The length of the preserved part of the grave pit was ca. 120 cm and the width ca. 90 cm. The deceased had been buried in a coffin with the head in the east and feet in the west. A large iron knife was found in the grave placed inside the right thigh and its tip turned towards the genitals. I assume that this was a male burial,

which had been almost entirely destroyed on Tuesday, July 13, 1886.

Grave 3 (H3) was found adjacent to grave 1 on its northern side. The grave contained a double burial: an unfurnished inhumation and an unfurnished cremation (viz. grave 10 [H10]). The size of the grave pit was 225 x 75 cm and the deceased had been buried in a wooden coffin with the head towards the west (257°). The size of the coffin was 190 x 60 cm. The ribs, lower arms and the spine had almost entirely decomposed, but the skull, upper arms and the legs had been preserved rather well. The right foot was however missing and the bones of the legs showed some traces of later damage.

Grave 4 (H4) was found quite near to the surface on the western side of graves 1 and 2. The rectangular feature measured ca. 200 x 80 cm with its longitudinal axis oriented from north to south. No bones or artefacts were found in the feature, which was full of small pits filled with dark mould. These indicate that the grave had been totally destroyed by shovelling. According to Major Tuderus (1886a), most graves on the



Fig. 2. Graves H8, H7, H2, H1, H3 and H9 seen from east. Photo Esa Mikkola/National Board of Antiquities.



Fig. 3. Bronze studded leather belt in the grave H7. Photo Esa Mikkola/National Board of Antiquities.

southern edge of the mound were N-S -oriented (Tuderus 1886a), and this feature may well be one of those graves.

Grave 5 (H5) was located on the western side of the grave 4. The longitudinal axis of the ca. 170 cm long and ca. 50 cm wide grave ran from E to W (268°) with the head in the west. The south-eastern part of the grave had been badly damaged. While upper legs and arms had been preserved, the upper part of the skull had been smashed into pieces with a shovel. An oval fire steel, a piece of grey flint, two bronze rings and a belt buckle were found at the waist of the skeleton. These artefacts indicate that this was yet another male burial.

The identification of the feature H6, situated between the graves 2 and 7, as a grave is no longer valid. This pit-like feature contained several finds, such as pieces of a leather belt with bronze fittings, a belt buckle, and a ring brooch of bronze. Also, a few small pieces of a silver (?) pendant were found in the feature. The finds may well be originally from the grave 2.

Grave 7 (H7) was found on the eastern side of grave 2. Excluding the feature H6 that cut its north-western part, the grave was otherwise intact. The longitudinal axis of the grave pit, which was ca. 160 cm long and ca. 60 cm wide, ran from E to W (261°) with the head in the west. The deceased had been buried in a coffin, which measured 114 x 40 cm. Of the bones, only the skull had been preserved. The mandible was of especial interest: the permanent teeth, which had not yet been erupted, were visible under the set of deciduous teeth. The child in the grave must have been only 6–7 years old at the time of death.

Nevertheless, the grave was richly furnished as it contained three small silver artefacts, a small piece of hack silver, two knives, a whole and a fragmentary fire steel, two palmette pendants, tiny fragments of bronze chain rings, a leather belt ornamented with a row of semicircular bronze studs (Fig. 3), an unidentified iron object, a piece of a whetstone, a piece of flint and a small pebble of black-and-white granite.

The pebble had been placed on top of the child's right shoulder and the whetstone fragment between the legs. Both knives were on the right hand side: one placed next to the feet, but the other nearer to the waist with a fire steel placed next to it. The fragmented fire steel, on the other hand, was found together with a piece of flint in the south-western corner of the grave. The palmette pendants were both found between the legs. Normally palmette pendants hang from cruciform band-plaited chain holders, which are often considered as Eastern Finnish or Savo-Karelian feature (Lehtosalo 1966: 82; Uino 1997: 167). The pendants belong to the same type as the pendants found in grave 37 in 1886 (Heikel 1889: Fig. 65). No exact parallel for the belt has been found. A silver temple ring or ear ring consisting of a plain round ring and a silver bead, and two small silver objects were found next to the child's left ear (Fig. 4). Exact parallels for these objects are also unknown. Furthermore, a small piece of hack silver, possibly cut from a round silver brooch, was found in the child's left eye socket. It is worth remembering that in grave 3 of the Mikkeli Visulahti, an inhumation cemetery located a few kilometres northeast of Tuukkala, a silver bracteate (KM 13441: 17) was



Fig. 4. Silver objects found adjacent to a child's skull in the grave H7. Photo Esa Mikkola/National Board of Antiquities.

found in the mouth of the deceased (Lehtosalo 1966: 13). However, the deliberate placement of silver inside the cavities of the human skull was not a common practice during the Late Iron Age or Early Medieval Period in Finland.

