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RESEARCH ARTICLE

Late Islamic Rural Settlements in the Al-Hajar Mountains: New Evidence from Excavations at Suhaila 6, 9, 10, 11 and 12 (Hatta, Dubai)

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Abstract

The Suhaila archaeological complex, located in the Hatta region (Dubai), represents a key case study in the investigation of Late Islamic rural settlements on the western slopes of the Al-Hajar Mountains. This article presents the results of the first excavations carried out at five of its sites —Suhaila 6, 9, 10, 11 and 12— in January and February 2026, within the framework of the project developed by Sanisera Archaeology Institute in collaboration with Dubai Culture and Arts Authority. The interventions documented a set of domestic spaces, courtyards, livestock enclosures and a probable male reception space. The recovered material culture—ceramics, coins, industrially manufactured ammunition, including a cartridge case stamped KYNOCH—converges on an occupation centered in the second half of the 19th century, with a possible continuation into the early decades of the 20th century. Overall, the results provide new architectural, material and chronological evidence for understanding mountain rural occupation at Suhaila and its participation in regional circulation networks and Gulf commercial circuits.

Keywords: Suhaila, Hatta, Southeastern Arabia, 19th Century, Late Islamic, Rural Settlement, Islamic Ceramics, Industrial Ammunition, Exchange Networks.

1. Introduction

The Suhaila archaeological complex (Hatta, Dubai) stands out as one of the most representative Late Islamic rural landscapes of the southeastern Arabian Peninsula. Located on the northern slope of Jabal Qallat Sabba, within the Hajar range, it extends between 250 and 450 m a.s.l., in the vicinity of Wadi Al-Wajajah to the north and Wadi Hatta to the south, near the border with the Sultanate of Oman (Böer, 1997; Feulner, 2023). The complex encompasses more than 16 sites (Boraik et al., 2021, unpublished report) with hundreds of structures of Late Islamic attribution.

The choice of the Hajar as an area of occupation was not coincidental, as the dense network of *wadis* crossing the mountain range guaranteed a water availability far superior to that of the surrounding desert plains (Costa, 1985; Wilkinson, 1977), which made these mountain valleys favourable enclaves for agropastoral settlement over the centuries.

Several research teams have previously worked at the complex. Dubai Municipality carried out the first excavations at Suhaila 1 (Boraik et al., 2021, unpublished report). Chronicle Heritage Arabia excavated Suhaila 1, 3 and 4 in 2024 and undertook a geoarchaeological study of the complex. ARCHItravs carried out excavation, 3D documentation and restoration at Suhaila 2 the same year. In 2025, Dubai Culture and Arts Authority extended survey coverage to Suhaila 10, 13, 14, 15 and 16, identifying more than a hundred previously unknown structures

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(Boraik et al., 2025, unpublished report). Regarding material culture, Priestman et al. (2026) have recently contributed a ceramic study of Suhaila 2 that reveals a strong articulation with the production circuits of Oman and Ras al-Khaimah. Sites Suhaila 6, 9, 10, 11 and 12, however, remained unexcavated. This intervention was integrated within a broader project developed by Sanisera Archaeology Institute between June 2025 and February 2026, combining remote sensing, geospatial analysis, geological, geomorphological and hydrological studies, TLS scanning, systematic survey and excavation (Fernández et al., 2026). This article presents the results of the first excavation in these areas, carried out between January and February 2026 in collaboration with Dubai Culture and Arts Authority, with the aim of providing new architectural, material and chronological evidence on Late Islamic rural settlement in the mountainous landscape of Hatta.

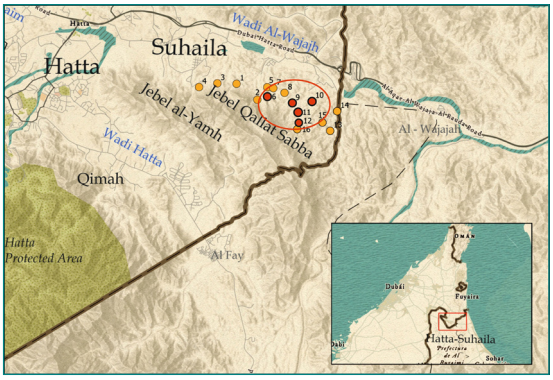

Figure 1. *General location of the Suhaila sites. In red, the sites excavated during the present campaign.*

2. Materials and Methods

The intervention focused on selected structures from five different sites within the Suhaila complex: structures 5, 6, 7 and 23 of Suhaila 6; structure 18 of Suhaila 9; structure 31 of Suhaila 10; structure 4 of Suhaila 11; and structure 11 of Suhaila 12. This distribution allowed a comparative overview of different sectors of the complex, addressing its architectural, stratigraphic, chronological and material variability. The location of the excavated sites, together with the reference points used for total station recording, is shown in Figure 2.

The excavation followed a single-context stratigraphic methodology, based on the principles of the Harris Matrix method. Each stratigraphic unit was individually identified, described and recorded, documenting its physical and stratigraphic relationships before excavation. Sediments were sieved with a 5 mm mesh to maximise the recovery of small finds and artefacts. Spatial recording was carried out using a total station, employed to georeferentiate the excavated structures, archaeological sections, topographic reference points and individual objects recovered during excavation. For radiocarbon dating, charcoal samples were collected from hearth fills; AMS analysis was performed at the FTMC laboratory and the resulting ages were calibrated with OxCal v4.4.4 (IntCal20 curve) at 95.4% probability (2σ).

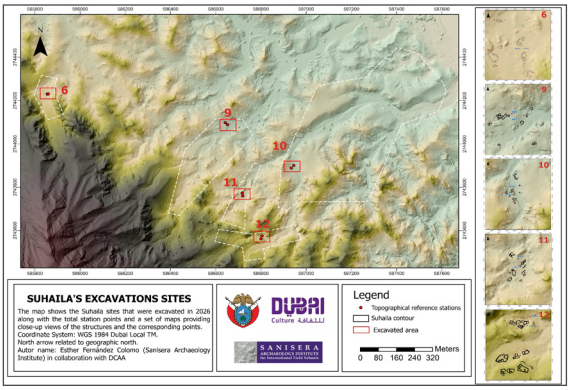

Figure 2. *Location of the excavated sites (Suhaila 6, 9, 10, 11 and 12), together with the topographic reference points used for the total station.*

For the interpretation of the record, the ethnoarchaeological work of Lancaster & Lancaster (2011) has proved highly useful, based on interviews conducted between 1997 and 2005 with communities of the western Hajar and the Ru'ūs al-Jibāl, whose testimonies reconstruct ways of life prior to 1970 that, through the memory of informants and their predecessors, extend back to the late 19th century. Although the testimonies reflect individual experiences in specific contexts and do not permit strict generalisations in spatial or temporal terms, they do provide a first-rate comparative framework

for understanding the agropastoral, architectural and domestic practices documented at Suhaila.

