The mirage and the hillfort
Iron Age landscape and material culture on Stora Karlsö

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The island of Stora Karlsö, off the west coast of Gotland, is well known for its Stone Age history, as illustrated by the thick cultural deposits inside the cave of Stora Fögr. The Bronze and Iron Age history of the island is less well known, however. This article draws attention to the special material culture of Iron Age Stora Karlsö in the form of material objects, graves, remains of houses, a workshop, and presumed landing-places/boathouses. A cultural layer in the Northern Harbour was found to contain gold and silver objects, melted bronze, a crucible, weights and ceramics. This cultural layer has been interpreted as the foundation of a house constructed in the building tradition known from Central and Northern Sweden. The finds resemble the specialized milieux of the Late Roman/ Migration Period hillforts in Central Sweden. Stora Karlsö may have been inhabited in the Late Iron Age by bonded rather than free people. The absence of any visible Late Iron Age graves, the existence of a workshop in the cave mouth for producing Viking Age jewellery, and the rotary querns are interpreted as signs of this. Finally, the qualities of the landscape on the island are discussed, including a mirage effect that might have linked it to the Gotlandic creation myth.

Keywords: landscape archaeology, boathouses, house foundations, workshop, rotary querns, bondsmen, creation myth

From afar
When the author Bengt Berg described Stora and Lilla Karlsö in 1915 he wrote: “So far from the mainland that they look blue on foggy days, the islands rise out of the Baltic Sea. Huge and ominous, they gaze northwards with their steep, broken brows. When the sunlight has fled dusk, they are cold and dark in appearance. Glimmering like mirages in the midday lull, they appear as inapproachable as the world of dreams.” (Berg 1915:17) (Fig. 1). A mirage implies something that is intangible and distant. If instead we approach Stora Karlsö in the company of the Swedish botanist Carl Linnaeus, we get another view of the island. On his journey to Gotland in 1741 he wrote in his diary: “June 22. We awoke at dawn, two o’clock in the morning, and found Karlsö before our eyes. The wind died down gradually, the ship gliding on; the sides of Karlsö appeared more and more steep and high, like fortification walls.” (Linnaeus 1741:222, see [2007:140]). Linnaeus compares Stora Karlsö with the huge hillfort of Torsbergen and with Hoburgen, the southernmost tip of Gotland. Burg means a stone wall, a cobblestone bank, a shore embankment, or indeed a cliff-nest (cf. SOL 2003). His impression is similar to the description that the archaeologist Hanna Rydh provided almost 300 years later when comparing Stora Karlsö with a medieval cliff nest (Rydh 1931:10). Carl Linnaeus also writes that Stora Karlsö “except for the southern cape, was quite elevated, with a flat, austere and sterile field, like the bare limestone on Öland” (in Ejendal & Hollström 1997:22f).
The whole island can be perceived in many ways. How you view it depends on where you have placed yourself. From a distance it can indeed look like a mirage, but from close to it certainly reminds us of a hillfort. And when you have gone ashore in the Northern Harbour, the landscape may well seem more like that of Öland than Gotland.

Closing in

The island has steep cliffs, 25–45 m a.s.l., broken only by the two natural harbours: known as the Northern Harbour and the Southern Harbour. Stora and Lilla Karlsö are the only bird-cliffs in the Baltic, and are famous for their thousands of auks (Sw. alkor), a family of birds that includes guillemots and razorbills. On the rock ledges of Stora Karlsö breed 75% of the Baltic stock of guillemots (a total of ca 7500 pairs, Ejendal & Hollström 1997:36).

Stora Karlsö is well known to archaeologists for the cave Stora Förvar, the Great Storage Cave. This has yielded thick cultural layers containing large amounts of bones belonging chiefly to the Mesolithic and Neolithic (Schnittrger & Rydh 1940; Knape & Ericson 1988; Lindqvist & Possnert 1999:81). The later history of the island has not aroused the same interest among archaeologists, however, except for Hanna Rydh’s publication in 1931, and much of its Bronze and Iron Age history still remains to be written (cf. Cassel 2005). The material culture of these later periods is nevertheless a matter of continual interest, as I hope to be able to show.

To truly understand a landscape you have to move around and walk in it (cf. Tilley 1994). This paper has arisen out of my impressions of Stora Karlsö gained from a visit in 1999 and a short stay in 2005, and from studying its material culture in the Historical Museum in Stockholm and excavation finds at Norra Magasinet, Gotlands Fornsal, Visby.

