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The 5th Century Hoard of Theodosian Solidi from Stora Brunneby, Öland, Sweden

A Result from the LEO Project

By Svante Fischer, Fernando López Sánchez and Helena Victor

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The Stora Brunneby hoard of 17 solidi with a terminus post quem of 451 is presented and analysed as a preliminary result of the LEO Project. Its type composition and the coins' average weight are quite unusual and support a wider interpretation.

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“Theodosius valetudine ydropis apud Mediolanium defunctus est anno regni sui XVII. Et ipse annus, qui Theodosii XVII ipse Arcadii et Honorii in initio regni eorum primus est. Quod ideo indicatur ne olympiadem quinque annorum turbes adiectio, in hoc loco tantum propter regnantum inserta principium.”

Hydatius, Olympiad 293.17, 22 [25] (a. 395);
Burgess 1993, p. 79

(Theodosius died of dropsy in Milan in the seventeenth year of his reign. And this year, which is the seventeenth of Theodosius, is the first of Arcadius and Honorius at the beginning of their reign. This explanation is offered so that you do

not disturb the five-year Olympiad. The additional years have been inserted only in this place because of the beginning of their reign.)

“In Orientis partibus septimo anno imperii sui moritur Marcianus.”

Hydatius 176 [183] (a. 456–457);
Burgess 1993, p. 109

(In the East, Marcian died in the seventh year of his reign.)

“The many gold hoards of the Baltic region can be left out [...] despite their numerical importance and the value of individual items among them (solidi of Glycerius,

Leontius), for they do not help in establishing the dating of particular issues or throw much light on coin circulation within the Empire.”

Grierson & Mays 1999, p. 15

This article discusses a hoard of 17 solidi found in a field at Stora Brunneby in Stenåsa parish, southeastern Öland, Sweden. All 17 solidi were struck for emperors belonging to the Theodosian dynasty, from Theodosius I in 394–95 in Milan to Marcian in 451 in Constantinople. The Scandinavian solidus hoards have often been overlooked in international research, being perceived as precious oddities due to seemingly incomprehensible peripheral conditions, very much akin to solidi found in auction catalogues. “[H]oards found in India and Scandinavia are not included” (Kent 1994, p. lxxxviii). As quoted above, numismatists Philip Grierson and Melinda Mays (1999, p. 15) even suggested that solidus hoards from Scandinavia are irrelevant for studies pertaining to the chronology of coin circulation within the Late Roman Empire. By contrast, archaeologist Majvor Östergren and many others have convincingly shown through a number of excavations and surveys that Scandinavian solidus hoards generally derive from proper archeological contexts. They are typically found inside house foundations on Funen, Bornholm and Gotland (Östergren 1981; Lind 1981; 1988; Jonsson & Östergren 1992; Henriksen 2007; Horsnæs 2008, p. 115). This appears to be the case on Öland, too (Herschend 1980, pp. 166–167; Fallgren 2008, pp. 133–134).

One could thus argue that Scandinavian finds of solidi are not only suitable source material on the social structure of the Scandinavian Migration Period and the political relationship between the Late Roman Empire and the northern outskirts of Barbaricum, but they can also be employed to elucidate the chain of political events inside the Roman Empire in relation to written sources (Fischer 2008b, p. 81). Moreover, the Scandinavian solidus hoards contain many highly unusual die specimens, not least for the Western emperor Valentinian III (425–455). The study of all Scandinavian solidus dies is thus very important for any future revision of the tenth volume

of the Roman Imperial Coinage (RIC X) by J.P. C. Kent (1994).

The LEO Project

The research behind this paper has taken place within the interdisciplinary LEO project at the Department of Archaeology and Ancient History of Uppsala University. The project was created in 2007 by archaeologists Svante Fischer and Helena Victor. LEO is an acronym for *Liber excelsis obryzacusque*, “the elevated book of pure gold”. The LEO project has since developed into an international research team of archaeologists, historians of Late Antiquity, and Late Roman numismatists. Our research centers around two databases, BLEO and CLEO. BLEO (Baltic/European Liber Excelsis Obryzacusque) is constructed at a micro level and currently contains c. 7,300 individual gold coins from the period AD 249–565. CLEO (Continental Liber Excelsis Obryzacusque) is constructed on a macro level and contains 180 gold hoards from Europe, the Middle East, and North Africa with c. 22,000 gold coins. We have primarily used the tenth volume of the RIC in the assessment of Scandinavian solidus hoards, which has led to an improved chronology and enabled renewed study of die identities within solidus hoards across Europe and the Mediterranean.

The ultimate goal of the LEO project is to relate the two databases to climate data and to correlate this with historical sources (Stathakopoulos 2004; Fischer et al. 2009). It will thus establish a more coherent timeline for coinage, climate data and historical sources, visualizing a multi-dimensional frame of reference. This publication of the Stora Brunneby hoard should be regarded as a first step towards the evaluation of the LEO databases, now that the relationship between Scandinavian solidus hoards and political events in the Late Roman Empire has been firmly established (Fischer 2008b, p. 81).

The Stora Brunneby Hoard

The Stora Brunneby hoard has a distinguished history of previous international research. Four of the solidi were catalogued by the American numismatist Joan M. Fagerlie (1967, p. 194) and her Swedish colleague Ulla Westermark (1983, p.

