

Domed oblong brooches of Vendel Period Scandinavia

Ørsnes types N & O and similar brooches, including transitional types surviving into the Early Viking Period

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Abstract

This is a study of domed oblong brooches of Vendel Period Scandinavia, i.e. Ørsnes types N & O and similar brooches, including transitional types surviving into the Early Viking Period. A database of 593 brooches from all of Scandinavia, most studied first-hand by the author, is the material base of the investigation. The brooches' typology, chronology, function, social significance, technological characteristics, production sites, interregional variation and ideological connotations are studied and interpreted. Unique brooches are also described and discussed. Finally, the brooches from Uppåkra are discussed against the background of the new results. Two new seriation chronologies for Vendel Period female graves on Bornholm and in mainland Sweden are appended.

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Introduction and delimitation

This is a study of the domed oblong brooches of Vendel Period Scandinavia and the transitional types that survived into the earliest Viking Period. It treats brooches of Ørsnes' (1966) south Scandinavian types N (oval bowl brooches) and O (animal-shaped bowl brooches) as well as similarly shaped brooches found in more northerly parts of Scandinavia, including featureless and punch decorated ones.

The study excludes Scandinavian brooch types that are generally accepted as part of the Viking Period's typological definition, from the P25/R650, P27/R648 and Berdal P11-24

types onward (Petersen 1928; Brinch Madsen 1984; Jansson 1985). Petersen (1928:24) considered P25 to be the earliest type of the Viking Period. The study likewise excludes similar brooch types of the later Viking Period indigenous to Finland and the Baltic States (cf. Ailio 1922; Spirgis 2007).

The brooches under study exhibit bewildering variation that has stimulated 130 years of research. The most substantial contributions have been made by Montelius (1873; 1877), Vedel (1890:45-65; 1897:84-93), Stjerna (1905:147-154, 194-199), Petersen (1928),

Arbman (1932), Gjessing (1934:143–163), Arwidsson (1942), Bertil Almgren (1955:81–87), Ambrosiani (Ms. 1956–1960), Ørsnes (1966:148–160), Bakka (1972), Vinsrygg (1979) and Høilund Nielsen (1999:164–167).

New perspectives offered in this paper are mainly due to a) a significantly enlarged material base including the abundant metal detector finds of recent decades from south Scandinavia, and b) a widened geographic scope covering all of Scandinavia. The study is based on 379 brooches that I have studied and photographed first-hand, 115 ones of which I have photographs or good illustrations, and 99 ones of which I know only the find locations and more or less specific type determinations.

Typology

The basic decorative design of most brooches under study here is a flattened quadruped seen from above whose two sides are often detached from one another along the spine. The brooches were clearly thought of as representing animals throughout the Late Vendel Period and into the Early Viking Period, where the flattened quadruped motif survives on certain Bernald brooches (e.g. Petersen 1928 fig. 16).

All previous typological work on these brooches has focused on size and decoration, demonstrating that the brooches were gradually made larger and larger through the Vendel Period and onward, while their decoration became more and more abstract. Regional variation has also been demonstrated.

The great variability of the brooches invites taxonomic oversplitting, i.e. the definition of a large number of types with only a few members (or even a single member) each. This temptation should be resisted for two reasons: a) the use-period of the studied brooches seems to have lasted for less than 150 years, and b) the

designs indicate a common world of ideas and close contacts among artisans across the distribution area from Troms to Fehmarn. In fact, the variability of the brooches seems mainly to be due neither to chronology nor to regional variation, but to the intentional manufacture of unique jewellery. This would in turn appear to have something to do with the prevalence of animal art on the brooches. We are dealing with a period in which animal art was still a controlled symbolic medium and a prerogative of the aristocracy. Only with the appearance of serial produced and uniform jewellery types in the Early Viking Period (from types P25 and P27 onward) did animal art enter the mainstream.

A particular problem in establishing a typological classification scheme for these brooches is that their total variability is unevenly distributed across the population. In other words, any classification system with a low and workable number of types for these brooches must include some counter-intuitive types. These will contain sub-clusters and will thus be difficult to visualise. They cannot be illustrated with a picture of a single “type specimen”.

I have attempted to solve this problem by a two-level binomial classification scheme. Apart from a few truly idiosyncratic uniques (pp. 172–174), all well-preserved brooches can be assigned to one of 20 *types*. Some members of a type are similar enough to each other that I have assigned them to a *variant*, usually named after a find locality. Note that most brooches are not assigned to any variant, simply because they have no close kin on the sub-type level. When discussing the most intricately decorated brooches, I also operate with a concept of *groups* on the level above the type. Thus, each variant is a subset of a type, and each type among the intricately decorated brooches is a subset of a group.

Table 1. Overview of the typological classification system.

Decoration: plain	
Length <60 mm —	type SPL
Length >68 mm —	type R640
Decoration: punched	
Length <56 mm —	type SPU
Decoration: intricate	
Outline: oval	
Pin fastening: cast —	group N (7 types)
Pin fastening: soldered —	group R643 (5 types)
Outline: irregular	
Pin fastening: cast —	group O (4 types)
Pin fastening: soldered —	type Stor-Skomo

In the following I will present a pan-Scandinavian typological scheme (summarised in table 1) developed on the basis of previously published regional schemes. It is devised to map chronological and regional variation. The first classificatory step is a tripartition on the basis of decoration:

1. Plain surface, may only have simple lines or grooves as decoration.

2. Punch decorated surface (dot circles), may also have lines or grooves.
3. Intricate cast or incised decoration.

Following the examples of Ørsnes (1966) and Høilund Nielsen (1999), I have studied the length of the brooches (fig. 1). The distribution is bimodal with the main discontinuity at 78 mm. The two peaks in the histogram correspond to two ideal sizes envisioned for these

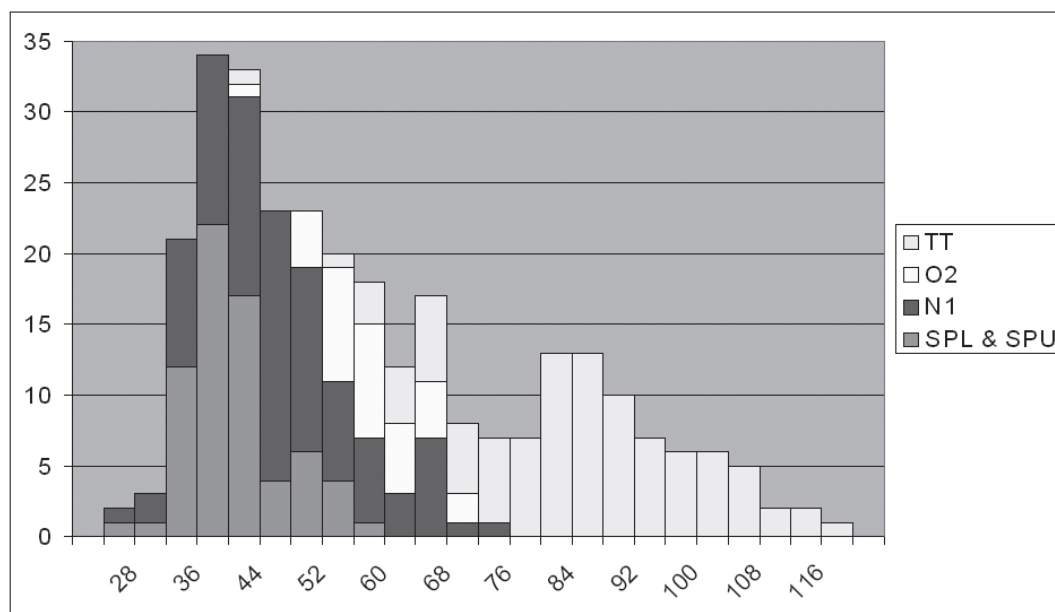


Fig. 1. Length histogram. Types before c. AD 750 are short, <78 mm. Longer types appear after that date, though some short brooches are still made with characteristic late type TT decoration.

Table 2. Plain surface brooches.

Population description	Small Plain / SPL (n=59)	R640 (n=38)
Outline shape	91% elliptical, 7% truncated elliptical, 1% egg-shaped (n=58)	Elliptical
Transversal profile	78% semicircular, 22% trapezoid w curved sides (n=53)	Squat, evenly rounded, steep sides
Pin fastening	89% cast lug & catch, 11% both soldered singly (n=38)	90% soldered metal strip, 10% lug & catch soldered singly (n=30)
Number of lugs	Single	?
Cast textile impressions	7% (n=43)	None
Matched pairs	None: rarely found in pairs, always dissimilar	Yes, commonly
Length (mean ± std dev.)	40.4 ± 6.0 mm (n=47)	88.1 ± 9.5 mm (n=15)
Width (mean ± std dev.)	18.1 ± 3.9 mm (n=48)	67.8 ± 9.0 mm (n=13)
Height (mean ± std dev.)	8.4 ± 1.8 mm (n=43)	18.9 ± 5.6 mm (n=17)
Edge thickness (mean ± std dev.)	1.1 ± 0.3 mm (n=43)	0.8 ± 0.6 mm (n=24)
W/L (mean ± std dev.)	0.45 ± 0.07 (n=45)	0.75 ± 0.07 (n=12)
H/W (mean ± std dev.)	0.47 ± 0.11 (n=44)	0.28 ± 0.05 (n=12)

brooches. Find combination studies show that the peaks have chronological significance: in the early 8th century the fashionable length of a brooch was c. 40 mm, in the late 8th century it was c. 84 mm. The distinction between small early brooches and large late ones will be important in the following.

Plain surface brooches

These brooches have a plain surface and cannot have any more intricate decoration than simple lines and/or grooves. They are divided into two clearly separate main types with distinct chronological and geographical habitats. The Small Plain type (SPL) is equivalent to Høilund Nielsen's (1999) type 1a. The type name R640, used by Petersen (1928:5–7) and later scholars, refers to fig. 640 in Rygh 1885 (depicting the brooch T 2374).

Type definitions

SPL Small (L<60 mm) plain brooches usually with cast fastening arrangements for the pin (cf. Fig. 2).

R640 Large (L>68 mm) plain thin-shelled brooches with the pin's fastening arrangements soldered onto the inside of the brooch, usually placed at the ends of a separate curved metal strip (cf. Fig. 3).

Small Plain brooches – type SPL

Of the 53 type SPL brooches that I have studied or seen good illustrations of, 36% have simple lines or grooves. Eleven have a trapezoid profile, which means that the surface is divided into three longitudinal facets. Ten have a single thin line along the edge. Seven have a wide spinal groove. One (stray find, SHM 2076:18) has two edge lines and a spinal field covered with transversal line hatching. One has two parallel spinal grooves (Finland, Helsinki 9365:394).

Only one brooch combines an edge line with a spinal groove (Table 3). Only two brooches combine an edge line with a trapezoid profile. Spinal groove and trapezoid profile are never combined. As seen in table 3, these combina-

Table 3. Decorated SPL brooches.

Inv no	Reg	Provenance	Trapezoid profile	1 edge line	1 spinal groove	Variant	Fig.
SHM 02076:18	?	Storck's collection, Kalmar	1			SPL (with hat-ching etc.)	
SHM 17906:10	gö	Ög, Skedevi, Ruda, Smedjebacken	1			SPL Billby	Arbman 1932 fig. 9
SHM 02724	gö	Vg, Friggeråker, Bäckabo	1			SPL Billby	
SHM 32577:51 c	sv	Sö, Aspö, Stenby, Raä 141, gr. 51	1			SPL Billby	
SHM 15174:11a	sv	Up, S:t Per, Billby, gr. 11	1			SPL Billby	
SHM 26042:180/121	sv	Up, Norrsunda, Brista	1			SPL Billby	
Raä F67022	sv	Up, Adelsö, Björkö, Svarta Jordan 1994, R6704	1			SPL Billby	
SSM	sv	Up, Spånga, Ärvinge, Raä 162, gr. 47	1			SPL Billby	Biuw 1992:90
SHM 23304:17	sv	Up, Skå, Skå-Edeby, gr. 17	1			SPL Billby	
SHM 14723:a	sv	Up, S:t Per, Erikssund, Björkbacken	1	1		SPL Billby/Åshusby	Arwidsson 1942 textfig. 16; Åberg 1953 fig. 132–137
SHM 31461:06	sv	Up, Vallentuna, Näsby 1:1, Raä 21, gr. 06	1	1		SPL Billby/Åshusby	
Åland 094:60b	ål	Saltvik, Ödkarby, Backas/Östergården, gr. 10		1		SPL Åshusby	
SHM 26042:173/125	sv	Up, Norrsunda, Brista		1		SPL Åshusby	
SHM 08800:28	sv	Up, Norrsunda, Åshusby, gr. 28		1		SPL Åshusby	Salin 1890 fig. 28; Stjerna 1905 fig. 132
SSM	sv	Up, Spånga, Ärvinge, Raä 162, gr. 15		1		SPL Åshusby	Biuw 1992:89
SHM 17059:2	sv	Up, Tolfta, Ersta		1		SPL Åshusby	
SHM 25849:10	sv	Up, Täby, Roslags-Näsby, Raä 140		1		SPL Åshusby	
SHM 30621:36	sv	Sö, Botkyrka, Tomtberga, Raä 10, gr. 36		1		SPL Åshusby	
Raä dnr 3035/92 F858	sv	Sö, Härad, Härads Kumla 2:9, Raä 15, gr. 85		1	1	SPL Åshusby/Hulterstad	
SHM 27258:7171	sv	Up, Ekerö, Helgö, BG1			1	SPL Hulterstad	Reisborg 1994 fig. 18
SHM 31461:34	sv	Up, Vallentuna, Näsby 1:1, Raä 21, gr. 34			1	SPL Hulterstad	
Raä dnr 4751/92, 5834/92	sv	Sö, Huddinge, Lissma, gr. 53			1	SPL Hulterstad	Äjjä & Åhman 1997 fig. 18
SHM 16470	öl?	Öl?			1	SPL Hulterstad	
SHM 01304:1836:35	öl	Öl, Hulterstad k:a			1	SPL Hulterstad	Montelius 1873 fig. 55; Stjerna 1905 fig. 133

tions of traits form a small seriation that correlates with geography, each variant connecting Uppland with an area either to the SW, S

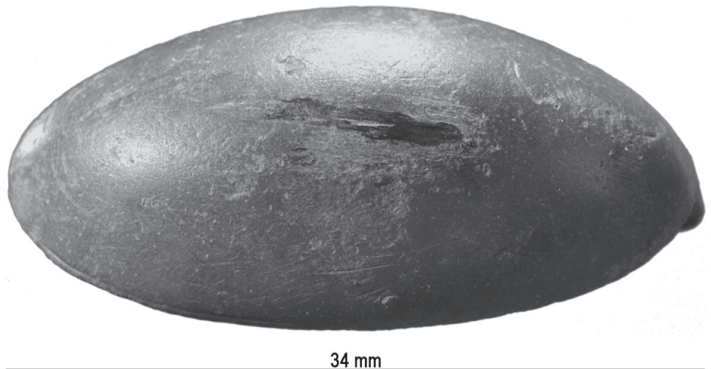
or E. It may also have to do with chronology, i.e. contacts varying through time.

I have distinguished three variants within



Fig. 3. Type R640, Large Plain. NO-N Vigtelen. L 79 & 80 mm. Tromsø 3803. Photo MR.

Fig. 2. Type SPL,
Small Plain. SK
Uppåkra. L 33
mm. U 4917.
Photo BA.



type SPL (cf. Ambrosiani Ms. 1956–1960 types A1, A2, A3, B1). Together they account for 41% of the total studied population.

SPL variants

- | | |
|----------------|--|
| SPL Billby | Trapezoid profile, no other decoration. n=8. |
| SPL Hulterstad | Spinal groove, no other decoration. n=5. |
| SPL Åshusby | Single edge line, no other decoration. n=7. |

Unadorned SPL brooches belonging to none of the above-mentioned variants are widely distributed. Published pictures of such brooches are Arbman 1932 fig. 8a; Aspelin 1877–84 fig. 1234; Bellander 1939–44 fig. 41; Bennett Lagerlöf 1989 fig. 10a; Enqvist 1923 fig. 15–20; Holmquist et al. 1970 fig. 18; Johansen & Lerche Trolle 1994:25; Kivikoski 1973 fig. 435; *KVHAA:s månadsblad* 1903 fig. 378; Petersen 1928 fig. 1–2; Petré 1984a fig. 340:1; Ramskou 1976 fig. 321A; Rydh 1936

Table 4. Punch decorated brooches.

Population description	Small Punched / SPU (n=23)
Outline shape	Elliptical
Transversal profile	Squat, evenly rounded, steep sides
Pin fastening	Cast lug & catch
Number of lugs	Single
Cast textile impressions	8% (n=12)
Matched pairs	None, never found in pairs
Length (mean ± std dev.)	43.6 ± 7.1 mm (n=15)
Width (mean ± std dev.)	20.5 ± 4.8 mm (n=16)
Height (mean ± std dev.)	8.5 ± 2.7 mm (n=14)
Edge thickness (mean ± std dev.)	1.1 ± 0.3 mm (n=11)
W/L (mean ± std dev.)	0.45 ± 0.07 (n=14)
H/W (mean ± std dev.)	0.41 ± 0.10 (n=13)

fig. 267; Serning 1966 fig. 1:30; *Suomen Museo* 1925 p. 35 fig. 25.

Large Plain brooches – type R640

Among the 28 type R640 brooches that I have studied, 54% are decorated along the edge, in most cases simply with 1, 2 or 4 incised parallel lines or grooves. Two matched pairs of brooches each have unique decoration. A pair from Møre & Romsdal (Bergen 8256) has tiny notches along the edge, a few millimetres apart. A pair from Sør-Trøndelag (T 17739) has four sets of three incised arches at the edge. These features look like schematised paws and are indeed placed the same way as the paws of flattened quadruped brooches (see pp. 135–155). They thus allude to the idea of domed oblong brooches as animals.

Published pictures of R640 brooches are *Antiquaries Journal* XII p. 440; *Bergens Museums Aarbok* 1924/25 p. 25; 1932:5 p. 17; Helgen 1982 fig. 32; Petersen 1928 fig. 4; Rygh 1885 fig. 640; *Trondheim, K. Norske Videnskabers Selskabs Skrifter, Tilvekst* 1905 p. 26; *Trondheims Museums Aarbok* 1956–57 p. 148–150 fig. 2–4.

Punch decorated brooches – SPU

These brooches have a punch decorated surface (usually dot-circles) and may also have simple lines or grooves. The brooches vary considerably in details and none are similar enough to warrant the definition of a variant. Many have a poorly preserved surface where details are obscure. The Small Punched (SPU) type is equivalent to Ambrosiani's (Ms. 1956–1960) type B2 and to Høilund Nielsen's (1999) types 1b and 2b.

Type definition

SPU Small (L < 56 mm) punch decorated brooches with cast fastening arrangements for the pin. May have simple lines and/or grooves (cf. Fig. 4).

The decorative elements visible on the SPU brooches that I have studied or seen good illustrations of are: rows, grids and scatters of punched dot-circles, some of them 2-concentric; spinal groove, sometimes flanked by thin lines; spinal line, single, double or triple; edge-lines, single, double or quadruple; thin line cross-hatching; punched triangles with three raised pellets inside.



Fig. 4. Type SPU, Small Punched. SV Gamla Uppsala. L 55 mm. UMF 1161. Photo MR.



Fig. 5a. Type N1a. NO-N Sandvik, grave 7. L 55 mm. Trondheim 18648a. Photo MR.

Published pictures of SPU brooches are Aspelin 1877–84 fig. 1832; Bennett Lagerlöf 1989 fig. 10b; Holmquist et al. 1970 fig. 92:12; Hörfors 1990:97, 102; Kivikoski 1980 Pl. 10:7; Montelius 1877 fig. 26; Nerman 1929 fig. 37; Nylén & Schönback 1994 fig. 36; Petré 1984a fig. 340:2; Serning 1966 fig. 1:31; Stjerna 1905 fig. 140; Waller 1996 Pl. XXV:89; Wilson et al. 1998 fig. 163.

Before they received their punched decoration, most SPU brooches fulfilled the definition of SPL brooches. A few SPU brooches may be secondarily modified SPL brooches. There is, however, reason to believe that SPU

and SPL brooches were not all made by the same artisans.

- a) The two brooch types have different cast line decoration.
- b) SPL brooches are generally slightly smaller and flatter than SPU brooches.
- c) SPU has a less wide and more easterly distribution area than SPL.

Find combinations show that SPU brooches were made in the Åland Isles for more than half a century after both SPL and SPU had gone out of fashion in the Lake Mälaren area (see p. 162).

Intricately decorated brooches

These brooches have intricate cast (or rarely incised) decoration. The first step in classifying them is a partitioning into four groups on the basis of outline shape and pin fastening arrangements.

1. Ørsnes group N. Oval (elliptical, egg-shaped or sub-rectangular) brooches cast in one piece with lug and catch for the pin.
2. Ørsnes group O. Brooches with intricate irregular (animal-shaped) outlines cast in one piece with lug and catch for the pin.
3. Group R643. Oval (elliptical, egg-shaped or sub-rectangular) brooches, thin-shelled, with the pin's fastening arrangements soldered onto the inside of the brooch, usually placed at the ends of a separate curved metal strip.
4. Group & type Stor-Skomo. Brooches with intricate irregular (animal-shaped) outlines, thin-shelled, with the pin's fastening arrangements soldered onto the inside of the brooch.

Each of these groups has a characteristic decoration and geographic distribution. Group N survives throughout most of the period and area under study here. Simply put, group O is a south-Scandinavian contemporary of early small N brooches, while group R643 and type Stor-Skomo are Norwegian contemporaries of late large N brooches.

Determining whether a well-preserved brooch has an intricate irregular or oval outline is in principle easy. When Ørsnes's (1966:148–160) classification of the brooches' decoration is considered, however, things turn out to be less clear-cut. Ørsnes's system does not permit every conceivable combination of decoration and outline shape. Particularly with type N1d, decoration must often take precedence over out-

line shape in classification. There are a number of brooches that do not have a perfectly convex outline but whose decoration is highly similar to that of oval N1d brooches. The alternative to such flexibility would be to leave a number of almost-oval brooches out of the system despite their obvious similarity to brooches within the system. This is not simply an effect of Ørsnes's small sample, where he might have been unaware of the intermediate varieties. He placed several brooches with slightly irregular outlines in his oval group (e.g. Ørsnes 1966 fig. 180), and I have followed his example.

Ørsnes group N

Ørsnes group N consists of intricately decorated oval brooches cast in one piece with lug and catch for the pin. Thus defined, this group survives through the Late Vendel, Early Viking and Middle Viking Periods and dies with the final tortoise brooch types. The criterion used to decide which types are treated here is whether a type was serial-produced on a large scale or not. Large-scale serial production began in the Early Viking Period with the Berdal types. These are typologically varied, while the likewise serial-produced Early Viking Period types P25 and P27 are highly uniform.

Type definitions

N1a Small (L<78 mm) flattened quadruped brooches with a wide, usually ribbed dorsal plate and separate haunches (Ørsnes 1966:149–150; cf. fig. 5; Arwidsson 1942 Abb. 57–61; AUD 1995:235; Bakka 1972:59 fig. 3, 5; Bergen *Tillvekst* 1933:26; Callmer 1991 fig. 16; Gudesen 1980 fig. 28c; KVHAA:s *månadsblad* 1903–05 fig. 225; Marstrander 1973 fig. 10; *Oldsaksamlingens Tillvekst* 1995 fig. 9b;

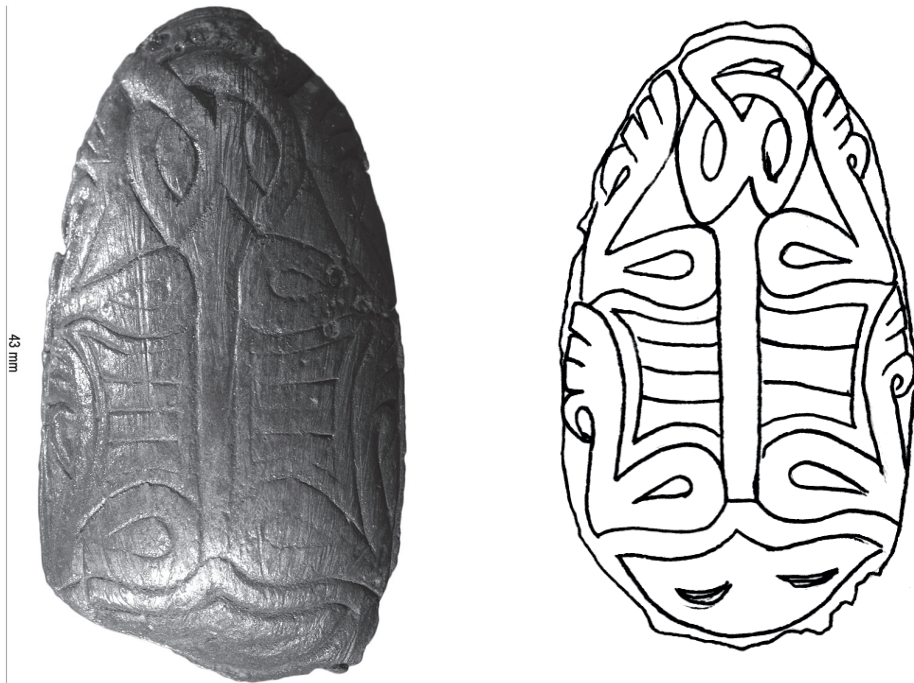


Fig. 5b. Type N1a. SK Uppåkra. L 48 mm. U 1782. Photo BA. Drawing by Erika Rosengren.