3. Results

3.1 The Excavated Sites

Each of the five sites is described below in order to provide the reader with an individual picture of each assemblage before addressing the comparative analysis. The most characteristic finds from each site are mentioned alongside the architectural description.

3.1.1 Suhaila 6. Structures 5, 6, 7 and 23

Suhaila 6 is located in a valley floor crossed by a *wadi*. Four structures were excavated. Structures 5, 7 and 23 are rectangular enclosures with a defined threshold and stone fireplace; they form a clustered group on the eastern bank of the *wadi*, except for structure 23, which lies on the opposite bank of the channel —which has partially undercut one of its corners— (Fig. 3a). Structure 6 is not a room as such, but a closing wall built against structure 7 that delimits a semi-open space between the two (Fig. 3b). Among the most significant finds are a cartridge case with the mark 'KYNOCH' stamped on the base, recovered outside structure 7, an iron sickle linked to date palm processing (Fig. 3c) and a necklace of 32 small beads, found in the same external context.

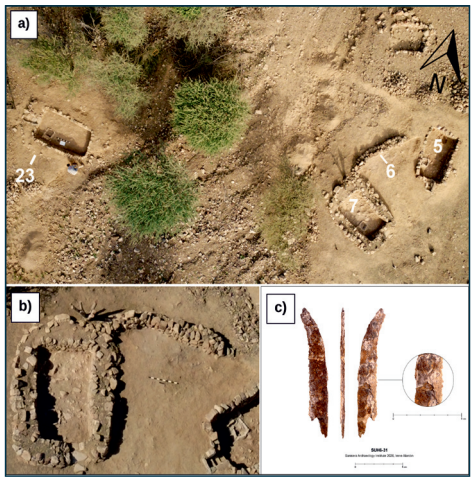

Figure 3. *Suhaila 6. a) Aerial view of structures 5, 6, 7 and 23. b) Residential enclosure with attached closing wall. c) Iron sickle found outside structure 7.*

3.1.2 Suhaila 9. Structure 18

Structure 18 of Suhaila 9 occupies a gentle slope rising to the north. Its plan is tripartite: two enclosed rooms with stone fireplace (18a and 18b) arranged on a north–south axis (Fig. 4a and c) —18a built with horizontal slabs in a simpler technique than the rest of the assemblage— and a closed space to the west (18c) (Fig. 4b and c). The eastern sector of 18c and the access points to both rooms have suffered modern disturbance from machinery movement, which partially limits the stratigraphic reading in those areas. This is the site with the highest ceramic concentration (160 fragments). Among the most notable finds are a ¼ anna coin minted in 1898 during the reign of Faysal bin Turki —recovered in front of the threshold of 18b— and six cartridge cases, one of them bearing the inscription '71–86'. A silver ring with incised geometric decoration was also found in enclosure 18c (Fig. 4d).

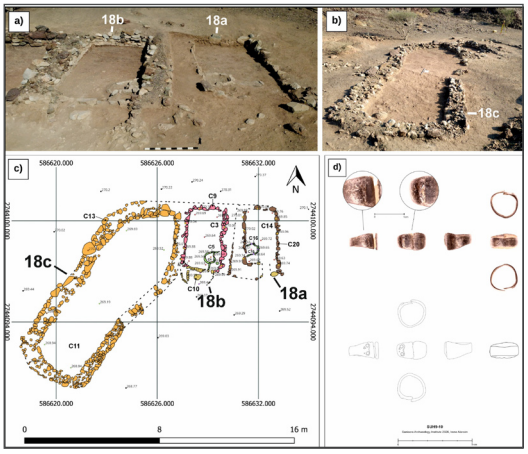

Figure 4. *Suhaila 9, structure 18. a) Spaces 18a and 18b. b) Space 18c. c) Plan view. d) silver ring with incised geometric motifs.*

3.1.3 Suhaila 10. Structure 31

Structure 31 of Suhaila 10 overlooks from an elevated position the *wadi* running along its eastern flank (Fig. 5a). It articulates four spaces of differentiated function (Fig. 5b): a main room with stone fireplace (31a), an adjacent courtyard (31b) accessed by steps from the exterior ground level —first to an upper compartment and from there to a lower one to the north, where four aligned circular hearths were identified—; slightly to the south and separated from the above rooms there is a small enclosure (31c) and another without a defined threshold or with no preserved access (31d). The most significant finds at this site are two ¼ anna coins from British India dated to 1833 and 1858, recovered from the occupation level of 31a.

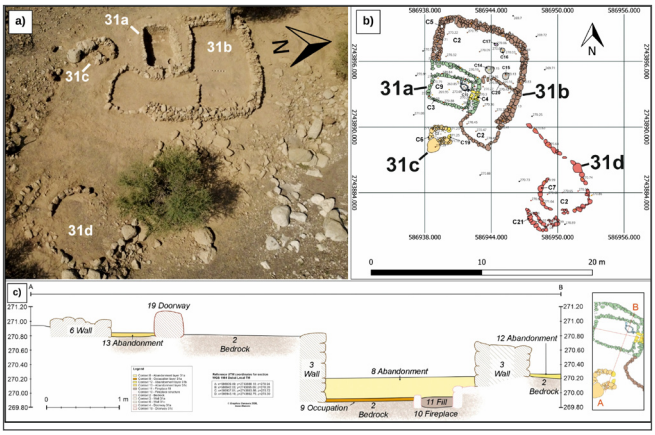

Figure 5. *Suhaila 10, structure 31. a) Aerial view of structure 31. b) Plan view of structure 31. c) Section of spaces 31a and 31c.*

3.1.4 Suhaila 11. Structure 4

Structure 4 of Suhaila 11 occupies sloping ground oriented west to east, immediately south of structure 3 (Fig. 6a). It consists of two spaces. Space 4a is a closed rectangular room with a threshold and stone fireplace (Fig. 6a–6c). Space 4b, attached to the south, has a semicircular plan and contains five combustion features —a stone fireplace on the western flank and three circular hearths distributed across the space— with no culinary remains identified in association with any of them (Fig. 6c). Suhaila 11 is the site with the lowest material density; neither coins nor ammunition were recovered. However, at the base of the collapse/abandonment layer of 4a, in contact with the occupation level, a functional iron ring and a chisel were recovered, along with a rounded cobble possibly linked to manual food processing (Fig. 6d).

