

Mammal Consumption at the Medieval Fishing Station at Gufuskálar

A Preliminary Zooarchaeology Report from the 2011 Excavation



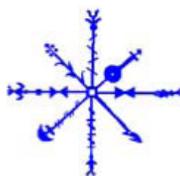
*A curious seal and daily visitor to the site.

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Abstract

This report details the analysis of mammal bones recovered from one of the four trenches excavated at the medieval fishing station of Gufuskálar during the summer of 2011. During excavation it was noted that there seemed to be a high proportion of mammal bones recovered which correspond with high quality cuts of meat. This was counter to assumptions regarding the economic status of fishermen during the medieval era as these cuts of meat would be rather expensive. The preliminary zooarchaeological analysis from Trench 8 suggests that the people fishing at Gufuskálar were eating rather well.

Keywords: Zooarchaeology, luxury, medieval commercial fishing.

Introduction & Background

During the summer of 2011, an international team of archaeologists from the Icelandic Institute of Archaeology (FSÍ), the City University of New York (CUNY) and the University of Tromsø spent three weeks excavating test units into the eroding remains of medieval fishing booths along the coast at the site of Gufuskálar on the Snæfellsnes peninsula in Western Iceland (see Figure 1). The site sits along the coast near the base of the Snæfellsnes glacier where it was most likely settled during the Viking Age with constant inhabitation through to the Early Modern era and today houses a training center for Icelandic sea rescue teams.

During the 15th century Gufuskálar was the location of one of the largest fishing stations in the country. The site was initially excavated in 2008 in response to the rapidly eroding coastline that had caused significant damage to the coastal portion of the site. Radiocarbon dates from the erosion face suggest that during the 15th century there was an explosion of activity at the site with dozens of

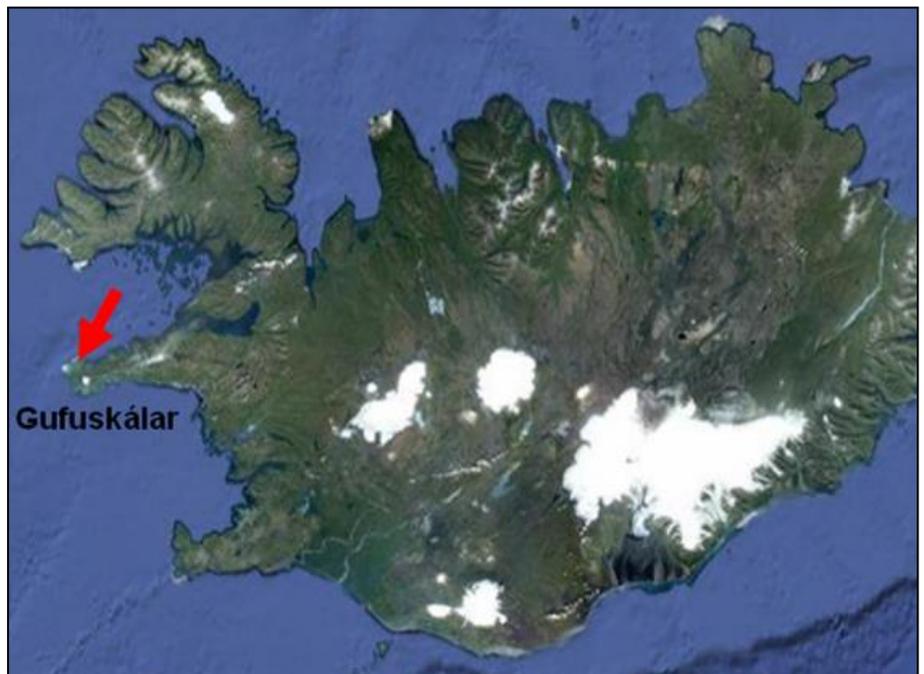


Figure 1: Map of the field site. Compiled from Google Maps.

booths popping up relatively quickly. These booths would have served as temporary homes for fishermen from nearby farms who caught and processed cod fish (*Gadus morhua*) for export. During the 2011 field season four trenches were opened along the erosion face. Over one metric ton of faunal remains were recovered and later shipped to the City University of New York for analysis. This density of bone suggests a proto-industrial level

of commercial cod fishing. Disused booths were in-filled with the remains of processed fish along with these fishermen’s food remains (flatfish and terrestrial mammals).

