



FAUNAL REMAINS FROM EARLY HELLADIC II LERNA (ARGOLID GREECE)

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ABSTRACT

Recent analysis of preserved fauna from the 1952-58 excavations at Lerna stored in Argos and Stockholm allows us to reexamine the fauna published in 1969 by the late Prof. Nils-Gustaf Gejvall as the first of the Lerna final reports. The first fauna reanalysis was on the Late Helladic II-III material and published in this journal in 2008. The present detailed study of the much earlier Early Helladic II material uses the revised phasing, detailed context information, and fuller analysis of the preserved samples including butchery and burning. The final report on the architecture and pottery for this period was published by Wiencke (2000).

KEYWORDS: House of the Tiles, Mammals, Marine shells, N.-G. Gejvall.

INTRODUCTION

This report on the Lerna III (EH II) fauna follows that already published for Lerna VII (Late Helladic II-III) (Reese, 2008a) and for Lerna IV (EH III) (Reese, 2013). The history of Lerna faunal research has already been presented there.

The Lerna III fauna can be referred to Lerna III.A-B (EH II early, ca. 2750/2700-2500/2450 B.C.) and Lerna III.C-D (EH II late, ca. 2500/2450-2300/2200 B.C.). The material called III-IV includes material from Lerna IV (EH III, ca. 2200/2150-2050/2000 B.C.). The Lerna III final report volumes have already been published (Wiencke

2000).

Gejvall noted the bag size (small, medium, large, or a *teneke* [olive oil tin]), but it is clear that he did not study all the bones found in each sample, but only the most easily identifiable pieces. For the total collection of Lerna III fauna Gejvall (1969, 1) noted 153 small bags, 45 medium bags, 24 large bags, and 1 *teneke* (223 samples). The present study, using the revised period assignments and contexts published by Wiencke, records the fauna from 178 small bags, 20 medium bags, 12 large bags, and 2 bags of unrecorded size (212 samples). Gejvall did not publish the III-IV bag size counts, but for the revised phasing these are

Significant differences of identifications for specimens by Gejvall between 1958 study and 1969 publication (Arranged alphabetically by lot)

Lot	Gejvall's card	Gejvall 1969
A 35	<i>Equus</i> or <i>Bos sacrum</i>	<i>Bos</i>
A 37	? <i>Equus</i> radius	<i>Cervus</i>
A 401	bird ulna	<i>Accipiter gentilis</i>
	<i>Cypraea</i>	<i>Talparia</i>
A 404	bird metacarpus	<i>Vulpes metacarpus</i> II
A 414	<i>Bos taurus</i> M ₃ (large)	<i>Bos</i> transitional/domestic
A 438	<i>Bos taurus</i> metacarpus + metatarsus	
		<i>B. primigenius</i>
A 445	<i>Ovis/Capra</i> metacarpus	<i>Capra</i>
	<i>E. caballus</i> maxilla	<i>E. asinus</i>
A 470	? <i>Grus</i> tibiotarsus	<i>Grus grus</i> tarsometatarsus
A 472	<i>Canis</i> metacarpus	metatarsus III
A 477	<i>Sus</i> : 2 humerus	<i>Ovis</i> : 2 distal humerus
BA/BB 218	<i>Anas</i> sp. humerus	<i>Anas penelope</i>
	<i>Anas</i> sp. radius	<i>Anas platyrhynchos</i>
BA/BB 219	<i>Bos taurus</i> horn core fragment (large)	
		<i>B. ?primigenius</i> (subadult)
BC 201x	bird humerus	<i>Anas querquedula</i>
BD 581	<i>Ovis/Capra</i> horn core fragment	
		<i>Capra</i> horn core fragment (♂)
BE 564	<i>Bos taurus</i> M ₁₋₃ (large)	<i>B. primigenius</i>
BE 568	<i>Ovis/Capra</i> radius, tibia	<i>Ovis</i>
	<i>Conus</i>	<i>Talparia</i>
G 133	<i>Anas</i> ulna + metacarpus	
	<i>Accipiter gentilis</i> ulna + carpometacarpus	
HTJ 14	<i>Canis familiaris</i> or <i>Lupus</i> metacarpus	
		<i>Lupus</i> metacarpus V
J 98	<i>Canis</i> metacarpus	metatarsus IV
J 239	bird tibiotarsus	<i>Accipiter gentilis</i> tarsometatarsus
J 317	<i>Anas bochas</i> femur	<i>Anas platyrhynchos</i>
J 480	fish vertebrae	<i>Carcharhinus glaucus</i>
J 485	? <i>Equus asinus</i> humerus	<i>Equus asinus</i>

**Corrections by Reese of preserved specimens:
(Arranged alphabetically by lot)**

Lot	Gejvall's card	this study
A 401	not noted bird metatarsus 2 <i>Ostrea</i> 2 murex <i>Talparia</i> <i>Triton</i>	worked <i>Ovis/Capra</i> metatarsus <i>Vulpes</i> metapodial III/IV 2 <i>Spondylus</i> 2 <i>Hexaplex</i> , <i>Bolinus</i> <i>Luria</i> <i>Cymatium</i>
A 402	<i>Bos</i> humerus	femur
A 404	not noted <i>?Cyprina</i>	<i>Cerastoderma</i> , <i>Spondylus</i> , <i>Arca</i> , <i>Hexaplex</i> Testudo carapace; worked bone <i>Glycymeris</i>
A 407	3 murex <i>Sus</i> humerus not noted 3 <i>Cardium</i> , 3 murex	2 <i>Hexaplex</i> , <i>Bolinus</i> <i>Bos</i> proximal ulna <i>Bos</i> bones 5 <i>Cerastoderma</i> , 2 <i>Hexaplex</i>
A 408	not noted <i>Ostrea</i>	<i>Canis</i> metatarsus III; <i>Cervus</i> scapula <i>Spondylus</i>
A 414	not noted <i>Cyprina</i> , murex	<i>Sus</i> mandible <i>Glycymeris</i> , <i>Bolinus</i>
A 438	? shell	<i>Monodonta turbinata</i>
A 470	4 ? shell	3 <i>Tapes</i> , <i>Thais</i>
A 472	? <i>Lucina</i>	<i>Glycymeris</i>
B 754	topshell	<i>Monodonta turbinata</i>
B 755	1 <i>Ostrea</i> not noted	2 <i>Spondylus</i> <i>Mactra</i> fragment <i>Glycymeris</i>
BD 581	<i>Cyprium</i>	<i>Glycymeris</i>
BD 582	<i>Cassis</i>	<i>Conus</i>
BD 621	not noted <i>Ostrea</i>	<i>Bos</i> bones; worked <i>Sus</i> canine <i>Spondylus</i>
BE 477	5 murex	4 <i>Hexaplex</i> , <i>Bolinus</i>
BE 568	<i>Sus</i> (wild) metapodial not noted 19 <i>Cardium</i> 4 <i>Ostrea</i> 4 murex	<i>Sus</i> (domestic) metatarsus III <i>Sus</i> bones; 2 worked shafts 26 <i>Cerastoderma</i> 4 <i>Spondylus</i> 5 <i>Hexaplex</i> , 2 <i>Bolinus</i>
D 772	<i>Ostrea</i>	<i>Spondylus</i>
D 803	<i>Sus</i> maxilla <i>Sus</i> tibia <i>Cervus</i> scapula not noted	<i>Sus</i> mandible <i>Bos</i> distal tibia not present, probably <i>Bos</i> pelvis <i>Bos</i> bones; <i>Cervus</i> phalanx
D 808	not noted	worked <i>Ovis/Capra</i> proximal radius
G 29	<i>Ovis/Capra</i> horn core <i>Sus</i> (domestic) canine not noted <i>Ostrea</i> , <i>?Cyprina</i> , 4 murex	<i>Carpa</i> horn core <i>Sus</i> (wild) canines <i>Sus</i> (wild) bones; fish spine; 2 worked ribs <i>Spondylus</i> , <i>Glycymeris pilosa</i> , 3 <i>Hexaplex</i> , 1 <i>Bolinus</i>
G 37	<i>Bos</i> astragalus not noted 10 <i>Cardium</i> , 2 <i>Ostrea</i> , <i>Buccinum</i>	<i>Cervus</i> <i>Cervus</i> bones 11 <i>Cerastoderma</i> , 2 <i>Spondylus</i> , <i>Cymatium</i>
G 143+145	2 <i>Cardium</i> , 1 <i>Ostrea</i> , 1 <i>?Cyprina</i> , 3 murex, 1 <i>Lunatia</i>	4 <i>Cerastoderma</i> , 1 <i>Spondylus</i> , 2 <i>Glycymeris</i> ,

		4 <i>Hexaplex</i> , 1 <i>Helix</i>
HTN 104	<i>Sus</i> phalanx 1	<i>Cervus</i>
HTN 105	<i>Sus</i> ulna fragment not noted <i>Ostrea</i>	<i>Ovis/Capra</i> proximal ulna <i>Testudo</i> carapace fragment <i>Spondylus</i>
HTN 114	<i>Sus</i> radius <i>Ovis/Capra</i> metatarsus <i>?Lucina</i>	ulna metacarpus <i>Tapes</i>
HTS 59	<i>Bos</i> tibia not noted	<i>Sus</i> or <i>Ovis/Capra</i> worked tibia
HTS 79	<i>Ostrea</i>	<i>Spondylus</i>
HTS 90	<i>Capra</i> calcaneus	<i>Sus</i>
HTS 91	<i>Bos</i> calcaneus fragment	distal humerus fragment
J 224	<i>Testudo</i> carapace	plastron
J 328	<i>Ovis/Capra</i> metatarsus	proximal metacarpus
J 349	1 murex	2 <i>Hexaplex</i>
J 476	<i>Bos</i> tibia fragment not noted <i>Ostrea</i>	proximal metatarsus <i>Canis</i> tibia shaft <i>Spondylus</i>
J 481	<i>Sus</i> axis <i>Bos</i> tibia fragment not noted	<i>Ovis/Capra</i> <i>Cervus</i> distal tibia worked rib
J 486	<i>Sus</i> (?wild) metapodials <i>Ostrea</i> , 2 murex	(wild) <i>Spondylus</i> , <i>Hexaplex</i> , <i>Cerithium</i>
J 835	<i>Ovis/Capra</i> ulna <i>Ovis/Capra</i> tibia not noted 3 <i>Ostrea</i>	<i>Sus</i> ulna humerus, radius or humerus <i>Sus</i> bones; <i>Homo</i> skull; worked rib 1 <i>Spondylus</i> , 1 fossil oyster

32 small bags, 9 medium, 7 large, and 2 unknown (50 samples).

It is clear from comparing Gejvall's 1958 cards with what he published in 1969 that he revised many of his identifications based on specimens brought to Sweden. Of course, not every revised identification he made was published in 1969 since he did not publish every bone. All bones illustrated in the 1969 volume were taken by Gejvall to Solna and are now in Stockholm.

Wiencke included in her volume the fauna information noted on Gejvall's cards, but did not revise this based on Gejvall's 1969 volume. She published my 1984 shell identifications as well as those of Gejvall. Since Wiencke's volume was published it was possible to study the fauna available in Argos and Stockholm. The samples saved in Argos are described in detail in the Catalogue.

My study of the preserved samples also

indicates that many of his identifications are incorrect. This means that there are problems in simply publishing the 1958 identifications noted on his cards. But this is all we can do since so few of the samples were saved.

From the samples preserved a number of significant forms are present but not noted by Gejvall, or were incorrectly identified:

In his 1969 volume Gejvall determined the Minimum Number of Individuals (MNI) for the major mammals from Lerna III (Gejvall 1969, xvi calls this MIND): 33 *Ovis/Capra* (including 6 *Capra* and 1 *Ovis*), 23 *Sus*, 6 *Bos*, 4 *Canis*, 2 *E. asinus*, 5 *Cervus*, 3 *B. primigenius*, 2 wild *Sus*, 2 *Lepus*, 2 *Vulpes*, 1 *Canis lupus*, and 1 *Erinaceus*.

Based on the final context information, which was not available to Gejvall, we can now revise these numbers. These new numbers are given below under the discussion of each animal. As an example of

the problem we can use the 8 bones from 2 MNI noted for *Lepus europaeus* (hare). One of the bones has now been redated III-IV and another bone which Gejvall had as II-III is now III.A-B. So there are 8 bones from 6 separate lots from 6 MNI.

DOMESTIC MAMMALS

Sheep and Goat

For Lerna III Gejvall (1969, 6, 10, 12, 24-26) noted 340 *Ovis aries*/*Capra hircus* (sheep or goat) bones from 33 MNI (2 neonate, 9 young, 4 subadult, 17 adult, senile) with 1 bone cut, 6 bones burnt, and 2 pathological.

Specifically he published: 29 horn core (21 *Capra*, 2 *Ovis*), 3 skull (1 *Capra*), 3 maxilla (1 *Capra*), 52 mandible (7 *Capra*), 5 premolar, 38 molar (3 *Capra*), 2 axis, 29 scapula (2 *Capra*), 27 humerus (2 *Capra*, 2 *Ovis*), 27 radius (1 *Capra*), 5 ulna, 6 pelvis, 9 femur (1 *Capra*), 39 tibia (4 *Capra*), 33 metacarpus (5 *Capra*), 20 metatarsus (3 *Capra*), 6 calcaneus (1 *Capra*), 2 astragalus, phalanx I, 2 vertebra, and rib.

Using Gejvall's cards and the new phasing, the Lerna III numbers are now 334 remains from 144 lots: 31 horn core fragments (22 lots [1 *Capra*, 1 *Ovis*]), 7 skull fragments (6 lots [2 *Capra*; 1 juvenile]), 2 maxilla fragments (2 lots [2 *Capra*; 1 juvenile]), 56 mandible fragments (41 lots [9 *Capra*, 1 probably *Capra*]), 5 premolars (3 lots), 38 molars (35 lots [2 *Capra*; 1 senile]), 2 axis (2 lots [1 broken]), 28 scapula fragments (21 lots [2 *Capra*; 2 juvenile]), 33 humerus fragments (25 lots [2 *Capra*; 3 juvenile]), 31 radius fragments (25 lots [1 *Capra*], 1 probably *Capra*; 1 newborn, 3 juvenile]), 5 ulna fragments (4 lots), 8 pelvis fragments (6 lots), 6 femur fragments (6 lots [1 *Capra*; 1 juvenile]), 39 tibia fragments (31 lots [2 *Capra*, 1 probably *Capra*; 3 juvenile, 1 pathological]), 6 calcaneus (6 lots [1 *Capra*; 3 juvenile, 4 broken]), 2 astragalus (2 lots), 32 metacarpus fragments (29 lots [4 *Capra*; 1 fetus or newborn, 1 newborn, 5 juvenile]), 17 metatarsus fragments (17 lots [3 *Capra*; 1

juvenile]), phalanx I (burnt), 4 vertebra fragments (3 lots), and rib fragment.

There are some lots which have 2 MNI (or more): Lots A 401, B 338 (3 MNI), B 755 (4 MNI), BD 573+574, BD 621, BD 626, D 772 (3 MNI), HTJ 9, HTN 105, HTN 124, HTS 59, HTS 61, HTS 89, HTS 91 (3 MNI), J 224, and J 481 (3 MNI). There are 23 additional lots which have unspecified "*Ovis*/*Capra* fragments". Remains from 33 lots (one not seen by Gejvall) are preserved.

It is evident that Gejvall had reconsidered some of his original identifications of *Ovis*, *Capra*, or *Ovis*/*Capra* by the time he published his volume. So we cannot reliably use the *Ovis* and *Capra* distinctions noted on his cards, and refer to all this material as *Ovis*/*Capra*.

The preserved *Ovis*/*Capra* remains can be aged by their tooth eruption and wear and bone fusion state, following Silver (1970).

Gejvall's cards refer to many *Ovis*/*Capra* bones as "juvenile" but it is unclear if this is based on unerupted teeth or wear, unfused epiphyses, or simply small bone size. For Lerna III he noted juvenile or younger bones in A 45, A 401, A 406, A 411, A 422, A 440, B 338, B 757, B 758, HTJ 9 (newborn), HTN 105, HTN 106, HTN 124 (newborn), HTS 61, HTS 71, HTS 72, J 425, and J 481.

Of the preserved remains there are a few particularly young: B 755 (4 MNI, 2 MNI under 10 months old), BD 621 (phalanx under 1-1.25 years), D 772 (radius under 10 mos.), HTN 105 (tibia under 1.5 yrs.), HTS 50 (humerus of 10 mos.), and J 224 (radius under 10 mos.).

All of the other bones personally seen are under 2.5 yrs. except for B 755 (4 MNI, radius over 3 yrs., tibia of 3-3.5 yrs., femur over 3-3.5 yrs. from 1 MNI), BE 477 (tibia over 3-3.5 yrs.), D 772 (3 MNI, femur over 2.5-3 yrs.), HTN 105 (2 MNI, radius over 3 yrs.), HTS 59 (2 MNI, metatarsus over 2.5-3 yrs.), HTS 61 (2 MNI, calcaneus over 2.5-3 yrs.), HTS 89 (2 MNI, femur over 3-3.5 yrs.), and J 224 (2 MNI, femur of 3-3.5 yrs.).

Gejvall published 1 bone cut and 6 bones

burnt. However, 36 *Ovis/Capra* bones from 18 preserved lots are cut and 99 bones from 15 preserved lots are burnt or partly burnt. One of the pathological bones is a distal tibia from G 43.