The material culture of Stora Karlsö in the Iron Age

The visible graves on Stora Karlsö are situated either on the plateau or in connection with the two natural harbours (Fig. 1). The plateau has two large cairns, one in the north and the other in the south, both belonging to the Bronze Age. These occupy dominant positions in the landscape and, not surprisingly, bear names of their own: Röjsu and Laupargi (cf. Jansson & Jerrold 1973). Two smaller cairns are found on the cliff by Suderslätta, also from the Bronze Age (Rydh 1931:51; Cassel 2005:19). The other visible graves, c. 70 in number, are situated by the harbours. During one summer in 1889 Fredrik Nordin excavated around 60 of these, the majority of which were cairn-like or round stone settings with a stone filling, although two of them differed in shape, being almost square. One of these contained only burnt bones, but the other turned out to be a weapon-grave from the younger Pre-Roman Iron Age (Rydh 1931:53ff), probably dating from c. 100 BC–AD 1. A lance head, a shield boss and a triangular chape belonging to a sword had been placed in a pottery container together with burnt bones. This is unusual compared with the traditions on Gotland, but is a part of the burial traditions found on Öland and in Östergötland and Västergötland (Nylén 1956:108f; Nicklason 1997:161).

Most of the cairn-like stone settings in the Northern and Southern Harbours belong to the Late Roman Iron Age and the Migration Period (Rydh 1931:70; Cassel 2005:34ff). Kerstin Cassel (2005:20), who has recently made a survey of the cultural history of the island, comments that graves from the Early Roman Iron Age are missing. This is contrary to the traditions in the neighbouring regions, the islands of Gotland and Öland, where graves from the Early Roman Iron Age are numerous, but the number decreases in the Late Roman Iron Age (Cassel 1998:36, 2005:18; Fallgren 2006:139). So once again Stora Karlsö behaves unexpectedly.

If we glance at Gotland, or indeed Öland, a dominant feature of the landscape is the presence of house foundations with dry-stone walls. These “kämpgravar, jättegravar”, i.e. giants’ graves, date from the Late Roman Iron Age and Migration Period (Nihlen & Boëthius 1933; Carlsson 1979:34; Fallgren 2006:258ff). These, on the other hand, are not found on Stora Karlsö, which is remarkable (Cassel 2005:26). But then again, we are expecting Stora Karlsö to behave like its neighbours. In my view the house foundations with dry-stone walls are lacking because people on Stora Karlsö constructed their houses according to another tradition. This conclusion can be drawn from the results of fieldwork carried out by Bertil and Elisabeth Almgren on Stora Karlsö in the 1970s. They excavated an area of 20 m² in the Northern Harbour where the phosphate values were high. Situated at 8 m a.s.l. and c. 15 m east of the row of depressions, it proved to contain settlement remains but no proper buildings (Almgren 1979, 1980). The excavation seems to have taken place in a layer thrown out from a house (Eva Hjärtner-Holdar, who took part in the excavation, pers. comm. April 2006). This house seems to have
been located on one of a row of terraces that are still visible in the landscape. Such terraces were constructed as foundations for houses. This is a house-building tradition that is well known from the Iron Age in Central and Northern Sweden (Göthberg 1995:92; Liedgren 1995:131).

The dark cultural layer that was found in the Northern Harbour turned out to be contemporaneous with the numerous graves on the island. It was around 20 cm thick, and contained large numbers of fire-cracked stones and partly burnt bones. But it also yielded some special finds: a Migration Period gold spiral (47 g, E. Hjärtner-Holdar, pers. comm. April 2006), a Roman silver coin (Faustina I), flat weights from the Roman Iron Age, an iron clasp, melted bronze and possibly a crucible, boat rivets and ceramics from the Roman Iron Age and the Migration Period (Almgren 1979; Almgren-Aiken 1980).

