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AUTHORS: Ali Çifçi

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# Stables and Pens in the Citadels and Residential Areas of the Urartian Kingdom: A Textual, Archaeological and Ethnographic Evaluation

Ali Çifçi[1]

[1]Assoc. Prof., Marmara University Faculty of Humanities and Social Sciences, Department of History, Istanbul, Turkiye

ORCID ID: A.Ç. 0000-0002-1404-9820

**Corresponding author:**
Ali Çifçi,
Marmara University Faculty of Humanities and Social Sciences, Department of History, Istanbul, Turkiye
E-mail: cifciali1@gmail.com

**ABSTRACT**

This study presents a comprehensive evaluation of stables and pens in settlements of the Urartian Kingdom period. Urartian royal inscriptions contain references to such structures; however, the interpretation of their functions, the translation, and the meaning of these words remain ambiguous. Considering that the subsistence economy in the landscape ruled over by this kingdom was mainly based on animal husbandry, evidence for stables/corrals and sheepfolds/pens in the archaeological record appears elusive. For this reason, this study first evaluates textual evidence and then moves on to reanalyze archaeological remains obtained from Urartian royal settlements and lower towns together with the results of ethnographic research conducted in the region, and it suggests new interpretations for the functions of relevant architectural remains at Urartian settlements to identify the structures that may have served as pens and stables.

**Keywords:** Urartian Kingdom, Animal Husbandry, Stables, Pens

## Introduction

The geography that the Urartian Kingdom ruled over is composed of high mountain ranges, pastures, and deep river valleys. As they expanded the borders of their kingdom, the Urartians established many new fortresses and settlements of varying dimensions in the conquered territories. These settlement sites and fortresses are formed of a citadel and a lower town, and they are founded upon rocky ridges on the skirts of mountains, in agricultural plains, or at strategic points controlling the juncture of major road networks. Until the present day, research in Urartian archaeology has typically focused on the excavation of fortresses, which were established by the Urartian monarchy. Meanwhile, relatively fewer excavations have been conducted in the lower towns found at the foot of these fortresses. Excavations of fortress sites have been prioritized targeting the discovery of royal inscriptions, architectural complexes like storage buildings, temples, and rich metal assemblages. It should also be noted that, apart from a few exceptions (e.g., Çavuştepe, Armavir, Arinberd, etc.), most of the excavated sites are dated to the mid-7th century BC, corresponding to the reign of king Rusa, son of Argišti.

Unfortunately, in the Urartian landscape, mound settlements where the great majority of the population must have lived have not been investigated sufficiently. It can be said that most archaeological data from excavations at Urartian sites are the products of the kings, the royal family, and the ruling elite, and they are restricted to a brief historical period (Çifçi, 2020: 30-31). For this reason, extant evidence in general is far from informing us about the broader social structure of the Urartian period. Likewise, excavations in lower town or outer town settlements surrounding Urartian period fortresses have exposed only limited areas and results have remained insufficient in answering many basic questions about society. Importantly, no comprehensive study has yet been conducted on architectural elements such as storage units, hearths/ovens, workshops, and animal pens in domestic compounds within lower towns, and the character and functions of such architectural remains have not been analyzed systematically.

The Urartian state's investment in building infrastructure for agriculture is a well-recognized research subject. In contrast, the scarcity of evidence for stables/pens for domesticated animals from lower town excavations appears as a significant problem, especially considering animal husbandry was (and is) the main basis of the subsistence economy in eastern Anatolia (Figure 2-3). In addition to tangible factors like the very limited expanse of lower town excavations and insufficient information about the functions of unearthed architectural remains, what appears as a major problem is that animal husbandry and related questions have not found their rightful place among research priorities for archaeologists who undertake excavations in the region. Therefore, in this study, we evaluate archaeological evidence from Urartian fortresses and lower town settlements in conjunction with the results

of ethnographic studies conducted in the region. The study aims to investigate the functions of the architectural elements of the excavated domestic spaces as a whole, especially in the lower city settlements, and to identify the structures that may have served as sheepfolds/pens and stables for horses.