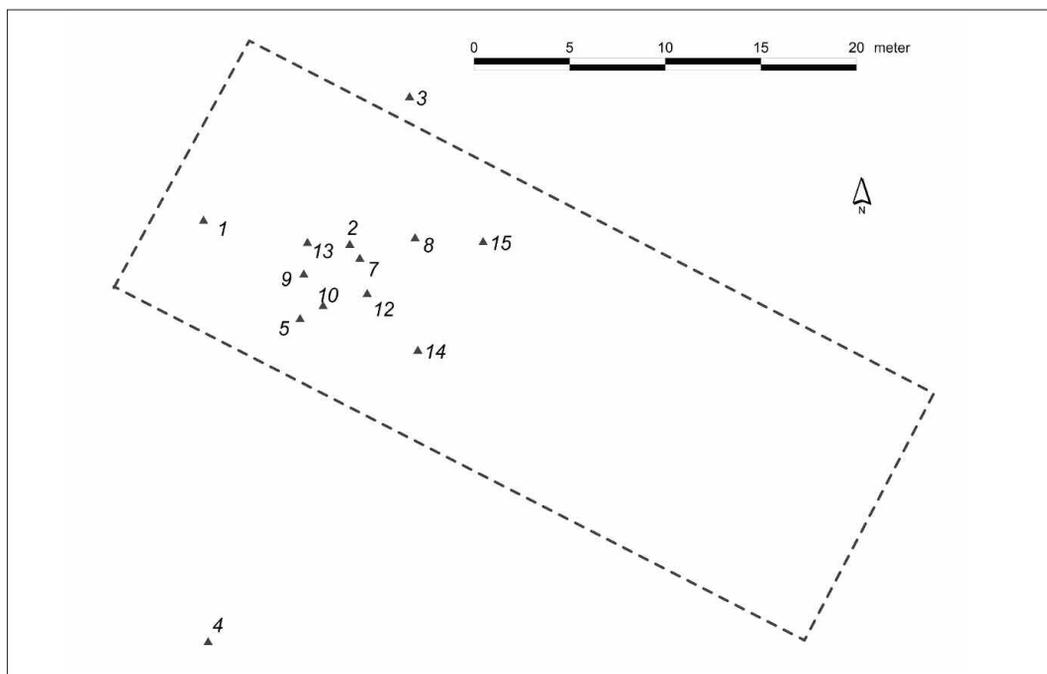


Fig. 1. Distribution map of the Stora Brunneby coin hoard across the field. Based on Rasch 2004. Illustration: Helena Victor.

29, 5) as Scandinavian solidus hoard 114a–d. These four solidi were found in the early 20th century. 13 additional solidi were recovered by the staff of Kalmar County Museum, Kalmar by means of metal detector on two occasions in 1991, and handed over to the Royal Coin Cabinet (KMK), Stockholm in 2004 (Rasch 2004). There is little doubt that the 17 solidi in the catalogue below derive from one single hoard – coins 1–5, 7–9 and 11–15 were found dispersed in the same field where the four first coins 6, 10, 16–17 had been recovered decades earlier. Early Western issues were found next to later Eastern issues, thus excluding the possibility of two chronologically separate hoards. In the case of Stora Brunneby, interspersed finds of Migration Period and Vendel Period copper-alloy belt details are notable in the metal detector survey (fig. 1; Rasch 2004).

The Stora Brunneby hoard was first examined as a whole by Fischer in May 2008 at the KMK. It was subsequently entered into an early version of the BLEO database. Before this paper was writ-

ten, the LEO project first employed this initial BLEO database of 1,185 Roman gold coins found in the Baltic region. Most of this comparative material was compiled by Fischer from relevant catalogues (Fagerlie 1967, pp. 6–80, 177–212, I–XXXIII; Herschend 1980, pp. 165–189; Westermarck 1980, pp. 99–104; 1983, pp. 29–40; Kyhlberg 1986, pp. 102–121). It was then analyzed by Victor in July–August 2008, using Multiple Correspondence Analysis (Madsen 1988; Legoux et al. 2006). The preliminary MCA results showed that the hoard is quite unusual from a Scandinavian perspective, as it consists entirely of Theodosian issues, c. 394–451, with a final coin struck for the Eastern emperor Marcian (450–457). This coin places the hoard's deposition date at *tpq* 451. The sole Theodosian emperor missing is Arcadius (395–408).

The hoard was thus subjected to two further examinations at the KMK in November 2008 and June 2009 by Fischer along with numismatists Fernando López Sánchez and Lennart Lind,

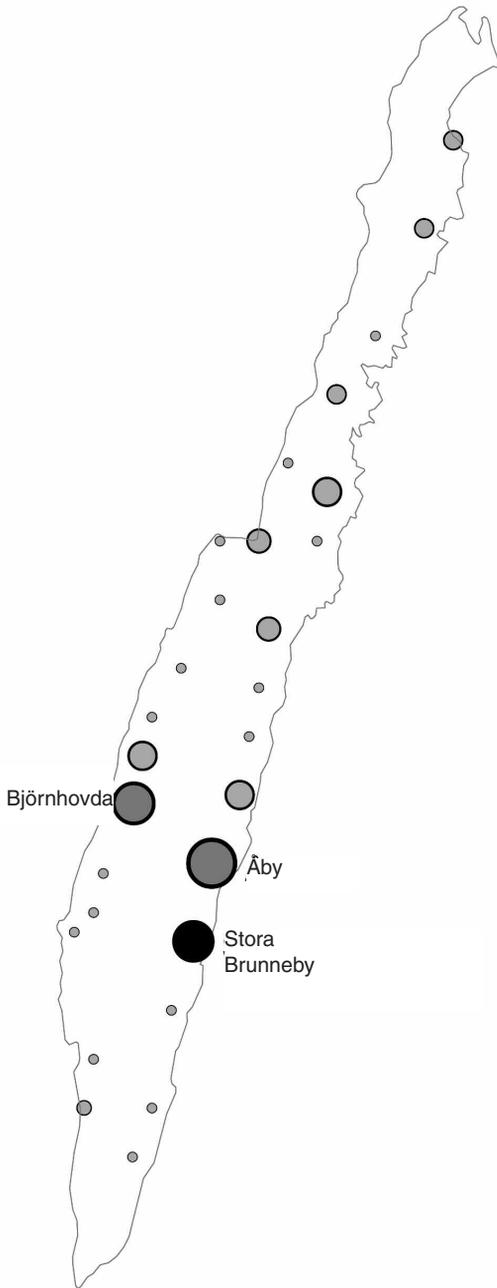


Fig. 2. The distribution of solidi on Öland. Map based on Herschend (1980) with new finds mapped in a different shade.