For Lerna III-IV he published 95 *Ovis/Capra* remains from

11 MNI (2 young, 2 subadult, 7 adult) with 1 bone burnt. Specifically these are: 12 horn core (8 *Capra*, 1 *Ovis*), 3 maxilla (2 *Capra*), 18 mandible (2 *Capra*), incisor, 12 molar, 11 scapula (3 *Capra*), 6 humerus (1 *Capra*), 8 radius, 2 ulna, 8 tibia (1 *Capra*), 8 metacarpus (3 *Capra*), 4 metatarsus (2 *Capra*), and 2 phalanx I.

Using Gejvall's cards and the new phasing, the Lerna III-IV numbers are now 97 remains from 36 lots: 13 horn core fragments (7 lots [3 *Capra*, 1 *Ovis*]), maxilla fragment, 19 mandible fragments (16 lots [1 *Capra*]), 13 molars (12 lots), 11 scapula fragments (8 lots), 5 humerus fragments (3 lots [1 *Capra*]), 12 radius fragments (7 lots [1 juvenile]), 3 ulna fragments (3 lots), 2 pelvis fragments (2 lots), 2 femur fragments (2 lots [2 juvenile]), 10 tibia fragments (6 lots [1 *Capra*; 1 juvenile]), astragalus, 5 metacarpus fragments (5 lots [2 *Capra*; 1 juvenile, 1 pathological]), and 5 metatarsus fragments (4 lots).

For Lerna III-IV he noted "juvenile" bones in A 443, A 446, B 343, BC 204x, and J 105. There are 5 additional lots which have unspecified "*Ovis/Capra* fragments". Bones from 4 lots are preserved, with Gejvall recording 19 bones. However, there are actually 76 bones (3 cut, 2 burnt). Of the preserved lots, HTN 104 and J 268 produced individuals over 3 yrs. old.

There is evidence for *Ovis/Capra* horn core-working at EH Lerna. In Stockholm are a cut *Capra* horn core from the III.early A BD 581 (1969, 27, pl. VI:1) and another from the III.early C Lot D 743. The III-IV J 476 produced a fragmentary horn core cut at the distal not recorded by Gejvall as cut.

Domestic Pig

For Lerna III Gejvall (pp. 6, 10, 12, 24) noted 236 *Sus scrofa/transitional S. domesticus* remains said to come from 23 MNI (neonate, 4 young, 2 subadult, 16 adult) with 14 burnt and 1 pathological. Specifically he published: 10 skull, 20 maxilla, 45 mandible, 9 canine, 5 incisor, 3 molar, 2 axis, 30 scapula, 18 humerus, 21 radius, 11 ulna, 6 pelvis, 5 femur, 18 tibia, fibula, 4 calcaneus, 2 astragalus, 15 metacarpus, 4 metatarsus, 3 phalanx I, 3 vertebra, and rib.

Using Gejvall's cards and the new phasing, the Lerna III numbers are now 239 remains from 127 lots: 14 skull fragments (13 lots [1 juvenile]), 24 maxilla fragments (17 lots [2 juvenile]), 51 mandible fragments (37 lots [1 pathological]), 9 canine fragments (6 lots [1 juvenile, 1 large]), 10 incisors (9 lots), 4 molars (4 lots), 2 axis (2 lots [1 fragment]), 25 scapula fragments (23 lots [1 newborn, 5 juvenile]), 15 humerus fragments (14 lots [1 fetus, 1 newborn, 3 juvenile]), 18 radius fragments (14 lots [4 juvenile]), 13 ulna fragments (12 lots [1 juvenile]), 3 pelvis fragments (3 lots), 5 femur fragments (5 lots [4 juvenile]), 18 tibia fragments (17 lots [1 fetus, 2 juvenile]), 4 calcaneus (4 lots), 2 astragalus (2 lots), 6 metacarpus fragments (6 lots [2 juvenile]), 10 metapodial fragments (8 lots [4 juvenile]), 2 phalanx I (2 lots), 3 vertebra fragments (3 lots [2 juvenile]), and rib fragment.

There are some lots which have 2 MNI (or more): A 29, A 401, A 402, A 404, A 478, B 755 (4 MNI), BD 621, BD 626, D 772, G 143+145, HTN 105, HTS 89, and HTS 91. There are 12 additional lots which have unspecified "*Sus* fragments".

Sus bones are present in 27 preserved lots, including 2 lots for which Gejvall did not record any *Sus* (A 414, J 835). And some of his identifications are incorrect: the HTS 79 radius is a proximal ulna; the A 401 *Sus* femur is *Ovis/Capra*; the J 481 *Sus* axis is

Ovis/Capra; the G 29 remains are wild *Sus* not domestic. He recorded burnt bones from B 755 and G 143+145, but did not note the species or elements.

Gejvall's cards refer to many *Sus* bones as "juvenile" but it is unclear if this is based on unerupted teeth or wear, unfused epiphyses, or simply small bone size. For Lerna III he noted juvenile or younger bones in A 41, A 44, A 45, A 401, A 402, A 422, A 429, A 440, A 476, A 478, B 339, B 753, B 756, BD 620, BE 564, BE 565, HTN 127 (fetal), HTS 64, J 114, J 430 (newborn), J 445, J 480, and J 486.

Of the preserved remains there are a few particularly young:

B 755 (4 MNI, humerus under 1 yr.), HTN 105 (2 MNI, mandible under 1 yr.), HTS 89 (2 MNI, radius under 1 yr.), HTS 91 (maxilla under 1 yr.).

All of the other bones personally seen are under 2 years old except for Lots A 404 (2 MNI, metacarpus over 2 yrs.), B 755 (4 MNI, maxilla over 2 yrs.), BD 621 (2 MNI, one over 2-2.25 yrs.), BD 626 (2 MNI, mandible over 2 yrs.), D 772 (2 MNI, two tibiae over 2 yrs.), HTS 89 (2 MNI, radius/ulna over 3.5 yrs.), HTS 90 (two metatarsi over 2.25 yrs.), J 224 (tibia over 2 yrs.), and J 486 (metacarpus over 2 yrs.).

Gejvall published 14 bones burnt and none cut. His cards only note a burnt skull fragment from Lot J 432. However,

33 bones from 8 preserved lots are burnt or partly burnt and 12 *Sus* bones from 11 preserved lots are cut.

For III-IV he published 109 remains which were said to come from 18 MNI (neonate, 4 young, 2 subadult, 10 adult, senile) (1969, 20) with 1 pathological and 1 worked. The bones he specifically published were: 6 skull, 15 maxilla, 25 mandible, 2 canine, incisor, molar, 23 scapula, 13 humerus, 6 radius, 2 pelvis, 2 femur, 6 tibia, 4 metacarpus, metatarsus, and phalanx II.

Using Gejvall's cards and the new phasing, the Lerna III-IV numbers are 105

remains from 34 lots: 11 skull fragments (9 lots [1 on card as *Equus*]), 10 maxilla fragments (9 lots), 21 mandible fragments (14 lots, 15 MNI), 5 canines (4 lots [1 erupting]), 3 molars (3 lots), 13 scapula fragments (9 lots [1 newborn, 1 juvenile]), 9 humerus fragments (9 lots [1 on card as *E. caballus*]), 8 radius fragments (8 lots [3 juvenile]), 3 ulna fragments (2 lots, 3 MNI), 3 pelvis fragments (3 lots), 3 femur fragments (2 lots [3 juvenile]), 6 tibia fragments (5 lots [1 juvenile, 1 pathological]), 2 calcaneus (1 lot [2 juvenile]), 6 metacarpus fragments (4 lots [3 juvenile]), and 2 phalanx I (2 lots). There are clearly 2 MNI in A 447 and B 343. There are 6 additional lots which have unspecified "*Sus* fragments".

Bones from 4 Lerna III-IV lots were preserved. Where Gejvall had 11 bones I have 32. His D 803 maxilla is a mandible and the HTN 104 phalanx is *Cervus*.

For Lerna III-IV he noted juvenile or younger bones in A 34, A 36, A 37, A 445, A 447, B 343 (newborn; juvenile), and HTN 104. He noted an old maxilla from BC 207x. All of the bones personally seen are 2 years old or younger except for a metapodial from D 803 (over 2-2.25 yrs.).

Gejvall published only 1 *Sus* fibula from Lerna III and 2 from Lerna V. It is unclear which lot preserved the fibula recorded by Gejvall. However, the preserved Lerna III BD 621 produced an example not recorded by Gejvall and the Lerna III-IV J 268 also produced an example not noted by Gejvall.

It is worth noting that *Sus* fibula were frequently used in EH Lerna (and later periods) to make points and needles. From Lerna III come at least 5 examples (L4.295, B 341; L5.263 and L5.265 from G 135; L7.359, A 438; L7.375, A 440), one from Lerna III-IV (L4.236, B 343), and at least 17 from Lerna IV.

Also present is a holed lower canine pendant (L7.174, HTN 124, III.C): complete, cut down length, much polished, beveled hole near distal end made from both sides,

Le 52, W 9.25, T 2.5, hole D 3.25. Another comes from Lerna IV.3 (L5.931, B 1515). There are also cut and smoothed lower canine fragments from BD 621 (III.C or D; L 37.25, W 9, T 2.5) and the III-IV (L5.921, J 268, nicely cut down on two sides, broken at both ends, Le 68.75, max. W 18.25, max. T 4). One of these might be the worked bone noted by Gejvall.

Sheep/Goat or Pig

For Lerna III Gejvall (pp. 20, 24-26) published 2 *Ovis/ Capra* vertebra and 1 rib as well as 3 *Sus* vertebra and 1 rib.

However, 16 preserved Lerna III lots have 42 vertebra fragments (5 cut, 10 burnt). His cards note only one of these lots as having 2 vertebra fragments. Also, 27 preserved lots have 252 ribs (4 cut, 77 burnt), with most from Lot B 755 (106, 68 burnt).

For III-IV Gejvall published no *Ovis/Capra* or *Sus* vertebra or ribs. However, the 4 preserved III-IV lots produced 35 rib fragments (4 burnt).

Domestic Cattle

For Lerna III Gejvall (pp. 6, 10, 12, 30) published 169 *Bos taurus* remains from a total of 15 MNI (neonate, 3 young, 2 subadult, 7 adult, 2 senile) with 1 burnt. Specifically these are: 5 horn core, 5 skull, maxilla, 9 mandible, 2 incisor, 3 premolar, 15 molar, 7 scapula, 15 humerus, 12 radius, 3 ulna, 7 pelvis, 5 femur, 8 tibia, 10 astragalus, 6 calcaneus, 12 metacarpus, 6 metatarsus, 11 phalanx I, 4 phalanx II, 3 phalanx III, 12 vertebra, and 8 rib.

Using Gejvall's cards and the new phasing, the Lerna III numbers are now 170 remains from 100 lots: 3 horn core fragments (3 lots), 7 skull fragments (7 lots [5 infraorbitals]), 10 mandible fragments (10 lots), 3 incisor (3 lots), 5 premolars (4 lots), 13 molars (12 lots), 8 scapula fragments (8 lots), 13 humerus fragments (12 lots), 12 radius fragments (12 lots), 3 ulna fragments

(3 lots), 6 pelvis fragments (6 lots), 4 femur fragments (3 lots [1 head epiphysis]), ?femur fragment, 10 tibia fragments (9 lots [1 juvenile]), 13 astragalus (12 lots, 4 broken), 7 calcaneus (7 lots [4 broken, 1 juvenile]), 11 metacarpus fragments (11 lots, 1 juvenile), 8 metatarsus fragments (6 lots), 11 phalanx I (11 lots, 4 broken), 2 phalanx II (2 lots), 2 phalanx III (2 lots), 11 vertebra fragments (11 lots) and 7 rib fragments (7 lots). An additional 21 lots have what Gejvall called "*Bos* fragments".

Bos remains were found in 25 preserved Lerna III samples. Also, one sample which he published as *B. primigenius* is *B. taurus* and one preserved sample was not seen by Gejvall. Gejvall did not recognize any *Bos* from the preserved A 407 and G 143+145. What he called a *Bos* astragalus from G 37 is *Cervus* and what he called a *Bos* tibia fragment from J 481 is a *Cervus* distal tibia.

Most of the preserved ageable bones are under 3 years old but none are under 1 yr. The older individuals, 4 Lerna III bones, are: proximal femur from A 401 (over 3.5 yrs.), calcaneus from A 402 (over 3-3.5 yrs.), proximal femur from A 438 (3.5 yrs.), and a distal radius from HTS 91 (over 3.5 yrs.). This suggests that most animals were consumed young while others were kept for breeding, milk, or draught.

Gejvall published 1 burnt *Bos* bone, but noted that the fauna from B 755 was "mostly burnt" and it in fact includes 25 burnt *Bos* bones. Of the 25 lots with *Bos* bones seen by Gejvall and preserved, he noted 42 bones and 1 horn core (in fragments), with none cut or burnt. The present analysis records 394 remains with 77 cut (20 lots) and 62 burnt (14 lots).

For Lerna III-IV Gejvall published 70 remains from 6 MNI (neonate, young, subadult, 2 adult, senile) with none cut or burnt. Specifically these are: 3 horn core, 2 skull, 3 mandible, incisor, 2 premolar, 9 molar, 6 scapula, 4 humerus, 2 radius, ulna, sacrum, femur, 5 tibia, 3 astragalus, 4 calcaneus, 5 metacarpus, 3 metatarsus, 9

phalanx I, phalanx II, 4 phalanx III, and rib.

Using Gejvall's cards and the new phasing, the III-IV numbers are 80 remains from 29 lots: 4 horn core fragments (3 lots), 3 skull fragments (3 infraorbitals, 2 lots), 5 mandible fragments (5 lots [1 worn teeth]), 9 molars (9 lots [5 M3]), 5 scapula fragments (5 lots [1 juvenile]), humerus fragment, 2 radius fragments (2 lots), ?radius fragment, 3 ulna fragments (3 lots), 3 pelvis fragments (2 lots), sacrum fragment, 2 femur fragments (2 lots), 8 tibia fragments (7 lots [2 juvenile]), 3 astragalus (3 lots), 2 calcaneus (2 lots), 6 metacarpus fragments (6 lots [2 juvenile]), 4 metatarsus (4 lots), 8 phalanx I (7 lots), 3 phalanx II (2 lots), 5 phalanx III (4 lots), vertebra fragment, and rib fragment. HTS 91 produced 2 MNI. An additional 5 lots have what Gejvall called "Bos fragments".

Bos remains were found in 4 preserved III-IV lots. Where Gejvall reported 10 bones in 3 lots, there are actually 65 bones in 4 samples, including 13 cut and 2 burnt (D 803 [14 bones not recognized by Gejvall], HTN 104, J 268, and J 476). One of the tibia fragments from J 476 called *Bos* by Gejvall is actually *Ovis/Capra*. From the III-IV comes an ulna from HTN 104 of an older individual (over 3.5-4 yrs.).

A mixed Neolithic and EH II fill deposit (A 470) produced a horn core fragment with 4 cut marks toward the distal (preserved in Stockholm). An IV.3 horn core from A 353 (1969, pl. XII:2) has 6 clear cut marks at the distal end, and an IV.2-3 horn core fragment from BE 357 has been cut down its length. These and the previously noted cut *Ovis/Capra* horn cores are evidence for horn-working at the site.

Dog

For Lerna III Gejvall (1969, 15) published 25 *Canis familiaris* remains from 4 adult MNI, with 1 bone cut. The Lerna III remains he identified are: 7 mandibles, canine, 3 molars, scapula, 2 humerus, 4 tibia, 4

metacarpus, and 3 metatarsus.

He did not recognize dog remains from A 408, and 3 additional lots are now assigned to Lerna III (B 431, G 133-142, J 844).

The remains from A 438 and A 440 are both from the Eastern fortification street and might be from the same individual. B 336 and B 338 are both west of the House of the Tiles and possibly the same individual. J 486 and J 487 are both north of Rooms C and D and might also be from the same individual. This suggests that there are 20 MNI. None of these bones were cut, but the BD 573+574 mandible was burnt, and the BE 565 mandible was probably burnt gray (this lot also produced burnt roofing material and carbonized botanicals).

The remains are: A 408 (III.mid C) proximal metatarsus III and shaft (L); A 438 (III.late C or D) mandible (alveoli except for P4, L; 1969, 14, 61-62, pl. I:6); A 440 (III.late C) 2 mandible fragments (broken M1, R; posterior with *process articularis* and broken coracoid process, young, L; 1969, 61, both in Stockholm) and 2 carnassial fragments; A 472 (III.early B) distal metapodial III/IV and shaft (F; 1969, 70 as metatarsus III, card as metacarpus); B 336 mandible fragment (R); B 338 (III.C or D) tibia fragment; B 431 mandible (1969, 62); BA/BB 216 (III.C or D) mandible fragment (L); BD 573+574 (III.C) mandible fragment (alveoli only, burnt gray, L); BE 565 (III.B-C) anterior mandible fragment (C root, P1-4 alveoli, adult, probably burnt gray, L) (1969, 61-62); D 723 (III.late C) 2 bones: scapula fragment, metacarpus fragment; D 730 (III.late C) humerus fragment; D 759 (III.early C) humerus fragment; D 806 (III.late C) 2 bones: carnassial, metacarpus; G 133-142 (III.late C or D) mandible fragment (R); HTN 106 (III.C) metapodial fragment; HTS 61 (III.early C) mandible fragment (rather complete, M₁, M₂₋₃ roots, L; 1969, 14-15, 62, pl. I:7); HTS 79 (III.middle B) distal tibia and shaft (F, L); J 240 (III.late C or D) canine; J 434 (III.early C) tibia fragment; J 486

(III.middle C) mandible fragment (only alveoli, R); J 487 (III.middle C) metacarpus fragment; and J 844 (III.A-B) canine.

