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Animal Bones from Sondum (27012) Sandoy, Faroe Islands 200 Season Collection

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***Introduction**:*

This paper reports on analysis of animal bones collect in 2000 by the Faroese Museum from a stratified but eroding beach front cliff in on the island of Sandoy. The site designation is Sondum, 27012 and the bone materials have been kindly sent to the CUNY laboratories for analysis by the excavator Simun Arge. While conditions of bone preservation are not as good as at the Undir Junkarinsfløtti locality to the SW across the embayment, and sample size is much smaller, a substantial amount of bone was recovered from datable which adds to our understanding of early economic patterns on Sandoy.

Laboratory Methods

Analysis of the collection was carried out at the Brooklyn College and Hunter College Zooarchaeology Laboratories and made use of extensive comparative skeletal collections at both laboratories the holdings of the American Museum of Natural History. All fragments were identified as far as taxonomically possible (selected element approach not mployed) but most mammal ribs, long bone shaft fragments, and vertebral s were assigned to "Large Terrestrial Mammal" (cattle-horse sized), "Medium terrestrial mammal" (sheep-goat-pig-large dog sized), and "small terrestrial mammal" (small dog-fox sized) categories. Only elements positively identifiable as *Ovis aries* were assigned to the "sheep" category, with all other sheep/goat elements being assigned to a general "*caprine*" category potentially including both sheep and goats. Murre and Guillemot are not distinguishable on most bones and are presented together as *Uria sp*., except where positive identification of *Uria lomvia* (Guillemot) could be made. Fish identifications follow the most current ICAZ Fish Remains Working Group recommendations (including most cranial and vertebral elements), with only positively identified fragments being given species level identification (thus creating the usual large cod-family or *gadid* category as well as a substantial number of unidentified fish bones). Following NABO Zooarchaeology Working Group recommendations and the established traditions of N Atlantic zooarchaeology we have made a simple fragment count (NISP) the basis for most quantitative presentation. Digital records of all data collected were made following the 8th edition NABONE recording package (Microsoft Access database supplemented with specialized Excel spreadsheets, see discussion and downloadable version at www.geo.ed.ac.uk/nabo) and all digital records (including archival element by element bone records) and the bone samples will be permanently curated at the Faroese National Museum. CD R versions of this report and all archived data are also available on request from nabo@voicenet.com.

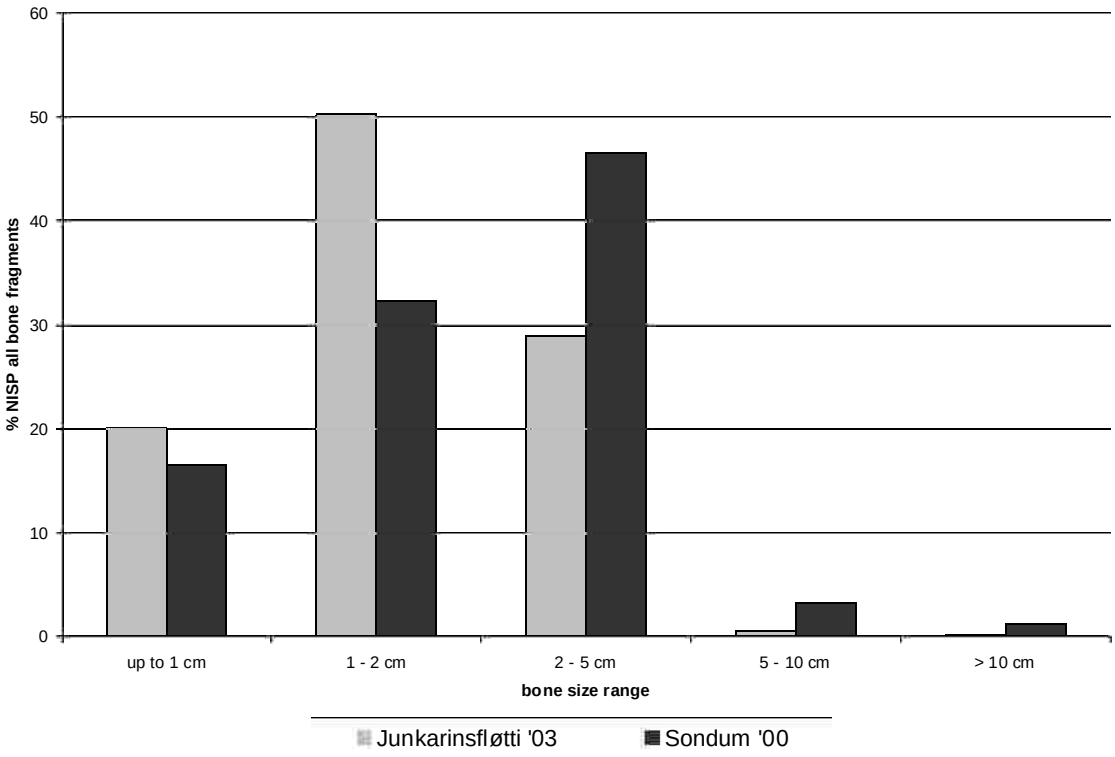
Taphonomy, Recovery and Bone Preservation