**Figure 1:** The map shows the modern centres and site names mentioned in the text.



**Figure 2:** A herd of sheep grazing in the Keşiş Göl area of Van
(Courtesy of Erkan Konyar, September 2009)

**Figure 3:** Cattle grazing in Kayalıdere village of Varto/Muş
(Courtesy of Erkan Konyar, August 2009)

## Reassessment of Textual Evidence

Urartian royal inscriptions reveal that the Urartian kings regularly launched military campaigns into neighboring regions to gather war booty, tribute, and various resources. According to the inscriptions, some of the military campaigns were organized to gather live animals. Royal annals of the kings Argišti I (A 8-3)[1] and Sarduri II (A 9-3) are particularly informative in terms of the war booty acquired by military campaigns (Çifçi, 2017: 98-105, Table 9). For instance, inscriptions mention cattle, sheep, goats, horses, and even camels in some cases. Nevertheless, while the texts provide detailed information about animals gathered as war booty or animals sacrificed to the gods in various ceremonies, Urartian royal inscriptions do not directly speak of any buildings associated with domesticated animals such as stables/corrals, pens, or sheepfolds in pasturelands.

A structure called "*burganani*" in the inscriptions from the reigns of Išpuini (A 2-1; A 2-9 A-B; A 3-1; A 3-11)[2] and his son Minua (A 5-28; A 5-29; A 5-30; A 5-31), dating to the late 9th century BC, has been interpreted as a "corral" or a "pen" used for keeping sacrificial animals (König, 1955/57: 179; Balkan, 1960: 137; Salvini, 2006: 161). There are, however, different opinions on the translation of this word (Çifçi, 2017: 236-237, Table 26); e.g., "fortress" (?) (Melikishvili, 1960: 53, 392)[3] and "pasture" or "meadow" (Dinçol and Kavaklı, 1978: 13). Therefore, the meaning of the word "*burganani*" remains ambiguous and the function of the structure/building that it represented remains open to interpretation.

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1    Urartian inscriptions cited in this study follow Mirjo Salvini's *Corpus dei testi Urartei (CTU)*.
2    In the Assyrian version of the Kelishin inscription (A 3-11), the part that corresponds to the section where *burganani* is mentioned in the Urartian version is unfortunately broken.
3    Melikishvili (1960: 53 and 392) interprets the word [*burgana*] *burgalali* (*burganali*) as "fortress" (?); *cf.* Harouthiounyan (2001: 441): "castle" or "fortress".

Another relevant building type known from textual sources appears in "the *siršini* of Minua" inscription (A 5-68 and A 5-69), dated to king Minua's reign, and found associated with a structure built on the north slope of the rock massif on which Van Kalesi fortress lies (**Figure 4**). Based on the inscription, this structure was identified as a "royal pen" where sacrificial animals were kept before being offered to the gods (Tarhan, 2011: 318-319). With a single entrance (8.5 m wide x 2 m high) facing the north, this *siršini* structure carved into the bedrock measures 20 m x 9 m and is 2.5 m high (Konyar, 2018: 162). It is difficult to imagine, however, that a building with such a narrow doorway, high walls with no window openings, and no air circulation could have served as a pen. It would not be possible to keep animals alive for a long time inside such an enclosure (Çifçi, 2015: 217).



**Figure 4:** The 'siršini' of Minua on the northern slope of Van Kalesi (September 2012)

Another building type called <sup>É</sup>*sirḫanini* that is attested in *susi* temple inscriptions at Karmir-Blur and Ayanis (A 12-1 II, A 12-1 III, A 12-2 II), dated to the reign of king Rusa, son of Argišti, is interpreted in relationship to a series of rituals in which animals are sacrificed for the god Haldi and his consort, the goddess Arubani. Additionally, in the inscriptions at Armavir (A 12-3) and at Bastam (A 12-5), the same building name is also seen associated with a temple dedicated to an unidentified deity. In studies on the translation of the Ayanis temple inscription, it is indicated that sacrifices were offered to the deities when the king was in Rusahinili (Salvini 2001: 260). On the other hand, it has also been suggested that this building was allocated to the *mare*-men (*ma-ri-a-ḫi-ni*[4] or *ma-ri-gi*[5]) (Diakonoff, 1991: 15,

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4    A 12-1 II 10′, A 12-2 4′, A 12-3 8′.
5    CT Tk-1 Ro 9′.

no. 27), a group of officials on duty at the fortress, who were in charge of slaughtering the animals from the ᴱ*sirḫanini*[6] to be sacrificed to the Haldi Gates and the temple (Diakonoff, 1991: 15, no. 26). Therefore, there must have been two royal pens associated with different rituals mentioned in Urartian royal inscriptions, one that belonged to the royal family, and another that belonged to the high-ranking officials on duty at the palace. That said, there is a certain degree of ambiguity in the translation of the inscriptions related to the subject matter.