Gejvall also published 5 III-IV bones (maxilla, 3 mandibles, tibia) from 2 adult MNI. There are now 7 remains from 6 lots, with A 447, B 340, and D 803 now redated. Gejvall did not recognize the dog bones from D 803 and J 476. The remains from A 445, A 446, and A 447 may all come from the same Eastern fortification individual. The remains come from: A 445 (maxilla fragment [has P⁴, M¹⁻², R; 1969, 60]); A 446 (proximal tibia and shaft [F, L; 1969, 69]); A 447 (posterior mandible fragment [M₂₋₃ alveoli, L; 1969, 62]); B 340 (2 mandible fragments, R); D 803 (distal radius and shaft, F, R); and J 476 (2 bones: tibia shaft [stained gray], metapodial II/III [F, worn apex, stained gray]).

There is no real evidence to suggest that dogs was consumed in EH II Lerna, as there are no cut bones and of the 2 burnt mandibles, at least one comes from a burnt deposit. Nilsson (2004, 117) suggested that dogs were consumed during EH II but there is no good evidence for this until Lerna V (MH).

Equids

Donkey (*Equus asinus*) was present at the site by Lerna III, in HTS 73 (III.early B; phalanx I [F]; 1969, 35, 86, pl. XIV:4) and J 485 (III.middle C; humerus shaft fragment; pp. 35, 85, pl. XIV:3; card as ?*E. asinus*).

From Lerna III-IV there was 1 *E. asinus* adult maxilla (1969, 34, 36). This maxilla fragment with 2 incisors, slightly burnt, from A 445 (Eastern fortification) is preserved in Stockholm. His card called it an *E. caballus* anterior mandible fragment and the "first horse bone found".

Three other III-IV bones called ?*Equus* on Gejvall's cards and in Wiencke (2000, 160) were actually published by Gejvall as a *Bos* sacrum fragment (A 35), a *Sus* skull fragment (A 36; in Stockholm), and a *Cervus*

proximal radius (A 37) (1969, 81, 93).

An unsaved humerus fragment from A 447 (Eastern fortification) is called IV on Gejvall's card but is now dated III-IV. The bone is described on the card as *E. caballus* "with cut marks, horse has been eaten". However, Gejvall changed this to a *Sus* proximal humerus fragment before he submitted it for C14 dating. His A 447 card also noted an "*Equus caballus* ulna fragment". Gejvall (p. 34) published an unspecified *E. asinus* bone from Lerna IV as cut which might be this bone. Gejvall (p. 35) noted that there were no *E. caballus* at Lerna prior to Lerna V and no equids are noted from A 447 in his volume.

WILD ANIMALS

Tortoise

Gejvall (p., 6) published 25 *Testudo hermannii* remains from Lerna III and 38 remains from III-IV. He did not publish any detailed information.

Using Gejvall's cards, personal analysis, and the revised dating, there are, for III, 39 bones from 17 lots. The 2 bones from A 38 and A 39 (the floor associated with Walls W-134 and W-135) are probably from the same individual. Likewise 4 bones from A 401 and A 402 (both Room QR), are probably from the same individual, suggesting 15 MNI. Gejvall's card noted a burnt carapace fragment from BD 572.

From III-IV there are now 27 remains from 21 lots. The 8 bones from A 443, A 445, and A 447 all come from the Eastern fortification, with 2 MNI represented by two sizes of humerus. This suggests that at total 19 MNI are probably present in III-IV samples.

Red deer

For Lerna III Gejvall (p. 44) noted 20 *Cervus elaphus* remains (4 antler, mandible, 4 scapula, humerus, 2 radii, ulna, femur, calcaneus, 4 metacarpus, phalanx I) from 5 MNI (2 young, 3 adult) with 1 cut and 2

burnt. On some of his cards Gejvall called these remains *Cervus dama* (BC 202x, 204x), and this is how Wiencke (p. 289) published them. However, Nilsson calls these Fallow deer (for which the scientific name is *Dama dama*). In fact, Gejvall does not report any *Dama* from Lerna and these should be referred to as *Cervus*.

Cervus bones from A 408, G 143+145, and J 481 were not recognized by Gejvall, nor were the G 37 femur and astragalus. The 10 Lerna III lots with remains suggest that possibly 10 MNI are represented, coming from: A 408 (III.mid C) scapula (F); A 475 (III.middle B) 4 antler fragments; BD 626 (III.C or D) scapula (F, 5 pieces [1 destroyed in C14 dating]; 1969, 93); D 722 (III.late C) scapula fragment; D 807 (III.late C) radius fragment; G 37 (III.late C) 3 bones: distal femur shaft, distal metacarpus (F), astragalus (card and Wiencke p. 139 as Bos); G 143+145 (III.late C) ?*Cervus* proximal radius and shaft (F, cut down length on dorsal on slight angle and has 2 chop marks on upper ventral side); HTS 85 (III.B-C) phalanx 1; J 428 (III.C) scapula fragment; and J 481 (III.middle-late C) distal tibia (F).

There are also 2 worked antler items (L6.531, AB 17, III.C; L8.54, BI 9, III.C) and 2 *Cervus* tibia worked into tubes (L7.355, BE 565, III.B-C; L7.226, A 402, III.early C).

Five worked antler pieces are also known from Lerna IV (L4.107, L5.1009, L8.7, and 2 unregistered). Banks (1967, 467, 470, 472, 474) assigned 4 other worked antler pieces to Lerna IV (L4.212, L4.640, L5.56, L6.390).

For Lerna III-IV Gejvall published (p. 44) 9 *Cervus* bones (2 antler, mandible, radius, calcaneus, 3 metacarpus, metatarsus) from 2 adult MNI. However, he also published a III-IV ulna (p. 93). There are now 11 III-IV lots with 13 bones. The D 803 bone was not recognized by Gejvall and the HTN 104 phalanx 1 was called *Sus* on Gejvall's card. The remains are: A 37 (proximal radius [F; 1969, 93 as III; card and Wiencke p. 160 as ?*Equus*); BC 202x (metacarpus fragment);

BC 204x (?*Cervus* femur fragment [juvenile]); BC 207x (2 bones: ulna fragment [1969, 93, destroyed in C14 dating], calcaneus fragment [destroyed in C14 dating]); D 29 (metatarsus fragment); D 802 (radius fragment); D 803 (phalanx 1 [F]); HTN 104 (phalanx 1 [F]); J 105 (2 bones: distal tibia and shaft [F], astragalus [1969, 94]; both in Stockholm); J 185 (2 antler fragments; and J 239 (tibia fragment).

Nilsson (2004, 117) thinks that the deer remains from Lerna III could also indicate setbacks in the agricultural investments. The hunting of deer must have taken the inhabitants some way from the settlement and either the bringing home of an animal was quite simply a task that lent honour to a hunter or, by necessity, meat had to be searched for afar.

I see the remains as evidence for an occasional taste for venison, and even the hunting of deer as a means of obtaining antler to be utilized.

Wild pig

For Lerna III Gejvall published (p. 19) 18 wild pig (*Sus scrofa*) remains (skull, maxilla, 2 mandible, 3 canine, 2 humerus, 2 radius, ulna, 5 metacarpus, metatarsus) from 2 adult MNI. It is clear that Gejvall determined that some of these were wild after his 1958 study and sometimes his cards only note that the pig bone is large. The skull bone, 2 mandibles, and metatarsus cannot be identified on his cards. Nine lots have 16 wild pig remains. Those from A 410 and A 411 (both Room ST, above floor) might come from the same individual, as might those from HTS 76 and 80, suggesting at least 7 MNI.

The remains come from the following lots: A 410 (III.early C) humerus fragment; A 411 (III.middle-late C) canine fragment; D 808 (III.late C) metacarpus III/IV (F, cut through proximal on slight angle, partly burnt gray); G 29 (III.late C or D; Room CA, burnt destruction deposit above floor) upper canine

(L), lower canine (L, burnt gray at root end; upper and lower articulate), distal humerus shaft (burnt gray/white, L), proximal radius (F, L), ulna shaft, 2 rib fragments (join); G 37 (III.late C) metacarpus IV (F, has 3 cut marks on distal articulation toward ventral); HTN 135 (III.B) canine fragment; HTS 76 (III. late B) canine fragment; HTS 80 (III.middle-late B) humerus fragment; and J 486 (III.middle C) proximal metacarpus III (L), distal metapodial III/IV (F, probably cut across bone toward distal), distal metapodial II/V (F).

From Lerna III-IV Gejvall published (p. 19) a humerus fragment. It is on his card for A 446.

Wild cattle

For Lerna III Gejvall (p. 29) published 7 *Bos primigenius* remains (horn core, premolar, 3 molars, metacarpus, metatarsus) from 3 MNI (1 subadult, 2 adult). These remains come from 3 lots.

Lot BE 564 (III.early C; House 67) produced a P₃ (slightly worn), M₁ (slightly worn), M₂ (slightly worn), M₃ (open roots/unworn) with all subadult and left. These are all in fact *Bos taurus* although they were published as wild by Gejvall (pp. 32, 80, 103, pl. XI:10 [M₃]) and by Wiencke (2000, 91). Gejvall's card called them "*B. taurus* [large]" and called the P₃ a P³ (repeated by Wiencke).

Lot A 438 (III.late C or D; East fortification street metal) yielded a *B. primigenius* metacarpus (F; pp. 32, 81, pl. X:1) and proximal metatarsus (pp. 32, 83, pl. X:3). Both were noted on Gejvall's card as *B. taurus*.

Lot BA/BB 219 (III.C or D; west of the House of the Tiles) produced a possible *B. primigenius* subadult horn core fragment (broken distal; pp. 32, 79, pl. XII:1; card as large *B. taurus*).

Hare

For Lerna III Gejvall published 8 *Lepus europaeus* bones (mandible, scapula,

humerus, radius, ulna, pelvis, 2 tibia) from 2 adult MNI, with 2 bones burnt. One tibia has been redated III-IV and a femur which Gejvall had as II-III is now III.A-B. So there are 8 bones from 6 separate lots from 6 MNI: B 755 (III.D) scapula (F, slightly burnt), pelvis/acetabulum (R, burnt), proximal tibia (F, burnt, R); BD 621 (III.C or D) mandible fragment (no teeth, lacks posterior, stained green, R); HTN 105 (III.C or D) proximal ulna (F); HTN 137 (III.late B) radius fragment; J 438(III.B-?C) humerus fragment; and J 441 (III.A-B) femur fragment.

According to Gejvall (p. 43) there was also a tibia from III-IV. There are now actually 4 bones assigned to III-IV, probably from 3 MNI. The two A 446 and A 447 bones from the Eastern fortification probably come from the same individual. The remains are: A 446 (distal tibia, F, L; p. 92); A 447 (pelvis fragment, F, R); BC 204x (tibia fragment); and BF 64 (metacarpus).

Red fox

For Lerna III Gejvall published 4 *Vulpes vulpes* metacarpus from 2 individuals (subadult, adult). His cards record the fox as *Canes vulpes* or *Canis vulpes*.

Two of these come from the III.early C Eastern fortification: A 401 (Room QR) metapodial III/IV (F; card as bird metatarsus, in Stockholm) and A 404 (Tower B) metacarpus II (F) (p. 88, in Stockholm; card and Wiencke as bird). Two come from the House of the Tiles: B 753 (III.D; Room VII) and B 757 (III.C; Room III).

Gejvall (p. 38) also noted a young mandible from Lerna III-IV in J 268 (Bothros B-24). There is also a second III-IV mandible, from a context which Gejvall published as IV but had on his card as III, HTN 104. Both specimens are preserved in Stockholm.

Hedgehog

Gejvall (pp. 37, 38, 86) published 2 *Erinaceus europaeus* bones from Lerna III

from 1 adult MNI.

A tibia/fibula (proximal worn, distal F) from HTS 59 (III.C) comes from the area of the House of the Tiles. An ulna comes from G 32 (III.late C or D), from the Central fortification, Room A. Their different locations suggests 2 MNI are probably represented.

Wolf

Gejvall published a *Canis lupus metacarpus V (F)* from Lerna III (III.middle B, HTJ 14) (pp. 18, 70, pl. XVIII:1; card as *C. familiaris* or *Lupus*).

Beaver

There is a *Castor fiber* incisor fragment (L4.541) from III-IV G 26. As this was sent it as an object it was not seen by Gejvall and never published.

Small mammal

There is an unknown very young small mammal mandible (only alveoli) not recognized by Gejvall from HTS 61 (III.early C).

Human

There are several *Homo sapiens* bones in the Lerna III lots recognized (and extracted) by Gejvall, as well as a human skull fragment not recognized by him (J 835). There are also three III-IV lots with baby bones. Most of the lots are from the Eastern fortification (A 404, 438, 443, 445, 447).

The III samples are: A 42 (III.C) subadult skull fragment; A 404 (III.early C) baby tibia fragment; A 438 (III. late C or D) adult skull fragment and phalanx fragment; A 472 (III.early B) femur; B 342 (III.D) adult tibia fragment; BD 579 (III.C) senile skull fragments; J 114 (III.middle B) adult phalanx 1; and J 835 (III.C or D) skull fragment.

The III-IV lots are: A 443 (baby humerus and tibia); A 445 (baby femur and 2 tibia

fragments; 2 MNI); and A 447 (baby tibia). Nilsson (2004, 43) considered all these remains intrusive: "One should bear in mind that none of the human remains are from the Lerna III settlement".

Frog/toad

The only sample with frog/toad bones, noted on his card but not published, is from III-IV J 268 (Bothros B-24). It is preserved in Stockholm.

Birds

For Lerna III Gejvall (pp. 47-48) reported 6 bones (2 *Anas platyrhynchos* [mallard; 2 MNI], 2 *Anas penelope* [wigeon; 1 MNI], *Anser anser* (greylag goose), and *Accipiter gentilis* (goshawk). From III-IV he published 6 bones (*Anas querquedula* [garganey], *Anser*, 3 *Accipiter* [2 MNI], and unidentified). All bird bones are in Stockholm.

The redating of many samples changes the picture. From Lerna III come 3 lots with 5 bird bones.

Lot A 401 (III.early C; Room QR) yielded an *Accipiter* ulna (p. 96); J 317 (III.early C; House 73) produced an *A. platyrhynchos* distal femur (p. 96, pl. XX:4, card as *A. bochas*); G 133 (III.late C or D; outside Room DM; 1969 as III-IV) produced 3 *Accipiter* bones: radius shaft, ulna (p. 96, pl. XXI:9), proximal carpometacarpus (p. 96; card for both as *Anas* sp.).

Now from Lerna III-IV are 9 bones from 7 lots and probably

6 MNI: Lot A 447 (Eastern fortification; card as IV): *Corvus cornix* (hooded crow) distal humerus (p. 95, pl. XX:18).

Lot BA/BB 218 (House of the Tiles; 1969 as III but card as III-IV): *A. penelope* proximal and distal humerus fragments (pp. 48, 95, pl. XX:8 [proximal]; card and Wiencke p. 17 as *Anas* sp.) and *A. platyrhynchos* radius fragment (pp. 48, 95; card and Wiencke p. 217 as *Anas* sp.). It is most likely that all three bones belong to the same *Anas* species.

Lot BC 201x (outside House of the Tiles): *A. querquedula* humerus shaft (p. 95; card and Wiencke p. 289 as unidentified bird). Lot D 801: *Accipiter* ulna fragment (p. 96; card as *Anser*).

Lot G 124: *Anser* distal radius (p. 95; card as IV). Lot G 125 (1969 as III-IV; card as III late): 2 *Anser* distal ulna (p. 96, pl. XXI:2). It is most likely that the G 124 and G 125 bones come from the same *Anser* individual.

Lot J 239 (south of the House of the Tiles; 1969 as Surface & Mixed; card as III changed to Mixed): *Accipiter* tarsometatarsus (pp. 97, 106, pl. XXI:10; card and Wiencke p. 285 as bird tibiotarsus).

Gejvall (1969, 55; 1970, 1973) used the bird bone data to suggest an environmental change between Lerna III and IV. However, I believe that the small sample (3 MNI from III, 6 from III-IV, 15 from IV) does not warrant such a suggestion.

Fish

Gejvall published only 5 fish bones from Lerna III. These are the 5 *Prionace glauca* ([great] blue shark) vertebra (1 broken) from J 480 (III.middle-late C; Central fortification, Room C) (pp. 50, 106, pl. XXII:4 [1 shown], as *Carcharinus glaucus*).

His card notes a fish vertebra fragment from HTS 80 (III. middle+late B). He did not recognize a broken fish spine of a large fish from G 29 (III.late C or D; Room CA, above floor).

There are also 2 unworked fish spines not seen by Gejvall which were registered as worked bone awls from HTJ 22 (L6.555; III.early B) and G 34 (L4.594; III.B-C).

