

FURTHER EXCAVATIONS AMONG THE MEGALITHS: RESEARCH AT PLAIN OF JARS SITE 2 IN LAOS

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ABSTRACT

The Plain of Jars Archaeological Research Project (PJARP) team has been investigating the megalithic jars of North central Laos since 2016 with excavations conducted at three jar sites (Sites 1, 2 and 52) in Xieng Khouang Province. This paper presents the methodology and results of the excavation of Site 2 (Ban Nakho) undertaken in 2019. While similarities are apparent in the archaeological evidence uncovered between Site 2 and the other sites excavated by the team, important differences can be discerned between these sites. Features common at all sites include sandstone chips, limestone blocks and artifact assemblages. The finds and dating for Site 2 are presented here to place the site in a regional context, contributing to the understanding of this enigmatic megalithic culture and the expanding corpus of known sites.

INTRODUCTION

Northern Laos is home to over 100 megalithic jar sites (O'Reilly *et al.* 2018; Skopal *et al.* 2020), often referred to as the Plain of Jars. These sites comprise groups of hollow vessels carved from stone of varying types, most commonly

sandstone, and are found predominantly in Xieng Khouang Province. The Plain of Jars takes its name from the three best-known sites, Sites 1, 2 and 3 (Figure 1), found on an expansive plain around the provincial capital of Phonsavan. Most jar sites, however, are found outside the plain in mountainous terrain across the province and into neighboring Luang Prabang and Xaisomboun provinces. The known sites vary in size, some with a lone jar, others boasting up to 400 jars. In 2019, 11 of the megalithic sites were inscribed as a UNESCO World Heritage Property (<https://whc.unesco.org/en/list/1587/>).

Herein we discuss the research undertaken at the megalithic jar site known as "Site 2". The research represents the third field campaign of a joint research initiative (PJARP) between the Lao Ministry of Information, Culture and Tourism and Australian universities which began in 2016 (O'Reilly *et al.* 2018; Shewan *et al.* 2021). The excavation of Site 1 and Site 52, conducted in 2016 and 2017 respectively, have been documented elsewhere (O'Reilly *et al.* 2019a, b; Shewan *et al.* 2016). Here, we present the general geography of the region and review previous research at Site 2. We then discuss the methodology and results of the excavations undertaken in 2019 followed by a discussion and conclusion.

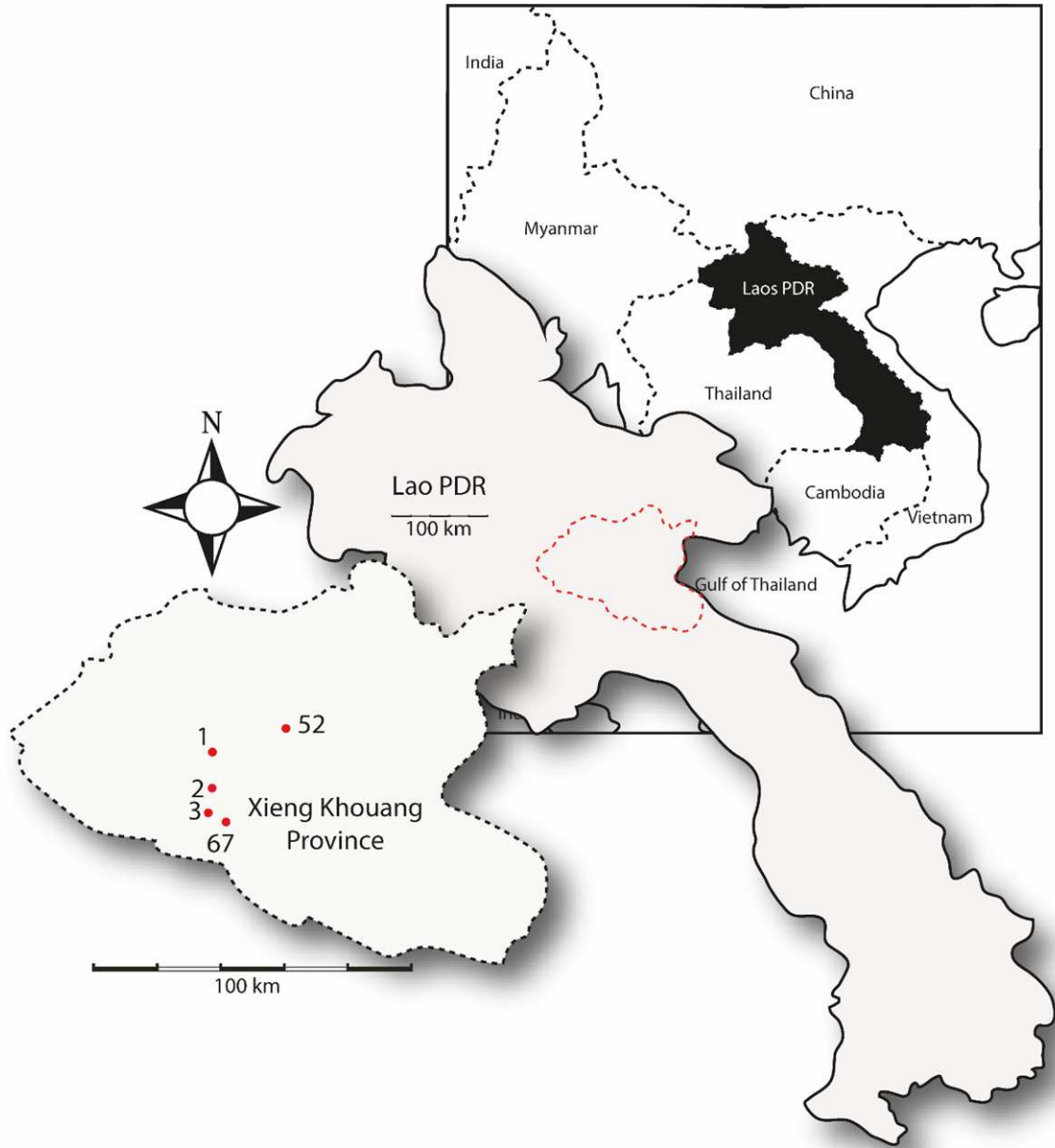


Figure 1. Megalithic jar sites mentioned in the text (Illustration by D. O'Reilly).

GEOGRAPHICAL DESCRIPTION

Xieng Khouang is characterized by three distinct topographic zones: high plateau, foothills and mountains, and low-lying graben (Travers and Nuan 2010). Sites 1, 2 and 3 are located at c. 1000m asl on grassy terrain formed from sedimentary rock, mostly limestone, sandstone and siltstone.

Site 2 is located near the village of Ban Nakho, in Phaxai District, Xieng Khouang Province (Figure 1). The site was originally referred to by Colani (1935) as “*Champ d’aviation de Lat Sen*” and comprises two knolls on which are found many megalithic sandstone jars and discs. The hillock to the east is covered with large trees while there are far fewer on the western side. The entire site has been impacted by conflict in the 1960s and 1970s including the creation of extensive entrenchments (mostly on the eastern hillock) and bomb craters.