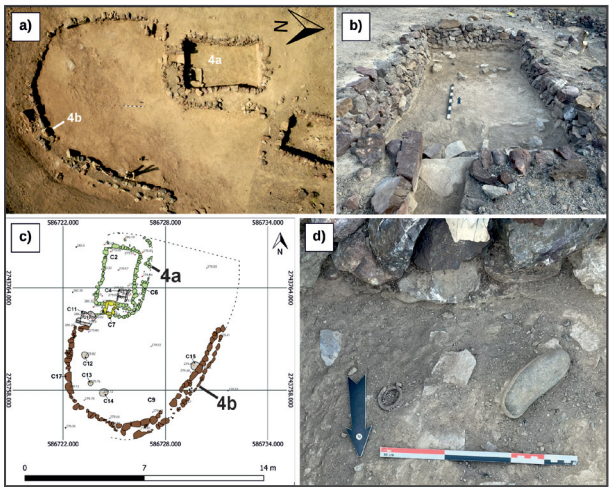

Figure 6. *Suhaila 11, structure 4. a) Aerial view of structure 4. b) Space 4a, collapsed wall stones within the abandonment layer. c) Plan view of Structure 4. d) functional iron ring and rounded cobble found within 4a.*

3.1.5 Suhaila 12. Structure 11

Structure 11 of Suhaila 12 is located in a valley flanked by steeply sloping hills, on ground that descends gently from north to south, with a small *wadi* closely flanking the walls of its northern side. It consists of four interconnected spaces organised around a central courtyard (Fig. 7a–b). Space 11a, situated at a higher elevation in the southern sector, contains a stone fireplace and has an attached enclosure with small internal subdivisions built with dry-laid stone blocks. Space 11b retains a circular hearth, although the space is partially eroded and has a sparse material record. Space 11c has a well-defined threshold and lacks a hearth. Space 11d is notable for the central position

of its fireplace and for having direct access from the exterior of the compound, without passing through the interior courtyard. Among the most significant finds at this site is a ¼ anna coin dated to 1835, recovered from the occupation level of 11a.

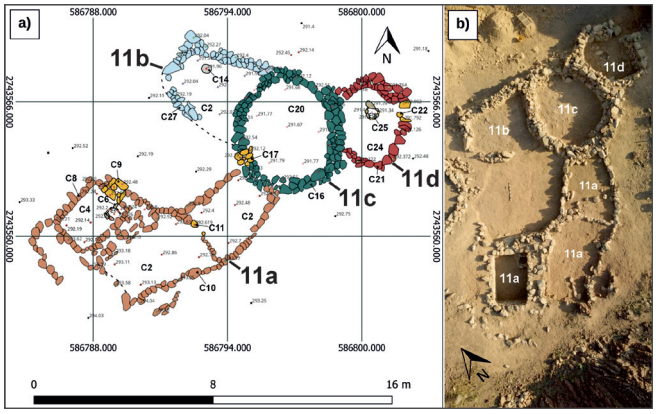

Figure 7. *Suhaila 12, structure 11. a) Plan view of structure 11. b) Aerial view of structure 11.*

3.2 Architecture: Integrated Characterisation

3.2.1 Construction Technique and Stratigraphic Sequence

The construction technique documented at all five sites follows a common pattern, based on the use of local stone laid in courses of irregular masonry, generally dry-laid and stabilised with small wedging stones, although the occasional use of an earthen mortar as a binding material is also recorded. The structures adapt to a topography characterised by gentle slopes, which are exploited in different ways during construction. In some sectors, the natural ground is cut to create a vertical face against which the wall is built, reducing the need to raise a fully freestanding structure. In other areas, particularly where the ground is lower, double-faced walls of approximately 60–85 cm are raised, sometimes with internal fills of earth and gravel.

The stratigraphic sequence is identical at all five sites: overlying the natural rock or compacted sediment lies an occupation level sealed by a collapse layer between 10 and 20 cm thick. No phases of repair, extension or wall reconstruction were detected, suggesting relatively brief periods of use. This interpretation should be nuanced only for 18a, which has no direct structural connection with 18b and displays a different construction technique, consisting of a single course of slabs set on edge, in contrast with the masonry recorded elsewhere in the assemblage. These features suggest a possible chronological differentiation within Suhaila 9, although they do not allow a secure internal sequence to be established.

A recurring detail in several doorways deserves mention: in some cases, notable differences in elevation are recorded between the interior and exterior of the rooms which, in the absence of preserved steps, suggest that the original stone steps may have been removed during abandonment —likely for reuse elsewhere.

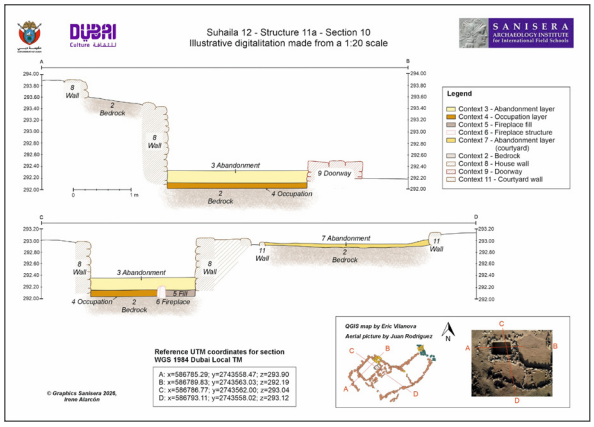

Figure 8. *Section of space 11a at Suhaila 12.*

3.2.2 The Sleeping Room: the khid'ah

The most consistently documented type of space across the five sites corresponds to the sleeping room—*khid'ah*— of rectangular plan, enclosed and semi-subterranean, the latter condition having contributed to maintaining more stable thermal conditions inside (Fig. 9a–b). All spaces identified as such share a set of formal features and notably uniform proportions:

internal areas of approximately 6–9 m², internal lengths between 3.10 and 3.70 m and widths between 1.80 and 2.30 m. They also present a doorway always located on one of the short sides, with a threshold formed by stone slabs, and a sunken fireplace of quadrangular or semi-quadrangular plan, framed with upright stone slabs, whose dimensions range between 0.48 and 0.55 m on one axis and between 0.58 and 0.65 m on the other (Fig. 9c–d).