- Ørsnes 1966 fig. 172; Stjerna 1905 fig. 136; Strömberg 1961 Taf. 63:2; Vedel 1897 fig. 93).
- N1b** Small (L<78 mm) flattened quadruped brooches with a wide, usually ribbed dorsal plate, divided by a decorative spinal ribbon, and separate haunches (Ørsnes 1966:149–150; cf. fig. 6; Arbman 1932 fig. 15; Arwidsson 1940 Abb. 36; Blindheim 1949 fig. 5; Gjessing 1934 pl. 41; Johansen & Lerche Trolle 1994:25, 72; Jørgensen & Nørgård Jørgensen 1997 pl. 22:5; *Journal of Danish Archaeology* 1 p. 182; Nilsson 1992 fig. 3a; *Oldsaksamlingens Tillvekst* 1995 fig. 9a; *Oldtiden* VIII p. 121; Ørsnes 1966 fig. 169, 178; Østergaard Jensen 1987; Petersen 1928 fig. 7; Ramqvist 1998 fig. 76; Sarauw & Alin 1923 fig. 188; Shetelig 1920 fig. 288; *Stavanger Museums Aarbok* 1916 no 1 fig. 1; Stjerna 1905 fig. 135, 137; *Tillväxten SHM* 1901 p. 118 fig. 61).
- N1c** Small (L<78 mm) flattened quadruped brooches with an elongated side-view animal on either side, joined at head and rear, separated by a spool-shaped or irregular field, and separate haunches (Ørsnes 1966:149–150; cf. fig. 7; Bakka 1972 fig. 1; Jørgensen 1990 pl. 10:8, 16:1, 16:3; Lind 1984 fig. 3:1; Serning 1966 fig. 96:1).
- N1d** Small (L<78 mm) brooches with intricate animal interlace on sides, often divided by a decorative spinal ribbon (Ørsnes 1966 fig. 149–151; cf. fig. 8; Åberg 1923 fig. 258; *AUD* 2000:271; Bo Henriksen 2002 fig. 11c;

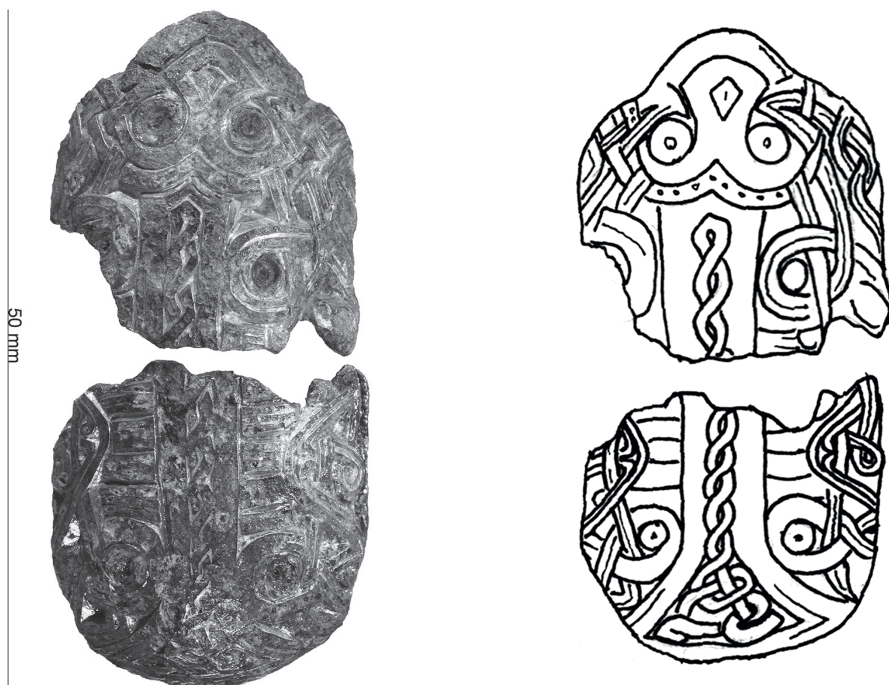


Fig. 6a. Type N1b. SK Uppåkra. L 51 mm. U 7+16. Photo BA. Drawing by Erika Rosengren.

- Jørgensen & Nørgård Jørgensen 1997 fig. 27:17, pl. 2:7–8; Montelius 1873 fig. 56; Ørsnes 1966 fig. 175–177, 179, 181; Ramskou 1976 fig. 122).
- N1e Very small (L<52 mm) brooches where the flattened quadruped motif has been abbreviated to a mask at either end. These are reminiscences of the quadruped's face and back haunches, respectively. Between the two masks are in most cases abstract interlace (Ørsnes 1966:149–151; cf. fig. 9; *AUD* 1999:156; Bo Henriksen 2002 back cover right, fig. 11e; Johansen & Lerche Trolle 1994:25; Nielsen 2002 fig. 8; Ørsnes 1966 fig. 174). N1e brooches may alternatively have featureless ends with the same kind of abstract interlace between them.
- N1V3 Small (L<78 mm) flattened quadruped

brooches whose haunches are joined across the spine in two figure-eights (cf. fig. 10; Vinsrygg 1979 type III, fig. 9c, 10abce; Gjessing 1934 pl. 39c, 40; Sjøvold 1974 fig. 29, 36efg; *Trondheim, K. Norske Videnskabers Selskabs Skrifter* 1925 no 3 p. 57).

TT “Transitional types” (Sw. *övergångstyper*; cf. fig. 11).

1. No Berdal, P25, P27, P35, P37 or later brooch belongs to type TT.
2. With the above exception, all N brooches with at least one of the following characteristics belong to type TT.

- a. Length >77 mm
- b. Plastic beaded moulding
- c. Style E decoration
- d. Indistinct gripping beast decoration

36 mm

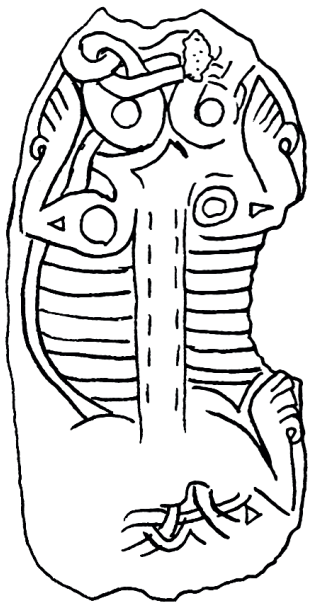


Fig. 6b. Type N1b. SK Uppåkra. L 36 mm. U 1737. Photo BA. Drawing by Erika Rosengren.



Fig. 7. Type N1c. SJ Gerdrup Ravnemark. L 46 mm. NM C30998. Photo MR.

- e. 4 medallions layout
- f. 2 rhombs/6 medallions layout

Published pictures of TT brooches are *Aarsb. Foren. Norske Fortidsm.* 1882 p. 109; Åberg 1923 fig. 260, 295; Ambrosiani 1968; Arbman 1940–43 Taf. 62:1 ff; Areslätt 1993 fig. 13, 14, 50; Atterman 1935 fig. 53a:g; Bakka 1973 fig. 9, 17; *Bergens Museums Aarbok* 1920–21 p. 24; Bertil Almgren 1955 Pl. 43b; Oscar Almgren 1905 fig. 30; Blindheim et al. 1999 pl. 78c; Brøndsted 1936 fig. 57, 114; Callmer 1984 fig. 3; Christensen & Høj 1984:18–19; Dreijer 1966 fig. 4; Drotz & Ekman 1995 fig. 33; Gjessing 1934 textfig. 25–26, pl. 37c, 39b, 42–43; Gudesen 1980 fig. 28; Helgen 1982

46 mm



Fig. 8 a. Type N1d. SK Uppåkra. L 48 mm. U 6242. Photo BA. Drawing by Erika Rosengren.



Fig. 8 b. Type N1d variant NSV. BO Nørre Sandegård Vest. L 46 mm. NM C10269. Drawing by Poul Christensen after Jørgensen & Nørgård Jørgensen 1997 Pl. 2:7.

fig. 43; Holmquist et al. 1970 fig. 87:1, Pl. 32:7; Jansson 1985 fig. 2, 4, 5, 7, 8; Jørgensen 1990 pl. 1:5, 11:7, 16:2, 20:7, 21:1, 21:3, 24:1-2, 24:2, 25:1-3; Kersten & La Baume 1958 Taf. 149:11; Kirpichnikov 2004 fig. 8-9; Kivikoski 1973 fig. 436; *KVHAA:s månadsblad* 1903-05 fig. 226; Lorange 1875:179; MacGregor 1997:46; Montelius 1873 fig. 57; 1877 fig. 16-17, 27; Odenchrants 1933; ÖJGI 126; Ørsnes 1966 fig. 183-193; Petersen 1928 fig. 8, 9, 28, 29; Ramskou 1965 fig. 4, 6; Rasmussen & Roland 1989 fig. 4:7, 5:1-2; Rydh 1936 fig. 52; Rygh 1885 fig. 641-642, 645; Shetelig 1920 fig. 264, 269, 289-291; Simonsson 1972; Stjerna 1905 fig. 138-139, 141-142; Ström-



Fig. 8 c. Type N1d variant Toftegård. SJ Tissø-Kalmargården. L 48 mm. NM KM949. Photo MR.



Fig. 9 a. Type N1e variant 1. JY Bejsebakken. L 36 mm. NM C33516. Photo MR.



Fig. 8 d. Type N1d variant Vedskølle. Storck's collection, Kalmar. L 49 mm. SHM 2076:15. Photo MR.

U 2736



Fig. 9 b. Type N1e variant 2. SK Uppåkra. L 33 mm. U 2736. Photo BA.



Fig. 9 c. Type N1e variant 3. JY Bejsebakken. L 34 mm. NM C30551 + C33473. Photo MR.



Fig. 10. Type N1V3. NO-N Ytre Kvarøy, grave 8. L 57 mm. Tromsø 6377b. Photo MR.

berg 1961 Taf. 44:1d, 63:5–7; *Trondheim, K. Norske Videnskabers Selskabs Skrifter* 1908 no 14 p. 39 fig. 8, p. 25; 1922 no 6 p. 37; *Trondheims Museum Aarsbok* 1888 pl. IV:14; Vedel 1897 fig. 97–102; VZG 1846; Wilson et al. 1998 fig. 46; Worsaae 1859 fig. 420; 1865:94 fig. 9.

2.3.1.1 Variants among the N1 types

Disregarding paired brooches found together in graves, neither N1a, N1b, N1c nor N1V3 contains any brooches that are similar enough

Table 5. Ørsnes group N.

Population description.	N1a (n=25)	N1b (n=31)	N1c (n=11)	N1d (n=18)	N1e (n=13)	N1V3 (n=6)	TT (n=127)
Outline shape	81% elliptic, 19% egg-shaped (n=16)	70% elliptic, 26% sub-rectangular, 4% egg-shaped (n=23)	50% egg-shaped, 37% elliptic, 13% somewhat irregular (n=8)	44% somewhat irregular, 37% elliptic, 13% egg-shaped, 6% sub-rectangular (n=16)	Elliptic	67% elliptic, 33% egg-shaped (n=6)	76% elliptic, 22% egg-shaped, 2% sub-rectangular (n=93)
Transversal profile	Squat, steep sides	Squat, steep sides	Low, evenly rounded	Low, evenly rounded	Low, evenly rounded	Low, evenly rounded	High, steep sides
Pin fastening	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)
Number of lugs	Single	94% single lug, 6% two lugs (n=16)	Single	Single	Single	Single	96% single lug, 4% two lugs (n=71)
Cast textile impressions	None	11% (n=18)	33% (n=9)	None	None	None	53% (n=70)
Matched pairs	Yes, rarely	Yes, once	Yes, once	Yes, once	None	None	Yes, commonly
Length (mean ± std dev.)	46.7 ± 7.9 mm (n=16)	52.4 ± 10.9 mm (n=21)	52.9 ± 12.6 mm (n=9)	46.3 ± 5.6 mm (n=16)	35.4 ± 3.0 mm (n=10)	49.4 ± 5.4 mm (n=6)	84.6 ± 15.0 mm (n=84)
Width (mean ± std dev.)	24.6 ± 4.3 mm (n=19)	27.2 ± 6.6 mm (n=25)	30.2 ± 6.8 mm (n=9)	26.0 ± 3.3 mm (n=16)	18.4 ± 1.8 mm (n=10)	29.1 ± 2.6 mm (n=6)	42.4 ± 8.4 mm (n=84)
Height (mean ± std dev.)	8.4 ± 2.1 mm (n=12)	9.4 ± 3.0 mm (n=16)	9.2 ± 2.1 mm (n=6)	8.0 ± 1.5 mm (n=6)	5.1 ± 0.5 mm (n=4)	9.2 ± 1.4 mm (n=5)	18.3 ± 4.9 mm (n=58)
Edge thickness (mean ± std dev.)	1.3 ± 0.4 mm (n=21)	1.3 ± 0.3 mm (n=19)	1.4 ± 0.3 mm (n=8)	1.4 ± 0.3 mm (n=10)	1.3 ± 0.1 mm (n=6)	0.7 ± 0.3 (n=5)	1.5 ± 0.6 mm (n=74)
W/L (mean ± std dev.)	0.53 ± 0.05 (n=14)	0.50 ± 0.05 (n=22)	0.57 ± 0.05 (n=9)	0.57 ± 0.04 (n=15)	0.53 ± 0.05 (n=12)	0.59 ± 0.02 (n=6)	0.50 ± 0.06 (n=88)
H/W (mean ± std dev.)	0.33 ± 0.04 (n=9)	0.35 ± 0.08 (n=14)	0.31 ± 0.06 (n=6)	0.30 ± 0.07 (n=5)	0.26 ± 0.02 (n=4)	0.31 ± 0.03 (n=5)	0.44 ± 0.08 (n=56)

to warrant the definition of a variant. N1d and N1e, however, do contain such variants.

NI variants

N1d NSV

Roughly elliptical, irregular outline. Two side-viewed elongated animals on each

side, both facing forward. Sides separated by an angular droplet-shaped feature divided into forward-pointing chevrons. n=3. (Fig. 8b; Ørsnes 1966 fig. 180; Jørgensen & Nørgård Jørgensen 1997 fig. 27:17, pl. 2:7–8).

- N1d Toftegård Roughly egg-shaped, irregular outline. Two side-viewed elongated animals on each side, both facing forward. The bodies of the upper animals cross near the apex of the brooch so that the rear body of the left-hand animal is on the right hand side of the brooch, and vice versa. n=2. (Fig. 8c; Bo Henriksen 2002 fig. 11c).
- N1d Vedskølle Elliptical outline. Flattened quadruped layout. Decorative spinal ribbon containing a tendril forming three pretzel knots. Each of the main quadruped's legs is extended backward into a large upside-down side-viewed animal head. n=2. (Fig. 8d; Montelius 1873 fig. 56; Åberg 1923 fig. 258; Ørsnes 1966 fig. 175).
- N1e var1 Wide ribbed dorsal plate. n=2. (Fig. 9a; Ørsnes 1966 fig. 174).
- N1e var2 Two interlaced single-line V:s at apex. n=4. (Fig. 9b; Bo Henriksen 2002 back side of cover & fig. 11e).
- N1e var3 Two interlaced double-line C:s at apex. n=2. (Fig. 9c; Johansen & Lerche Trolle 1994:25; Nielsen 2002 fig. 8).

Variants of type TT

TT is a highly varied type with many unique members. The eight variants defined below account for 27% of the total studied population.

Ørsnes (1966, types N2a etc.) subdivided

the TT brooches on a taxonomic level between my TT type and its variants. I have disregarded his scheme as it is my opinion that each of his five types collects brooches that are neither very similar to each other nor consistently dissimilar to those of the other types.

Looking with correspondence analysis at how various typological traits combine among the TT brooches, I have found no intelligible clustering beyond a vague tendency to foreshadow the four basic designs of the Early Viking Period (see p. 155). There are also a few TT brooches that borrow traits from coeval R643 designs.

TT variants

- TT B1580 Flattened quadruped layout. Wide spinal ribbon. Covered with intricate style E decoration. Four droplet-shaped haunches pointing obliquely downward toward the middle of the brooch. No eyes. On either broad side, a complete Style E quadruped, facing toward the front end of the brooch, bowing so deeply that its head is upside down. n=2. (Fig. 11c; *KVHAA:s månadsblad* 1903–05 p. 176 fig. 226).
- TT Bj485 2 rhombs/6 medallions layout. Beaded curved-line lattice enclosing fields filled with non-zoomorphic abstract decoration. Featureless discs at corners of rhombs. n=4. (Fig. 11d; Arbman 1940–43 Taf. 62:1; Jansson 1985:22 fig. 7).
- TT Bj602 Flattened quadruped layout. Spinal ribbon. Four legs with large feathery feet. Round eyes between forefeet. On either

- broad side, a complete quadruped, facing toward the rear end of the brooch, bowing so deeply that its head is upside down. The heads and necks of similar rear-facing head-bowing animals are found between the eyes and the forward haunches. n=2. (Fig. 11e; Jansson 1985:19 fig. 4).
- TT Bj655 4 medallions layout. Ring-cross at apex. Large spiral palmettos at ends. Medallions filled with intricate Style E decoration. n=3. (Fig. 11f; Jansson 1985:20–21 fig. 5; Kirpichnikov 2004:188–190).
- TT Marsta 2 rhombs/6 medallions layout. Beaded straight-line lattice with transversals across rhombs, enclosing fields filled with intricate Style E decoration. Featureless discs at corners of rhombs, featureless squares at mid-point of transversals. n=2. (Fig. 11g; Odenchrants 1933).
- TT Østerås 4 medallions layout. Featureless rhomb with concave sides at apex. Beaded dividing lines. A single articulated Style E animal in each medallion: two quadrupeds and two birds. n=5. (Fig. 11h; Vedel 1897 fig. 102; Shetelig 1920 fig. 269; Petersen 1928 fig. 29; Gjessing 1934 pl. 43b; Ørsnes 1966 fig. 191–193; Jørgensen 1990 pl. 11:7, 20:7, 21:1, 21:3).
- TT Sundby Beaded moulding along spine. Upper half of broad sides filled with interlaced Style E birds. Wide obliquely chequered field along brim. n=5. (Fig. 11i; Åberg 1923 fig. 260; Dreijer 1966 fig. 4; Ambrosiani 1968 fig. 1–2a).
- TT Tryti Tree-like branched moulding along spine. On each broad side a single articulated long-necked quadruped holding its tongue in its fore paw and a branch of the tree in its hind paw. Line-hatched background. n=2. (Fig. 11j; Gjessing 1934 textfig. 25, pl. 37c).

Ørsnes group O

Ørsnes group O consists of intricately decorated brooches with intricate irregular outline shapes, cast in one piece with lug and catch for the pin. Types O1a and O1b contain no discernible variants.

Type definitions

O1a Small ($L < 78$ mm) non-openwork flattened quadruped brooches (Ørsnes 1966:158; cf. fig. 12; *Aarbøger Nordisk Oldkynd.* 1912:104; Arbman 1932 fig. 13b; *AUD* 1995:237; Holmquist et al. 1970 fig. 97:1; Jørgensen & Nørgård Jørgensen 1997 pl. 9:1, 11:13, 22:6; Jørgensen & Pedersen 1996; ÖJG4 391:1; Ørsnes 1966 fig. 219, 221; Ramskou 1976 fig. 240; Stjerna 1905 fig. 134; Stjernquist 1951 fig. 42:6; Strömberg 1961 Taf. 32:4, textfig. 5:2; Vang Petersen 1991 fig. 8; Vedel 1897 fig. 87, 92).

O1b Large ($L > 77$ mm) flattened quadruped brooches whose surface is divided by an orthogonal grid of mouldings (Ørsnes 1966:158; cf. fig. 13; Jørgensen 1990 pl. 10:6, 12:1; Stjerna 1905 fig. 47; Vedel 1897 fig. 89–90;).

Table 6. Ørsnes group O.

Population description.	O1a (n=24)	O1b (n=4)	O1c (n=2)	O2 (n=36)
Outline shape	Irregular (by definition)	Irregular (by definition)	Irregular (by definition)	Irregular (by definition)
Transversal profile	Low, evenly rounded	Low, rounded with narrow vertical edge	Low, evenly rounded	Low, evenly rounded
Pin fastening	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)	Cast lug & catch (by definition)
Number of lugs	92% single lug, 8% two lugs (n=12)	Single	Single	Single
Cast textile impressions	None	67% (n=3)	None	43% (n=23)
Matched pairs	None	None	None	Yes, commonly
Length (mean ± std dev.)	45.8 ± 11.5 mm (n=13)	89.9 ± 7.2 mm (n=4)	82.7 and 85.0 mm	58.8 ± 7.0 mm (n=23)
Width (mean ± std dev.)	25.4 ± 6.6 mm (n=19)	37.7 ± 4.6 mm (n=3)	30.1 and 37.0 mm	32.7 ± 3.9 mm (n=24)
Height (mean ± std dev.)	6.3 ± 2.1 mm (n=8)	Low	Low	6.3 ± 1.0 mm (n=8)
Edge thickness (mean ± std dev.)	1.3 ± 0.3 mm (n=16)	1.7 ± 1.2 mm (n=3)	1.6 and 1.4 mm	1.2 ± 0.3 mm (n=22)
W/L (mean ± std dev.)	0.53 ± 0.05 (n=13)	0.41 ± 0.02 (n=3)	36% and 44%	0.55 ± 0.05 (n=24)
H/W (mean ± std dev.)	0.26 ± 0.09 (n=8)	Low	Low	0.18 ± 0.03 (n=7)

O1c Large ($L > 77$ mm) flattened quadruped brooches with a bird's tail formed of two S-shaped interlace ornaments (Ørsnes 1966:158–159; cf. fig. 14; Jørgensen 1990 pl. 11:5; Vedel 1897 fig. 91).

O2 Small ($L < 78$ mm) brooches with an elongated side-view animal on either side, joined at head and usually also rear, usually separated by a spool-shaped or irregular field, often openwork (Ørsnes 1966:159; cf. fig. 15; *AUD* 1989:203; 1995:248; 2001:124; Hårdh 2002 fig. 9; Jørgensen 1990 pl. 9:5–6, 10:1, 10:7, 12:2; Jørgensen & Nørgård Jørgensen 1997 fig. 27:15–16, pl. 3:1–2; Kivikoski 1973 fig. 419; Lind 1984 fig. 3:2–3; Stjerna 1905 fig. 45; Stjernquist 1993 fig. 11; Vedel 1897 fig. 95–96).

O variants

O1c The two members of type O1c are so homogeneous and differ-

ent from the other O brooches that the type is an entity on the variant level. O1c may in fact be seen as the final baroque type of the bird brooch series (Ørsnes group D). n=2. (Fig. 14; Vedel 1897 fig. 91; Jørgensen 1990 pl. 11:5).

O2 b A long-haired human figure wearing knee breeches lies supine on the brooch with its head turned to the left, gripping the two elongated animals by their necks. n=3. (Fig. 15b; Vedel 1897 fig. 96).

O2 Ellegård The two elongated animals delimit a regular pointed oval field filled with a stylised animal. The maws of the two side-view animals form a meandering groove across the front end of the brooch. Along the rear edge are



Fig. 11 a. Type TT, an example of the flattened quadruped design. Gotland. L 85 mm. Malmö 2282. Photo Malmö Museums.



Fig. 11 c. Type TT variant B1580. NO-S stray find. L 89 mm. Bergen 1580. Photo MR.



Fig. 11 b. Type TT, an example of the 4 medallions design. NO-N Vang. L 92 mm. Tromsø 9552. Photo MR.



Fig. 11 d. Type TT variant B1485. SV Härads Kumla, grave 16. L 84 mm. SHM 34108 F799. Photo MR. This variant is an example of the 2 rhombs/6 medallions design.



Fig. 11 e. Type TT variant Bj602. SJ Rævebanke. L 84 mm. NM C30665. Photo MR.



Fig. 11 h. Type TT variant Østerås. NO-N Østerås. L 78 mm. Trondheim 7958. Photo MR.



Fig. 11 i. Type TT variant Sundby. ÅL Sundby. L 76 mm. Marichamn 252:2. Photo MR.



Fig. 11 f. Type TT variant Bj655. SV Björkö, grave 655. L 96 mm. SHM Bj655. Photo MR.



Fig. 11 g. Type TT variant Marsta. SV Marsta. L 105 mm. Uppsala 4286. Photo MR.



Fig. 11 j. Type TT variant Tryti. NO-S Vik vicarage. L 89 mm. Bergen 8143d. Photo MR.



Fig. 12. Type O1a. SK Uppåkra. Extant L 47 mm, snout broken off. U 1340. Photo MR.



Fig. 13. Type O1b. BO Lousgård, grave 6. Orig. L 80–85 mm. NM C5592. Photo MR.



Fig. 14. Type O1c. BO Bækkegård, grave 63. L 83 mm. NM C2530. Photo MR.



Fig. 15 a. Type O2. SK Uppåkra. L 52 mm. U 3023. Photo BA.



Fig. 15 b. Type O2 variant b. BO Lousgård, grave 3. L 67 mm. NM C5587a. Photo MR.



Fig. 15 c. Type O2 variant Ellegård. BO Nørre Sandegård, Vedel's grave 6. L 62 mm. NM C10289. Photo MR.

six small round features through which a tendril is threaded. n=14. (Fig. 15c; Vedel 1897 fig. 95; Stjerna 1905 fig. 45; Lind 1984 fig. 3:2–3; Jørgensen 1990 pl. 9:5–6, 10:1, 10:7; Jørgensen & Nørgård Jørgensen 1997 fig. 27:15, pl. 3:1–2).

Group R643

Group R643 consists of intricately decorated oval brooches, thin-shelled (and thus often damaged), with the pin's fastening arrange-

ments soldered onto the inside of the brooch, usually placed at the ends of a separate curved metal strip. The small early type R643E generally has two separate solder patches. The group takes its name from Rygh 1885 fig. 643 (depicting the brooch T 1945). These types are greatly varied and contain no discernible variants except type R643C whose three members are highly uniform.

Type definitions

R643A Intricate interlace decoration, usually zoomorphic, often asymmetric. Cannot have the flattened quadruped

Table 7. Group R643.

Population description.	R643A (n=36)	R643B (n=5)	R643C (n=3)	R643D (n=3)	R643E (n=15)
Outline shape	Elliptic (n=11)	Elliptic (n=1)	Elliptic	Elliptic (n=1)	58% sub-rectangular, 33% elliptic, 8% egg-shaped (n=12)
Transversal profile	Evenly rounded	Evenly rounded	Squat, steep sides	Evenly rounded	Various, most evenly rounded
Pin fastening	93% soldered metal strip, 7% lug & catch soldered singly (n=28)	Soldered (by definition)	Soldered (by definition)	Soldered (by definition)	75% lug & catch soldered singly, 25% soldered metal strip (n=12)
Number of lugs	?	?	?	?	?
Cast textile impressions	None	None	None	None	None
Matched pairs	Yes, commonly	None	Yes, once	None	Yes, twice
Length (mean ± std dev.)	90.5 ± 16.4 mm (n=12)	65.0, 78.0 and c. 85 mm	96.0–102.0 mm	c. 60–70 mm	47.2 ± 7.9 mm (n=12)
Width (mean ± std dev.)	61.3 ± 19.2 mm (n=12)	39.0 and 61.0 mm	60.0 to c. 70 mm	38.0 to c. 45 mm	27.8 ± 5.2 mm (n=13)
Height (mean ± std dev.)	16.7 ± 6.7 mm (n=14)	15.0 and >20 mm	18.0 and 18.3 mm	6.3 and 8.8 mm	8.1 ± 1.8 mm (n=8)
Edge thickness (mean ± std dev.)	1.1 ± 0.6 mm (n=27)	1.5 ± 0.5 mm (n=3)	1.0 and 1.6 mm	0.3 and 0.8 mm	0.7 ± 0.4 mm (n=10)
W/L (mean ± std dev.)	0.66 ± 0.09 (n=10)	0.60 and c. 0.72	63% and 65%	c. 0.60–0.65 (n=2)	0.58 ± 0.06 (n=11)
H/W (mean ± std dev.)	0.29 ± 0.08 (n=9)	0.25 (n=1)	0.27 and 0.31	0.17 and c. 0.21	0.31 ± 0.10 (n=8)

motif (cf. fig. 16; Bakka 1973 fig. 1, 13, 15; Gjessing 1934 pl. 38bef, 45a; Gudesen 1980 fig. 27acd; Haug & Johansen 2003:4; Jansson 1985 fig. 3; Marstrander 1973 fig. 8; Petersen 1928 fig. 3; Rygh 1885 fig. 643; Shetelig 1912 fig. 148; 1920 fig. 263, 293; Strömberg 1961 Taf. 63:4; *Trondheim, K. Norske Videnskabers Selskabs Skrifter, Tilvekst* 1909 p. 6 fig. 2; Vinsrygg 1979 fig. 13abc).

R643B Geometric lattice decoration. The fields enclosed within the lattice are either chequered, plain or filled with animal interlace. Often raised studs at lattice intersections (cf. fig. 17;

Bennett & Häger 1976 fig. 7; Lindahl 1950; *Oldsaksamlingens aarsbok* 1890 fig. 14; Ørsnes 1966 fig. 196; Sjøvold 1974 fig. 38d).

R643C 4 medallions, each enclosing a moustachioed human figure caught in interlace (cf. fig. 18; Gjessing 1934 pl. 43c, textfig. 27; Petersen 1928 fig. 5–6; Sjøvold 1974 fig. 41a).