Lower down in the Northern Harbour is a row of depressions (Fig. 2). These were thought in the 1880s to be landing-places (Nordin in SHM 8647, catalogue B:7, also cited in Rydh 1931:75), but the archaeologist Hanna Rydh (1931:85), having excavated one of them and made trial trenches in a couple of others, interpreted them as boat graves from the Viking Age. Later researchers have been sceptical about this. The stratigraphy is hard to grasp and the stone material started to fall into the trench when Rydh was excavating, so that the cultural layers may be mixed. Boathouses are very unusual in Sweden, although one is known at Bandlundeviken, a Viking Age harbour on eastern Gotland (Nihlén & Boëthius 1933:fig. 84; Thunmark-Nylén 2006:476, 493f), and there are a pair of them at the royal manor of Adelsö, Uppland, that have been dated to the Late Viking Age and Early Medieval Period (Brunstedt 1996:35).

Boathouses are to be found in Norway in the region of Norvegr, from Agder in the south up to Northern Norway. Björn Myhre, in his classical study of boathouses and naval organisation, classifies them by means of shoreline dating (Myhre 1997). What would be the result of using the same method on Stora Karlsö? The row of depressions is situated 6–7 m a.s.l., and the Viking Age shoreline on Gotland lies at 2–2.5 m a.s.l. Consequently the intervening 4.5–5 m would be equivalent to a shoreline that existed around the birth of Christ. The weather in the area of Stora Karlsö can be rough during the wintertime, so a boathouse would have to be built a few metres away from the sea. Nevertheless, it is worth considering whether the row of depressions might not be remains of boathouses or landing-places from earlier periods, perhaps from the Roman Iron Age or the Migration Period?

It seems reasonable to conclude that the two harbours on Stora Karlsö, the larger one in the north and the smaller one in the south, were established in the Late Roman Iron Age (Cassel 2005:23). These would have functioned as harbours and meeting-places and would at the same time have enabled exploitation of the resources of the island: eggs, down, birds, fish
and grazing lands. The numerous graves would be explained by people burying their dead relatives in graves around the two harbours in order to mark and guard their rights of ownership over the harbour and the natural resources of the island (cf. Fallgren 2006:132ff). The same phenomenon occurred on Gotland in the Vendel period and Viking Age (Carlsson 2000) and on Öland in the Late Iron Age (Fallgren 2006:136).

An analogy can be made with the buildings and graves adjacent to the pastures in the Norwegian mountains dating from the Roman Iron Age/Migration Period. Christopher Prescott has argued that this seasonal exploitation could be looked upon as a way of linking the upland areas to the lowland farms and legitimizing ownership (1999).

In my opinion, Stora Karlsö was involved in the great exploitation of natural resources of various kinds that occurred in the Late Roman Iron Age (AD 200–400), a common trait of which in the Nordic countries was a vast expansion out into the margins, in the form of fishing off the distant islands in Norway (Myhre 2002:148ff), iron production in Jämtland, Tröndelagen and Småland, for example (Magnusson 1999:392), or the clearing of arable land in northeastern Uppland (Hermodsson 1998) or in the inland parts of Småland (Arkæologisk program 2005:51f; Nicklasson 2005:132f). This expansion also occurred in the central regions. The numbers of farms on Öland, Gotland and in the densely settled areas of the Mälar Valley at that time seem to have been equivalent to the numbers known in historical times (Göthberg 2000:206; Fallgren 2006).

The Late Iron Age

The aspect of the material culture that aroused my interest on Stora Karlsö was not the graves or the presumed boathouses/landing-places, but the rotary querns. These appeared in the Roman Iron Age in special milieux such as Vå and Upåkra in Skåne; Gene in Själevad, Ångermanland, and a little later at Helgö in the parish of Ekerö in Uppland. They are also found in hillforts in Östergötland, such as Bruderberg, Boberget and Odensforsborgen (Vifot 1936; Stenberger 1964:436; Zachrisson 2004), but not in the house foundations with dry-stone walls on Öland and Gotland (Fallgren, pers. comm. April 2006; Stenberger 1955:1142; Almgren 1957:241; Cassel 1998:102f).

When I was searching for rotary querns on Gotland I found to my surprise that the upper parts of two, or maybe three querns had been found during excavations in the cave Stora Förvar. At that time they were treated as finds from recent times, and not dealt with specifically (Schnittrger & Rydh 1940:59). They are simply listed as having been found in unknown
circumstances. But a letter written by the excavator describes one of the querns found in the cave mouth, at a depth of 60–80 cm in the cultural layer (ATA letter Kolmodin to Lindström 9/8 1888; SHM 8473/D find 3; there are two querns listed under the inventory number 8473 for Kolmodin’s excavation, and a third stone came from one of Stolpe’s expeditions in 1891–92). This is a depth where several other Iron Age finds occurred (ATA letter, Kolmodin). The querns are of granite, one of them possibly being eye-granite, and the stone is from Småland, which is interesting.