The position of the fireplace is always close to the entrance and is complemented by a small attached platform —raised between 10 and 20 cm above the use surface, in beaten earth contained by stones—. The following spaces are identified as sleeping rooms: structures 5, 7 and 23 of Suhaila 6; spaces 18a and 18b of Suhaila 9; space 31a of Suhaila 10; space 4a of Suhaila 11; and space 11a of Suhaila 12.

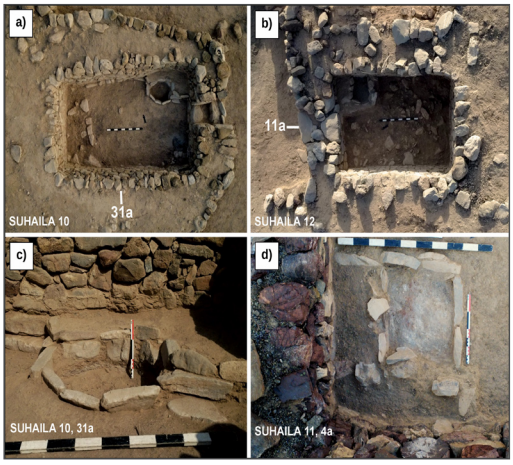

Figure 9. *Domestic spaces and structures. a) Space 31a at Suhaila 10. b) Space 11a at Suhaila 12. c) Fireplace of space 31a, Suhaila 10. d) Fireplace of space 4a, Suhaila 11.*

3.2.3 Courtyards and Open Activity Areas

Each *khid'ah* is accompanied by one or several open or semi-open spaces. Their dimensions vary considerably, from small semi-open areas of around 15–17 m², such as the delimited space of Suhaila 6 and the central courtyard of Suhaila 12, to courtyards and exterior and exterior spaces of greater extent, exceeding 35 m². This second group includes space 18c of Suhaila 9, as well as courtyard 31b of Suhaila 10 and space 4b of Suhaila 11, the latter with areas or maximum dimensions close to or exceeding 40 m². At Suhaila 6, the semi-open area delimited by structure 6 constitutes the simplest example (Fig. 10a). At Suhaila 9, space 18c corresponds to an elongated enclosed courtyard situated to the west of the two rooms (Fig. 10b). At Suhaila 10, courtyard 31b stands out for its scale and greater complexity: its two compartments at different elevations and the four circular hearths in the northern sector define an activity space clearly differentiated from the covered domestic unit (Fig. 10c). At Suhaila 11, space 4b groups five combustion features in an open semicircular area. At Suhaila 12, the central area of structure 11 articulates the four spaces of the complex (Fig. 10d). These spaces correspond to the *ḥawī* documented at the Suhaila sites themselves, where Boraik et al. (2021, unpublished report) describe this element as an open courtyard with a levelled floor for the daily use of the inhabitants.

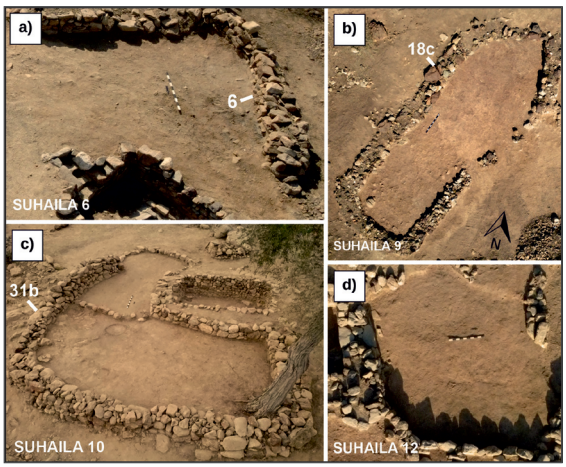

Figure 10. *Courtyards documented at Suhaila. a) Structure 6, Suhaila 6. b) Space 18c, Suhaila 9. c) Space 31b, Suhaila 10. d) Central courtyard of structure 11, Suhaila 12.*

3.2.4 Livestock Enclosures and Compartments

Enclosures 31c (Fig. 11a) and 31d of Suhaila 10 are located in a peripheral position relative to the main domestic core, physically separated from the habitation rooms, suggesting a use linked to animal management. At Suhaila 12, the enclosure attached to 11a (Fig. 11b) presents a different situation: although it is in direct contact with the *khid'ah*, the stone alignments inside define small areas of approximately 1.50 × 1 m and 1 × 0.50 m that likewise point to this type of use. In both cases, the limited stratigraphic depth and the poverty of the material record are features compatible with this interpretation.

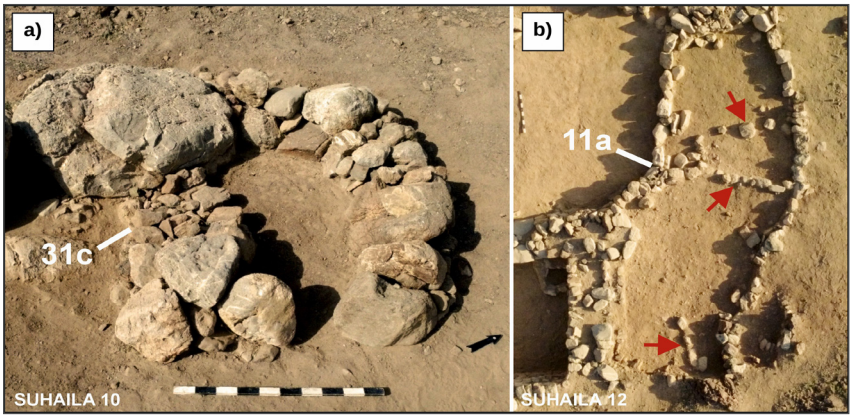

Figure 11. *Possible livestock-use spaces. a) 31c, Suhaila 10. b) 11a, Suhaila 12.*

3.3 Analysis of the Recorded Material

The faunal remains recovered across the sites are scarce and show a high degree of fragmentation. Their distribution throughout the excavated contexts does not allow the identification of any concentration suggesting the existence of a midden area. Among the terrestrial fauna, SUH6-9 (Fig. 12a) yielded a caprovid tooth, together with several long bone splinters of indeterminate mammal with a degree of fragmentation that precludes any more precise taxonomic or anatomical identification. The presence of marine malacofauna at an inland site constitutes a relevant indicator of access to coastal resources through mobility or exchange networks. The assemblage consists of small marine gastropods, bivalve valves and larger shell fragments, broadly attributable to marine molluscs. Among the gastropods, some specimens show preliminary affinities with Strombidae, a group represented in the Gulf by species such as *Conomurex persicus* / *Strombus persicus* (Beech and Glover, 2005; MolluscaBase, 2024). The bivalve valves are tentatively classified as *Bivalvia indet.*, although some show possible affinities with *Pinctada* sp. (Beech and Glover, 2005; Demircan et al., 2023) (Fig. 12b–c). Internal gastropod fragments have also been documented, probably corresponding to the apertural or columellar zone, whose breakage is compatible with the opening of the shell for the alimentary exploitation of the mollusc (Fig. 12d).

