

# Sacrificed animals in Swedish Late Iron Age monumental mound burials

## Abstract

Osteological analyses of prehistoric burials from Sweden often consider skeletal remains not only from the buried person, but also from animals. During the Swedish Iron Age Period (500 BC to AD 1050) cremation was common and towards the end of the period (AD 400 to 1050) many different animal species represented by a high number of individuals are often found in a single cremation grave. The skeletal remains represent animals that have been sacrificed and buried together with the dead person. Sometimes only parts of the animal bodies are found in the grave while in other instances the whole animal is present. The animal bone finds can be divided into two groups: animals that have been consumed, such as cattle, pig and sheep, and animals that were used in daily life such as dogs, horses, cats and birds of prey. Dogs are the most common animal in the cremation graves, while finds of birds of prey in particular indicate the high status of the buried person and suggest that falconry was practised.

## The monumental mound burial project —*Storgravsprojektet*

In this article I have chosen to focus on the Late Iron Age in Sweden, around AD 400 to 1050. During this period there was a marked increase in animal sacrifices in connection with burials, showing that the funerary traditions had changed. In addition, the construction of the tombs was modified and the burials became more visible in the landscape, compared to those of the Early Iron Age (ca 500 BC to AD 400). There is no consistent pattern in how the skeletal remains are arranged in the Late Iron Age tombs, as there are many variations among the cremation graves. The grave could be placed directly on top of the cremation pyre, and when excavated the burnt remains would be found in a layer of ash, or the bones may have been collected in an urn or a pit in the ash layer.

In 1980, my colleague Maria Vretemark and I initiated, with financial support from Berit Wallenbergs Stiftelse, a

project focusing on a systematic analysis of the osteological material from the rich burials found in the eastern part of central Sweden. These monumental burial mounds, the so-called “Stormannagravar” (“Big men burials”), are the interments of prominent persons from the wealthy class, dated to the later part of the Iron Age, ca AD 400–900. The burial mounds have a prominent position in the landscape and are of imposing dimensions, and were clearly meant to be seen and to demonstrate the buried person’s important position within society.

Large quantities of burnt bones have been found in these graves (*Table 1*). It has been estimated that the cremation of a human body results in around two to four kilograms of bones. The monumental mound burials are extremely rich in cremated bones, however, producing between ten and up to nearly 100 kilograms. The type and volume of the bones reveal that numerous animal sacrifices must have been performed in connection with the cremation.

A common factor with all the graves is that the burial goods are very rich. The dead person, who had been cremated together with a number of animals, was furnished with substantial personal equipment with a practical function but also items to be used for pleasure. Weapons have been found in many of the graves, as well as items of armour, glasses from drinking sets, dices and gaming pieces. These objects are often richly decorated, and costly imported items are also present, such as Islamic coins, rock crystal beads, gaming pieces of jet and ivory, as well as objects executed in exquisite techniques, such as cloisonné and filigree work. The archaeological artefacts thus often demonstrate trading contacts.

The number of individuals, age and sex assessment in the analysed graves are presented in *Table 2*. Furthermore, the cause of death (a sword blow) can be identified in at least one case from traces on one bone fragment from the frontal bone from a man (*Fig. 1*).

Table 1. The 14 monumental mound burials osteologically analyzed within the project (Sten & Vretemark 1988, 147; 2001, 191–198). One additional mound, Broby, was analysed at a later date and is included here (Stavrum 2005–2006).

Location	Parish	Landscape	Date AD	Volume cremated bones/litre
Gamleby	Gunnerstad	Småland	600	38
Hoxla	Sorunda	Södermanland	550–800	67
Landshammar	Spelvik	Södermanland	600	77
Husby, Ingjaldshögen	Vansö	Södermanland	800	60
Karleby	Östertälje	Södermanland	700–800	15
Algö	Överselö	Södermanland	600	15
Rådhuset	Örebro k:n	Närke	700–800	10
Skopintull	Adelsö	Uppland	900	56
Västhögen	Gamla Uppsala	Uppland	500	0,5
Viby	Kalmar	Uppland	800	65
Rinkeby	Spånga	Uppland	600	17
Arninge	Täby	Uppland	800–900	90
Rickeby	Vallentuna	Uppland	600	32
Ottarshögen	Vendel	Uppland	400	10
Broby	Börje	Uppland	800–900	27



Fig. 1. A bone fragment from the forehead showing signs of a blow with an axe or sword tells us how the man in Rådhuset in Örebro died. Photo: Gabriel Hildebrand, Swedish National Heritage Board.