R643D Bilaterally symmetric interlace decoration depicting two elongated side-view animals (cf. fig. 19; Vinsrygg 1979:39–40, fig. 11; Gjessing 1934 pl. 37ad; Shetelig 1912 fig. 147; 1920 fig. 292; Sjøvold 1974 fig. 38ac).

R643E Small (L<78 mm) flattened quadru-

Table 8. Group & type Stor-Skomo.

Population description.	Stor-Skomo (n=4)
Outline shape	Sub-triangular
Transversal profile	Irregular
Pin fastening	Lug & catch soldered singly
Number of lugs	?
Cast textile impressions	None
Matched pairs	Always
Length	82.4 and 85.0 mm
Width	55.0 mm (n=1)
Height	c. 25 mm (n=2)
Edge thickness	0.7, 0.7 and 0.9 mm
W/L	0.58 (n=1)
H/W	0.45 and c. 0.52

ped brooches (cf. fig. 20; Gjessing 1934 pl. 37b, 39a; Helgen 1982 fig. 28; Ørsnes 1966 fig. 173; Serning 1960 pl. 11:8; Shetelig 1912 fig. 404; Sjøvold 1974 fig. 38b; Vinsrygg 1979 fig. 8abcd, 9ab).

Group & type Stor-Skomo

Group & type Stor-Skomo consists of intricately decorated brooches with an intricate irregular outline shape, thin-shelled (and thus rarely intact), with the pin's fastening arrangements soldered onto the inside of the brooch.

Type definition

Stor-Skomo Large ($L > 77$) flattened quadruped brooches with a wide and high front end and a narrow and low rear end, rather like a toad that is sitting down and watching the stars (cf. fig. 21; Gjessing 1934 pl. 38a; *Trondheim, K. Norske Videnskabers Selskabs Skrifter, Tilvekt* 1905:26).

Prototypes and parallels of the brooches and the flattened quadruped motif

There has been some discussion regarding the typological ancestry of the brooches under study here. Montelius (1873:186–189) identified SPL as the earliest type, without however suggesting any typological ancestor for it. Ekholm (1918) compared type SPL to small oval metal spangles found in a Late Roman Iron Age grave in Finland. Arbman (1932:94–96) rejected this parallel and pointed instead to two plain knife pommels of the Early Vendel Period from Södermanland (SHM 9994) and Östergötland (SHM 17906:10) as probable ancestors of the SPL brooches. Arbman's suggestion carries more weight than Ekholm's in view of the closeness both in shape, size and date of the brooches and the pommels.

Vedel (1890:58–60; 1897:86) believed that group O (irregular outline) spawned group N (oval outline). This is unlikely as the smallest types of domed oblong brooches (SPL, SPU and the N1 types) are all oval. On the other hand, the flattened quadruped motif originated long before the time of the domed oblong brooches (Stjerna 1905:147–149). For



Fig. 16 a. Type R643A. NO-S Hauge. Orig. L c. 90 mm. Oslo C19708a. Photo MR.



Fig. 16 c. Type R643A. NO-N Strømsåsen, grave 5. L 95 mm. Trondheim 19966 F40. Photo MR.



Fig. 16 b. Type R643A. NO-N Melhus. Orig. L c. 90 mm. Trondheim 6575. Photo MR.

instance, it occurred in the Late Migration Period on Style I relief brooches (e.g. Salin 1935 fig. 85, 134, 350, 637, 638; Magnus 1999 fig. 1–3) and sword pommels (Salin 1935

fig. 528; Magnus 1999 fig. 5) as well as on the gold filigree collars (Salin 1935 fig. 499, 501; Magnus 1999 fig. 4).

The Migration Period sword pommels have two quadrupeds each. There are Vendel Period pommels with a single animal (FI Gullydynt, FI Kirmukarmu, FI Ristimäki, SV Eds prästgård, SV Trosa; Hackman 1895; Stjerna 1905 fig. 49–50; Arbman 1932 fig. 11; Nerman 1932; Kivikoski 1973 fig. 507–508; Magnus 1999 fig. 6; Lamm & Rundkvist 2005), very much like domed oblong brooches with the flattened quadruped motif. The one from Ed dates from the Early Vendel Period. Flattened quadrupeds also occur as decorative bronze mouldings on the sockets of two (Early and Middle, respectively) Vendel Period lance heads, one from NO By in Stod parish (Gjessing 1934 pl. 54) and one from SV Vendel boat grave XII (Stolpe & Arne 1927 Pl. XXXIV:5).



Fig. 17. Type R643B. NO-S Vold. Orig. L c. 85 mm. Oslo C15912. Photo MR.



Fig. 18. Type R643C. NO-N Østnes. L 102 mm. Tromsø 908. Photo MR.



Fig. 19. Type R643D. NO-S Midtbust. Orig. L c. 70 mm. Bergen 5785. Photo MR.

The motif thus appears earlier in the weaponry of the Vendel Period than in the jewelry of the time. Weaponry details depicting flattened quadrupeds occur both with oval and irregular outlines. Thus it seems that subsequently domed oblong brooches of various outline shapes with the flattened quadruped motif (groups N and O) originated at about the same time, all as adaptations of weaponry details with the traditional flattened quadruped motif.

The flattened quadruped occurs on a flat Style D rectangular copper alloy plate from an uncertain grave find at N-Trøndelag, Alstadhaug psh, Søvik (T 11093; Blindheim 1949 fig. 4b; Sjøvold 1974 fig. 36d). It measures 63 x 40 mm. Uniquely, the quadruped has

a tightly coiled spiral on its neck. The piece's original mode of use is uncertain. Four rivet holes have been drilled secondarily through the decorative motif and its frame, apparently in order to use the plate as a mount.

A slightly domed irregular mount from SJ Tissø (*AUD* 1995:237) shows a single side-view of a Style D quadruped with a ribbed dorsal shield, much like the flattened quadrupeds of N1a and O1a brooches. I have not seen it first-hand and can thus say nothing of its back side. It has four rivet holes for fastening and is c. 67 mm long. It may have been part of an elaborate helmet, as has been suggested for two similar mounts found near the cult building excavated at SK Uppåkra (Helgeson 2004:232).



Fig. 20. Type R643E. SK Uppåkra. L 49 mm. Lund U 5706. Photo MR.

Possibly also part of a helmet is a 38 mm wide copper alloy fragment with the flattened quadruped motif, found in a grave at Hedmark, Løten psh, By (Oslo C9515; Martens 1969 fig. 21c). The quadruped's shoulder area is domed, but its ribbed dorsal plate becomes progressively flatter toward the rear where it is almost flat before the fragment breaks off. The fastening arrangements on the back side – an iron rivet at the middle of the dome and two low lug-like features on either side of it cast as part of the piece – are unlike anything seen on domed oblong brooches.

An elongated animal of the kind pictured on brooches of types N1c and O2 as well as certain TT brooches occurs in three-dimensional sculptural form as a brooch in UP Valsgårde grave 13 (UMF 5913:235), dating from the end of the Late Vendel Period (Schönbeck &

Thunmark-Nylén 2002). The brooch is 47.2 mm long, very finely wrought and inlaid with brick red enamel, and clearly depicts a horse. The SAU excavation unit of Uppsala uses a likeness of it as its logotype (www.sau.se).

The flattened quadruped motif occurs also in the Style E metalwork of the Vendel-Viking Period shift. Two roughly rectangular brooches (Montelius 1872 fig. 436; Stjerna 1905 fig. 48; Nerman 1929 fig. 42; Blindheim 1949 fig. 3b) from Öland (SHM 1304:1841:61) and the Grobin area in Latvia depict the flattened quadruped being attacked by four snakes. The brooches are 54.0 and c. 50 mm long. The same snake attack is depicted by a late 8th century Continental silver animal figurine with Tassilo chalice decoration, found at SK Uppåkra (Helgesson 1999). It also occurs on an elaborate O1a brooch (Vedel 1897 fig. 92; Ørnesnes 1966 fig. 219) from grave 12, BO Lousgård.

Two rectangular Style E strap mounts from a cremation grave at ÖL Klinta combine the flattened quadruped in relief and the sculptural heads of gripping beasts with their signature ponytail hairdos (SHM 27877; Hagberg 1966 fig. 6). They measure c. 45 x 30 and c. 40 x 25 mm.

The first serial produced Viking Period types

The Berdal types of the Early Viking Period span the boundary between unique and uniform brooches. I know of seven unique brooches that have many features in common with the main Berdal group but retain the ancestral layout with two small eyes near one end and two pairs of large haunch marks (*Bergen Tillvekst* 1944; Petersen 1928 fig. 10, 16; Rygh 1885 fig. 644; Shetelig 1920 fig. 281). All have been found in southern Norway, most in Vestfold and Hedmark. These I



Fig. 21. Type Stor-Skomo. NO-N Stor-Skomo. L 82 mm. Trondheim 7687. Photo MR.

have termed proto-Berdal brooches (cf. Jansson 1985:28–29). They are listed in the catalogue but will not be discussed further here.

The lengths of the most common serial produced Early Viking Period types (taken from my own measurements and Jansson 1985) are as follows. Note that the Berdal types are far more various than the others both as to length and to decoration.

- Berdal. L 57–113 mm
- P25. L 96–103 mm
- P27. L 98–113 mm
- P37. L 96–110 mm

When large-scale serial production of tortoise brooches started, four basic designs from TT brooches and large R643 brooches were used: flattened quadruped (Berdal P11–P24), oblique lattice (P25), 4 medallions (P27), and, probably slightly later, 2 rhombs/6 medallions (P37). P35 is the typological link between the TT brooches with two rhombs and P37.

Chronology

Chronological backbones

This study has four chronological backbones: two seriations of female graves (appendix 1–2), the Ribe stratigraphy (Feveile 1994; 2002:18; 2006; Feveile & Jensen 2000) and the increasing length of the brooch types through time (Fig. 1; Table 10). I have developed my seriations from those of Jørgensen (1997:26 fig. 16) for Bornholm and Høilund Nielsen (1999:190 fig. 10:36) for mainland Sweden. Both have undergone intensive tweaking. I have added and removed graves and artefact types, I have re-classified artefacts (primarily the domed oblong brooches) and I have re-run the seriations (using WinBASP). Finally, I have re-phased both chronologies because not all of the phases proposed by Jørgensen and Høilund Nielsen have any diagnostic types.

(A phase without any diagnostic types lacks a definition, and a certain *combination* of types that are each present on their own in neigh-

bouring phases cannot be used as a phase definition. For example, consider a phase division where phase 1 is defined by type A alone, phase 2 by the combination of type A and B, and phase 3 by type B alone. If we want to date a grave containing type B but not type A, then we cannot tell whether it dates from phase 2 or 3. The absence of type A from the grave may be due to many other things than chronology, for example the personal taste of the deceased, the economic means of the mourners, the temperature on the pyre, the preservation conditions or the excavation methods. However, the grave certainly post-dates the introduction of type B, which might be used as a diagnostic type of a phase.

Attempts to define phases in seriations on the basis of type *combinations* do not produce useful fine chronology. Instead one arrives at phasing systems where the “date” of a grave is linked to the number of artefact types in it. Thus some phases cannot by definition have any poorly equipped graves, others cannot have any richly equipped ones.)

My Vendel Period chronology for Bornholm has five phases and covers 32 artefact types, as set out in Appendix 1. Appendix 2 is a corresponding chronology for mainland Sweden (mainly Uppland and Södermanland, with a few graves from Småland, Östergötland, Västmanland and Hälsingland) with five phases and 26 artefact types. I have followed Jørgensen’s absolute chronology based on decorative styles compared with historically datable artwork from the Continent and the British Isles.

Table 9 is a correlation table for the local sequences including Vinsrygg’s (1979) for northern Norway. The brooches under study occur in three phases from AD 700 to some time in the early 9th century, giving a mean phase length of about half a century, that is, two generations of brooch wearers.

Early brooches: small and/or animal-shaped, AD 700–750/770

All small brooch types (except the rare and varied type R643B) and all animal-shaped ones (except the very rare type Stor-Skomo) are diagnostic of this phase (Table 10). They are on average less than 78 mm long, typically c. 40 mm, as represented by the highest peak in the length histogram Fig. 1. They seem to have been fashionable for 50–70 years. The greater mean length of type O2 indicates a late date within the phase (cf. Fig. 1), which is supported by the type’s late position in the seriation in appendix 1.

Contrary to earlier opinion, the small plain brooches do not appear to be earlier than the ones with intricate decoration. Rather, these two groups reflect different regional fashions: plain brooches in the Lake Mälaren area (cf. Høilund Nielsen 1991 fig. 3) and intricately decorated ones in south Scandinavia and Norway.

Also belonging to this phase are three larger types. O1b and O1c are long animal-shaped brooches known exclusively from Bornholm. The TT variant Østerås (with one find from N-Trøndelag, Sparbu psh, Østerås and four from Bornholm) is of particular interest as it embodies a number of innovations that proved long-lived. TT Østerås is the first large oval brooch type on Bornholm, the first type with the 4 medallions layout and one of the earliest exponents of Style E. All these traits survived through the final Vendel Period and into the Early Viking Period when they are found on mass-produced tortoise brooches such as types P25 and P27.

As shown in Table 9, the small brooch types appear to have survived longer on Bornholm than in the Lake Mälaren area. This is indicated by the fact that bead set types R3c and

Table 9. Interregional synchronisation of the Vendel Period.

Date	Bornholm (Jørgensen 1997)	Ørsnes styles, S. Scandinavia	Bornholm	Mainland Sweden	N Norway (Vinsrygg 1979)
AD 540–570	1A/1B1	-	BOR1	MLS1	MIG
AD 570–600	1B2	B	BOR1	MLS1	1
AD 600–670	1C+1D1	C	BOR2	MLS2	1
AD 670–700	1D2	C, D	BOR3	MLS3	1
AD 700–750	2A	C, D, E	BOR4	MLS4	2a
AD 750–770	2B	D, E, F	BOR4	MLS5	2b
AD 770–790	2C	D, E, F, GRB	BOR5	MLS5	2b
AD 790–840	VIK	E, GRB	VIK	VIK	VIK

Table 10. Chronology of the domed oblong brooches.

SS = South Scandinavia, SW = Sweden, NO = Norway, ÅL = Åland

Type	Mean L	700–750	750–770	770–790	790–840
N1e	35.4	SS	-	-	-
SPL	40.4	SS SW NO	-	-	-
SPU	43.6	SS SW	ÅL	ÅL	ÅL
O1a	45.8	SS	SS	-	-
N1d	46.3	SS	SS	-	-
N1a	46.7	SS SW NO	SS	-	-
R643E	47.2	SS NO	-	-	-
N1V3	49.4	NO	-	-	-
N1b	52.4	SS SW NO	SS	-	-
N1c	52.9	SS SW	SS	-	-
O2	58.8	SS	SS	-	-
R643D	65.0	NO	-	-	-
R643B	76.0	-	-	SS SW NO	-
TT Østerås	80.9	-	SS NO	-	-
Stor-Skomo	83.7	-	-	NO?	NO?
O1c	83.9	SS	SS	-	-
TT	84.6	-	SS SW NO	SS SW NO	SW NO
R640	88.1	-	-	NO	NO
O1b	89.9	SS	SS	-	-
R643A	90.5	-	-	NO	NO
R643C	99.0	-	-	-	NO

R3d are diagnostic both of Bornholm's penultimate Vendel Period phase (BOR4) and of the final Vendel Period phase on Lake Mälaren (MLS5). These two regional phases must thus be partly parallel. It appears unlikely that it would have taken several decades for the segmented metal foil beads and rock crystal beads

to reach the Lake Mälaren area after they had become fashionable on Bornholm. Also, TT Østerås appears already in phase BOR4, which is another indication that this phase lasted past the start of MLS5. The average lengths of TT brooches from the various regions support this conclusion (see below).

Late brooches: the transitional type, AD 750–840

Scholars (e.g. Almgren 1955:81–84; Ørsnes 1966:151–157; Jansson 1985:15–23) have long debated the place of the so-called “transitional types” (TT) in the chronology. Do they belong to the Late Vendel Period, to the Early Viking Period, or to both? For the sake of clarity, I believe that we should base the decision primarily on seriations of find combinations. Appendices 1–2 show that type TT is present in find combinations of the Vendel Period’s two last phases and the Viking Period’s first phase. On Bornholm, 1 out of 9 secure combinations with TT (11%) belongs to the Viking Period. In mainland Sweden, the figures are 5 out of 14 secure combinations (36%). In Norway, there are only three closely datable find combinations with type TT known to me, all source critically questionable, one from the Late Vendel Period and two from the Early Viking Period.

To sum up, most TT brooches were deposited in the final Vendel Period. In absolute dates, this means that all were deposited after c. AD 750, and most before c. AD 790. The seriation in appendix 1 shows that, excepting the TT Østerås variant discussed above, TT is a diagnostic type of the final phase of the Vendel Period on Bornholm, c. AD 770–790. Phase BOR5 represents a single generation of women on Bornholm.

As argued above, type TT was adopted at different dates in different regions. This can be deduced from find combinations, but also from the regional variation in length among TT brooches. As the brooches of the early 8th century are smaller than the TT brooches, and as the tortoise brooches of the Early Viking Period are larger than the TT brooches, we may assume that small TT brooches are

generally earlier than large ones. The length averages in table 11 indicate that type TT first appeared in the Lake Mälaren area, soon followed by Norway, then by south Scandinavia except Bornholm, and finally, very late in the life of the type, by Bornholm. A late shift to large brooch types in south Scandinavia is also indicated by a casting mould found in Ribe, which demonstrates the production of a type NIa brooch some time in the interval AD 760–820.

The metalworkers of Ribe abandoned type TT for various Berdal types (that define the start of the Viking Period), in about AD 780 (Feveile & Jensen 2000:13, fig. 6; 2006:155). Still, TT brooches with close similarities to later Viking Period types such as P37 have been found in other areas. Not all the TT brooches found in Viking Period contexts in mainland Sweden were Vendel Period heirlooms.

Not for lack of trying, I have been unable to find any criteria that could define a Viking Period sub-type of TT. I know of twelve TT brooches found in securely documented Viking Period contexts identified by metalwork or bead sets (as set out by Callmer 1977, group II onward). Detailed study of these brooches regarding their dimensions, proportions, technical characteristics and decoration showed that they are neither a homogeneous group nor different in any meaningful sense from the average TT brooch. I have concluded that the only useful subdivision that is possible with the materials at hand is the isolation of variant TT Østerås, which is clearly decades earlier than most TT brooches on Bornholm. Also, as gripping beasts are unknown before the time of type TT and very common afterwards, it is likely that TT brooches with gripping beasts (14 out of 127 brooches) are somewhat later than the average TT brooch. But in the four graves (involving five brooches) where such

Table 11. TT brooches, average length, regionally.

Lake Mälaren area	77.5 mm
General average	84.6 mm
Norway	84.9 mm
South Scandinavia except Bornholm	89.1 mm
Bornholm	99.3 mm

brooches' date of deposition can be closely ascertained, they have been deposited in the final Vendel Period (see pp 159–160).

Style E

During classification of the TT brooches, I have defined Style E as follows. A decorative motif is executed in Style E if it incorporates A) a fork-like feature consisting of at least two sinuous parallel tendrils of equal length, and/or B) a triquetra knot incorporated in interlace. Style E occurs both in animal figures and in abstract surface-covering interlace. In Style E animal figures, the fork is typically a bird's tail or a foot, and the knot a haunch.

Many of the TT brooches under study have interlace decoration that does not fulfil this definition yet is clearly neither Style C, Style D nor the Jellinge Style. By elimination, one might say that this anonymous interlace must be Style E. That would, however, be a useless negative definition. Style E would be an enormous global group if it were defined as “any interlace that is neither Style C, Style D nor the Jellinge style”.

Early and main period gripping beasts

I have previously (Rundkvist 2003a:75; 2003c:102–103) used the undifferentiated gripping beast motif as the diagnostic typological element of the Early Viking Period. However, during work with the TT brooches I have realised that there are in fact different

kinds of gripping beasts. One of them pre-dates the Viking Period raids on Western Europe and Jan Petersen's Viking Period assemblage by a few decades.

I agree with Wamers (1999) that the gripping beast was born as a Carolingian lion in the same Continental environment as the Tassilo chalice style, and that both reached Scandinavia at about the same time, whereupon the Scandinavian reception of the Tassilo chalice style engendered Ramskou's (1965) Style F. It appears, however, that the lions lingered in Scandinavia for a few decades before they became naturalised as the typical Viking Period gripping beasts. I wish, therefore, to suggest a bipartition of the gripping beast decoration.

1. A few pieces of metalwork from the final Vendel Period up to about AD 790 has schematised gripping beasts, executed in indistinct relief, usually single ones imprisoned in circular frames (fig. 22). These proto-gripping beasts are typified by those seen on TT brooches.
2. The common Early Viking Period gripping beast decoration after about AD 790 is distinctly modelled and largely occurs as networks of interlocking beasts (fig. 23). This group is typified by the Oseberg burial and the first tortoise brooches (Berdal and P27).

Norway's indigenous brooch types

In laying out the present classification scheme I have isolated group R643 with five types: intricately decorated oval brooches, thin-shelled,



Fig. 22. Proto-gripping beasts of the Final Vendel Period. Details of three TT brooches: NM C3103, NM C2454, Bergen 700a. Photos MR.



Fig. 23. Early Viking Period gripping beasts on a proto-Berdal brooch. Oslo 19179. Photo MR.

with the pin's fastening arrangements soldered onto the inside of the brooch. The technical characteristics of group R643 are shared by types R640 (large plain thin-shelled oval brooches) and Stor-Skomo (large intricately decorated thin-shelled animal-shaped brooches). These seven types are indigenous to Norway although a few finds have also been made elsewhere.

Two of the Norwegian types, R643D (n=3) and R643E (n=15), are small and diagnostic of

the early 8th century (cf. Vinsrygg 1979:34–40). Of the five large Norwegian types, R643B (n=5) appears from find combinations to be diagnostic of the late 8th century.

R640 (n=38) and R643 (n=36) are repeatedly combined in grave finds and appear to be entirely contemporaneous. About half of the closely datable secure find combinations (59% and 56% respectively) date from the Viking Period, and the rest from the final Vendel Period (contra Bakka 1973). They appear to

be roughly contemporaneous with type TT in Norway, although, judging from their average sizes and the percentages above, they probably have a somewhat later centre of chronological gravity.

The largest of all types under study here, R643C (n=3), is known from only one closely datable context, which belongs to the Early Viking Period. Type Stor-Skomo (n=4) likewise has only one closely datable context (T 7687–7699), whose date is indicated by a bead set of Callmer's (1977) group IB. Callmer's database contains thirteen other find combinations with bead sets of this group. Many of them have domed oblong brooches of types R643A and TT but some also possess diagnostic types either of the final Vendel Period or the Early Viking Period (although Callmer places all of group I after AD 790). Type Stor-Skomo, thus, cannot be dated closer than to the lifetime of bead group IA, which spanned the Vendel-Viking Period shift. A further link to this period can be seen in brooch fragments from a final Vendel Period grave at SV-N Vagled (SHM 13804). This is apparently an R640 brooch onto which a small quadruped figurine has been riveted (*Tillväxten SHM* 1909 fig. 58). The figurine has the same lifted muzzle and sloping body as type Stor-Skomo and should thus be contemporaneous with that brooch type.

Gotland's animal-head brooches

An independent control of the Late Vendel and Early Viking Period oval brooch sequence can be had from Anders Carlsson's (1983) seriation of the animal-head brooches of Gotland. The Gotlandic brooches display the same sequence of decorative traits as the domed oblong ones.

Carlsson drew the starting line of his sequence at the first animal head brooches

that lack the ancestral eye holes inherited from 6th century brooch types. This developmental event has no equivalent among the domed oblong brooches, but appears to coincide with the appearance of beaded mouldings, which is one of the more common defining characteristics of our type TT. Carlsson's phase A also has brooches with proto-gripping beasts, just like the ones on a few TT brooches. Csn A should thus to all appearances be placed in parallel with the transitional type (c. AD 750–840), straddling the Vendel-Viking Period boundary. This view is an intermediate position between the start dates for Csn A suggested by Carlsson 1983 (AD 725) and Rundkvist 2003a (AD 790).

With Carlsson's phase B, networks of interlocking distinctly modelled gripping beasts appear. This trait is characteristic of the serial produced Early Viking Period tortoise brooch types from Berdal and P27 onward.

The small punched brooches of Åland

Type SPU appears to have survived much longer on the Åland Isles than around Lake Mälaren (Rundkvist in press.). Whereas it fell out of use along with the other small brooch types in Sweden about AD 750 it has been found both in final Vendel Period and Early Viking Period graves in the Åland Isles.

There are also two final Vendel Period finds with type SPU from the Lake Mälaren area (boat grave 35 at Tuna in Badelunda psh, Västmanland; and SHM 32577:51 from Södermanland). These brooches have good parallels both among the early main body of SPU brooches and in one of the Early Viking Period finds from Åland. The one from Södermanland is worn, the one from Västmanland apparently repaired judging from a drawing (Nylén & Schönback 1994 fig. 36). The SPU brooches in

these two final Vendel Period graves were thus probably local heirlooms rather than recent imports from Åland. In any case, these finds were excluded from the seriation for mainland Sweden in appendix 2.

Function and social significance

Small domed oblong brooches are rarely found in matched pairs, with the exception of type O₂ which is commonly found as pairs in the inhumation graves of Bornholm. Some early brooch types (e.g. SPL and SPU) were apparently not regularly worn on the chest to hold the dress together, as they often occur as the only brooch of any kind in graves. This may however have to do with the lack of female inhumation graves outside of Bornholm.

The dress changes with the introduction of large brooch types c. AD 750 when matched brooch pairs become common, a trait that then continues to characterise the brooches of the Viking Period. Brooch pairs were now made to be worn on the chest, and there is often a third brooch worn at the throat to secure a shawl or cloak (Jørgensen 1997:55–59). A gold foil miniature figure from BO Sorte Muld (Watt 1999 Abb. 12:7e) depicts a robed lady with a ponytail hairdo and a jewellery set of this kind. She wears a disc-on-bow brooch at her throat and a pair of oval brooches on her chest, probably intended as O₂ or TT brooches. Disturbingly, her limp posture indicates that she is an execution victim and has been hung.

As mentioned above, we are mainly dealing in this study with uniquely designed pieces of highly skilled craftsmanship, characterised by intricate animal art styles that were controlled by the aristocracy. Understanding and appreciating this complex and miniaturised artistic genre takes practice, and was most likely at least as uncommon a skill in the 8th century as it

is among archaeologists today. It should thus be emphasised that the brooches under study here signal the presence of aristocratic women. This throws an interesting light on finds from wilderness locations such as Lake Gijrrajávvrre in Swedish Lappland (SHM 10321) and Lake Nälidsjön in Jämtland (SHM 8747), that are probably attributable to Saami hunter-gatherers.

Technical characteristics

Casting

All studied brooches are cast in copper alloy from original wax models, with a single exception. A unique brooch from NO-N Sandvik (T 18652e; Marstrander 1973 fig. 9) is made from sheet metal and has clumsy incised decoration. It is apparently the product of an unskilled attempt to copy an N1a or N1b brooch.

The thin-shelled Norwegian types are particularly skilfully made in a manner quite their own. Apart from the plain R640 type and a few pieces with incised decoration, most of them have cast decoration that could easily have pierced the brooch but very rarely does. None of them has textile impressions on the inside, and it is in fact a bit of an enigma how they were made. They are very delicate, and despite their thickened edges and the metal strips soldered onto their insides many of them are poorly preserved.