The conditions of deposition, recovery and preservation greatly affect archaeological bone collections (archaeofauna) and the degree to which

archaeofauna may be effectively compared across contexts and between sites. Modern zooarchaeologists usually attempt to reconstruct the taphonomic history of bone collections under study, searching for indications of the different factors which have affected bones between their place in an an living skeleton to their arrival as a much transformed fragment upon a modern lab table (Lyman 1996). In this case, the most important comparative collection is that from Undir Junkarinsfløtti directly across the bay at Sandur, and it may be most useful to directly compare the taphonomic indicators of these two archaeofauna. Table 1 presents the size of bone fragments recovered from the 2003 excavations at Junkarinsfløtti and the much smaller 2000 collections from Sondum.

Table 1 Fragmentation	count	count
Fragment Size	Undir Junkarinsfløtti '03	Sondum '00
up to 1 cm	3,065	130
1 - 2 cm	7,672	254
2 - 5 cm	4,429	367
5 - 10 cm	83	26
> 10 cm	20	10

Figure 1 graphs the distribution of fragment sizes, illustrating the larger percentage of very small bone fragments (1-2 cm range) in the Junkarinsfløtti archaeofauna.



Since the 2003 Undir Junkarinsfløtti collections were both dry sieved (4 m mesh) and flotated (50 micron mesh recovery) and the 2000 rescue excavation made use of hand collection, this difference in size distribution is not surprising.

The very substantial number of fragments less than 2 c long present in the Sondum 2000 archaeofauna indicates a very careful and complete hand recovery program. Neither collection generated a substantial number of bone fragments, and one suspects that both collections had a very similar size distribution, with small bones of fish and birds and s ll fragments of mammal bones predominating in both.

Table 2 presents carnivore (dog) tooth marking and burning on bone fragments from both Sandoy archaeofauna. In both cases dog tooth marks are present, but uncommon. In neither case are substantial amounts of burnt bone fragments present, a strong contrast to contemporary sites in Iceland and Greenland, where up to 20% of the recovered bone fragments are burnt. This pattern may relate to fuel sources (peat vs wood), hearth construction, or s in disposal patterns.

Table 2 Taphonomy

%	Junkarinsfløtti '03	Sondum '00
Dog tooth marks	0.07	0.25
Burning	0.90	2.08

Soil pH was significantly lower at Sondum (average 5.5) than in the shell-sand matrix at Undir Junkarinsfløtti (average 7-7.5 neutral to slightly basic). There were differences in soil acidity in the different layers of the Sondum exposure, with the sandy layers showing better bone preservation. However, even the sandy contexts at Sondum had significantly worse bone preservation than at Undir Junkarinsfløtti, with no fish otoliths (ear stones) or mollusk shells preserved anywhere in the Sondum collection. Both otoliths and sea shells are largely calcium carbonate and are very vulnerable to rapid destruction by acid soil. This difference in soil acidity will affect all comparisons between the two archaeofauna. Sample size is also a major limitation zooarchaeological analysis, and the individual layers at Sondum did not ce enough bone material to fully quantify. The bone counts are presented in table 3, and the total 2003 archaeofauna from UJF is presented for comparison.

