

- Memelgebiet hinsichtlich der Funde aus dem Gräberfeld Aukštakiemiai (Oberhof). – *Archaeologia Lituana*, 1. Vilnius, 110–117.
- Okulicz, J.** 1986. Einige Aspekte der Ethnogenese der Balten und Slawen im Lichte archäologischer und sprachwissenschaftlicher Forschungen. – *Questiones Medii Aevii*, 3, Warszawa, 7–34.
- Okulicz, J.** 1992. Centrum kulturowe z pierwszych wieków naszej ery u ujścia Wisły. – *Barbaricum*, 2, Warszawa, 137–155.
- Rimantienė, R.** 1968. Tūbausių kapinynas. *Резюме: Могильник в Тубаусяй.* – *Lietuvos archeologiniai paminklai. Lietuvos pajūrio I–VII a. kapinynai*. Vilnius, 183–209.
- Schmiedehelm, M.** 1931. Über die Beziehungen zwischen dem Weichselgebiet und Estland zur römischen Eisenzeit. – *Congressus secundus Archaeologorum Balticorum*, Riga, 19.–23. VIII. 1930. Riga, 395–408.
- Schmiedehelm, M.** 1955. Шмидехельм, М. 1955. Археологические памятники периода разложения родового строя на северо-востоке Эстонии (V в. до н. э. – V в. н.э.). Таллин.
- Shennan, S. J.** 1989. Introduction: archaeological approaches to cultural identity. – *Archaeological Approaches to Cultural Identity*. Ed. by S. J. Shennan. London, 1–32.
- Shennan, S. J.** 1991. Some current issues in the archaeological identification of past peoples. – *Archaeologia Polona*, 29, Warszawa, 29–37.
- Stankus, J.** 1995a. Bandužių kapinynas. *Summary: The burial-ground of Bandužiai.* *Lietuvos archeologija*, 12, Vilnius.
- Stankus, J.** 1995b: A unique pectoral ornament from Bandužiai, Lithuania. – *Archaeologia Baltica*, 1, Vilnius, 81–86.
- Tamla, Ü.** 1977. Das Tarandgrab von Mõigu-Peetri. – *TATÜ*, 26: 1. Tallinn, 55–61.
- Tautavičius, A.** 1980. Таутавичюс, А. Балтские племена на территории Литвы в I тысячелетии н. э. – Из древнейшей истории балтских народов (по данным археологии и антропологии). Рига, 80–88.
- Vaitkunskienė, L.** 1999. Žvilių kapinynas. *Summary: The Žviliai cemetery.* *Lietuvos Archeologija*, 17, Vilnius.
- Vasks, A.** 1997. The cultural and ethnic situation in Latvia during the Early and Middle Iron Age (1st – 8th century AD). – *Latvian Ethnic History*, 3 (16), Riga, 49–74.
- Wahle, E.** 1928. Die Ausgrabungen in Rutzau und Bauske. – *Archaiologijas raksti*, I (II), Riga, 9–53.
- Žulkus, V.** 1995. Vakarų baltai gotų-gepidų migracijoje (I–IV a.). – *Lietuviniškų kraštas*, Vilnius, 65–107.
- Žulkus, V.** 2004. Kuršiai Baltijos jūros erdvėje. *Zusammenfassung: Die Kuren im Ostseeraum*. Vilnius.

CROSSBOW FIBULA AS A REFLECTION OF SOCIAL STATUS AND RELATIONS

Mari-Liis Rohtla

Crossbow fibulae are discussed as one of the widespread categories of adornments in Roman and Middle Iron Age stone-graves. I will use the term *fibula* in the sense of a brooch with bow-like construction that was commonly used around the Baltic during the period. While the crossbow fibulae are mostly grave-goods, their placement in graves does not provide direct information of their other functions. Nevertheless, after analysing the distribution and origin of the different types of crossbow fibulae in Estonia and examining their different production techniques, the author arrives at the conclusion that crossbow fibulae were adornments that indicated status. The possible functions of the fibulae include their use for fastening clothing, their presentation as prestige goods and their placement in graves. Contacts with other areas around the Baltic are traceable via solitary artefacts marking direct import or the ideas of production. The majority of crossbow fibulae are considered to be local specialities.

Key words: crossbow fibula, Roman Iron Age, Migration Period, grave-goods, social status marker, production techniques of adornments.

Mari-Liis Rohtla, Department of Archaeological Collections of the Institute of History, 6 St. Rütli, Tallinn 10130, Estonia; mariliis@ai.ee

Introduction

The most widespread adornments found in graves of the Roman and Middle Iron Ages are brooches (fibulae), among which crossbow fibulae form one of the most distinctive groups. They are numerous and were used for a long time. Unlike other fibulae, many subtypes can be distinguished among the crossbow fibulae (table). The form and function of some of the subtypes have changed considerably over time. Their use on the eastern coast of the Baltic Sea exceeds the borders of archaeological periods, starting in the middle of the 2nd century in the Roman Iron Age and continuing in the Middle Iron Age. It should be mentioned that no crossbow fibulae that could be dated to the Roman Iron Age have been found in western Estonia. At this point it should be mentioned that crossbow fibulae have been found in several hoards and buried treasures, but the topic is left out of the present article due to the lack of thorough research in the area.

Until now there has been a lack of comprehensive analysis on crossbow fibulae. Therefore my main task in this work will be to try to give an overview of problems concerning the above-mentioned fibulae. Although relatively thorough research into Roman Iron Age fibulae have been published, including the ones of crossbow fibulae (e.g. Almgren 1923; Moora 1938), new directions and starting points have arisen in artefact research during the last decade. The attempt to interpret the aspects of past society that are not reflected in the archaeological remains – for example commercial relations, social hierarchy in prehistoric society etc. – have become the main directions (Bitner-Wróblewska 2001; Wason 1994).

The primary problem with the investigation of Estonian crossbow fibulae is their exclusive appearance in Roman Iron Age graves (fig. 1). At the same time, it sets the limits for the investigation of their possible use, as we only know of them as grave-goods. On the other hand, these sites where

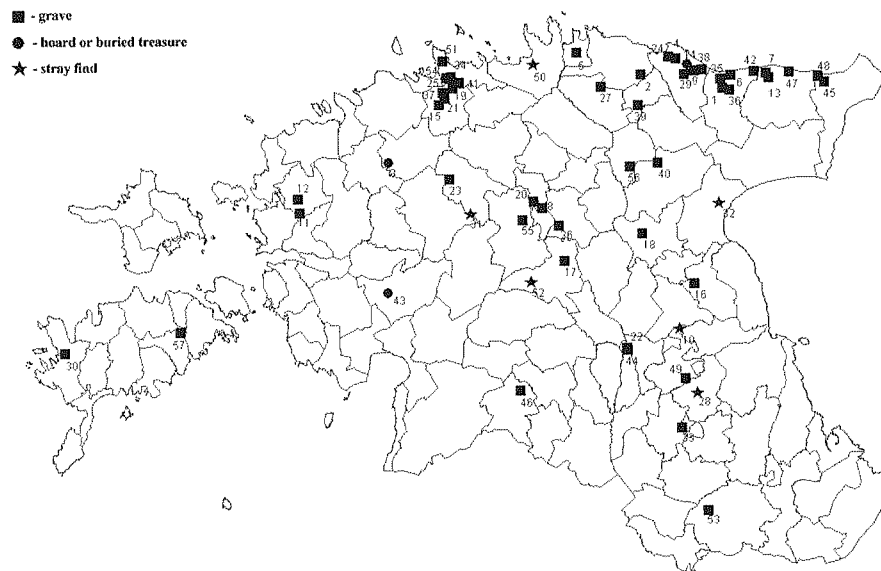


Fig. 1. The distribution of crossbow fibulae in Estonia.

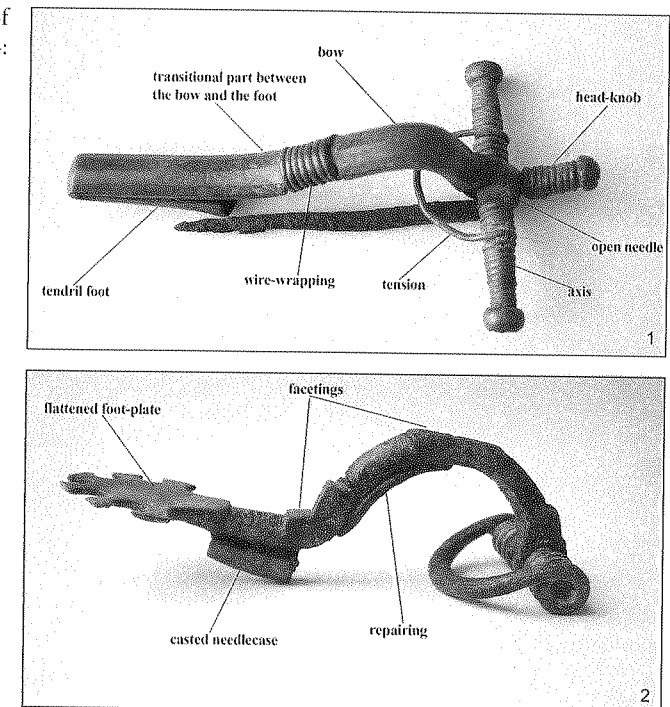
crossbow fibulae are found, the *tarand*-graves, are themselves also problematic, since the graves were used for a very long time and single burials are mixed, and therefore it is practically impossible to discern certain artefact complexes (Lang 1996, 313), and it is difficult to determine the age, sex and status of the dead.

In order to open new aspects in the study of crossbow fibulae around the Baltic Sea, one should know how other researchers have discussed the problem. The interpretations south to Estonia are very important, as the Estonian find material concerning the Roman Iron Age adornments is mostly related to Lithuania and Poland. Studies from neighbouring countries – by Latvian, Finnish and Scandinavian authors – are also relevant. But as concerns Latvia and Finland, the assessment of the current situation in research is hardly positive, and only treatments that are decades old – in Estonia and Latvia the work of Moora and in Finland the monograph of Keskitalo – can be used (Moora 1938; Kes-

kitalo 1979). Next to scarce research of the Roman Iron Age, more thorough analyses are carried out on Middle Iron Age crossbow fibulae. At this point one should mention Anna Bitner-Wróblewska, who has studied the types of crossbow fibulae and the moving and change of the ways of ornamentation, the influence of local “fashions”. At the same time, she tried to observe how the oversea contacts between workshops took place, which adornments spread via ideas and which ones via artefacts (Bitner-Wróblewska 2001, 122).