## Royal Settlements and Stables/Pens

The building types mentioned in the royal inscriptions, *burganani*, *siršini*, and ᴱ*sirḫanini*, have not been directly equated with any specific building found at excavated royal settlements so far.[7] Some of the royal settlements like Çavuştepe, Bastam, Karmir-Blur, Armavir, and Arinberd are excavated in their entirety, while others like Kef Kalesi, Yukarı Anzaf, and Toprakkale are investigated in limited exposures (Figure 1). Archaeological excavations have shown that these royal construction projects were carried out abiding by a plan that included architectural units such as palace and temple complexes, large storage rooms including pithoi, residential quarters, and workshops. No stables or pens were identified at these sites, except the examples from Çavuştepe and Bastam fortresses and the area nearby fortifications of Ayanis, which will be reviewed below.
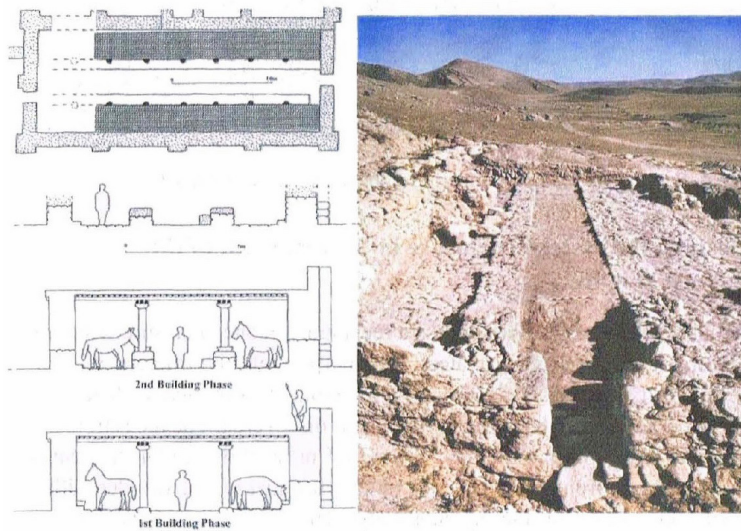


**Figure 5:** The paved tripartite stable area near the Northern Gate at Bastam (Kroll 2018: 137, Fig. 3)

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6    Diakonoff (1991: 15) reads it as "*serhane*-house".
7    It has been proposed that a stable dedicated to the gods may have existed in an area nearby the pond on the southern skirts of Aznavurtepe (Balkan, 1960: 144). However, because no excavations were conducted in this sector of the fortress, there is no evidence for the presence of a building that can be called "temple stables".

At Bastam, dated to the reign of Rusa, son of Argišti, two long buildings with a tripartite plan were found in two separate areas by the south gate and by the north gate, and they were identified as stables for horses. The tripartite hall near the south gate measures 47 m by 9 m and consists of three long, parallel hallways, used as a stable (Kleiss, 1980: 299-300).[8] The two hallways on the sides would have served as stalls and the low walls that separate the central corridor from the stalls would have been used for troughs or feed tubs. The floors of the stalls on the two sides were paved with stones, while the central corridor had a clay-packed floor. Low stone platforms along the outer walls were most probably used for feeders (Kroll, 2018: 138, Fig. 4). The rectangular tripartite hall by the north gate measures about 29 m x 10 m (Figure 5). Like the tripartite hall by the south gate, in this building, too, the central corridor is separated from the two halls on the sides, in this case, with roughly dressed stone column bases (Kroll, 2018: 137, Fig. 3). Additionally, a large area surrounded by an enclosure wall was also unearthed by excavations east of the fortress at Bastam, which may have been a stable or a pen. Chemical composition analyses of soil samples from the floors of tripartite halls by the north and south gates have shown a high amount of urine (Kroll, 1989: 329-333). This finding corroborates the identification of these two buildings at Bastam as stables where horses were kept. The structures at Bastam bear similarities to a building at Hasanlu, also in Lake Urmia basin, found in level IVb (Kroll, 1992, 2012: 280), which dates to the pre-Urartian period (Dyson, 1989).