PREVIOUS RESEARCH AT SITE 2

Colani documented the archaeological remains at Site 2 in 1931, noting the presence of more than 82 stone jars, predominantly of the “slender type” with round apertures with simple rims (Shewan and O’Reilly 2019: 235). Her research indicated that the megalithic jars at Site 2 were not buried to any great depth and several were broken or damaged by vandals prior to her visit. Colani (Shewan and O’Reilly 2019: 235) commented on the presence of lids, presumably referring to the discs at the site, noting that they are either plain or decorated “some with a simple cupula or a cone, others with these same designs augmented by superimposed discs; in the middle of one...a little roughed-out anthropomorphic figure...”. She examined the contents of 64 of the jars at Site 2 and reported that 39 of these contained “terracotta potshards” that were mostly gray in color, and that four jars contained glass beads.

Colani’s excavations (the location of which are unclear) around the jars revealed a number of artifacts (Table 1), including “a fragment of a disc-ring, three axes, one of which has a tang for hafting, three rectangular pendants [and] a

fragment of a grinding stone” (Shewan and O’Reilly 2019: 235). She also reports uncovering ceramics ranging in size from small to large, small perforated ceramic weights, bi-truncated cones or spindle-shaped, discs and ear-rings. The ceramics recovered included a small pot (Figure 2, I) with handles made with a coarse quartz paste. Another piece of ceramic was described as part of a small cylinder (Figure 2, II) with a blackish paste with similar inclusions. Colani describes a “cooking” pot with two handles (Figure 3) with a fine reddish paste and a bowl (Figure 4) with a blackish paste and mineral inclusions. Other ceramics, found 5–20cm below surface, are noted by Colani as belonging to the Song period (AD c. 960–1279) of China. Colani also describes what she terms “funerary pots” from her excavations which she says were “buried in the ground [sitting] on a layer of charcoal” (Shewan and O’Reilly 2019: 117).

Some artifacts in bronze were also found including spiral pendants, fragments of worked small globular bells and an engraved ring. Iron knives with tangs for hafting were also excavated, as were glass and carnelian beads and perforated mollusk shells (*Cyprea*). She also reports finding a rectangular pendant of stone, and an open ring of bronze with stylized vegetive motifs which she believes was of a recent date and perhaps of exotic origin (Shewan and O’Reilly 2019: 466).

Since Colani’s time, Site 2 has seen no significant excavation but the site was mapped and documented in the mid-2000s by a team led by Luangaphay and Van Den Bergh who documented two groups of sandstone jars totaling 93 jars, 14 discs and 9 boulders (Van Den Bergh and Luangaphay 2008). The site was resurveyed in 2017 by Ball (2021) as part of the current research program. The team documented 35 jars and nine discs in Group 1, on the western knoll and 51 jars and seven discs in Group 2, on the eastern knoll (<https://plain-of-jars.org/site-2/>). The official count in the dossier for the World Heritage Listing state that there are 93 jars and 14 discs at Site 2.

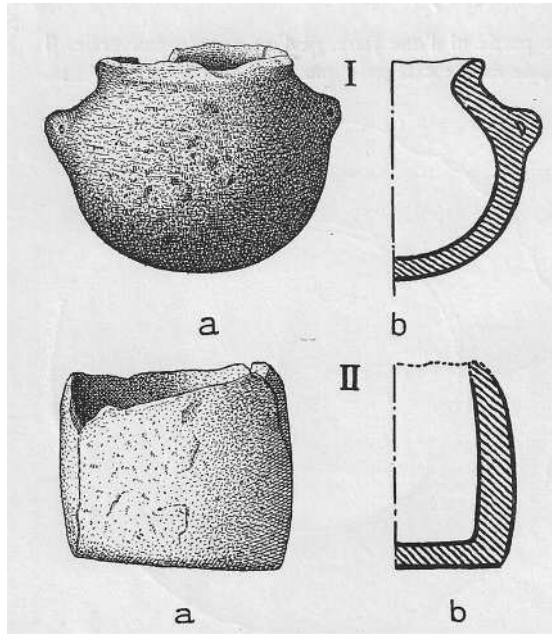


Figure 2. Ceramics vessels discovered by Colani at Site 2. I: a small, coarse ceramic vessel, partly broken with two rudimentary handles with very small perforations. Height 65mm. Found 50cm below the surface. II: an incomplete terracotta cylinder. Height 33mm, found 25cm below the surface. Adapted from Colani (1935).

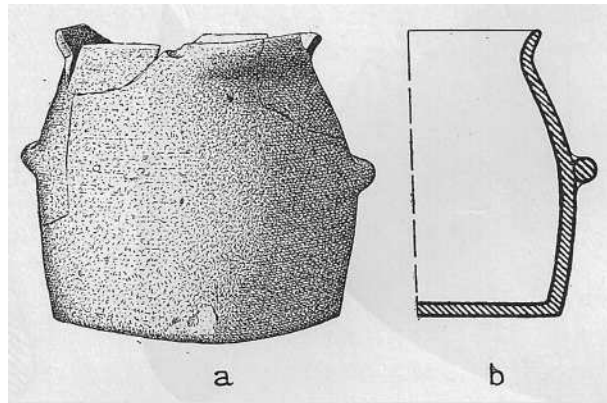


Figure 3. A small ceramic vessel found at 40cm below surface at the western group of jars at Site 2 by Colani. The vessel has two small handles. a) shows perspective view and b) the cross-section. Height 94mm. Adapted from Colani (1935).

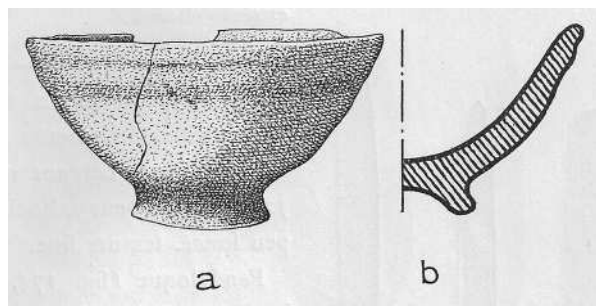


Figure 4. A coarse footed bowl found by Colani in the western group of jars at Site 2, 2cm below surface. Height 65mm. Adapted from Colani (1935).

Table 1. Comparative table listing artifacts discovered at Site 2 by the authors compared to those found by Colani. PJARP references listed refer to Shewan and O'Reilly (2019).