My research mostly concentrates on Estonian material. Parallels from other countries, mostly Lithuania and Poland, were only sought for while discussing certain subjects. One article cannot contain all the topics connected with an entire area of research, and thus I mention only some of the aspects that are linked to crossbow fibulae. I will try to understand the people who have owned the fibulae by discussing the possible ways of making and using them, and the importance of the fibula as

Fig. 2. Basic details of crossbow fibulae (AI 2604: 17; 3172: 77).



an ornament. The main purpose of the article is to give a comprehensive analysis of the Roman and Middle Iron Age find material via a single type of ornament.

Crossbow fibulae in the Roman Iron Age and Migration Period

The crossbow fibula with a simple tendrill foot (fig. 2)¹ is the earliest and simplest type of crossbow fibulae (fig. 3: 1). I have counted 21 items that belong to this type, but determination is difficult, because many have only been preserved in fragments that might also belong to the other types with tendrill feet. Crossbow fibulae with tendrill feet appear mostly on the northern coast of Estonia, but the type is remarkably less common in central and southern Estonia (fig. 4). They vary in size, but the tendency in the eastern coastal

area of the Baltic is that the smallest ones were the earliest, occurring in the first part of the 2nd century AD (with Roman coins) (Moora 1938, 121). In Estonia that kind of fibulae are not dated to the 2nd century, but here it has been suggested that their use started in the 3rd century (Schmiedehelm 1955, 95; fig. 22: 9). But the majority – the largest ones in terms of size – are dated to the 4th–5th century (Laul 2001, 116).

Crossbow fibulae with tendrill feet and head-knobs are the most numerous and most common of all of the types of crossbow fibulae. The notable characteristics of this type are knobs at the head and also at the end of the axis. Most researchers have divided them into subtypes in accordance with Moora (1938, 125) – fibulae with profiled head-knobs and others with wire-wrapped knobs (fig. 3: 2) (see also Schmiedehelm 1931, 401-402). I have counted 137 single items of this type, and most of

¹ Fig. 2 explains the basic vocabulary of crossbow fibulae

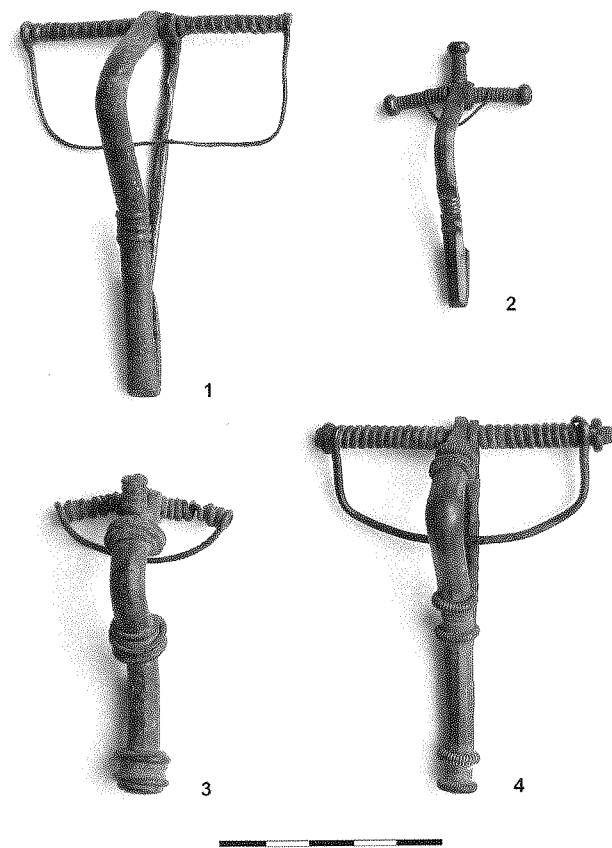


Fig. 3. The types of crossbow fibulae with tendril feet: 1- simple crossbow fibula with a tendril foot, 2- crossbow fibula with a tendril foot and head knob, 3- 1st group of ring decoration, 4- 2nd group of ring decoration (AI 4408:400; 2834:8; 2012: II:20; 2012:II:19).

them have wire-wrapped knobs (table). Half of crossbow fibulae with head-knobs have been found in north-eastern Estonia (fig. 4) and a little more than ¼ from north-western Estonia. Thus it can be said that northern Estonia predominates among the other regions in association with this particular type of fibulae.

In general the fibulae with wire-wrapped head-knobs are quite small and thin. Although they have the same main characteristic features, they vary from region to region in certain details. Profiled head-knobs are more common in the northern parts of Estonia. The most unique feature is the faceted head and foot-wrapping that is found only in north-eastern Estonia (fig. 3: 2). The decoration of fibulae (at the head and foot-wrapping) with transverse grooves,

notches or diagonal grooves or the head-knob with small tubes seems to be more common to north-western Estonia, but these elements also occur in north-eastern and central Estonia. The same observation applies to double-tension – north-western Estonia predominates over neighbouring areas, but they do not occur in south-eastern or eastern Estonia.

Fibulae with head-knobs are almost contemporaneous with simple crossbow fibulae with tendril feet. In Latvia the fibulae with profiled head-knobs have been dated to the third century on the basis of East-Prussian analogues (Moora 1938, 126). The fibulae with wire-wrapped head-knobs are somewhat younger, and are considered to be a local form – occurring in north-eastern Estonia at the end of

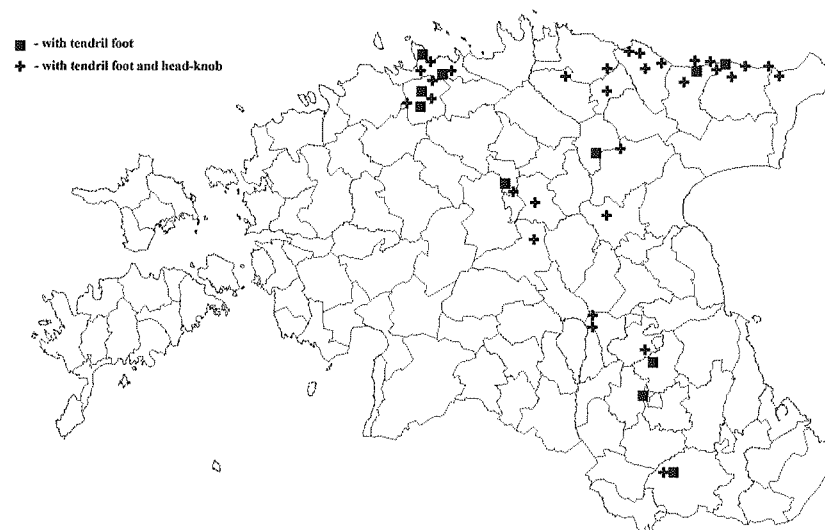


Fig. 4. The distribution of crossbow fibulae with tendril feet, and with tendril feet and head knobs.

the 3rd and the beginning of the 4th century (Schmiedehelm 1955, 87). Fibulae found in north-western Estonia are mainly dated to the 4th century (Lang 1996, 179), and this also applies to other regions that follow Latvian dates. At the same time there is a tendency to date bigger items as being younger (Moora 1938, 130).

Crossbow fibulae with ring decorations are decorated with rings around the bow, head or foot, and sometimes also at the end of the spiral. On the basis of the position of the rings, Harry Moora has divided the fibulae into three groups (Moora 1938, 132, 136, 138). As Moora's division was based on local material (mostly northern Latvian and Estonian), I will use this in my introduction.

For the 1st group of ring decorations, the main characteristic features are three grooved rings in a group, while the middle one is very often higher than the others (see Almgren 1923, type 167). The same rings are at the end of the spiral, and most of those fibulae also have a head-knob

(fig. 3: 3). Only five items of this group have been found in Estonia – and all were found in north-eastern and north-western Estonia (table; fig. 5). Categorising these fibulae under the tendril foot types is a bit tendentious, because three of the items have a cast needlecase. All other groups of the fibulae with ring decorations have tendril feet and therefore I considered the position of the rings to be a more important decoration element than the needleconstruction.

In East Prussia, fibulae with ring decorations that look similar to the 1st group have been dated to the end of the 2nd and the beginning of the 3rd century (Nowakowski 1998, fig. 4) on the basis of Roman coins. They remained in use until the 4th century in Samland (*ibid*). Fibulae with flattened rings were mainly used in Estonia, and were thus considered to be somewhat younger than in Samland – their main period of use was the 4th century, and a few items were also dated to the 5th century (Moora 1938, 134–135; Lang 1996, 179).

The number of the fibulae of the 2nd

- - 1st group of ring-decoration
- - 2nd group of ring-decoration
- - 3rd group of ring-decoration

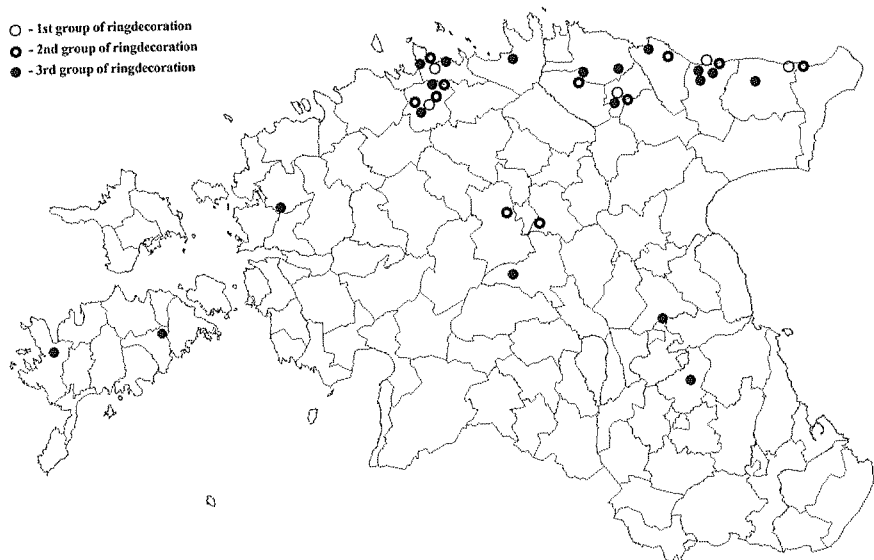


Fig. 5. The distribution of types of crossbow fibulae with ring decorations.

group of ring decoration is five times greater than that of the 1st group (26 items). The grouping by three rings was phased out, and the rings appear individually. There can also be three or four flatter and smaller rings placed between two grooved rings (fig. 3: 4). Similarly to the fibulae of the former group, these also emerge only in the northern part of Estonia, and only two fibulae are found in central Estonia (fig. 5), one of which is quite exceptional because of its cast needlecase (Vassar 1943, 131) (AI 2481: 58a). In Samland the fibulae that are similar to Moora's 2nd group of ring decoration, together with the simple crossbow fibulae with tendril feet, have been dated to the 3rd century (Nowakowsky 1996, 57). Also in Estonia, the older items are dated to the 3rd century (Schmiedehelm 1955, 95; fig. 22: 10), but the main period of use was still the transition from the 4th to the 5th century and the 5th century (Vassar 1943, 132; Moora 1938, 137).