Tin plating and gilding

Tin plating is common on Middle Vendel Period metalwork from south Scandinavia. With the Late Vendel Period, however, this technique fell out of fashion. Only five of the brooches under study have the silvery sheen of tin-plating: the outside of an N1 or O1a brooch from SK Uppåkra (U38321), the outside of an N1a brooch from SJ Lærkefyrd (NM

C32698), the outside of an N1d brooch from SJ Tissø (NM KN0545), the inside of a gilded N1b brooch from SJ Tissø (NM KN1350), and the inside ends of an R643A brooch from Østfold (Oslo C19708a).

Gilding is more common than tin-plating but nevertheless rare. 19 brooches show traces of gilding. 68% of them are from south Scandinavia, 42% are from SK Uppåkra and SJ Tissø. 78% are small and early, 22% are type TT (late and large).

To sum up, tin-plating and gilding mainly appear on brooches from aristocratic settings in south Scandinavia in the early part of the period under study.

Inlay

Nine brooches have inlay sockets recessed into the surface, all as part of a more or less evident flattened quadruped motif. The sockets mark eyes, haunches and spines. The material inside the sockets is extant on only three brooches: one with silver sheet (Stjernquist 1993 fig. 11), one with red enamel (NM C5607) and one with blue and red enamel (NM C482). See pp. 151–154 for a parallel from UP Valsgårde.

As a group, the nine brooches with inlay sockets have much in common with the tin-plated and gilded ones – indeed, three of them are gilded. All but one are from south Scandinavia and all but two are early.

Fastening arrangements

I have already touched upon the fastening arrangements of the brooches in the context of typological classification and interregional variation. Most brooch types are cast in one piece, with a pin fastening lug at one end of the inside and a pin catch at the other. The thin-shelled Norwegian types, however, have

these fastening arrangements soldered onto the inside of the brooch, usually placed at the ends of a separate curved metal strip. Finally, four atypical brooches from Småland and Södermanland appear to have original riveted iron fastening arrangements. The fact that this design is so uncommon is not surprising as it produces brooches with unsightly rivet heads on the front side.

In 98% of the determinable cases (n=221) there is only a single pin lug. Five brooches have two lugs set side by side. They are widely spread in time and space and should probably be seen as random innovations. Viking Period tortoise brooches generally have two lugs. Jan Petersen (1928:24) identified type P25 as the first of the serial-produced tortoise brooches on the grounds that it has a uniquely high percentage (80%) of single pin fastening lugs.

In 98% of the determinable cases (n=161), the pin catch is bent to the right when the brooch's inside is seen with the catch end upward.

With 11 exceptions, the pin catch is placed at the head end of brooches with the flattened quadruped motif and at the narrow end of brooches with an egg-shaped outline. Three of the exceptions are visibly due to repairs, see below.

All extant pins are made of iron or steel, most of them simply riveted to the lug. There are also spring-loaded pins, where the spring is generally a backward continuation of the pin that forms a loop pressed against the inside of the brooch. Two Norwegian brooches have flat springs made by hammering the back end of the pin, as became rather common on Norwegian tortoise brooches in the Viking Period. A TT brooch from Södermanland (SHM 25848:86) has a bronze sheet spring under its pin. An O2 brooch from the Åland Isles (Helsinki 5179:2) has a Y-shaped pin that may

have been fitted secondarily to the brooch by an artisan from east of the Baltic.

The pin fastening and stabilising strips soldered into the R640 brooches are all made of iron. Most of them are very poorly preserved, probably due to galvanic corrosion. Shapes and dimensions can, however, in many cases be determined from the remaining rust stains. These vary considerably and form four groups: 1) most commonly a simple straight ribbon, width 7–19 mm; 2) a strip with tapered ends, max width c. 18 mm; 3) a lozenge with concave sides, max width 43 mm; 4) a strip with widened ends, min width 10 mm.

The pin fastening and stabilising strips soldered into the R643A brooches are made of iron with the exception of a pair from N-Trøndelag (T 6575) whose strips are made of bronze and finely line decorated. As with R640, most of the iron strips are poorly preserved but vary considerably in shape and dimensions. Most brooches have straight ribbons, 5–22 mm wide. Tapered strips, max width 9–20 mm, are about half as common. A pair of brooches from Hordaland (Bergen 12012) has lozenge-shaped strips. One brooch from N-Trøndelag (T 18652c) has a strip with widened ends.

Repair

60 brooches bear witness to repairs, all but one regarding the pin fastening lug and/or pin catch. (One of the TT brooches from BO Lillevang-Melsted, gr. 2, NM C6593, has had a casting defect in its surface filled in). The methods used to replace broken pin lugs and catches are riveting and soldering, in some cases both.

Repairs are equally common in all brooch types except the R643 types, which show very few traces of repairs. This is due to the fact that their pin fastening contraptions were soldered

to the brooches and are rarely extant today.

50% of the repaired brooches also show signs of wear. Only 25% of non-repaired brooches are worn, indicating that many repairs were made long after the brooches were completed, due to wear. The pin fastening lug (45 cases) has more often been repaired than the pin catch (31 cases). This is the opposite of what has been observed on snake brooches (Rundkvist 2003c:108). Nor do the snake brooches show any correlation between wear and repair. These observations indicate that the two classes of brooches were used in very different ways. It may have to do with whether the brooches were worn vertically or horizontally, whether they were used to hold the dress together or simply as ornaments, and whether bead strings were often attached to their fastening lugs or not.

The pin catch is, as noted above, almost always placed at the head end of brooches with the flattened quadruped motif and at the narrow end of brooches with an egg-shaped outline. There are a few exceptions. Gilded and inlaid brooches are strongly over-represented among these brooches whose pin fastening lug and pin catch have been swapped (3 out of 11, one of which is visibly repaired). This should not be taken to mean that the makers of particularly fine brooches were less attentive to the details of the pin fastening. Rather, it seems likely that most lug-catch swaps are due to repair and that the artisans and wearers were more likely to repair a particularly fine brooch than a commonplace one. This is supported by the fact that one of the brooches from Lake Gijrrajávrie in Swedish Lapland (SHM 10321), discussed above, has had a lug-catch swap. The owner lived very far from the areas where these brooches were made, and was thus both more likely to repair the brooches when they broke, and less likely to know the standard way of finishing them.

Production sites

I have identified no unfinished brooches that could indicate production sites. The surest way to pinpoint sites where metalwork of a certain kind was made is to study broken ceramic casting moulds (e.g. Lamm 1970; Brinch Madsen 1984; Feveile 1994). Finished metalwork may have been traded across long distances and ended up as scrap in workshops far away from the production site. Mould fragments, on the other hand, were most likely considered worthless. They can be expected to have been deposited very near the workshop where the moulds were used. A number of sites with this kind of casting debris from the 8th and 9th centuries are known from Scandinavia. Only Helgö and Ribe have, to my knowledge, yielded moulds for the kind of brooches under study here.

Half a top-side mould for a small plain brooch without lines or grooves has been found along with sparse finds of other metalworking debris at Building Group 1 on SV Helgö (find no 7553; Reisborg 1994:25, 48). It was found outside the SW corner of house 8 at a depth of at least 40 cm. Two finished brooches of the same type were also found at Building Group 1, both near the surface inside house 9 that stood right beside house 8. The site was inhabited from the Late Migration Period to the Early Viking Period, with houses 8 & 9 being in use during the first half of the period (Reisborg 1994:71).

The 7th and 9th century metalworkers of JY Ribe are known for their mass production of Early Viking Period Berdal brooches, as witnessed by rich finds of casting moulds (Brinch Madsen 1984; Feveile 1994; Feveile & Jensen 2006). However, the same excavations have also yielded a lesser number of mould fragments for Ørsnes type N brooches, most

of which I have examined first hand. The Post Office excavations of 1990–91 furnished a detailed stratigraphic sequence that has been locked into absolute chronology with dendro dates (Feveile & Jensen 2000; 2006; Feveile 2002:18). Mould fragments for Ørsnes type N brooches occurred in stratigraphic phases C and D (AD 725–760, 760–780). These types were succeeded by type Ribe–9 Berdal brooches (with single gripping beasts) in phase E (AD 780s) and standard Berdal brooches with interlocking gripping beasts in phases F–I (AD 790–850). After AD 850 the stratigraphic sequence on the site was interrupted for several centuries.

Among the casting moulds for Ørsnes type N brooches from excavations in Ribe identified by Helge Brinch Madsen, Claus Feveile and myself, there are nine fragments belonging to at least six top-side moulds for decorated brooches (Table 12). They represent types N1a and TT and were found in contexts dated to AD 760–820. (This late occurrence of N1a tallies well with the indications that the small brooch types survived longer on Bornholm than in the Lake Mälaren area, cf. Table 9.) Only three fragments can be placed in a single phase of the Post Office stratigraphy, all of them in phase G, AD 800–820. They probably represent two TT brooches.

The Post Office excavation in Ribe also yielded c. 18 fragments of moulds and one nearly complete top-side mould for featureless oval brooches. There are also a few mould fragments for other plain domed objects. Most of these fragments belong to phase C (AD 725–760). The brooch mould fragments are too strongly domed to belong to the smooth inner shells of 10th century double-shelled tortoise brooches. Also, metalworking ceased at Ribe before the double-shelled types appeared. However, those fragments that allow measurements do not cor-

Table 12. Early domed oblong brooch types identified among the casting moulds from Ribe.

	Type	Context	Phase	Ref
D4215	TT, medallions	1974, Dommerhaven 5M74, sq DS, layers G & L	3–4 (D-I)	Brinch Madsen 1984:142
D10463	TT, style E	1975, Kunstmus have 4M75, sq ZR, conc 8	3 (D-G)	Brinch Madsen 1984:158
D10608	?	1975, Kunstmus have 4M75, sq ZR, conc 7/8	3 (D-G)	Brinch Madsen 1984:168
D13044	TT, beaded moulding	1975, Kunstmus have 4M75, sq ZR, conc 7	3 (D-G)	Brinch Madsen 1984:184
7x2488	N1a, w c. 28 mm	1986, Sct. Nicolaj-gade 8, A279	VH4 (D-E)	Jensen 1991:30
9x204.2	TT, style E	1990–91, Posthuset M2E, A31/32	G	
9x311	TT, flattened quadruped, 78 x 38 x 14 mm	1990–91, Posthuset M4M, A196	D or E	
9x378.2	TT, beaded moulding, style E	1990–91, Posthuset M3H, A240/243	G	
9x378.16	TT, beaded moulding, style E	1990–91, Posthuset M3H, A240/243	G	

respond with any known plain brooches. The nearly complete mould (D6702+6861) represents an undecorated and slimly proportioned domed oval brooch measuring 72 by 32 by 12 mm. There are no parallels to this combination of traits – featurelessness, proportions, dimensions – so the brooch was most likely intended to receive incised decoration after casting, which would have made it a TT brooch (cf. Table 5). A smaller mould fragment (9x351+9x551) would have produced a c. 42 mm wide and c. 18 mm high brooch, dimensions that also correspond only with TT brooches.

A poorly preserved finished brooch belonging to one of the N1 types (Høilund Nielsen 2004:63, fig. 4) has been found during trial trenching (termed “gleaning” in the publi-

cation) at the art museum in Ribe. It is an unstratified find.

During excavations in 1998–2003, the early urban settlement of Kaupang in southern Norway produced 6 kg of casting-mould fragments (Pilø & Pedersen 2007:181). They are, however, so poorly preserved that in only very few cases can it be determined what kind of object they belong to. One of the few attested object classes is single-shelled Viking Period tortoise brooches of serial produced types. There is however no sign of the earliest such types (P25, P27 or Berdal), nor of transitional types. Trefoil brooches and equal-armed Ljønes brooches do occur (Unn Pedersen, e-mail 27 May 2008).

In the Black Earth of SV Björkö, the earliest known type of domed oblong brooch repre-

sented among the casting mould fragments is P25. No fragments of moulds for TT brooches have been identified. A few ambiguous fragments may possibly belong to Berdal brooches (Björn Ambrosiani, personal communication 16 July 2003). Nevertheless, TT brooches have been found in four graves on Björkö (Bj 485, 602, 655, 1009), very near the Black Earth.

The finds from JY Hedeby date mainly from the mid–9th century onward. There appear to be no casting moulds for domed oblong brooches of the transitional type or the earliest Viking Period among the finds from this site (Volker Hilberg, e-mail 21 February 2005).

The proto-urban settlement at SK Åhus II (Transval) has yielded rich finds of casting moulds, particularly in the fills of sunken-floor huts (Callmer 2003). Domed oblong brooches were produced at this site from a time corresponding to AD 760 in the Ribe Post Office chronology onward. Not all mould fragments have as yet been cleaned and conserved, and TT brooches may be represented. Certainly identified types all however belong to the Early Viking Period: Berdal, P27 and P37 (Johan Callmer, e-mail 31 May 2005). I have not seen any of these mould fragments.

The cemeteries of Bornholm have produced rich and varied finds of domed oval brooches, but no casting moulds for this brooch group are known from the island's settlement sites (Margrethe Watt, e-mail 17 February 2005).

In Staraya Ladoga, no casting moulds for the brooch types under study nor for Viking Period tortoise brooches have been found (A.N. Kirpichnikov, e-mail 13 April 2005). However, two finished brooches, one type SPL and one type TT Bj655, have been found in the town's culture layers (Kirpichnikov 2004 and e-mail). The only site in Old Russia with casting moulds for Scandinavian jewellery is Gnëzdovo, where Middle Viking Period tor-

toise brooches (types P51, P52, P55), trefoil brooches and disc brooches are represented (Eniosova 2002).

Apart from the casting moulds, it is also possible to locate production sites through distinct brooch types with a restricted geographical distribution (Table 14). One example of this is the late 8th and early 9th century afterlife of the small punched brooch type in the Åland Isles (Rundkvist in press). Others are type N1V3 in northern Norway (Vinsrygg 1979 type III); and O1b, O1c and TT Østerås on Bornholm.

As stated above, most of the brooches under study are individual designs. Uniquely, at least 61% of the 13 type N1e brooches known to me belong to uniform variants, indicating serial production although not on a Viking Period scale. Most of the N1e brooches are metal detector finds from central places in south Scandinavia. This is the sort of context where small-scale serial production has been demonstrated for several other brooch types of the Migration and Vendel Periods (e.g. Arrhenius 1999; Hårdh 1999; Rundkvist 2003c). The rare cases of tin plating and gilding (see p. 163) also cluster there, emphasising further that although we have no casting moulds for domed oblong brooches yet from these sites, they are where we should seek remains of the era's top-tier jewellery workshops.

Interregional variation and regional identity

Table 13 shows the regional distribution of the brooches under study that are determinable as to type. The figures do not correspond directly to the brooches' popularity in the various regions in prehistory. Four biasing factors may be suggested that push up the figures for

a region: a) rich inhumation graves (particularly Bornholm and Norway), b) active metal detectorists collaborating with museums (particularly south Scandinavia), c) easily visible grave superstructures (most areas with finds except south Scandinavia), d) organisations that employ archaeologists (all urban areas).

Because of these biases, it is not very instructive to look at the absolute figures in Table 13. Instead, we shall study the relative abundance of different brooch types within the areas where they are common.

Early brooches, interregional variation

Table 14 presents the regional variation in the frequency of early 8th century brooch types. (For a similar study of the snake brooches of the preceding century, see Rundkvist 2003c:110–113.) The table covers 10 regions and 14 brooch types.

The number of determinable brooches and brooch types from each region vary widely. Interestingly, the typological diversity of a region is not proportional to sample size. The Lake Mälaren area has very few brooch types despite its many finds, while northern Sweden, Öland and Götaland have few and relatively diverse brooches. Götaland has a disproportionately large number of unique brooches (two uniques to seven typologically determinable early brooches), indicating local types that are poorly represented due to the small sample. The typological diversity of northern Sweden and Öland, however, marks them as border areas where the edges of adjacent regional distributions overlap. The women of these areas appear not to have cultivated brooch types of their own, but instead selected designs from various neighbouring power centres.

Table 13. Domed oblong brooches, determinable as to type.

<i>South Scandinavia</i>	
Bornholm	84
Scania	65
Jutland	33
Zealand	42
Funen	8
<i>Sweden</i>	
Lake Mälaren	82
Öland	19
Götaland	15
N Sweden	15
Gotland	2
<i>Norway</i>	
S Norway	75
N Norway	74
<i>NE Europe</i>	
Åland	13
Finland	3
Russia	2
Latvia	1
<i>NW Europe</i>	
Frisia	2
N Germany	2

A correspondence analysis (Fig. 24) of Table 14 (treated as a frequency matrix) shows that there are three main regional brooch assemblages that every region under study has related to in different ways. (For an explanation of how correspondence analysis works, see Rundkvist 2003b:9–10. In the scattergram Fig. 24, Öland and Götaland appear close together, while Lake Mälaren and northern Norway appear far apart. This means that the brooch assemblages of Öland and Götaland are similar, whereas those of Lake Mälaren and northern Norway are dissimilar, as seen in table 14.) These typologically distinct regions are a) Bornholm and

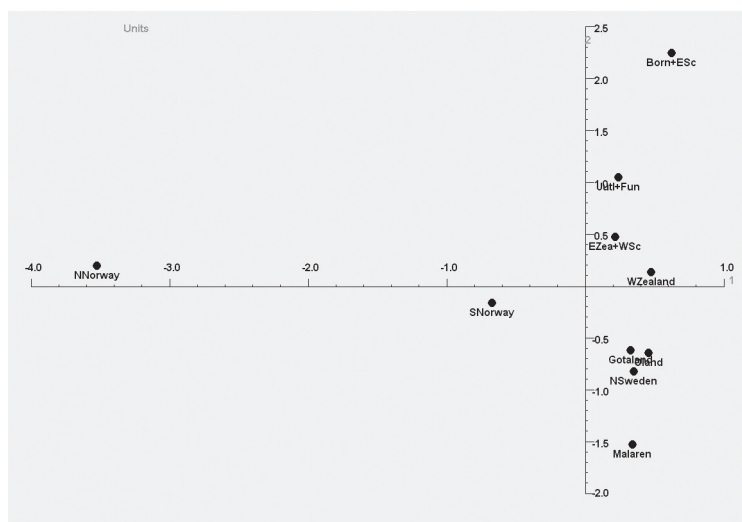


Fig. 24 Early 8th century regional variation. Correspondence analysis scattergram.

eastern Scania, b) the Lake Mälaren area, c) northern Norway. At the centre of the scatter is the most eclectic, most varied, most well-connected, least distinctive regional assemblage, that of eastern Zealand and western Scania. Uppåkra and Tissø are located here.

It should be emphasised, however, that all of the regions studied in table 14 and fig. 24 have at least one thing in common: early 8th century domed oblong brooches. Adjacent areas such as Gotland or Estonia have no such brooches at all. In this sense, the women of Öland had more in common with their contemporaries in northern Norway than with those on nearby Gotland.

As I have argued regarding the snake brooches (Rundkvist 2003c:110–113), if a brooch type is absent from an area adjacent to one where this type is common, then this must be interpreted as purposeful avoidance. Such a refusal marks a symbolic distance that most likely reflects (and helped construct) ethnic and/or political boundaries. Above, I have identified a few brooch types with very restricted distributions, indicating local production sites. But this restriction is most likely not simply

a question of limited supply, but also of limited foreign demand. It shows that there were distinct ethno-political entities in the Åland Isles (late survival of type SPU), in northern Norway (type N1V3) and on Bornholm (types O1b, O1c, TT Østerås). The women of the Lake Mälaren area with their characteristic SPL and SPU brooches conspicuously avoided type N1b despite the fact that it was popular in all adjacent regions, and hardly touched any of the other N1 types. Type N1e is common in Jutland and Funen but absent from western Zealand and southern Norway. The near-restriction of the thin-shelled types R643a etc. to Norway may be interpreted similarly.

Late brooches, interregional variation, broadening contacts

The regional distribution of snake brooches (Rundkvist 2003c) and early domed oblong brooches indicate small polities with distinct symbolic programmes in the period c. AD 550–750. With the late 8th century, however, this picture changes into one that marks the period as an overture to the Viking Period.

Table 14. Regional variation in the early 8th century.

	Jutl & Funen (n=31)	W Zeal (n=15)	E Zeal & W Sc (n=35)	E Sc & Born (n=65)	Öland (n=10)	Götal (n=7)	Mälaren (n=48)	N Sweden (n=7)	N Norway (n=19)	S Norway (n=14)
N1a	6%	20%	14%	8%	10%	14%	4%	29%	5%	21%
N1b	16%	20%	20%	5%	40%	43%	-	14%	-	29%
N1c	-	7%	3%	8%	10%	-	2%	14%	-	-
N1d	10%	27%	14%	5%	-	-	-	-	-	-
N1e	35%	-	6%	-	-	-	-	-	-	-
N1V3	-	-	-	-	-	-	-	-	32%	-
O1a	13%	20%	14%	14%	10%	14%	2%	-	-	-
O1b	-	-	-	6%	-	-	-	-	-	-
O1c	-	-	-	3%	-	-	-	-	-	-
O2	3%	-	11%	45%	-	-	-	-	-	7%
R643D	-	-	-	-	-	-	-	-	11%	7%
R643E	6%	-	6%	-	-	-	-	-	42%	14%
SPL	6%	7%	6%	2%	10%	29%	69%	29%	5%	21%
SPU	3%	-	6%	-	20%	-	23%	14%	-	-
Sum	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Types	9	6	10	9	6	4	5	5	5	6

The regional variation in the frequencies of late 8th / early 9th century brooch types is set out in Table 15. (Note that a: in this table, a set of brooches of the same type from one find context has been counted as only one find, and b: the table does not cover all comparable brooch types used at the time, as the Early Viking Period tortoise brooches came into use and replaced type TT toward the end of the studied interval.)

In this period, instead of a number of widely distributed distinct brooch types, we have the extremely varied type TT that does not lend itself easily to subdivision. Most of the regions under study are thus highly uniform in their brooch assemblages: type TT dominates. Norway, however, is distinguished in this period through the proliferation of its indigenous large thin-shelled brooch types. As in the preceding period, there is great variation within Norway,

with the northern part of the country cultivating a distinct fashion. Northern Norway is the only part of Scandinavia where type TT is largely avoided. With a single exception (from Troms), the TT brooches of northern Norway are all from Nord-Trøndelag, the province bordering on southern Norway.

Among the bewildering variety of the brooches under study here there are a few groups of almost identical pieces that I have termed variants. Their geographic distribution changes through time in an interesting way (Table 16). Early variants are closely concentrated, no farther apart than eastern Zealand and Öland. Representatives of late variants, on the other hand, are often found much farther apart. This indicates increasing mobility of goods, craftsmen or both and supports the dating of some TT brooches to the Viking Period with its intensified long-distance trade.

Table 15. Regional variation in the late 8th / early 9th century.

	Jutl & Funen (n=2)	W Zeal (n=3)	E Zeal & W Sc (n=5)	E Sc & Born (n=20)	Öland (n=8)	Göta (n=6)	Mälaren (n=27)	N Sweden (n=5)	N Norway (n=33)	S Norway (n=42)
R640	-	-	-	-	-	-	-	-	33%	36%
R643A	-	-	-	5%	-	-	4%	-	39%	21%
R643B	-	-	-	5%	-	17%	4%	-	3%	2%
R643C	-	-	-	-	-	-	-	-	6%	-
Stor-Skomo	-	-	-	-	-	-	-	-	3%	2%
TT	100%	100%	100%	75%	100%	83%	93%	100%	12%	38%
TT Østerås	-	-	-	15%	-	-	-	-	3%	-
Sum	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Types	1	1	1	4	1	2	3	1	7	5

Table 16. Regional distribution of variants.

<i>Early 8th century</i>	
N1e var1	Jutland
N1e var2	Jutland
N1e var2	Funen, W Scania
N1d Toftegård	Funen, E Zealand
N1d NSV	Bornholm
O1c	Bornholm
O2 b	Bornholm
O2 Ellegård	Bornholm, W Scania
N1d Vedskølle	E Zealand, ?Öland
<i>Late 8th and early 9th century</i>	
TT Bj485	Lake Mälaren
TT Sundby	Lake Mälaren, Åland, Öland
TT Marsta	Lake Mälaren, Västergötland
TT Bj602	Lake Mälaren, W Zealand
TT Bj655	Lake Mälaren, Russia
TT Tryti	S Norway
TT Østerås	S Norway, Bornholm
TT B1580	S Norway, Småland

Uniques

As the brooches under study do not form standardised types and as we have small groups of closely similar brooches (variants) from separate sites, any assignment of unique status must be provisional. Chances are that today's unique piece may in the future be revealed as a member of a small cohesive group. This is particularly likely in areas such as Götaland where few brooches have been found at all.

With that caveat, I will in this section enumerate brooches that I perceive to be so idiosyncratic that I have not been able to place them in any well-defined typological group. My type definitions are formulated to exclude them.

Early 8th century uniques

T 936I, from a grave at NO-N Hov (Vinsrygg 1979 fig. 9d), is a small oval rather flat brooch with a cast pin lug and unique decoration. It consists of a stylised flattened quadruped motif made up of abstract roughly symmetric interlace. It can be seen as a typological link between small flattened quadruped brooches such as type N1a and the large R643a brooches with their intricate interlace, and thus probably dates from the mid-8th century.

NM C33367, a metal detector find from JY Humlebakken, is a small oval brooch with the 4 medallions layout and very finely moulded chip-carving. The cast pin catch and lug have been replaced by iron rivets and solder. The brooch would join type TT if it were not for its tiny size and unique decoration. In each medallion is an animal head with a large round eye, a spiral-rolled ponytail hairdo, short jaws and a bifurcated tongue (no good parallels in Ørsnes 1966, but similar to some heads in other Style D metalwork). When the brooch is placed on a surface, these heads are upside-

down. In the rhombic central field is abstract symmetrical relief decoration involving two side-by-side boat outlines. The size and decoration indicate an early date.

NM KN512, a metal detector find from SJ Tissø, is a tiny brooch with a pointed front end and a rounded back end, cast lug and catch. It has finely chip-carved decoration with an abbreviated flattened quadruped motif, four distinct legs and abstract interlace panels on the sides. The front pair of circles can be seen either as the eyes or the front haunches of the quadruped. The closest parallels in size and decoration are found among type N1e, pointing to an early date.

NM C482, a stray find from SK Löddeköpinge, is a small oval brooch with a mostly plain surface and some cast decoration (lines and chip carving), cast lug and catch. It has two pairs of round inlay sockets with red and blue enamel, showing its flattened quadruped ancestry. Along the spine is a carefully moulded feature that looks like a stylised tree, similar to the tree of the TT Tryti brooches. Some scholars have grouped this brooch with the small punched type, but it has no punched decoration at all and the similarity is superficial. Its size indicates an early date, its decoration a date in the mid-8th century.

LUHM U2845, a metal detector find from SK Uppåkra, is a small brooch with cast lug and catch, an irregularly triangular outline and a flattened quadruped motif made up of abstract symmetric interlace. It would belong to type O1a if it were not for the fact that it is flat and has openwork. It may be seen as a mix between type O1a and an epaulet-shaped snake brooch (Ørsnes 1966 type H3). This affinity and the size of the brooch indicate a very early date.

Grave 7 at GÖ Ingelstad Kvarngård (SHM 8923:7) contained two domed oblong brooch-

es, one of type O1a and one unique. Among the grave finds, only the brooches are chronologically informative. The unique one is a small thin-shelled oval brooch with an incised flattened quadruped motif and human faces on the haunches (Arbman 1932 fig 13a). It is thus similar to type R643E, but differs from this type through its pin fastening arrangements. Instead of two solder patches on the inside, it has an iron rivet at either end.