and historian of Late Antiquity Hans Lejdegård. The solidi struck for Valentinian III were then verified by historian of Late Antiquity and numismatist Richard W. Burgess in November 2009. Meanwhile, all other available small solidus hoards and stray finds from the parishes of Sandby and Stenåsa on Öland (Fagerlie hoards 100–102, 110–113) were re-examined by Fischer, López Sánchez and Lind in November 2008, in order to verify whether the Stora Brunneby hoard was part of a general distribution pattern overlooked by previous research (Janse 1922; Bolin 1926; Stenberger 1933; Werner 1949; Fagerlie 1967; Herschend 1980; Kyhlberg 1986). This is evidently not the case. The Stora Brunneby hoard has no apparent relationship to the closest small hoards and stray finds of solidi in the parishes of Sandby and Stenåsa on Öland. These fit in the later horizon of the island's two largest hoards: Björnhovda in Torslunda parish (Fagerlie hoard 115: 36 solidi, tpq 476) immediately to the northwest of Sandby parish, at a 15 km distance from Stora Brunneby; and Åby in Sandby parish (Fagerlie hoard 99: 80 solidi, tpq 477) to the immediate north of Stenåsa near the eastern shore, at a mere 3.5 km distance from Stora Brunneby (fig. 2). Therefore, the Stora Brunneby hoard had to be closely examined in relation to the two largest hoards on Öland and new finds of solidi since the last survey (Herschend 1980). To what do these Scandinavian solidus hoards owe their existence? We find it rather unlikely that any but returning professional soldiers of the Roman army could have brought the solidi to Scandinavia.

Most of the coins from Stora Brunneby are in fine or very fine condition. They have never circulated, nor have they been subject to piercing or mutilation. None display assay marks. They have not seen secondary use as looped pendants.

Interpretation

A few scholars, notably archaeologist Joachim Werner and numismatist D.M. Metcalf, have ventured to propose commerce, fur trade in particular, as the source of income behind the Scandinavian solidi (Hildebrand 1882; Werner 1949; Metcalf 1995, pp. 421–423, 440; Jonsson 2003). This theory has recently been severely criticized by the numismatist Renate Ciołek (2009, pp.

224–226) for its general failure to supply the corresponding amount of evidence in either historical records or archaeological finds in regard to the huge trading volumes of fur that the influx of solidi would require. In the light of this, we would instead like to qualify the solidus hoard owners in Scandinavia as peripheral kleptocrats, entrepreneurial parasites involved in the “gold hemorrhage”, that is, the drain of Roman monetary capital for the benefit of the material culture of Germanic barbarians (Fischer 2005, p. 15; Guest 2008, pp. 300–301). The mid- to late 5th century solidus hoards from Scandinavia may be interpreted as official payments emanating mainly from the imperial court of Ravenna and Rome, with an important part of the coinage having been struck in Constantinople as Eastern subsidies to the Western Empire. Therefore, the solidus types in these Scandinavian hoards often differ from those in the large Szikáncs hoard from Hungary that has been interpreted as Eastern tributes or subsidies to the Huns (Herschend 1991a; Guest 2008, pp. 296–298).

By contrast, the much-debated Scandinavian crisis theory (advanced in the mid-20th century by archaeologists Mårten Stenberger and Werner, and the numismatist Fagerlie), which presupposes an orchestrated attack on Öland by its Scandinavian neighbors around 477, must be moderated. This is the case even though the construction of at least 15 substantial stone ring-forts on Öland in the late 4th and early 5th centuries would speak in favor of an external threat (Wegraeus 1976; Fallgren 2008). Similarly, the idea of a late arrival in Scandinavia of solidi first hoarded on the Continent, with a few freshly minted additions, as suggested in the late 20th century by archaeologists Mats P. Malmer (1977) and Ola Kyhlberg (1986), and numismatist Brita Malmer (1985, pp. 59–62), must also be discarded as the composition of the Stora Brunneby hoard emphatically contradicts this scenario. Instead, it would appear that solidi were brought to Scandinavia in lump sums on several occasions. There appears to have been continuous hoarding of solidi regardless of the internal political situation in Scandinavia, as suggested by numismatist Pekka Sarvas (1968; 1970) and archaeologist Frands Herschend (1980).

Stora Brunneby is the third-largest solidus hoard known to date from Öland (tab. 1). It can be divided into two chronological phases, the first consisting of coins 1–9. Among these are six Western issues struck 394–440: four from Ravenna, and one each from Milan and Rome. These belong together with three Eastern issues of Theodosius II 424–434, one with the mint-mark COMOB and two with CONOB. The second half of the hoard is entirely of Eastern origin, struck 441 and 451 in Constantinople. It consists of seven issues for Theodosius II (10–16) and the final coin struck early in the reign of Marcian (17), thus covering roughly a decade. The Stora Brunneby hoard contains no solidi struck at the Western mint of Arles or the Eastern mint of Thessalonica. It is a rather rigid hoard, centered on important issues: the military campaigns directed by the Western emperor to secure the sustainability of Rome and Italy in the first half of the 5th century, 425–426, 431–434, 441, and 451–452.

The hoard stands out as a stark contrast to others from southern Öland that were assembled mainly in the 460s and 470s. These hoards do include issues from Arles and Thessalonica. A third of the coins from Björnhovda share emperors with the 17 coins from Stora Brunneby, compared to half of those from Åby. But the Stora Brunneby hoard contains no issues of the Eastern emperors Arcadius (395–408) or Leo I (457–474), nor of their Western counterparts Majorian (457–461), Libius Severus (461–465) or Anthemius (467–472), while the four latter emperors contribute 33 coins out of 80 in Åby and one dozen of three in Björnhovda. This means that coinage hoarded up to 451 on Öland may still be traced but the specific characteristics of Theodosian solidi are blurred in the larger, later hoards. It might have been expected that solidi from the period 457–472 would make up a substantial part of the final coins when a new Öland solidus hoard came to light, since solidi struck for the four above-mentioned emperors amount to some 42% of the total from Öland in LEO databases.