Crossbow fibulae of the 3rd group of ring decoration belong to the transition period from the Roman Iron Age to the

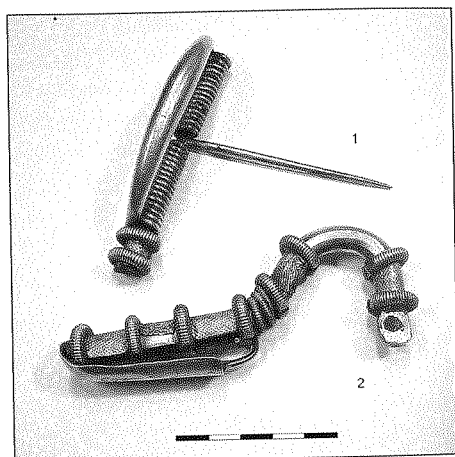


Fig. 6. The 3rd group of crossbow fibulae with ring decorations: 1- example of closed needle-construction (silver), 2- the bow and the foot (made of silver with gold inlay) (AI 3235: 239, 240).

Migration Period. These precious fibulae are also decorated with grooved rings, but the space between the two rings is usually filled with bronze-, silver- or gold inlay with imprinted latticework (fig. 6: 2). Bronze fibulae very often have silver inlay,

and silver fibulae have silver or gold inlay. I have counted 45 individual items of this type. Unlike the two former groups, the 3rd group was also distributed in south-eastern and even in western Estonia (fig. 5). The crossbow fibulae with ring decorations from the *tarand*-grave region form an autonomous north-eastern branch of such fibulae (Moora 1938, 140).

Moora has suggested that simple items of the 3rd group of ring decoration followed the 2nd group in sequence, and he dated the former to between 450 and 550 AD (Moora 1938, 142). In Samland, fibulae with that kind of decorations originate from the 4th-5th centuries (Moora 1938, 141). The same date applies to incurved-tension fibulae from Estonia (Vassar 1943, 131-132).

Crossbow fibulae of the 3rd group of ring decoration with rare bow-ornamentation have only been found in western Estonia: approximately 10-12 items from Saaremaa (Lepna and Paju graves); 1 fragment of the bow from Kirimäe flat-cemetery (fig. 5). These fibulae are characterised by three strong grooves along the bow (fig. 7). In Samland, such features often appear on items with so-called incurved pseudo-tension (Nowakowsky 1998, 53, fig. 16: 638).

In Estonia, *simplified incurved tension*

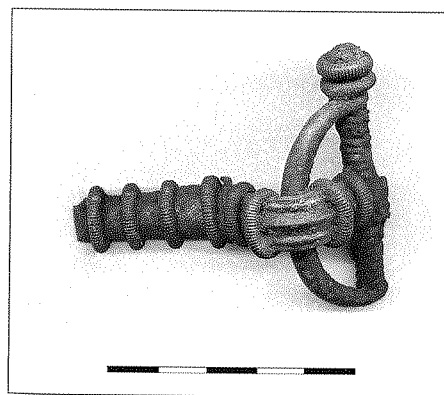


Fig. 7. So-called *Memel-style* crossbow fibulae (AI 4868: 238).

appears on only four other items found in Läätsa, Sandimärdi and Nurmsi (2) graves in central and south-eastern Estonia (figs. 8: 1; 9). However, only one of these has rings, and three items lack almost any connection with types of ring decoration, and might be more closely connected with the type with a simple tendril foot. In the material from Samland, however, the incurved tension is connected with the ring decoration. It is not certain whether these four exceptional items may have been copies of Samland fibulae. They seem to have one feature in common – the coexistence of several separate and yet popular decorative elements like a head-knob, a certain shape of tension, grooves or rings. Such hybrids are considered to be characteristic of Estonia (Schmiedehelm 1923, 86), and thus of local heritage.

The fibulae of the next group are characterised by the cast needlecase joined with the foot. Among the finds of Samland, **simple crossbow fibulae with cast needlecases** (fig. 8: 2) are divided into two main groups according to the length of the needlecase – long or short (Bitner-Wróblewska 2001, 34, 41). The fibulae with short needlecases are slightly older and were used for a shorter period (Bitner-Wróblewska 2001, 34, 51, 52). In the Estonian material, however, such a division is not reasonable, and the groups are more simultaneous (Moora 1938, 149). It is difficult to show genetic succession from the tendril foot to the cast needlecase. Several other types of fibulae and items among crossbow fibulae (like the 1st group of ring decoration) were made with cast needlecases. Crossbow fibulae with cast needlecases have been found almost all over Estonia (55 fibulae). Their distribution is most dense in north-eastern, north-western and western Estonia (fig. 10). As concerns the ornamentation, the most widespread elements are transverse grooves. They also occur in types of ten-

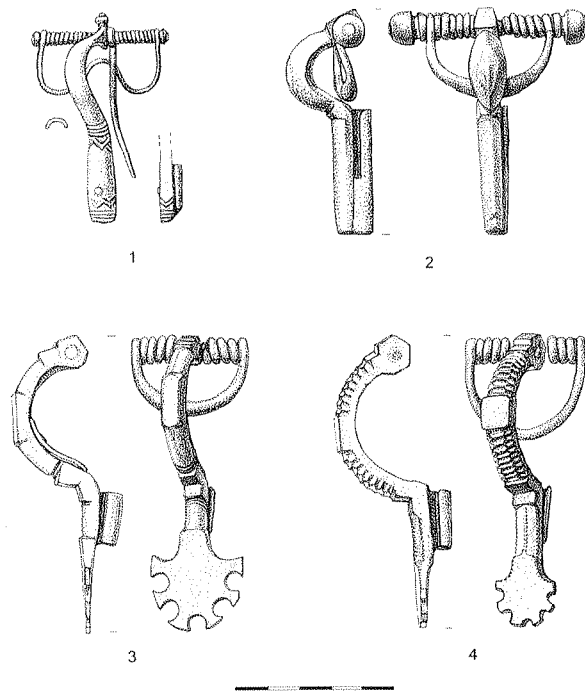


Fig. 8. Types of crossbow fibulae: 1- fibula with incurvated tension (needlecase repaired with rivet), 2- simple crossbow fibula with cast needlecase, 3- crossbow fibula with star-shaped foot (the bow has been repaired with a rivet), 4- crossbow fibula with star-shaped foot and so-called *fish-scale* ornamentation (AI 2533: 109b; 2509: 5; 3172: 77; 4262: 1029).

dril foot, but it seems that this motif began to dominate over other elements during the Migration Period, as grooves are an additional element in almost all types of fibulae with cast needlecases.

Fibulae with *high* cast needlecases are very rare in our region. Only one has been found in the Saha D grave (in North-West Estonia); it is made of silver and decorated with rings and a rounded plate (Lang 1996, fig. 83). It is unusual for the Baltic countries but similar to those found in Gotland and Denmark, from where the Saha fibula was probably imported together with a neck-ring (dated to 300 AD) (Lang 1996, 242).

The earliest crossbow fibulae with cast needlecases emerged in Samland at the end of the 3rd century (Nowakowsky 1998, fig. 4), but their main period of use was the 4th and 5th centuries, and some have also been used later (Bitner-Wróblewska 2001, 39, 51, pl. LIX). In the region of

tarand-graves they were introduced at the end of the 4th century, and they remained in active use until the 6th century (Moora 1938, 148, 149).

So far, researchers have handled **fibulae with star- and spade-shaped feet** together, in one group (Moora 1938, 151; Bitner-Wróblewska 2001, 59), and the following introduction conforms to this tradition. The star-shaped foot has been considered to precede the spade-shaped foot (Moora 1938, 154–155). They both have a similar bow construction – a squared plate on the middle of the bow; the same squared surfaces are often present in the transitional part between the bow and the foot (actually, some fibulae of simple cast needlecase already have these features). The two types also have similar plates at the end of the foot. The differences occur in the decoration of the edge of the foot-plate. Some fibulae have silver inlay on the bow- and/

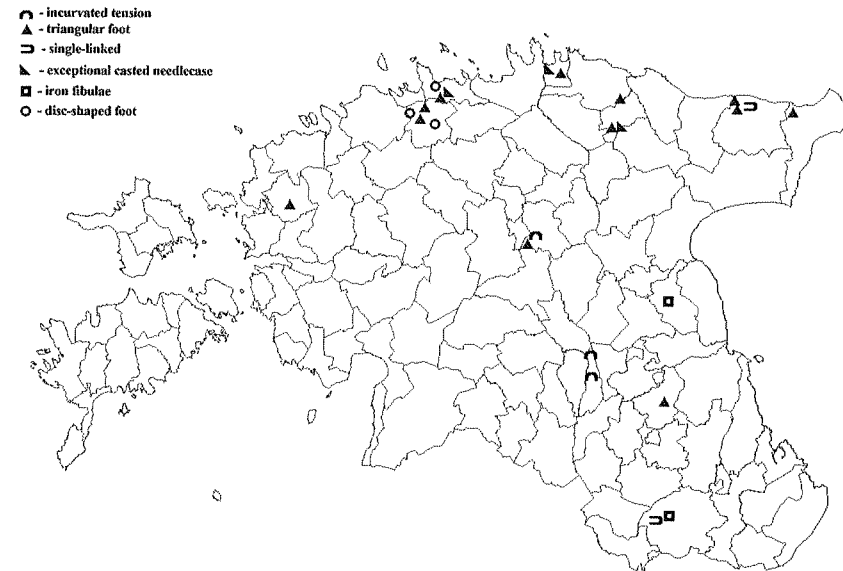


Fig. 9. The distribution of hybrids and exceptional types of crossbow fibulae.