This trait may be a regional speciality, judging from a brooch found in grave 6 at GÖ Jussberg (SHM 18876:6). It is another small thin-shelled oval brooch with two iron rivets. In addition, it has remains of an iron strip on the inside. Its size and an R3b bead set date the grave to phase MLS4. The brooch has very simple incised line decoration, forming a double-line arch on either side.

SHM 5552, a bog find from SV Segerstad (Magnus 1999 fig. 1), is a large, irregularly shaped, gilded and very finely wrought brooch with cast lug and catch. Its quadruped motif is so high that it cannot really be called flattened: it is more of a figurine than anything else. Its decoration forms a rare but not unheard-of combination of Style I and Style D, indicating, as Arwidsson (1942:29–30) observed, a brief Style I renaissance in the 8th century. Its closest parallels are found among types N1a and N1b, indicating an early date.

UMF 3401, a stray find from SV Fors, is a plain oval domed object similar to a SPL brooch. It differs from type SPL in that it has no traces of any pin fastening arrangements, it has very thick walls and it has uncommon pale blue corrosion. It is uncertain whether this was a brooch at all.

Late 8th and early 9th century uniques

Grave 14 at NO-N Sandvik contained a brooch (T 18652e; Marstrander 1973 fig. 9) that has been discussed on p. 162. Made from sheet metal with clumsy incised decoration, it is apparently an unskilled copy of an N1a or N1b brooch. On the inside is a solder ribbon with a rivet hole at either end. The grave is late as it also contained a pair of R643A brooches.

A brooch in Gihle's collection (no 11+46; Herteig 1955:155, fig. 48), found in a grave at NO-S Kap, is large, sub-rectangular, rather flat, thin-shelled, with abstract incised decoration on a 4 medallions layout. Herteig judged it an amateurish piece of work. Its closest parallels are found among types R643A and R643C. These resemblances and the size of the brooch indicate a late date.

I have previously mentioned the fragments of a curious composite brooch, plain and thin-shelled with a quadruped figurine riveted on top, found in a rich grave at SV-N Vagled (SHM 13804; *Tillväxten SHM* 1909 fig. 58). A late production date for the brooch is indicated by the similarities to types R640 and Stor-Skomo. A very fine type E2d disc-on-bow brooch with Style D relief dates the grave to the final Vendel Period.

Grave 47 at ÅL Grelsby contained two domed oblong brooches, one type SPU and one unique (Åland 615:217; Hörfors 1990:98; Rundkvist in press fig. 7). It is small, shaped like half a barrel and has cast lug and pin catch. The decoration has a 6 medallions layout, but the medallions are plain, without animal art or other interlace. Cornelian beads date the grave to the Early Viking Period, demonstrating the long survival of SPU in the Åland Isles.

A grave at ÅL Sundby contained three

domed oblong brooches, two of type TT Sundby (the eponyms of this variant) and one unique brooch (Åland 252:3; Dreijer 1966 fig. 4; Rundkvist in press fig. 5). It is small, oval and has cast lug and pin. The decoration is abstract, intricate and expertly executed in soft relief. It gives the impression of animal interlace that has been either misunderstood or deliberately schematised beyond recognition. The background on which the interlace rests is hatched in various directions, a trait that connects the brooch with a number of TT brooches from around Scandinavia. This indicates a late production date consistent with the find combination's late deposition date.

The brooches from Uppåkra

As noted on p. 169, the domed oblong brooches of eastern Zealand and western Scania form the most varied, most well-connected and least distinctive regional assemblage in all of early 8th century Scandinavia. Most of the brooches collected from this region come from Uppåkra and SJ Tissø, two fat she-spiders in a very large web. Both sites may at least at times have been controlled by the same people.

Counting brooches that I have seen first hand or well illustrated, Uppåkra is the single richest find spot for the types under study here, with 44 specimens (status 23 October 2003, see Catalogue). It is followed by the BO Bækkegård cemetery with 25 brooches and the SJ Tissø settlement site with 20.

Table 17 shows the type spectrum at Uppåkra, covering 33 brooches whose type can be determined. All but one date from the early 8th century. This must be due to taphonomy rather than any change in settlement intensity after AD 750. The large late 8th century brooches are easier to find if you drop them and more likely to break

Table 17. Brooch types at Uppåkra.

Type	Number
N1a	4
N1b	6
N1c	1
N1d	4
N1e var2	2
O1a	5
O2	4
R643E	1
SPL	2
SPU	2
TT	1
Unique	1

into unidentifiable pieces than the small and compact early brooches. Indeed, only about a tenth remains of the single TT brooch from Uppåkra (U 5560). The very large serial produced Viking Period tortoise brooches from Uppåkra that I have seen are also all heavily fragmented.

The median preservation percentage of the Uppåkra brooches I have seen is high: 78%. This indicates that we are largely dealing with dropped or sacrificed jewellery, not scrap metal. However, a few random checks (see Catalogue) indicate that if one were to go through all the Uppåkra metal detector finds from one end to the other, one would find a considerable number of additional small fragments of domed oblong brooches. The way my Uppåkra sample has been selected, I have mainly been able to study the dropped or sacrificed brooches, while the ones that ended up as scrap still largely remain unidentified. In my opinion, the Uppåkra finds document clearly that a brooch there might end its days in a craftsman's scrap bag *or* among the nettles beside the pig pen when the pin happened to break. It would be very difficult to estimate which fate was more common, particularly as

the typical fate of a piece of scrap was to be re-cast, not deposited where we might find it.

As noted on pp. 163 and 165–168, Uppåkra and Tissø are among the few sites where tinned and gilded brooches of the types studied here occur, as do the few serial produced variants such as N1e var2. This hints strongly that domed oblong brooches were made at these sites. These traits may also be seen as the distinctive characteristics of Uppåkra's domed oblong brooches. The site has extremely many brooches and they document contacts all across Scandinavia, but they are on average somewhat finer than most, and jewellery has apparently been serial-produced here at an unusually early date. Such small-scale serial production at Uppåkra can in fact be seen more clearly among other Vendel Period brooch types (e.g. Helgesson 2002:50, 53; Rundkvist 2003c).

Photo: Martin Rundkvist and Bengt Alm-gren, LUHM

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Abbreviations

ÅL	The Åland Isles.
E Sc	Eastern Scania, southernmost Sweden.
E Zeal	Eastern Zealand, Denmark.
GÖ	Götaland: the Swedish provinces of Västergötland, Östergötland and Småland.
Jutl	Jutland, Denmark.
JY	Jutland, Denmark.
NO-N	Northern Norway from Nord-Trøndelag northward.
NO-S	Southern Norway from Sør-Trøndelag southward.
ÖL	Öland, an island and Swedish province.
P	Figure numbers in Petersen 1928.
R	Figure numbers in Rygh 1885.
SHM	Statens Historiska Museum, Stockholm, Sweden.
SJ	Zealand, Denmark.
SK	Scania, southernmost Sweden.
SV	The Lake Mälaren area, i.e. the Swedish provinces of Uppland, Västmanland and Södermanland.
W Sc	Western Scania, southernmost Sweden.
W Zeal	Western Zealand, Denmark.
SV-N	Norrland: northern Sweden from Dalarna northward.
T	Inventory numbers in Vitenskapsmuseet, Trondheim, Norway.

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Catalogue

During data collection I have been aided in particular by lists compiled by Björn Ambrosiani (Ms. 1956–1960) and Karen Høilund Nielsen (1999).

I studied and photographed the metal detector finds of domed oblong brooches from Uppåkra and other Scania sites on 16–20 September 2002 and 23 October 2003. I have had access to Uppåkra's metal detector finds number U1–U37379 and U37879–U38654 (full search). Rather than search through all of U1–U37379, I relied largely on Birgitta Hårdh's and Bertil Helgesson's general type determinations in the main finds database. Full search through two randomly selected finds crates (U1–200 and U6201–6400) resulted in the identification of three new specimens (U00163, U06211, U06250). Two of these are small fragments and difficult both to identify and to classify. U06211 is an intact brooch without surface decoration and thus not immediately similar to the brooches illustrated by Ørsnes (but cf. 1966:155). These findings indicate that a patient search through all of Uppåkra's metal detector finds would probably unearth quite a number of fragmented and unadorned domed oblong brooches.

Denmark's metal detectorists currently submit 100–200 datable Vendel Period bronzes each year to their country's museums (cf. AUD). Very few of these finds have been published since Vang Petersen's (1991) survey of finds submitted 1966–1988. I studied and photographed the finds from SJ Tissø, JY Bejsbakken and other Danish sites at the National Museum in Copenhagen on 13–17 January 2003. I searched through all metal finds from the sites along the western shore of Lake Tissø (Fuglebrogård, Bulbrogård, Mellemstycket and

Kalmargården) that were kept there. Some finds from the site were at this time kept at the regional museum of Kalundborg, and thus unavailable to me.

On 4–13 November 2003 I studied the domed oblong brooches of Norway at the regional archaeological museums in Oslo, Bergen, Trondheim and Tromsø. On 14 January 2004 I studied the brooches in the Uppsala University Museum. I paid study visits to Helsinki and Mariehamn on 8–9 March 2004 and Ribe on 4 January 2005. I studied the brooches in the museums of my home town Stockholm (SHM and SSM) on several occasions from 2003 to 2005.

I have information about the existence of numerous brooches that I have seen neither first-hand nor as illustrations. The areas where this known incompleteness in my sample is greatest are Zealand (62% incomplete) and Jutland (39% incomplete). This is because the Danes publish summary information about their rich metal detector finds in *AUD*. In other regions where there is no comparable publication and very little metal detecting, I do not know what I am missing. But I do know

that the brooches are not as many in absolute terms as in Denmark. I suspect, however, that a considerable number of the “animal-shaped” brooches (general type O in the catalogue) mentioned in *AUD* that I was unable to find in Copenhagen actually refer to oval ones with the flattened quadruped motif which I did find, from the same sites. The incompleteness percentages would thus probably be lowered if one looked at the original finds lists from the metal detector sites in question.

In 27 cases I have been able to compare Vedel's (1897:84–85) length measurements of domed oblong brooches from Bornholm with new measurements of my own. The median absolute difference between Vedel's figures and mine is 2.5 mm, and there is no significant skew in the tendency of the difference (greater/smaller). The maximum difference is 13.0 mm. Vedel measured the brooches to an accuracy of 1/8 inch, that is, 3.25 mm, and I measured them to an accuracy of 0.1–0.5 mm. The observed median difference of 2.5 mm is less than Vedel's level of accuracy. His figures may thus be taken at face value when no modern measurements are available.

	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep	
1	Rønne 1729	bo				N1						65						
2	Rønne 1730	bo				N1						65						
3	Odense 7390	fy	Svendborg, Flodstrup, Risinge	str		N1		1				67	36			1		
4		ge	Oldenburg			N1	gild	1				46	25			1		
5	Ribe D2592	jy	Ribe, Ribe, Art museum	set	1	N1		0,9	solder spot	dx	-	58	c 32	c 11	2,1	1		
6	NM jnr 0560/72	jy	Ringkøbing, Borbjerg, Trabjerg	md		N1						44						
7	NM C31256	sj	Sorø, Boeslunde, Neble	md	1	N1		0,2	?	cast, broken	iron	?	?		1,2	0		
8	NM jnr 4970/83x24	sj	Sorø, Boeslunde, Neble	md		N1						42						
9	Lund interim 81503	sk	Sk, S. Sandby, Kungsmarken			N1		0,75				>56	30	9				
10	Lund U09941	sk	Sk, Uppåkra, Uppåkra	md	1	N1	gild	0,8	0	0	0	>36	16	13	1,6	1		
11	SSM e3	sv				N1						40						
12	ASRD 2592					N1						59						
13	Priv. Paulsson					N1						38						
14	NM C30983					N1						44						
15	NM 00999x875					N1						25						
16	NM C30730					N1						54						
17	Priv. Ohlsson					N1						50						
18	Lund U38321	sk	Sk, Uppåkra, Uppåkra	md	1	N1 / O1a	tin	1	1	?	?	33,6	19,35	5,6	1,5	1		
19	Rønne 1409x978	bo	Ø-lars, Narre Sandegård	md		N1?		frag										
20	NM C00965:b	bo	Bodils, Kannikegård, gr. 195	gr	1	N1a		0,15		secondary bronze riveted sheet	?	iron	50	?		?	?	1
21	NM C05608:a	bo	Ø-lars, Lousgård, gr. 12	gr	1	N1a		1	1	?	?	extant iron	45	27,5		1,4	0	
22	NM C05608:b	bo	Ø-lars, Lousgård, gr. 12	gr	1	N1a		1	1	cast, dx	?	extant iron	44,2	26,5		1,3	0	
23	SHM 12314:5	gö	Sm, Ås psh (Palmgren's collection)	str	1	N1a		0,99	1	cast, broken	?	rusty catch	48,5	23,4	7,5	1,4	1	
24	NM C33355	jy	Ålborg, Hasseri, Bejsbakken, Stolpedalsvej	md	1	N1a		1	?	cast, dx	?	?	39,4	17,3		1,1	1	1
25	NM C33325	jy	Ålborg, Hasseri, Bejsbakken, Stolpedalsvej	md	1	N1a		0,9	1	cast, dx	iron	29	15		1,2	1		
26	Trondheim 18648a	no-n	N-Trøndelag, Fosnes k., Jaa, Sandvik, gr. 07	gr	1	N1a		1	1	?	?	54,8	30	8,6	1,5	0		
27	Oslo C38649b	no-s	Oppland, Nord-Fron, Vuludalen	gr		N1a						49	25-30					
28	Oslo C29479	no-s	Oppland, Østre Toten k., Sandre Rise / Hof		1	N1a		1	1	dx	iron spring	38,2	22,7	8,3	1,8	1		
29	Bergen 08386	no-s	S & F, Gløppen k., Breim, Skrappa/Skrype	str	1	N1a		1	1	dx	?	43	24	9	1,4	1		
30	NM C32698	sj	F-borg, Jørnlunde, Lærkefryd	md	1	N1a	tin	0,95	1	cast, dx	iron	40,2	21,6		1,1	0		
31	NM jnr 7701/94, FB0861	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md	1	N1a		0,6	?	?	?	>33	21		0,6	0		
32	NM jnr 7701/94, FG1896	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md	1	N1a		0,55	1	?	?	rusty lug	>30	28		1	1	
33	NM C23186	sj	Holbæk, Sørslev, Sørslev	str	1	N1a		1	1	cast, dx	rusty lug	47,8	25		1,5	1		
34	Ystad 145	sk	Sk, Klaby, Bäckaskog			N1a		0,95				>50	31					
35	Lund U03968	sk	Sk, Uppåkra, Uppåkra	md	1	N1a		0,17	?	?	?	?	?	12,55	1,5	0		
36	Lund U05003	sk	Sk, Uppåkra, Uppåkra	md	1	N1a	gild	0,5	?	?	?	cast, broken	?	20,7		1	0	
37	Lund U01782	sk	Sk, Uppåkra, Uppåkra	md	1	N1a		1	1	cast, sin	0	48	23,5	6	0,4	0		
38	Lund U10800	sk	Sk, Uppåkra, Uppåkra	md	1	N1a		0,17	?	?	?	?	?	3,7	0,8	0		
39		sk	Sk, Åhus, Åhus II	set		N1a		0,5				c 50	c 26					
40	SHM 31277:10	sv	Sö, Österhaninge, Gudö, Raå 101, gr. 10	gr	1	N1a		0,85	1	?	?	c 45	24	8,65	1,7	0	1	
41	SHM 23151:11	sv	Up, Spånga, Rinkeby, Raå 178, gr. 11	gr	1	N1a		0,75	1	?	?	?	?	8	1,6	0	1	
42	SHM 10321 a	sv-n	La, Åsele lappmark, Vilhelmina, Girisjön	str	1	N1a		1	1	cast, broken	?	59,4	29,7	9,4	1,6	0		
43	SHM 10321 b	sv-n	La, Åsele lappmark, Vilhelmina, Girisjön	str	1	N1a		1	1	dx	rusty catch	59,3	29,5	10	1,2	0		
44	SHM 01304:1834-97	öl	Öl, Köping psh	str	1	N1a		1	1	dx	?	51,45	27	9,25	1,4	0	1	
45	SHM 22517:11	sv-n	Hs, Alfita, Viken 13, Erkpålsnåset, gr. 11	gr		N1a/b		0,8			iron	48	26	9		1		
46	NM C07223	bo	Gudhjem, Lillevang-Melsted, gr. 4	gr	1	N1b		0,85	1	cast, dx	iron spring	67,5	37,5		1	0		
47	Rønne 1409x749:5	bo	Ø-lars, Narre Sandegård, gr. 58	gr		N1b		1				50	25					
48	SHM 06745:2	gö	Sm, Berga, Domaryd	gr	1	N1b		0,5	?	?	iron	63	29,5	9	1,4	?		
49	SHM 06745:1	gö	Sm, Berga, Domaryd	gr	1	N1b		0,75	rivet hole	rivet hole	?	63	29,5	9,1	1,4	1		
50	SHM 17906:11	gö	Ög, Skedevi, Ruda, Smedjebacken	gr	1	N1b		1	1	?	?	55,7	27,65	12,1	1,25	1	1	
51		jy	Hjørring, Hellevad, Stentinget	md		N1b	gild	1				49,5	27					
52	Vendsyssel jnr 208/1980	jy	Hjørring, Ingstrup, Trudslev	set		N1b		0,6								0		
53	Horsens 1319	jy	Vejele, Klakring, Juelsminde	str		N1b		1				41	17,5					

	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
54	NM C30750	jy	Ålborg, Hasseris, Bejsebakken	md	1	N1b		0,95	2	?	iron	68	32		1,3	0	
55	NM jnr 4684/82 (DF 1989)	jy	Ålborg, Lindholm, Lindholm høje (nord)	md		N1b		0,8								0	
56	Bergen 04213	no-s	Hordaland, Ølen k., Fjellberg p., Nervik	str	1	N1b		1	1	dx	?	56	32,5	11,5	2,2	0	
57	Oslo C38649a	no-s	Oppland, Nord-Fron, Vuludalen	gr		N1b		0,66				c 65	36				
58	Stavanger 3852	no-s	Rogaland, Karmøy k., Skudenes p., Ferkingstad	gr		N1b						<61					
59	Oslo C01547	no-s	Telemark, Bamle k., Brevikstrand	gr	1	N1b		0,75	?	dx	?	c 47,5	30	10	1,6	0	
60	NM jnr 7701/94, FB0401	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md	1	N1b		1	1	cast, dx	extant iron	42,8	19,5		1,4	0	
61	NM jnr 1423/75, KN1350	sj	Holbæk, Store Fuglede, Kalmargården	md	1	N1b	both	0,33	?	?	rusty catch	?	30		1,3	1	
62	NM jnr 1423/75, KN1221	sj	Holbæk, Store Fuglede, Kalmargården	md	1	N1b	gild	0,165	?	?	?	?	?		1,6	1	
63	NM C30664	sj	Khvn, Sct Jorgensbjerg, Sct Hans hospital	md	1	N1b		1	1	cast, broken	?	36,3	15,15		1,4	0	
64	Gothenburg 2008	sk	Ha, Lindome, Sintorp	str		N1b		1				53	27			1	
65	Lund Ravl F8	sk	Sk, Ravlunda, Ravlunda 23:3 (Maletofta), 1997, F8	md	1	N1b		1	1	cast, broken	?	45,4	24,4	7,85	1,3	0	1
66	Lund U01737	sk	Sk, Uppåkra, Uppåkra	md	1	N1b		0,95	1	0	extant iron spring	36,1	15,6	6,6	1	1	
67	Lund U01033	sk	Sk, Uppåkra, Uppåkra	md	1	N1b		0,95	1	0	rust	46	21	7,5	0,7	0	
68	Lund U37352	sk	Sk, Uppåkra, Uppåkra	md	1	N1b		0,75		?		>34	25,4	6	1	0	
69	Lund U00980	sk	Sk, Uppåkra, Uppåkra	md	1	N1b		0,45	?	?	?	?	?	8,7	1,2-2,3	0	
70	Lund U10846	sk	Sk, Uppåkra, Uppåkra	md	1	N1b	gild	0,33	1	0	rust			7,5	1,3	0	
71	Lund U00007&16	sk	Sk, Uppåkra, Uppåkra	md	1	N1b	gild	0,9	1	0	extant iron	50,5	25,2		1,3	1	
72	Raå dnr 3714/88	sv-n	Ån, Arnås, Arnåsbacken, Raå 2, house 4, F1567	set		N1b		1	1	?	iron	54	33	5			
73	SHM 23648	öl	Öl, Gråsgård, Löt	str	1	N1b		1	1	dx	?	48	25,8	10	1,4	1	
74	Kalmar 05853	öl	Öl, N. Möckleby, Dörby	str		N1b		0,95	1	cast, broken	?	67	40	17		0	
75	Kalmar 34791:470	öl	Öl, S Möckleby, Cementa's quarry	str		N1b		0,9	1	dx		71	33	14		0	1
76	SHM 11494	öl	Öl, S. Möckleby, S. Möckleby 4	str	1	N1b		0,99	1	cast, broken	?	37,35	20,2	8,35	1,2	0	
77	NM C26583	bo	Bodils/Pouls, Ellegård, gr. 13	gr		N1c		1				48	29			0	
78	NM C02532	bo	Ø-lars, Bækkegård		1	N1c		0,33	1	?	extant iron spring	?	?		1,9	0	
79	NM C02394	bo	Ø-lars, Bækkegård, gr. 059	gr	1	N1c		0,85	1	cast, dx	?	75	42	12	1,9	0	
80	NM C02455	bo	Ø-lars, Bækkegård, gr. 105	gr	1	N1c		0,8	1	cast, dx	rusty both	66,7	34,7	11,3	1,3	0	
81	NM C02456	bo	Ø-lars, Bækkegård, gr. 105	gr	1	N1c		0,2	?	cast, dx	extant iron	?	?		1,3	0	
82	Schleswig 4333	ge	Fehmarn, Johannisberg	str		N1c		1	1	cast, broken	?	54	36			1	
83	NM C30998	sj	Sorø, Eggeslevmagle, Gerdrup Ravnebank		1	N1c		0,9	1	cast, broken	rusty both	46,2	23,5		1,3	1	
84	Lund U03356	sk	Sk, Uppåkra, Uppåkra	md	1	N1c		1	1	cast, broken	rust	63	34,4	7	1	1	1
85	SSM 05779:10:2	sv	Sö, Botkyrka, Norsborg, gr. 10:2	gr	1	N1c	gild	1	1	dx	iron	39,8	24	7,8	1,4	0	
86	SHM 23206:1	sv-n	Dr, Transtrand, N Bred-sundsnaeset, gr. 1	gr	1	N1c		1	1	cast, broken	?	40,8	24,5	9,5	1,4	0	
87	Kalmar 07565	öl	Öl, N. Möckleby, Dörby	str		N1c		1	1	dx	?	43	24	7,5		0	
88	Odense w-o no	?	Denmark	str		N1d		1				42,5	26				
89	NM C32659	?	Unknown	str	1	N1d		0,95	1	cast, dx	rusty lug	49	28,6		1,4	0	
90	NM C13494	jy	Vejle, Randbøl, Vandel	str	1	N1d		1	1	cast, broken	iron	58,3	32,5		1,35	1	
91	Ålborg 129x1230	jy	Ålborg, Lindholm, Lindholm høje, gr. 1230	gr		N1d		1			extant iron	52	28	8		0	
92	NM jnr 1423/75, KN0948	sj	Holbæk, Store Fuglede, Kalmargården	md	1	N1d		0,95	1	cast, dx	?	44,4	25		1,8	0	
93	NM jnr 1423/75, KN0545	sj	Holbæk, Store Fuglede, Kalmargården	md	1	N1d	tin	0,95	1	?	?	43	28		1,6	1	
94	NM C34829	sj	Sorø, Ringsted, Klostermarken	md		N1d		1				37,7	22,1				
95	Lund U03351	sk	Sk, Uppåkra, Uppåkra	md	1	N1d		1	1	0	0	34	19,4	6,6	1,7	1	
96	Lund U06242	sk	Sk, Uppåkra, Uppåkra	md	1	N1d		1	1	cast, broken	0	47,5	25,8		1,1	1	1
97	Lund U06414	sk	Sk, Uppåkra, Uppåkra	md	1	N1d		0,2	?	?	?			10		1	0
98	Lund U04437	sk	Sk, Uppåkra, Uppåkra	md	1	N1d	gild	0,33	?	?	?		22,2			1	0
99	Rønne 1409x874	bo	Ø-lars, Nørre Sandegård	md		N1d NSV		1				45,3	24				
100	NM C10269	bo	Ø-lars, Nørre Sandegård, gr. V4	gr		N1d NSV		0,95		cast, dx	extant iron	46	27	7,3			
101	NM C10270	bo	Ø-lars, Nørre Sandegård, gr. V4	gr		N1d NSV		0,95				46	27				
102	NM jnr 7638/93 (DF 1996) b	fy	Svendborg, Nyborg lds, Hjulby, Toftegård Sydøst	md		N1d Toftegård		0,95				51,5	30	6,5		0	