Nor does the composition of the Stora Brunneby hoard resemble that of large hoards from Bornholm, Helgö and Gotland that include substantial numbers of Western solidi struck in the

No	Emperor	Date	Mint	Weight (g)	Cond.	RIC no
1	Theodosius I	394-395	Milan	4.42	Fair	RIC IX MD,
2	Honorius	420-422	Ravenna	4.46	Fine	RIC X 1319
3	Theodosius II	424-425	Constantinople	4.44	Fine	RIC X 234
4	Theodosius II	425-429	Constantinople	4.46	Fine	RIC X 237
5	Valentinian III	426	Ravenna	4.37	Fine	RIC X 2011
6	Theodosius II	431-434	Constantinople	4.51	Fine	RIC X 258
7	Valentinian III	435	Rome	4.37	Bent	RIC X 2034
8	Valentinian III	440	Ravenna	4.43	Fine	RIC X 2018
9	Valentinian III	440	Ravenna	4.44	Fine	RIC X 2018
10	Theodosius II	441	Constantinople	4.44	Fine	RIC X 284
11	Theodosius II	441	COMOB	4.48	Fine	RIC X 292
12	Theodosius II	441	Constantinople	4.47	Fine	RIC X 293
13	Theodosius II	441	Constantinople	4.45	Fine	RIC X 293
14	Theodosius II	441	Constantinople	4.47	Fine	RIC X 323
15	Theodosius II	441	Constantinople	4.45	Fine	RIC X 323
16	Theodosius II	441	Constantinople	4.49	Fine	RIC X 323
17	Marcian	451-456	Constantinople	4.50	Very fine	RIC X 510

names of Zeno and Anastasius by Odoacer and Theoderic (Fischer 2009, pp. 31–36). Instead, many of the hoards on these islands are of a later date. They may have been deposited, in their final stage of composition, as late as the early 6th century. The individual solidi in the Stora Brunneby hoard have all the trappings of being intended as payment to troops in the Western part of the Late Empire, when senior Eastern members of the Theodosian imperial college paid substantial subsidies to their Western juniors. Therefore, the Stora Brunneby hoard resembles the Bíňa hoard from Slovakia (108 solidi: tpq 445; Kolníková 1968; Kolníková & Pieta 2009; Depeyrot 2009b). The composition of the Stora Brunneby hoard may also perhaps share a common background with the Trałki Małe I–II and Witow hoards from East Pomerania, Poland, as these contain many early-5th century solidi (RIC X: ci, cviii, cxv; Ciołek 2001; 2005; 2007; 2009; Iluk 2007; Depeyrot 2009b). This group may subsequently be compared to the Hunnic tribute

that is the Szikáncs hoard from Hungary (1439 solidi: tpq 443; Bíró-Sey 1976; Herschend 1991a; RIC X; Guest 2008; Depeyrot 2009b).

Solidus Weights

The weight of the 17 solidi from the Stora Brunneby hoard merits some comment in the light of previous research (Herschend 1983; 1991a; 1991b). Their average weight, 4.452 g, is unusually high by Scandinavian standards when compared to the average weight of 4.403 g of the other c. 1,200 5th century Scandinavian solidi currently recorded in the LEO databases. It is interesting to note that the Stora Brunneby hoard lies within an intermediate range of solidus weights, suggesting that its owners were among the primary Scandinavian actors in contact with the Continent in the mid-5th century. The pristine condition of the coins and their high weight allow the assumption that the coins have been handled by only a few individuals before being buried. As is to be expected, the lowest weight is displayed by two

	Museum no	Catalogue no	LEO no
Pl. VI, 10	KMK dnr 711-1508-2004	Rasch F 15	LEO:607
	KMK dnr 711-1508-2004	Rasch F 10	LEO:604
	KMK dnr 711-1508-2004	Rasch F C	LEO:1128
	KMK dnr 711-1508-2004	Rasch F F	LEO:599
	KMK dnr 711-1508-2004	Rasch F 12	LEO:603
	SHM inv nr 12778	Fagerlie nr 227	LEO:595
	KMK dnr 711-1508-2004	Rasch F 14	LEO:606
	KMK dnr 711-1508-2004	Rasch F 9	LEO:600
	KMK dnr 711-1508-2004	Rasch F 13	LEO:605
	KMK dnr 711-1508-2004	Rasch F 11	LEO:601
	SHM inv nr 22977	Fagerlie nr 300	LEO:597
	KMK dnr 711-1508-2004	Rasch F 19	LEO:608
	KMK dnr 711-1508-2004	Rasch F 8	LEO:1125
	KMK dnr 711-1508-2004	Rasch F 18	LEO:602
	KMK dnr 711-1508-2004	Rasch F 16	LEO:1124
	SHM inv nr 23277	Westermark nr 5	LEO:598
	SHM inv nr 21108	Fagerlie nr 351	LEO:596

Tab. 1. The Stora Brunneby solidus hoard's contents.

Western solidi struck for Valentinian III, with the highest weight represented by Eastern issues struck for Theodosius II and Marcian. Only the Dalshøj hoard from Bornholm (Fagerlie hoard 204: 17 solidi, tpq 491) has a higher average weight, 4.458 g. By contrast the hoards of Åby and Björnhovda rank below with a 4.421 g and 4.413 g average respectively.

There appears to be a clear correlation between average solidus weight and chronology (fig. 3, tab. 2). The hoards that display the longest assembly periods have the lowest average weight, as these often include an important share of Western issues (Herschend 1983; 1991a; Iluk 2007; Guest 2008, pp. 301–306; Depeyrot 2009b). Similarly, hoards with short assembly periods for Eastern solidus coinage have by far the highest average weight, notably Szikáncs with as much as 4.483 g. One explanation for this may be that many Scandinavian hoard owners acted inside the Roman Empire at different times, and that

the Scandinavian solidus hoards actually reflect the current monetary circulation in different regions of the Late Roman world during the course of the 5th century. Gresham's law for solidus hoards in Barbaricum must therefore be applied with caution from an intimate knowledge of specific archaeological contexts. This is so as Gresham's law traditionally states that "Bad money drives good money out of circulation". But, as Economics Nobel Prize winner Robert Mundell (1998) has clarified, "Bad money drives out good *if they exchange for the same price.*" The obvious way to counteract Gresham's law would be to weigh solidi rather than count them.