Table 2. Number of individuals, age and sex assessment of the deceased in the monumental mound burials (Sten & Vretemark 1988, 148; 2001, 191–198; Stavrum 2006–2005, 1). M= male, F= female, X= sex could not be identified.

Location	Parish	Landscape	Infant -1	Adultus 18–34	Maturus 35–64	Senilis 50–	Adult
Gamleby	Gunnerstad	Småland			M		
Hoxla	Sorunda	Södermanland			M		
Landshammar	Spelvik	Södermanland		M			
Husby, Ingjaldshögen	Vansö	Södermanland					M
Karleby	Östertälje	Södermanland		M			
Algö	Överselö	Södermanland					M
Rådhuset	Örebro k:n	Närke		M			
Skopintull	Adelsö	Uppland			M F		
Västhögen	Gamla Uppsala	Uppland		M F			
Viby	Kalmar	Uppland			M		
Rinkeby	Spånga	Uppland					M
Arninge	Täby	Uppland		M M F X		M	
Rickeby	Vallentuna	Uppland				M	
Ottarshögen	Vendel	Uppland					M F
Broby	Börje	Uppland			M?		

## Animal sacrifice

Apart from the skeletal remains of the buried person, the osteological analyses of prehistoric burials from Sweden often reveal the presence of animal bones. Animals have always been of great importance for man, both in his everyday life and within his perception of the world. Although animal sacrifice was performed during the entire prehistoric period, the tradition of placing animals on the funeral pyre culminated during the Late Iron Age. The skeletal remains represent animals that had been sacrificed and buried together with the dead person and the usual interpretation of their presence in prehistoric graves is that these animals carried a symbolic meaning that reached beyond their practical uses. The animals may have represented men's different character traits, abilities and social position, and could have been offered as a commemoration of these. Also the lifestyle of the departed could be expressed in the funerary rituals. The burial goods

were presumably symbols of the dead man's life after death and of considerable importance for the status of the family. A burial rich in goods was a display of an affluent family and of power.

Contrary to the meagre written sources concerning this period, the importance of animals is more evident from the archaeological material. A large number of investigations of burial and settlement material have resulted in a substantial knowledge of prehistoric man and his relation to animals in Sweden, among them Berit Sigvallius's study of the sacrificed animals from a grave field in Spånga, north-west of Stockholm.<sup>1</sup> The burial grounds were often located near the farmsteads and death was a natural part of man's everyday life. Death was probably not considered as an end of life but rather as a rite of passage.

Table 3 presents the identified animals and number of individuals in the monumental mound burials. There is a great variation of animal species, with 49 different ones repre-



Fig. 2. Rickeby tomb, Vallentuna, Stockholm. Reconstruction of the position of the dead man and the sacrificed animals. The man is placed on his back with his arms along his body. Horses, dogs and birds are placed closed to the man's body. Food offerings, meat from cattle, pig and sheep were placed beside the man's head. The reconstruction of the position of the deceased and the sacrificed animals was possible because the grave contained the undisturbed remains of the pyre itself. Illustration: Ulla Malmsten.

<sup>1</sup> Sigvallius 1994.

Table 3. Distribution of individuals/species in the monumental mound burials (Sten &amp; Vretemark 1988, 150; Stavrum 2005–2006).

1) Only bird identifications are made by Sten and Vretemark.

2) The analyses are not finished and therefore an assessment of the number of individuals cannot be given.

3) The material is incomplete. The number of individuals may be considerably larger.