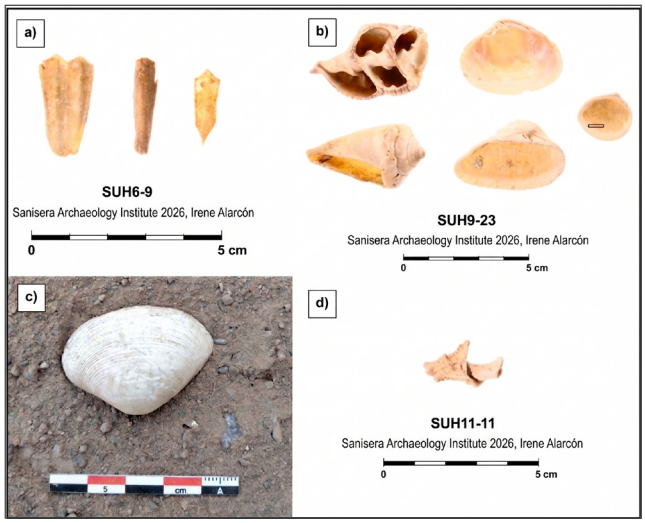

Figure 12. *Faunal remains documented at Suhaila.*

a) Terrestrial fauna at Suhaila 6; b) marine malacofauna at Suhaila 9; c) marine bivalve valve documented in situ at Suhaila 10; d) marine gastropod fragment from Suhaila 11, compatible with breakage associated with alimentary exploitation of the mollusc.

The ceramic collection recovered from Suhaila 6, 9, 10, 11 and 12 consists of 337 fragments (Table 1), the majority highly fragmented and without complete vessels. Typologically, the assemblage is dominated by unglazed wares: White Incised (26.4%), Julfar Ware (25.8%) and White Ware (25.5%) together account for more than three-quarters of the total. Other unglazed types, such as Choc (3.0%) and White Fine (0.6%), are present in smaller proportions. Glazed wares are less well represented, with Manganese as the most frequent type (9.5%), followed by Green Glazed (2.1%) and Bahla Ware (0.3%). Porcelain constitutes a secondary component of the assemblage, represented by Coffee ware (6.2%) and Chinese Blue and White (0.6%).

Table 1. *Distribution of ceramic classes across Suhaila 6, 9, 10, 11 and 12, based on fragment counts (N = 337), including totals and relative percentages.*

Ceramic Class	Technological Group	Origin	S6 (N)	S9 (N)	S10 (N)	S11 (N)	S12 (N)	Total (N)	%
White Incised	Unglazed Ware	Oman (local/ regional production)	6	54	16	0	13	89	26.4%
White Ware	Unglazed Ware	Oman (local/ regional production)	5	50	8	2	21	86	25.5%
Julfar Ware	Unglazed Ware	Ras al-Khaimah (regional production)	3	31	29	2	22	87	25.8%
White Fine	Unglazed Ware	Oman (local/ regional production)	0	2	0	0	0	2	0.6%
Choc	Unglazed Ware	Al Ain (regional production)	0	10	0	0	0	10	3.0%
Manganese	Glazed Ware	Al Ain (regional production)	0	3	20	4	5	32	9.5%
Green Glazed	Glazed Ware	Al Ain (regional production)	0	6	1	0	0	7	2.1%
Bahla Ware	Glazed Ware	Oman (local/ regional production)	0	0	0	0	1	1	0.3%
Coffee	Porcelain	East Asia (imported)	0	11	7	0	3	21	6.2%
Chinese Blue & White	Porcelain	East Asia (imported)	0	0	1	1	0	2	0.6%
TOTAL	—	—	**14**	**160**	**83**	**9**	**65**	**337**	**100%**

Distribution of ceramic classes across Suhaila 6, 9, 10, 11 and 12, based on fragment counts (N = 337), including totals and relative percentages.

In terms of provenance, the collection reflects a predominant articulation with nearby production areas. Omani and Ras al-Khaimah productions, mainly White Incised, White Ware and Julfar Ware, together represent 78.6% of the total. Al Ain productions, associated with Choc, Manganese and Green Glazed, follow with 14.6%, while East Asian porcelain does not exceed 6.8%. Regarding the distribution by site, Suhaila 9 stands out particularly, concentrating almost half of the recovered ceramic material (N=160), followed by Suhaila 10 (N=83) and Suhaila 12 (N=65). By contrast, Suhaila 6 (N=14) and Suhaila 11 (N=9) show a much more reduced representation. In all cases, ceramic fragments come from both the interior of structures and their immediate surrounding areas, with no groupings, significant concentrations or specific depositional patterns observed.

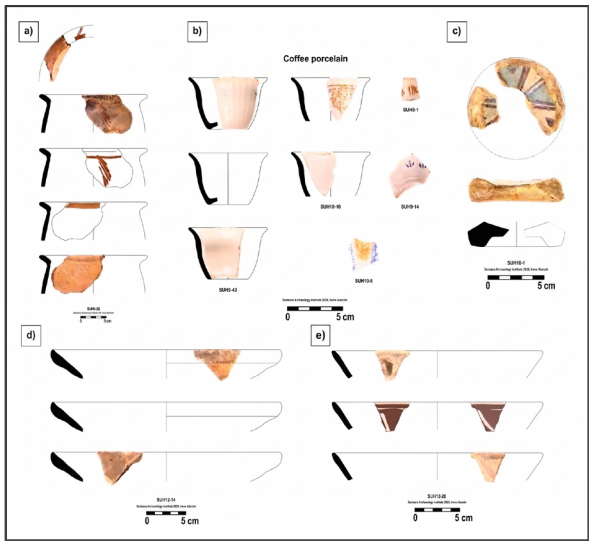

Figure 13. *Selection of ceramic materials documented at Suhaila.*

a) Outflaring rim fragment of Julfar Ware with painted decoration, attributable to a closed storage vessel; b) Coffee porcelain cup fragments; c) base of a vessel in Manganese-type glazed ware; d–e) Bahla Ware and Manganese-type glazed ware fragments corresponding to open bowl forms. © Irene Alarcón.