Catalogue

The First Part, Coins 1–9

The hoard starts off with an issue struck in Milan for Theodosius I and one from Ravenna for the most junior augustus of his imperial college, Honorius (coins 1–2). The two following SALVS

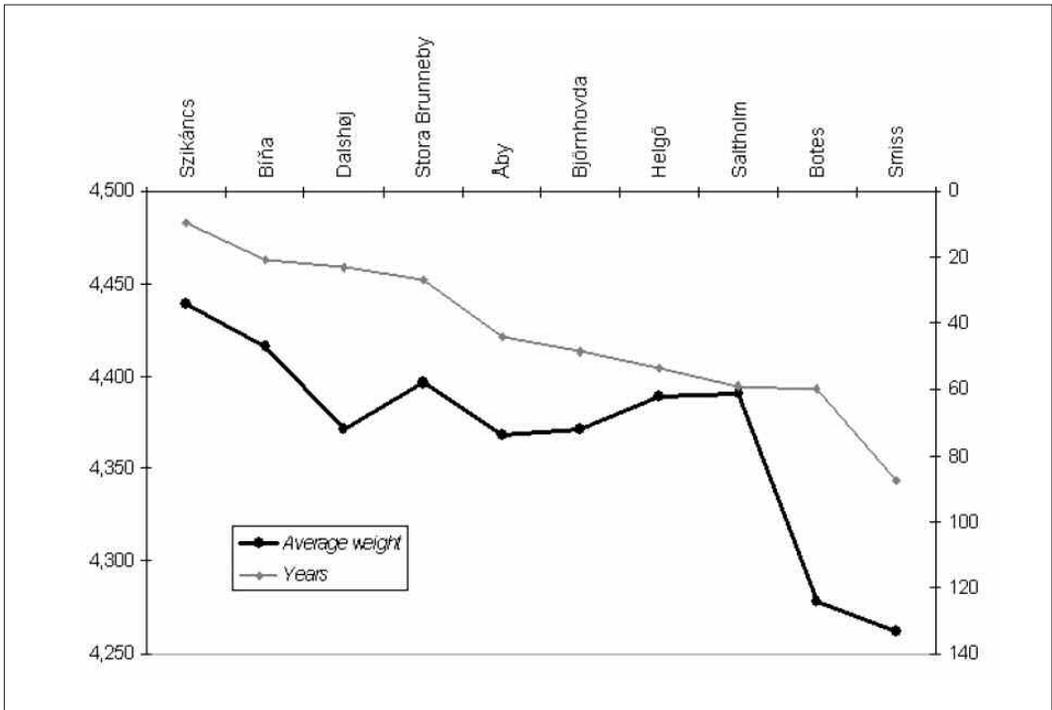


Fig. 3. Graph of weight and tpq for ten solidi hoards, showing an inverse correlation between average coin weight (left) and length of accumulation time (right).

Tab. 2. Solidus hoards.

Hoard	No of coins	Chronology	Years	Av. weight
Smis, Gotland	25	395-527	133	4.344
Botes, Gotland	83	395-518	124	4.393
Saltholm, Bornholm	29	431-491	61	4.394
Helgö, Uppland	47	431-491	61	4.404
Björnhovda, Öland	36	404-475	72	4.413
Åby, Öland	80	402-475	74	4.421
Stora Brunneby, Öland	17	394-451	58	4.452
Dalshøj, Bornholm	17	420-491	72	4.459
Bíňa, Slovakia	108	395-441	47	4.463
Szikáncs, Hungary	1436	408-441	11	4.483

REIPUBLICAE issues (coins 3–4) struck by Theodosius II must be interpreted as Eastern propaganda in favor of the junior Western emperor Valentinian III. Then there are three issues from the reign of Valentinian III interspersed with an Eastern issue of 431–434 (coins 5–9).

1. Solidus. Theodosius I, Milan, 394–395, 4.42 g, Fair
RIC IX, MD, Plate VI, 10. KMK dnr 711-1508-2004, F 15. LEO no 607.

Solidi struck for Theodosius I (379–395) are rare in Scandinavia. There are only three other specimens (Klindt-Jensen 1957; Dahlin Hauken 2005; Henriksen 2007, pp. 211–212). Two have been looped and carried as pendants for a long time, suggesting that their rarity was appreciated – a total of 39 looped 5th and 6th century solidi are known from Scandinavia in the LEO databases. The first specimen is a sole coin within a scrap hoard of gold and silver that was found in 2007 hidden under the floor of a Migration Period house at Fraugde Kærby, Funen, Denmark. Its loop has been broken off and its twisted gold-filigree rim is damaged. The other looped specimen was deposited as a grave good in a Migration Period burial at Hamre, Norway. The Stora Brunneby specimen is the first known Scandinavian example belonging to a larger hoard of proper solidi without loops or piercings, besides a single stray find from Bornholm. One may note that the two larger hoards of Åby and Björnhovda begin only later with a single specimen of Arcadius (395–408) each (Fagerlie nos 193, 192), the former an RIC X 1286 struck in Ravenna 402–406, the latter an RIC X 1251 struck in Rome 404–408.

2. Solidus. Honorius, Ravenna, 420–422, 4.46 g, Fine
RIC X 1320, KMK dnr 711-1508-2004, F 10. LEO no 604.

This coin belongs to the late reign of Honorius in Ravenna, c. 420–422, before the tricennalia in 422 (Lejdegård 2002). The RIC X 1319 issues may be related to Asterius' or Castinus' military campaigns in Spain after the death of Constantius III (Hydatius 66 [74]–69 [77], a. 420–422; Burgess

1993, pp. 87–88). About a dozen of these solidi are known from Scandinavia, many of which are worn and pierced. There are no looped specimens. Kent lists different but unspecified RIC 1319–1320 specimens in KMK (RIC X, p. 333).