Cut and Burnt Bones

As Payne (1985, 226, 240) has noted

Gejvall (1969) concluded from a study of cut-marks on bones that dogs were eaten: the incidence of cut-marks on dog bones was relatively high, and some of them were on places that would not be cut during

skinning...The low frequency of cut-marks recorded on the bones of the common domesticates of Lerna points to another necessary caution: it seems improbable that cut-marks on these bones were in fact as scarce as the figures imply, and more likely that the author was particularly interested in looking for and recording cut-marks on the dog bones.

Payne is correct. Based on the Lerna III preserved lots it is clear that Gejvall did not spend much time recording butchery and burning. Gejvall recorded 3 cut bones from the preserved samples while I note 247 (36 *Ovis/Capra*, 12 *Sus*, 122 *Ovis/Capra/Sus*, and 77 *Bos*). He recorded 25 burnt remains from the preserved samples while I note 410 (99 *Ovis/Capra*, 33 *Sus*, 216 *Ovis/Capra/Sus*, and 62 *Bos*).

For Lerna III Gejvall recorded only 25 burnt bones. These were: 14 *Sus*, 6 *Ovis/Capra*, 1 *Bos*, 2 *Cervus*, and 2 *Lepus*. However, he does note on his cards that the bones in B 755 were "mostly burnt", G 31 has "some partly burnt" bone fragments, and that the G 143+145 fauna is "partly burnt". The excavators noted that burnt bones were present in the House of the Tiles, Room XII, southeast corner (Wiencke p. 240) although no bones are recorded by Gejvall from here.

From Lerna III Gejvall published only 3 bones which had cut marks (*Ovis/Capra*, *Canis*, *Cervus*).

MARINE INVERTEBRATES

Gejvall published (p. 7) a table of all shells found. He changed many identifications from what he wrote on his cards to what he finally published. This was based on the Lerna invertebrates brought to Sweden by Gejvall and examined by the late Prof. Nils Odhner (pp. xi, 40).

Gejvall published 618 marine shells from Lerna III. Most of the remains were bivalves (388), with 260 *Cardium edule* (now *Cerastoderma glaucum*; cockle), 84 *Spondylus*

(spiny or thorny oyster), 21 *Arca noae* (Noah's ark shell), 9 *Pinna* (pen shell), 9 *Glycymeris* (dog cockle), 4 *Tapes* (carpet shell), and 1 *Mactra* (trough shell). There were also 230 gastropods, with 212 *Murex trunculus* (now *Hexaplex t.*; murex), 5 *Patella* (limpet), 4 *Thais* (oyster drill), 3 *Conus* (cone shell), 2 *Cerithium* (horn shell), and single Triton (now *Cymatium*; triton or trumpet shell), *Monodonta fragaroides* (now *M. turbinata*; top shell), *Talparia* (card as *Cypraea*, now called *Luria lurida*; cowrie), and *Dolium galea* (now *Tonna g.*; tun shell).

What the cards call *Ostrea* are all *Spondylus* except for one which is a fossil oyster. While Gejvall did not publish any *Bolinus brandaris* (formerly *Murex b.*; murex) from Lerna III, there are 7 preserved examples.

He also published 1 land snail (*Helix*). Not published, but noted on his card, is a *Homarus* claw fragment from III.early C (A 402). It cannot be found, and is more likely to be a crab than a lobster.

Using Gejvall's cards and the revised dating, there are 687 marine shells in III: 285 *Cardium* (96 lots), 102 *Ostrea* (63 lots), 21 *Arca* (19 lots), 11 *Pinna* (10 lots), 6 *Cyprina* (6 lots [3 are *Glycymeris*]), 4 ?*Lucina* (4 lots [1 is *Glycymeris*]), 4 *Mytilus* (mussel; 1 lot), 227 murex (104 lots), 5 *Cerithium* (4 lots), 5 *Buccinum* (3 lots [1 is *Cymatium*]), 6 *Patella* (5 lots), 3 *Conus* (3 lots), 3 *Cypraea* (3 lots), 2 top shell (2 lots [1 *Monodonta*]), 1 Triton, 1 *Cassis* {actually *Conus*}, and 2 unknown (2 lots [1 is *Monodonta*]).

The land snails include 2 *Helix* (2 lots) and 1 *Lunatia* (probably *Helix*).

The 163 preserved remains are 50 *Cerastoderma* (16 lots, 10 burnt), 17 *Spondylus* (14 lots, 8 collected dead, 2 burnt, 1 ?carved, 1 not seen by Gejvall), 6 *Arca* (6 lots, 2 collected dead [1 holed], 1 not seen by Gejvall), 6 *Glycymeris* (6 lots, 4 collected dead, 1 burnt; Gejvall as *Cyprina* and *Lucina*), 2 *Pinna* (2 lots, 1 collected dead, 1 burnt), 1 *Mytilus*, 1 *Mactra* (burnt), 65 *Hexaplex* (20 lots [22 in Lot HTN 129], 6

collected dead, 18 burnt, 2 holed), 7 *Bolinus* (7 lots), 1 *Conus*, 1 *Cerithium*, 2 *Cymatium* (2 lots, 1 collected dead; Gejvall as Triton and *Buccinum*), 2 *Monodonta* (2 lots), 1 *Luria*, 1 *Helix*, and 1 fossil oyster.

From III-IV he published 133 shells with: 39 *Cardium*, 33 *Spondylus*, 5 *Arca*, 2 *Glycymeris*, 1 *Pinna*, 39 murex, 6 *Cerithium*, 3 *Thais*, 2 *Monodonta*, 1 *Conus*, 1 *Patella*, and 1 *Talparia*.

Using Gejvall's cards, the revised dating, and including the shells not seen by Gejvall, there are 126 shells in III-IV: 43 *Cardium* (29 lots), 29 *Ostrea* (16 lots), 6 *Arca* (5 lots), 1 *Cyprina*, 1 ?*Lucina*, 1 *Venus*, 33 murex (21 lots), 1 *Cerithium*, 3 *Buccinum* (3 lots), 1 topshell, 2 *Conus* (2 lots), 2 *Patella* (2 lots), 2 *Luria* (2 lots), 1 *Tonna*, and 2 *Lunatia* (1 lot).

The preserved III-IV shells are 2 *Cerastoderma*, 3 *Spondylus* (1 collected dead, 1 worked item), 1 *Venus*, 4 *Hexaplex* (3 collected dead), and 1 *Luria*.

Gejvall did not note the condition of the shells and it is clear from the preserved Lerna III shells that a number of *Spondylus*, *Arca*, *Glycymeris*, *Hexaplex* and *Cymatium* were collected dead on the beach and are therefore not food debris. These are 22 of the 161 preserved marine shells.

Shell Ornaments

The EH cowries deserve special mention. Four *Luria* were carefully modified as pendants, most by grinding a hole near the anterior end – III.C-D+IV: southeast of the House of the Tiles (L5.377, G 146); IV.1: fill in and around Building W-4 (A 358); IV.2: Bothros B-60 (L4.276, G 54); IV.2: Bothros B-65 in "court" (L5.359, G 170; this "court" also produced, according to Gejvall's card, a *Cypraea* (G 208). These are more fully described in the Lerna IV fauna report (Reese 2013, 463).

One *Arca*, collected dead and with a natural hole below the umbo from the Lerna III.D House of the Tiles Room V floor and lower debris (B 341, L3.313) may have

been an EH ornament, or a kicked up Neolithic ornament. Also in B 341 was found a terracotta sherd-disk (L3.268, Wiencke p. 234). Slightly higher in this room was found a pierced phyllite disk (B 340, L3. 215; Wiencke p. 224). One wonders if these holed items might have been utilized together.

There are 2 worked *Spondylus* objects, The first is a worked pestle, pounder, or spool from the III.early C (A 404, L7.238, Tower B floor deposit) It is Le 29 and W 12.25-13.5. It has many Aegean EH parallels (Reese 1987, 128-29).

The second piece is a III-IV worked bossed pendant or lid (Lot BA/BB 174, L 4.321): has 2 holes (on either side, made from both sides), muscle scar on inside, max. D 44.5, W 35.5, H 10.75, D of knob 12, holes D 3-3.75. It is now considered "probably Neolithic" by Banks (in Wiencke p. 224).

There are 3 similar *Spondylus* bossed pendants from Neolithic Franchthi (personal analysis): Cave Trench H1, Unit 12 (FV 12, Nauplion Museum 16343; Jacobsen 1973, 258, pl. 48d top left); Cave Tr. H2A, Unit 31 (FV 50, NM 16381; Jacobsen, pl. 48d top row, second from left); and Paralia Tr. P5, Unit 35 (FV 400, NM 17480), but the LC IIIC sanctuary at Phylakopi on Melos also produced a similar *Spondylus* "bossed pendant" (Renfrew 1985, 327-28, fig. 8.8:1547).

Lerna III produced two other worked *Spondylus*: an upper valve with a hole below the umbo (L6.1656, J 836) which may have been strung, and a preserved *Spondylus* valve possibly carved at the distal end (III.C or D, J 835).

Two preserved EH II *Hexaplex* were also probably used as ornaments: one from BE 477 has an open body and one from J 328 has a hole opposite the mouth.

FAUNA FROM SPECIAL CONTEXTS

Most of the Lerna III fauna comes from

lots excavated outside of buildings. However, some of the preserved samples come from more specific contexts. Of note are the fill of four bothroi: Bothros HTS-2 (HTS 89, 54 bones), Bothros HTS-3 (HTS 90, 69 bones), Bothros HTS-4 (HTS 91, 128 bones), and Bothros HTN-1 (HTN 129, 56 bones). Also of note are three samples from Room QR (A 401, 113 bones; A 402, 36 bones; A 408, 32 bones), the Tower B floor deposit (A 404, 47 bones), stairway deposit around Tower A (A 407, 32 bones), Room C (J 481, 40 bones), House 73 (HTS 61, 30 bones), Room CA above floor (G 29, 73 bones), Room DM floor deposit (G 143+145, 61 bones), and House of the Tiles Room XI debris filling above floor (B 755, 526 bones). It is this last lot which will be further discussed here.

Lot B 755 is recorded by Gejvall as producing about 15 bones (5 *Ovis/Capra*, 5 *Sus*, 1 *Bos*, 3 *Lepus*) and 13 shells, and to be "mostly burnt". In fact, the numbers are 130 *Ovis/Capraremaines* (4 MNI [two under 10 mos., one over 3-3.5 yrs.], 4 cut, 73 burnt), 54 *Sus* (4 MNI [one under 1 yr., one over 2 yrs.], 1 cut, 21 burnt), 244 *Ovis/Capra/Sus* (22 cut, 149 burnt), 74 *Bos* (of 3.5 yrs., 13 cut, 26 burnt), and 3 *Lepus* (3 burnt) (See Catalogue for details). The extensive burning is due to the destruction of the building. The rarity of cut marks (only 40 bones) suggests that the remains were only very preliminarily processed before being stored in this room.

This room measured only 2.61 x 1.32 m, was accessible only from the outside, and was "almost certainly" built for storage (Wiencke pp. 232-36, 302, figs. I.65-67, 69). Wiencke (p. 302) noted

The space in Room XI for storage was certainly limited (if one calculates a total of about 6 m³ allowing for standing room, or four wooden shelves around the sides of the room, with about 10.50 m² of shelf and floor space) and could not have included bulk food stuffs in any quantity. There was no room for pithoi and if jars were stored, as the sealings suggest, they must have been

removed before the disaster, for the simple reason that very few sherds of such vessels were found here. Storage in chests suggests manufactured goods, either perishable or looted, perhaps woven materials or perhaps foodstuffs like honey or condiments or other perishable and prestigious items. The sealings were broken, most of them before the fire, which then exposed the fragments to different temperatures.

This small space produced numerous vessels (2000, 479, 236): 64 saucer sherds (55 or more vessels including 23 rather complete), and sherds of 13 sauceboats (6-8 vessels with 3 rather complete), 8 basins, 6 bowls, 4 askoi, 3 jugs, 2 ladles, 2 miniature saucers, 1 jar, 1 pithos, 5 uncertain, as well as 143 sealings. The lack of any other objects suggests that the fill of this room is unique.

DISCUSSION

As noted above, for Lerna III the remains published by Gejvall (p. 6) are, 772 domestic mammal remains: 340 *Ovis/ Capra*, 236 *Sus*, 169 *Bos*, 25 *Canis*, and 2 *E. asinus*. The 96 wild animal remains he recorded are: 25 *Testudo*, 20 *Cervus*, 18 wild *Sus*, 8 *Lepus*, 7 *B. primigenius*, 4 *Vulpes*, 2 *Erinaceus*, 1 *Lupus*, 6 bird, and 5 fish. However, when one corrects for all the changes in period assignments and adds in context information, the MNI (or number of lots) for the major forms become very different from what Gejvall published:

	Gejvall 1969	this study
	33 MNI <i>Ovis/Capra</i>	167 lots (11 lots have 2 MNI, 3 lots have 3 MNI, and 1 lot has 4 MNI)
23 MNI	<i>Sus</i>	139 lots
(12 lots have 2 MNI and 1 lot has 4 MNI)		
6 MNI	<i>Bos</i>	121 lots
4 MNI	<i>Canis</i>	20 MNI
- MNI	<i>Testudo</i>	15 MNI
5 MNI	<i>Cervus</i>	10 MNI
2 MNI	<i>Lepus</i>	6 MNI

Other researchers have made use of Gejvall's 1969 volume. For example, Trantalidou (1990, 398) combined both Lerna EH periods for the bone percentages she published: 36.7% *Ovis/ Capra*, 28.5% *Sus*, 24.2% *Bos*, 3.2% *Canis*, 0.2% *E. asinus*, and 7.1% wild. Halstead (1996, 28) published for both EH periods 38% *Ovis/Capra*, 32% *Sus*, and 30% *Bos* fragments and in 2006 he recorded the following bone counts for the two EH periods: 1480 *Sus*, 1338 *Ovis/Capra*, 371 *Capra*, 23 *Ovis*, 1382 *Bos*, 163 *Canis*, 12 *E. asinus*, and 258 wild bones.

It is clear from the detailed discussion above that Gejvall's phasing and many identifications now must be drastically changed, making the data presented in 1969 unreliable.

The most relevant comparanda for the Lerna III bones are

the Tiryns fauna published by von den Driesch and Boessneck (1990). The number of fragments for EH II Tiryns were: 1178 *Ovis/Capra* (45.3%), 683 *Sus* (26.2%), 665 *Bos* (25.6%), 27 *Canis*, and 50 wild. The wild forms are 4 *Testudo* (2 MNI), 8 *Cervus* (2 antlers), 1 *Dama*, 9 wild *Sus*, 9 *Lepus*, 5 *Vulpes*, 4 *A. platyrhynchos*, 1 *Accipiter*, 1 *Alectoris* (partridge), 1 *Corvus corax* (raven), 1 *Gallus* (chicken), 1 *Asio* (owl), 2 unspecified bird, and 3 fish bones.

For EH III Tiryns there were: 775 *Ovis/Capra* (41.4%), 474 *Sus* (25.3%), 550 *Bos* (29.3%), 26 *Canis*, 3 *E. asinus*, and 45 wild. The wild forms include 8 *Testudo* (3 MNI), 14 *Cervus* (5 antlers), 12 wild *Sus*, 2 *Lepus*, 2 *Vulpes*, 1 *A. platyrhynchos*, 2 *Gallus*, 1 *Circus* (harrier), 2 unspecified bird bones, and 1 fish.

The Tiryns numbers are not that different from EH II Lerna except that they have many fewer *Testudo* so their wild percentage is smaller, and for Tiryns the *Ovis/Capra* percentages are higher while at Lerna the domestic food animals are found in roughly the same percentages.

The 1980s excavations at Tsoungiza (Nemea, Corinthia) produced a number of

relevant samples. From the EH II Developed come 349 Minimum Number of Anatomical Units with 163 *Ovis/Capra* (18 neonate), 116 *Sus* (28 neonate), 45 *Bos* (1 neonate), 7 *Canis*, 7 *Cervus*, 2 *Capreolus*, 5 *Lepus*, 1 wild *Sus*, 1 *Vulpes*, and 2 *Testudo*. Included are a sawn *Bos* horn core and a worked *Cervus* antler. From the EH III are 52 MinAU with 24 *Ovis/Capra* (2 neonate), 13 *Sus* (2 neonate), 13 *Bos* (1 neonate), 1 *Canis*, and 1 *Testudo* (Halstead 2011).

The small EH II to early MH sample from Eleusis yielded 26 *Ovis/Capra* fragments, 17 *Sus*, 33 *Bos*, 4 *Testudo*, and 1 fish as well as the following EH II shells: 2/44 (complete/fragment[s]) *Cerastoderma*, 4/36 *Arca*, 0/20 *Pinna*, 0/9 *Spondylus*, 0/5 *Ostrea*, 0/7 *Tapes* (as *Venerupis*), 0/1 *Cardium*, 1/31 *Hexaplex*, 3/11 *Cerithium*, 0/7 *Monodonta*, 0/1 *Patella*, and 1 *Capulus* (Cosmopoulos et al. 2003, 146, 150).

EH Kouphovouno in Laconia produced 755 fragments with 223 identifiable: 93 *Ovis/Capra*, 91 *Sus*, 34 *Bos*, and 5 wild animal bones (Gardeisen 2007, 50).

From Ayios Stephanos in southern Laconia there is only 1 EH sample, an EH II lot from Trench Eta (1973 excavation) with 125 bones (7 burnt) from 2 *Ovis/Capra* MNI (9 bones; 1 over 1-1.25 yrs.), 2 *Sus* MNI (23 bones, 2 cut; 1 under 1 yr. and 1 over 2 yrs. but under 2-2.25 yrs), and 1 *Bos* (11 bones, 1 cut; over 2-2.5 yrs.). There are also 1 *Cervus* phalanx 2 and 1 *Lepus* phalanx 1 (Reese 2008b, cd-156, 166, 168).

