

# Recent news from the zooarchaeological analysis of the faunal remains from Canhasan III (1969)

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Canhasan is 60 km southeast of Neolithic Boncuklu Höyük and Çatalhöyük on the Karaman alluvial fan (Fairbairn et al. 2020; French 1972; 1998). The site was excavated from 1969 to 1970 by David French, head of the British Institute at Ankara from 1968 to 1994. French collected detailed information by digging into the chronological middle of the höyüks Canhasan I–III to get an overview of transitional sequences from the region's Chalcolithic to Neolithic periods. The Canhasan III excavation trenches were located towards the centre of the site, covering approximately 6% of its total area. French subdivided the deep-sounding deposits into nine stratigraphic units: Layers 1–3 comprised deposits above the floors of structures uncovered across the excavated trench, and Layers 4–9 consisted of a series of floors, fills and middens (Fairbairn et al. 2020). Canhasan's architecture is more consistent with that of mid-eighth-millennium Aşıklı Höyük in Cappadocia than with the elaborate buildings of Çatalhöyük East (Fairbairn et al. 2020). Sebastian Payne did a first rapid zooarchaeological examination of selected specimens during the 1970s, but a detailed and final zooarchaeological analysis was never completed or published.

The development of caprine and cattle herding in central Anatolia was a long and potentially complex process, for which the settlement of Canhasan III appears to provide crucial evidence. Cattle and caprines (sheep and goats) were essential to central Anatolian Neolithic communities, and their earliest management is a matter for debate. The dietary isotope analysis of the caprine remains in Epipalaeolithic and tenth–ninth millennium cal BC Pınarbaşı indicate no such 'impact' on the status of caprines, and from standard zooarchaeological analyses based on morphometrics, they are believed to have been wild. At Boncuklu Höyük (8300–7800 cal BC), caprines comprise 4.9% of identified species and do not appear to have been of much economic importance. Samples are too small to determine wild or domestic status, but isotope results suggest that the diets of some Boncuklu caprines were affected by human intervention (Baird et al. 2018; Middleton 2018). Caroline Middleton (2018) thus suggests that the management of caprines may have occurred at Boncuklu, given the isotope results and small amounts of herbivore dung at the site. Furthermore, Aşıklı Höyük, a site contemporary with Boncuklu Höyük and located in the central Cappadocia area, indicates the presence of 'managed' caprines from level 4, also around 8300 cal BC, based on the demographics and the presence of perinatal animals (Stiner et al. 2014). By the time of Catalhöyük East, ca 7100 cal BC,

zooarchaeological analysis indicates the presence of morphologically domesticated caprines in high percentages (Russell, Martin 2005; Twiss et al. 2021; Wolfhagen et al. 2021).

The crucial period for the appearance of large-scale herding in central Anatolia appears to be the ca 400-year gap between the appearance of 'managed' caprines at Aşıklı Höyük and Boncuklu Höyük and of the morphological domesticates of Çatalhöyük East. My project aims to fill this gap by analysing the zooarchaeological remains from Canhasan III and to help establish central Anatolia's role in the adoption of herding in southwestern Asia. The Canhasan III sequence commences approximately 100–200 years after the end of the Boncuklu sequence, thus making it vital to understanding the development of caprine herding and possibly early cattle management.

The zooarchaeological analysis of Canhasan III is ongoing, but work has already finished on 30 boxes of animal bones. I plan to finalize all the analyses by the end of 2023. The analysis was done in the laboratory at the BIAA, using collections housed there. There are over 100 complete animal-skeleton reference collections, created by Sebastian Payne in the 1970s. Primarily domestic mammals, a few birds and reptiles are also represented.

The preliminary results of the number of identified specimens (NISP) list from Canhasan III are shown in the table below. The relative taxonomic data from eighth-millennium Canhasan III indicate that the assemblage is dominated by caprines, at around 28%, followed by cattle, at around 24%. There is a significant increase in caprine exploitation at Canhasan III compared to Boncuklu Höyük.