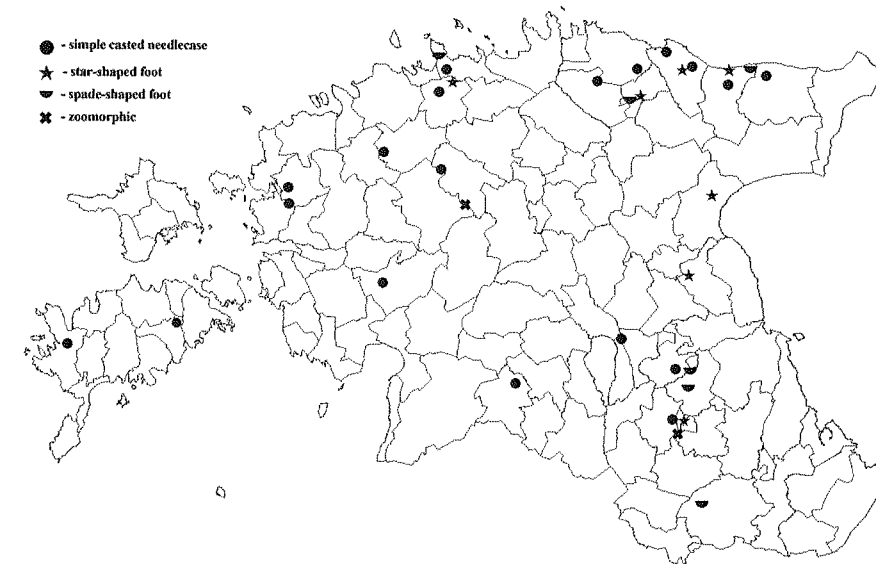


Fig. 10. The distribution of types of crossbow fibulae with cast needlecases.

or foot-plate. The fibulae with star-shaped feet have rounded notches at the edge of the flattened foot-plate (fig. 8: 3). The next stage of development is when the holes at the rim move more to the centre of the plate (the so-called *transmission variant*)

(Schmiedehelm 1934, 220; Moora 1938, 154) and eventually form closed holes in the foot-plate. There are, however, also examples of fibulae with spade-shaped feet that have no holes at all. 18 examples of fibulae with star- and spade-shaped feet

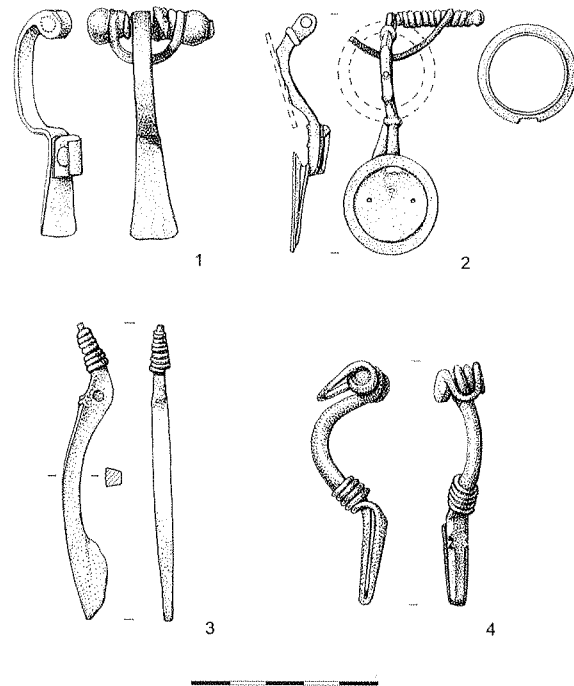


Fig. 11. Crossbow fibulae: 1- crossbow fibula with a triangular foot (cast needlecase repaired with rivet), 2- exceptional fibula with disc-shape extensions, 3- exceptional fibula with trapezoid cross-section, 4- single-linked crossbow fibula with upper tension (AI 3975: 4; 4408: 331; 2488: 51; 4262: 965).

have been found in Estonia, most of them in north-eastern, south-eastern and western Estonia (fig. 10). Proportionally, more have been found with spade-shaped feet, but these are mostly the transmission variants.

The most original Estonian items among these fibulae are two examples found in south-eastern Estonia, the bow of which is decorated with notches – this motif is called the *fish-scale* ornament (Bitner-Wróblewska 2001, 61), (fig. 8: 4). Direct parallels to these can be seen in two examples from Samland, which may indicate that the items from southern Estonia are the oldest fibulae with star-shaped feet found in Estonia. In Samland, fibulae with that motif have been dated to the late 4th century (Bitner-Wróblewska 2001, 61, pl. LIX). All other types of fibulae with star-shaped feet have been dated to the 5th century in Samland (Nowakowsky 1996, 53; Bitner-Wróblewska 2001, 64), and in the area of *tarand*-graves they have been dated to the 5th and also 6th centuries (Schmiede-

helm 1955, 88). The production of fibulae with spade-shaped feet began in Samland and in Estonia as of the 5th century, (Bitner-Wróblewska 2001, pl. LIX; Schmiedehelm 1924, 34).

A group of crossbow fibulae with triangular feet (extended feet) consists of several unique examples that do not have exact equivalents in the Estonian or even foreign material. They mostly have a *rib-bon-shaped bow*, a small triangular foot-plate and a cast needlecase (fig. 11: 1). I have divided the material into two: direct imports from other regions and specimens made locally, which form the majority of fibulae with triangular feet. Most of these fibulae (17) are distributed in the northern part of Estonia (fig. 9). Their most characteristic feature is the flattened foot-plate that expands towards the end, although I have also counted a few examples that are decorated with rounded plates at the foot or even at the bow as belonging to this type (fig. 11: 2), all of them were found in

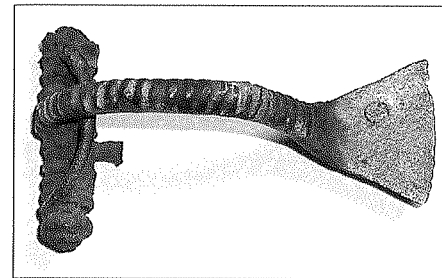


Fig. 12. Crossbow fibula with a triangular foot and so-called *caterpillar*-like ornamentation (needlecase repaired with rivet) (AM A 111: 54).

north-western Estonia (the graves of Rae I, Lehmja-Loo I and Proosa), (Lang 1996). Fibulae that might have been of local origin very often have rivets at the bow or foot (fig. 11: 1; 12). Almost no examples of this type have exact matches among other items and, at the same time, each of them carries some features that refer to other types (head-knob, rings, grooves, etc.), sometimes imitating, for example, fibulae with tendril feet (Lang 2000, fig. 47: 2).

There are a few examples that can be considered imported goods from Lithuania. One of them is a fibula found in Järve (AM A 111: 54) (Hausmann 1896, pl. I: 54), the bow of which is decorated with deep transverse grooves (fig. 12). This kind of motif is called a *caterpillar*-like ornament (germ *Raupenfibeln*) in Lithuania and in Samland (Bitner-Wróblewska 2001, 43). Another foreign fibula was found from the Piilse hoard in south-eastern Estonia – it is made of silver, and it has a zig-zag pattern at the sides of the bow and at the foot-plate (fig. 13). An identical item has been found in Latvia (Moora 1938, fig. 23: 1), and similar fibulae can be found in Lithuania (Bliujienė 2002, figs. 2: 2, 3; Tautavičius 1996, fig. 86).

Fibulae of local origin are dated to the 4th and 5th centuries (Vassar 1943, 129). The fibulae that I considered to have been imported (with *caterpillar*-like ornament or *Raupenfibeln*) are also dated to the 4th and

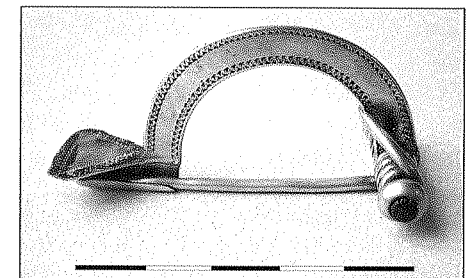


Fig. 13. Crossbow fibula with a triangular foot (silver) (AI 3235: 241).

5th centuries in Samland and in Lithuania (Bliujienė 2002, 149). However, the three items with rounded plates all have different dates – the fibula from Lehmja-Loo is dated to the 3rd century (Lang 1996, 242), as is the fibula with high needlecase from Saha D; the fibula from the Rae grave more closely resembles the fibulae with ring decorations, and might thus belong to the 4th–5th centuries; the fibula of Proosa has parallels in Denmark from the 5th century (Lang 1996, 180).

Zoomorphic fibulae or crossbow fibulae with animal-shaped feet have the fewest examples in Estonia. All of them are connected to the specimens from Lithuania, although the ornament is considered to be more Scandinavian-like (Laul 2001, 120). The fibulae in question have the shape of a crossbow, a casted needlecase and stylised animal-head, mostly at the end of the foot, and sometimes on the surface of the bow, while the tension and foot are decorated with grooves. Five fibulae have been found in Estonia: from a *tarand*-grave in Pikkjärve (compare, for example, Bitner-Wróblewska 2001, pl. LIII) and from a hoard in Paluküla (e.g. Bliujienė 2002, fig. 8: 3; Spirģis 2002, fig. 2: d), (table; fig. 10). Since zoomorphic fibulae have been classified in many different subtypes, those found in Estonia also hardly look similar, they have a different style of production,

but they all have parallels in southern regions. They came into use at the end of the 4th century in Lithuania and remained in production until the 5th–6th centuries (Bliujienė 2002, 151), although some examples remained in use for a longer period – until the 9th–10th centuries (Tautavičius 1996, 213, fig. 98).