Another stable discovered by excavations is known from the royal settlement of Çavuştepe. On the northern skirts of the Lower Fortress of Çavuştepe, a road with two ramps leads up to the citadel. A structure with cyclopic walls, identified as "royal/state stable" in excavation reports, is found north of the road (Erzen, 1978: 17). Another structure, also built on the citadel skirts and surrounded by an enclosure wall, was identified as a military post with stables. The cultural deposit inside this building contained manure-rich organic soils and a large amount of rubble (Erzen, 1966: 55).[9] Additionally, a small building, destroyed by an intense fire, northwest of the citadel at Yukarı Anzaf fortress may have also been a stable (Belli, 1998: 510). Two horse skeletons were unearthed in the southeast corner of the structure, in addition to a 1.5-m-thick ash deposit containing organic remains such as chaff, hay, and wood.[10]

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8    Wolfram Kleiss (1980: 300) estimates that, as a stable, this structure could have held 35 horses in each stall.

9    The first structure is larger, covering an area of about 18 x 100 m. The "barracks"/military post building in the second area measures about 70 x 20 m (Tarhan, 2021: figs. 3 and 8). In the first building, above the floor fill, a mudbrick blockage made of more than a dozen courses supports the foundation, which is built with large field stones, and the floor fill is packed with paving blocks and the floor is paved with stone slabs (Tarhan, 2021: 578).

10   The dimensions of the building are not reported directly. In the excavation reports, it is indicated that the excavation area was defined by joining two 5 m x 5 m trenches and then the area was expanded by a 7 m x 19 m trench (Belli, 1998: 510).

In an area known as Güneytepe just by the citadel fortifications of Ayanis fortress, a structure that was detected by geophysical surveys and further investigated by a test trench is also thought to be a stable (Fig. 6). The structure consists of a courtyard paved with large and heavy stone slabs and a building surrounded by low walls, along the edge of the stone pavement, separating it from the unpaved area. The outer walls feature buttresses suggesting an association with Urartian royal architecture and bronze and iron arrowheads discovered in excavations suggest that it was related to military activity (Stone and Zimansky, 2003: 222-223, Fig. 11.11). Moreover, in terms of its location and architectural characteristics, parallels can be drawn between this structure and the stables at Bastam (Stone, 2005: 192; Stone and Zimansky, 2003: 222-223, Fig. 11.10; 2004: 238-239).[11]

At another Urartian period fortress, Horom, a rectangular building (16 m x 10 m) with a floor paved with large slab stones was unearthed by excavations in an area close to the center of the Citadel Wall Terrace C (Kroll, 2018: 141-142; Badaljan *et al.,* 1993: 18, Fig. 18). Only a portion of the corner of this building was exposed. The building has a tripartite plan like the stables at Bastam, and its stalls are paved with stones, while the central corridor has a clay-packed floor (Kroll, 2018: 141, Fig. 7).

The existence of stables in royal settlements is also corroborated by the Assyrian king Sargon II's account of his military campaign against the Urartian king Rusa I in 714 BC. Here, Sargon speaks of stables inside the citadel walls of Urartian settlements like Tarui and Tarmakisa in Baru province.[12] Therefore, while archaeological evidence may be debatable, the presence of stables inside Urartian citadels is evident based on texts.

No stables are reported from the excavations of the Aşağı Anzaf fortress, which was built as a military garrison near the Urartian capital Tushpa, positioned on the main eastern road (Çifçi and Gökce, 2021) that connects the capital city to the Lake Urmia basin (Belli, 1999: 9-15). At fortress sites and especially those that served as military posts, there must have been places for keeping the horses of the soldiers who lived in the fort. Also, such fortresses should have contained stables/pens with hay and feed for pack animals that were raised or were waiting to be loaded for transporting goods. Hence, we need to consider that part of the built spaces at Aşağı Anzaf fortress and other fortresses on major roads were likely to be reserved for animals, and we should also anticipate that future excavations at other fortress sites with military or strategic importance may reveal stables.