Artifact	PJARP	Colani
Glass beads	✓cat. 96	✓ Water Color I
Lacquered earth bead		✓ Water Color II
Terracotta texture glass beads	✓cat. 86	✓ Water Color I
Iron bead		✓ pp. 424
Pseudo-Roman beads		✓ Water Color I #s 10–14
Carnelian bead	✓cat. 49	✓ pp. 236
Stone barrel bead	✓cat. 6	
Perforated mollusk shell		✓ pp. 235
Bronze bells	✓cat. 91, 104 (fragments)	✓ pp. 574
Bronze spiral pendants		✓ pp. 235
Bronze bangle with stamped decoration		✓fig. 172
Stone disc ring		✓ pp. 523, fig. 167
Stone pendant	✓cat. 4	✓ Pl. LXXIV
Fine Red paste ceramics	✓cat. 95	✓ pp. 467
Quartz-fabric ceramics	✓cat. (multiple)	✓ pp. 467
Song Dynasty ceramics		✓ pp. 42
Globular ceramic vessels	✓cat. 36, 121, 308, 310	✓ pp. 117
Cylindrical ceramic vessel		✓ pp. 467
Ceramic bowl	✓cat. 309	✓ fig. 171
Schist bangle	✓cat. 101	✓ different in style
Decorative quartz crystal		✓ fig. 166
Iron knives	✓cat. 307, 88, 48	✓ pp. 236
Ceramic spindle whorl	✓cat. 300	
Perforated ceramic weights		✓ pp. 235
Bi-truncated cones		✓ pp. 235
Ear-rings		✓ pp. 465
Axes with tenons for hafting	✓ cat. 50, 51, 52, 53, 115	✓pp. 465
Whetstone	✓ cat. 46, 72	✓ pp. 168, fig. 166
Stone bird toy		✓ Pl. LXXIX
Stone bowl	✓ cat. 111	

Van Den Bergh and Luangaphay's survey of the megalithic jar sites led to the discovery of a site known locally as Huay Luang which was designated Site 8. This is a quarry site located c. 3.6km due south of Site 2 and c. 850m from Site 3 a large, widely dispersed megalithic jar site c. 2.7km south of Site 2. It is speculated that the jars at Site 2 and 3 were sourced from Site 8 which comprises four groups of partially finished jars and evidence of quarrying (Van Den Bergh and Luangaphay 2008).

METHODOLOGY

The excavations undertaken in 2019 saw the removal of arbitrary 10cm spits. As each spit was removed the location of artifacts and features were noted. Where the soil color changed noticeably a new layer designation was assigned. The layer and spit designations are presented herein as layer:spit. Artifacts were assigned a catalogue number and features were assigned a number by spit. Soil was sieved through a 5mm screen and any artifacts retrieved assigned to the spit from which the soil was removed but not mapped.

Three units of excavation were opened in the western group of jars (Figure 5). Unit 1 was a 4 x 7.5 m area. Unit 2 was a 4 x 4 m unit located 4 m to the south of Unit 1, its western edge in alignment with Unit 1's western edge. The final unit, Unit 3, was a 2 x 2 m unit. This unit abutted the northern baulk of Unit 2 on the eastern side.

EXCAVATIONS

Unit 1

The location for Unit 1 was selected based on the presence of a subsurface anomaly detected during the 2017 ground-penetrating radar (GPR) survey near one of the megalithic jars (#0022). This jar sat in the center of the excavated area and was pedestaled as excavations were undertaken. Other megalithic jars were located adjacent to the unit, #0021 in the southwest corner and #0013 in the southeast corner. A disc (D006), which had been documented by Colani (1935) was located at the northeast corner (Figure 6).

The first 10cm spit in the unit was a reddish-brown color (2.5YR 4/4) and contained ceramic shards, a fragment of a chlorite pendant, a chlorite barrel bead and an argillite flake. There was also a considerable amount of sandstone recovered totaling 588 pieces, weighing 14.3 kg.

The soil color in the next spit, 1:2, remained unchanged and two ceramic scatters were apparent along with a complete ceramic vessel with a small stone resting atop it (Figure 7) and a piece of worked sandstone. Beneath this vessel, a small iron knife was found. Other artifacts uncovered at this level included a piece of weathered slate and argillite flakes and 138 sandstone chips (weighing 2 kg).

The soil color did not change in the third spit which surrendered two iron fragments, a ceramic scatter, a whetstone fragment, a carnelian bead and a piece of worked sandstone. Three argillite adzes and a piece of unworked argillite were discovered near the bottom of this spit. The amount of sandstone fragments decreased, totaling 98 pieces, weighing 9 kg.

In the fourth spit, the soil color began to be mixed, with patches of soil, weak red in color (10R 4/3), appearing. In the northwest corner of the unit a collection of mudstone, some quartz flakes, a piece of argillite, charcoal, and ceramic shards were found in a pit (Figure 8). Forty-one pieces of quartz were also found in this spit along with 92 pieces of sandstone of varying size, weighing 9.6 kg.

In the fifth, 10cm spit, a circular arrangement of stones was uncovered near the north baulk associated with some flakes of quartz and fragments of malachite. A pit containing a ceramic scatter was uncovered along the south baulk, comprising shards from five ceramic vessels, all an orange color, some highly fired with a fine paste. The largest of the vessels had detailed decoration including chevrons, punctate designs and combed patterns (Fig. 9c). Other finds from this depth include a piece of iron, an argillite whetstone, and a small scatter of ceramic shards. Various fragments of limestone (n=12), argillite (n=16), sandstone (n=30) and quartz (n=37) were also found.