Species	Gunnerstad 1)	Hoxla 2)	Lands-hammar	Ingjaldshögen 2)	Karleby	Algö	Örebro 3)	Skopintull	Väst-högen 3)	Viby	Rinkeby	Arn-inge	Rickeby	Ottars-högen	Broby
Horse	1	x	3	x	1	2	1	3	1	6	3	7	1		5
Dog	1	x	9	x	1	6	1	7	1	6	3	11	4	3	8
Sheep/Goat	1	x	6	x	1	2	1	1	1	2	2	4	4	1	8
Cattle	1	x	5	x	1	4	1		1	2	2	1	1		2
Pig	1	x	10	x	1	4	1			1	2	1	4	1	7
Cat				x	1			1		1	2	1	4	1	
Eagle owl	1		1	x		1		1		1	1	1	1		1
Peregrine			1			1							2		4
Goshawk	1	x	1	x		1	1	1	1	1	1	1	1		1
Sparrowhawk													1		
Sea eagle								1							
Osprey															1
Domestic /grey goose	2		1	x	1	1		1		1	1	1	1	1	2
Wild duck	1			x		1		1				1			4
Common teal								1							
Domestic hen	1	x	2	x	1	1	1	1	2	1	1	2	1		
Gallina ceousbird															1
Black grouse													1		
Hazle grouse													1		
Crane								1				1	1		
Starling															
Pigeon															
Bittern															1
Bird, unidentified								1							
Pike			1							1		1			
Perch						1						1			
Pike-perch															2

Table 3 continued.

Species	Gunnerstad 1)	Hoxla 2)	Lands-hammar	Ingjalds-högen 2)	Karle-by	Algö	Örebro 3)	Skopin-tull	Väst-högen 3)	Viby	Rinke-by	Arn-inge	Ricke-by	Ottars-högen	Broby
Bream			1												
Roach												1			
Whitefish			1									1			
Lynx										x		x			1
Bear										x				1	
Wolverine								1							
Marten								1							
<b>Total</b>	<b>11</b>	<b>x</b>	<b>43</b>	<b>x</b>	<b>8</b>	<b>23</b>	<b>7</b>	<b>25</b>	<b>7</b>	<b>24</b>	<b>18</b>	<b>38</b>	<b>26</b>	<b>7</b>	<b>49</b>

sented, and a high number of individuals are often found in a single grave. The animal remains can be interpreted as animal sacrifices, food offerings and burial goods, the latter being both necessary personal items and aristocratic entertainment. The animals that have been burnt on the pyre together with the rich funerary goods indicate that the departed must have held an important position within contemporary society.

An example of a cremation undertaken at the site of a monumental mound burial is the Rickeby burial in Vallentuna, north of Stockholm (Fig. 2). The grave was excavated and documented in 25 × 25 cm squares, a method that enabled precision in recording the anatomical position of the dead person, as well as the animals surrounding the body. The investigation revealed how both entire animals and parts of animals had been placed in the grave. Dogs were generally found as entire animals, sacrificial gifts that symbolized companions in death. Animals such as cattle, sheep, goat and pigs were usually present as selected sections of the bodies, meant to provide food for the journey upon which the dead person was about to embark, or may have been meant to be consumed in connection with the burial ceremony.

Unlike animals used in daily life, such as horse, dog, cat and birds of prey which were usually buried whole in the graves, only isolated bones from meat-producing livestock such as cattle, sheep/goat and pig are present. The bones from these animals come from the parts of the body that are rich in meat, such as the shoulders, vertebrae, ribs, pelvis and upper leg bones (Table 4).

Table 4. Different parts from the body are represented (X) between meat-producing animals (cattle, pig, sheep/goat) and animals used in daily life (horse, dog, cat, birds of prey) in the graves.

Part of skeleton	Cattle	Pig	Sheep/goat	Horse	Dog	Cat	Bird of prey
Cranium	–	–	–	X	X	X	X
Teeth				X	X	X	
Shoulder (upper arm and shoulder blade)	X	X	X	X	X	X	X
Vertebrae and ribs	X	X	X	X	X	X	X
Pelvis	X	X	X	X	X	X	X
Upper leg bones	X	X	X	X	X	X	X
Bones from hands and feet	–	–	–	X	X	X	X

## Dogs and horses

The most common animal recovered in the monumental mound burials is the dog. Often several individuals were buried in a single grave (Figs. 3–4), and no less than eleven individuals were found in the Arninge tomb in Täby, Stockholm. Here, nine penis bones were identified, belonging to dwarf to large male dogs. The burial must thus have included dogs of different sizes, varying from small lapdogs to large dogs, such as German Shepherd dogs. It can be stressed that very small dogs are unusual but not unique, as one such individual, no larger than 40 cm, was found in both the Landshammar and Skopintull graves (Table 5).<sup>2</sup>