CATALOGUE OF LERNA III FAUNA PRESERVED IN ARGOS

Test Pit BD

BD 573+574 (III.C; Wiencke 2000, 154)

Gejvall (12 bones/teeth [small bag] + 5 shells noted):

Ovis/Capra: mandible fragment (M₃ 1/1, R), 2 scapula fragments, 2 metacarpus fragments (1 juvenile).

Sus: mandible fragment (L), M₂ (1/1).

Bos: radius fragment, phalanx 1 fragment, vertebra fragment.

Canis mandible fragment (no teeth, L).

2 *Cardium*, 3 murex.

Reese (35 bones/teeth [5 cut, 6 burnt]; 5 shells):

Ovis/Capra (2 MNI): mandible (P₁₋₃ roots, M₁ roots, M₂ slightly worn, M₃ unworn/broken, R), 2 scapula (1 F [partly burnt gray], 1 broken, 2 adult, 2 L), proximal metacarpus and shaft (R), metacarpus shaft (subadult, burnt light black), metatarsus shaft (probably cut down on ventral in lower shaft, burnt gray).

Sus: anterior maxilla (C + P¹⁻³ alveoli, L), 2 upper premolars (1 unworn, 1 broken), 2 mandible fragments (M₂ [unworn, adult]; side).

Ovis/Capra or *Sus*: pelvis fragment, 5 shafts, fragment (burnt black).

Bos: proximal radius (F, cut down length down middle, R), phalanx 1 (F, cut down dorsal side), vertebra spine, rib fragment (cut down length, burnt black), 3 shafts (1 cut down length), fragment.

Canis mandible fragment (alveoli only, burnt gray, L, in Stockholm).

2 *Cerastoderma* (R, H 37.5, W 38; L, H 27, W 29, 2 MNI), 2 *Hexaplex* (recent hole on body, Le 56, W 44.5; Le 43, W 38), *Bolinus* (ancient broken distal siphon, Le 57+ bit, W 42.75).

Deposit BG 85 Fill

BE 477 (III.early A; 2000, 28)

Gejvall (7+ bones [small bag] + 5 shells noted):

Ovis/Capra tibia fragment.

Sus: skull fragment, ulna fragment, tibia fragment.

Bos: metacarpus fragment, fragments.

5 murex.

Reese (9 bones [2 cut]; 5 shells [1 collected dead]):

Ovis/Capra proximal tibia and shaft (F, gracile, L, 2 pieces).

Sus: skull fragment (2 pieces), proximal ulna (broken, adult-sized, R), proximal tibia (F, cut down length except at proximal, R).

Ovis/Capra or *Sus*: 2 shafts.

Bos: proximal metacarpus (broken, adult-sized, R), shaft (cut down length on angle, large).

4 *Hexaplex* (Le 58, W 48; Le 59, W 49, bit worn; Le 58+, broken apex, open body, worn, probably collected dead; Le 67+, no apex, open body), *Bolinus* (Le 63, W 43).

Area D

D 772 (III.early C; 2000, 108)

Gejvall (14 bones/teeth [large bag] + 2 shells noted):

Capra: 4 horn core fragments, 2 mandible fragments (1 M₁→, 1 1/1, 2 L).

Sus: mandible fragment (1/1, R), 2 radius

fragments, 2 tibia fragments.

Bos: humerus fragment, tibia fragment (adult).

Cardium, Ostrea.

Reese (62 bones/teeth [1 cut, 8 burnt]; 2 shells):

Ovis/Capra (3 MNI): horn core (adult, 3 pieces), skull fragment with small horn core (has oculus, L), 2 skull fragments (1 has horn core bud), 2 mandibles (dP₁ alveolus, dP₂₋₃ worn, has *Capra* tang, M₁ erupting/unworn; P₁ alveolus, P₂₋₃ worn, M₁ worn, M₂ unworn/open roots, M₃ unworn/open roots, slightly charred gray, L, 4 pieces), scapula body fragment, distal humerus (F, R, rather large), radius (all UF, very young), 2 radius (adult, 2 MNI by size), pelvis fragment (UF, L, 2 pieces), proximal femur (F, R).

Sus (2 MNI): mandible (P₄ alveolus, M₁ much worn, M₂ worn, M₃ erupting [anterior slightly worn, Le 32+ (in jaw)], R), 2 proximal radius (2 F, 2 L; 5 chop marks on ventral L side; larger: charred gray, proximal W 32.5, proximal depth 22), 2 distal tibia (2 F, R, L).

Ovis/Capra or *Sus*: 9 rib fragments (2 join), 6 shafts.

Bos: proximal humerus shaft (rather large, L), distal tibia (F, R), 3 shafts (2 slightly burnt gray; 1 in 2 pieces).

Bos/Cervus metatarsus shaft (gracile, partly burnt gray/black, 3 pieces).

Cerastoderma (R, H 29.5, W 28.5, acidied), *Spondylus* (very water-worn upper valve, H 47, W 42).

D 808: Outside House 122 (III.late C; 2000, 156-57)

Gejvall (7 bones [large bag] + 1 shell noted):

Capra: 2 horn core fragments, mandible fragment (1/1, R).

Sus: mandible fragment (1/1, middle), humerus fragment.

Bos infraorbital.

Sus (wild) metacarpus fragment.

Cardium.

Reese (54 bones/teeth [9 cut, 23 burnt (46%)]); 1 shell):

Capra horn core/skull fragment (subadult).

Ovis/Capra: M² (unworn/open root), mandible (P₁ alveolus, P₂₋₃ much worn, M₁ much worn, M₂ worn, R), humerus shaft (burnt gray, R), metacarpus (F, complete, gracile), distal metacarpus (F), proximal metatarsus and shaft (cut down length and burnt gray).

Sus: anterior maxilla fragment (burnt gray, R + L), 2 distal posterior mandible fragments (1 burnt gray, 1 partly burnt gray), 2 incisors (2 adult, 1 in 2 pieces), 2 distal humerus (2 F, both slightly burnt gray and large, R, L), radius shaft, proximal

metacarpus III/IV (partly burnt gray).

Ovis/Capra or *Sus*: 3 rib fragments (1 head, 1 near head), 4 shafts (2 cut down length and burnt gray, 1 burnt black at broken end, 1 burnt gray).

Bos: skull fragment (infraorbital, burnt gray), 2 humerus shafts (probably cut through anterior articulation in 2 ways, L; partly burnt gray), vertebra spine (cut down length on 2 sides, partly burnt gray), 3 rib fragments (1 with head in 2 pieces, 2 burnt gray and slightly smaller), 12 shafts (3 cut down length, 5 partly burnt gray, 2 join).

Sus (wild) metacarpus III/IV (F, cut through proximal on slight angle, partly burnt gray, distal 20.75 x 20.75)

Cerastoderma (R, acidied) (2000, 157 [as 809]).

Worked *Ovis/Capra* proximal radius (F, R, has oblong hole from dorsal side to ventral side, slightly burnt gray, shaft below hole is rather smooth, total Le 63, dorsal hole 8.75 x 4.5, ventral hole 9.25 x 4.25).

Trench HTS

HTS 79: Southwest Area (III.middle B; 2000, 49)

Gejvall (15 bones/teeth [2 medium bags] + 2 shells noted):

Ovis/Capra: 2 humerus fragments, 2 tibia fragments, metacarpus fragment.

Sus: tusk fragment (juvenile→), scapula fragment, radius fragment (adult).

Bos: 2 M³ (2 1/1), scapula fragment, pelvis fragment, metacarpus fragment, phalanx I.

Canis tibia fragment.

2 *Ostrea*.

Reese (56 bones/teeth [15 cut (27.3%), 8 burnt]; 1 shell [?worked]):

Ovis/Capra: distal humerus (F, L), distal tibia and shaft (F, cut down length except toward distal, has hole on one side just above articulation, hole D 7 x 5.5, R), metapodial shaft (cut down length).

Sus: lower canine (broken, subadult), scapula (probably F but now worn, broken, R, 2 pieces), proximal ulna and upper shaft (cut on angle through proximal, adult-sized, L).

Ovis/Capra or *Sus*: 4 rib fragments (two pairs join), 11 shafts (5 cut down length [3 burnt: 2 black, 1 gray], 1 burnt gray).

Bos: maxilla fragment (M³ worn, L, 2 pieces), mandible condyle process (cut through lower coronoid process), scapula (F, probably cut through *tuber scapulae*, glenoid area burnt gray, L), pelvis fragment, metacarpus shaft, vertebra fragment (2 pieces), 10 shafts (4 cut down length [2 burnt: 1 gray, 1 light black], 1 burnt black/brown, 2 join), fragment (cut).

Canis distal tibia and shaft (F, L).

Spondylus (max. W 29, possibly carved on distal edge).

HTS 89: Bothros HTS-2, northeast of House 14 (III.middle B; 2000, 50)

Gejvall (8 bones/teeth [medium bag] + 5 shells noted):

Ovis/Capra mandible fragment (03m 1/1, L).

Sus: maxilla fragment (1/1, R), mandible fragment (1/1, L), scapula fragment, radius fragment.

Bos: radius fragment, phalanx II.

Pinna, 4 murex.

Reese (54 bones/teeth [6 cut, 2 burnt]; 5 shells [1 collected dead]):

Ovis/Capra (2 MNI): 3 mandible fragments (anterior, L; condyle process and distal, R; side), dP₃ (worn, has *Capra* tang), radius shaft (juvenile, slightly burnt gray), ulna shaft, distal femur (F, L, 2 pieces), proximal metatarsus and shaft (young, 3 pieces).

Sus (2 MNI): 3 maxilla fragments (1 posterior with M² worn and M³ alveolus, R; 2 join), mandible fragment (has 2 premolars, subadult, L), 2 premolar/molar fragments, scapula (F, rather large, L), proximal radius and shaft (UF), distal radius epiphysis (UF, smaller than radius/ulna), distal radius/ulna (both F, rather large, L, 2 pieces), tibia shaft (probably cut down shaft but now worn, rather large), carpus/tarsus, metatarsus IV (UF, R), phalanx 2 (F, rather long).

Ovis/Capra or *Sus*: 4 vertebra fragments (1 UF, 1 F [cut down center and 2 cut marks on side and probably cut sideways]), 4 shafts (2 cut down length, 1 worn).

Bos: horn core fragment, skull fragment, proximal radius (F, cut down length down center), phalanx 2 (F, rather robust), 4 shafts (1 cut down length and burnt gray/white).

Pinna fragment (beach-worn, collected dead), 4 *Hexaplex* (Le 79, W 59.5; Le 63, W 50.5; Le 53, W 44.5; Le 55+, open apex and side).

HTS 90: Bothros HTS-3, southwest of Building BG (III.late B; 2000, 55)

Gejvall (9 bones noted [medium bag]):

Capra: horn core fragment, calcaneus fragment (juvenile), metatarsus fragment.

Sus: pelvis fragment, 3 metapodials, phalanx I (all adult)

Bos infraorbital.

Reese (69 bones [9 cut, 1 burnt]):

Capra horn core (broken).

Ovis/Capra: 2 proximal metatarsus and shaft (adult, L; broken down length, same size as L), distal metapodial shaft (smaller than metatarsus).

Sus: posterior mandible (2 pieces), pelvis/acetabulum (has part of ischium, adult, R),

calcaneus (UF, broken distal, L), metacarpus V (F, L), metatarsus II (F, L), metatarsus III (F, adult, R), phalanx 1 (F).

Ovis/Capra or *Sus*: 8 rib fragments (2 with heads, 1 in 3 pieces), 14 shafts (8 cut down length, 1 burnt gray, 1 in 2 pieces).

Bos: 2 skull fragments (1 infraorbital, large), 2 vertebra spine fragments, 16 rib fragments (2 in 2 pieces, probably 3 ribs present), 4 shafts, 2 fragments (1 cut).

HTS 91: Bothros HTS-4, southwest of Building BG (III.late B; 2000, 56)

Gejvall (18 bones/teeth noted [medium bag]):

Ovis/Capra: 2 mandible fragments (03m→, M₁→, 2 R), radius fragment (adult), metacarpus fragment (adult).

Sus: 3 maxilla fragments (1 M₁→, 1 M₁ 1/1, 2 L, 1 middle), 2 upper tusks.

Bos: infraorbital, radius fragment, femur fragment, calcaneus fragment, phalanx II.

Reese (128 bones/teeth [16 cut, 1 burnt]):

Capra horn core fragment (subadult).

Ovis/Capra (3 MNI): 2 anterior mandible fragments (2 dP₃ [small, bit worn; large, unworn, mandible in 3 pieces], 2 R), 2 mandible condyle process (2 R, 1 in 2 pieces), scapula (no glenoid, 5 pieces), 4 radius fragments (1 F proximal, 3 cut down length), proximal ulna (F, articulates with radius, R), 4 pelvis/acetabulum fragments (3 L), distal tibia and shaft (F, cut down upper part of shaft, R), distal metacarpus and shaft (F), metatarsus shaft, phalanx 1 (F).

Sus (2 MNI): 6 maxilla fragments (premaxilla and upper canine [tip burnt black], female, R; P₄, M₁, L; M₁ unworn, M² unworn, M³ alveolus, L; anterior with P₁ or P₂, rather young), distal radius (UF, large, W 34.25, depth 28).

Ovis/Capra or *Sus*: 2 vertebra fragments (1 spine), 16 rib fragments (1 head possibly cut; 1 in 2 pieces), 9 shafts (1 cut down length; 1 in 2 pieces).

Bos (2 MNI): 2 skull fragments (1 infraorbital, very large), atlas fragment (cut down center, large, 5 pieces [2+ join]), distal humerus (F, L, 5 pieces), proximal radius (F, cut down length), distal radius (F, broken, large), sacrum fragment (probably cut [now worn]), proximal femur head epiphysis (large), distal femur fragment (UF, cut down length on angle [2 pieces] and epiphysis fragment [large]), phalanx 2 (F, stocky), vertebra spine fragment, 9 rib fragments (1 in 2 pieces), 9 shafts (6 cut down length), fragment.

Area JA

J 328: Southwest Area (III.late B; 2000, 54)

Gejvall (6 bones/teeth [medium bag] + 2 shells noted):

Ovis/Capra: humerus fragment, tibia fragment,

metatarsus fragment.

Bos: mandible fragment (L), I₂ (worn down), phalanx I fragment.

2 murex.

Reese (23 bones/teeth [7 cut]; 2 shells [1 holed]):

Ovis/Capra: 2 horn core fragments, 2 skull fragments, axis (odontoid process cut off and cut down center, 4 pieces), distal humerus (F, R, 2 pieces), calcaneus (UF, cut parallel to shaft through sustentaculum tali, L), proximal metacarpus (cut down center on slight angle, L).

Ovis/Capra or *Sus*: 2 vertebra (1 cut down center on side; 1 cut on angle on side), rib fragment, 5 shafts (1 cut part way down center).

Bos: anterior mandible (adult, L), I₂ (much worn), proximal phalanx 1 (F), 3 vertebra fragments (1 UF, large; 1 centrum fragment), rib fragment (has head), 2 shafts (1 cut partly down length).

2 *Hexaplex* (Le 72, W 68, hole opposite mouth 8 x 6; Le 57, W 49.5).

Eastern Fortifications

A 401: Room QR, lower debris (III.early C; 2000, 97)

Gejvall (16 bones/teeth [medium bag] + 11 shells noted):

Ovis/Capra: M³ (1/1), 2 skull fragments (1 juvenile), M₁→, 2 radius fragments, femur fragment (without diaphysis, juvenile).

Sus: skull fragment, mandible fragment (juvenile, L), femur fragment (juvenile), astragalus.

Bos: femur head fragment, phalanx I fragment.

Testudo carapace fragment.

Accipiter ulna (1969, 96; card as unidentified bird).

Bird metatarsus.

2 *Cardium*, 2 *Ostrea*, *Arca*, *Glycymeris* (1969, pl. XXIV:18; card as *Conus*), 2 murex, *Triton* (1969, pl. XXIII:10), *Cypraea*.

Reese (113 bones/teeth [24 cut (21.2%), 12 burnt]; 11 shells [3 collected dead]):

Ovis/Capra (2 MNI): horn core fragment, M₂ (bit worn), M₃ (unworn, R), anterior mandible fragment, M₂ (unworn), 2 M₃ (broken, slightly worn, R; broken, L), scapula (F, R), 2 proximal radius (2 F, R [has shaft], L, 2 worn), radius shaft (L), 2 ulna shafts, 2 pelvis fragments (young, cut through acetabulum, burnt gray, R, goes with R femur; older, L, encrusted), femur (all UF, R), femur (UF and epiphysis, L, 2 pieces), astragalus (R), calcaneus (broken sides and distal, R), proximal metacarpus and shaft (broken proximal, partly cut down proximal L), proximal metacarpus (L), metatarsus shaft (cut down length, 2 pieces), distal metapodial (F, 2 pieces), 2 metapodial shafts (1 cut

down length), phalanx 1 (F, burnt gray).

Sus (2 MNI): skull fragment (oculus), anterior mandible fragment (juvenile, no teeth, L), distal radius (UF), astragalus (adult, L, worn/abraded).