The rotary quern was a very efficient way of grinding grain (Carelli & Kresten 1997), and the querns of this type appeared in the Late Roman Iron Age represent a kind of technology that is intimately linked to the making of bread (Pedersen & Wigren 1998:401; Zachrisson 2004:153; Bergström 2007:219). Liselotte Bergström presents in her thesis a thorough analysis of the use of bread in the Mälar Valley in prehistoric times and of the cultural history of bread in the region (Bergström 2007). Large amounts of bread appear in the central place and holy island of Helgö in the parish of Ekerö, Uppland, including the earliest known finds of bread in the Nordic countries (Bergström 2007:69).

The arduous task of grinding the grain is usually assigned to two big, sturdy thrall women in Norse mythology. As Stefan Brink has shown, those who prepared the bread were usually thralls, sometimes of high social standing, but nevertheless bondswomen. Handing out bread to one’s followers or household, however, was a way of underlining one’s position as a lord and master (Brink 2005). The rotary quern may also signify a cosmic dimension, alluding to a cosmic quern (cf. Tolley 1995; Zachrisson 2004:154).

When Bertil and Elisabeth Almgren excavated in the Northern Harbour in 1970, they also extended their work to the heaps remaining outside the cave of Stora Förvar, with the aim of determining whether these heaps consisted of primary cultural layers or were dumps from earlier excavations. The heaps yielded Neolithic pottery and a large number of bones, but also, surprisingly, 12 Viking Age moulds (Fig. 3) (Almgren 1979:69). Similarly, the excavations carried out in 1888–1893 revealed several Iron Age and medieval artefacts in the upper layers near the cave mouth (Thunmark-Nylén 2000:Eksta 134), and still earlier finds had indicated workshop activities there. Two fragments of moulds, constituting stray finds, were sent to the Museum of National Antiquities in 1908 (SHM 13418:3). Lars Kolmodin commented in a letter written in 1889 that he had found iron slag, presumably from a smithy, at a depth of ca. 60 cm in the entrance to the cave (ATA letter, Kolmodin to
Oscar Montelius). Altogether 14 fairly large pieces of moulds and numerous fragments have been found, and it has been possible to identify four of these: two moulds were for casting crowns for the discs of bow brooches dating from the Late Vendel Period/Early Viking Age (SHM 13418:3), one was for making box-shaped brooches during the Viking Age (facón D5, Thunmark-Nylén 1983:fig. 18), and one was for casting oval brooches of an Early Viking Age type, P25 (Petersen 1928:23; Almgren-Aiken 1980:22).

The excavators believed that the moulds came from a temporary workshop (Almgren 1979:170). The archaeometallurgical study of workshops has proceeded further since that time, however, and has deepened our knowledge of sites such as Uppåkra, Helgö, Bäckby, Barva and Birka (Hjärtner-Holdar et al. 2002). The various types of jewellery produced on Stora Karlsö indicate a duration of production of perhaps 200 years, but the workshop at Stora Förvar is a special milieu that needs further examination.

It is not unusual for remains of jewellery, in the form of scrap bronze or unfinished brooches, to be found on Gotland, as Ingmar Jansson (1983:229) has shown. The mould for the oval brooch on Stora Karlsö, however, is the only find of a mould for producing jewellery in a tradition that did not belong to Gotland. Gotlandic women wore dresses with ribbons that were held together with animal-shaped brooches, and Scandinavian women wore dresses with loops, held together with oval brooches. Thus the oval brooches made here could have been used in Viking Age communities located further away than Gotland. But even so, the type of oval brooch produced is not what would have been expected. There are three finds of this kind from around Uppsala, and otherwise the nearest example is from Åggersborg in Jutland, Denmark. The type – P25 – belongs to a decidedly Norwegian group that was common along the coast and in Northern Norway (Petersen 1928:26). P25 has not been found at either Birka (graves: Jansson 1985, workshops: Ambrosiani & Eriksson 1994:22f) or Kaupang (graves: Blindheim et al. 1999:29ff, workshops: Blindheim et al. 1981:93ff) but several finds have been made on one of the Frisian Islands, Amrum (Jansson, unprinted catalogue).