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11    Based on their proximity to the citadel gates, it has been proposed that both buildings may have been stables for the horses and the chariots of royal army regiments (Stone, 2005: 189).

12    "*Tarui and Tarmakisa, strong, walled cities, situated in the plain of the land of Dalaia, where he had great supplies of grain, whose walls were very strong, whose outer walls were well built, whose moats were very deep and completely surrounded them; in the midst of which are stabled the horses, reserved for his royal army, which they fatten each year ...*" (Luckenbill, 1989: no. 159).

**Figure 6:** Stable building in Unit PP51 on Güneytepe in Ayanis Outher Town
(Stone and Zimansky 2003: 223, Fig. 11.10)

## Lower Settlements and Stables/Pen

At most royal settlements and fortresses of the Urartian period, except Toprakkale and Çavuştepe, a lower town settlement is found at the skirts of the citadel hill or on the settlement plain below (Çifçi, 2017: 142-145). The Urartian state relied on the population of these lower towns for human resources necessary for building an army, constructing various buildings including citadels, and maintaining its security and sustenance needs. In some cases, as it is stated in the temple inscription of Ayanis (A 12-1 VI–VII), war captives were deported and employed as labor force for the construction of the fortress, the citadel, and public buildings, and they were also settled in the lower town in the settlement plain. At a few Urartian royal settlements (Van Kalesi, Bastam, Ayanis, Karmir-Blur, and Armavir),

in addition to the excavations on the citadel, excavations were also conducted in the lower towns, albeit in limited areas (Figure 1). Lower town excavations at these sites have revealed different numbers and types of domestic buildings.

Residential contexts unearthed by excavations in the Ayanis lower town settlement area show that there were two domestic building types, which their architectural layout and construction techniques can distinguish. The first building type is represented by buildings with sturdy walls and regular floor plans found in an area close to the citadel walls. It has been suggested that these residential compounds were built by the state and were inhabited by citadel personnel, military officials, and the hereditary elite. In some of these buildings, e.g., Building 6 in Ayanis Güneytepe, it is noted that there are no spaces that can be associated with stables, pens, hearths, ovens, and other features related to domestic activities (Stone, 2012: 93, Fig. 06-05). Excavators suggest that the residents of these domestic units must have relied on the citadel for food and related services. The second building type is found on the slope of Güneytepe, farther away from the fortress, and is characterized by buildings that do not abide by a standard plan and are built using various construction techniques. These domestic buildings are composed of various units including workshops, kitchens, storerooms with pithoi, bread-ovens (*tannurs*), and stone-paved areas, which are identified as stables by the excavators. Ethnoarchaeological studies have documented that in present-day Ayanis village, the floors of the stables are paved with large stone slabs (Çilingiroğlu *et al.,* 2009: 186, Res. 77). Likewise, ethnographic studies in the 1970s carried out part of Keban Project in Elazığ Altınova villages have also documented that the stables attached to the houses had stone-paved floors (Peters, 1972: 166-168). In the Elazığ Altınova villages and the Ayanis village, these stone-paved stables were reserved for raising and keeping cattle. As opposed to packed earth floors, stone-paved floors have practical benefits; stone-paved floors are easier to keep clean from animal dung, and they also provide a more stable ground that can sustain the weight and the trampling of the animals.

Stone-paved rooms identified as possible stables were found in most residential buildings unearthed in Ayanis lower town excavations (Buildings 1, 9, 11, 12, 13, and 14, etc.) except a few examples like Buildings 3, 6, and Building 15, of which only a small portion is excavated (Stone, 2012: 94, Fig. 06.06). In Building 1, for example, a room with a stone-paved floor was identified as a possible stable, and an L-shaped area with an earthen floor was identified as a sheepfold/pen (Stone, 2012: 94, Fig. 06.06). In Building 11 and Building 14, two two-storied buildings built into the bedrock on a slope at Güneytepe, the ground level of the houses were designed as a stable/pen, where evidence for cheesemaking was also recovered by excavations (Stone, 2012: 96, Fig. 06.07, 06.08).