Ovis/Capra or *Sus*: 8 skull fragments (1 oculus, 1 burnt gray), 3 radius shafts, 2 vertebra (1 UF [near sacrum], 1 F), 2 vertebra spines, 4 rib fragments (1 possibly burnt gray), 27 shafts (9 cut down length, 6 burnt black [with 3 cut down length]).

Bos: upper premolar (adult, broken, worn), M₂ or M₃ fragment (burnt gray/white), premolar/molar root fragment, proximal femur head fragment (F, recently broken), metapodial distal shaft (cut down length), phalanx 1 (F, cut down upper two-thirds on ventral side parallel to bone), rib fragment (large, 4 pieces), 14 shafts (5 cut down length with 1 burnt gray), fragment.

Bos/Cervus scapula fragment (F, broken glenoid area, recently broken).

Vulpes metapodial III/IV (F) (card as bird metatarsus; in Stockholm).

Testudo: 2 carapace fragments (2 worn), plastron fragment (edge).

Accipiter ulna (complete, R) (1969, 96; in Stockholm).

2 *Cerastoderma* (2 asymmetrical, R, H 27.5, W 29; L, H 28, W 30, 2 MNI), 2 *Spondylus* (2 upper, 1 water-worn, H 54+, W 48; 1 worn, H 42, W 42+, 2 collected dead, 2 MNI), *Arca* (R, W 48.5, H 18, marine growths inside, collected dead), *Glycymeris* (1969, pl. XXIV:18), 2 *Hexaplex* (L 30, W 21; L 34+, missing apex), *Bolinus* (Le 56.5, W 37), *Cymatium* (1969, pl. XXIV:10), *Luria* (Le 34, W 19, H 17).

A 402: Room QR, upper debris (III.early C; 2000, 98)

Gejvall (8 bones/teeth [small bag] + 1 lobster noted):

Ovis/Capra: M³ (1/1, senile), metatarsus fragment.

Sus: tusk fragment, metapodial fragment (juvenile).

Bos: 2 humerus fragments, calcaneus fragment.

Testudo carapace fragment.

Homarus claw fragment (removed by Gejvall).

Reese (36 bones/teeth [9 cut, 3 burnt]; 4 shells [1 collected dead, 2 burnt]):

Ovis/Capra: M³ (worn, adult, R), proximal metatarsus and shaft (L), phalanx 1 (F).

Sus (2 MNI): upper canine (broken, adult male), astragalus (badly worn and abraded, adult, Le 33), metacarpus III (UF, small).

Ovis/Capra or *Sus*: 5 shafts (2 cut down length, 1 cut down length and burnt gray, 1 burnt black), vertebra (UF), rib fragment (has head).

Bos: scapula fragment (body), radius/ulna shaft (burnt black), distal femur shaft (cut down length),

calcaneus (F, broken proximal, looks cut through distal down front on angle, arthritic growths on distal and L side, R), vertebra spine fragment, 12 shafts (4 cut down shaft, 2 pairs join).

Testudo carapace fragment.

Cerastoderma fragment (partly burnt), *Spondylus* fragment (upper valve, worn, collected dead), *Arca* (R, broken, W c38), *Hexaplex* (?worn, burnt, Le 56.5, W 42.5).

A 404: Tower B, floor deposit (III.early C; 2000, 100)

Gejvall (6 animal bones/teeth [small bag] + 6 shells noted):

Ovis/Capra: M³ (senile), tibia fragment, metacarpus fragment.

Sus skull fragment.

Bos metacarpus fragment.

Vulpes metacarpus 2 (1969, 88; called bird on card and in Wiencke).

Homo (baby) tibia fragment (removed by Gejvall).

Cardium, *Arca*, ?*Cyprina*, 3 murex.

Reese (47 bones/teeth [5 cut, 3 burnt]; 6 shells [2 collected dead]):

Ovis/Capra: mandible side fragment, M₃ (worn, R), distal humerus (broken distal, cut down length [dorsum removed], L), pelvis/acetabulum fragment (L), distal tibia (F, L, 2 pieces), proximal metacarpus and shaft (subadult, R).

Sus (2 MNI): skull fragment, metacarpus III (F, L, 2 pieces), proximal metacarpus IV (R), 3 metapodial III/IV shafts (1 quite young) (2 MNI by metacarpus sizes).

Ovis/Capra or *Sus*: 2 skull fragments (1 burnt gray), radius shaft (young, 2 pieces), tibia shaft (2 pieces), 4 rib fragments, 6 shafts (3 cut down length, 1 burnt light black).

Bos: pelvis/acetabulum fragment (burnt brown/black, large, 2 pieces), metacarpus shaft (rather gracile compared with phalanx, 3 pieces), phalanx 1 (F, robust, 5 pieces), rib fragment (robust), 2 shafts (1 cut down length, worn).

Vulpes metacarpus II (F) (1969, 88; in Stockholm).

Testudo carapace fragment (edge).

Cerastoderma (R, asymmetrical, H 31.5, W 29), *Arca* (R, W 60.5, H 20.5, some marine growth inside, collected dead), *Glycymeris* (worn, collected dead, H 49, W 45), 2 *Hexaplex* (2 bit worn, Le 65, W 55; Le 49, W 38.5), *Bolinus* (bit worn, open mouth area, Le 52+ bit).

Worked *Ovis/Capra/Sus* straight bone: one nice cut and smoothed edge, one ancient and one recent break, exterior smoothed, has cortical bone on one side, Le 50+, W 11.5, T 3.

A 407: Stairway deposit around Tower A (III.early C; 2000, 103)

Gejvall (3 bones [small bag] + 6 shells noted):

Capra: horn core fragment, mandible fragment (M₂→, R).

Sus humerus fragment.

3 *Cardium*, 3 murex.

Reese (32 bones/teeth [8 cut, 4 burnt]; 8 shells [6 MNI, 1 collected dead]):

Ovis/Capra: mandible fragment (dP₃ worn, M₁ unworn, R), M₃₂ (unworn/open roots, broken), M₃₁ (unworn, broken, R), scapula (F, has 2 parallel cut marks on ventral side of glenoid, R), proximal radius (F, 4 cut marks on dorsal R side in upper shaft, 3 chop marks further down on R side of shaft, and 2 very light parallel cut marks on ventral side in upper shaft, R), radius/ulna shaft (recently broken, 3 pieces), 2 metacarpus shafts (1 cut down length on slight angle and burnt gray), metatarsus shaft (gracile).

Ovis/Capra or *Sus*: skull fragment (burnt black/brown, acidified), 2 rib fragments, 10 shafts (1 partly cut down length and partly burnt black; 1 cut down length along edges on 4 planes; 1 burnt black/brown; 1 worn).

Bos: proximal ulna olecranon fragment (cut back above *incisura semilunare* and also probably cut back through lower *inc. semi.*, large, L), rib fragment (acidified), 2 shafts (1 cut across on angle, 1 cut down length).

5 *Cerastoderma* (coplet H 23, W 25; L, asymmetrical, H 30, W 26.5, L and R fragments, 3+ MNI), 2 *Hexaplex* (Le 64, W 55; L 61, badly bored inside and outside, collected dead, broken lip). Bone bag produced a *Bolinus* fragment (broken siphon, open body, pres. Le 50).

A 408: Room QR, floor level (III.middle C; 2000, 116)

Gejvall (5 bones/teeth [small bag] + 1 shell noted):

Ovis/Capra: M₃→, 2 scapula fragments, radius fragment.

Bos scapula fragment.

Ostrea.

Reese (32 bones/teeth [2 cut, 3 burnt]; 1 shell):

Ovis/Capra: M₃ (unworn, R), scapula (F, burnt gray/black, L), radius shaft, distal metacarpus shaft, metatarsus shaft.

Ovis/Capra or *Sus*: 2 rib fragments (1 cut head), shaft (possibly burnt gray).

Bos: skull fragment (burnt gray), mandible fragment (side, 3 pieces), lower molar fragment (worn), scapula (F, cut down glenoid), radius shaft, rib fragment (4 pieces), 3 shafts (2 join).

Canis proximal metatarsus III and shaft (L).

Cervus scapula (F, recently broken through glenoid, L).

Spondylus (upper valve, H 56.5, W 51+).

Central Fortifications

J 481: Room C (III.middle+late C; 2000, 124)

Gejvall (10 bones/teeth [small bag] + 3 shells noted):

Capra: 2 horn core fragments, M₃ (worn down), scapula fragment (juvenile), humerus (juvenile), 2 humerus fragments, tibia fragment.

Sus axis.

Bos: scapula fragment, tibia fragment.

Cardium, 2 murex.

Reese (40 bones/teeth [2 cut, 4 burnt]; 3 shells):

Capra: 2 horn cores (2 broken).

Ovis/Capra (3 MNI): 3 mandible fragments (1 side, 1 posterior, 1 condyle process with distal coronoid process), M₃ (worn, L), axis (F, rather complete, slightly charred black on upper centrum), scapula (no glenoid, young, R), 3 distal humerus (2 F, 2 R; 1 broken distal, smaller, L, 3 MNI), radius shaft, distal tibia (F, L), 2 phalanx 1 (2 F).

Sus mandible condyle process.

Ovis/Capra or *Sus*: skull fragment, 4 rib fragments (1 head cut through; 1 burnt gray), 6 shafts (2 burnt [1 black, 1 black/gray]).

Bos scapula glenoid fragment (F, cut down center, large).

Cervus distal tibia (F, R).

Bos/Cervus: 2 rib fragments, 2 shafts, fragment (2 pieces).

Cerastoderma (R, a bit worn, H 34, W 37.5), 2 *Hexaplex* (Le 50.5, W 45.5; columella fragment, Le 47+).

Worked rib: worked at distal end, end is smoothed, polished and somewhat beveled, broken head, pres. Le 195, max. W of worked end 24.25, max. T of worked end 5.5, 3 pieces.

House 73 and Area

HTS 61 (III.early C; 2000, 105)

Gejvall (7 bones noted [medium bag]):

Ovis/Capra (2 MNI): 2 calcaneus fragments (juvenile), metacarpus fragment (fetus or newborn), 2 vertebra fragments.

Sus mandible fragment (1/1, R).

Canis mandible fragment (L) (1969, 14-15, 62, pl. I:7).

Reese (30 bones/teeth [1 cut]):

Ovis/Capra (2 MNI): 2 ulna shafts (same side, rather young, 2 MNI), 2 calcaneus (1 UF, 1 F [has cut mark on sustentaculum tali], 2 L), metacarpus shaft (one half, very young, small).

Sus mandible fragment (has P₃ or P₄, adult, R).

Ovis/Capra or *Sus*: pelvis fragment, vertebra

(UF, 2 pieces), 8 rib fragments (1 head; 5 are larger [2 join]), 3 shafts.

Canis mandible fragment (rather complete, M₁, M₂₋₃ roots, L) (1969, 14-15, 62, pl. I:7).

Unknown mammal mandible (only alveoli, very young, L, 2 pieces).

South of Eastern Fortifications

A 414 (III.middle C; 2000, 113)

Gejvall (4 bones/teeth [small bag] + 3 shells noted):

Ovis/Capra mandible fragment (M₁→, R).

Bos M₃ (large) (1969, 32, 80, pl. XI:11).

Testudo carapace fragment (not skull as noted in Wiencke).

Arca, *Cyprina*, murex.

Reese (20 bones/teeth [3 cut, 3 burnt]; 3 shells [1 collected dead]):

Ovis/Capra mandible fragment (P₃ + M₁ worn, burnt black/gray, L).

Sus mandible (broken, 5 pieces and 1 molar [worn, adult, 2 pieces]).

Ovis/Capra or *Sus*: tibia shaft (upper, burnt brown/gray, R), vertebra (UF, possibly cut down length), 4 shafts.

Bos: M₃ (large, open roots, L) (1969, 32, 80, pl. XI:11), 3 shafts (3 cut down length, 1 burnt gray).

Testudo carapace fragment.

Arca (L, W 49, H 17), *Glycymeris* (water-worn, vermetids inside, H 38, W 37), *Bolinus* (no apex, has distal siphon, L 49+).

North of Central Fortifications

J 486: North of Rooms C and D (III.middle C; 2000, 123)

Gejvall (7 bones/teeth [small bag] + 3 shells noted):

Ovis/Capra radius fragment.

Sus mandible fragment (pathological, M₃→, R).

Canis mandible fragment (R).

Sus (?wild): 3 metacarpus fragments.

Ostrea, 2 murex.

Reese (46 bones/teeth [10 cut (21.7%), 8 burnt]; 3 shells):

Ovis/Capra: distal humerus shaft (R), proximal radius (F, R), proximal ulna fragment (broken, small piece).

Sus: mandible fragment (M₂ unworn, M₃ alveolus, pathological on R side of P₄/M₁, R), radius shaft (has 5 chop marks along ventral side and appearing on R and L sides of dorsum), metacarpus III (F, L).

Ovis/Capra or *Sus*: vertebra (UF), 2 vertebra spines (1 has 2 cut marks on side; 1 burnt gray), 6 rib fragments (2 have head with 1 burnt black and other burnt gray/brown), 7 shafts (2 cut down

length and burnt gray; 1 cut down length; 1 has 1 cut mark; 1 burnt gray; 1 partly burnt gray).

Canis mandible fragment (only alveoli, R).

Sus (wild): proximal metacarpus III (L, W 29, depth 26.75), distal metapodial III/IV (F, probably cut across bone toward distal, W 21.5), distal metapodial II/V (F, Le 18.75, distal W 12.25).

Sus (wild)/*Bos*: caudal vertebra (F), 5 shafts (3 cut down length, 1 partly burnt black/brown), 2 fragments (1 partly burnt gray).

Spondylus (upper, H 53, W 47), *Hexaplex* (Le 66, W 43.5), *Cerithium* (distal end, open mouth, large).

House CA

G 29: Room CA, burnt destruction deposit above floor (III.late C or D; 2000, 136)

Gejvall (6+ bones/teeth + 18 shells noted):

Ovis/Capra: horn core fragments, fragments.

Sus: 3 tusk fragments (large), radius fragment, ulna fragment.

12 *Cardium*, *Ostrea*, ?*Cyprina*, 4 murex.

Reese (73 bones/teeth [8 cut, 17 burnt (23.3%)]; 18 shells [2 collected dead, 6 burnt], 17 MNI):

Capra horn core and skull (subadult).

Ovis/Capra: lower molar fragment (unworn), axis (broken, cut through odontoid process and probably also behind articular surface, burnt gray/brown), distal radius (UF, burnt gray), proximal ulna (broken, subadult), proximal metacarpus (burnt light gray, L), proximal metatarsus and shaft (broken proximal, burnt gray), metatarsus (UF [5 pieces], with epiphysis [2 pieces], R).

Ovis/Capra or *Sus*: humerus shaft (very small, burnt black), vertebra fragment (UF), 7 rib fragments (1 head; 1 burnt gray/black), 15 shafts (4 cut down length, 1 partly cut down length, 7 burnt black [1 also cut down length]; 1 acidified).

Sus (wild): upper canine (L, 4 pieces), lower canine (L, burnt gray at root end, many pieces, max. D 24.75 x 14.25, Le c125 [curving]; upper and lower articulate), distal humerus shaft (burnt gray/white, L), proximal radius (F, L, burnt black, proximal W 31.25), ulna shaft, 2 rib fragments (join).

Sus/Bos: 2 posterior skull (occipital condyles), radius shaft, vertebra fragment (cut in 2 directions, burnt gray, large), 3 vertebra fragments (1 burnt black, acidified), 3 shafts, fragment.

Fish spine (broken, large).

12 *Cerastoderma* (L: H 25.5, W 24.5+; H 22, W 23; H 25.5, W 26; H 25.5, W 26+; burnt, H 31.5, W 33.5+; burnt, H 21, W 22.5; burnt, H 27, W 29; partly burnt, H 29, W 27+; fragment; R: H 31, W 30+; H 21, W 22; burnt, H 24, W 25; 11+ MNI [5 burnt]), *Spondylus* (lower valve, collected dead, burnt, acidified, small), *Glycymeris pilosa* (H 64, W 61.5 collected dead), 3

Hexaplex (Le 41, W 32; bit worn, Le 33, W 22; distal fragment), *Bolinus* (open body, broken spines).

Worked rib: flat section, smooth cortical bone on one side, both ends broken, burnt black, pres. Le 49.75, W 20, T 3.25.

Worked rib fragment: smooth cortical bone on interior, exterior has much scoring, one end recently broken, other end natural and now worn, pres. Le 102, W 18, T 4.

North of House CA

G 37: North of Room A, lower debris (III.late C; 2000, 139)

Gejvall (8+ bones [medium bag] + 14 shells noted):

Capra: 3 horn core fragments, fragments.

Sus mandible fragment (1/1, L).

Bos astragalus.

Sus (wild) metacarpus.

10 *Cardium*, 2 *Ostrea*, murex, *Buccinum*.

Reese (51 bones/teeth [9 cut, 5 burnt]; 15 shells [13 MNI, 2 collected dead, 13 MNI]):

Capra horn core (3 pieces).

Ovis/Capra: mandible coronoid process, 2 molar fragments, scapula fragment (F, broken, L), proximal ulna (UF, L), proximal metacarpus and shaft (2 pieces).

Sus: mandible (has M₂ worn, M₃ alveolus [large], 4 pieces), M₁ (little worn), M₃ (worn, broken), metacarpus IV (UF, burnt gray, L).