Oval brooches of type P25 have been reported in three cases in Sweden, all of them in the Uppsala area. The first is a stray find from the parish of Alsike (UMF 5629; Hagberg 1959:186), the second is from a damaged skeleton grave in the parish of Löby (Västerby, grave 14, UMF 5900:140–141; Hagberg 1959:181ff), and the third, and perhaps the most interesting, was in a grave in the cemetery of Valsgärde in the parish of Gamla Uppsala, lying close to boat grave 4. A woman had been cremated together with a dog and a young cat, and she had been given sheep/goat meat and black grouse as food for her last journey. She was dressed in an entirely Norwegian tradition, with a pair of oval brooches of type P25, a unique equal-armed brooch (cf. P82) and two arm rings (P186), some pearls, a knife, a comb and some other items (grave 59, UMF 5659, Jansson unprinted catalogue). She may well have married into the community of the Valsgärde area.

The cave of Stora Förvar seems to have been a special milieu, a workshop where the presumably bonded labourers were supplied with raw materials from elsewhere. There has been cultivation of grain on Karlsö since the Neolithic, and it is known that enough grain was grown on the island in historical times for the families of the lighthouse keepers to support themselves. But a rotary quern in an Iron Age context might imply that special places were provided with grain from the outside, as was probably the case at the Migration Period hillfort of Börsä in Bohuslän and the Vendel/Viking settlement of Sanda in Uppland (Hallström 1964; Lammm & Åqvist 1997). The hill-forts of Östergötland dating from the Late Roman Iron Age to the Migration Period have yielded finds that resemble those on Stora Karlsö. Boberget and Gullborg, are both situated in Vikbolandet in Eastern Central Sweden, and the Boberget plateau in particular has thick cultural layers containing rotary querns, grain and a silver rod, for example, while there are finds in Gullborg indicating casting as well as rotary querns and a gold rod (Schnüttet 1908, 1909).

Michael Olausson (2008) has recently discussed the hill-forts with house foundations from the Migration Period as milieux with great symbolic and ideological implications. He characterizes them as hilltop settlements that combined numerous functions: an impressive dwelling-place for an extended family of aristocratic origins or of the lower elite that formed a setting for specialized crafts, economic and religious power, military protection and trade. A hilltop settlement belonging to the aristocracy can be distinguished by the hall building rising up at its centre. The majority of hilltop settlements do not have graves or burial grounds nearby, but some do. The latter ones seem to have been permanently inhabited, whereas the others may have been seasonally inhabited, or, as Olausson stresses, were perhaps normally inhabited by bonded craftsmen or people of lower social categories, who may not have been buried in the ordinary
way (Olausson 2008:32). The consumption of animal products and grain nevertheless seems to have been high, although the animals, cattle and sheep, had been slaughtered elsewhere. Thus the household of the "hilltop lord" must have exploited the surplus of farms and villages that had dependence relations to it (Olausson 2008:33). Inside the hilltop settlements the division of labour seems to be very precise, as crafts of various types are represented: textile production, iron forging, occasionally antler and bone work, bread baking, the casting and smelting of bronze and sometimes also of gold and silver. The hilltop settlements are viewed as an attempt to control and monopolize the use of bronze and precious metals in the fifth century (Olausson 2008:30f).

The parallels to be found between the material culture of the Late Iron Age on Stora Karlsö and the Migration Period hilltop settlements in Sweden, as outlined by the author in the talk that formed the starting point for this article, as summarized in Karlöbladet (Zachrisson 2006), are deepened and problematized by Olausson’s synthesis. The house foundation on one of the terraces of Stora Karlsö and the cultural layer connected with it contained items of gold, silver, Roman Iron Age bronze weights, ceramics from the Roman Iron Age and the Migration Period, melted of bronze, casting pivots, a crucible, iron slag and large amounts of charred and uncharred bones (Almgren 1979:170). Altogether this bears the sign of a household operating on surplus supplies, possessing economic power and alliances. The cultural layer, with its objects of gold and silver together with melted bronze may represent the waste from a hall building. The specialized crafts seem to have taken place near the house foundation, but the slaughtering of the animals, cattle and sheep, had been done elsewhere (Almgren 1979). The cultural layer did not contain any objects from the Viking Age as far as I have been able to establish. The dwelling place, surrounded by the steep cliffs of the island, could in itself have functioned as a source of military protection. The graves around the Northern Harbour mainly date from the Late Roman Iron Age and Migration Period and could be interpreted as a burial ground belonging to the settlement. To sum up, there are numerous traits that resemble features of the hilltop settlements discussed by Olausson.