Species Present

Table 3 Species present

site 27012 Context	***5***	***6***	***7***	***8***	***10***	***11***	***15***	***18***	***SON 00 Total***	***UJF 03 total***
DOMESTICATES										
Cattle (Bos taurus)		1					3		4	*57*
Dog (Canis familiaris)						14			14	*1*
Pig (Sus scrofa)					1		1		2	*76*
Sheep (Ovis aries)						4	4		8	*46*
Goat (Capra hircus)										

									1
Caprine	2		4	2	2	3		13	*254*
Cetacea					1			1	*3*
Seals									
Grey Seal (Hal. gryphus)									*5*
Large Seal (prob. Grey seal)						1		1	*4*
Small Seal (prob. Common seal)									*1*
Seal sp									*4*
Birds									
Puffin (Fratercula arctica)	180	5		2	3	33		223	1,905
Guillemot (Uria lomvia)	2							2	6
Murre/Guillemot (Uria sp.)	19				8	17		44	243
Black Guillemot (C. grylle)									1
Razorbill (Alca torda)								0	20
Duck sp (Anatidae sp)								0	2
Eider duck (Somateria moll.)	3			1				4	1
Manx shearwater (Puffinus puff.)	6							6	12
Gannet (Sula bassana)								0	3
Shag (Phalacrocorax arist.)	2							2	14
Gull sp. (Laridae sp)	1							1	4
Goose sp. (poss. Domestic)	1							1	14
Bird sp.	48	4	2	2	25	1		82	2,158
Fish									
Atlantic Cod (Gadus morhua)	1			2		3	9	15	1,189
Ling (Molva molva)									7
Cusk (Brosme brosme)									69
Gadidae (Cod family)	1			3				4	422
Salmonidae sp (Salmon family									3
Trout (Salmo trutta)									4
Pleuronectiformes (Flatfish sp)									9
Atlantic Halibut (Hippoglossus hipp.)									3

Rajidae (Skates)										9
Anarchiradidae (Wolf fish)										2
Alicidae sp										2
Scapthalmidae										3
Sebastidae										6
Cottidae										5
Fish sp indeterminate	4							295	299	2,397
Mollusca										
Limpet (Patella vulg.)										1,309
Clam sp (Mya sp)										28
Whelk (Buccinum undatum)										38
Mollusca sp										105
NISP	270	1	9	6	13	57	66	304	726	10,445
Small terrestrial mammal				3		4			7	
Medium terrestrial mammal	3		3	10		16	12		44	558
Large terrestrial mammal						1	2		3	30
Unidentifed fragments				7					7	4,156
TNF	273	1	12	26	13	78	80	304	787	17,096

Figure 2 compares the relative percentages of major taxa in the two collections with all contexts aggregated. Note that the major difference (despite sample size) is the absence of Mollusks at Sondum due to soil acidity.