3. Solidus. Theodosius II, Constantinople, 424–425, 4.44 g, Fine
RIC X 234. KMK dnr 711-1508-2004, F C. LEO no 1128.

This issue with the reverse legend SALVS REIPUBLICAE, struck in 424–425, is related to the ascension of Valentinian III to the rank of augustus, with the junior Western emperor depicted on the reverse as standing, while the senior emperor Theodosius II is enthroned. There are four variants A–D, RIC X 233–236. This series was distributed to the West in order to support military expenditure at the onset of Galla Placidia's regency. There are only two other RIC X 234 known in Scandinavia, both from Öland (Fagerlie nos 212, 214) – from Björnhovda, and from Guldäkern in Algutsrum parish (Fagerlie hoard no 80). There are also two known RIC X 233. The first is a pierced specimen from Runnsberga in Torslunda parish (Fagerlie hoard no 61, coin 215). The other, Fagerlie no 213, is from the Botes hoard from Etelhem parish on Gotland (Fagerlie hoard 137b, 85 solidi: tpq 533), currently the largest known Scandinavian solidus hoard. By contrast, the Szikáncs hoard has 21 specimens, some 1.43% of the total sum of genuine solidi (Depeyrot 2009b, pp. 140–141, 168, nos 45–68).

4. Solidus. Theodosius II, Constantinople, Oct 425–429, 4.46 g, Fine
RIC X 237. KMK dnr 711-1508-2004, F F. LEO no 599.

This second, later issue also celebrates the ascension of Valentinian III to augustus, but this time the reverse depicts both emperors enthroned. It dates to between October 425 and 429. Internationally, this is a very frequent type (Åberg 1953; Dahlin Hauken 2005, Fischer 2008a, pp. 175–176). The Szikáncs hoard contains 150 of them, that is some 10.44% of the genuine solidi in the hoard (Depeyrot 2009b, pp. 141–143, 168, nos

69–218). But there are only five coins of this type in Scandinavia from four different officinae, a Sigma specimen coming from the prominent Migration Period chamber grave of Enebø in Norway, and two (Alpha, Beta) from the Åby hoard (Fagerlie no 216–217), a stray find from Gotland (Iota), and one example in the Kåsbygård hoard from Bornholm (Heta). The Enebø specimen is a tantalizing appearance as there are only six certain cases of graves in Scandinavia containing genuine multipla or solidi. In contrast to the earlier theories of archaeologist Nils Åberg (1953), one must emphasize that the inclusion of solidi in the local burial ritual is usually an indication of a relative coin scarcity, not one of abundance. Öland, Gotland and Bornholm have by far the most solidi in all of Denmark and Sweden. But there are no graves with solidi there. Norway by contrast, with only seven genuine multipla and solidi, has four such graves.

5. Solidus. Valentinian III, Ravenna, 426,
4.37 g, Fine
RIC X 2011. KMK dnr 711-1508-2004, F
12. LEO no 603.

This is a rare issue by international standards, dating to 426. Interestingly, a new specimen of this type has been found together with Scandinavian gold bracteates near the same site as the Fuglesangsager hoard from Sorte Muld mentioned below (Horsnæs 2001; 2002; 2009, p. 239, 251; Axboe 2002; 2004, p. 323). This certainly reinforces the likelihood of a hypothetical connection between the owners of the Stora Brunneby hoard on Öland and the Sorte Muld central place complex on Bornholm (see discussion of coin 7 below).

6. Solidus. Theodosius II, Constantinople,
431–434, 4.51 g, Fine
RIC X 258. Fagerlie no 227, SHM 12778.
LEO no 595.

This is the first coin found in 1906. It belongs to the many series of VOT XXX MVLX XXXX issues, celebrating the tricennalia of Theodosius II. These are related to the emperor's military campaigns against the Vandals in the Western

Mediterranean in 431–434, but also to the Hunnic tributes in the East (Kaegi 1968, p. 27; Theophanes, *Chronographia* AM. 5931; Mango & Scott 1997, p. 147; Procopius, *Vand.*: 1.4. 1–11; Dewing 1961, pp. 34–37). The types are common in Scandinavia: some 62 specimens are found in Fagerlie nos 220–281 alone. Åby contains some 11, while Björnhovda contains three. It is interesting to note that only one specimen of this very significant series found its way into the Stora Brunneby hoard. By contrast, there are some 909 specimens in the Szikáncs hoard, that is, c. 63% of the genuine solidi in the hoard (Depeyrot 2009b, pp. 143–161, 169–170, nos 219–1127).

7. Solidus. Valentinian III, Rome, 435,
4.37 g, Bent
RIC X 2034. KMK dnr 711-1508-2004, F
14. LEO no 606.

This issue, struck in Rome, belongs to the Western VOT X series, RIC X 2032–2036, which is related to the procession from Rome to Ravenna in 435 of Valentinian III in conjunction with the celebration of his decennalia in the eternal city during his fourth consulate. The first RIC X 2032–34 were struck in Rome. Shortly afterwards, issues were also struck in Ravenna, RIC X 2035–2036. There are at least five different obverse dies, and one reverse die had its legend recut from RM to RV after the comitatensian mint was transferred from Rome to Ravenna. One may note that among the more spectacular finds of this Western VOT X series is at least one recorded specimen of RIC X 2035–36 from the chamber grave of the Merovingian king Childeric I in Tournai, Belgium (c. 482), and one RIC X 2034 and two RIC X 2035–2036 in the Bíňa hoard in Slovakia (tpq 445; Kolníková 1968; Kazanski & Périn 1988; Kolníková & Pieta 2009).

There are only seven known Scandinavian examples, including five looped specimens belonging to the Fuglesangsager hoard near the Sorte Muld central-place complex on Bornholm (Adamsen et al. 2008). This hoard contains four RIC X 2036 struck in Ravenna with three obverse die-identical specimens and two reverse die-identical specimens that were hoarded together with a RIC X 2034 and a Visigothic RIC X 3711.