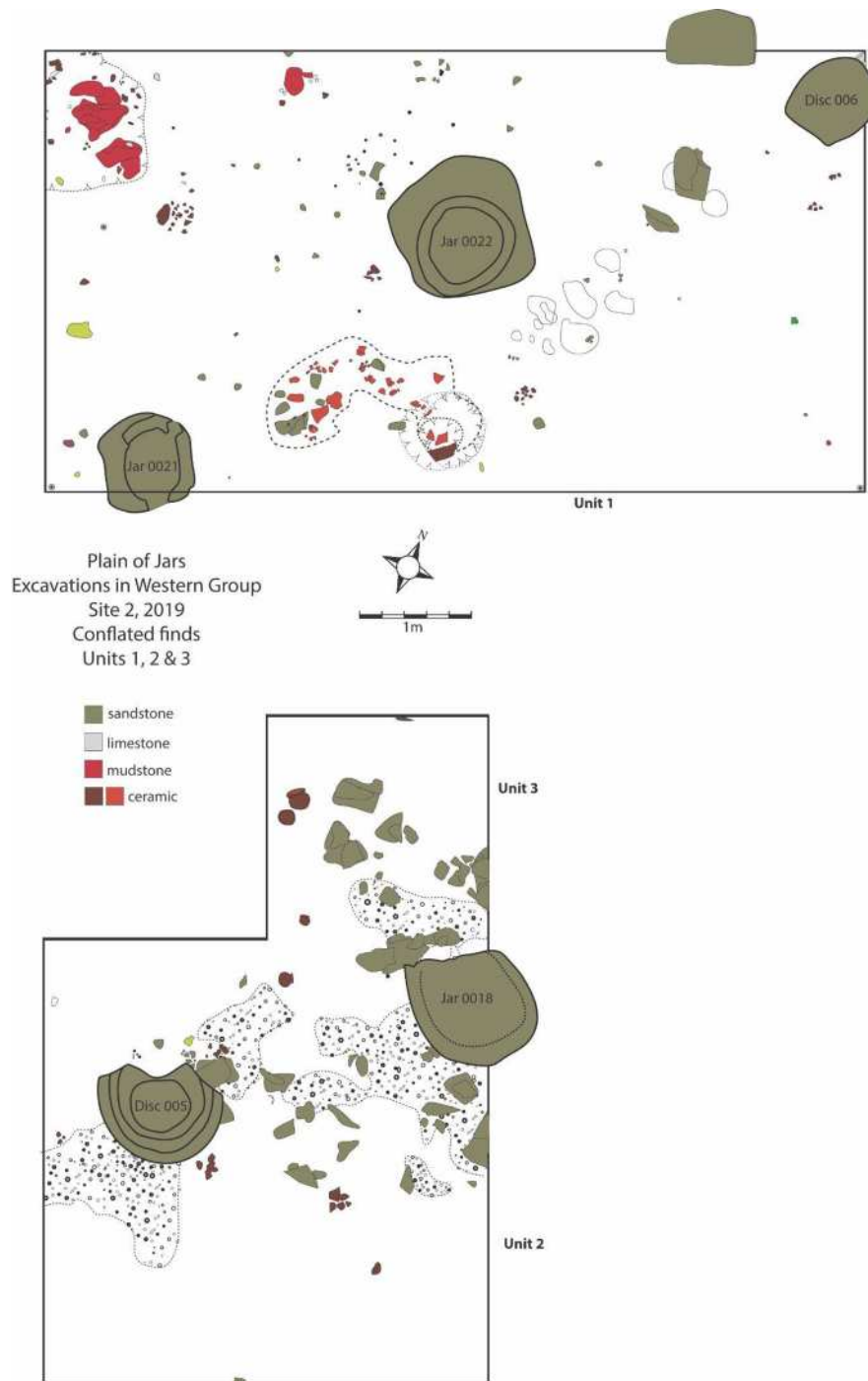


Figure 5. Map of excavated units (1, 2 and 3) at Site 2. Note all spits are conflated to show finds and features. (Illustration by D. O'Reilly).

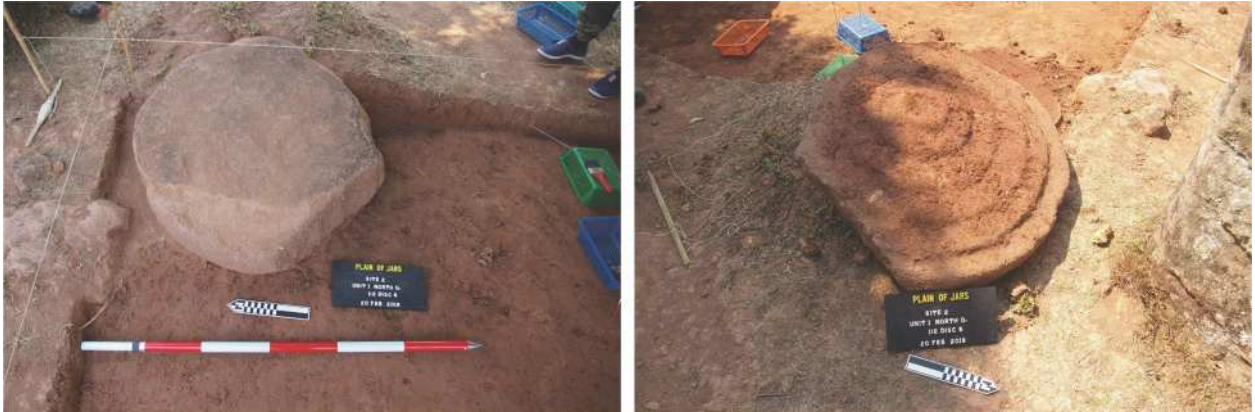


Figure 6. Sandstone disc (D006) found in the northeast corner of Unit 1 at Site 2. Left as found, Right, the same disc overturned showing decoration. (Photo by D. O'Reilly)

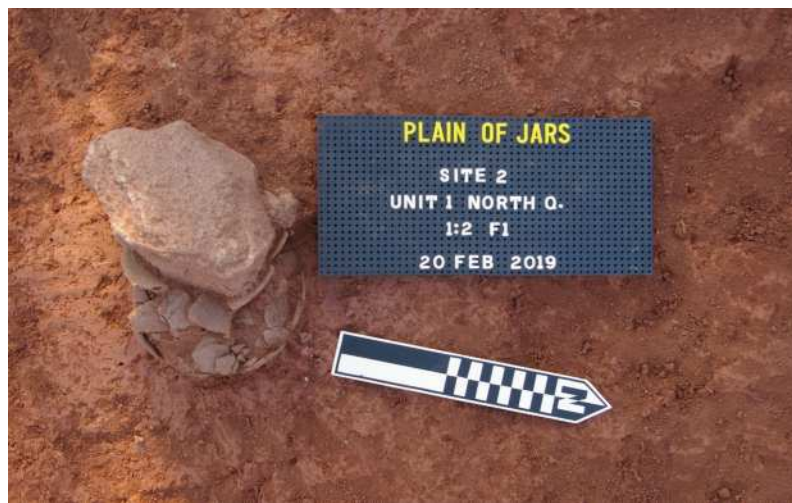


Figure 7. A small ceramic vessel with a piece of sandstone sitting atop of it. Found in Unit 1 at Site 2. (Photo by D. O'Reilly)



Figure 8. A feature in the northwest corner of Unit 1 comprised a pit filled with large pieces of mudstone and varied artifacts. (Photo by D. O'Reilly)

