Burial or Not:
The Case of Pamayugan 2 stone boat-shaped markers

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Abstract

In 2006, a team from the National Museum of the Philippines and the UP Archaeological Studies Program excavated two stone boat-shaped markers at Pamayugan 2, Itbayat Island. The aim of the excavation was to recover human remains and datable materials. No human remains were recovered, which puzzled the team. The hypothesis that the human remains did not survive due to the high acidity of the soil has been tested, and seems plausible.

Introduction

The Batanes Islands have been the focus of intensive archaeological research since 1994. The Archaeology Division of the National Museum of the Philippines conducted a number of archaeological surveys and test excavations on Batan, Sabtang, Ivuhos, Adequey, and Itbayat islands from 1994 to 2002 (Dizon 1998; Dizon *et al.* 1998; Dizon and Mijares 1999; Dizon and Santiago 1994; Mijares 2001, 2003; Mijares *et al.* 2003; Mijares and Jagoon 2001). In 2001, as part of the Asian Fore Arc Project, a joint archaeological

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team was formed from the Australian National University, the National Museum of the Philippines, and the University of the Philippines Archaeological Studies Program. The Asian Fore Arc Project focuses on early human movement into Batanes and Luzon c. 4000 years ago (Bellwood *et al.* 2003).

The 2006 season was a continuation of this project and archaeological investigations were conducted in three islands, namely, Itbayat, Sabtang, and Siayan. This paper details the excavation of boat-shaped markers at Pamayugan 2, discovered in 2005 on the island of Itbayat (Figure 1).

Background and Objectives

Boat-shaped markers have been found throughout the province of Batanes, particularly on the islands of Batan, Itbayat, Sabtang, and Ivuhos. The 1995 to 1996 excavations of the Chuhangin boat-shaped markers on Ivuhos Island yielded radiocarbon results of 355-100 years ago (Dizon 1998; Dizon *et al.* 1998). These relatively recent dates have been cast in doubt because of the absence of ethnohistoric accounts that document this phenomenon and the possibility that the samples collected may have been contaminated. On the other hand, two field seasons (1996-1997) in Nakamaya (Batan) were unsuccessful since treasure hunters had previously disturbed the two boat-shaped markers excavated (Dizon and Barretto 1995-1997; Dizon and Cayron 1998-2003).

During the 2001 archaeological survey of Itbayat Island (Mijares and Jagoon 2001), a number of probable boat-shaped markers were identified down the eastern side of the island. These boat-shaped markers appear to be different since they are elevated from the ground rather than at ground level, as most other stone boat-shaped markers are. Most of these mounds in Itabayat had been disturbed previously, when students from a local school collected human bones for their class.

In 2005, while working at Torongan Cave, the team conducted a survey and discovered intact boat-shaped markers near Dumnahilli du Votux and just south of Pamayugan stone mound burial site. The Pamayugan 2 boat-shaped burial marker was the subject of archaeological excavation from April 12 to 14, 2006. Aside from systematically excavating and documenting the features and artefacts uncovered during this fieldwork, another objective was to retrieve samples for radiocarbon dating. The team was composed of Dr. Eusebio Z. Dizon and Antonio Peñalosa from the National Museum of the