The ammunition assemblage consists of seven cartridge cases from Suhaila 6 and Suhaila 9. At Suhaila 6, a case with the KYNOCH mark stamped on the base was documented, corresponding to British-manufactured ammunition (Fig. 14a). The identification of this mark is significant, as Kynoch was one of the leading ammunition manufacturers in Birmingham from the 19th century onwards, with a notable peak in rifle cartridge production during the First World War (Bourne, 2014).

At Suhaila 9, six cases were recovered, one of which bears the alphanumeric inscription 71–86, also on the base (Fig. 14b). The assemblage includes medium-sized rimmed cases and larger-calibre specimens associated with rifle ammunition. This typological variability indicates the circulation of more than one type of firearm at the site. Although the deformation of several fragments prevents the calibre from being determined with precision, their morphological and technological characteristics are compatible with industrially produced metallic cartridges of a general chronology between the late 19th and early 20th centuries.

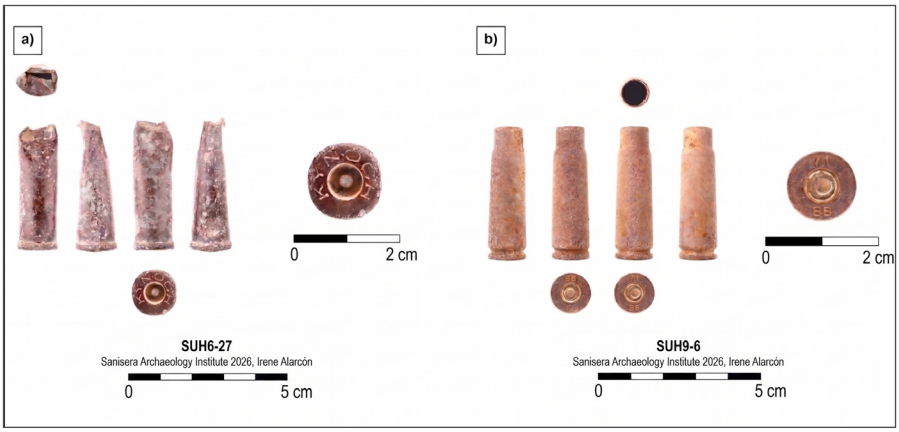

Figure 14. *a) SUH6-27. Cartridge case with KYNOCH mark, found at Suhaila 6. b) SUH9-6. Cartridge case with the '71/86' mark, found at Suhaila 9. © Irene Alarcón.*

The numismatic assemblage documented at Suhaila 9, 10 and 12 consists of four copper coins, all of ¼ anna denomination. Three come from occupation levels associated with domestic spaces, the sole exception being the coin from Suhaila 9, minted in AD 1898 during the reign of Faysal bin Turki, found outside, in front of the access to domestic space 18b (Fig. 15a). At Suhaila 10, two ¼ anna coins minted in British India, dated to 1833 and 1858, were identified, both from the occupation level of domestic space 31a (Fig. 15b–c). At Suhaila 12, another ¼ anna coin, dated to 1835, was recovered from the occupation level of domestic space 11a (Fig. 15d).

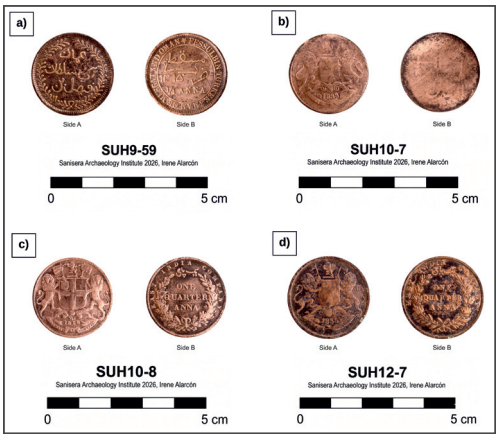

Figure 15. *Numismatic record. a) SUH9-59. ¼ Anna coin, AD 1898, Suhaila 9. b) SUH10-7, 1833. c) SUH10-8, 1858. d) SUH12-7, 1835. © Irene Alarcón.*

3.4 Chronology

The five charcoal samples processed at the FTMC laboratory yielded conventional ages ranging between 81 ± 29 BP and 186 ± 28 BP (Table 2).

Table 2. *Radiocarbon dating results from the Suhaila sites (OxCal v4.4.4, IntCal20, 2σ).*

Sample	Lab. code	Site and context	Sample type	^{14}C age (BP)	Cal. AD age (95.4%, 2σ)	pMC (%)
SUH6-23	FTMC-ST24-4	Suhaila 6 (Str. 23, fireplace fill, Context 8)	Charcoal	186 ± 28	1653–1695; 1724–1813; 1838–1878; 1916–1950	97,72 ± 0,34
SUH9-36	FTMC-ST24-6	Suhaila 9 (Str. 18b, fireplace fill, Context 4)	Charcoal (humic fraction)	156 ± 29	1664–1785; 1793–1895; 1902–1950	98,08 ± 0,22
SUH10-5	FTMC-ST24-5	Suhaila 10 (Str. 31a, fireplace fill, Context 11)	Charcoal (humic fraction)	81 ± 29	1683–1736; 1802–1936	99,00 ± 0,22
SUH11-12	FTMC-ST24-3	Suhaila 11 (Str. 4a, fireplace fill, Context 3)	Charcoal	116 ± 27	1682–1738; 1754–1762; 1801–1938	98,57 ± 0,34
SUH12-40	FTMC-ST24-1	Suhaila 12 (Str. 11d, fireplace fill, Context 26)	Charcoal (humic fraction)	167 ± 29	1658–1825; 1837–1895; 1904–1950	97,94 ± 0,21

The available body of evidence allows a common chronological hypothesis to be proposed for the excavated areas of Suhaila (Fig. 16). The radiocarbon dates offer broad calibrated ranges that alone do not permit the establishment of a precise synchrony, but are consistent with an occupation centred in the advanced 19th century. The datable materials provide more precise anchors within these intervals: the 1835 coin at Suhaila 12 and the 1858 coin at Suhaila 10 act as *termini post quem* for their respective occupation levels, while the 1898 coin at Suhaila 9 anchors that sector to the late 19th century, a datum consistent with the presence of industrially manufactured ammunition attributable to the late 19th or early 20th century.