While the focus of the zooarchaeological analysis has focused on the fish, which make up 97-99% of the collection, there is significant data in the mammal remains recovered. In particular, this report deals with the mostly domestic mammal remains from one trench excavated during that 2011 excavation season. Trench 8 was a small test pit about 2 x 0.5 meters (see Figure 2). It was placed in a heavily eroded portion of the coast and its strata could be linked to Trench 1 from the 2008 excavation which radiocarbon-dated to the mid-15th century

(see Pálsdóttir 2009). Relative to its size it contained many bones as well as numerous artifacts including an imported amber rosary bead, a gold foil-wrapped bead, links from chain mail armor and a nicely carved chess piece in addition to many other artifacts (see Pálsdóttir 2012).



Figure 2: Trench 8. Photo by Thomas McGovern.

Methods & Basic Results

All faunal remains were analyzed and recorded using the NABONE system. The bone bags from Trench 8 were sorted by context and all mammal bones were separated. The fish and bird remains will be analyzed at a later date. Mammal bones were identified to the highest taxonomic level possible. Ribs and vertebrae were designated as belonging to small, medium or large terrestrial mammals. The Total Number

of Fragments (TNF) was 548. This number is small for a zooarchaeological collection and includes the unidentifiable fragments but this should be sufficient for the purposes of this preliminary analysis. As more trenches are analyzed this number will increase.

Figure 3 shows the Number of Identifiable Specimens (NISP) from Trench 8 excluding the fish, birds and mollusks. The Medium Terrestrial Mammal category is the largest at 39.5%. MTMs is catch-all category that includes sheep/goats and pig-sized animals. For 15th century Iceland the sheep/goat (collectively known as ‘caprines’) bones are most likely sheep. The next highest category, aside from the unidentifiable elements, are the caprines. They comprise 19% of the collection and are the focus of further analysis (see below). The remaining 3.5% are comprised of Large Terrestrial Mammals (this category includes horses and cow vertebrae and ribs), domestic cattle and three pieces of worked whale bone of undetermined species.

NISP Trench 8		
Species	Sum	%
Domestic Sheep / Goat	104	19.0%
Domestic Cattle	10	1.8%
Unidentified Whale	3	0.5%
Large Terrestrial	6	1.1%
Medium Terrestrial	216	39.5%
Unidentifiable	208	38.0%
<i>total</i>	<i>547</i>	

Caprine Bone Element Distribution

During the 2011 excavation we noticed a high number of caprine limb bones from many of our trenches. Furthermore, these bones were not heavily fragmented suggesting that there

Figure 3: NISP of the Mammals in Trench 8. Note that domest sheep/goat remains far outnumber the other identifiable remains.

wasn't aggressive marrow extraction of these bones. If, indeed, there were a large proportion of caprine limb bones and if they were relatively unfragmented this would suggest that the people fishing at Gufuskálar during the 15th century were provisioned with relatively expensive cuts of meat. Perhaps they were not the poor, miserable fishermen we often envision.

For the purpose of this analysis the frequency of caprine bones were grouped into one of eight categories (see Figure 4). These eight categories roughly correspond to popular cuts of meat with limbs and ribs/vertebrae making up the more desirable cuts and feet, and cranial elements making up the less desirable portions. Icelanders have a long tradition of eating boiled and split sheep heads (Svið) which is, along with putrid shark meat (Hákarl) and ram's testicles, an important part of Icelandic traditional food which harkens back to "hard times". Therefore it would not be out of the ordinary to find cranial elements in a food waste deposit.