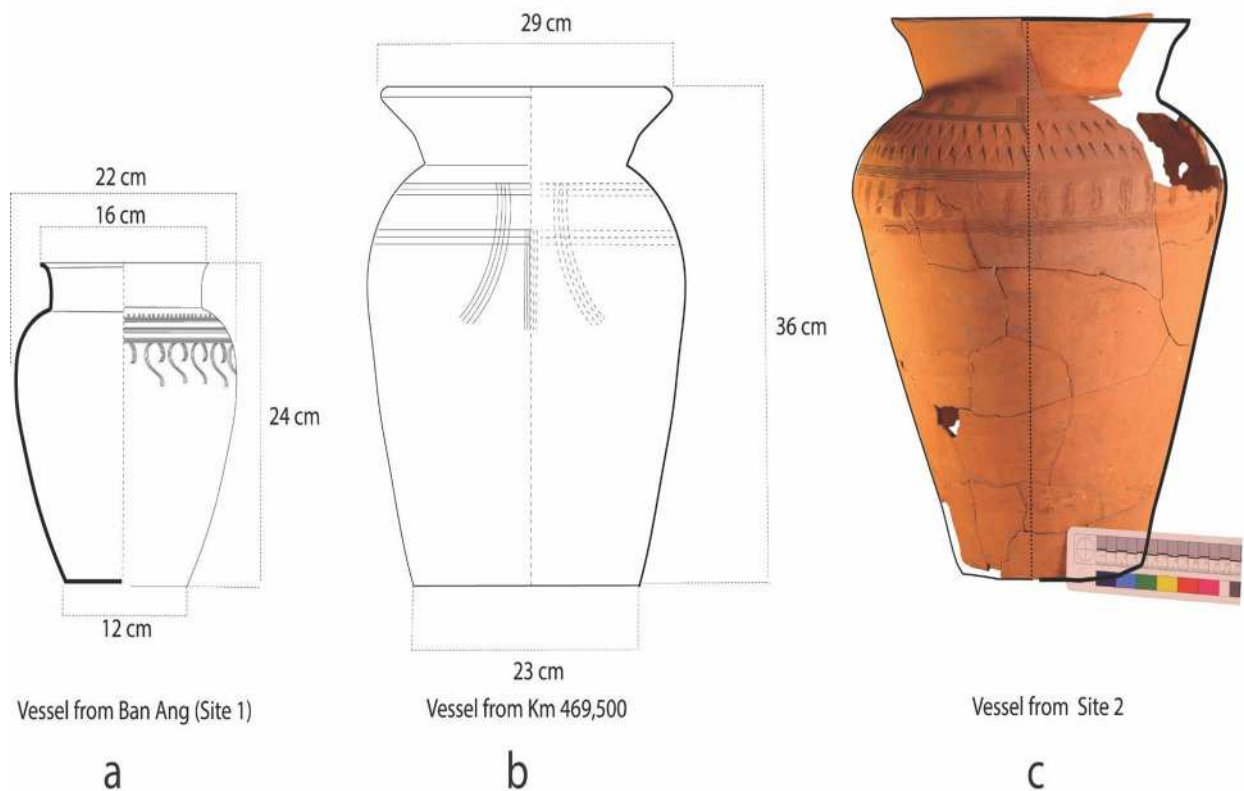


Figure 9. Ceramic vessels from megalithic jar sites in Laos. a): Vessel from Site 1 found by Colani (1935). b): Vessel from 'Site Km 469,500' found by Colani (1935) and c): Vessel found in recent excavation of Site 2 in Unit 1 (Cat 95). (Photo by D. O'Reilly)

The following spit saw the matrix change to a heavy reddish brown (2.5 YR 4/4) clay which contained no artifacts or stone and continued excavation through the next spit confirmed that the matrix was devoid of archaeological evidence. Below 70cm, bedrock was encountered and a test pit excavated 40cm into the final layer confirmed that sterile soil had been reached.

Unit 2

Unit 2 was selected for excavation based on the presence of a jar base (#0018) (Figure 10) and a decorated disc (D005) (Figure 11). The latter was decorated with concentric circles and an

anthropomorphic figure in the center. The decorated side of the disc was exposed suggesting, perhaps, that the disc was, at some point, turned over as frequently these are found, decorated side down (see Colani 1939; Shewan and O'Reilly 2019: 165).

The first 10cm spit surrendered a range of artifacts including earthenware ceramic shards, quartz flakes, a stone bangle fragment, a bronze bell fragment, a carved piece of sandstone resembling the haunches of an animal (perhaps simian and part of a disc decoration), shrapnel, a grenade handle and a rifle shell casing. The latter of these are testimony to military activity at the site in the recent past.



Figure 10. The base of a broken megalithic jar (#0018) located in Unit 2, Site 2. Note stones supporting the jar. (Photo by D. O'Reilly)

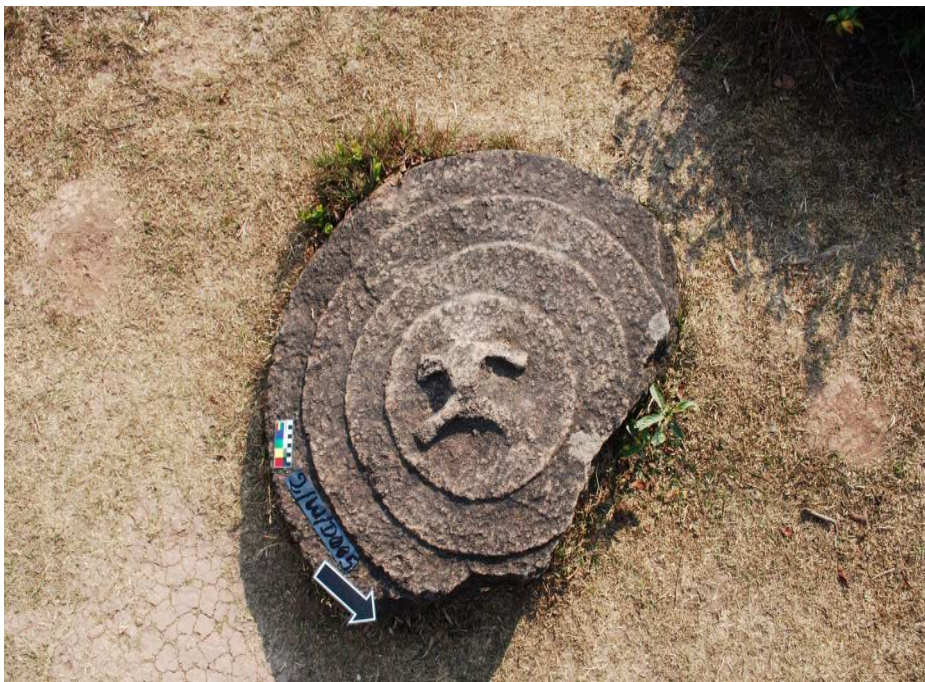


Figure 11. Decorated disc (D005) located in Unit 2 at Site 2 (Photo courtesy A. Ball).

The base of the sandstone megalithic jar and the decorated stone disc were removed and the matrix was revealed to be compacted sandy silt and reddish brown in color (2.5YR 4/4). Beneath the base of the jar some mudstone and sandstone chunks were discovered (Figure 10), likely placed to support the jar, a practice noted at Site 1 and Site 67 (O'Reilly *et al.* 2019a; O'Reilly *et al.* 2022; www.plain-of-jars.org).

Little of archaeological interest was uncovered in the following 10cm spit but the subsequent spit revealed the presence of several earthenware shards beneath where the sandstone disc had lain along with an argillite adze. Other artifacts recovered from the third spit included an argillite adze fragment, a fragment of an apparent stone bowl, further ceramic shards, a piece of clear quartz, fragments of sandstone and argillite.

The following spit was devoid of artifacts but some sandstone, limestone and quartz were recovered. The final spit in Unit 2 revealed patches of red gravel and a small, complete earthenware vessel was discovered in association with a piece of quartz. In the northwest corner of the unit a very badly preserved scatter of charcoal and unidentifiable burned bone was discovered. Further excavation revealed that the unit was archeologically sterile below this last level.

Unit 3

The third area excavated at Site 2 was chosen based on the discovery of a subsurface anomaly using GPR. The uppermost 10cm contained earthenware ceramic shards, fragments of sandstone and a broken spindle whorl in a matrix identical to that found in Unit 2.