	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
103	NM jnr 1423/75, KN0949	sj	Holbæk, Store Fuglede, Kalmargården	md	1	N1d Toftegård		0,9	1	?	0	48,2	26		1,3	0	
104	SHM 02076:15	?	Storck's collection, Kalmar	str	1	N1d Vedskølle	gild	0,99	1	?	iron	48,7	23,6	9,5	1,4	0	1
105	NM C25000	sj	Præsto, Herfølge, Vedskølle	str		N1d Vedskølle		0,95				46					
106	NM jnr 8117/99 (DF 1999), OBM 8519	fy	Svendborg, Herrested, Toften	md		N1e		1				38	18				
107	NM C33648	fy	Hjørring, Skallerup, Nørlev/Søgård	md		N1e		1									
108	NM C33600	fy	Hjørring, Skallerup, Nørlev/Østergård	md		N1e		1									
109	NM C34487	fy	Viborg, Mønsted, Toftum	md	1	N1e		0,8	1	cast, dx	rusty lug	33	17		1,2	?	
110	NM C33374	fy	Ålborg, Nørre-Tranders, Humlebakken	md	1	N1e		1	1	cast, broken	?	29,9	17		1,5	0	1
111	Priv. Fønss	fy	Ålborg, Hasseris, Bejsebakken	set		N1e var1		1				36	20,5	4,7			
112	NM C33516	fy	Ålborg, Hasseris, Bejsebakken		1	N1e var1		1	1	cast, broken, iron rivet	iron	35,6	20,7		1,4	1	1
113	Odense	fy	Odense, Herredsted, Maare			N1e var2		1				38	18				
114	NM jnr 7638/93 (DF 1997) b	fy	Svendborg, Nyborg lds, Hjulby, Toftegård Sydøst	md		N1e var2		1				39,5	19,5	5,5		0	
115	Lund U01455	sk	Sk, Uppåkra, Uppåkra	md	1	N1e var2		1	1	cast, dx	0	37,3	20,5	5,55	1,3	1	1
116	Lund U02736	sk	Sk, Uppåkra, Uppåkra	md	1	N1e var2		1	1	0	0	32,5	17	4,7	1,2	1	
117	NM	fy	Ålborg, Hasseris, Bejsebakken	set		N1e var3		1									
118	NM C30551 + 33473	fy	Ålborg, Hasseris, Bejsebakken	md	1	N1e var3		0,9	?	cast, dx	rusty lug	34	15,5		1,1	0	
119	Trondheim 13228	no-n	N-Trøndelag, Verdal k., Østre Vuku, Holmlia		1	N1V3		0,95	1	?	?	44,2	26,6	8,3	1	1	1
120	Trondheim 14049a-3	no-n	Nordland, Brønnøy k., Torvskjådammen	gr	1	N1V3		1	1	?	?	47	28,5	8,5	0,9	1	1
121	Trondheim 14049a-2	no-n	Nordland, Brønnøy k., Torvskjådammen	gr	1	N1V3		0,99	1	dx	?	54,6	31,5	11,5	0,4	0	
122	Trondheim 14049a-1	no-n	Nordland, Brønnøy k., Torvskjådammen	gr	1	N1V3		1	1	dx	?	48,5	28	8,25	0,7	0	
123	Tromsø 06377b	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 8	gr	1	N1V3		1	1	?	?	57	33	9,3	0,5	0	
124	British Museum	no-n	Troms, Tromsø k., near Tromsø	gr	1	N1V3		1				44	27			0	
125	NM jnr 7334/91 (DF 1991)	bo	Ibsker, Brændegård	md		O											
126	NM jnr 6116/85 (DF 1995)	bo	Klemensker, Ladegård	md		O											
127	NM jnr 6116/85 (DF 1999)	bo	Klemensker, Ladegård	md		O											
128	NM jnr 6295/85	bo	Klemensker, Møllegård	md		O											
129	Rønne jnr 1002:b	bo				O						64					
130	Rønne jnr 1002:a	bo				O						64					
131	NM jnr 6965/89 (DF 1993)	fy	Svendborg, Gudme, Gudme II/NO	md		O											
132	NM jnr 8138/00 (DF 2000)	fy	Hjørring, Saltum, Lille Norge	md		O											
133	NM jnr 5990/85 (DF 1991)	fy	Randers, Albøge, Kumlhøj	md		O											
134	NM jnr 7915/96 (DF 1996)	sj	F-borg, Ramløse, Kræmmergård	md		O											
135	NM jnr 7701/94 (DF 1999) b	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md		O											
136	NM jnr 7701/94 (DF 1998) b	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md		O											
137	NM jnr 7701/94 (DF 1998) a	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md		O											
138	NM jnr 7701/94 (DF 1999) a	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md		O											
139	NM jnr 1423/75 (DF 1997) b	sj	Holbæk, Store Fuglede, Kalmargården	md		O											
140	NM jnr 1423/75 (DF 1998) b	sj	Holbæk, Store Fuglede, Kalmargården	md		O											
141	NM jnr 1423/75 (DF 1997) a	sj	Holbæk, Store Fuglede, Kalmargården	md		O											
142	NM jnr 1423/75 (DF 1998) a	sj	Holbæk, Store Fuglede, Kalmargården	md		O											
143	NM jnr 7206/91 (DF 2000)	sj	Khvn, Højelse, Ellebækgård	md		O											
144	NM jnr 8234/01 (DF 2002)	sj	Khvn, Ledøje, Gødhojs agre	md		O											
145	NM jnr 4158/82	sj	Khvn, Vindinge, Stålmosegård	md		O											





	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vídi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
146	NM jnr 7745/94 (DF 1996)	sj	Khvn, Ølsemagle, Kapelvej	md		O											
147	Lund U06741	sk	Sk, Uppåkra, Uppåkra	md	1	O		0,2	?	cast, broken	0			3	1,1	0	
148	NM C00965.a	bo	Bodils, Kannikegård, gr. 195	gr	1	O1a		1	1	cast, dx	iron	51,2	23,5		1,4	0	
149	NM C05607	bo	Ø-lars, Lousgård, gr. 12	gr	1	O1a		0,95	1	cast, dx	extant iron	73	45,3		1,3	0	
150	Rønne 1409x349:3	bo	Ø-lars, Nørre Sandegård, gr. 16	gr		O1a		0,9	1			55	29				
151	Rønne 1409x511:75	bo	Ø-lars, Nørre Sandegård, gr. 23	gr		O1a		0,8				49-56	>27				
152	Rønne 1409x750:2	bo	Ø-lars, Nørre Sandegård, gr. 58	gr		O1a		0,95				47	24	10,7			
153	Rønne 3139x82	bo	Ø-lars, Snekkebjerg	md		O1a		0,33				?					
154	SHM 08923:7:a1	gö	Sm, Berga, Ingelstad Kvarnagård, gr. 7	gr	1	O1a		0,9	iron rivet, possib sec	cast, repl by iron rivet	iron spring	48,2	22	6,2	1,3	0	1
155	NM C05339	jy	Hjørring, Torslev, Riis Fattig-gård, gr. 5	gr	1	O1a		0,95	2	cast, broken, repaired, dx	iron	41,5	21		1,3	1	1
156	NM jnr 4685/82	jy	Ålborg, Hasseris, Bejsebakken	md		O1a		0,95				28	15				
157	Ålborg 129x1520	jy	Ålborg, Lindholm, Lindholm høje, gr. 1520	gr		O1a		0,5	?		iron						
158	NM C33422	jy	Ålborg, Sønder Tranders, Postgården	md	1	O1a		0,99	1	cast, dx	iron	36,4	20		1,5	1	
159	NM jnr 7701/94, FB0748	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md	1	O1a		0,95	1	?	rusty both	c 46	29		1,5	1	
160	NM jnr 1423/75 (DF 1995), KN0675	sj	Holbæk, Store Fuglede, Kalmargården	md	1	O1a	gild	0,75	1	cast, dx	?	50-55	33		2	0	
161	NM jnr 4970/81	sj	Sorø, Boeslunde, Nebie	md		O1a		0,95				40	25,5				
162	Lund 29226	sk	Sk, Ravlunda, Ravlunda 29:17		1	O1a		0,95	1	cast, broken	rust	38,1	20,2		1	0	
163	Lund U07206	sk	Sk, Uppåkra, Uppåkra	md	1	O1a		0,5	?	cast, broken	0	?	31,2	5,4	1,1	1	
164	Lund U01340	sk	Sk, Uppåkra, Uppåkra	md	1	O1a		0,95	1	?	rust	>47,4	26,8	6,8	1,2	1	
165	Lund U38536	sk	Sk, Uppåkra, Uppåkra	md	1	O1a		0,15	?	dx	?	?	?	?	1,3	0	
166	Lund U38182	sk	Sk, Uppåkra, Uppåkra	md	1	O1a		0,9	1	?	?	c 35	22	4,1	1	1	
167	Lund U03363	sk	Sk, Uppåkra, Uppåkra	md	1	O1a		0,9	?	cast, broken	0	>31,4	25,7	5,35	1	1	1
168	Lund met-det	sk	Sk, Vittskövle k.a, 0111-0110, F67, JP1	md	1	O1a		0,9				>42	?	?	0,5	0	
169	Lund	sk	Sk, Vå, S:t Gertruds väng, 1945, ruta E1:III	set		O1a		1			rust	44	23				
170	SHM 26481:60	sv	Up, Ekerö, Helgö, Raå 150, gr. 60	gr	1	O1a		0,99	?	?	?	36	19	4,5	1,3	0	
171	SHM 28913	öl	Öl, Ås, Näsby, gr. 1	gr	1	O1a		0,9	1	dx	?	56,6	27,5	7,25	1,4	1	
172	NM C07222	bo	Gudhjem, Lillevang-Melsted, gr. 4	gr	1	O1b		0,8	1	cast, dx	rusty lug	95	39		0,8	1	
173	NM C02396	bo	Ø-lars, Bækkegård, gr. 059	gr	1	O1b		0,95	?	cast, dx	extant iron	97	41,5		3	0	
174	NM C02409	bo	Ø-lars, Bækkegård, gr. 066	gr	1	O1b		0,75	1	?	extant iron spring	c 85	?		?	0	
175	NM C05592	bo	Ø-lars, Lousgård, gr. 06	gr	1	O1b		0,9	1	cast, dx	extant iron spring	80-85	32,5		1,2	1	
176	NM C05362	bo	Gudhjem, N of Gudhjem	gr	1	O1c		0,85	1	cast, dx	iron	85	37		1,4	0	1
177	NM C02530	bo	Ø-lars, Bækkegård, gr. 063	gr	1	O1c		0,95	1	cast, dx	iron spiral	82,7	30,1		1,6	0	
178	NM C06872	bo	Gudhjem, Lillevang-Melsted, gr. 3	gr	1	O2		0,99	1	cast, dx	extant iron	69,2	37		1,2	0	
179	NM C31062	bo	Ølsker, Gl. Skovgård	md	1	O2		1	1	cast, dx	iron	50,3	33		1	0	
180	Rønne jnr 1081	bo	Åker, Limensgård, Rævekulebakke	gr		O2											
181	Rønne jnr 1081	bo	Åker, Limensgård, Rævekulebakke	gr		O2											
182	NM C02390	bo	Ø-lars, Bækkegård, gr. 050	gr		O2						57	28				
183	NM C02408	bo	Ø-lars, Bækkegård, gr. 066	gr	1	O2		0,75	?	cast, dx	extant iron	c 67	?		1,2	?	
184	Rønne 1409x927	bo	Ø-lars, Nørre Sandegård	md		O2											
185	Rønne 1409x881	bo	Ø-lars, Nørre Sandegård	md		O2		1								1	
186	Rønne 1409x928	bo	Ø-lars, Nørre Sandegård	md		O2		frag									
187	Rønne 1409x948	bo	Ø-lars, Nørre Sandegård	md		O2											
188	Rønne 3139x79	bo	Ø-lars, Snekkebjerg	gr		O2		0,99	1	?	?	49	22,8				
189	NM C32682	jy	Ålborg, Nørholm, Mellemholm	md	1	O2		1	1	?	rusty both	56,7	29,1		1,5	1	1
190	Oslo C15881	no-s	Østfold, Rakkestad k., Sandre Hosten	gr	1	O2		0,45	?	dx	?	?	c 22	5,4	1,8	1	1
191		sk	Sk, Smedstorp, Gärdlösa, pit house settlement	set		O2		1	1			57	33			0	
192	Lund U03023	sk	Sk, Uppåkra, Uppåkra	md	1	O2		0,9	1	cast, sin	rust	52,2	33,2	6,5	0,8	1	
193	Lund U00589	sk	Sk, Uppåkra, Uppåkra	md	1	O2		1	1	0	rust	60,3	34	5,5	1,2	1	
194	Lund U00984	sk	Sk, Uppåkra, Uppåkra	md	1	O2		1	1	0	rust	49,2	33,4	5,5	1,3	1	
195	Lund met-det	sk	Sk, Vittskövle k.a, 0111-0110, F72, JP6	md	1	O2		1	?	cast, dx	extant iron	40,5	24,5		0,6	1	1



	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
196	Helsinki 5179:2	äl	Lemland, Mattas, gr. 14	gr	1	O2		0,99	1	dx	iron Y-shaped	59,5	34,3	7,6	1	0	
197	NM C05405	bo	Ø-lars, Kobbeå?, close SW of Gudhjem	str	1	O2 b		0,95	1	solder	rusty lug	65,9	35		1,5	1	
198	NM C05587:b	bo	Ø-lars, Lousgård, gr. 03	gr	1	O2 b		0,99	1	cast, dx	extant iron spring	68,5	34		1,1	1	
199	NM C05587:a	bo	Ø-lars, Lousgård, gr. 03	gr	1	O2 b		0,95	1	cast, dx	extant iron	67,3	34		1,2	0	
200	NM C26581	bo	Bodils/Pouls, Ellegård, gr. 13	gr		O2 Ellegård		1				61	32				
201	NM C26582	bo	Bodils/Pouls, Ellegård, gr. 13	gr		O2 Ellegård		0,95				61	33,6				
202	NM C02534	bo	Ø-lars, Bækkegård	1		O2 Ellegård		0,6	?	cast, dx	iron	?	?		1,2	0	
203	NM C02385:b	bo	Ø-lars, Bækkegård, gr. 044	gr		O2 Ellegård						65	37,3				
204	NM C02385:a	bo	Ø-lars, Bækkegård, gr. 044	gr	1	O2 Ellegård		0,75	?	cast, broken	iron	?	?		1	0	
205	NM C02389	bo	Ø-lars, Bækkegård, gr. 050	gr		O2 Ellegård						57	28				
206	NM C02395	bo	Ø-lars, Bækkegård, gr. 059	gr	1	O2 Ellegård		0,75	1	cast, dx	extant iron	64	?		2,1	0	
207	NM C05593	bo	Ø-lars, Lousgård, gr. 06	gr	1	O2 Ellegård		1	1	cast, dx	extant iron	61,1	31,8		0,8	0	
208	NM C05604	bo	Ø-lars, Lousgård, gr. 11	gr	1	O2 Ellegård		0,6	1	cast, dx	extant iron	58,5	32,5		0,9	0	
209	NM C05603	bo	Ø-lars, Lousgård, gr. 11	gr	1	O2 Ellegård		1	1	?	extant iron	60,2	32		1,2	0	
210	Rømne 1409x880	bo	Ø-lars, Nørre Sandegård	md		O2 Ellegård		0,95									
211	NM C10289	bo	Ø-lars, Nørre Sandegård, gr. V6	gr	1	O2 Ellegård		0,95	1	cast, dx	extant iron	62	35,5	7,3	1,3	0	
212	NM C10285	bo	Ø-lars, Nørre Sandegård, gr. V6	gr	1	O2 Ellegård		0,6	1	?	rusty lug	?	37	7,3	1,2	0	
213	Lund U38099	sk	Sk, Uppåkra, Uppåkra	md	1	O2 Ellegård		0,55	1	?	?	55-60	39	5	1,2	?	
214	Årendal 298 b	no-s	Hedmark, Nes, Hovindsholm	str		proto-Berdal		0,5				94	45				
215	Oslo C00172	no-s	Hedmark, Nes, Hovindsholm	str	1	proto-Berdal		1				94	45				
216	Oslo C30251	no-s	Hedmark, Ringsaker, By	str	1	proto-Berdal											
217	Bergen 09502	no-s	S & F, Gloppen k., Breim, Bjørnarheim	gr	1	proto-Berdal		0,85	1	?	?	c 85	c 56	19,5	1,3	0	
218	Oslo C19179a	no-s	Vestfold, Hedrum, Brunlanes, Berg		1	proto-Berdal		1				96					
219	Oslo C19179b	no-s	Vestfold, Hedrum, Brunlanes, Berg		1	proto-Berdal		0,5	?	?	iron	c 100	c 60	25	2,8	0	
220	Oslo C12799	no-s	Vestfold, Lardal, Styrvoll	gr	1	proto-Berdal		0,75	2	dx	?	c 100	c 50	21	?	?	
221	Trondheim 03452	no-n	N-Trøndelag, Nedre Stjørdalen, Alstad	gr	1	R640		0,25		ribbon iron w 17 mm		c 70	c 70	13,5	0,25	0	
222	Trondheim 07713-3	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	R640		frag		ribbon iron		>70	?	>15	0,5	?	
223	Trondheim 07688-1	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	R640		0,55		ribbon iron w 17 mm		?	c 57	12,5	0,6	0	
224	Trondheim 02373	no-n	N-Trøndelag, Stod, Grindberg	gr	1	R640		1		ribbon iron w 18,8 mm		88	62	14,3	0,25	0	
225	Trondheim 02374	no-n	N-Trøndelag, Stod, Grindberg	gr	1	R640		1		solder	solder	?	71	46,5	10,7	0,4	0
226	Tromsø 05034d2	no-n	Nordland, Andøya k., Dverberg	gr	1	R640		0,45		ribbon iron tapered max w 18 mm		?	c 70	>16	0,3	0	
227	Tromsø 05034d1	no-n	Nordland, Andøya k., Dverberg	gr	1	R640		0,8		ribbon iron widened ends max w 24 mm		>100	75	19	0,7	0	
228	Bergen 00622a	no-n	Nordland, Bodo k., Vågøy	gr	1	R640		1		lozenge iron		94,5	69	21	1,2	0	
229	Bergen 00622c	no-n	Nordland, Bodo k., Vågøy	gr	1	R640		0,1		ribbon iron		?	?	?			
230	Bergen 00622b	no-n	Nordland, Bodo k., Vågøy	gr	1	R640		0,95		lozenge iron		93,8	69	c 20	1	0	
231	Tromsø 03803b	no-n	Nordland, Gildeskål k., Vigtelen	gr	1	R640		0,99		lozenge iron max w 43 mm		79	62	19,7	0,5	0	
232	Tromsø 03803a	no-n	Nordland, Gildeskål k., Vigtelen	gr	1	R640		0,99		lozenge iron max w 43 mm		80	61	17,2	0,5	0	
233	Tromsø 01615-2	no-n	Nordland, Meløy k., Øysund	gr	1	R640		0,1	?	?	?	>70	>55	?	1	?	
234	Tromsø 01039-1	no-n	Troms, Bjarkøy k., Helley, gr. 1	gr	1	R640		0,6		ribbon iron tapered max w 17 mm		c 90	66	14	0,6	0	
235	Tromsø 01039-2	no-n	Troms, Bjarkøy k., Helley, gr. 1	gr	1	R640		frags				?	?	?			
236	Tromsø 01041	no-n	Troms, Bjarkøy k., Helley, gr. 3	gr	1	R640		0,99		ribbon iron widened ends w 10-19 mm		96	65	15,9	0,35	0	
237	Tromsø 04064b	no-n	Troms, Tromsø k., Austein	gr	1	R640		0,25		solder	solder	?	c 95	c 70	?	0,5	0
238	Tromsø 04064a	no-n	Troms, Tromsø k., Austein	gr	1	R640		0,75		solder	solder	?	c 57	14,3	0,35	0	
239	Oslo C34263	no-s	Aust-Agder, Valle, Vik	str	1	R640		0,75		ribbon iron		c 95	c 60	21	1,2	0	
240	Bergen 07639a	no-s	Hordaland, Tynes, Opdal, Store Kongsvik	gr		R640				ribbon iron							
241	Bergen 07639b	no-s	Hordaland, Tynes, Opdal, Store Kongsvik	gr		R640				ribbon iron							
242	Bergen 08256b	no-s	Møre & Romsdal, Hjørundfjord, Bjørke kirkegaard	gr	1	R640		0,75		ribbon iron		c 90	c 75	c 28	2,5	0	
243	Bergen 08256a	no-s	Møre & Romsdal, Hjørundfjord, Bjørke kirkegaard	gr	1	R640		0,99		ribbon iron	dx	86	74	27,7	2,7	0	
244	Bergen	no-s	Møre & Romsdal, Sykkylven, Vik, gr. 8	gr		R640		frags		ribbon iron							
245	Bergen	no-s	Møre & Romsdal, Sykkylven, Vik, gr. 8	gr		R640		frags		ribbon iron							



	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
246	Stavanger 2351 c7	no-s	Rogaland, Egersund p., Oгна s., Kvalbein	gr		R640											
247	Stavanger 2351 b	no-s	Rogaland, Egersund p., Oгна s., Kvalbein	gr		R640		1				100	67,5				
248	Bergen 09012	no-s	S & F, Gloppen, Breim, Sanddal	gr		R640											
249	Bergen 10975b	no-s	S & F, Gloppen, Sårheim	gr		R640		frags									
250	Bergen 05030b2	no-s	S & F, Stryn, Gutdal	gr	1	R640		frags	ribbon iron w 14,5 mm			>80	?	?	?	?	
251	Bergen 05909	no-s	S & F, Stryn, Gutdal	gr	1	R640		1	ribbon iron tapered			99	81	21,6	0,8	0	
252	Bergen 09061	no-s	S & F, Vik, Hopperstad, Haugateigen	gr		R640		0,8				69	c 40				
253	Bergen 06500-3	no-s	S & F, Vik, Skjervum	gr	1	R640		0,2	ribbon iron w 15 mm			?	?	?			
254	Trondheim 13885-1	no-s	S-Trøndelag, Bjugn p., Nes s., Nes	gr	1	R640		0,75	ribbon iron			?	c 68	?	0,8	?	
255	Trondheim 17739a	no-s	S-Trøndelag, Ørlandet, Grande	gr	1	R640		0,99	ribbon iron w 7 mm			92	77,5	29	1,1	0	
256	Trondheim 17739b	no-s	S-Trøndelag, Ørlandet, Grande	gr	1	R640		0,9	ribbon iron w 7 mm			89,3	c 80	27,5	1,1	0	
257	Trondheim 17679a	no-s	S-Trøndelag, Ørlandet, Grande	gr	1	R640		0,99	ribbon iron			91	73	23,1	1,1	0	
258	Bergen (03202a?)	no-s	Vestfold, Hedrum, Brunlanes, Nordheim	gr		R640											
259	Trondheim 17313	no-n	N-Trøndelag, Tjøtta, Tjøtta, gr. 19	gr		R643		frag									
260	Tromsø 10817 (1962/18)	no-n	Troms, Sandtor, Haukebø	gr		R643											
261	Bergen 07109	no-s	Møre & Romsdal, Sandmør, Ørsta, Osberg/Oseborg	gr	1	R643		0,2	ribbon iron		iron flat spring	?	?	?	?	?	
262	Stavanger 4924	no-s	Rogaland, Sola k., Byberg	gr		R643		frags									
263	Trondheim 01945	no	?	str	1	R643A		0,99	ribbon rusty w 7 mm			92	74	17,5	0,7	0	
264	Trondheim 18645-1	no-n	N-Trøndelag, Fosnes k., Jaa, Sandvik, gr. 03	gr	1	R643A		0,3	ribbon iron			c 88	c 60	>12	1,1	0	
265	Trondheim 18645-2	no-n	N-Trøndelag, Fosnes k., Jaa, Sandvik, gr. 03	gr	1	R643A		0,15	ribbon iron, tapered, w 3-11 mm	dx		?	?	?	?	?	
266	Trondheim 18652a	no-n	N-Trøndelag, Fosnes k., Jaa, Sandvik, gr. 14	gr	1	R643A		0,6	ribbon iron		iron	84,5	c 60	13,5	0,4	0	?
267	Trondheim 18652c	no-n	N-Trøndelag, Fosnes k., Jaa, Sandvik, gr. 14	gr	1	R643A		0,9	ribbon iron w 8-13 wide ends			84	c 60	14	0,4	0	
268	Trondheim 08804	no-n	N-Trøndelag, Frosta, Sjørsvik	gr	1	R643A		0,85	ribbon solder w 11,5 mm			c 82	c 62	19,3	1	0	
269	Trondheim 19966A f20	no-n	N-Trøndelag, Levanger p., Frosta, Strømsåsen, gr. 5	gr	1	R643A		0,6	ribbon iron			94	69,6	26,2	1,5	0	
270	Trondheim 19966B f40	no-n	N-Trøndelag, Levanger p., Frosta, Strømsåsen, gr. 5	gr	1	R643A		0,75	ribbon iron tapered w 16,25			95,3	68,4	29	1,7	0	
271	Trondheim 15625	no-n	N-Trøndelag, Mære, Lø	gr	1	R643A		1	ribbon rusty			82,5	57	13,1	0,4	1	
272	Trondheim 06575-1	no-n	N-Trøndelag, Overhalla k., Melhus	gr	1	R643A		0,33	ribbon bronze tapered c 100 x 9 mm line dec		iron	c 90	c 80	24	1,3	0	
273	Trondheim 06575-2	no-n	N-Trøndelag, Overhalla k., Melhus	gr	1	R643A		0,25	ribbon bronze tapered c 100 x 9 mm line dec			?	?	c 25	1,2	0	
274	Trondheim 08035	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	R643A		0,25	ribbon rusty w 5-6 mm			>85	?	?	?	0	
275	Trondheim 07713-1	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	R643A		0,55	ribbon rusty w 16 mm			?	c 54	11	0,9	0	
276	SHM 20483:3 a	no-n	N-Trøndelag, Øvre Stjørdal, Hegra, Bjertheim	str	1	R643A		0,33	?	?	?	>63	?	<10	0,55	0	
277	SHM 20483:3 b	no-n	N-Trøndelag, Øvre Stjørdal, Hegra, Bjertheim	str	1	R643A		0,15	?	?	?	>63	?	<10	0,55	0	
278	Tromsø 05034c	no-n	Nordland, Andøya k., Dverberg	gr	1	R643A		0,33	?	?	?	?	<62	?	0,6	1	
279	Tromsø 01615-3	no-n	Nordland, Meløy k., Øysund	gr	1	R643A		0,8	ribbon solder tapered w 13,5 mm			80-85	50-55	8-13		0	
280	Tromsø 01615-4	no-n	Nordland, Meløy k., Øysund	gr	1	R643A		0,33	ribbon solder tapered w 13,5 mm			80-85	50-55	8-13		0	
281	Tromsø 01907	no-n	Troms, Bjarkøy k., Vestnes, gr. 10	gr	1	R643A		0,9	solder spot	solder spot	?	70	39	6	0,5	1	





	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
282	Tromsø 04616a	no-n	Troms, Tranøy, Nordstrømmen, Solvang	gr	1	R643A		0,5	ribbon solder irregular max w 12 mm			65-70	42		1	0	
283	Tromsø 04616b	no-n	Troms, Tranøy, Nordstrømmen, Solvang	gr	1	R643A		0,25	ribbon solder & 2 riv holes at end			c 90	c 60	>14	0,9	?	
284	Oslo C22596a	no-s	Aust-Agder, Valle, Vik	gr	1	R643A		0,75	ribbon iron			121,5	69	21,8	2,2	?	
285	Oslo C22596b	no-s	Aust-Agder, Valle, Vik	gr	1	R643A		0,1	?	?	?	?	?	?	?	?	0
286	Oslo C16876	no-s	Hedmark, Løten, Skjerve	gr	1	R643A		0,25	?	?	?	>70	?	10-15	1,6	?	
287	Bergen 12012a1	no-s	Hordaland, Meland, Fosse	gr	1	R643A		0,5	ribbon iron, rhomboid w concave edges			105	90	?	1,7	?	
288	Bergen 12012a2	no-s	Hordaland, Meland, Fosse	gr	1	R643A		0,33	ribbon iron, rhomboid w concave edges			105	90	?	1,7	?	
289	Trondheim	no-s	Møre & Romsdal, Vike church	gr		R643A		frags	ribbon iron								
290	Oslo C25074a	no-s	Oppland, Fåberg, Odland	gr	1	R643A		0,6	solder indet shape	?	?	c 100	59	17	0,8	0	
291	Bergen 09014-2	no-s	S & F, Gloppen k., Breim, Sanddal	gr	1	R643A		frags	ribbon iron tapered max w 20 mm			?	?	?	2,1	?	
292	Bergen 09014-1	no-s	S & F, Gloppen k., Breim, Sanddal	gr	1	R643A		frags	ribbon iron tapered max w 20 mm			?	?	?	2,1	?	
293	Bergen 06035	no-s	S & F, Innvik, Langeseter	gr		R643A		0,75				93	>66				
294	Bergen 06500-1	no-s	S & F, Vik, Skjervum	gr	1	R643A		0,05	ribbon iron w 22 mm			?	?	?			
295	Bergen 06500-2	no-s	S & F, Vik, Skjervum	gr	1	R643A		0,1	ribbon iron w 22 mm			?	?	?			
296	Oslo C19708a	no-s	Østfold, Onøy, Hauge	gr	1	R643A	tin	0,66	ribbon iron c 85 x 22 mm, rivets at ends			c 90	c 60	c 17,5	1	0	
297	Lund 29055	sk	Sk, Åhus, Åhus	str	1	R643A		0,75	solder?	solder?	0	>70	47,5	13	0,8	0	
298	SHM 05208:33	sv	Up, Adelsö, Björkö, Svarta Jorden	set	1	R643A		0,8	solder spot	solder spot	?	59,3	30	8,7	1,2	0	
299	NM C05605	bo	Ø-lars, Lousgård, gr. 11	gr	1	R643B		0,6	soldered	soldered	rust	65	39		1	0	
300	SHM 24198:2	gö	Ög, Kimsta, Tångstad, gr. 2	gr	1	R643B		?	?	?	?	78	?	?	?	0	
301	Tromsø 01041	no-n	Troms, Bjarkøy k., Helleøy, gr. 3	gr	1	R643B		0,75	rusty lozenge	rusty lozenge	?	>85	c 55	?	?	0	
302	Oslo C15912	no-s	Hedmark, Grue, Vold	gr	1	R643B		0,6	?	dx	?	c 85	61	15	1,9	0	
303	SHM 31039:06	sv	Sö, Tyresö, Näsby 4:1, Raå 27, gr. 06	gr	1	R643B		0,05	?	?	?	?	?	>20	1,6	?	
304	Trondheim 02968	no-n	N-Trøndelag, Skogn p., Alstahaug s., Valan	gr	1	R643C		0,45	rusty stripe w 11 mm			96	60	18,3	1,6	0	
305	Tromsø 00909	no-n	Troms, Bjarkøy, Østnes	gr	1	R643C		0,33	?	sin & dx	?	c 100	c 70	?	?	?	1
306	Tromsø 00908	no-n	Troms, Bjarkøy, Østnes	gr	1	R643C		0,9	solder + 2 holes	solder + 2 holes	iron	102	66	18	1	0	
307	Tromsø 03426a	no-n	Nordland, Steigen k., Skagstad	str	1	R643D		0,7	solder	?	?	65-70	40-45	>7	?	0	
308	Tromsø 03497a	no-n	Nordland, Vestvågøy k., Buksnes, Utaklev	gr	1	R643D		0,8	solder	solder	?	c 60	38	6,3	0,3	0	
309	Bergen 05785	no-s	Møre & Romsdal, Strand k., Midtbust	gr	1	R643D		0,85	?	solder	?	c 70	c 42	8,8	0,8	0	
310	Umeå, Högre allmänna läroverket	?	Unknown	str		R643E		0,99	ribbon iron			c 55	c 36			1	
311	NM C07756	jy	Ringkøbing, Rindum/ Nordre Ommø, Skrostrup/ Skostrup mose	str	1	R643E		1	solder spot	solder spot	?	52,3	28,8		0,3	0	
312	NM C33346	jy	Ålborg, Hasseris, Bejsebækken, Stolpedalsvej	md	1	R643E		1	solder spot	?	?	?	30		1,1	0	
313	Oslo C21612a	no-n	Nordland, Hadsel, Hennes / Hennes	gr	1	R643E		0,9	solder spot	solder spot	?	44	21	6	1	?	
314	Tromsø 06371 a	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 2	gr		R643E		1				42	27	8,25		0	
315	Tromsø 06371 b	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 2	gr		R643E						44	28				
316	Tromsø 06377c	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 8	gr	1	R643E		1	solder spot + 2 drilled holes	solder spot + 2 drilled holes	?	62,7	33,5	9,5	1,5	0	
317	Tromsø 06377d	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 8	gr	1	R643E		1	solder spot + 1 hole	solder spot + 1 hole	?	46,2	26,2	8,3	0,3	1	
318	Tromsø 06378a	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 9	gr	1	R643E	gild	0,99	solder spot	solder spot	?	39	21	10,3	1	?	
319	Tromsø 06378b	no-n	Nordland, Lurøy k., Ytre Kvarøy, grave 9	gr	1	R643E		0,99	solder spot	solder spot	?	40	21	9	0,5	?	