	<i>Taxonomic Representation</i>	<i>NISP</i>	<i>%</i>
Cattle	<i>Bos</i> sp.	164	23.67
Equid	<i>Equus</i> sp.	117	16.88
Red deer	<i>Cervus elaphus</i>	73	10.53
Fallow deer	<i>Dama dama</i>	2	0.29
Roe deer	<i>Capreolus capreolus</i>	19	2.74
Boar	<i>Sus scrofa</i>	57	8.23
Goat	<i>Capra</i> sp.	28	4.04
Sheep	<i>Ovis</i> sp.	56	8.08
Sheep-goat	<i>Ovis/Capra</i>	105	15.15
Canid	<i>Canis</i> sp.	2	0.29
Fox	<i>Vulpes vulpes</i>	45	6.49
Hare	<i>Lepus</i> sp.	25	3.61
<i>Total</i>		693	100

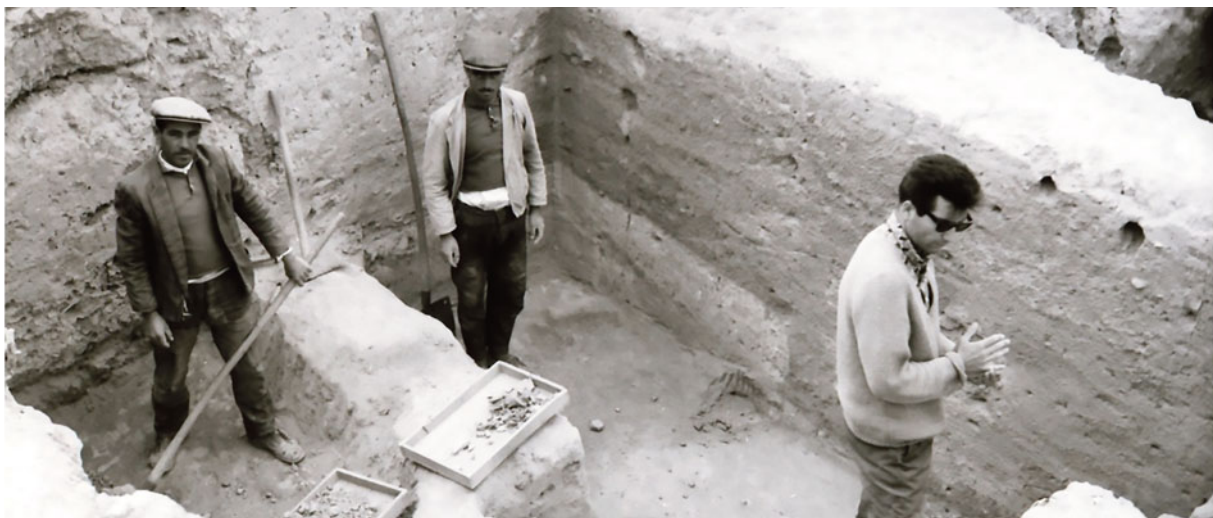
Number of identified specimens (NISPs) by taxonomic group at Canhasan III.

Ongoing analysis has already provided evidence of animal size differences among cattle at Canhasan III, which is an aspect of the domestication process. Detailed biometric and metric analysis on the caprines and cattle is still underway. The only evidence currently available for caprine management from the site is Middleton's isotope analysis (2018), which confirms the initial impression that both affected and unaffected caprines were part of the economy. Middleton's studies also suggest possible precocious cattle management in the central Anatolian context. However, there is still no clear evidence of whether the caprines or cattle are morphologically domesticated, nor of management strategies or the role of hunted species in the economy. The second most exploited species was cattle, which would have offered the most meat to the residents of Canhasan III. Equids appear to have been hunted and form around 16% of the NISP. They are followed by red deer, at around 10%. Fallow deer and roe deer are also present at the site in small numbers. The proportion of equids and cervids is higher than at the earlier sites of Pınarbasi and Boncuklu Höyük. At Canhasan III, there are also boar, large and medium size canids, foxes and hares. Overall, the NISP table shows the occupants of Boncuklu exploited a wide array of large and medium-sized mammals from different ecological areas.

When my research is complete, we will have a more robust pattern for human-animal interactions at Canhasan III in central Anatolia and the earliest example of morphologically domestic caprines. The analysis of the assemblage will also lead to future projects that further develop questions of human-animal relations, especially by using aDNA analysis to explore caprine and cattle domestication in Anatolia.

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Work on the excavation site of Canhasan (© British Institute at Ankara-PH14019).