The general tendency shows that the fibulae found in Estonia have been dated to half a century or even a century later than those of Lithuania or Samland, which are the origin of most of the parallels to our material. The tendency to date bigger items or those with simpler ornamentation as younger is noticeable. If we consider Nowakowski's statement (Nowakowski 1996, 107) that despite the different burial traditions or different ethnic groups, there are great similarities in the material culture around the Baltic Sea, which points to close contacts with different regions, it is hard to believe that the distribution of ideas or means of manufacturing of one or another type of artefact is as slow as indicated by the dates that have applied so far.

The spread of crossbow fibulae

While looking at the spread of Roman Iron Age crossbow fibulae, certain areas of concentration appear – north-eastern Estonia, the surroundings of Tallinn, south-eastern Estonia and central Estonia (fig. 1). At the same time, in the case of their distribution in the interior of Estonia, one should also take into consideration the under-representation of several regions, as no thorough investigations have been carried out in Järvamaa, Pärnumaa and Viljandimaa counties, and as a result, the representation of crossbow fibulae there is scarce. Surely this circumstance cannot be directly taken to represent the concentration of the use of crossbow fibulae in only certain centres, although their presence

cannot be excluded either. In the case of western Estonia it has been determined that crossbow fibulae appear in the find assemblage no earlier than the Migration Period (Mandel 2003, 127).

A question of its own concerns the different types of crossbow fibulae, for example the areas of exploitation within Estonia of the fibulae with ring decorations or those with head-knobs and faceting. For example, the fibulae with head-knobs on the northern coast appear to dominate throughout the rest of Estonia (fig. 4). While in Harjumaa the common feature was decorating the fibulae with grooves, then in Virumaa it was the profiling of both sides of the foot-wrapping (Vassar 1943, 127), (figs. 3: 2; 11: 4). This kind of faceting is not known to have been used in other parts of Estonia. In further studying the distribution map, it becomes apparent that the find places of the first two groups of the crossbow fibulae with ring decorations are situated exclusively in northern Estonia and the tradition of decorating the fibulae with rings only spread into the south with the third group, in the 5th century (fig. 5). We know now that in Latvia these fibulae were also represented by only a few examples (Moora 1938, 132), which would appear to confirm their absence in south-eastern Estonia. At the same time, there is a strong possibility that for some reason (if the contacts existed only between northern Estonia and Samland, for example) the production of these fibulae did not reach further than the northern coast, and as a result the rest of Estonia is empty. Crossbow fibulae with extended feet have been used practically all over Estonia. Their higher concentration in northern Estonia can once again be connected with the larger number of sites excavated. The distributional picture becomes homogenous during the Migration Period, while the mentioned fibulae with ring decorations of the 3rd group are also more widely used in central, eastern and

south-eastern Estonia. Western Estonia and Saaremaa are also represented by solitary fragments decorated with gold and silver (Tamla & Jaanits 1977, 64; Lõhmus 2003, 5; Mägi 2004, 53). Simple crossbow fibulae with cast needlecases have been found all over Estonia, but more densely in north-eastern, north-western, western and south-eastern Estonia. One fibula is also known from south-western Estonia, but there are none from central Estonia (fig. 10).

The given type of fibula was most popular during the Migration Period whereas, for example, crossbow fibulae with star- and spade-shaped feet were placed in graves and hoards somewhat less often. At the same time, the use of fibulae with spade-shaped feet seems to be more widespread than that of the star-shaped fibulae, since the latter have not yet been found in western and central Estonia (fig. 10).

Relatively few possible distribution routes between Estonia and the more southerly centres have been put forward so far. Regarding the Roman Iron Age, the support has mostly been with earlier studies that state the existence of marine contacts between north-eastern Estonia and the lower reaches of the Vistula River already at the time of the first fibulae (eye fibulae, Germ. *Augenfibel*) (Moora 1938, 608, fig. 90). It has been suggested that crossbow fibulae were transported to Estonia via the Gauja River and its tributaries. The latter is supported by Silvia Laul: on the basis of burial customs, she connects south-eastern Estonia with the southern areas, rather than with the rest of Estonia (Laul 2001, 191). In contrast to the scant amount of research on the Roman Iron Age, thorough analyses have been performed on the crossbow fibulae of the Migration Period. At this point we should again mention Anna Bitner-Wróblewska, who has studied the moving and change of the types and the ways of decoration of the crossbow fibulae in local cir-

cumstances, i.e. the effects of local “fashions”. Thus the local special forms have been suggested for simple crossbow fibulae with cast needlecases and also for ones with star-shaped feet, although the large similarities of some of the examples may indicate their direct import from Lithuania or Poland. This pertains to all types of crossbow fibulae distributed in Estonia during the Migration Period (see below).

Despite the close communication in the Baltic area (Bitner-Wróblewska 2001, 121; Kriiska & Tvauri 2002, 136), one can suppose that what moved were mostly the methods of production and not the items themselves, at least not en masse. This is one of the possibilities to explain the considerably great differences between, for example, the contemporary groups of crossbow fibulae with ring decorations in Samland (Nowakowski 1998, fig. 16: 611) and Estonia.

The production of crossbow fibulae

Ethnographic parallels have revealed that one of the main status items are clothing elements and personal adornments that are distinctive in terms of materials and design or both (Wason 1994, 105). Therefore I believe that it is necessary to devote attention also to the question of the production of crossbow fibulae. At this point one of the most important aspects is the place of manufacture of the fibulae – whether they were made locally or outside the present-day territory of Estonia, and in the latter case – via which routes and possibilities they reached Estonia

Direct contacts can only be mentioned in the case of some types of fibulae. For example, according to external features, parallels can be found for the early crossbow fibulae with simple tendril feet, the 1st type of the fibulae with ring decorations, those with long cast needlecases or the examples

with animal-shaped feet from the find assemblages of Samland, Lithuania or Latvia (see the illustrations of Nowakowski 1998 and Bitner-Wróblewska 2001). This proof is definitely too scarce for it to be possible to state that all of the other fibulae were of local origin, however; in case of some types at least – for instance, the crossbow fibulae with wire-wrapped head-knobs – one cannot rule out this possibility either.

The assumption that crossbow fibulae were made locally refers to their rather widespread use here, and to the possibility that local craftsmen had acquired the relevant manufacturing techniques, and thus fibulae became more common. How can one determine which kind of fibulae were produced at a particular location? No moulds, no direct evidence can be found in the existing archaeological material in Estonia. I have therefore made my speculations via indirect measures, by observing different fibulae, searching for traces of usage, wearing and repair, considering different ornament motifs, comparing the similarities and dissimilarities of our local material and the fibulae distributed elsewhere. This basis has been the starting point for the assumption that the majority of crossbow fibulae with tendril feet were produced locally, according to local fashions. The fibulae that do not fit within the limits of “ordinary material” can be divided into two groups: first, on the basis of direct parallels, imported, and second, produced locally, but intentionally as exceptional examples.

One of the dissimilarities of the Estonian material, noticed quite early by researchers (Hackmann 1905, 150; Vassar 1943, 131), is the “open needle” (Germ. *Eingehängte*) of the fibulae found in the area of *tarand*-graves, which is distinct from the fibulae produced in Lithuania and Poland. The needle and spiral of the double-linked Lithuanian and Polish crossbow fibulae have been made from a single wire (figs. 6: 1; 13) (Nowakowski 1998, pl. 12: 201),

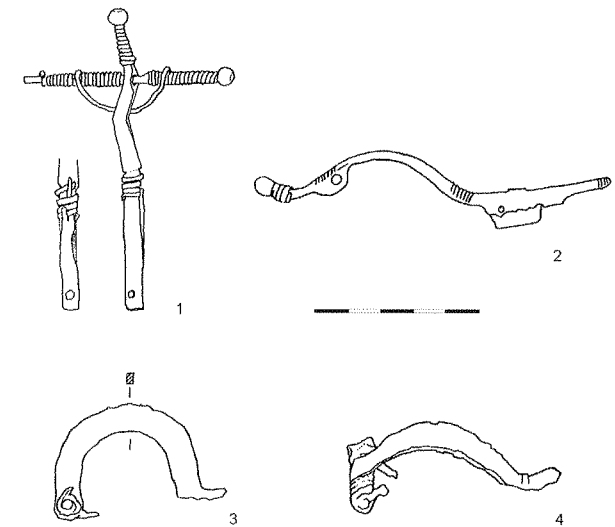
mostly of bronze. The majority of needles of our crossbow fibulae have been made of iron (figs. 2: 1; 3: 1, 4; 8: 1), and thus are believed to have been manufactured locally. This has been explained by the scarcity of material, suggesting that using local iron helped the craftsmen to economize on expensive bronze (Schmiedehelm 1955, 85). The same kind of thrift was also applied to other adornments from the 3rd–5th centuries, which were made very thin (for example, eye fibula and neck-rings from the Jäbara E grave). This has an additional meaning – namely, a needle that is separate from a spiral has to be differently connected by the tension than in the case of those fibulae whose needles emanate directly from the spiral wire.

The separate needle may point to different traditions of manufacture than those that existed in Lithuania and Poland. At the same time, the crossbow fibulae with “closed needles” are quite scarce among the Estonian material, compared to the fibulae with the other fastening method. This may refer to a certain change in the production tradition, where the tension functions as previously, but still in a slightly different manner. Of course, this alone does not necessarily mean that the fibulae were produced locally, since this kind of tension is also familiar among the Samland material (Nowakowski 1998, figs. 17, 18). In some examples it is difficult to decide over the needle-construction, as the loose elements of the fibulae have often been corroded together or spoiled, whereas one can even suggest that the fibula was already intentionally broken when placed in the grave.

The survey is also complicated when one of the details of the needle-construction is missing.

There are several **ornament elements** that could help to decide upon the origins of the fibulae. According to some researchers (Vassar 1943, 129; Schmiedehelm 1923, 84) the wide use of the head-knob with lo-

Fig. 14. 1–2- examples of repairs, 3–4- iron crossbow fibulae (AI 2604: 38; 2817: 202; 4262: 1404; 4866: 199).



cal types of crossbow fibulae is a sign of local origin. For example, the presence of the head-knob with the fibulae with extended feet refers to local origin, since elsewhere the fibulae of this type did not have head-knobs. Similarly, the spread of the motif of ring decoration to other types of crossbow fibulae can be regarded as a local speciality.