The spectacular associated context of a rolled-up Roman silver plate, gold-filigree pendants and three die-identical Scandinavian gold bracteates of type C is indeed worthy of attention (Horsnæs 2001; 2002; 2009, p. 251; Axboe 2002; 2004, p. 323). None of these solidus issues had ever been found in a large Scandinavian hoard before, the single previous specimen from Öland being a stray find from Skogsby in Torslunda parish (Fagerlie no 86; Fallgren 2006, pp. 74–75), with an obverse die-identical to the RIC X 2034 solidus 103 in the Biña hoard. The fact that the looped die-identical RIC X 2036 coins from Fuglesangsager were kept together and worn as jewellery suggests a distinct relationship to the payment of the *decennalia* and certain find spots in Scandinavia, tentatively linking Stora Brunneby to Sorte Muld.

Numismatist Helle W. Horsnæs' hypothesis that the Fuglesangsager hoard was composed at the central-place complex of Gudme on Funen, where loops were added to the solidi, appears problematic. The loops on the Fuglesangsager solidi are insufficient evidence by themselves. It is far more likely that the solidi derive from a connection to Öland and the Biña hoard, while it is theoretically plausible that the bracteates from Fuglesangsager may have been imported from Gudme. The Fuglesangsager specimens of the VOT X series are very worn, whereas the Stora Brunneby example, although bent, is in far better condition. This gives the Stora Brunneby hoard an important chronological precedence in close relation to the Biña hoard and the early 5th century Polish hoards, leaving the central place of Gudme, with no known VOT X specimens or RIC X 3711 issues, entirely out of the discussion as far as solidi are concerned. By contrast, the Szikáncs hoard has only one RIC X 2034 and one RIC X 2036 (Depeyrot 2009b, p. 139, 167, no 1, 3).

8. Solidus. Valentinian III, Ravenna, 440 or shortly after, 4.43 g, Fine
RIC X 2018. KMK dnr 711-1508-2004, F 9.
LEO no 600.

This is a common coin type. There are five in the Åby hoard (Fagerlie nos 56–60), of which one is in the same fine condition. The Björnhovda hoard

has two (Fagerlie nos 52, 61), with one in fine condition. The type appears to have been minted around 440, in contrast to Kent's dating of 430–445 (RIC X, p. 366). 440 appears most likely when taking into account that Valentinian III returns from the East with full financial support of Constantinople in 438 just as he did in 425. The Visigoths strike the same type in conjunction with the treaty of October 19, 439. One may thus assume that this Roman issue began to be struck at that time (López Sánchez 2007, pp. 325–328).

9. Solidus. Valentinian III, Ravenna, 440,
4.44 g, Fine
RIC X 2018. KMK dnr 711-1508-2004, F
13. LEO no 605.

This issue is a variant of RIC X 2018, quite in line with the other coinage struck in Ravenna around 440 (López Sánchez 2007, pp. 325–328).

The Second Part, Coins 10–17

The second part of the hoard includes six issues with the reverse legend IMP XXXXII COS XVII, commemorating the 42nd year and 17th consulate of the reign of Theodosius II, who had been appointed emperor in 402 by his father Arcadius. The legend essentially pertains to Eastern coinage struck in 441. The RIC X 286–329 issues are probably related to Theodosius' II planned new military campaigns of 441 against the Vandals in Sicily, which failed to materialize, the money ending up instead in Hunnic tributes. A long striking period divided into three phases 441–443, 443–445 and 445–447 as suggested by Kent (1956; 1992), appears less likely. These types are common in Scandinavia, with some 60 specimens in the LEO databases with the reverse legend CONOB and 38 with the reverse legend COMOB. But the two hoards of Åby and Björnhovda contain only four and three specimens, respectively, in contrast to five in the Stora Brunneby hoard (coins 11–16 below).

10. Solidus. Theodosius II, Constantinople,
441, 4.44 g, Fine
RIC X 284. KMK dnr 711-1508-2004. F
11. LEO no 601.

The reverse legend UIRT EXER (to be read VIRT EXER) refers to the virtuous imperial army. This type was struck in 441 and although generally common, there are only three known specimens from Scandinavia. Two are in the Björnhovda hoard (Fagerlie nos 199–200), of which the latter is RIC X 284, no 199 being RIC X 285. Surprisingly, there are none in the Åby hoard. By contrast, there are 62 specimens of RIC X 284–285 in the Szikáncs hoard, some 4.3% of the total sum of genuine solidi (Depeyrot 2009b, pp. 161–163, 169, no 1128–1188).

11. Solidus. Theodosius II, COMOB, 441, 4.48 g, Fine
RIC X 292. Fagerlie no 300, SHM 22977.
LEO no 597.

This coin was found in 1943. It sports the reverse legend COMOB on an Eastern issue. Outside of Stora Brunneby, this is by no means rare. There are 38 specimens in Fagerlie nos 293–331. Of these, coins 299, 308, and 319 are from the Åby hoard, while none appear in the Björnhovda hoard.

12. Solidus. Theodosius II, Constantinople, 441, 4.47 g, Fine
RIC X 293. KMK dnr 711-1508-2004, F 19. LEO no 608.
13. Solidus. Theodosius II, Constantinople, 441, 4.45 g, Fine
RIC X 293. KMK dnr 711-1508-2004, F 8. LEO no 1125.
14. Solidus. Theodosius II, Constantinople, 441, 4.47 g, Fine
RIC X 323. KMK dnr 711-1508-2004, F 18. LEO no 602.
15. Solidus. Theodosius II, Constantinople, 441, 4.45 g, Fine
RIC X 323. KMK dnr 711-1508-2004, F 16. LEO no 1124.
16. Solidus. Theodosius II Constantinople, 441, 4.49 g, Fine
RIC X 323. SHM 23277. Westermark no 5. LEO no 598.

Coin 16 was found in 1944 on the same site as 6, 10, and 17. It was not included in Fagerlie's sur-

vey in 1958–1959, published in 1967. It was rediscovered and published by Westermark only in 1983.