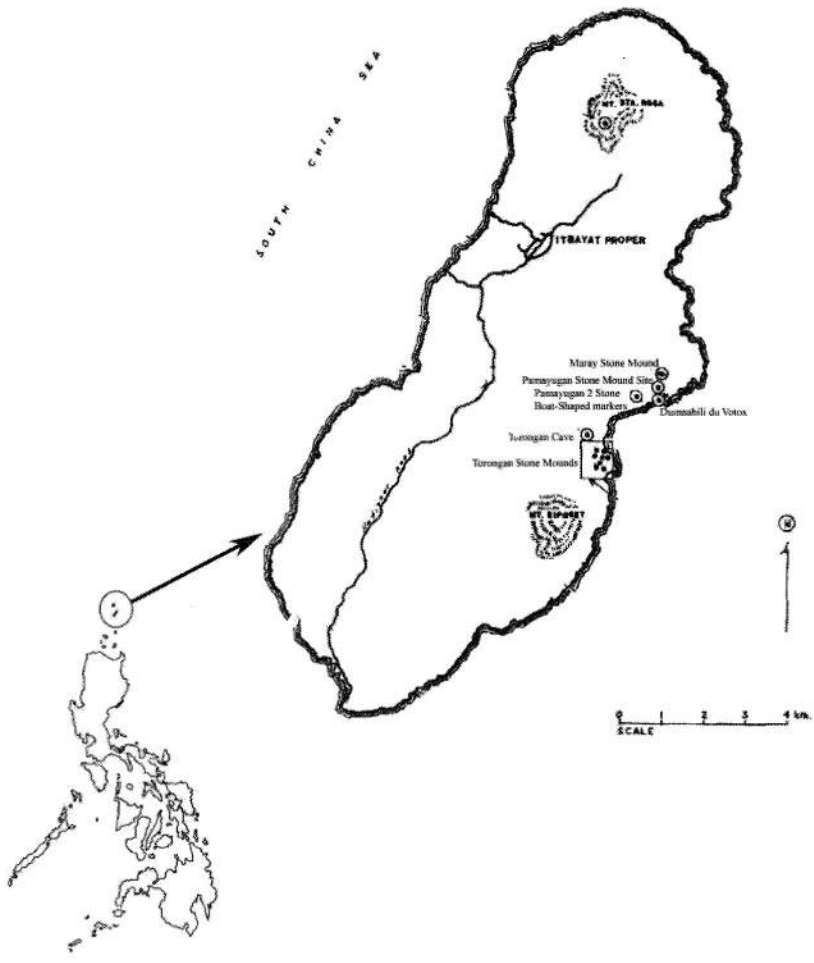

Figure 1. Location map of Itbayat Stone Mounds and Pamayugan boat-shaped markers

Philippines and Dr. Armand Mijares, Andrea Malaya Ragragio, and Edwin Valientes from the UP Archaeological Studies Program (Figure 2).

Figure 2. One of the stone boat-shaped markers (B3, forefront) and the archaeology team: Valientes, Mijares, Ragragio, Peñalosa, and Dizon

The Pamayugan 2

The Pamayugan 2 stone boat-shaped marker site is located on the eastern side of Itabayat Island, on a promontory overlooking the coast. It has Global Positioning System (GPS - Magellan 310) coordinates of 20° 45′ 21″ N and 121° 51′ 53″ E (Figure 1). The site is just a few metres west of an old settlement site called Dumnahilli du Votux, while Torongan Cave lies to the southeast. Dinem Volcano is clearly visible off the coast to the east. A two-hour hike from the main town of Itbayat (Mayan) is needed to reach the site. The team, thus, camped at the midway point at a place called Sumirap, where a communal water tank provided access to clean water. From there, the hiking time was reduced to around 45 minutes.

Five boat-shaped markers were identified and designated B1 to B5. They are composed of limestone boulders and oriented with their "prows" approximately pointed toward the sea.

Method

Three boat-shaped markers, B1, B3, and B4, were cleared of grass and weeds using a machete, trowels, root cutter, and a folding shovel. The surrounding area was also cleared to provide a workspace for the team. The markers were then photographed using a stadia rod for a scale.

Only B4 and B3 were excavated by the team. A centreline was laid out bisecting the length of each marker (Figure 3). This also served as our datum plane. A square (measuring 100 x 100 square centimetres for B4 and 50 x 60 square centimetres for B3) was laid out on the centre of each marker to mark our excavation pit. Squares are normally oriented to the north but, in this case, the orientation of the feature was followed instead.

To keep track of the placement of each limestone rock, a space was cleared beside each marker where the rocks could be laid out after removal. Each rock removed was placed according to the mirror image of its place on the marker. This served as a guide for the positions of each rock in the marker to help the team return them as close as possible to their original arrangement.

Systematic excavation of the boat-shaped marker commenced after clearing and proper documentation through photographs and illustrations. Trowels, root cutter, a small pick axe, a folding shovel, dustpans, and brushes were used to carefully excavate the squares. All artefacts were collected and placed in properly labelled bags. The stratigraphy was noted and drawn on a graphing paper. The squares were then backfilled and the rocks were put back as they were at the end of the excavation.

Results of the Excavations

B4

B4 measures 3.5 metres long and 2.0 metres wide. The limestone rocks were interlocked and quite difficult to extricate, which indicates that this marker had not been disturbed. The 1 x 1 square metre was opened in the centre of the marker. In order to go deeper and faster, the square was sectioned in half after we removed all the stones. The team reached a maximum depth of 78 centimetres from the datum point. Two layers were noted in B4 (Figure 4): Layer 1 was dark brown topsoil and Layer 2 was a reddish clay layer. Some of the stones were embedded in Layer 1 and penetrated the upper portion of Layer 2. We were able to recover a few potsherds (low-fired clay) from within the rocks of the marker and from the first layer. A charcoal sample was also