The third thing that may include information on production and use is the presence of **rivets**. Rivets are very numerous in the above-mentioned type of crossbow fibulae with extended feet, which on one hand could indicate certain repair works, or on the other hand the remains of some destroyed decoration (Vassar 1943, 129). In the case of some of the fibulae mentioned above, one could indeed suppose that the rivet was not used for repair, but instead to fix something that has not been preserved: for example the fibula from the Saha D grave (Lang 1996, fig. 83) or that from Lehmja-Loo I grave (fig. 11: 2). Most of the crossbow fibulae with rivets were nevertheless broken and repaired afterwards (figs. 8: 3; 14: 1, 2). At the same time, one should notice that the rivet is not the only method of repair. A great deal of the fibulae have broken around the nee-

dlecase, and thus another way of repairing them was to reattach the broken part with a new wire wrapping (fig. 14: 1). The repair was mostly detectable in the case of fibulae with tendril feet and head-knobs. If the fibula was somehow repaired during its “life”, this could be an indication of their everyday use. Thus, in the case of the crossbow fibulae with tendril feet and head-knobs, it can be stated that these fibulae were already used as ornaments or clothing elements during the lifetime of their carrier. At the same time, the repair may refer to the persons’ wish to repair the broken item in order to use it longer, instead melting them together and producing new adornments, although in the case of local craftsmen the latter would not have been complicated either.

Direct or indirect parallels between different areas do not have to confirm the existence of import or local production, however. For example, as concerns the 1st type of the fibulae with ring decorations, they all vary in details of needlecase, head-knob and the presence of numerous ornamental elements. It has not yet been ascertained exactly how they reached Estonia, but it is generally supposed that they were imported from parts of East Prussia and

West Lithuania (Moora 1938, 134 ff), and not at all using local production. It is difficult, only judging by five examples, to guess whether there really existed five different independent mercantile communication routes with the production areas of crossbow fibulae. At the same time, however, I would not dare to state that one and the same craftsman manufactured all fibulae of the 1st type with ring decorations. The ring decoration of Estonian fibulae is somewhat simpler than in the case of the West-Lithuanian examples. If it were a question of fibulae produced in Lithuania or Poland, then their more modest ornamentation could be explained by the orientation of some workshops to make the fibulae for export to the north or by certain orders of the “clients” of northern Estonia according to their taste and wealth, whether they were for example merchants who mediated the fibulae or ordinary people who wanted their own fibulae made.

In the case of some types of fibulae, it has been supposed that the fashions and production ideas moved instead of direct import. For example, the fibulae with star-shaped feet found in Estonia have been considered to be modifications of southern specimens (Bitner-Wróblewska 2001, 63). This kind of transfer of solitary fashions appears especially strongly with the zoomorphic fibulae of the Middle Iron Age in Lithuania, where almost every region is characterized by a subtype inside a corresponding type of fibula (Bliujiene 2002, 153). Great typological variations among the adornments may have been the result of modifications of the motifs that reflected either direct or indirect contacts between workshops (Bitner-Wróblewska 2001, 121).

Emphasising status via crossbow fibulae

The majority of crossbow fibulae are found in graves, in Estonia in *tarand*-graves, which is a typical grave-type of the Roman Iron Age, except for West Estonia and the islands, where no *tarand*-graves were used during the 2nd and 3rd centuries (Mandel 2003, 127). It is probable that some other burial custom that is unfortunately unknown to us predominated there. Since the Migration Period, crossbow fibulae have also been placed in hoards (Kriiska & Tvauri 2002, 158).

The last decades of research in Estonia brought a new approach, considering that the *tarand*-graves were burial places for only certain members of the society. Some researchers have performed demographic studies based on find material from *tarand*-graves (Lang & Ligi 1991; Lang 1995). Priit Ligi has proposed that not all members of society were buried in *tarand* graves, only the wealthy landowners (Ligi 1995, 266), members of families who through their monumental graves demonstrated their ideological power over others.

Taking this point into account, it would be easy to consider all grave finds as *elite* material. As it has been suggested, however, that *tarand*-graves are not only *elite* burial places, but also cult places for all of the members of society (Jonuks 2003, 96), and as we have no idea about the burial tradition of the “common people” (Ligi 1995, 266), we cannot be certain of the dress elements or adornments of either ordinary people or the *elite*. Differences in clothing between *elite* and common people did not have to be evident. Those differences could be revealed, for example, by other kinds of ornamentation or even by other types of adornments (Bitner-Wróblewska 2001, 123).

In analysing of the material, I have gradually come to believe that there might have

been a certain difference in the means of production and use of the fibulae between the (late) Roman Iron Age and Migration Period. The fibulae with tendril feet of the Roman Iron Age were simple and lacked specific decoration. Their scarce processing appears only in the faceting of the bow and foot, the extensions of the head-knob and spiral (elements that refer to local production). One can also notice a certain degree of wear; the fibulae are relatively fine and small and often repaired, in comparison to the 3rd group of the fibulae with cast needlecases and ring decorations. Thus these might be consumer goods, fibulae that were made in large numbers for daily wear. This may indicate the use of crossbow fibulae as ordinary elements for fastening clothing or adornment, in addition to their final “use” as grave-goods. At this point it should be admitted that research is still under way, because other types of fibulae that were used alongside crossbow fibulae during the Roman Iron Age should also be analysed.

It is interesting that during the first half of the Migration Period, the majority of types of fibulae are no longer used, and only crossbow fibulae and some remarkably huge eye fibulae remain (Lang 2000, 167; Kriiska & Tvauri 2002, 156). The change of the form of the crossbow fibulae during the Middle Iron Age is also noteworthy. What changes is the production technique (the crossbow fibulae are now made with cast needlecases instead of tendril feet), the decoration (new ornamentation methods and elements) and the material (much more precious metal was used in addition to bronze). Many richly decorated fibulae also appear in graves (e.g. Paali, Kardla, Paluküla, Kirimäe).

In Samland and Scandinavia, crossbow fibulae with cast needlecases have been considered to be the adornments of the middle class (Bitner-Wróblewska 2001, 122). They were also widespread and commonly used in the Baltic (Bitner-Wró-

blewska 2001, fig. 7). According to Bitner-Wróblewska (2001, 121), the moving of more common ornamentation elements revealed the close contacts represented by the middle class, for example the case of the fibulae with cast needlecases. At the same time, the fibulae with long cast needlecases (in Samland also known as the *Dollkeim/Kovrovo* type) found outside Samland are considered to be the work of local craftsmen, whereas the specimens of the fibulae with short needlecases (in Samland accordingly *Schönwarling/Skowarcz* type) represent import (Bitner-Wróblewska 2001, 47). The elite probably maintained these long-distance connections, which were probably not based on the exchange of goods but rather on contacts between workshops; mixed marriages may also have played a certain role – in the case of the crossbow fibulae with star-shaped feet, for example (*ibid*). The fibulae with star- and spade-shaped feet decorated with stamp-ornaments may also have belonged to wealthier and higher-status people (Bitner-Wróblewska 2001, 122).

Among the fibulae with cast needlecases, the examples with long cast needlecases are most numerous, and they are mostly simple and lack any specific decoration (excluding individual items from Proosa). In addition, their prevalence among the material of the Migration Period may refer to them as consumer goods. Among the fibulae with star- and spade-shaped feet, in contrast, the use of silver as an additional adornment, as well as distinctive and specific ornamentation motifs, are much more common. Moreover, they often appear in graves together with other fancy adornments. The Kirimäe fibulae with spade-shaped feet are the most distinguished in terms of ornamentation (Schmiedehelm 1924; see also Bitner-Wróblewska 2001, pl. XXII: 1, 2). There are also many single specimens that are distinctive due to their material or shape. Such fibulae may have been quite common elsewhere (in Scandi-

navia and the Baltic region, for example), but in our local context they are unique and therefore carry a different function. These items symbolized the relations with the areas around the Baltic during both the Roman Iron Age and the Migration Period, for example the crossbow fibula with high needlecases from the Saha D *tarand*-grave (Lang 1996, fig. 83), fibulae with disc-shaped extensions from Proosa (Lang 1996, fig. 65) and Lehmja-Loo (fig. 11: 2) and the fibulae with extended feet from the Paali II hoard complex (fig. 13) and from Järve grave (fig. 12). All of the above-mentioned fibulae have analogies in Scandinavia or Lithuania and Poland.

The situation is more complicated in the case of crossbow fibulae with incurved tensions (fig. 8: 1). One could suggest that the motif of the tension originates from the crossbow fibulae with ring decorations of the Samland area (Nowakowski 1996, pl. 31), whereas the fibulae themselves were made locally. There are some more examples that do not have any equivalent, such as an exceptional specimen with head-knob cast in one piece found at Ilumäe Kõvermägi (Lang 2000, fig. 74: 3) and the fibula from Reinapi, which has a trapezoidal cross-section and is of such unusual shape that it is difficult to categorise it under a certain type (fig. 11: 3). The absence of direct analogies generally nurtures the thought of local production, although under the impression of the above-mentioned idea one cannot rule out the possibility of import, but this is a case of items produced only for certain people living in a limited area. It is even more complicated to decide who the owners of these adornments were. The same problem concerns all of the crossbow fibulae that are made of silver and decorated with gold – the 3rd group of the fibulae with ring decorations. It has so far been suggested that these are a type of crossbow fibulae with ring decorations that was distributed only in the area of *tarand*-graves, but unfortu-

nately we lack data that would confirm or refute their production here. The majority of the above-mentioned crossbow fibulae are dated to the 4th–5th centuries. Based on the assumption that the main commercial routes during the Migration Period were under control, it could be proposed that only a small part of society could have used or mediated these fibulae.

Some single-linked crossbow fibulae from south-eastern and north-eastern Estonia, i.e. from the graves of Virunuka (fig. 11: 4) and Järve (Hausmann 1896, 29) form a separate group. They refer to earlier types of crossbow fibulae that were not distributed as mass-production here, while at the same time their connection to social position is unclear. This is much more complicated to determine in the case of iron crossbow fibulae, since usually nothing but the bow has been preserved (fig. 14: 3, 4). Thus their needle-construction, type and date remain uncertain.