Ovis/Capra or *Sus*: tibia shaft (cut down length), 2 rib fragments, 10 shafts (4 cut down length, 2 burnt black).

Cervus: distal femur shaft (probably L), distal metacarpus (F, W 43.75, depth 29), astragalus (R, Le 59.5, W 38.75).

Sus (wild) metacarpus IV (F, has 3 cut marks on distal articulation toward ventral, L, distal W 20, depth 19.75).

Bos/Cervus: radius/ulna shaft (cut down length), 2 rib fragments (1 partly burnt black), 2 shafts (1 cut down length and has burnt patch).

11 *Cerastoderma* (R: asymmetrical, H 24, W 26.5; H 28.5, W 27; H 28, W 28.5; H 32, W 32; H 38, W 29.5; H 23.5; broken, H c26; L: asymmetrical, H 27, W 29.5; broken, H 24.5; broken, H 27.5; broken, 9+ MNI), 2 *Spondylus* (upper valve, worn, not complete; lower valve, H 69, W 61.5, interior worn with some pitting, collected dead, 2 MNI), *Hexaplex* (Le 52, W 48), *Cymatium* (Le 116.5, W 61, vermetids inside, collected dead).

Room DM

G 143+145: Floor deposit (III.late C; 2000, 144)

Gejvall (6+ bones [1 bag] + 9 shells noted, partly burnt):

Ovis/Capra fragments.

Sus: mandible fragment (1/1, R), ulna fragment, fragments.

2 *Cardium*, *Ostrea*, ?*Cyprina*, *Pinna*, 3 murex, *Lunatia*.

Reese (61 bones/teeth [6 cut, 13 burnt]; 12 marine shells [11 MNI, 1 collected dead, 3 burnt]):

Ovis/Capra: upper premolar (adult), lower molar (worn, 2 pieces), scapula body fragment, proximal radius (F, partly stained green, L, 2 pieces), proximal ulna (broken proximal, L, 2 pieces), pelvis/acetabulum fragment (R, 2 pieces), proximal metacarpus and shaft (L, 2 pieces), phalanx 1 (F).

Sus (2 MNI): maxilla fragment (young, no teeth, only alveoli, L), upper canine (tip end; older than maxilla), mandible fragment (broken teeth, M₁ roots, M₂ broken/worn), humerus shaft (L), 2 proximal ulna (broken very proximal, adult, burnt gray/white, R; broken, adult, L), tibia shaft (adult, R).

Ovis/Capra or *Sus*: 17 shafts (1 cut down length, 7 burnt black [2 have some white/green], 2 greenish).

Bos: ulna shaft (burnt gray).

?*Cervus* proximal radius and shaft (F, cut down length on dorsal on slight angle and has 2 chop marks on upper ventral side on Le side, R).

Bos/Cervus: 2 skull fragments (1 cut), vertebra fragment (cut in 2 directions, large), 8 rib fragments (1 near head, 1 burnt gray/green [in 2 pieces]), 5 shafts (1 cut down length and partly burnt gray; 1 cut down length; 1 burnt black/green), fragment.

4 *Cerastoderma* (L; R [could be *Acanthocardia*], W 32+, 2 acidified, 3+ MNI), *Spondylus* (upper valve, no hinge, worn, W 60), 2 *Glycymeris* (water-worn, H 42, W 40; distal fragment, burnt, acidified), *Pinna* (near umbo, burnt gray), 4 *Hexaplex* (Le 52, W 43; Le 44, W 32, acidified; columella fragment, Le 38, acidified; broken lip, burnt, acidified), *Helix*.

Outside Building BG

HTN 129: Bothros HTN-1 outside building to west (III.C; 2000, 192)

Gejvall (10 bones/teeth [large bag] + 22 shells noted):

Ovis/Capra: 2 mandible fragments (M₃ 1/1, L, R), tibia fragment.

Sus: zygomatic fragment, maxilla fragment (M₃ 1/1, L), scapula fragment, metapodial fragment (juvenile).

Bos radius fragment.

22 murex.

Reese (56 bones/teeth [6 cut, 4 burnt]; 22 shells [14 burnt]):

Ovis/Capra: 2 mandible fragments (P₂₋₃ worn, R; no teeth, 2 pieces), mandible side fragment, lower

premolar, M₁ (L), M₂ (unworn, L), M₃ (unworn, L), proximal radius and shaft (F, cut down anterior of proximal end parallel to shaft, R, 2 pieces), distal tibia (F, L).

Sus: skull fragment (zygoma), maxilla fragment (M³ erupting/unworn [Le 29.75], L), scapula (F, burnt black/brown, R), metatarsus III (UF).

Ovis/Capra or *Sus*: 2 scapula fragments (side, fan), pelvis/acetabulum fragment, vertebra spine, 10 rib fragments (1 with head partly burnt black), 12 shafts (3 cut down length, 2 burnt gray).

Bos: proximal radius (F, L, 4 pieces), 2 shafts (1 cut down length).

22 *Hexaplex* (14 burnt: Le 72, W 62, slightly burnt at apex; Le 52, W 36.5; Le 42, W 36.5; Le 42, W 35.5; Le 42, W 35.5; Le 45, W 33; Le 43.5, W 34; Le 51, W 40; Le 37, W 28, broken lip; Le 31.5, W 22.5; Le 29, W 22.5, slightly broken apex; Le 34.5, W 27; Le 31, W 24, slightly broken lip; Le 35, W 28; 8 unburnt: Le 39, W 31.5, broken lip; Le 44.5, W 38; Le 48.5, W 43; Le 43, W 37; Le 41.5, W 33; Le 42, W 36; Le 59, W 49; Le 44, W 34; Le 33, W 21).

House of the Tiles

B 341: Room V, floor and lower debris (III.D; 2000, 224)

Gejvall (4+ bones/teeth [small bag] + 3 shells noted):

Ovis/Capra: M₂→, pelvis fragment, fragments. 3 murex.

Reese (11 bones/teeth [4 burnt]; 4 shells [1 holed]):

Ovis/Capra: M₂ (unworn, broken, burnt light blue), pelvis/acetabulum (slightly burnt gray on distal part, L), proximal metacarpus (slightly burnt black at center proximal and at distal end of preserved shaft, R).

Ovis/Capra or *Sus*: skull fragment, 3 rib fragments (1 partly burnt black), 3 shafts.

Arca (L3.313, collected dead, natural hole below umbo; Wiencke as ?shell bead), 3 *Hexaplex* (broken lip, Le 49.5; Le 48.5, Le 38).

B 342: Rooms VIII-X (South Corridor) (III.D; 2000, 232)

Gejvall (5+ animal bones/teeth [small bag] + 3 shells noted):

Ovis/Capra: mandible fragment (01^P 1/1, 02^P 1/1, L), fragments.

Homo (adult) tibia fragment (removed by Gejvall).

Cardium, 2 murex.

Reese (14 bones/teeth [7 cut, 4 burnt]; 3 shells [1 collected dead]):

Ovis/Capra anterior mandible (P¹ very young, P² alveolus, L).

Ovis/Capra or *Sus*: vertebra spine (partly burnt gray), 2 rib fragments (2 heads, 1 burnt gray and has 4 cut marks below head), 7 shafts (5 cut down length, 2 burnt gray).

Cerastoderma (asymmetrical, H 26, W 29+), 2 *Hexaplex* (1 worn, collected dead, 2 MNI).

B 755: Room XI, debris filling above floor (III.D; 2000, 236)

Gejvall (15 bones [large bag] + 13 shells noted; mostly burnt):

Ovis/Capra: 5 mandible fragments (3 R [2 1/1, 1 M₂→], 2 L [1 1/1, 1 M₂→]).

Sus: 2 maxilla fragments (1 1/1, 1 M² 1/1?, 2 L), 5 mandible fragments (3 1/1, 1 M₁→, 1 M₂→?, 5 L).

Bos horn core fragment (in pieces).

Lepus: scapula fragment, pelvis fragment, tibia fragment.

5 *Cardium*, *Ostrea*, *Arca*, 6 murex.

Reese (526 bones/teeth {39 cut, 274 burnt (52.1%)}; 15 shells [1 collected dead, 11 burnt]):

Capra: 7 horn core fragments (7 burnt).

Ovis/Capra (4 MNI): premaxilla (burnt), 2 maxilla fragments (1 M₂ unworn, 2 burnt), 20 mandible fragments (3 anterior L [very young; P₁₋₃, M₁, M₂, M₃ up/unworn; 3 anterior R [M₁₋₂ roots; roots only], 4 condyle process [2 R, 2 L], 1 coronoid process [broken]), premolar (burnt), 3 molars (3 burnt, 1 worn), 8 molar fragments (2 burnt), 2 axis (anterior with articular surface, burnt; UF, has 1 cut mark on body behind anterior surface and cut down middle down length), 12 scapula fragments (2 L, 2 F, 2 burnt; 1 R, F, burnt; 9 fragments [3 burnt]), 4 distal humerus (3 R, 3 F, 3 burnt; 1 L, F, burnt), 4 humerus shafts (3 cut down length toward distal, 2 burnt), 2 proximal radius (2 UF, 2 unsided, 2 burnt), 6 radius (4 R: 2 F proximal [1 UF distal], 1 UF proximal, 1 broken proximal and F distal, 2 burnt; 2 L: 2 UF distal [1 burnt]), 4 radius shafts (4 burned), 4 proximal ulna (L, UF, burnt; 2 R, 1 UF and burnt, 1 F; 1 unsided, burnt), 2 ulna shafts (1 burnt), 16 pelvis fragments (by acetabulum: 4 R, 3 burnt, 1 in 2 pieces; 3 L, 3 burnt; 8 fragments [4 burnt]), 2 proximal femur (UF, burnt white, R; F, burnt, R, 2 pieces), 2 distal femur (UF, burnt, L; F, burnt, R), 2 distal femur epiphysis fragments (2 burnt, 1 white fits L shaft, other R), tibia (proximal UF, distal JF [line visible], lower half burnt black, R, 2 pieces), proximal tibia (JF, line visible, burnt, 2 pieces), distal tibia and shaft (F, burnt, L), 4 tibia shafts (3 burnt, 1 unburnt in 2 pieces), 2 astragalus (R, burnt gray, larger; L, worn, small), 2 calcaneus (R, F, burnt; L, proximal only, adult), 3 proximal metacarpus (2 R, 1 L, 2 burnt), distal metacarpus (UF, burnt white/green), 2 proximal metatarsus (2 burnt, 2 sizes), distal

metatarsus (UF, burnt), 2 metatarsus shafts (2 burnt), 2 distal metapodial (2 UF, 2 burnt), metapodial shaft (burnt), 2 phalanx 1 (UF, F, 2 burnt).

Sus (4 MNI): 4 skull fragments (4 burnt [1 oculus is white]), premaxilla (female canine, slightly burnt, L), 3 maxilla fragments (one has M₁ worn, M₂ somewhat worn, L; M₃ not fully up/unworn [Le 31+], L, probably join; P⁴, M¹ slightly worn, M² bit worn, adult, L), 2 posterior maxilla (M³ worn, slightly broken, Le 37+ bit, W 15.25, L; M³ unworn, Le 32+ bit, W 17), 28 mandible fragments (9 burnt; 19 unburnt [1 young anterior, L; 1 condyle process, 2 L, 1 in 4 pieces], 4 MNI), 2 incisors, 6 premolars/ molars (3 burnt), distal humerus and shaft (UF, burnt, R), distal humerus (F, cut down ventral side down length and burnt, R), 2 distal radius (1 UF, 1 burnt), distal radius/ulna shaft (burnt), radius shaft, proximal ulna and shaft (UF, worn/encrusted, R), tibia shaft (adult).

Ovis/Capra or *Sus*: 19 skull fragments (7 burnt), distal humerus shaft, 6 radius shafts (4 burnt [1 young]; 2 unburnt [1 young cut down length]), sacrum fragment (UF, has 2 cut marks), 3 tibia shafts (2 young burnt gray, 1 adult burnt black), 8 vertebra fragments (7 with center: 4 UF [1 burnt], 3 F [2 burnt]), 4 vertebra spines (4 burnt), 106 rib fragments (68 burnt [2 heads]; 28 unburnt [5 heads, 2 join]), 75 shafts (54 burnt, 15 cut down length; 21 unburnt, 5 cut down length), 21 fragments (6 burnt).

Bos: 17 horn core fragments (=1 horn core with part of skull; 3 sets of 2 join, many fresh breaks), 6 skull fragments (1 piece cut across for 18 mm), mandible condyle process, 4 scapula body fragments (1 burnt), proximal radius fragment (F, cut down length, R), 2 radius shaft fragments (cut down length and burnt; ventral side, adult), proximal femur (both F but line visible, burnt, R, 2 pieces), distal metatarsus and shaft (F, cut down length except at distal), metapodial shaft (burnt), 2 vertebra (2 UF), 2 vertebra spine fragments, 4 rib fragments (1 burnt), 27 shafts (19 burnt, 6 cut down length, 2 in 2 pieces; 8 unburnt, 3 cut down length, 2 in 2 pieces), 4 fragments (2 burnt).

Lepus: scapula (F, slightly burnt, L), pelvis/acetabulum (R, burnt), proximal tibia (F, burnt, R).

5 *Cerastoderma* (L: H 34, W 36.5; H 30, W c33; H 35.5; R: H 32, W 35; 5 MNI, 5 burnt), 2 *Spondylus* (2 lower valves: Le 78, W 60; possibly worn, burnt, Le 62+, W 47+, 2 MNI), *Arca* (L, broken), *Mactra* (fragment, R, burnt), 6 *Hexaplex* (Le 58, W 45, burnt; Le 36, W 28.5, burnt; Le 60.5, W 49, may have growths inside, collected dead, burnt; shell broken down center, Le 47.5; distal and columella; large body fragment, burnt).

Immediately outside the House of the Tiles

BD 571: Removing sections of floors outside the House of the Tiles (III.C or D; 2000, 154 [fauna not noted])

Gejvall (4 bones/teeth [small bag] noted):

Ovis/Capra: 03m (1/1), M₂ (1/1), humerus fragment.

Bos humerus fragment.

Reese (22 bones/teeth [2 cut]):

Ovis/Capra: dP₃ (worn), M₂ (unworn), premolar/molar fragment, distal humerus (F, R).

Ovis/Capra or *Sus*: 9 rib fragments (1 head; 3 join), 3 shafts.

Bos: 2 shafts (2 cut down length).

BD 621: North of the House of the Tiles (III.C or D; 2000, 290-91)

Gejvall (11 bones/teeth [medium bag] + 1 shell noted):

Ovis/Capra: axis fragment, 2 scapula fragments, 3 humerus fragments.

Sus (2 MNI): mandible fragment (M₃ 1/1, R), scapula fragment (newborn), humerus fragment.

Lepus mandible fragment (R).

Ostrea.

Reese (88 bones/teeth [22 cut (25%), 2 burnt]; 1 shell [collected dead]):

Ovis/Capra (2 MNI): horn core fragment (burnt black), posterior mandible (has condyle process, broken coronoid process, L), axis fragment (odontoid process/articular surface), 2 scapula (F, R, adult, 2 pieces; broken glenoid, adult, R), 2 distal humerus (2 F, 1 cut across epiphysis, 2 L), distal humerus shaft (R), ulna shaft, metacarpus shaft, proximal metatarsus and shaft (gracile, 3 pieces), proximal metatarsus (larger than gracile one, R), metapodial shaft (cut down length), phalanx 1 (UF).

Sus (2 MNI): distal mandible (M₃ up/rather worn [Le 36, W 16.25, 3 pieces], adult, L), posterior distal mandible (adult), incisor fragment (subadult/adult), scapula (broken glenoid, very young, L), distal humerus (F, cut across on angle above epiphysis in lower shaft, L), fibula shaft, metacarpus IV (F, L), distal metapodial III/IV (F, adult).

Ovis/Capra or *Sus*: skull fragment, radius shaft, vertebra (1 F, 1 broken), caudal vertebra (burnt black), 9 rib fragments, 22 shafts (16 cut down length, 1 in 2 pieces).

Bos: skull fragment, scapula fragment (adult, R, 2 pieces), pelvis fragment (no acetabulum, recently broken, adult, 2 pieces), vertebra spine fragment (has 2 cut marks at distal end), 6 rib fragments (1 head; 1 in 3 pieces), 4 shafts (2 cut down length).

Lepus mandible fragment (no teeth, lacks posterior, stained green, R).

Spondylus (upper valve, worn, probably

collected dead, H 70, W 69).

Worked *Sus* lower canine fragment (cut down length and smoothed, Le 37.25, W 9, T 2.5).

BD 626: North of the House of the Tiles (III.C or D; 2000, 290-91)

Gejvall (11 bones/teeth [large bag] + 1 shell noted):

Capra: mandible fragment (M₂→, R), 2 scapula fragments, radius fragment (juvenile).

Sus: 2 mandible fragments (2 1/1, 2 L).

Bos: M₃→, humerus fragment, metacarpus fragment.

Cervus scapula fragment (1969, 93).

Murex.

Reese (63 bones/teeth [11 cut, 1 burnt]; 1 shell [collected dead]):

Ovis/Capra (2 MNI): posterior mandible (M₂ just peeking out, R), mandible side fragment, M₂, 2 scapula (1 F, 1 broken, 2 R, 1 in 2 pieces), distal humerus (F, has 7 short light cut marks on R side of distal, R), proximal radius (F, broken down length, L), radius shaft (small, young), distal femur and shaft (UF, 4 pieces), tibia shaft (gracile, 2 pieces).