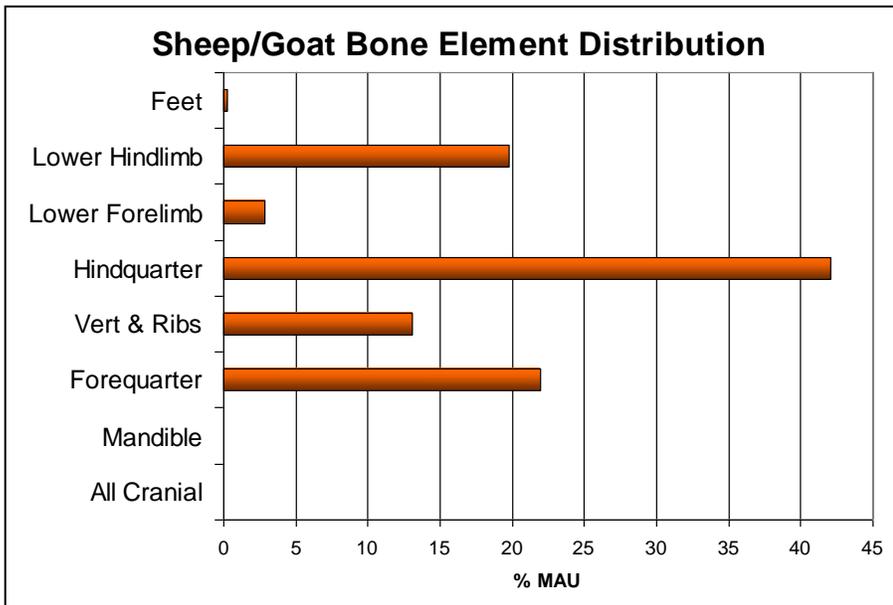


Figure 4: The relative frequency of sheep/goat remains. If the whole animal was discarded each category would be equal. Note that there are few feet and no cranial elements while limb bones and ribs are plentiful.

All MTM-designated ribs and vertebrae were included in this analysis as they are most likely to have come from caprines. The raw frequency of each skeletal element was divided by the number of those bones present in a living animal. For example, sheep commonly have two femurs and roughly forty-six vertebrae. So the total number of caprine vertebrae from Trench 8 was divided by forty-six and the total number of femurs were divided by two. The result is the Mean Animal Unit (MAU) and allows for the comparison of various caprine body parts to one another. At a site where animals were slaughtered, presumably consumed, and disposed of the MAU percentages would all be equal but

Figure 4 clearly shows that the caprine remains from this trench are predominately from the limbs and ribs with no cranial elements and extremely few foot bones. Again, limbs and ribs were expensive cuts of meat well outside of the price range of many Icelanders at the time.

The expense of this meat is corroborated by the analysis of the bone fusion of the caprine limb bones. When an animal is born the ends and shafts of their limb bones are not fused together. Over time these bones fuse but at different rates depending on the bone. By calculating the extent of bone fusion in particular elements we can estimate the age of a particular animal when it was killed. The fusion data from Trench 8 demonstrates that most of the caprines recovered were a year or younger when killed. This would place them further in the prime meat category and would have greatly increased their cost.

Discussion

The ratio and fusion data suggest the people who created this particular midden pile had the funds to provision themselves with food unavailable to many Icelanders at the time. Historical documents which date to much later than the 15th century state that the then tenant fishermen at the site could purchase provisions from the farm at GFS (Pálsdóttir, personal communication). It would seem likely that this arrangement extended back into the 15th century as well and the farm at GFS would have been the source of this prime meat. This data challenges our view of the lives of medieval fishermen in Iceland. With access to foreign traders and with the means to buy

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imported objects these people were in a much better position to consume continental goods than their inland counterparts. This data fits well with Edvardsson's (2010) analysis of medieval commercial fishing in the nearby northwestern portion of Iceland. He maintains that during the medieval era the northwest was one of the wealthiest in Iceland thanks to its marine resources. The Medieval people of Snæfellsnes also exploited these same marine resources and clearly profited greatly for it.

Future Work

Aside from further field seasons I will continue to analyze the mammal and fish remains from the other portions of the site. It will be interesting to see if perhaps there is a differentiation between the food waste of the dozen plus 15th century fishing booths along this shoreline.

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