The same applies to the origin of the crossbow fibulae with extended, mostly triangular feet. To date, the dominant standpoint is that except for a few specimens, most of them have been produced locally (Vassar 1943, 129). Where did the idea of depicting the foot of the fibulae in this manner come from? One possibility is the copying of the examples spread elsewhere. Another imitated motif could be the above-mentioned incurved tension. Both types have become certain hybrid forms that absorb the features (rivets, wire-wrapping, head-knob, ring decoration, groove ornamentation) of several other kinds of fibulae. The imitation of local craftsmen is most probable in the case of the fibulae with extended feet. This is referred to by the needlecase that has been fastened with rivets (figs. 11: 1, 2; 12), a sign of either the lack of the skills of making a tender foot or cast needlecase, or the lack of access to these skills. Copying is also possible in the case of fibulae with star- and spade-shaped feet, since these

are considered local specialities (Bitner-Wróblewska 2001, 61 ff).

Determining copies could be the means to decide upon what exactly possessed special significance in the society. Copies made from less costly material indicate that originals were desired in the society because of their symbolic value, and therefore were status symbols regardless of their practical or aesthetic function (Wason 1994, 106). Thus even the possession of an imitation offers the possibility to demonstrate status, referring to a certain competition. At the same time, the social meaning of artefacts can change, and emulation of any kind indicates the instability of the status symbols. Access to imitations may dilute the value of the originals, and this increases the appearance of new status items in subsequent periods (Wason 1994, 107). It remains unclear, however, why some imitations have been manufactured in a technologically modest manner, for example the fibulae with extended feet? Was it enough to give the adornment a certain external similarity (in the present case the extended foot) for it to be considered a prestige item that distinguished it from luxury goods in the respect that the latter may also demonstrate the owners' wealth, while the former do not necessarily possess nominal, but instead symbolic value (Wason 1994, 96). Perhaps the local hybrids, of whatever quality, were made in order to counterbalance the people who controlled and owned the production technologies? The wish to distinguish oneself from the other members of the society may have been a sign of social climbing. Luxury items might in this case be the richly decorated 3rd group of the fibulae with ring decoration, or the fibulae with star- and spade-shaped feet.

Summary

While trying to guess the status function in the case of some crossbow fibulae, the material from the Migration Period seems a bit more informative. We know several types of crossbow fibulae from this period that have been considered items belonging to the *elite* around the Baltic, such as the oft-mentioned fibulae with star-shaped feet, or ones with zoomorphic ends. Nevertheless, the research into the fibulae of the Roman Iron Age cannot be underestimated, because they also include specimens that allow one to discern whether they were common and in daily use for fastening clothes or carried more significant value (luxury items), like the fibulae of the 1st group with ring decorations and single specific adornments. The majority of fibulae were probably of local origin, and this characteristic also passed on to the crossbow fibulae of the Migration Period – the middle-class fibulae with long cast needlecases, the *elite*-marking fibulae with star- and spade-shaped feet, as well as the 3rd group of fibulae with ring decorations (the status marker of which is yet to be ascertained, but they are probably also luxury items, if not prestige goods) have all been considered to be of local origin. Direct import or the original areas of the motifs of the fibulae can only be suggested in the case of solitary examples and the zoomorphic crossbow fibulae.

During the Migration Period, the marking of status via fibulae and the adding of symbolic value to them probably became more general, of which boastful crossbow fibulae or their fragments in hoards or conspicuously rich fibulae in graves offer evidence.

It seems that there was no limited predominating area in the Roman or Middle Iron Age from where all of the "cultural impulses" and fashions would have originated. There was probably a considerably equal society whose members were

in close contact and exchanged ideas and styles, but every one of them had their own resources and workshops. Contacts existed between fixed "partners", and from time to time relations may have been confirmed by presents, as indicated by rare items found in Estonia.

In accordance with the above comments, it appears that for the time being no common denominator can be found for the crossbow fibulae as a category of adornments. On the contrary, I believe that prehistoric man did not care at all if he owned an eye fibula, a cross-bar fibula (Germ. *Sprossenfibel*) or a crossbow fibula. An adornment might have acquired its meaning through material, origin, decoration or some much more subjective factor that cannot be measured on a material

scale but which influenced the placing of the fibula in a poor or a rich grave. Perhaps the construction of the crossbow fibula was important, reflecting certain trends or ideals (like the shape of a Coca-Cola bottle today). But in order to confirm this statement, similar research should be carried through with other fibulae, and the results compared. Considering the categories suggested by different researchers, it could be stated that the types of crossbow fibulae included adornments for defining status and sex, and were luxury items as well as consumer goods.

Acknowledgement

I would like to thank Kristiina Johanson for translating this text into English and artists Kersti Siitan and Kersti Tammekunn.

References

- Almgren, O.** 1923. Studien über nordeuropäische Fibelformen der ersten nachchristlichen Jahrhunderte mit Berücksichtigung der provincialrömischen und südrussischen Formen. Leipzig.
- Bitner-Wróblewska, A.** 2001. From Samland to Rogaland. East-West Connections in the Baltic Basin during the Early Migration Period. *Państwowe Muzeum Archeologiczne Stowarzyszenie Naukowe Archeologów Polskich*. Warszawa.
- Bliujienė, A.** 2002. The main stylistic features of the Baltic crossbow brooches in the Migration Period. – *Archaeologia Baltica*, 5, Vilnius, 145–156.
- Hackmann, A.** 1905. Die ältere Eisenzeit in Finland, I. Helsingfors.
- Hausmann, R.** 1896. Grabfunde aus Estland. Eine archäologische Studie. Reval.
- Jonuks, T.** 2003. Eesti metalliaja usundi põhijooni. Tartu. (*Manuscript at the Chair of Archaeology of the University of Tartu*).
- Keskitalo, O.** 1979. Suomen nuoremman roomalaisen rautakauden löydöt. *Helsingin Yliopiston arkeologian laitos*, 20. Helsinki.
- Kriiska, A. & Tvauri, A.** 2002. Eesti muinasaeg. Tallinn.
- Lang, V.** 1995. Die früheisenzeitliche Gesellschaft im Gebiet der estnischen Steingräber. – *Archaeologica Baltica*, 1. Ed. by V. Kazakevičius & R. Sidrys. Vilnius, 107–120.
- Lang, V.** 1996. Muistne Rävala. Muistised, kronoloogia ja maaviljelusliku asustuse kujunemine Loode-Eestis, eriti Pirita alamjooksu piirkonnas, 1–2. *Summary: Prehistoric Rävala. Antiquities, Chronology and the Establishment of Farming Settlement in North-West Estonia, with Special Reference to the Area on the Lower Reaches of the Pirita River. Muinasaja teadus* 4. Tallinn.
- Lang, V.** 2000. Keskusest ääremaaks. Viljelusmajandusliku asustuse kujunemine ja areng Vihasoo–Palmse piirkonnas Virumaal. *Summary: Establishment and History of Farming Settlement in Vihasoo and Palmse Area (Virumaa, North Estonia). Muinasaja teadus* 7. Tallinn.
- Lang, V. & Ligi, P.** 1991. Muistsed kalmed ajaloolise demograafia allikana. *Summary: Ancient graves as a source of palaeodemography. – Arheoloogiline kogumik*. Ed. by V. Lang & L. Jaanits. *Muinasaja teadus*, 1. Tallinn, 216–232.
- Laul, S.** 2001. Rauaaja kultuuri kujunemine Eesti kaguosas (500 e.Kr. – 500 p.Kr.). *Zusammenfassung: Die Herausbildung der eisenzeitlichen Kultur im südöstlichen Teil Estlands. Muinasaja teadus* 9. *Õpetatud Eesti Seltsi Kirjad* 7. Tallinn.
- Ligi, P.** 1995. Ühiskondlikest oludest Eesti alal hilispronksi- ja rauaajal. *Summary: Social systems in Estonia during the Late Bronze and Iron Ages. – Eesti arheoloogia historiograafilisi, teoreetilisi ja kultuuriajaloolisi aspekte*, Ed. by V. Lang. *Muinasaja teadus* 3. Tallinn, 182–252.
- Lõhmus, A.** 2003. Valjala rahvasuu mäletas pealiku hauda. – *Postimees*, 24.07.
- Mandel, M.** 2003. Läänemaa 5.–13. sajandi kalmed. *Zusammenfassung: Die Grabstätten des 5.–13. Jahrhunderts im Landkreis Läänemaa (Wiek). Eesti Ajaloomuuseum. Tõid ajaloo alalt*, 5. Tallinn.
- Moor, H.** 1938. Die Eisenzeit in Lettland bis etwa 500 n. Chr. II Teil: Analyse. *Õpetatud Eesti Seltsi Toimetised*, XXIX. Tartu.
- Mägi, M.** 2004. The mortuary house at Lepna on Southern Saaremaa. – *AVE*, 2003, 45–60.
- Nowakowski, W.** 1996. Das Samland in der römischen Kaiserzeit und seine Verbindungen mit dem römischen Reich und der barbarischen Welt. *Veröffentlichung des Vorgesichtlichen Seminars Marburg. Sonderband*, 10. Marburg; Warszawa.
- Nowakowski, W.** 1998. Die Funde der römischen Kaiserzeit und der Völkerwan-
- derungszeit in Masuren. *Museum für Vor- und Frühgeschichte. Staatliche Museen zu Berlin. Bestandskataloge. Band* 6. Berlin.
- Schmiedehelm, M.** 1923. Beiträge zu der sogenannten gotischen Frage im Baltikum. – *Sitzungsberichte der Gelehrten Estnischen Gesellschaft*, 1922. Dorpat, 76–108.
- Schmiedehelm, M.** 1924. Der Fund von Kirimäe. – *SMYA*, XXXV, 1–36.
- Schmiedehelm, M.** Über Beziehungen zwischen dem Weichselgebiet und Estland zur Römischen Eisenzeit. – *Congressus Secundus Arhaeologorum Balti-corum*, Rigae, 19.–23. VIII. 1930. Tartu, 395–405.
- Schmiedehelm, M.** 1934. Keskmise rauaaja aardeleide Kambjast. – *Eesti Rahva Muuseumi aastaraamat*, IX–X, 1933/34. Tartu, 212–224.
- Schmiedehelm, M.** 1955. Шмидехельм М. X. Археологические памятники периода разложения родового строя на северо-востоке Эстонии (V в. до н. э. – V в. н. э.). Таллин.
- Spirģis, R.** 2002. Neue Zeugnisse von Bewohnern des Nordkurlands im archäologischen Material Rigas. – *The Medieval Town in the Baltic: Hanseatic History and Archaeology II. Proceedings of the Third and Fourth Seminar*, Tartu, Estonia 12th–13th June 1999 and 8th–10th June 2000. Tartu, 67–74.
- Tamla, T. & Jaanits, K.** 1977. Das Gräberfeld und der spätneolitische Siedlungsplatz von Paju. – *TATÜ*, 1, 64–71.
- Tautavičius, A.** 1996. Vidurinis geležies amžius Lietuvoje. *Zusammenfassung: Die Mittlere Eisenzeit in Litauen (V. – IX. Jh.)*. Vilnius.
- Vassar, A.** 1943. Nurmsi kivikalme Eestis ja tarandkalmete areng. Tartu. (*Manuscript at the Library of the University of Tartu*)
- Wason, P. K.** 1994. *The Archaeology of Rank*. Cambridge.