Sus (2 MNI): 2 mandible fragments (2 M₃ [1 much worn, Le 34, W 16], other less worn [Le 33.5, W 15.25, has coronoid process], 2 L), 2 incisors (2 broken [1 root half, 1 broken down length]), scapula fragment (no glenoid, cut across on angle through body, R), radius shaft.

Ovis/Capra or *Sus*: skull fragment, 2 vertebra fragments, 3 rib fragments (1 head), 5 shafts (3 cut down length).

Bos: skull fragment (3 pieces), M₃ (unworn, open roots, L), scapula (no glenoid, R, 6 pieces), distal humerus (F, cut down middle, R), distal metacarpus and shaft (F, 2 pieces), distal metapodial (F, cut across on angle through articulation), metapodial shaft (cut down length), vertebra (cut down length on side), 3 shafts (2 cut down length).

Cervus scapula (F, L, glenoid W 36.25, glenoid H 35.25, neck min. W 21.75, 5 pieces [1 piece destroyed in C14 dating]; 1969, 93).

Bone fragment (burnt black).

Hexaplex (worn, collected dead, Le 37, W 24+).

HTN 105: North of the House of the Tiles (III.C or D; 2000, 290-91)

Gejvall (20 bones/teeth [large bag] + 1 shell noted):

Ovis/Capra: P₁₋₃ + M₁ (old), scapula fragment, 3 radius fragments (Wiencke notes 2), 4 tibia fragments (2 juvenile), metatarsus fragment.

Sus: 3 mandible fragments (M₁→, L; 2 R 1/1), ulna fragment.

Bos pelvis fragment.
Lepus ulna fragment.
Ostrea.

Reese (136 bones/teeth [21 cut, 5 burnt]; 1 shell [collected dead]):

Ovis/Capra (2 MNI): 4 mandible fragments (posterior [2 pieces], 2 side, adult), incisor/canine (worn, broken), P₁ (worn), P₂ (worn), P₃ (worn), M₁ (worn), 2 scapula and 2 fragments (F, R; broken glenoid, R, 2 MNI), 2 proximal radius (2 F, 2 L, 1 has much of shaft), distal radius (F, cut down length in upper shaft, R), radius shaft (adult-sized), proximal ulna fragment (burnt gray, R), pelvis/acetabulum fragment (L), 3 distal tibia (2 UF: 1 small, gracile, R; has shaft, F, R), 2 tibia shafts (R [2 pieces], L), proximal metatarsus and shaft (R).

Sus (2 MNI): anterior mandible (L lower canine, 4 incisors, R and L, subadult), 4 mandible fragments (P₁ alveolus, P₂₋₄ slightly worn, adult, L; alveoli, M₂ below in hole, L; posterior, M₃ worn [Le 29.75, W 15.25]; side fragment), lower canine (subadult), incisor root, lower premolar, ulna (broken, adult, L).

Ovis/Capra or *Sus*: skull fragment, vertebra (eroded centra), 3 vertebra fragments (1 spine), 15 rib fragments (2 have heads [1 burnt gray]; 2 join), 21 shafts (1 cut down shaft and burnt black; 1 cut down length and partly burnt black at on end; 8 cut down length; 1 in 2 pieces).

Bos: proximal ulna fragment (broken, adult-sized, L), pelvis/acetabulum fragment (broken, adult), 3 vertebra fragments (1 cut [2 pieces]), 6 rib fragments (1 in 3 pieces), 12 shafts (8 cut down length; 1 in 2 pieces, 1 in 3 pieces).

Lepus proximal ulna (F).

Testudo carapace fragment (partly burnt gray).

Spondylus (upper valve, pitted exterior and interior, collected dead, H 59.5, W 60).

HTS 59: Area of the House of the Tiles (III.C; 2000, 155 [fauna not noted])

Gejvall (8 bones/teeth [medium bag] + 1 shell noted):

Ovis/Capra: 3 mandible fragments (2 1/1, 1 M₁→, 3 R).

Sus mandible fragment (M₃ 1/1, R).

Bos tibia fragment (adult).

Erinaceus tibia fragment.

Murex.

Reese (51 bones/teeth [8 cut, 6 burnt]; 1 shell [collected dead, holed]):

Ovis/Capra (2 MNI): 7 mandible fragments (P₁ alveolus, P₂, P₃ roots, M₁ much worn, M₂ much worn, M₃ worn, R; mandible fragment, R), premolar, M₂ (R), M₃ (R), 2 molars, distal humerus (JF, UF at ventral, L), proximal radius (F, broken),

distal tibia (UF, cut down middle), proximal metatarsus and shaft (cut down from proximal part way and separate distal cutting, burnt gray; does not go with F distal), distal metatarsus and shaft (F).

Sus: 2 mandible fragments (distal posterior fragment with 4 deep cut marks; M₃ alveolus), M₃ (unworn, 3 pieces), scapula fragment (no glenoid, young adult, 5 chop marks on fan and spine, burnt gray, L), distal humerus shaft (burnt gray, R).

Ovis/Capra or *Sus*: femur (all UF, very young, burnt gray), rib fragment, 7 shafts (3 cut down length with 1 burnt black/gray, 1 other burnt gray).

Bos: 2 rib fragments (medium-sized), shaft (cut down length), 2 fragments.

Erinaceus tibia/fibula (proximal worn, distal F, has part fibula shaft, 2 pieces).

Hexaplex (possibly collected dead, L 70, W 60, hole on body 9.5 x 5).

Worked gouge on *Ovis/Capra/Sus* tibia: broken, bone now worn, pres. Le 74, gouge end 20.5. This may be Gejvall's *Bos* tibia fragment.

J 224: South of the House of the Tiles (south lower), lower lot

(III.C or D; 2000, 285)

Gejvall (12 bones [medium bag] + 1 shell noted):

Ovis/Capra (1 MNI): mandible fragment (1/1, R), 2 humerus fragments, 2 radius fragments, 2 ulna fragments.

Sus: 2 skull fragments (juvenile).

Bos rib fragment.

Testudo: 2 carapace fragments.

Cardium.

Reese (86 bones/teeth [4 cut, 1 burnt]; 1 shell):

Ovis/Capra (2 MNI): horn core fragment (7 pieces), anterior mandible (P₁ alveolus, P₂₋₃, M₁ worn, M₂ unworn, R), mandible condyle and distal coronoid processes, 3 scapula fragments (1 glenoid, F, L; 2 body/fan), 2 distal humerus (2 F, 2 L, 1 in 3 pieces), proximal radius (UF), proximal radius/ulna (radius F, ulna broken, R), 2 distal radius (UF, L; F, R), 2 radius shafts, pelvis/ilium fragment (cut through neck), distal femur (JF, R trochanter probably cut off, R), distal tibia epiphysis (L), 2 tibia shafts (L; in 2 pieces), calcaneus (broken distal, cut through sustentaculum tali, R), proximal metacarpus and shaft (L, 2 pieces), proximal metatarsus and shaft (L), distal metapodial (UF, 2 pieces), distal metapodial and shaft (F, one half), phalanx 1 (F).

Sus: skull fragment (oculus, young, 2 pieces), distal humerus shaft (cut down shaft except at very distal, R), distal tibia (F, L, 2 pieces).

Ovis/Capra or *Sus*: 5 rib fragments, 16 shafts (1 burnt gray/black, many with recent breaks).

Bos/Cervus: vertebra spine fragment, rib

fragment.

Testudo plastron fragment (edge, 2 pieces).

Cerastoderma fragment (L, H c30).

J 835: South of the House of the Tiles (south lower), lower lot (III.C or D; 2000, 285) Gejvall (5+ bones/teeth [small bag] + 4 shells noted):

Ovis/Capra: M₃ (1/1), ulna fragment, tibia fragment, fragments.

3 *Ostrea*, murex.

Reese (68 bones/teeth [6 cut, 2 burnt]; 2 shells [1 collected dead, 1 ?carved], 1 fossil):

Ovis/Capra: mandible fragment (side, 6 pieces), lower premolar (worn), M₂ (unworn, R), M₃ (unworn, R), 2 molars, proximal humerus fragment (JF), distal humerus (F, R, 2 pieces), radius shaft (adult), pelvis/acetabulum (1 cut mark on upper ilium, L, 2 pieces), distal femur (UF), proximal metatarsus (R).

Sus: radius shaft, proximal ulna (broken proximal, 1 cut mark in incisura semilunaris, R), ulna shaft (shafts articulate).

Ovis/Capra or *Sus*: 4 skull fragments (1 oculus), vertebra fragment, 8 rib fragments, 14 shafts (4 cut down length [2 burnt, 1 in 2 pieces], 3 pairs join).

Homo skull fragment.

Spondylus (upper valve, worn, carved or broken on distal end, H 69, W 63), Hexaplex (water-worn, vermetids inside), fossil oyster (worn exterior, H 60, W 51).

Worked *Ovis/Capra/Sus* rib: polished, has parallel cut lines down length on one side, Le 53+, W 16-18.75.

Lerna III-IV

D 803: West of House 122 (2000, 155-57; card as III)

Gejvall (9+ bones/teeth noted [small bag]):

Ovis/Capra: humerus fragment, fragments.

Sus: maxilla fragment (1/1, L), 2 tusk fragments, tibia fragment.

Cervus scapula fragment.

Testudo carapace fragment.

Reese (59 bones/teeth [4 cut, 3 burnt]):

Ovis/Capra: 2 mandible side fragments, distal humerus and shaft (F, cut across through articulation, L), radius shaft (burnt gray), pelvis fragment, proximal metatarsus fragment, metatarsus fragment (cut down length in lower shaft, L).

Sus: anterior mandible fragment, posterior distal mandible fragment, lower canine (male, 5 pieces), distal metapodial III/IV (F).

Ovis/Capra or *Sus*: 2 rib fragments (2 burnt [1 black, 1 gray]), 7 shafts.

Bos: posterior mandible processes (L, 4 pieces), pelvis fragment (F, broken, R, 7 pieces), pelvis

fragment (large, 2 pieces), distal tibia (F, cut through articulation and distal shaft on angle).

Bos/Cervus shaft (cut down length).

Canis distal radius and shaft (F, R).

Cervus phalanx 1 (F).

Testudo carapace fragment.

HTN 104: Tumulus section (1969 as IV but card as III)

Gejvall (12 bones/teeth [medium bag] + 3 shells noted):

Ovis/Capra: mandible fragment (1/1, R), humerus fragment.

Sus: 2 M? (1/1), phalanx I.

Bos: ulna fragment, tibia fragment (adult), vertebra fragment.

Vulpes mandible fragment (L) (1969, 87, card as *Canis vulpes*).

Testudo: 3 carapace fragments.

Ostrea, 2 murex.

Reese (55 bones/teeth [9 cut, 2 burnt]; 3 shells [3 collected dead, 1 holed]):

Ovis/Capra: mandible (P₁ alveolus, P₂ broken, P₃ worn, M₁₋₃ alveoli, R), posterior distal mandible fragment, 3 molars (M₁, M₂, M₃ [unworn], all R and go with mandible), distal humerus (F, partly burnt gray, R), distal radius (F, cut down length), ulna (broken proximal, L), tibia shaft.

Sus: incisor (juvenile, 3 pieces), M₂ (unworn, 2 pieces).

Ovis/Capra or *Sus*: 5 rib fragments (1 head), 4 shafts (3 cut down length [1 worn]).

Bos: ulna (F, rather complete, R, 2 pieces), distal tibia (F, cut down length, R, 2 pieces), 3 vertebra spine fragments (1 cut down length, 1 very long), 9 shafts (2 cut down length, 1 slightly burnt black, 2 pairs join).

Cervus phalanx 1 (F, Le 49.75, proximal W 20.25, proximal depth 23).

Bos/Cervus: 3 vertebra spine fragments (1 cut down length, 1 very long), 9 shafts (2 cut down length, 1 slightly burnt black, 2 pairs join).

Vulpes mandible fragment (only alveoli, L) (1969, 87; in Stockholm).

Testudo: 2 carapace fragments, plastron fragment (2 joining pieces).

Spondylus (very water-worn, upper, 58 x 53), 2 *Hexaplex* (very water-worn, open body, could be strung, 40 x 39; broken middle area, probably a beach specimen, Le 71.5).

J 268: Bothros B-24

Gejvall (c15 bones/teeth [medium bag] + 1 shell noted):

?*Ovis* horn core fragment (young, distal end gnawed) (1969, 27, 73 [as *Ovis*], 101 [as ?*Ovis*], pl. V:5 [as ?*Ovis*]; card as ?*Ibex*).

Ovis/Capra: mandible fragment (R), 2 scapula fragments, metacarpus fragment, metatarsus fragment.

Sus mandible fragment (L).

Bos: M₃, phalanx III, rib fragment.

Vulpes mandible fragment (juvenile, R).

Testudo carapace fragment.

Frog bones.

Murex.

Reese (92 bones/teeth [4 cut]; 1 shell):

Ovis/Capra (2 MNI): horn core fragment (young, tip gnawed) (1969, 27, 73 [as *Ovis*], 101 [as ?*Ovis*] pl. V:5 [as ?*Ovis*]), maxilla fragment (M², M³ open roots/ unworn, L, 2 pieces), mandible fragment (P₂₋₃ worn, M₁ worn, M₂ bit worn, M₃ alveolus, R), M₃ (worn, R, 2 pieces), 2 scapula fragments (2 lack glenoid, 2 L), distal radius (F, R), radius shaft, proximal femur (both UF, R), tibia shaft (cut down length), astragalus (R), distal metacarpus and shaft (F), 2 proximal metatarsus (adult, L; adult, R), distal metapodial (UF, broken).

Sus: posterior mandible (alveoli only, adult, 4 pieces), lower canine (male, 6 pieces), M₃ (unworn, 2 pieces), fibula (UF), metacarpus IV (UF, L), metatarsus V (UF, L).

Ovis/Capra or *Sus*: skull fragment, 19 rib fragments (6 have heads), 6 shafts (2 cut down length).

Bos: M³ (bit worn, L), phalanx 3, vertebra spine fragment (probably cut down ventral), rib fragment, 4 shafts, fragment.

Vulpes mandible (lacks teeth, juvenile, R, 2 pieces).

Testudo: 3 carapace fragments.

Frog/toad: 15 bones (in Stockholm).

Hexaplex (open body, Le 49.5).

J 476: South of the House of the Tiles (south upper), upper lot (2000, 285)

Gejvall (19 bones/teeth [large bag] + 4 shells noted):

Capra: 3 horn core fragments (large), mandible fragment (M₃ 1/1, R), 3 scapula fragments, 2 metatarsus fragments.

Sus: 2 scapula fragments, pelvis fragment.

Bos: mandible fragment (1/1, L), 2 tibia fragments, metatarsus fragment.

Testudo: 2 carapace fragments.

2 *Cardium*, *Ostrea*, murex.

Reese (127 bones/teeth [7 cut, 3 burnt]; 4 shells [1 collected dead]):

Capra horn core (complete, 2 pieces).

Ovis/Capra (2 MNI): horn core (cut at distal, 10 pieces), M₂ (unworn, open roots), mandible (3 premolars, M₂ slightly worn, M₃ unworn, teeth isolated and mandible broken, R), 3 scapula (2 R [1 F, 1 broken]; 1 L, F), ulna shaft, pelvis/acetabulum,

ilium and part ischium (R), pelvis fragment, proximal femur (both F, L, goes with R pelvis), distal tibia (F, broken, L), astragalus (adult, L), metacarpus shaft, metatarsus (F, complete, R, 2 pieces), proximal metatarsus and shaft (L), metapodial (cut down length, thin).

Sus (2 MNI): 2 scapula (1 F, 1 broken, 2 L), pelvis/ acetabulum fragment (adult, R), calcaneus (JF, adult-sized, L).

Ovis/Capra or *Sus*: skull fragment, scapula side fragment, distal radius (UF), radius shaft, 2 pelvis fragments (1 partly burnt gray), 9 rib fragments (2 burnt gray and join), 4 shafts (1 cut across and down length).

Bos: upper molar (worn), 2 mandible fragments (M₂ bit worn, [was loose], M₃ worn, L; condyle process, adult, L), pelvis fragment, distal tibia (UF), proximal metacarpus (cut down length on angle below proximal, adult, R), proximal metatarsus (cut down middle, adult), 4 shafts (2 cut down length).

Canis: tibia shaft (stained gray), metapodial II/III (F, worn apex, stained gray).

Testudo: 2 carapace fragments (1 edge).

2 *Cerastoderma* (R, asymmetrical, H 23.5, W 24.5; H 31, bit worn, broken, 2 MNI), *Spondylus* (upper valve, Le 58, acidified), *Hexaplex* (gastropod-bored, collected dead, Le 44.5, W 40, hole 3).

All measurements in millimeters

Key to Abbreviations

D	diameter
dP	deciduous premolar
F	fused
H	height
JF	just fused
L	left
Le	length
m/M	molar
	(deciduous/adult),
	upper/lower: ^{1,2,3,1,2,3}
max.	maximum
min.	minimum
MNI	Minimum Number of Individuals
P	premolar (adult), upper/lower: ^{1,2,3,1,2,3}
pres.	preserved
R	right
T	thickness
UF	unfused
W	width
→	Gejvall's symbol for erupting tooth
1/1	Gejvall's symbol for erupted tooth

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