Further excavation into the next spit revealed fragments of sandstone disc which did not fit with any of the damaged discs discovered elsewhere at the site. Aside from further fragments of sandstone, the only artifacts recovered in 1:2 were an orange-colored earthenware ceramic shard similar to those found in the pit in Unit 1. The next spit revealed a gravel feature and a fragment of unworked slate and a large piece of sandstone. The matrix in the fourth spit contained more clay but was devoid of artifacts and 10cm deeper, in the fifth spit, two globular ceramic vessels, similar to the vessel

uncovered in Unit 2, were found along with a ceramic bowl and an iron knife, the latter recovered along the north baulk of the unit. After this, the unit was archaeologically sterile.

Excavation and investigation of discs at Site 2

As noted above, the western knoll of Site 2 contained nine sandstone discs scattered among the megalithic jars and several of these were investigated in order to determine whether they represented burial markers. All of the investigated discs were revealed to be decorated on the underside, save one. Little of interest was found beneath these discs aside from a few earthenware shards, an argillite adze under one and a bullet casing under another (the last indicating the disc had been disturbed in recent times). Indeed, many of these discs may not have been in their original locations as several were documented by Colani (1935) during her excavations at Site 2 but no location of the discs was provided in her publication.

RESULTS

Radiocarbon and optically stimulated luminescence dating

A number of charcoal samples were collected during the excavation and submitted for radiocarbon dating at the ANU Radiocarbon Laboratory in Canberra, Australia. Results were calibrated using OxCal v.4.4 and the IntCal 20 calibration curve. All of the dates reported here have a confidence level of 95.4% and details of the dates are provided in Shewan and O'Reilly (2021). It should be noted that ANU62930 was reported erroneously as 150±22 (1667–1949 calAD) in Table 1 in Shewan *et al.* (2021) and should state 1501±22 (543–636 calAD).

The dates returned for the samples taken in Unit 1 were varied and the possibility of old wood must be considered as well as the context of samples, some being found in the general matrix and others retrieved from pit features. In the uppermost spit, a piece of charcoal (ANU62929) was recovered from under a fragment of sandstone which was dated to 774–987 calAD and an adjacent fragment of stone revealed charcoal (ANU62923) beneath it which

returned a date of 897–1026 calAD indicating general contemporaneity of placement. The large sandstone disc found in the northeast corner of Unit 1 covered another piece of charcoal (ANU62924) that returned a late date (1035–1169 calAD). The rock-filled pit in the northwest corner of Unit 1 rendered charcoal (ANU62930) which dated to 543–636 calAD and another (ANU62920), possibly representing old wood, a date of 7583–7483 calBC. Charcoal (ANU62926) from the general matrix at 40cm below the ground surface was found near the megalithic jar in the center of Unit 1 and returned a late date of 1675–1942 calAD. A radiocarbon date (ANU62921) obtained from the pit containing the high-fired orange-colored vessels provided a date of 1033–1158 calAD.

In Unit 2 several dates from charcoal were obtained including one from beneath the jar base (ANU62931) reported in Shewan *et al.* (2021) with a date of 358–116 calBC and another from beneath a piece of sandstone (ANU62937) in the north baulk from a depth of c. 40cm which returned a date of 650–775 calAD. The other charcoal samples (ANU62933, ANU62938) were from the spits 1:4 to 1:6 and returned dates of 662–774 calAD and 666–776 calAD respectively.

In Unit 3, three pieces of charcoal (ANU62925, ANU62936, ANU62935) from level spits (one from 1:3 and one from 1:6) were dated and ranged from the mid-seventh century to the early ninth century AD.

Samples were collected for dating by optically stimulated luminescence (OSL) dating during the 2019 field season (Shewan *et al.* 2021). Cores were taken under Jar #0013 and #0021 in an effort to determine when the jars were set in position. OSL dating provides an estimate of when sediment was last exposed to light. The OSL age estimates for the sediments directly beneath these two jars at Site 2 provided dates of 1350–730 BC for the sediment under Jar #0013

and 860–350 BC for the sediment under Jar #0021, indicating that these two jars were probably emplaced between 1240 BC and 660 BC (Shewan *et al.* 2021).

DISCUSSION

It is apparent that Site 2 served as a military position in the recent past (1960s–1970s) based on the presence of entrenchments on the eastern knoll and this is confirmed by interviews in 2019 with local residents who recounted military action in the area. There is also material culture supporting this information in the upper spits in the excavated units related to the conflict in Laos during this time. The prehistoric finds were mixed including a chlorite pendant fragment (found in the top 10cm) similar to that found at Site 1 by the excavators and Colani (Figure 12; Table 1). The ceramics found were robust earthenware shards with crushed quartz inclusions in the fabric, again similar to those found at the other two excavated sites (1 and 52).

While the excavations at Site 1 (O'Reilly *et al.* 2019a) have clear evidence of the use of that site for mortuary purposes, the excavations at Site 2 did not reveal the presence of any human remains. However, artifact assemblages and features at Site 2 were similar to those found during the excavations at both Sites 1 and 52 (O'Reilly *et al.* 2019a, b). The feature discovered beneath Disc 006, for example, was revealed to comprise degraded limestone blocks similar to those found beneath a disc and associated with a secondary, bundle burial at Site 1 (O'Reilly *et al.* 2019a) and a single dental specimen was associated with a limestone slab and material culture (globular earthenware vessel, glass bead) at Site 52 (O'Reilly *et al.* 2019b). It is possible that the configuration of limestone at Site 2 served a similar purpose but unfavorable soil conditions has led to the loss of the human remains.

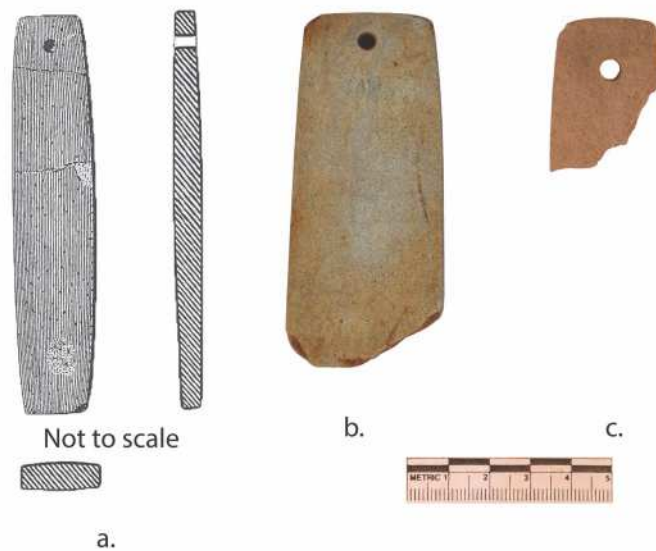


Figure 12. a) Pendant found by Colani (1935). b) Pendant found at Site 1 in 2016. c) Pendant fragment found at Site 2 in 2019. (Illustration left by M. Colani, photo by D. O'Reilly)