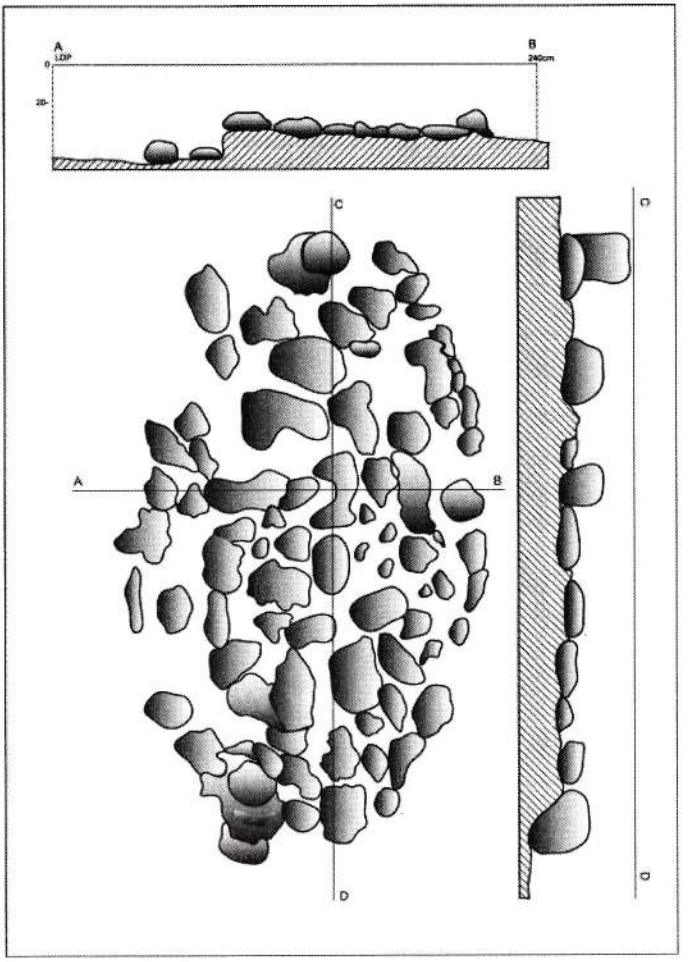

Figure 3. Layout of Pamayugan 2 boat-shaped marker

collected near the surface of the second layer. No human remains or burial cuts were noted in B4.

B3

B3 measures 2.4 metres long and 1.3 metres wide. It lies roughly a couple of metres to the east of B4. Similar to B4, the limestone rocks were interlocked, indicating that this marker, too, was not disturbed. The team opened a square measuring 50 x 60 centimetres in the centre. The excavation

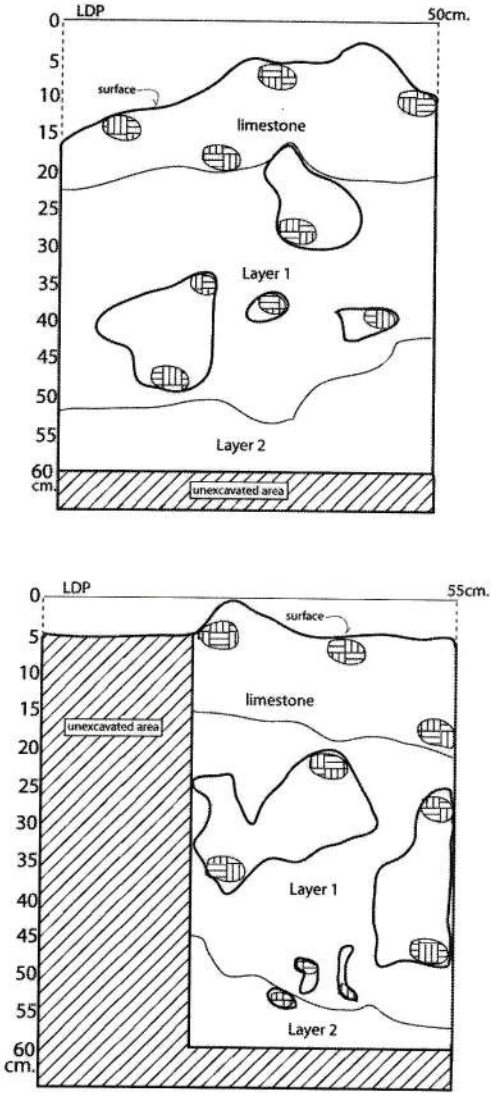

Figure 4. Stratigraphic profiles of B4 (above) and B3 (below)

reached a depth of 55 to 60 centimetres from the Datum Point. Two layers were noted: dark brown topsoil and a reddish clay layer, similar to B4. No human remains or burial cuts were noted in B3.

Discussion

It was assumed before the excavation that the boat-shaped markers of Pamayugan 2 would contain human burials, similar to those excavated at Chuhangin on Ivuhos (Dizon 1998). However, they did not yield a single bone or tooth that might indicate that skeletal remains (human or otherwise) were ever deposited here. The absence of human remains, therefore, becomes a major question. The team explored the following three possibilities:

1. The markers had been disturbed and the skeletal remains removed, as in the case of other mounds on Itbayat.
2. The markers were not used for burials in the first place.
3. The soil chemistry conditions were extremely unsuitable for the preservation of skeletal material.