Hilltop settlements and hillforts were no longer in use elsewhere in Sweden in the Viking Period, and the only hillfort that can be dated to the Viking Age in Scandinavia, as Lena Holmquist Olausson has remarked, is that on Bjöörkö, beside the urban site of Birka in Uppland (Holmquist Olausson 2001:10f).

In contrast to the hilltop settlements, however, Stora Karlsö, as a specialized craft milieu, appears to have continued into the Viking Age, but with some relocation (c. 500 m). The moulds for casting box-shaped and oval brooches and the rotary querns were all found at or near the mouth of the cave, Stora Förrvar. The status of the settlement on Stora Karlsö may have changed, since there are no obvious signs of Vendel Period or Viking Age graves (see above). Visible graves have become a method for archaeologists to distinguish settlements where the inhabitant had been free, and consequently had the right to be buried, from settlements of another kind, that were inhabited but with no traces of visible graves (Skre 1998:199ff, cf. Myhre 2002:182; Iversen 2004:65ff, cf. Zachrisson 1994). It may thus be suggested that Stora Karlsö was inhabited during the Vendel Period and Viking Age by smiths and craftsmen with the social status of bondsmen. Ownership of the island in the Late Iron Age may have rested with persons on the mainland. What the name of that mainland might have been is an interesting question, given the characteristics of the Iron Age on Stora Karlsö as underlined here, but that is a topic for a separate article.

The name

The name Karlö might be interpreted as “the island of the free men” (SOL 2003:Karlaby, cf. Hellberg 1984:39). On the other hand, visible graves from the Late Iron Age seem to be missing on Stora Karlsö and the traces that we find are of bondsmen rather than freemen. In this sense the history of the island may mirror the large-scale changes that occurred in the Nordic countries at the transition from the Early to the Late Iron Age (cf. Myhre 2002). But the names of the islands could equally well be interpreted as “Little Man” and “Big Man” (SOL 2003:Karlö), names given to the islands so as not to disturb the powers that they housed. It may seem very inconvenient to place a workshop out on a distant island, despite the fact that it was beside a harbour. But if the islands had had ritual qualities, this inconvenience would have been balanced out by that fact that the jewellery produced at the mouth of the cave, the entry to the mountain, would be charged with a special kind of energy, a mark of vitality for many in the Iron Age (cf. Zachrisson 2004 concerning Helgö).

Seen from the mainland of Gotland, Stora Karlö looks like a mirage and may have been associated with the Gotlandic myth of the creation, which recounts that the island that was so enchanted that it
sank during the daytime and rose up at night. Tjelvar, the "master of all", was the first human being to find Gotland, and he took fire there, and in this way he "bound it", so that, as the saga puts it, it never sank any more (Gutasagan, transl. Elias Wessen 1983:471, for the name Tjelvar, see Nordisk runnamnslexikon).

The landscape of Stora Karlsö is indeed unique, including the bird cliff, which forms its material culture. And this material culture does not behave as we expect, but makes a sharp contrast to the Iron Age culture of the region it is situated in. In effect, the ancient monuments mark and form the landscape. Stora Karlsö urges us to think differently and gaze out over Scandinavia.

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This manuscript was finished in the summer of 2006. In 2007 the excavations in Norderham finally and fortunately were reported and presented in an article by Jenny Örjedal, "30 år gammalt undersökningsmaterial åter i julset", in Gotländska Arkiv 2007, pp. 41–57. This article however does not alter the interpretations and suggestions here (in my text).

Acknowledgements

I wish to express my thanks to Professor Kerstin Liden, who invited me to speak on the theme of Material Culture and Landscape. I have been curious about Stora Karlsö since 1999, and now I have a reason to think about it a little more. Thanks also go to Malin Lindqvist, antiquarian at Gotlands Fornsal, who showed me the finds in the Norra Magasinet, and to Hanna Sundeen, Phil.Mag., with whom I rediscovered the Stora Förvar moulds we all thought were missing. Finally, I wish to thank the quaternary geologist Elisabeth Almgren for patiently answering my questions concerning the excavation results.

English language revision by Malcolm Hicks.

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