Horses are also common sacrificial animals and in the Arninge tomb bones from seven individuals were found (Table 3). The importance of the horse is also evident from how often they are depicted on the contemporary picture stones, decorated slabs of stone which were erected to honour the deceased. Sleipner, the divine horse of the Old Norse god Odin, was a central and one of the most commonly-shown motifs. This incredibly strong animal, easily recognized by his eight legs, could move on the ground, in the air and on the water, and carried the fallen warriors to Valhalla, Odin's abode. After the introduction of Christianity in Sweden, the church banned the consumption of horsemeat as heathen and this kind of meat is still today surrounded by taboos in Sweden.

Table 5. Number of dogs and their estimated withers height in some of the monumental mound burials. M = Male.

Location	Number of individuals	Large 60–75 cm	Middle 50–60 cm	Small 40–50 cm	Dwarf size <40 cm
Landshammar	9	1	5 (1 M)	2	1 (1 M)
Karleby	1		1		
Algö	6		1	1	
Rinkeby	3		1	1	
Arninge	11	2	6 (1 M)	3 (2 M)	
Rickeby	4	1 (1 M)	2 (2 M)	1	
Ottarshögen	3	2 (1 M)	1		
Skopintull	7	1	2		1



Fig. 3. Dens axis on the cervical vertebrae of six of the seven dogs that were sacrificed in the Skopintull grave. From the thickness of the dens it can be deduced that the dogs were of different types and sizes.

Photo: Gabriel Hildebrand, Swedish National Heritage Board.



Fig. 4. One dog vertebra in Skopintull tomb shows osteophytes on the caudal corpus indicating that the dog was old. The vertebra is here compared with a dog vertebra from the osteological reference collection at the National Historical Museum in Stockholm. Photo: Gabriel Hildebrand, Swedish National Heritage Board.

<sup>2</sup> Sten & Vretemark 1988, 151.

Fig. 5. The runestone from Balingsta parish in Uppland, dated to about AD 1050, shows a complete hunting scene with a rider on a stallion, two dogs, two trained raptors and the prey itself (deer/elk). Photo: ATA, Swedish National Heritage Board.



### Birds of prey

Besides horses and dogs, birds of prey, hares or wild birds are often found together with the buried person. A possible interpretation of this situation is that the departed practised falconry and subsequently was buried with both his necessary equipment and the game that he had caught (Figs. 5 & 6). Among the birds of prey the goshawk is the most common species in the monumental mounds, followed by the peregrine falcon and sparrowhawk. These birds of prey were used for hunting smaller animals, such as hares and other kinds of birds, including the black grouse and hazel grouse. There were also some bones of the eagle owl, a bird that hunts at night, which probably was used as a decoy to lure game into traps at hunts, a practice reported by early ethnographic sources.<sup>3</sup>

Hunting with trained birds of prey, such as falcons and hawks, was an activity that involved considerable costs in the acquiring of the birds and in training them. It was therefore linked to luxury of the kind only available to the upper class. The presence in the monumental mound burials of trained birds of prey (Fig. 7) can be taken as one of the main indicators of the aristocratic connections of the graves. The oldest finds of birds of prey in Sweden are usually considered to come from the Östhögen burial mound in Old Uppsala, dated to around AD 500.<sup>4</sup> The evidence from the monumental mound burials suggest that falconry was practised by the wealthy class in Sweden by the late 5th or early 6th century AD, being fully established around AD 600.

The custom of hunting with trained birds of prey arose among nomadic populations on the steppes of southern Asia, probably around 2000 BC at the latest. This highly developed



Fig. 6. Picture stone from St. Hammars, Gotland, with two birds of prey. Photo: Bengt Lundberg, Swedish National Heritage Board.

hunting skill gave horsemen the possibility to catch prey species that were beyond the reach of conventional weapons. Hunting, which originally was a stage in the struggle for survival and for the improvement of the conditions for life, had in Europe around two millennia later developed into a specialized sport for those who had the means and the time available. This type of hunt probably arrived in Scandinavia through the local upper classes' attempt at being fashionable, as they aimed to imitate the European aristocracy that practised falconry. This noble sport was a highly significant part of the lifestyle of the Germanic aristocracy and its occurrence in Sweden can be taken as an expression of the lively contacts between Scandinavia and the culture of Western Europe.