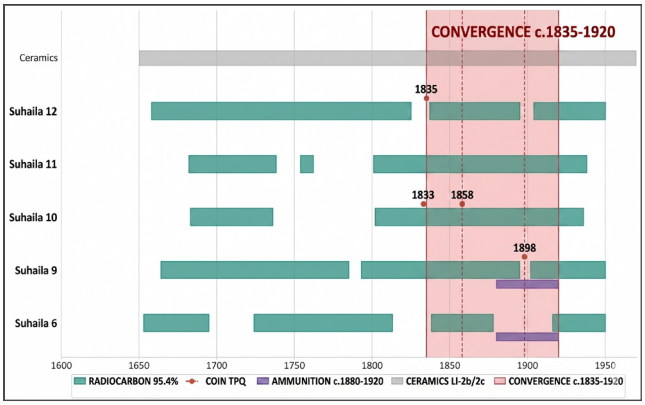

Figure 16. *Chart showing the convergence of independent chronological evidence from Suhaila 6, 9, 10, 11 and 12. Radiocarbon dates calibrated with OxCal v4.4.4 / IntCal20 at 95.4% (2σ). Coin dates as termini post quem. Ammunition range (c.1880–1920) based on industrially produced metallic cartridges including a KYNOCH-marked case (Bourne 2014); attested at Suhaila 6 and 9 only. Ceramics chronology based on (Power: 2015). Convergence band (c.1835–1920) reflects the interval consistent with all available lines of evidence.*

The ceramic assemblages, dominated by Julfar Ware, White Incised and White Ware, with a sparse residual presence of Green Glazed and an absence of European imports in significant quantities, are consistent with the LI-2b horizon defined by Power (2015) for the Arabian Gulf around c. 1870–1920. Overall, while it is not possible to demonstrate a strict contemporaneity between all excavated sectors, the convergence of this evidence allows the different areas of Suhaila to be interpreted as overlapping occupation phases within the same broad historical horizon, which appears to concentrate primarily in the second half of the 19th century, with a possible extension of activity into the early decades of the 20th century.

4. Discussion

The sleeping rooms documented at the five sites share a common set of constructive and functional solutions that responds to a shared logic: nearly identical dimensions, the systematic position of the fireplace close to the threshold, the support platform beside the hearth, and the excavation of the interior floor below the natural ground level. The ethnoarchaeological record of the western Hajar provides the most robust interpretive framework for understanding this space. Lancaster & Lancaster (2011, p. 215) record the direct testimony of mountain inhabitants who describe it as the space where one slept and made coffee, while cooking, bread-making and milk processing were always carried out outside. The extreme scarcity of culinary residues in the ash fills of the Suhaila fireplaces and the near-complete absence of such remains inside the rooms coincides exactly with that model.

The support platform beside the fireplaces, present in all the sleeping rooms documented, also deserves a functional reading. In the context of the Hajar, this type of raised surface is ethnographically associated with the storage of coffee equipment —*dallāt*, cups, spices— which forms an inseparable part of the domestic sociability of the region (Lancaster & Lancaster, 2011, pp. 211, 215). Their systematic presence at Suhaila reinforces the identification of these rooms as spaces of intimate reception and daily life, rather than production or storage.

The accumulation of several hearths in open or semi-open spaces, together with the scarce presence of faunal remains in their ash fills, allows cooking to be discarded as the main function and invites exploration of alternative uses. In this regard, the ethnographic comparison with the mountain communities of the Ru'ūs al-Jibāl is suggestive, where fires lit in outdoor spaces are documented for fumigating clothing, household goods and livestock with smoke during the months of peak insect activity (Lancaster & Lancaster, 2011, p. 161). The distribution and character of the hearths in space 4b of Suhaila 11, as well as the lower compartment of courtyard 31b of Suhaila 10, are compatible with this type of practice (Fig. 17).

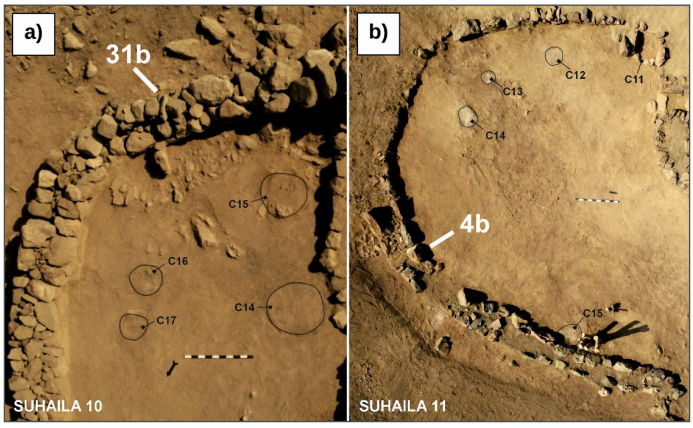

Figure 17. *Hearths and combustion features located in courtyards. a) Circular hearths in 31b (contexts 14–17). b) Combustion feature (context 11) and circular hearths (contexts 12–15).*

Regarding the peripheral enclosures —31c–d at Suhaila 10 and the one attached to 11a at Suhaila 12 (Fig. 11b)—, their interpretation as livestock pens rests on the convergence of several indicators: the limited stratigraphic depth, the poverty of the material record and, in the case of Suhaila 10, the physical separation from the habitation core. Lancaster & Lancaster (2011, pp. 111, 222–223) document that in the agropastoral households of the Hajar, livestock was kept at a distance from the domestic spaces, in enclosures also intended for the collection of dung for fertilising gardens. At Suhaila 12, the attached enclosure of 11a does not present the same physical separation from the domestic unit, but the internal compartmentalisation —with areas of approximately 1.50 × 1 m and 1 × 0.50 m— establishes a clear functional distinction within the complex, isolating these spaces from the habitation area and pointing to the temporary sheltering of young or juvenile animals.