Grave 8 (H8) was situated adjacent to the grave 7 on its southern side. The grave had been partially damaged in its eastern part by the digging of a large round pit. There were very few traces of a grave pit and the deceased had almost entirely decayed save the bones of the lower legs. The remains of the deceased had been placed from E to W with the head in the west. A bronze belt buckle and a bronze ring brooch (or another belt buckle of the type Kivikoski 1973: Abb. 1195, Tafel 137) were found among the decayed organic mass. The deceased had likely been covered with birch bark. The grave was only ca. 120 cm long, which could indicate another child burial.

Grave 9 (H9) has been interpreted as a previously destroyed grave. Some remains of wood and few bones were detected in a feature



Fig. 5. Double burial with inhumation H3 and cremation H10 seen from east. Photo Esa Mikkola/National Board of Antiquities.

located in the north-eastern part of the excavation area. Had it originally been a grave, it would have been E-W-oriented like the majority of the graves found in 2009.

Grave 10 (H10) is a cremation burial within the grave pit of the inhumation grave H3 that was observable as two larger concentrations of burnt bone between the legs of the deceased (Fig. 5), while the third and smallest concentration had been placed outside the body adjacent to the right knee. At this stage of the research it is impossible to say whether these concentrations represent individual burials or whether they are all from one individual. A round heap of rather large white, grey or soot black bones had been placed between the feet. The missing right foot of the inhumation was found in the heap of burnt bones. This indicates that the cremated bones were dug into the inhumation grave when the skin, flesh, cartilages or joints still were keeping the bones of the foot together. Another heap of bones, more or less rectangular in shape, had been placed between the upper legs and it covered the right leg. The bones outside the skeleton were fewer but rather large. All the burnt bones were found inside the rim of the wooden coffin. Interestingly, two pieces of burnt bone had been placed next to the hips and two on top of the lower arms. The cremation (or cremations) and the inhumation were both unfurnished.

Grave 11 (H11) was found in the eastern part of the excavation area next to the above mentioned round pit and a presumably modern post-hole. The digging of the post-hole had destroyed most of the skull and only the lower mandible had survived. The grave pit, which was 160 x 60 cm in size, was E-W-oriented (262°) with the head in the west. Two oval tortoise brooches, two chain holders, a bronze bead and three bronze bar-shaped chain-links, a bronze ring brooch and an iron knife were found in the grave. The brooches are of the Ailio H-type (e.g., Uino 1997: 355–6) and the chain holders belong to cruciform band-plaited variant (e.g., Heikel 1889: Fig. 64). However, no pendants were found in these chain holders. Almost all bronze artefacts were covered by a layer of wood (Fig. 6), some plant remains and hair (from fur?). With all likelihood, some textile fragments have survived adjacent to the bronze brooches, but there were no traces of a bronze

spiral ornamented apron. The bronze jewellery identifies the find as a female burial, possibly that of a young girl.

DISCUSSION

The exact number of graves found in Tuukkala is not known due to insufficient and sometimes inaccurate documentation and careless excavations, but 90–100 is a credible estimate. Eleven of these are cremation burials, others are inhumation burials. The actual number of burials, however, may be considerably higher. Intact graves can possibly still be found in certain areas, especially in the vicinity of the 2009 excavation area and around the Tuukkala monument.

All but one inhumation burial (6/7) found in 2009 seems to belong to males on the basis of the grave goods or skeletal features. Both children's burials have been listed here as male, since in both cases the deceased was buried with a leather belt, which is typical for male burials in Tuukkala (Heikel 1889). Only one of the graves belongs to a female. These gender identifications will hopefully be confirmed in the forthcoming DNA analysis – suitable samples have been obtained from the graves H1, H3, H5, H7 and H11.

An idea about the presence of a church on the grave mound in Tuukkala has been put forward by Paula Purhonen (1997: 125). The identification of the church is mainly based on existence of a rectangular area void of graves in Aspelin's general map (Purhonen 1997: 126, Fig. 136, *passim*). No building remains were found in the 1886 excavations, but, on the other hand, the identification of the decomposed remains of a wooden building would have been rather difficult considering the excavation methods and the speed of investigation. Two post-holes located in the eastern part of the excavation area were the only building remains found in 2009, and stratigraphically they were among the youngest features at the site.

According to Major Tuderus, the top of the one-metre-high mound had already been cleared from grass and topsoil before the year 1886 (Tuderus 1886a). This may offer a partial explanation for the area void of graves in the general map of 1886. Furthermore, by paying attention to details in Major Tuderus's letter to professor J.R. Aspelin, the graves 34–42 (1886)



Fig. 6. The bronze jewellery in the grave H11 was covered by a layer of wood (a coffin lid?). Photo taken from east. Photo Esa Mikkola/ National Board of Antiquities.

can be positioned in relation to the graves 1–32 (1886), and this further reduces the area that was once thought to be devoid of graves.