	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidit	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
320	Tromsø 03497b	no-n	Nordland, Vestvågøy k., Buksnes, Utakleiv	gr	1	R643E		1	ribbon rusty tapered max w 11,6 mm			53	32,5	8,1	0,3	0	
321	Bergen 05807	no-s	S & F, Eid k., Myklebostad, gr. east	gr		R643E		0,6	ribbon iron		extant iron	55-60	37				
322	Trondheim 18026	no-s	S-Trøndelag, Hitra k., Dolmøy, Stadsvik	gr		R643E						58					
323	Raå UV-Syd	sk	Sk, Flädie psh, Raå 8, G 9755, AV 7745	set	1	R643E		0,95	solder spot	solder spot	extant iron	36,8	23,5		0,4	0	
324	Lund U05706	sk	Sk, Uppåkra, Uppåkra	md	1	R643E		1	solder spot	solder spot	0	48,8	31,5	c 5	0,8	1	
325	SHM 02076:18	?	Storck's collection, Kalmar	str	1	SPL		1	1	dx	?	33,9	17,5	6,6	1	0	
326	SHM 06819:506	?	Trädgårdh's collection	str	1	SPL		1	1	dx	iron spring	52,5	24,7	9,4	1,3	0	
327	ÖM	?	Unknown	str		SPL											
328	Helsinki 9365:394	fi	Kalanti, Kalmumäki	gr	1	SPL		1	1	dx	?	41	16,2	9,9	0,8	0	
329	Helsinki 7980:33	fi	Satakunta, Kumo/Kokemäki, Kuoppala-Pusso	gr	1	SPL		0,8	1	?	?	40,8	19	10,6	0,9	0	1
330	NM C30744	jy	Ålborg, Hasseris, Bejsebakken	md	1	SPL		1	1, replaced w solder	cast, sin	?	26,2	12,3		1,6	0	1
331	Ålborg 129x1725	jy	Ålborg, Lindholm, Lindholm høje, gr. 1725	gr		SPL		1			extant	35	15				
332	Tromsø	no-n	Nordland, Lødingen, Hustad	gr		SPL											
333	Oslo C23173a (= T 5900)	no-s	Hedmark, Vang k., Vang, Åker	gr	1	SPL		1	1		iron spring	49	32	10,8	1	0	
334	Stavanger 4044	no-s	Rogaland, Klepp p. & k., Bore s., Sele	str		SPL		0,95				38	16,9				
335	Trondheim 18758d	no-s	S-Trøndelag, Oppdal k., Vang	gr	1	SPL		0,5	blank surface	?	?	>30	22	5,8	0,3		
336		ru	Staraya Ladoga	set		SPL											
337	NM C31292	sj	Sora, Boeslunde, Neble		1	SPL		1	1	cast, dx	iron	38,7	15,3		1,85	1	
338	Lund U06211	sk	Sk, Uppåkra, Uppåkra	md	1	SPL		1	1	blank surface	blank surface	33,8	18,5	5,45	0,9	0	
339	Lund U04917	sk	Sk, Uppåkra, Uppåkra	md	1	SPL		1	1	cast, dx	rust	33,3	16,6	8,05	0,5	0	
340	Lund met-det	sk	Sk, Älleköpinge, Ripa Sandar 44:1, 9812, F5, JP151	md	1	SPL		1	1	cast, dx	0	39,5			0,9	0	
341	SHM 32577:51 b	sv	Sö, Aspö, Stenby, Raå 141, gr. 51	gr	1	SPL		1	1 riveted iron	dx	iron spring	59,5	27,4	10,4	0,8	0	
342	SHM 30621:13	sv	Sö, Botkyrka, Tomtberga, Raå 10, gr. 13	gr	1	SPL		0,5	?	cast, broken	?	?	c 20	c 7	1,1	0	
343	SHM 31039:19	sv	Sö, Tyresö, Näsby 4:1, Raå 27, gr. 19	gr	1	SPL		0,9	1	replacement dx	iron spring	38,9	14,7	8,3	0,9	?	1
344	SHM 18355:36	sv	Up, Adelsö, Hovgården, gr. 36	gr	1	SPL		0,95	?	cast, broken	?	c 40	15	6	1	?	
345	SHM 29094:10790	sv	Up, Ekerö, Helgö, BG1	set	1	SPL		0,75	?	cast, broken	?	35-40	c 12	c 5	0,45	?	
346	Uppsala 4318	sv	Up, Häggeby, Överhassla, gr. A	gr		SPL		0,95				42	16	9,5			
347	SHM 32300:91 c	sv	Up, Lovö, Lunda, Raå 27, gr. 91	gr		SPL		0,75			extant iron	47	21	6			
348	SHM 32300:91 b	sv	Up, Lovö, Lunda, Raå 27, gr. 91	gr		SPL		0,95			extant iron	42	15	5,5			
349	SHM 26042:172/124	sv	Up, Norrsunda, Brista, Raå 7, gr. 172	gr	1	SPL		0,99	1	dx	?	39	18	11,5	1,3	1	
350	SHM 26042:182/132	sv	Up, Norrsunda, Brista, Raå 7, gr. 182	gr	1	SPL		1	1	cast, broken	iron spring	35	15	7	1,3	0	
351	SHM 15174:11b	sv	Up, St Per, Billby, gr. 11	gr	1	SPL		0,8	1	dx	iron spring	40	19	6,9	1,3	0	
352	SHM 15174:18:1	sv	Up, St Per, Billby, gr. 18:1	gr		SPL						39	20				
353	SHM 15618:12	sv	Up, Tierp, Lundby, gr. 12	gr	1	SPL		1	?	?	?	30,5	14,3	7,45	1	0	
354	SHM 10033:14	sv	Up, Vendel k.a., Raå 27	gr		SPL		0,8									
355	SHM 09521:b:5c	sv	Up, Vendel, Karby 2, gr. B:5	gr		SPL						35					
356	SHM 04269 1/2 a	sv-n	Dr, By, Djupvik, find A	gr	1	SPL		1	1	cast, broken	?	50	20,1	7,9	1	0	
357	SHM 12221:B	sv-n	Gä, Hedesunda, Östveda	gr		SPL		1				39	17	6,5			
358	Helsinki 1751:4	äl	Finström, Kulla	gr	1	SPL		1	1	?	iron	40,6	18,7	8,7	1,1	0	
359	Helsinki 4626:10	äl	Geta, Höckböle, gr. 3	gr	1	SPL		0,8	1	?	iron spring	c 36	13,9	7,6	1,4	0	
360	Åland 094:60a	äl	Saltvik, Odkarby, Backas/ Östergården, gr. 10	gr	1	SPL		0,99	1	dx	iron spring	38,9	18,4	8,5	1,4	1	
361	SHM 02724	gö	Vg, Friggeråker, Bäckabo	str	1	SPL Billby		1	1	dx	?	50,45	24	9,3	0,8	0	
362	SHM 17906:10	gö	Ög, Skedevi, Ruda, Smedjebacken	gr	1	SPL Billby		0,9	1	dx	iron spring	46	21	10	1,15	0	
363	SHM 32577:51 c	sv	Sö, Aspö, Stenby, Raå 141, gr. 51	gr	1	SPL Billby		0,75	?	?	?	?	>18	>7	0,9	?	
364	Raå F67022	sv	Up, Adelsö, Björkö, Svarta Jorden 1994, R6704	set	1	SPL Billby		0,9	1	dx	iron spring	45	15,5	12		0	
365	SHM 26042:180/121	sv	Up, Norrsunda, Brista, Raå 7, gr. 180	gr	1	SPL Billby		1	1	dx	iron spring	42,9	18,6	11,7	1,3	0	
366	SHM 15174:11a	sv	Up, St Per, Billby, gr. 11	gr	1	SPL Billby		0,99	?	dx	iron	36,8	15,5	7,9	0,9	0	
367	SHM 23304:17	sv	Up, Skå, Skå-Edeby, gr. 17	gr	1	SPL Billby		0,85	1	dx	iron spring	39	13,5	5,8	0,95	0	
368	SSM 67497:47	sv	Up, Spånge, Årvinge, Raå 162, gr. 47	gr	1	SPL Billby		0,75	?	dx	?	c 44	18	8,6	1,1	0	
369	SHM 14723:a	sv	Up, St Per, Erikssund, Björkbacken	gr		SPL Billby/ Åshusby		1		dx		39	21	9,75			



	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
370	SHM 31461:06	sv	Up, Vallentuna, Näsby 1:1, Raå 21, gr. 06	gr	1	SPL Billby/Åshusby		1	1	dx	iron	44	19,7	9,1	1,3	0	
371	SHM 33852	sv	Sö, Huddinge, Lissma, gr. 53	gr		SPL Hulterstad		1	1			43	20	12			
372	SHM 27258:7171	sv	Up, Ekerö, Helgö, BG1	set	1	SPL Hulterstad		0,9	1	dx	?	38,1	10,6	6,85	0,95	0	1
373	SHM 31461:34	sv	Up, Vallentuna, Näsby 1:1, Raå 21, gr. 34	gr	1	SPL Hulterstad		1	1	cast, broken	?	33	16	6,6	1,4	?	
374	SHM 01304:1836:35	öl	Öl, Hulterstad k:a	gr	1	SPL Hulterstad		0,95	1	replaced w iron rivet	?	39	17,35	7,5	1,1	1	1
375	SHM 16470	öl?	Öl?	str	1	SPL Hulterstad		1	1	dx	?	39,7	20	8,5	1	1	1
376	SHM 30621:36	sv	Sö, Botkyrka, Tomtberga, Raå 10, gr. 36	gr	1	SPL Åshusby		0,99	solder	solder	?	35,5	17,5	6,7	1,2	0	
377	SHM 26042:173:125	sv	Up, Norrsunda, Brista, Raå 7, gr. 173	gr	1	SPL Åshusby		1	1	dx	iron	43,3	20	10,7	1,1	0	
378	SHM 08800:28	sv	Up, Norrsunda, Åshusby, gr. 28	gr	1	SPL Åshusby		1	blank surface	blank surface	?	38	20	9,1	1,1	0	
379	SSM	sv	Up, Spånga, Ärvinge, Raå 162, gr. 15	gr		SPL Åshusby		1									1
380	SHM 17059	sv	Up, Tolfta, Ersta	gr	1	SPL Åshusby		1	1	dx	iron spring	43	?	?	1,15	0	
381	SHM 25849:10	sv	Up, Täby, Roslags-Näsby, Raå 140, gr. 10	gr	1	SPL Åshusby		1	1	dx	iron	48	20,7	9,25	1,2	0	
382	Åland 094:60b	äl	Saltvik, Ödkarby, Backas/Ostergården, gr. 10	gr	1	SPL Åshusby		1	1	?	?	36,5	11,7	8,4	1	0	
383	SHM 34108 F858	sv	Sö, Härad, Härad Kumla 2:9, Raå 15, gr. 85	gr	1	SPL Åshusby/Hulterstad		1	1	dx	iron	40,6	20,5	7,9	1,3	?	
384	SHM 02076:16	?	Storck's collection, Kalmar	str	1	SPU		1	1	dx	iron	41,2	25,1	7,3	1,1	?	
385	Kurländisches Provinzialmuseum in Mitau	ba	Lettland, Kr. Bauske, Dünhof, river Daugava	str		SPU		0,99	1	dx		49	19				
386	NM jnr 5725/84 d	jj	Ålborg, Nørre-Tranders, Humlebakken	md		SPU						42					
387	Lund U38040	sk	Sk, Uppåkra, Uppåkra	md	1	SPU		1	1	dx	?	35,5	14,35	4,35	0,6	1	
388	Lund U05627	sk	Sk, Uppåkra, Uppåkra	md	1	SPU		0,55	1	0	rust	>35	26,8	10	1,6	0	
389	SHM 32577:51 a	sv	Sö, Aspö, Stenby, Raå 141, gr. 51	gr	1	SPU		1	1	dx	iron spring	36,9	16,6	7	0,7	1	
390	SHM 30621:11	sv	Sö, Botkyrka, Tomtberga, Raå 10, gr. 11	gr	1	SPU		1	1	cast, broken	iron spring	41,5	21	8,2	1,4	0	
391	SHM 26481:54	sv	Up, Ekerö, Helgö, Raå 150, gr. 54	gr	1	SPU		0,8	1	dx	iron spring	42,5	17	9,4	1,2	0	
392	Uppsala 1161	sv	Up, G:a Uppsala	gr	1	SPU		0,95	1	dx	rusty catch extant	55,4	24,7	9,3	1,2	0	
393	SHM 32300:91 a	sv	Up, Lovö, Lunda, Raå 27, gr. 91	gr		SPU		0,9				35	15	4,5			
394	VM 5794 a	sv	Up, Simtuna, Vad	str		SPU											
395	VM 5794 b	sv	Up, Simtuna, Vad	str		SPU											
396	SHM 29783:19	sv	Up, Söllentuna, Tureberg, Raå 277, gr. 19	gr		SPU		0,9				c 50	24	7			
397	Västerås	sv	Vs, Badelunda, Tuna, gr. 35	gr		SPU		0,99	1		iron	49,3	18,7	10,7			1
398	SHM, Raå dnr 2386/93 UV Uppsala	sv	Vs, Köping, Ulivi, Raå 83, gr. 5	gr		SPU		1				43	21				
399	SHM 31030:4	sv	Vs, Romfartuna, Gesala 3:4, Raå 38, gr. 4	gr		SPU		frags									
400	SHM 04269 1/2 b	sv-n	Dr, By, Djupvik, find B	gr	1	SPU		0,75	?	dx	iron	35	16	7,4	0,85	0	
401	Åland 615:216	äl	Finström, Grelsby, gr. 47	gr	1	SPU		0,99	1	dx	iron spring	39	15,5	8,4	1	0	
402	Åland 615:302	äl	Finström, Grelsby, gr. 52	gr	1	SPU		0,45	?	?	?	>54	c 28	15	?	?	
403	Åland 386:124	äl	Sund, Kastelholm, Långängsbacken, gr. 69	gr	1	SPU		0,45	?	?	?	?	c 18	?	?	?	
404	Åland 198:09	äl	Sund, Kastelholm, Stenhamnen, gr. 12	gr	1	SPU		0,99	1	?	?	c 39	?	?	?	0	
405	Lund 14134	öl	Öl	1		SPU		1	1	cast, dx	0	53,6	30,5		1	0	
406	SHM 01304:1835:98	öl	Öl, Gräsgård, Ösby	gr	1	SPU		1	1	cast, broken	?	55	23,3	11	0,9	0	1
407	Trondheim 07687-1	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	Stor-Skomo		1	solder	solder	?	82,4	47,8	c 25	0,9		
408	Trondheim 07687-2	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	Stor-Skomo		0,33	?	?	?	?	55	25	0,7		
409	Trondheim 00735-1	no-s	S-Trøndelag, Oppdal k., Vang, Prestegården	str	1	Stor-Skomo		0,7	?	?	?	85	<66	>16	0,7	0	
410	Trondheim 00735-2	no-s	S-Trøndelag, Oppdal k., Vang, Prestegården	str	1	Stor-Skomo		0,33	?	?	?	?	?	>17	?	?	
411	Ashmolean 1909.116	?	Denmark	str		TT		1	1		iron	84,5	40	20		0	
412	SHM 02076:17	?	Storck's collection, Kalmar	str	1	TT		0,95	1	dx	?	41,5	21,8	9,5	1,3	1	
413	SHM 06819:507	?	Trädgårdh's collection	str	1	TT		1	1	dx	iron spring	c 64	>18,4	<17	1,5	0	
414	NM C06593:b	bo	Gudhjem, Lillevang-Melsted, gr. 2	gr	1	TT		1	1	cast, dx	extant iron spring	94,5	49		3,1	0	
415	NM C06593:a	bo	Gudhjem, Lillevang-Melsted, gr. 2	gr	1	TT		1	1	cast, dx	extant iron spring	95	50		3,9	0	1

	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
416	NM C02898	bo	Gudhjem, Lillevang, gr. 2 (18)	gr	1	TT		1	1	cast, dx	iron	91,85	46,15	22,7	1,5	1	1
417	NM C02903	bo	Gudhjem, Lillevang, gr. 4 (20)	gr	1	TT		1	1	cast, dx	iron	111	59,5		1,4	0	1
418	NM C02904	bo	Gudhjem, Lillevang, gr. 4 (20)	gr	1	TT		1	1	cast, dx	rusty lug	106,75	63,8		1,8	0	1
419	NM C25520	bo	Ø Marie, Saltuna, gr. 14	gr		TT						106					
420	NM C25519	bo	Ø Marie, Saltuna, gr. 14	gr	1	TT		0,95	1	cast, dx	iron spring	104,1	50,5		1,45	1	
421	NM C01752	bo	Ø-lars, Bækkegård	gr	1	TT		0,85	1	cast, dx	iron spiral	115	44		1	1	
422	NM C02454	bo	Ø-lars, Bækkegård, gr. 105	gr	1	TT		0,95	1	cast, dx	extant iron	93,4	43,3		1,2	0	
423	NM C03102	bo	Ø-lars, Bækkegård, gr. 159	gr	1	TT		0,5	?	?	?	104	48,5		2,1	0	
424	NM C03103	bo	Ø-lars, Bækkegård, gr. 159	gr	1	TT		1	1	cast, dx	rusty lug	84	45		1,9	0	1
425	NM C31086.c	bo	Ø-lars, Bækkegård, gr. 166	gr		TT		0,99				118	57,3				
426	NM C31086.a	bo	Ø-lars, Bækkegård, gr. 166	gr		TT		0,99				115	57,3				
427	NM C31086.b	bo	Ø-lars, Bækkegård, gr. 166	gr		TT		0,99				112	57,3				
428	NM C05707	bo	Ø-lars, Lousgård, gr. 47	gr		TT						104	48,75				
429	NM C05706	bo	Ø-lars, Lousgård, gr. 47	gr		TT		1	2			103	48,75				
430	NM C03375	bo	Ø-lars, Sigtegård	gr		TT		1				91	48,75				
431	NM C03374	bo	Ø-lars, Sigtegård	gr		TT		1				91	48,75				
432	Helsinki 8913:1	fi	Kalanti, Pietilä	str	1	TT		1	1	dx	?	71,9	39,2	20,5	2,9	0	
433	NM 10774:b	fy	Svendborg, Tranekær, Tranekær	str	1	TT		1	1	cast, broken	?	96,5	38,8		1,1	1	
434	NM 10774:a	fy	Svendborg, Tranekær, Tranekær	str	1	TT		1	1	cast, dx	?	88,4	36,5		1	1	
435	Nebel a	ge	Nordfriesland, Amrum, Nebel	gr		TT		0,99				66	43	19			
436	Nebel b	ge	Nordfriesland, Amrum, Nebel	gr		TT		frags									
437	Malmö 2282	go	Go	str	1	TT		0,99	?	?	iron	85	48	17,8		1	1
438	SHM 02393	go	Go, Gröttingbo, Barshalder	str		TT		1				75	37				
439	SHM 01304:1832:16	gö	Sm, Högsby psh	str		TT		0,8	1			c 100					
440	SHM 05907:42	gö	Sm, Odensjö psh	gr	1	TT		2 frags	?	?	?	?	?	?	?	0	
441	Jönköping	gö	Sm, Reftele, Nennesmo, gr. 10a	gr		TT		0,95	1	dx	iron	85	35	20			
442	NM 03413	ny	Åbenrå, Bov, Frøslev	gr	1	TT		0,8	1	cast, dx	rusty both	85	40		2,2	1	
443	Trondheim 12571	no-n	N-Trøndelag, Levanger p., Frol s., Borroy	str	1	TT		0,9	2	dx	?	102,5	50	25,3	0,6	0	1
444	Trondheim 03451	no-n	N-Trøndelag, Nedre Stjørdalen, Alstad	gr	1	TT		0,95	1	?	iron spring	83	52	10,9	1	0	
445	Trondheim 08621	no-n	N-Trøndelag, Stjørdal k., Lånke, Dyva	str	1	TT		0,99	?	?	?	64,3	30	12,7	1,1	1	1
446	Trondheim 03847	no-n	N-Trøndelag, Stjørdal k., Lånke, Dyva	str	1	TT		0,99	?	?	?	67	30	11,5	1,2	1	1
447	Tromsø 09552 (1967/24)	no-n	Troms, Lenvik, Vang	str	1	TT		0,9	1	dx	iron	92	53	16,4	2,2	0	
448	Oslo C01970b	no-s	Aust-Agder, Grimstad k., Hommedal, Eide, Svennevik	gr	1	TT		0,5	1	?	?	?	39	19,5	0,7	0	
449	Oslo C01970a	no-s	Aust-Agder, Grimstad k., Hommedal, Eide, Svennevik	gr	1	TT		1	1	dx	iron	82,5	41	17	1	0	
450	Oslo C30160	no-s	Hedmark, Stange k., Romedal, Løken	str	1	TT	gild	1	1	sin	?	66,5	35,5	12,4	1,9	1	1
451	Bergen 07163a	no-s	Hordaland, Jondal k., Strandebarne p., Jondal s., Birkeland	gr	1	TT		0,5	?	?	?	>45	?	>9	?	0	
452	Oslo C22724	no-s	Oppland, S. Fron, Hundorp	gr	1	TT		0,9	1	dx	iron	83	44	16,3	1,7	0	
453	Stavanger 8099	no-s	Rogaland, Hå k., Hå old parsonage	gr		TT		0,99				83	45				
454	Bergen 00401b	no-s	Rogaland, Rennesøy, Bru	str		TT											
455	Bergen 00401a	no-s	Rogaland, Rennesøy, Bru	str	1	TT		1	1	dx	iron	84	39,8	18,4	1,9	0	
456	Bergen 00700b	no-s	S & F, Balestrand, Vangnes	gr	1	TT		0,95	1	?	?	94	41	17,7	0,8	1	1
457	Bergen 00700a	no-s	S & F, Balestrand, Vangnes	gr	1	TT		0,95	1	dx	?	92	42	18	1,1	1	1
458	Bergen 03134a1	no-s	S & F, Luster, Nes	str	1	TT		1	1	dx	iron	105	53	27,3	1,5	0	1
459	Bergen 03134a2	no-s	S & F, Luster, Nes	str	1	TT		0,9	1	dx	?	105	51,5	25,4	1,7	0	1
460	Trondheim 08747	no-s	S-Trøndelag, Åfjord, Å, Skålviken, Vasstrand	gr	1	TT		0,7	1	dx	iron	88	c 40	21,5	1,4	0	
461	Trondheim 07433	no-s	S-Trøndelag, Åfjord, Å, Skålviken, Vasstrand	str	1	TT		0,5	?	?	?	67	c 35	20,2	?	?	
462	Bergen 05478a	no-s	V-Agder, Flekkefjord k., Herad, Drange	gr	1	TT		0,85	1	dx	iron	84	c 35	c 13	?	0	
463	Bergen (Skien 2734)	no-s	Vestfold, Hedrum, Brunlanes, Nordheim			TT		1				80	37,5				
464	Oslo	no-s	Vestfold, Tjølling, N. Kaupang, N. Bikkjolberget, K/1954 gr.VIII	gr		TT		0,99				81	40	16		1	1
465	Bergen 01512	no-s	Vestlandet / Bergens stift	str	1	TT		0,8	1	dx	?	100	50	35	1,7	0	
466	NM C07741	sj	Holbæk, Lamnefjorden	str	1	TT		1	1	cast, dx	iron	89,9	39,8		1,75	0	
467	NM njr 7701/94, FB0657	sj	Holbæk, Store Fuglede, Fugledegård / Bulbrogård	md	1	TT		0,2	?	cast, dx	?	?	>36		1,9	0	
468	NM C30671	sj	Khvn, Allerslev, Lejre forsøgscenter	str		TT	gild	1			iron	80	35				