Table. Crossbow fibulae found in Estonia

Nr ¹	Name of the finding place	Museum number	Type	Simple tendril foot	Tendril foot and head-knob	1 st group of ring decoration	2 nd group of ring decoration	3 rd group of ring decoration	Casted needle-case	Star- and spade-shaped foot	Triangular foot	Zoomorphic fibulae	Exceptional fibulae	Remarks
1	Erra III	AM A 370	stone-grave	-	4	-	1	-	-	-	-	-	-	
2	Essu	AM A 83	stone-grave	-	4	-	1	-	2	-	3	-	-	
2	Essu III	AM A 85	stone-grave	-	1	-	-	-	-	-	-	-	-	
3	Haiba	AI 2431	stray-find	-	-	-	-	-	1	-	-	-	-	
4	Iila	AI 3358	stone-grave	-	1	-	-	-	-	-	-	-	-	
5	Ilumäe Kõrve-mäe	AM A 439	<i>tarand</i> -grave	-	-	-	-	-	-	-	1	-	1	
6	Jäbara	AI 2834	<i>tarand</i> -grave	-	2	-	-	-	-	-	-	-	-	
6	Jäbara B	AI 3172	<i>tarand</i> -grave	1	10	1	-	1	1	-	-	-	-	
6	Jäbara E	AI 2604	<i>tarand</i> -grave	3	15	-	1	1	-	-	-	-	-	
7	Järve	AM A 111	<i>tarand</i> -grave	1	2	-	-	-	-	-	1	-	1	2 frgm of fibulae with tendril feet
8	Kalamehe (Tarbja)	Pd 848; 923	<i>tarand</i> -grave	-	3	-	-	-	-	-	-	-	-	
9	Kalvi	AM A 92	stone-grave	-	-	-	-	-	2	-	-	-	-	
10	Kardla	AI 2415a	hoard	-	-	-	-	4	-	-	-	-	-	
11	Kirimäe	AI 2509	flat-cemetery	-	-	-	-	3	4	4	-	-	-	
12	Koela	AM A 970; 941	grave	-	-	-	-	-	1	-	1	-	-	
13	Kohtla-Järve	AI 3975	<i>tarand</i> -grave	-	6	-	-	2	2	-	1	-	-	
14	Koila	A 162	stone-grave	-	-	-	1	-	-	-	-	-	-	
15	Kurna IA	AM A 29	<i>tarand</i> -grave	5	7	-	-	1	-	-	1	-	-	
15	Kurna IB	AM A 29	<i>tarand</i> -grave	1	1	-	1	1	-	-	-	-	-	

¹ Numbers correspond to the legend in fig. 1.

Nr	Name of the finding place	Museum number	Type	Simple tendril foot	Tendril foot and head-knob	1 st group of ring decoration	2 nd group of ring decoration	3 rd group of ring decoration	Casted needle-case	Star- and spade-shaped foot	Triangular foot	Zoomorphic fibulae	Exceptional fibulae	Remarks
16	Kõrenduse	AI 4866	<i>tarand</i> -grave	-	-	-	-	-	-	1	-	-	1	
17	Kõõre	AI 2255	stone-grave	-	1	-	-	-	-	-	-	-	-	
18	Kõõla	AI 4024	stone-grave	-	1	-	-	-	-	-	-	-	-	
19	Lagedi XV	AI 2520; AM A27	stone-grave	-	5	-	-	4	-	1	1	-	-	3 frgm of fibulae with tendril feet
20	Leedu	AM A 376	stone-grave	1	-	-	-	-	-	-	-	-	-	
21	Lehmja-Loo I	AI 4408	<i>tarand</i> -grave	4	11	-	2	-	1	-	1	-	-	
21	Lehmja-Loo IV	AI 4539	<i>tarand</i> -grave	-	3	1	1	-	-	-	-	-	-	
22	Läätsa	AI 2766	grave-field	-	1	-	-	-	1	-	-	-	-	
23	Maidla I	AM A 557	stone-grave	-	-	-	-	-	1	-	-	-	-	
24	Malla	?	stone-grave	-	4	-	-	1	1	-	-	-	-	
25	Nehatu	?	stone-grave	-	1	-	-	-	-	-	-	-	-	
26	Nurmsi	AI 2432; 2481; 2486; 2533, 3323	<i>tarand</i> -grave	-	10	-	1	-	-	-	1	-	2	
27	Ojaveski (Hõbeda)	AM A 349	stone-grave	-	5	-	5	2	3	1	-	-	-	3 frgm of fibulae with tendril feet
28	Paali I	AI 3235	hoard	2	-	-	-	-	-	1	-	-	-	
28	Paali II	AI 3235	hoard	-	-	-	-	2	-	-	1	-	-	
29	Pada	AI 2655	<i>tarand</i> -grave	-	1	-	-	-	-	1	-	-	-	
30	Paju	AI 4868	stone-grave	-	-	-	-	1	1	-	-	-	-	
31	Paluküla	AI 2483	hoard	-	-	-	-	-	-	-	-	4	-	
32	Piilsi	AI 2719	buried treasure	-	-	-	-	-	-	1	-	-	-	
33	Pikkjärve	AI 1260	<i>tarand</i> -grave	1	-	-	-	-	3	1	-	1	-	
34	Proosa	TLM 17008	stone-cist grave	-	1	-	-	-	-	-	-	-	-	

Nr ¹	Name of the finding place	Museum number	Type	Simple tendril foot	Tendril foot and head-knob	1 st group of ring decoration	2 nd group of ring decoration	3 rd group of ring decoration	Casted needle-case	Star-shaped foot	Triangular foot	Zoomorphic fibulae	Exceptional fibulae	Remarks
34	Proosa	TLM A 92; A 88; 17877; 18358; 18359	tarand-grave	-	6	1	-	1	2	-	-	-	1	
34	Proosa	TLM A 75; 13943; 14647; 14847; 15109; 15740	grave-field	-	2	-	-	6	10	-	-	-	-	
35	Purtse-Matka	AI 3337	stone-grave	-	-	-	-	1	-	-	-	-	-	1 frgm of fibulae with a tendril foot
36	Püssi	AI 2673	stone-grave	-	-	-	-	-	1	-	-	-	-	
37	Rae I	AM A 361	stone-grave	-	-	-	-	-	-	-	1	-	-	
38	Rannu	AI 2510	stone-grave	-	1	-	-	-	-	-	-	-	-	
39	Reinapi (Tõrma)	AI 2485; 2488; 2553	tarand-grave	-	1	1	2	1	-	1	1	-	1	
40	Rohu	AM A 106	stone-grave	-	1	-	-	-	-	-	-	-	-	
41	Saha D	AM A 49	tarand-grave	-	10	-	2	-	-	-	2	-	1	2 frgm of fibulae with tendril feet
42	Saka	AI 2508	stone-grave	-	1	-	-	-	-	1	-	-	-	
43	Salutaguse	AI 3832	stray-find	-	-	-	-	-	1	-	-	-	-	
44		AI 2187	stone-grave	-	-	-	-	-	-	-	-	-	2	
45	Sõtke	AI 2558	stone-grave	-	1	-	-	-	-	-	1	-	-	
46	Taru (Samaste)	ViM 10234	tarand-grave	-	-	-	-	-	1	-	-	-	-	
47	Toila	RM A4	tarand-grave	-	9	-	-	-	-	-	-	-	-	
48	Türsamäe	AI 2012	tarand-grave	-	1	1	1	-	-	-	-	-	-	
49	Unipha	AI 1198	tarand-grave	-	1	-	-	-	1	1	-	-	-	

Nr ¹	Name of the finding place	Museum number	Type	Simple tendril foot	Tendril foot and head-knob	1 st group of ring decoration	2 nd group of ring decoration	3 rd group of ring decoration	Casted needle-case	Star-shaped foot	Triangular foot	Zoomorphic fibulae	Exceptional fibulae	Remarks
50	Uuri	AM A 287	buried treasure	-	-	-	-	1	-	-	-	-	-	
51	Viimsi I	AI 5914	tarand-grave	1	3	-	6	1	-	1	-	-	-	2 frgm: spiral and tension
51	Viimsi II	AI 5915	tarand-grave	-	-	-	1	-	-	-	-	-	-	
52	Villevere (Pilistvere)	AI 2489	hoard	-	-	-	-	1	-	-	-	-	-	
53	Virunuka I	AI 4161	tarand-grave	-	-	-	-	-	-	-	-	-	1	
53	Virunuka II	AI 4164	tarand-grave	-	1	-	-	-	-	-	-	-	-	
53	Virunuka IV	AI 4262	tarand-grave	-	-	-	-	-	-	1	-	-	2	
54	Väo	AM A 53	stone-grave	-	1	-	-	-	-	-	-	-	-	
55	Väätša	AI 1994	stone-grave	-	-	-	1	-	-	-	-	-	-	
56	Äntu	AM A 375	stone-grave	1	-	-	-	-	-	-	-	-	-	
57	Lepna	SM 10372	stone-grave	-	-	-	-	~10	~12	-	-	-	-	