Another argument in the identification of the church has been the orientation of the graves around the rectangular area (Purhonen 1997: 128). However, Major Tuderus informs us that the orientation for most of the graves in the southern edge of the mound was either S-N or SE-NW with the heads facing the north or north-west. Closer to the centre of the mound, the graves were more or less E-W-oriented (see above). One cannot escape the notion that at the edges of the mound the graves were dug against the contour lines. Similar assumption regarding the influence of the topography on the orientation of graves has been put forward by Theodor Schwindt in 1893, however, based on only one example from Sakkola (Uino 1997: 67 with references). Nevertheless, there are many similarities in the topography of Karelian inhumation cemeteries and Tuukkala (cf. Uino 1997: 55).

The distribution of grave goods has also been used as an argument when locating the presumed church. While, graves containing swords and spearheads have not been found in Tuukkala, nine axes are known. Four of them are

from the northern part (graves 20, 31, 32 and 39; KM 2481:204, 258, 268 and 323 respectively), one (grave 34, KM 2481: 270, cf. Fig. 1) from the middle and three from the southern part of the grave mound (KM 2481:1, 2 and 3). The ninth axe (KM 9795:7, grave 2, exact location unclear) was found at least some 20 metres south of the grave mound in 1933. Due to this rather random distribution, the axe-graves cannot, in my opinion, be used as evidence for the location of a sacral building (cf. Purhonen 1997: 128–9).

As mentioned above, three heaps of burnt bone were found inside the grave H3. In Tuukkala, the location of 6 cremation burials has been marked on the general map of 1886 (4, 6, 7, 8, 10 and 28). In addition, three cremations had been destroyed before Aspelin's arrival and one was found but not documented after his departure from Tuukkala in 1886. Most cremation burials were found near the ground surface, and the only other one found in the same place as an inhumation burial, was located some 50 cm above the skeleton (Heikel 1889: 211). Two of the cremation burials had been furnished: grave 4 contained only a knife, but a penannular brooch, three oval tortoise brooches, pieces of bronze and iron chain, three chain holders, two knives and a fire steel (KM 2481:143–154) were found in grave 7. The burial (H10) excavated in 2009 differs from other documented cremation burials in Tuukkala in many respects, but as no bones either from inhumation or cremation have been analysed or ¹⁴C-dated, there is little point to take the discussion of this potential double grave any further. In any case, the existence of cremation burials in inhumation cemeteries has been discussed in detail, for example, by Taavitsainen (1991), Lehtosalo-Hilander (1992), Uino (1997: 67–8), Purhonen (1997: 129–30) and most recently by Taavitsainen, Hiekkänen and Oinonen (Taavitsainen et al. 2009). The question could be approached by abandoning the strict dichotomies, for example Christian vs. pagan, as modern fallacies and by adopting more pluralistic or syncretistic viewpoint particularly regarding the realm of burial customs and practices.

The date of the Tuukkala cemetery has been debated for long. While A.O. Heikel dated Tuukkala to “the pagan era, the late Iron Age” (Heikel 1889: 182), Pirkko-Liisa Lehtosalo-Hilander (1988: 194) suggested a date from

the 11th to the early 13th century on typological grounds. Paula Purhonen (1997: 131, Fig. 141) dates the graves of Tuukkala from the last quarter of the 11th century to year 1300, mainly based on the typological dating of the round silver brooches and the ring brooches. However, an ear of rye (KM 2481:288) found in 1886 in the grave 36 has been radiocarbon dated by later research (see Purhonen 1997: 247). When calibrated with an online version of OxCal 4.1 (<https://c14.arch.ox.ac.uk/oxcal/OxCal.html>) the date Hela-109: 625 ± 65 BP falls with 68.2 % (1 sigma) probability to cal. AD 1292–1328 (27.2 %) or cal. AD 1340–1396 (41.0 %). The grave 36 belonged to a female and contained two oval tortoise brooches of Linturi C-type (Linturi 1980), a knife with a bronze sheath, two chain holders, a neckband with silver fittings, ear tubes, several pieces of clothing and other organic material (Heikel 1889: 217–9). It would not come as a surprise if the future ¹⁴C-dates proved that the Tuukkala cemetery was mainly used during the 13th and 14th centuries with occasional burials still made in the 15th century.

Finally, the excavation of 2009 demonstrated the importance of double-checking all the areas, presumably fully excavated or otherwise entirely destroyed, in connection with new building projects, especially if the original investigation took place in the 19th century. The shortcomings in the earlier documentation may result in surprises, and, just as in the present case, in the most interesting archaeological finds of the recent years.

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