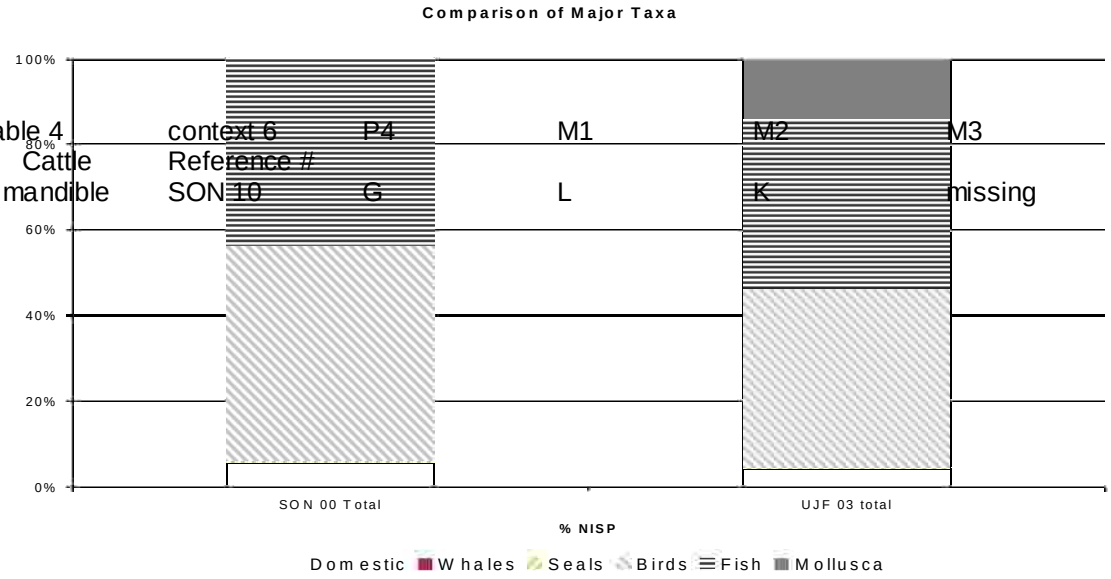


Table 4	context 6	P4	M1	M2	M3
Cattle mandible	Reference # SON 10	G	L	K	missing

Domestic Mammals

Very few domestic mammal bones were recovered, but these span the full range of Nordic domesticates, including pigs. The single cattle mandible recovered came from a fully adult animal (table 4, follows Grant 1982)

Caprine bones that could be identified to species are l sheep, and a single sheep metatarsus could be measured (table 5, follows Von Den Dreisch 1976).

Table 5				
Context 11	Bd	SD	GL	Bp
Sheep Metatarsus	21.25	10.82	129.92	28.25

Dog bones are present at both sites, but are more common at Sondum, coming from only one context (11). The elements present indicate at least two adult dog skeletons, and condition of vertebral fusion indicates an age of over 2 years (full adult). These bones may represent partial buried skeletons, and are comparable in size to smaller dogs known from contemporary Iceland and Greenland.

Butchery patterns at both sites show similar strategies, including extensive use of heavy metal chopping tools for dismemberment as well a knives employed for more precise cutting during meal preparation and consumption. At both sites, all surviving caprine metapodial bones (cannon bones of the lower limb) are longitudinally split, a fashion seen in Iceland during the early Middle Ages but largely supplanted there and in Shetland and Faroes in the later Middle Ages by biperforation (for Shetlandic and Faroese data see discussion in Bigelow 1985, Arge 1995).

Sea Mammals

As at Undir Junkarinsfløtti, whale (cetacean) bone wa present, but as a cut fragment probably relating to tool manufacture. The single seal bone was not identifiable to species level, but was of the size of grey seals (*H. gryphus* L.) identified from Undir Junkarinsfløtti.

Birds

Bird bone was present in most contexts at Sondum, often providing the majority of bone finds. The majority of the identified birds were puffins, and virtually all the unidentified bird bones could have come from small-medium sized alcids (auk family).

Fish

Fish bone was not well preserved at Sondum, and in fact most specimens come from only a few contexts (especially context 18). Atlantic cod were the most commonly identified species, but given conditions of preservation this should be taken as an incomplete presence/absence list rather than a source of relative percentages.

Discussion

Despite issues of different soil acidity and very different sample size (and the resulting differences in range of species represented), the Sondum and Undir Junkarinsfløtti archaeofauna have some marked similari s:

- Both show a high percentage of bird bones relative to other taxa in all layers, a pattern thus far unique to the Faroes.
- Birds identified at both sites are mainly puffins (*Fratercula arctica* L.) followed by *Uria* family Murre/Guillemots. This pattern suggests a similar concentration upon alcid-dominated nesting cliffs at both sites, an economic pattern surviving into recent times in the Faroes.
- Both collections contain pig bones as well as sheep and cattle.
- In both collections, domestic mammal bones are relatively minor components of the total archaeofauna.
- The Undir Junkarinsfløtti collection has broad similarities to the Sondum collection, and both Sandoy archaeofauna are more similar to each other than to any other known collections from the North Atl c.

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