<sup>3</sup> Hougén-Åkerström 1974, 92ff; Lindner 1976, 164.

<sup>4</sup> Sten & Vretemark 1988.



Fig. 7. Claws (phalanx III) from goshawk. Photo: Gabriel Hildebrand, Swedish National Heritage Board.



Fig. 8. A burnt phalanx from an eagle found in a Viking Age tomb (ca AD 900) in Sollentuna, Stockholm. Compared with a contemporary phalanx from an eagle. Photo: Gabriel Hildebrand, Swedish National Heritage Board.

To find eagle bones in cremation tombs is very rare. In Skopintull, one sea eagle was found, and a phalanx of an eagle was also recovered in a Viking Age tomb (ca AD 900) at Sollentuna, to the north-west of Stockholm (Fig. 8). Compared with the tombs in the monumental mound burial project, the Sollentuna tomb was a small grave with only 1.5 litres of cremated bones and no artefacts showing a connection to the wealthier classes. Still, the young person buried here, no more than a teenager, was cremated on a pyre together with seven different kinds of animals: a horse, a bovine, a young pig, a dog, a domestic hen, a duck, an eagle and a goshawk.<sup>5</sup>

Today, hunting with trained eagles is practised in Asia to catch wolves. Hunting with this kind of bird is considered as a prestigious and impressive activity but cannot be evidenced in Sweden during the prehistoric period. On the other hand, the eagle symbolizes power and has a long tradition as a marker of such in European art. During the Iron Age, brooches worn by women were eagle-shaped and, as the eagle also had a connection to the Old Norse god Odin, it is possible that those who carried ornaments with this bird stood under the protection of this divinity.<sup>6</sup>

### Other animal species in the monumental mound burials

Bones from meat-bearing animals in the monumental mound burials come from horse, cattle, sheep/goat, pig and domestic fowl. Fish as food offerings are also found, the species being pike, cod, perch, pike-perch, bream, roach, and whitefish (Table 3).

The osteological evidence can be compared with a unique piece of written evidence, the account by the Arab traveller Ibn Fadlan, who in AD 922 witnessed the cremation of a Viking chieftain on the shores of the Volga.<sup>7</sup> The detailed description of the procedure tells how the Viking lord was cremated in a ship together with a sacrificed woman, a dog, two horses, two cows, one cock and one hen. All the animals were cut in parts.<sup>8</sup>

Other animals to be mentioned among the bones recovered in the monumental mound burials are bear and lynx, the remains of which often consist of phalanges (III) of claws. Such finds indicate that only the skins of hunted animals were deposited with the dead, presumably used for wrapping the deceased, but the skins may also be those of animals sacrificed for religious purposes. Occasional phalanges (III) of marten and wolverine, identified for example in Skopin-

<sup>5</sup> Sten 1996, 141.

<sup>6</sup> Gräslund 2006, 127f.

<sup>7</sup> Frye 2006.

<sup>8</sup> Frye 2006.



tull, have also been found in prehistoric graves and may be explained similarly.

It is also common to find bones and teeth in the cremation burials that are only slightly affected by the fire or are even unburnt. The slightly burnt bones and teeth have not been exposed to the fire and must have been added when the pyre was almost extinguished.<sup>9</sup> Possibly these bones and teeth derive from slaughtering and meals in connection with the funerary ceremonies, or they may represent food given to the dead person in his next life. Finds of unburnt teeth of horses, cattle and sheep are more difficult to interpret. They are unlikely to represent remains of food and may rather have had a symbolic value.

## Concluding remarks

The osteological evidence in combination with the rich burial goods in the Late Iron Age monumental mound burials show that the departed must have had a high status in society. The bones from cattle, sheep/goat and pigs are to be interpreted as offerings of food, indicating meals focusing on meat. The finding of horses, dogs and birds of prey can be given a different interpretation, suggesting that the upper class practised hunting with trained birds of prey.

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<sup>9</sup> Sten 1996, 141.