When the team selected markers for excavation, those with no indications of having been disturbed, such as displaced rocks or a skewed shape, were chosen. In fact, the Pamayugan 2 site was chosen from sites surveyed in 2005 by Dizon and his team specifically because it appeared to be intact. Also, the limestone rocks that composed the markers were tightly interlocked and were extremely difficult to separate, eliminating the possibility that they had been removed and replaced in some recent time.

It also seems unlikely that the skeletal remains had been removed by the locals. If they were, then some traces would definitely have been left, even only a single tooth or phalange. It is very difficult to recover every single piece of bone from a human skeleton in a burial, and smaller bones and teeth are likely to be missed, especially if collected only by hand and with an untrained eye (Mays 1998). In fact, the boat-shaped markers in Nakamaya, Batan Island, excavated by Dizon and Barretto in 1996 and Dizon and Cayron in 1997, though clearly disturbed, still yielded some bone fragments. Thus, the *complete* absence of skeletal material suggests that bone removal was not the problem.

Another possibility the team explored was that these markers were not used for burials in the first place. However, this seems to go against the previous work done on similar boat-shaped markers in Batanes. The excavation of graves number 1 and 10 at the Chuhangin Stone Boat-Shaped Burial Site I on Ivuhos Island yielded primary flexed burials of a juvenile and an adult male, respectively, and the single excavation at Chuhangin Stone Boat-Shaped Burial II, 200 metres northwest of Chuhangin I, yielded a primary jar burial within the stone marker (Dizon *et al.* 1998). Finally, as mentioned

above, bone fragments have been recovered from other disturbed markers on Batan Island (Dizon and Barretto 1995-1997; Dizon and Cayron 1998-2003). Nevertheless, there is still a chance that some markers may not have been intended as burial markers but were left deliberately empty. If further excavations of boat-shaped markers reveal a trend in this direction, then a reassessment of the function and meaning of these structures in Batanes will be needed. However, as it stands, the excavated markers have consistently been shown to be associated with skeletal remains.

A third hypothesis explored by the team was that the soil in the area was highly acidic, which caused the remains to be dissolved. Soil acidity has been shown to affect the preservation of skeletal materials. According to Mays (1998), the lower the *p*H value of the soil, the greater the destruction of bone. To test this, soil samples from layers 1 and 2 were then taken and tested to determine their *p*H levels. Both layers had a *p*H value of 5, acidic enough to dissolve bone given sufficient time in the ground.

In these conditions, such as the site of Sutton Hoo in England, entire skeletons can completely be dissolved to leave only a stain in the soil to indicate their former positions (Mays 1998). A similar situation was encountered in the Babo Balukbuk site in Porac, Pampanga in 2002, where at least eleven burials had dissolved in the acidic matrix (Dizon 2002).

If staining is the only indication of dissolved burials in acidic soils, then the absence of such staining at Pamayugan should be addressed. Removal of the embedded rocks naturally disturbed the soil at the potential burial level, and a clear flat surface in which subtle changes in soil colour might have been observed was, therefore, hard to come by. The possibility that not all burials leave a stain should also be considered, as at Babo Balukbuk, where some former burials were identified only by the placement and position of grave goods (Paz 2002).

The absence of a grave cut indicates that no deep pit was dug for the burial. The body could possibly have been placed on the surface or subsurface, then directly covered by the limestone rocks, that would have been heavy enough to keep off any scavengers, such as stray pigs or dogs. Rainwater and other damaging elements could then easily have seeped or passed through the crevices of the stones comprising the cairn. This, coupled with the acidic soil of the area, worked rapidly to disintegrate the remains. In addition, the area was well covered with grass and other vegetation, and roots were noted

penetrating to about 50 centimetres. This phenomenon may also have aided the disintegration of the bones. It is, thus, not surprising that not a single fragment of bone was recovered from the excavation. All these factors point to the conclusion that the remains have indeed dissolved.

The Pamayugan 2 boat-shaped markers were, therefore, utilised as a burial markers during the pre-Hispanic period. Pamayugan 2 might be contemporaneous with the Chuhangin stone boat-shaped markers in Ivuhos, although the radiocarbon determination of the latter is problematic. The chemistry of the sedimentary matrices in which the human remains were interred could be the reason why there was differential preservation. In Chuhangin's sandy matrix, there is good preservation; in Pamayugan 2, no skeletal remains were recovered due to the acidic clay matrix. Recovery of human remains in the tropics, especially in open sites, thus depends on a number of factors, foremost being the acidity of the matrix.

Acknowledgements

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