Perhaps the most unusual find in the context of the archaeology of the Plain of Jars was that of a large ceramic scatter comprising shards from multiple ceramic vessels uncovered in Unit 1 at Site 2. As was noted above, these were found in an irregular pit c. 50cm in depth and c. 40–50cm in width, stretching over 2m from west to east. The shards were found at varying depths within the pit and represent parts of five ceramic vessels, all an orange color, some highly fired, fine paste vessels, one of which had detailed decoration including chevron patterns and punctate designs (Figure 9c). Ceramic experts familiar with Lao vessels were unable to identify the vessel but suggested that it may be an “earthenware interpretation of a stoneware jar of the type made during the Lan Xang kingdom, at kilns located in Vientiane (Si Sattanak), near Luang Prabang (Ban Sang Hai), and along the Songkram river in Northeast Thailand, and elsewhere” (Louise Cort, pers. comm. 2019). Don Hein (pers. comm. 2019) commented that “The impressed chevron decoration on the upper shoulder is ... common but I have not previously recorded incised pattern which was made freehand with a multi-toothed tool.” Others felt that the vessel was unusual for a Lan Xang vessel as the texture of the paste and decorative motifs are all quite different from the

normal Lao earthenware, especially, the motif of incised and impressed decoration (Naho Shimizu pers comm. 2019). As noted above, a piece of charcoal was retrieved from the feature in which these vessels were found, providing a radiocarbon date of AD 1026–1155 which predates the Lan Xang period (c. AD 1353–1707). There are vessels published by Colani that resemble the shape of one of the orange earthenware vessels in the pit (Figure 9 a, b) but the decorative motif differs. Colani (Shewan and O'Reilly 2019: 467) also mentions a vessel with a fine reddish paste which she found at Site 2 which may be similar to these unusual vessels.

The excavation of Unit 2 revealed a number of surface features including a carved sandstone disc and the base of a damaged jar. A piece of charcoal recovered from beneath the substantial jar base provided a radiocarbon date of 358–116 BC which may provide some indication of the date of placement of the jar in that position (Shewan *et al.* 2021).

The matrix below disc #005 contained ceramic shards and an argillite adze. As noted above, however, it is likely that the decorated disc has, at some point in the past, been disturbed and turned over.

No substantial features were found during the excavation of Unit 2 but a number of remarkable artifacts were recovered including two iron knives (three were recovered from excavations at Site 2), a stone bangle fragment, a fragment of a possible stone bowl, and, in the lowest spit, a globular ceramic vessel which aligned with three other earthenware vessels found in Unit 3. Two of the ceramics in Unit 3 were globular earthenware vessels and one was an earthenware bowl (Figure 13 b, c, d, e). These contained no artifacts or bones. Similar vessels, called “cremation pots” were found by Colani inside the

“crematory” cave and around the stone jars at Site 1 (Figure 13a). Colani also found globular vessels at Site 2 but her examples appear to have small, perforated handles (Shewan and O’Reilly 2019: Figure 169). She also reports a coarse pottery bowl from the site (Shewan and O’Reilly 2019: Figure 171). The more recent research rendered several objects also reported by Colani (Table 1) including glass beads, a bronze bell, stone axes with tenons for hafting, a rectangular pendant, and grinding stones (Shewan and O’Reilly 2019: 808, 574, 465, 744).

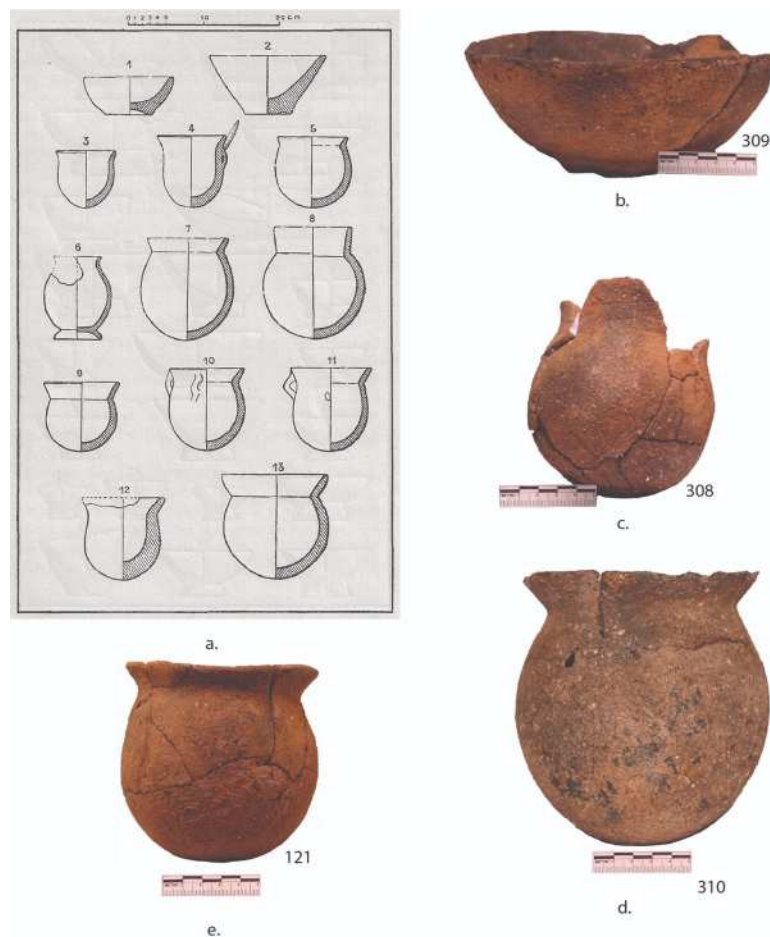


Figure 13. a) “Funerary pots” discovered by Colani (1935) at Site 1. b) earthenware bowl found in Unit 3, Site 2. c) and d) globular vessel found in Unit 3, Site 2. e) globular vessel found in Unit 2, Site 2. Numbers in image refer to catalogue numbers. (Photos by D. O’Reilly)

Overall, the excavations at Site 2 rendered a similar suite of artifacts and some of the features as those found during the excavation of Sites 1 and 52, and also mirrored the finds made by Colani at Site 1. Colani’s (Shewan and O’Reilly 2019) excavations revealed material culture not

discovered in the more recent research including a decorative ring made of schist, a spiral ring of bronze, a carved stone in the shape of a bird, a lacquered “earth” bead, Song Dynasty-period ceramic shards, perforated weights, spindles, earrings, spiral pendants of bronze, perforated

mollusk shell, stone disc rings, cooking pots with handles and, what Colani calls, “pseudo-Roman beads” (Table 1).

Site 1 had evidence of pavements of sandstone chips found around the jars (O’Reilly *et al.* 2019a; Sayavongkhamdy and Bellwood 2000) as did Site 52 (O’Reilly *et al.* 2019b). While sandstone chips were discovered at Site 2 they were not concentrated in “pavements” as they were at the other two sites.