	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep
469	NM C12265	sj	Khvn, Torslunde, Torslunde, gr. A	gr		TT		0,99				93					
470	NM C12264	sj	Khvn, Torslunde, Torslunde, gr. A	gr	1	TT	gild	0,99	1	cast, dx	extant iron	85,9	39,1		1,5	0	
471	NM C12263	sj	Khvn, Torslunde, Torslunde, gr. B	gr	1	TT	gild	1	1	cast, dx	iron	92,75	36,4		1,3	1	
472	Priv. Bresmar	sk	Ha, Söndrum church?, Steglabacken?	str		TT		0,99				98	42				
473	SHM 03414:c:3	sk	Sk, Ingelstorp, Ingelstorp	str	1	TT		1	1	dx	?	88	38,4	24	1,3		1
474	SHM 27124	sk	Sk, N. Mellby, Vätteryd, square stone setting	gr	1	TT		0,05	?	?	?	?	?	10-15	1	0	
475	Lund Ravl F152	sk	Sk, Ravlunda, Ravlunda 23:3-4 (Maletofa), 9911-0003, F152, JP204	md	1	TT		0,2	?	?	?				0,5	0	
476	Lund U05560	sk	Sk, Uppåkra, Uppåkra	md	1	TT		0,1	?	?	?			c 22	1,5	1	
477	Kristianstad 69	sk	Sk, Villands hd	str		TT		1				85	41				
478	Lund 10623	sk	Sk, Åhus, Åhus	str	1	TT		0,95	1	cast, dx	rust	92,2	48,2	23,25	1,3	0	
479	SHM 05042	sv	Sö, Nacka, Erstavik, Ägnö	str	1	TT		1	1	cast, broken	?	59	27	11,9	1,4	1	
480	SHM 14551:3	sv	Sö, Överjärna, Linga, gr. 3	gr	1	TT		0,05	?	?	?	?	?	>20	2,1	0	
481	SHM Bj 349	sv	Up, Adelsö, Björkö, gr. 0349	gr	1	TT		0,99	1	dx	iron spring	54	27	12,6	1,4	0	
482	SHM Bj 1009	sv	Up, Adelsö, Björkö, gr. 1009	gr	1	TT		0,1	?	?	?	?	?	?	?		
483	SHM 18357:5	sv	Up, Adelsö, Kunsta, pasture E of the farm, gr. 5	gr	1	TT		0,2	?	?	?	?	?	>20	1,5	0	
484	SHM 12176	sv	Up, Bondkyrka, Häga, Hägahögen	str	1	TT		1	1	dx	iron spring	60	27	11,8	1,2	1	
485	SHM 29046:1	sv	Up, Danmark, Kumla, gr. 1	gr		TT					iron	97	60	29			
486	SHM 26481:50	sv	Up, Ekerö, Helgö, Raå 150, gr. 50	gr		TT		0,2									
487	SHM 31439:22:70	sv	Up, Fresta, Grimsta & Bollstanäs, Raå 32-34, gr. 22	gr	1	TT		0,99	1	dx	iron	68,6	34	15	1,65	1	
488	SHM 31439:22:82	sv	Up, Fresta, Grimsta & Bollstanäs, Raå 32-34, gr. 22	gr	1	TT		0,99	?	dx	iron	69,5	29,5	15,9	1,3	0	
489	SHM 24362:b	sv	Up, Häbo-Tibble, Vallby	gr	1	TT		1	1	dx	?	70	35,5	17	1	1	
490	SHM 24362:a	sv	Up, Häbo-Tibble, Vallby	gr	1	TT		1	1	dx	iron	68	30	15	0,9	0	
491	Uppsala 3294	sv	Up, Skogs-Tibble, Onsike	str		TT						90					
492	SHM 26696	sv	Up, Stockholms-Näs, Kummelsvik	str		TT						80					
493	SHM 25849:10:36	sv	Up, Täby, Roslags-Näsby, Raå 140, gr. 10	gr	1	TT		0,1	?	?	?	?	?	>13	2	0	
494	SHM 20523:53a	sv	Up, Vendel, Hovgårdssberg, gr. 53a	gr		TT		frags				80-100					
495	SHM 24985 A	sv	Up, Vendel, Husby, Laberga kulle, gr. A	gr		TT		frags									
496	SHM, Raå dnr 2386/93 UV Uppsala	sv	Vs, Köping, Kramsta, Raå 192, gr. 14	gr		TT		1				74	31				
497	Köping	sv	Vs, Köping, Nyckelberget			TT		0,99									
498	SHM 31030:8	sv	Vs, Romfartuna, Gesala 3:4, Raå 38, gr. 8	gr		TT		1									
499	SHM 18735	sv-n	Gä, Torsåker, Fors	bog		TT		1	1			81,5	46	18			
500	SHM 22517:07	sv-n	Hs, Älfta, Viken 13, Erkpäl-snäset, gr. 07	gr	1	TT		0,1	?	dx	?	?	?	>20	1,7	0	
501	Östersund 9053:3a	sv-n	Jä, Mattmar, Jättebacken, Raå 10, gr. 3	gr		TT		0,5									
502	Östersund 9053:3b	sv-n	Jä, Mattmar, Jättebacken, Raå 10, gr. 3	gr		TT		0,75									
503	SHM 08747	sv-n	Jä, Offerdal/Aspås, N shore of Lake Näldsjön			TT						>101					
504	SHM 08169	sv-n	Äng, Björna, Mattarbodum	str	1	TT		0,9	1	dx	?	86	49	19,9	0,7	1	
505	Lund 12357a	öl	Öl, Gårdby, ka	str	1	TT		0,33	1	?	?	?	c 50	c 15	1,6	1	
506	Raå dnr 6693/68 F5	öl	Öl, Köping, Hässleby, Raå 103, gr. 1	gr	1	TT		0,95	?	?	?	c 75	33,6	16,5	1	0	1
507	Raå dnr 6693/68 F4	öl	Öl, Köping, Hässleby, Raå 103, gr. 1	gr	1	TT		1	1	cast, dx	?	60	28	10,1	1	1	1
508	SHM 01304:1846:3	öl	Öl, Runsten psh	str	1	TT		1	1	dx	?	85,8	45,5	19,6	1,4	0	
509	SHM 01985:1848:11	öl	Öl, Sandby psh	str	1	TT		1	1	cast, broken	?	70,45	33,8	14,4	1,2	0	
510	SHM 05988:XXXX	öl	Öl, Stenåsa, Slagerstad			TT											
511	SHM 11680:2	öl	Öl, Torslunda, Kåtorp	str	1	TT		0,6	1	dx	?	c 95	c 50	c 18	1,35	0	
512	SHM 04803c	öl	Öl, Torslunda/N. Möckleby/Algutsum	str	1	TT		0,95	1	dx	?	75	56	14,8	1,35	0	
513	SHM 12314	gö	Sm (Palmgren's collection)	str		TT B1580		0,25					c 60				
514	Bergen 01580	no	?	str	1	TT B1580		1	2	?	?	89	46,5	18,1	1,1	0	1
515	SHM 34108 F800	sv	Sö, Härad, Härads Kumla 2:9, Raå 15, gr. 16	gr	1	TT Bj485		0,8	1	dx	iron	84,5	45	20	2,1	0	
516	SHM 34108 F799	sv	Sö, Härad, Härads Kumla 2:9, Raå 15, gr. 16	gr	1	TT Bj485		1	1	dx	iron	84	45	20,8	2,3	0	
517	SHM Bj 485 (2)	sv	Up, Adelsö, Björkö, gr. 0485	gr		TT Bj485		1	1			79	47	20			
518	SHM Bj 485 (1)	sv	Up, Adelsö, Björkö, gr. 0485	gr		TT Bj485		1	?			80	46	19			





	Inv no	Reg	Provenance (Amt/Lskp, parish, site)	Context	Vidi	Type	Gild/tin	Pres	Lug	Catch	Pin	L	W	H	Th	Worn	Rep	
519	NM C30665	sj	Sora, Slots Bjerby, Rævebanke		1	TT Bj602		1	1	cast, dx	rusty both	84,1	42,9		1,9	1		
520	SHM Bj 602 (1)	sv	Up, Adelsö, Björkö, gr. 0602	gr		TT Bj602		0,99	1		iron	86	47	19		0		
521		ru	Staraja Ladoga	set		TT Bj655		0,66	1			c 93	c 50	c 23				
522	SHM Bj 655a	sv	Up, Adelsö, Björkö, gr. 0655	gr	1	TT Bj655		0,8	1	dx	iron	96	48	24,6	1,9	0	1	
523	SHM Bj 655b	sv	Up, Adelsö, Björkö, gr. 0655	gr	1	TT Bj655		0,99	1	cast, broken	iron	97,5	50	24,7	2	0		
524	Priv. Cedergren	gö	Vg	str		TT Marsta		1				102,5	51,25					
525	Uppsala 4286	sv	Up, Bällinge, Marsta	gr	1	TT Marsta		0,99	1	dx	iron	104,8	55,8	25,5	2,5	1	1	
526	SHM 20319	sv	Sö, Salem k.a., 150 m W	str	1	TT Sundby		0,95	1	cast, broken	iron spring	64	34	16,2	2,1	0	1	
527	SHM 25848:86	sv	Up, Ö. Ryd, Ullna, Raa 59, gr. 86	gr	1	TT Sundby		1	1	riveted bronze dx	iron w bronze sheet spring	62	34	12,5	1,2		1	
528	Åland 252:1	äl	Sund, Sundby	gr	1	TT Sundby		1	1	dx	iron	74,8	41,2	18,9	2,2	1		
529	Åland 252:2	äl	Sund, Sundby	gr	1	TT Sundby		0,99	1	dx	iron	76	40,6	18,6	1,6	1	1	
530	SHM 07584	öl	Öl, Hulterstad, S. Alby	str	1	TT Sundby		0,95	1	dx	?	67	37	17,3	1,8	0	1	
531	Bergen 04057a	no-s	S & F, Vik, Tryti	str	1	TT tryti		0,9	1	dx	iron	81	41	14,7	1,9	1		
532	Bergen 08143d	no-s	S & F, Vik, Vik prestegård	gr	1	TT tryti		0,99	1	?	iron	88,5	43	17	?	0		
533	NM C02400 & 2401	bo	Ø-lars, Bækpegård, gr. 063	gr	1	TT Østerås		0,25	1	cast, dx	extant iron	?	?		?	0		
534	NM C02504	bo	Ø-lars, Bækpegård, gr. 143	gr	1	TT Østerås		0,75	1	cast, dx	extant iron	77,5	35		?	?		
535	NM C02511	bo	Ø-lars, Bækpegård, gr. 153	gr	1	TT Østerås		0,55	?	cast, dx	?	84	45,3					
536	NM C02512	bo	Ø-lars, Bækpegård, gr. 153	gr	1	TT Østerås		0,5	?	cast, dx	extant iron	84	45,3		1,7	0		
537	Trondheim 07958	no-n	N-Trøndelag, Sparbu, Østerås	gr	1	TT Østerås		1	1	dx	?	78	34,5	15,3	1	0		
538	SHM 08923:7:a2	gö	Sm, Berga, Ingelstad Kvarnagård, gr. 7	gr	1	unique		0,9		iron rivet	iron rivet	?	>30	10	1,6	0		
539	SHM 18876:6	gö	Ög, Heda, Jussberg, gr. 6	gr	1	unique		0,95	?	?	?	50	23	5	0,8	1		
540	NM C33367	jj	Ålborg, Nørre-Tranders, Humlebakken	md	1	unique		0,99		sec iron & solder	sec iron & solder	?	40,5	19,5		1,1	0	1
541	Trondheim 18652e	no-n	N-Trøndelag, Fosnes k., Joo, Sandvik, gr. 14	gr	1	unique		1		solder ribbon w 2 riv holes at either end		55,5	32,4	4,5	0,2	1		
542	Trondheim 09361	no-n	Nordland, Nesna p., Dønna k., Hov	gr	1	unique		0,75	1	?	iron flat spring	66	c 45	c 10	1	0		
543	Priv. Gihle 11 + 46	no-s	Oppland, Østre Toten k., Hof, Kap	gr		unique		1				78	51					
544	NM jnr 1423/75, KN0512	sj	Holbæk, Store Fuglede, Kalmargården	md	1	unique		0,95	1	cast, dx	rusty both	35,9	15,5		0,9	1		
545	NM C00482	sk	Sk, Löddeköpinge, Löddeköpinge		1	unique		1	1	cast, dx	rusty lug	45,9	27,2		1,9	0		
546	Lund U02845	sk	Sk, Uppåkra, Uppåkra	md	1	unique		0,9	1	cast, broken	?	40,4	18		1	1		
547	SHM 5552	sv	Sö, Öja, Segerstad	bog	1	unique	gild	1	1	dx	rusty catch	106	47	28,5	1,2	0		
548	Uppsala 3401	sv	Up, Tierp, Fors	str	1	unique		0,75	?	?	?	c 54	c 30	12,1	3,5	0		
549	SHM 13804	sv-n	Jä, Frösön, Vagled	gr		unique												
550	Åland 615:217	äl	Finström, Grelsby, gr. 47	gr	1	unique		0,8	1	dx	iron spring	38,7	c 17	8,6	1,5	0		
551	Åland 252:3	äl	Sund, Sundby	gr	1	unique		1	1	dx	iron	63,3	35,2	15,6	1,3	0		
552	SHM 00507:25d	?	Unknown; NOT Sm, S. Vi	str	?	?		0,2						32				
553	Trondheim 08052	no-n	N-Trøndelag, Overhalla k., Stor-Skomo	gr	1	?		frags										
554	Tromsø 01615-1	no-n	Nordland, Meløy k., Øysund	gr	1	?		0,17	?	?	?	?	?	?	0,8	0		
555	Trondheim	no-s	Møre & Romsdal, Vike church	gr	?	?		frags										
556		sk	Sk, Smedstorp, Gärdlösa 2, gr. 67:40	gr	?	?		0,1										
557	Lund U06250	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,33	0	0	0		>32	c 5	0,5	1		
558	Lund U00163	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,1	0	0	0					0,8	0	
559	Lund U06952	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,25	1	0	0	?	?	c 5	1	0		
560	Lund U28624	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,17	0	0	0	?	?	7,5	1,3	0		
561	Lund U38102	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,1	?	?	?	?	?	c 15	1,6	?		
562	Lund U05105	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,33	0	0	0		>26	10	2,8	1		
563	Lund U06240	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,17	0	0	0	?	?	5,7	1	1		
564	Lund U05655	sk	Sk, Uppåkra, Uppåkra	md	1	?		0,4	0	?	extant iron		18		1	0		



Appendix 1. A chronology for Vendel Period female graves on Bornholm.

Developed from Jørgensen 1997:26 fig. 16.

Table 18.

	Ørsnes type	BOR1 540–600	BOR2 600–670	BOR3 670–700	BOR4 700–770	BOR5 770–790	VIK1 790–840	Diag.
E2b: Disc-on-bow brooch, 3 foot discs, eagle beaks	E4–5	1	0	0	0	0	0	Diag. BOR1
F1–3: Small equal-armed brooch	F1–5	1	0	0	0	0	0	Diag. BOR1
G1: Duckbill brooch, holes, punched dec	G1	1	0	0	0	0	0	Diag. BOR1
G2: Duckbill brooch, no holes, punched dec	G2	1	0	0	0	0	0	Diag. BOR1
I1a: Disc brooch, punched dec	I1	1	0	0	0	0	0	Diag. BOR1
I1b: Disc brooch, embossed sheet metal	I2	1	0	0	0	0	0	Diag. BOR1
P1a: Dress pin, simple box head	P1+P4	1	0	0	0	0	0	Diag. BOR1
P1c: Dress pin, simple cone head	P3	1	0	0	0	0	0	Diag. BOR1
P1b: Dress pin, simple polyhedron head	P2+P5	1	1	0	0	0	0	
G3: Duckbill brooch, no holes, no punch dec	G3	0	1	0	0	0	0	Diag. BOR2
E2a: Disc-on-bow brooch, 1 foot disc, eagle beaks	E1–3	0	1	1	0	0	0	
J1cd: Oval plate brooch Ørsnes J3–4	J3–4	0	1	1	0	0	0	
Q2a: Bracelet, spiral-coiled, flat inside	Q1	0	1	1	0	0	0	
S1: Bead spacer	S1	0	0	1	0	0	0	Diag. BOR3
P2abc: Dress pin Ørsnes P6–8	P6–8	0	0	1	0	0	0	Diag. BOR3
Q2bc: Bracelet, spiral-coiled, concave inside	Q2–3	0	0	1	0	0	0	Diag. BOR3
D: Top-view bird brooch	D	0	0	1	0	0	0	Diag. BOR3

	Ørsnes type	BOR1 540–600	BOR2 600–670	BOR3 670–700	BOR4 700–770	BOR5 770–790	VIK1 790–840	Diag.
K1: Rectangular brooch Ørsnes K1–3	K1–3	0	0	1	0	0	0	Diag. BOR3
Q3a: Armlet, flat pointed ends	Q4	0	0	1	1	0	0	
I2: Disc brooch, edge <5 mm	I3	0	0	1	1	0	0	
buTTos: Domed oblong brooch variant TT Østerås	N2e	0	0	0	1	0	0	Diag. BOR4
buN1ab: Domed oblong brooch type N1a/b	N1ab	0	0	0	1	0	0	Diag. BOR4
buN1c: Domed oblong brooch type N1c	N1c	0	0	0	1	0	0	Diag. BOR4
buO1a: Domed oblong brooch type O1a	O1a	0	0	0	1	0	0	Diag. BOR4
buO1b: Domed oblong brooch type O1b	O1b	0	0	0	1	0	0	Diag. BOR4
buO2: Domed oblong brooch type O2	O2	0	0	0	1	0	0	Diag. BOR4
I3: Disc brooch, edge 5–6 mm	I4	0	0	0	1	0	0	Diag. BOR4
R3c: Bead set, blue & green + gold foil	-	0	0	0	1	0	0	Diag. BOR4
Q3b: Armlet, thickened ends	Q5	0	0	0	1	1	0	
buTT: Domed oblong brooch type TT, not Østerås	N2abcd	0	0	0	0	1	0	Diag. BOR5
Q3c: Armlet, wide flat middle	Q6	0	0	0	0	1	1	
R3d: Bead set, gold & silver foil + rock crystal	-	0	0	0	0	1	1	
buVIK: Tortoise brooch P25, P37 etc	N3	0	0	0	0	0	1	Diag. VIK
Eab: Early Viking Period equal-armed brooch	-	0	0	0	0	0	1	Diag. VIK

PGPIFGIEPGEJQSPQDKQIbbIbQbRbbQbRbe
 1111121213212122 132uu3u3u3uu3u3ua
 a ca- bbb aca ab a TO NbOcONcTdVb
 3 d bc T1 1 2 11 T I
 c oa a bc K
 s b

lillb2	XX	lillb2	BOR1, 540
saltun10	X X	saltun10	
bak155	X X X	bak155	
melkob9a	X XX	melkob9a	
mel1015	X X	mel1015	
gryet	X X	gryet	
lensgard	X X	lensgard	
ns397	X X	ns397	
kob006	X X	kob006	
bak030	XX	bak030	
lou036	X XX	lou036	
knarrel	X X X X	knarrel	
lou040	XXXX	lou040	
lou035	X XX	lou035	
kob004	X X	kob004	
lou037	X X	lou037	
kob033	X X	kob033	BOR2, 600
bak090	X X	bak090	
nsv020	XXXX	nsv020	
nsv009	XXX X	nsv009	
bak141	X X	bak141	
bak014	X X	bak014	
nsv054	X X	nsv054	
bak157	X XX X	bak157	BOR3, 670
nsv032	XX X	nsv032	
bak109	X X	bak109	
bak112	X XX X	bak112	
nsv070	X X X	nsv070	
bak016	X X	bak016	
nsv026	XXX X	nsv026	
lou016	X X	lou016	
lou009	XX X	lou009	
lou018	XXX	lou018	
nsv071	XXX	nsv071	
nsv028	XX	nsv028	
bak005	XX	bak005	
bak077	XXXX	bak077	
bak063	X X	bak063	BOR4, 700
nsv023	X X	nsv023	
bak003	X X	bak003	
bak143	X X	bak143	
bak153	X X X	bak153	
kan195	X X	kan195	
bak050	X XX	bak050	
lou012	X XX X	lou012	
bak044	X X X	bak044	
lillmel14	XX XX	lillmel14	
ellegard	XXX X	ellegard	
lou006	X X	lou006	
bak066	XXX	bak066	
bak059	X XX	bak059	
lillmel12	X XX	lillmel12	BOR5, 770
saltun14	X XXX	saltun14	
lou047	X XXX	lou047	
bak159	XX	bak159	
bak166	XXX	bak166	
lillev2	XXXX	lillev2	VIK, 790
lillev1	X X	lillev1	
lillmel15	X X	lillmel15	
ns-bmr	X X	ns-bmr	
bak156	X XXX	bak156	
lou028	XXX	lou028	
lou029	XX	lou029	
lillev9	XX	lillev9	

PGPIFGIEPGEJQSPQDKQIbbIbQbRbbQbRbe
 1111121213212122 132uu3u3u3uu3u3ua
 a ca- bbb aca ab a TO NbOcONcTdVb
 3 d bc T1 1 2 11 T I
 c oa a bc K
 s b

Fig. 25. Seriation female graves
Bornholm

Appendix 2. A chronology for Vendel Period female graves in mainland Sweden

Developed from Høilund Nielsen 1999. Mainly Uppland and Södermanland, with a few graves from Småland, Östergötland, Västmanland and Hälsingland. The Vendel Period graves of these provinces hold a great unrealised chronological potential in the almost ubiquitous combs. A great many more useful find combinations could be had if these combs

were classified according to some version of Petré's (1984b) typology. It would be particularly valuable to identify more diagnostic types for phases MLS2 and MLS3.

Phase MLS1 is not included in the seriation as it does not include any domed oblong brooches. It has a distinct typological identity in Høilund Nielsen's seriation, as given in Table 19.

Table 19

	MLS1 540–600	MLS2 600–670	MLS3 670–700	MLS4 700–750	MLS5 750–790	VIK1 790–840	Diag.
G4: Proto-animal-head brooch	1	0	0	0	0	0	Diag. MLS1
L2a: Snake brooch 8-shaped 1 snake	1	0	0	0	0	0	Diag. MLS1
F1–3: Small equal-armed brooch	1	0	0	0	0	0	Diag. MLS1
R3a: Beads, red & orange	1	1	0	0	0	0	
A2e: Annular brooch	1	1	1	0	0	0	
P1–5: Dress pin Ørsnes P1–5	1	1	1	1	0	0	
S2c: Wheel cross brooch	0	1	0	0	0	0	Diag. MLS2
L2b: Snake brooch 8-shaped 2 snakes	0	1	0	0	0	0	Diag. MLS2
L3a: Side-view eagle brooch, human face	0	1	1	0	0	0	
L4: Horse brooch / mount	0	1	1	0	0	0	
F4: Husby brooch	0	1	1	0	0	0	
Q2: Bracelet, spiral-coiled	0	0	1	1	0	0	
E2a: Disc-on-bow brooch, 1 foot disc, eagle beaks	0	0	1	0	0	0	Diag. MLS3
R3b: Bead set, blue & green	0	0	1	1	1	0	
L3b: Side-view eagle brooch, no face	0	0	0	1	0	0	Diag. MLS4
buSPU: Domed oblong brooch type SPU	0	0	0	1	0	0	Diag. MLS4

	MLS1 540–600	MLS2 600–670	MLS3 670–700	MLS4 700–750	MLS5 750–790	VIK1 790–840	Diag.
buN1abc: Domed oblong brooch type N1abc	0	0	0	1	0	0	Diag. MLS4
buSPL: Domed oblong brooch type SPL	0	0	0	1	0	0	Diag. MLS4
S1: Bead spacer	0	0	0	0	1	0	Diag. MLS5
khnl2: Disc brooch, 2–7 mm edge thickness	0	0	0	0	1	0	Diag. MLS5
E2c: Disc-on-bow brooch, baroque	0	0	0	0	1	0	Diag. MLS5
S2f: Crescent pendant	0	0	0	0	1	0	Diag. MLS5
buR643B: Domed oblong brooch type R643B	0	0	0	0	1	0	Diag. MLS5
R3c: Bead set, blue & green + gold foil	0	0	0	0	1	0	Diag. MLS5
R3d: Bead set, gold & silver foil + rock crystal	0	0	0	0	1	0	Diag. MLS5
buTT: Domed oblong brooch type TT	0	0	0	0	1	1	
eab: Early Viking Period equal-armed brooch	0	0	0	0	0	1	Diag. VIK1
RVIK: Early Viking Period bead set	0	0	0	0	0	1	Diag. VIK1
BuBerdal: Berdal tor-toise brooch	0	0	0	0	0	1	Diag. VIK1

SLRLLFPQAE LbRbbSkESbRRbErb 22334412223u3uulh22u33uaVu cbaa - eabSbNS ncfRdcTbIB 5 P 1 P I 6 T Ke U aL 2 4 r b 3 d c B a 1			
raa27:78	XX		raa27:78 MLS2, 600
20139:80	XXX		20139:80
28735:20	X X		28735:20
25151:07	X X		25151:07
25151:11	XX		25151:11
30621:72	X XX		30621:72
raa9808	X X		raa9808
19416:26	X X		19416:26
30432:31	X X X		30432:31
26042178	X X		26042178
25151:17	X XX		25151:17 MLS3, 670
26481:41	XX X		26481:41
s08801	X X		s08801
19842:4	X X X		19842:4
raa18:4	X		raa18:4
13974:7	X		13974:7
29401:4	XX X X		29401:4
25915:23	XX X X		25915:23
26481102	X X		26481102
s15482	X X X		s15482
29783:19	XX XX		29783:19 MLS4, 700
30621:45	X X X		30621:45
s14505	X X		s14505
20523:25	X X		20523:25
08800:28	X X X		08800:28
30621:11	XX		30621:11
26481:54	XX		26481:54
32300:91	XX X		32300:91
31277:10	XX		31277:10
22517:11	XX		22517:11
s00577	XX		s00577
30621:36	X X		30621:36
31039:19	X X		31039:19
26042180	X X		26042180
31461:34	X X		31461:34
15174:11	X X		15174:11
15174:18	X X		15174:18
up4318	X X		up4318
26042172	X X		26042172
26042182	X X		26042182
21650:55	X X		21650:55
18357:4	X X		18357:4 MLSS, 750
31331:6	X X		31331:6
26042044	X X		26042044
15618:08	X X		15618:08
26789:11	X XX		26789:11
raa1621	XX		raa1621
26042148	X X		26042148
raa9819	X X		raa9819
31039:07	X X		31039:07
20926:2	X X		20926:2
14723:5	X X		14723:5
06745	X X		06745
24198:2	X X XX		24198:2
09404	X XX		09404
18357:2	X X X		18357:2
26042173	X X		26042173
kum1a85	X X		kum1a85
30425:20	X X		30425:20
30425:13	X X X		30425:13
raa80:22	X X		raa80:22
31461:40	X X		31461:40
31039:06	X X		31039:06
20523:53	X X		20523:53
31030:8	X XX		31030:8
31439:22	X X		31439:22
25848:86	XX		25848:86
18357:5	XX		18357:5
24985a	XX		24985a
kum1a16	XX		kum1a16
26481:50	XX		26481:50
bj485	XX		bj485 VIK, 790
bj655	X X		bj655
bj602	XX X		bj602
bj552	XXX		bj552
bj557	XX		bj557
SLRLLFPQAE LbRbbSkESbRRbErb 22334412223u3uulh22u33uaVu cbaa - eabSbNS ncfRdcTbIB 5 P 1 P I 6 T Ke U aL 2 4 r b 3 d c B a 1			

Fig. 26. Seriation female graves Mainland Sweden