17. Solidus. Marcian Constantinople, 451, 4.5 g, Very fine
RIC X 510. Fagerlie no 351. SHM 21108.
LEO no 596.

This last coin was found in 1936. It is the second-heaviest and best-preserved coin of the hoard, but is not clear whether this is due to its relatively early recovery or to it having been deposited immediately upon arrival on Öland. Its state of preservation is not uncommon in Scandinavia. We have so far identified nine examples out of a total of the known 33 solidi issued for Marcian in Scandinavia, with two specimens each in the Åby and Björnhovda hoards. Many of these solidi are likely to have arrived in the West as Eastern subsidies in 451–455. This should be understood in relation to the proclamation in Rome on March 30, 452 that recognized Marcian as a junior member of the imperial college, following the marriage of Valentinian's aunt Pulcheria to the new Eastern emperor in 450, and Marcian's solidus coinage in conjunction with his first consulship that began on January 18, 451 (RIC X, pp. 95–108).

Conclusion

The correspondence analysis revealed many unusual features in the Stora Brunneby hoard. Subsequent re-examination of the individual solidi confirmed these observations. The hoard is entirely composed of almost uncirculated solidi struck for emperors of the Theodosian dynasty. The average weight of the coins is quite high, 4.452 g, and its deposition date is early, *tpq* 451.

The major part of the hoard is easily divided into five-year statistical intervals stretching from 420–422 to 441. This fits well with the well-recorded *vota* and consulate celebrations of the Theodosian emperors in the West, upon which solidi were always distributed to the imperial army (Kent 1956, p. 192; Gillett 2001, pp. 137–148). Some of the solidus types in the first part of the hoard (coins 1–9) are rather unusual by Scandinavian standards, whereas the coinage in the second part of the hoard (coins 10–17) is by far

more common. Our interpretation of the Stora Brunneby hoard is that it should be regarded as the hitherto earliest *numismatic* evidence for the recruitment of Germanic professional soldiers from Öland via Gothic affinities on the southern Baltic shores of Pomerania to serve the Theodosian dynasty (Ciołek 2007). This recruitment process may already have begun during the reign of Theodosius I.

The Stora Brunneby hoard is likely to have been accumulated over some time, with at least two generations contributing to it in the first half of the 5th century. The hoard may be the result of a series of payments especially related to quinquennial *vota* (Burgess 1988), which should perhaps be seen as occasions for the rotation of military units between Scandinavia and Italy. The quinquennalia are best described as traditional rituals that were modified by the Christian emperors into a confirmation of vows of loyalty between the emperor, his administration and hired troops. The hoard contains many coin types that are rather unusual in a small geographic area where solidus hoards like Åby and Björnhovda contain a non-negligible quantity of die-identical coins that do not appear in the Stora Brunneby hoard. Still, some of the earliest coinage first found in the Stora Brunneby hoard may then be traced in the larger hoards of Åby and Björnhovda that were accumulated some 10–20 years later.

The new evidence from the Stora Brunneby hoard casts serious doubt not only on the past theories that proposed that solidi arrived in Scandinavia by means of fur trade, but also on those that argued for a generally very late arrival in Scandinavia of lump sums of worn issues together with a handful of fresh, uncirculated coins. Instead, it appears clear that there was also an earlier influx of uncirculated solidus coinage in the first half of the 5th century, and that these coins were to some degree reassembled into larger hoards at a later date by subsequent generations of hoard owners. The relative size of the Stora Brunneby hoard (currently the third-largest known from Öland, and the tenth-largest known from Scandinavia) suggests that its owner carried some authority in local society. It is tempting to see a competitive relationship.

Those who gathered the Stora Brunneby hoard

in the first half of the 5th century may have been peers of the first-generation owners of the Åby hoard, but superior in status to the workforce that built the nearby stone ring-fort of Sandby (Wegraeus 1976; Fallgren 2008). Both families may also have had some form of connection with the Sorte Muld central-place complex on Bornholm. The Stora Brunneby hoard stops as early as 451, at the onset of the reign of the last member of the Theodosian dynasty. Why? Its owner may have traveled back to Italy for the campaigns of the 460s and 470s during the reign of the Leonid dynasty. Perhaps he mounted this expedition together with his Åby neighbors, with the Stora Brunneby hoard owner commanding subordinate neighbors from the area around the Sandby ring-fort. Possibly the hoard owner never returned to pass on the secret of the ancestral hoard to the next generation at Stora Brunneby.

References

Acronyms

- KMK = Kungliga Myntkabinettet (Royal Coin Cabinet, Stockholm)
 KLM = Kalmar Läns Museum (Kalmar County Museum, Kalmar).
 KVHAA = Royal Swedish Academy of Letters, History, and Antiquities.
 MCA = Multiple Correspondence Analysis.
 LEO = *Liber excelsis obryzacusque* (The elevated book of pure gold).
 RIC = Roman Imperial Coinage publication series.
 SHM = Statens Historiska Museum, (National Museum of History, Stockholm).

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Summary

The Stora Brunneby hoard of 17 solidi with a terminus post quem of 451 is presented and analysed. The hoard's type composition and the coins' average weight are quite unusual, and the hoard was therefore selected for publication in order to present some preliminary results of the interdisciplinary LEO Project at the Department of Archaeology and Ancient History of Uppsala University. LEO is an acronym for *Liber excelsis obryzacusque*, “the elevated book of pure gold”.

We have primarily used the tenth volume of *The Roman Imperial Coinage* in the assessment of Scandinavian solidus hoards, which has led to an improved chronology and enabled renewed study of die identities within solidus hoards across Europe and the Mediterranean. This publication of the Stora Brunneby hoard should be regarded

as a first step towards the evaluation of the LEO databases, now that the relationship between Scandinavian solidus hoards and political events in the Late Roman Empire has been firmly established.

Our study of the Stora Brunneby hoard revealed that it is the third largest solidus hoard from Öland, and the tenth largest solidus hoard from Scandinavia. Its accumulation period chronology, from tpq 394 to 451, is unusually early. The coins are comparatively heavy, giving the hoard one of the greatest average weights in Scandinavia. Our interpretation of the hoard is that it is the earliest numismatic evidence of Scandinavian mercenaries receiving solidus payments from the West Roman emperor on specific occasions.