Some spaces raise functional questions that are difficult to resolve. Space 11c of Suhaila 12, with a defined threshold, excavated below the natural ground but without a fireplace, could tentatively be interpreted as a storage room, in parallel with the *yanz* —a rectangular building with a solid roof where grain and dates were stored in jars *(habbiya)*— documented by Lancaster & Lancaster (2011, p. 222). The absence of a fireplace and the independent access are features compatible with this function, although the evidence does not allow us to go beyond a hypothesis.

Space 11d of Suhaila 12 deserves separate consideration. No other enclosed space at Suhaila presents the combination of a central fireplace, an entrance oriented towards the exterior of the compound, and coffee-service porcelain in the occupation level. This convergence invites its interpretation as the male reception space of the traditional mountain household. Ethnographic parallels support this interpretation: Lancaster & Lancaster (2011, pp. 121, 220) describe the *sabla* as a space used by men, located at the edge of the garden in one case and more generally documented as a prepared sitting place "where the men sat", intended to preserve women's privacy. In this context, the exterior-facing entrance of 11d can be understood as an architectural device allowing male visitors to be received from outside the compound without requiring access to the more private domestic areas. Coffee, served in small imported porcelain cups —coffee porcelain, the type documented in 11d—, was the central gesture of that hospitality (ibid., p. 108).

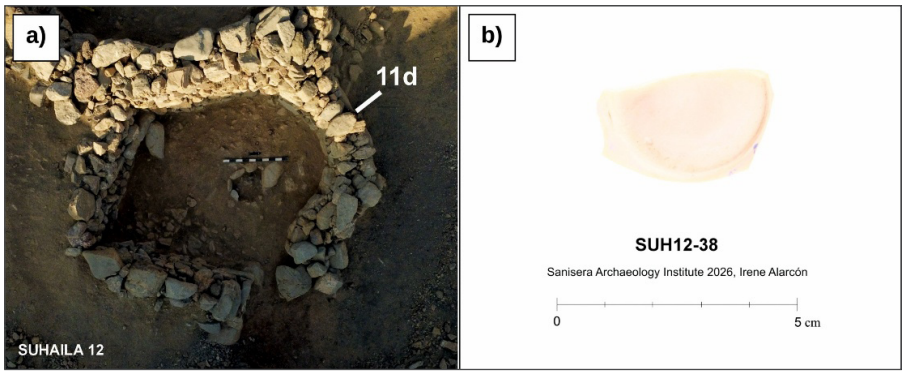

Figure 18. *a) Space 11d at Suhaila 12. b) Coffee porcelain base found in the occupation level of 11d.*

The available evidence suggests that the different excavated structures did not necessarily carry the same weight within the complex. The clearest differences are observed in the distribution of ceramic material and in the architectural character of certain sectors. Suhaila 9 concentrates the largest ceramic assemblage of the entire intervention, followed by Suhaila 10, while Suhaila 10 and 12 stand out for their more complex architecture and greater investment in construction.

These differences allow us to suggest, that the different nodes of the complex may have had different functions or intensities of occupation. Suhaila 9, 10 and 12, given their greater material density or architectural complexity, may correspond to spaces of more recurrent use or greater centrality within the system. By contrast, Suhaila 6 and 11, with more limited records and simpler plans, appear to fit better with less intensive occupations. The available data invite us to interpret Suhaila as an internally articulated complex, with material differences between sectors.

This profile coincides with that described for Suhaila 2 by Priestman et al. (2026), who note the predominance of utilitarian wares, probably intended for cooking and water transport, and interpret this as evidence for a subsistence-oriented economy among the communities of the different Suhailas. At the same time, the limited presence of long-distance imports, together with the dominance of pottery from nearby production centres in Oman and Ras al-Khaimah, underlines the importance of regional exchange networks in this area. Similar parallels are observed at the site of Sahlāt, in the interior of Sohar (Oman), where Biezeveld & Düring (2020) document a Late Islamic village with comparable architecture —sunken rooms, platforms, livestock enclosures, water management systems— and an analogous ceramic repertoire, which reinforces the existence of a shared regional material pattern among the mountain villages of the northern Hajar.

The marine mollusc shell fragments recovered —at a distance of approximately 100 km from the coast— are another indicator of this connectivity. The cartridge cases and the British Indian coins complete this picture. Both objects are materialisations of the Gulf and Indian Ocean commercial circuits of the second half of the 19th century and into the early decades of the 20th century. Firearms circulated as exchange

goods through the same networks that transported textiles, spices and tableware (Clarizia, 2022). Their presence at Suhaila is, in that sense, further testimony to the integration of the complex into the commercial flows that traversed the region.

5. Conclusion

The excavations at Suhaila 6, 9, 10, 11 and 12, the first carried out in these sectors, significantly expand our knowledge of the Suhaila cultural landscape. The results allow the characterisation of a set of domestic structures built in dry-stone masonry, with semi-subterranean spaces, fireplaces and adjacent courtyards or open areas, which demonstrates the existence of shared constructive solutions across different parts of the complex.

The chronological record places the occupation primarily in the second half of the 19th century, with a possible continuation into the early decades of the 20th century. This interpretation is supported by the convergence of radiocarbon dates, coins, industrially manufactured ammunition and the ceramic repertoire. Although these indicators do not allow strict synchrony to be established between all excavated sectors, they do allow them to be situated within the same broad historical framework.

The recovered material culture shows that Suhaila participated in regional and interregional circulation networks. The predominance of ceramic productions from Oman and Ras al-Khaimah, together with the minor presence of Asian porcelain, marine mollusc remains, British Indian coins and industrially manufactured ammunition, indicates connections with different Gulf and Indian Ocean exchange circuits. These materials do not point to an isolated community, but to a mountain rural settlement integrated into broader supply and circulation networks.

At the same time, the differences observed between the excavated sectors —particularly in ceramic density and architectural character— suggest that not all of them carried the same weight within the complex. Suhaila 9 stands out for the volume of ceramic material, while Suhaila 10 and 12 present more elaborate architecture.

Overall, this intervention has provided the first comparative archaeological sample from five different sectors of Suhaila. The results document a Late Islamic mountain rural landscape characterised by recurrent domestic architecture, material culture connected to regional and interregional networks, and internal differences that cannot yet be definitively explained. The future expansion of the excavated sample, both in new structures at the already-investigated sectors and at other sites within the complex, will allow further progress in the characterisation of Suhaila's internal variability and a more empirically grounded assessment of the historical dynamics of the complex.

Acknowledgements

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