At the Karmir-Blur and Bastam fortresses, which date to the same period as Ayanis, lower town excavations were carried out in limited areas. Although the Urartian period lower

town of Karmir-Blur spreads over an area of about 40 hectares, residential areas have been investigated only in limited exposures located south and southeast of the citadel (Piotrovsky, 1952: 79-86; Ogenesian, 1955:16-35). Domestic compounds unearthed in excavations here consist of independent residential units that are in most cases formed of two or three rooms and a courtyard, featuring stone-paved areas (Ogenasian, 1955: figs. 5 and 9 B). At Bastam, the Urartian period domestic contexts again were unearthed in a limited area, as well, consisting of an excavation trench measuring 35.50 m x 29 m. Excavations revealed a domestic building with eight rooms and part of another building that extends further east into the unexcavated area (Kleiss, 1979: 24-30, 1988: 19-20, Abb. 11-12, Taf. 11.2). Urartian period houses in this area have two subphases and, like the houses found in other Urartian lower towns, they are formed by adjacent rooms built around a courtyard. Excavated buildings have yielded contexts with various functions such as workshops, kitchens, storage rooms, and ovens, as well as stables with stone-paved floors.

At Armavir, residential buildings are found in an area that lies between the two citadels, east of the West Citadel fortifications (Martirosjan, 1974: 103, Fig. 38). Eight of these multi-roomed domestic buildings were unearthed by excavations. Houses are formed by a central colonnaded hall or a courtyard with adjacent rooms that were used as workshops, kitchens, and storage rooms. Three of the houses (House 1, 2, and 8) feature stone-paved contexts (Martirosjan, 1974: 104-119, figs. 39, 41, 45). Excavators suggest that the stone-paved areas in these houses were used as stables/pens (Martirosjan, 1974: 104, 108-109, 114-115, figs. 39, 41, 45). For example, in House 1, in direct alignment with the storeroom with pithoi in the northeast corner, is a rectangular area with a stone-paved floor, where stone troughs and feeders are found, which appears as a stable. Excavators estimate that 30-40 cattle could be kept in this stable/corral (Martirosjan, 1974: 104).

Among the rural settlements of the Urartian period some can be defined as mansions of tribal lords (Köroğlu, 2009), and two of the examples investigated by excavations are Yoncatepe (Belli, 2006) and Patnos-Giriktepe (Balkan, 1964: 139-143; Schachner, 2021). At these settlements, stone-paved areas were unearthed by excavations, but they were not interpreted to be stables according to the excavation reports. The mansion at Yoncatepe is a two-story building with its entrance on the east side. To the west of the entrance, there are two large courtyards, reported as unroofed spaces, and their floors are paved with large stone slabs (Köroğlu, 2009: 384, Res. 2). Further into the building, there is another, smaller courtyard, where a low mudbrick bench is built all along the foot of the walls (Konyar, 2022: 208). Most rooms on the ground floor of the building complex were identified as workshops, storage rooms, and kitchens. Considering that Yoncatepe lies in a region where animal husbandry is the main subsistence activity, it is interesting not to see any built spaces dedicated to animals in this mansion and other similar structures. At the same time, however,

some of the excavated areas may have functioned as stables/pens, although not identified as such by the excavators who have investigated these sites. In this respect, we suggest that the stone-paved areas, identified as unroofed courtyards at Yoncatepe can be identified as stables and the smaller area with mudbrick benches may have been a corral/pen where the benches were used for troughs and feeders. The ethnographic record provides architectural parallels supportive of this interpretation. In the present-day vernacular architecture of the region, the two-story houses are designed so that a part of the ground level with its stone-paved floor is used as a roofed space dedicated to stables, feeders, and storage rooms, while in one-storied houses, a part of the house is used as a stable or a pen (Peters, 1972: 166-168). There are practical benefits to using the ground floor of a house as stables and pens. Keeping the domestic animals in a built space on the lower level of a house allows for a close watch against dangers and it also raises the temperature in the living spaces on the upper floor, which is a sustainable solution against the cold during the harsh and long winters as experienced in the region (Yakar, 2000: 153). It is reasonable, therefore, to define some of the contexts on the ground floor of the mansion at Yoncatepe as stables and pens.