No primary burials were found at any of the sites excavated by the authors, aside from Site 1 (O’Reilly *et al.* 2019a). No solid evidence for secondary bundle interments was found at Site 2. At Site 1 these interments were discovered beneath a sandstone disc which covered limestone blocks and bundled human remains (O’Reilly *et al.* 2019a; Shewan and O’Reilly 2019:422). At Site 2, a similar configuration of lithic materials (limestone covered by a disc) was found suggesting secondary bundle burial practice existed but the human remains may not have survived. The use of limestone indubitably linked to mortuary activity was also present at Site 52 where a human molar was discovered in association with a large limestone block and ceramic vessels.

There was no evidence at either Site 2 or Site 52 of secondary burials in ceramic vessels but at Site 1, several large cylindrical ceramic vessels were found to contain human infant remains (O’Reilly *et al.* 2019a). Ceramic jars of a similar description were encountered by Sayavongkhamdy during his excavations at Site 1 (Sayavongkhamdy and Bellwood 2000) and by Nitta (1996). Colani also found similar burials during her research at Site 1 and in one instance a ceramic jar was sealed by a limestone block (Shewan and O’Reilly 2019: 421, 423). Colani herself felt that “At...the airfield of Lat Sen [Site 2], the same or very similar funeral customs obtained as at Ban Ang [Site 1]” (Shewan and O’Reilly 2019: 602). She also reports cylindrical ceramic vessels containing bone, similar to those found by the authors, from a site with no megalithic jars but large stones marking burials, called Ban Na Seo (Shewan and O’Reilly 2019: 253).

To the list of methods used to dispose of human remains we may, likely, add placement in the stone jars themselves. Although neither the authors nor Colani found human remains in the megalithic jars at Site 2 she does describe finding human remains in the stone jars at Site 1 and Site 3, the latter of which is c. 2km from Site 2 (Shewan and O’Reilly 2019: 418).

The OSL dates from Site 2 suggest that the megalithic jars were put in place as early as the late second millennium BC. The radiocarbon dates retrieved from archaeological contexts indicates later activity apparent during the post-Iron Age (post-500 AD) and into the historic period. Future efforts to establish the period of jar emplacement at other sites across the geographic range of known jar sites will allow us to build a comparative chronology for the megalithic culture.

CONCLUSION

Research conducted by the PJARP team since 2016 has enhanced our understanding of the megalithic culture of northern Laos and clarified past activity at this site which boasts dozens of megalithic jars and sandstone discs. Excavations were undertaken in three units and beneath sandstone discs which served to highlight the similarities with other excavated jar sites in the region and identified differences in mortuary treatment and site use.

Site 2 appears to have been used for an extensive period of time. Dating of sediments from beneath the megaliths indicates emplacement as early as the 2nd millennium BC, while the internment of unusual ceramics, stylistically dated to the Lang Xang period, and the context radiocarbon dated to just prior, reflect more recent activity.

While it can be deduced, based on similarities in artifact assemblages, that Site 2 is mortuary in nature, there is no direct evidence to support the divergent mortuary ritual activity documented at Site 1, where evidence of primary, secondary and ceramic burial jar interments, exists (O’Reilly *et al.* 2019a). While this may be due to taphonomic factors, additional research and excavation are required at other sites across the geographic expanse of the culture.

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REFERENCES

- Ball, A. 2021. *Through Time and Space: Spatial Analysis of Megalith Morphology on the Plain of Jars, Xieng Khouang, Lao PDR*. Ph.D. dissertation. The Australian National University, Canberra, Australia. <https://openresearch-repository.anu.edu.au/handle/1885/251233>
- Colani, M., 1935. *Mégalithes du Haut-Laos*. Paris: Publications de l'école française d'Extrême-Orient nos. 25, 26.
- Colani, M. 1939. Les jarres du Tran Ninh. *Bulletin des "Amis du Laos"* 3/3 : 89–103.
- Nitta, E. 1996. Comparative study on the jar burial traditions in Vietnam, Thailand and Laos. *Historical Science Reports* 43: 1–19 (Kagoshima University, July 1996).
- O'Reilly, D., L. Shewan, J. Van Den Bergh, S. Luangaphay and T. Luangkhoth. 2018. Megalithic jar sites of Laos: A comprehensive overview and new discoveries. *Journal of Indo-Pacific Archaeology* 42: 1–31.
- O'Reilly, D., L. Shewan, K. Domett, S.E. Halcrow and T. Luangkhoth. 2019a. Excavating among the megaliths: Recent research at the 'Plain of Jars' site 1 in Laos. *Antiquity* 93(370): 970–989.
- O'Reilly, D., L. Shewan, M. Khamphouvong and A. Butphachit. 2019b. Research at megalithic jar site 52 and the discovery of new jar sites in Xiang Khouang Province, Laos. *Asian Archaeology* 3(1): 21–33. <https://doi.org/10.1007/s41826-019-00023-0>.
- O'Reilly, D., L. Shewan, M. Khamphouvong, A. Butphachit, T. Luangkoth, N. Skopal and S. Bounxayhip. 2022. Ban Pha Tai: The excavation and dating of a buried megalithic jar in Xieng Khouang, Lao PDR. *Archaeological Research in Asia*, 29, <https://doi.org/10.1016/j.ara.2021.100336>.
- Sayavongkhamdy, T. and P. Bellwood. 2000. Recent archaeological research in Laos. *Indo-Pacific Prehistory Association Bulletin* 19: 101–110.
- Shewan, L., D. O'Reilly and T. Luangkhoth. 2016. Recent excavations at a megalithic jar site in Laos: Site 1 revisited. *Antiquity Project Gallery* 90(351), June 2016, <https://antiquity.ac.uk/projgall/shewan351>.
- Shewan, L. and D. O'Reilly (eds). 2019. *Madeleine Colani's Megaliths of Upper Laos*. London: Barcaray International Publishing.
- Shewan, L., D. O'Reilly, R. Armstrong, P. Toms, J. Webb, N. Beavan, T. Luangkhoth, J. Wood, S. Halcrow, K. Domett, J. Van Den Bergh and N. Chang. 2021. Dating the megalithic culture of Laos: Radiocarbon, optically stimulated luminescence and U/Pb zircon results. *PloS One*, 16(3), <https://doi.org/10.1371/journal.pone.0247167>.
- Skopal, N., S. Bounxaythip, L. Shewan, D. O'Reilly, T. Luangkhoth and J. Van Den Bergh. 2020. Jars of the jungle: A report on newly discovered and documented megalithic jar sites in Lao People's Democratic Republic. *Asian Archaeology* <https://doi.org/10.1007/s41826-020-00030-6>.
- Travers, R. and M. Nuan. 2010. Safeguarding the Plain of Jars Phase IV; Final Appraisal. Unpublished report for United Nations Educational, Scientific and Cultural Organisation.
- Van Den Bergh, J., and S. Luangaphay. 2008. Plain of Jars Archaeological Landscape: Heritage Management Plan. Unpublished report to UNESCO and the Ministry of Information, Culture and Tourism.