Like Yoncatepe, some of the architectural contexts in the mansion of Patnos-Giriktepe were identified as workshops, storage rooms, and kitchens by the excavators, as well. As in the case of Yoncatepe, animal husbandry and related spaces like stables and pens have not been a subject of consideration in the evaluation of the architectural remains from Patnos. Inferring from previous examples, we suggest that the stone-paved area seen in the north of the settlement layout plan of Patnos-Giriktepe (Schachner, 2021: 312, Fig. 4) may be identified as stable.

A final example comes from Van Kalesi's mound. The building labeled "House 2" at the mound is a building complex with a central colonnaded hall, a parallel but narrower hall, and ten rooms. Room 1 at the northern end of the building features a courtyard-like, stone-paved area in its eastern portion (Konyar, 2022: 199, figs. 128, 130). In the light of examples in other excavated domestic buildings of the Urartian period, this context can be identified as a stable.

## Conclusions

In this study, firstly we have provided an overview of textual evidence and then moved to the excavated contexts, that have been and can be identified as a stable or a pen, at Urartian period settlements. The climate and the natural topography of the landscape ruled over by the Urartian Kingdom is not immediately suitable for large-scale agricultural production, and animal husbandry has been the main basis of the subsistence economy in the region. Since early prehistory, intermontane valleys and highland plateaus of eastern Anatolia, Transcaucasus, and northwestern Iran were inhabited by pastoralist communities who relied

on animal husbandry for their subsistence before and after the establishment of the Urartian Kingdom. Therefore, considering the number, diversity, and geographical distribution of excavated Urartian period settlements, we should expect to find substantial evidence related to animal husbandry at Urartian sites. Unfortunately, however, excavated contexts in citadels and lower town settlements have yielded very limited zooarchaeological evidence[13] and only a few buildings are identified as stables and pens.

Ethnoarchaeological work in the region has shown that cattle are typically raised and kept in roofed spaces. On the contrary, sheep and goats are kept and raised in temporary sheepfolds and pens away from the village settlements, because especially from the spring until the winter, the herds are grazed in pasturelands (Hopkins, 2003: 33-34; Sezer and Işıklı, 2021). It is unlikely that pens and stables would have been situated inside the fortresses of the Urartian period. Considering the formal characteristics, construction techniques, and functions of the architectural units unearthed in excavated citadels, which were used and inhabited by royalty and high-ranking administrative officials, the citadels would not have been the location for animal shelters. However, as in the Bastam and Çavuştepe examples, stables for horses were built in the citadel areas, especially close to the citadel gates. At Ayanis, a stable for horses was built close to the citadel walls. Horses were crucial for transportation for the Urartian army in the rural landscape and they must have been raised in certain regions of the kingdom, overseen by the state (Çifçi, 2017: 100-101). The horses of the ruling elite and the high-ranking military officials, however, must have been kept inside the citadel walls of royal fortresses.

Excavations in the lower towns or outer towns of royal settlements with citadels like Ayanis, Karmir-Blur, Bastam, and Armavir have revealed multi-roomed domestic buildings, in which rooms with stone-paved floors were identified as stables and pens. While this seems to hold for some contexts, stone-paved floors may have served other purposes, as well. Therefore, every stone-paved context cannot be directly associated with animal shelters, and it is necessary to evaluate other parameters like the location and the size of these stone-paved contexts when defining their function. At the same time, there remains the possibility that other contexts with unpaved floors in the settlements may have also served as animal shelters. Urartian texts do not yield clear or coherent information on the location of stables/ pens and animal-keeping practices. Moreover, no analytical method has yet been employed for understanding the function of architectural contexts that are identified as possible stables and pens with the exception of Bastam, where chemical composition analysis of soils provides evidence for urine concentration. The ethnographic record of eastern Anatolian villages provides close parallels, which aid in the identification of archaeological contexts.

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13     For a general evaluation of the analyses of faunal assemblages found at Urartian settlement sites, see Çifçi, 2015: 219-220 and 2017: 105-112.

It has been ethnographically documented that, domestic animals, especially cattle, are raised and kept in roofed spaces with stone-paved floors that constitute a part of the village houses. A viable research strategy for definite answers about the function of so-called stables and pens in the archaeological record of the Urartian sites would entail conducting chemical elemental composition analyses of soil samples from the contexts in question, which would provide us with significant empirical information about the activities that took place in these spaces whether related with animals or not.

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