THE EXCAVATION OF GUA PAYUNG, SOUTH KALIMANTAN, INDONESIA

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ABSTRACT

This report discusses research funded by the Granucci Fund in the cave of Gua Payung, located in the southern karstic zone of the Meratus Mountains, southeastern Kalimantan, Indonesia. Gua Payung was investigated for comparison with the early Holocene results from Gua Babi in the northern Meratus Mountains. It provided evidence for a younger occupation than Gua Babi, and the results are described in this report.

INTRODUCTION

In South Kalimantan Province, on the island of Borneo, many potential prehistoric cave occupations occur in the 600 km long karstic Meratus Mountains. These extend from north to south through the *kabupaten* (districts) of Tabalong, Balangan, Hulu Sungai Utara, Hulu Sungai Tengah, Hulu Sungai Selatan, Tapin, Banjar, Tanah Laut, Tanah Bumbu and Kotabaru.. Cave occupation in the northern zone has been identified at Gua Babi and Gua Tengkorak, in Tabalong District. A flexed human skeleton excavated in Gua Tengkorak has been identified morphologically as a female of Austro-Melanesian affinity, and dated to circa 6000 years ago (Widianto and Handini 2003).

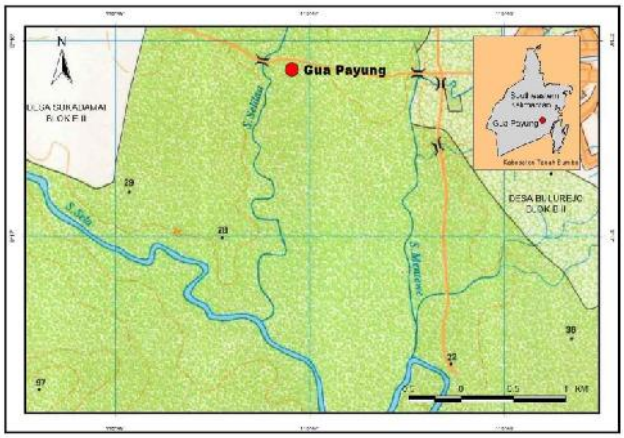

Figure 1: The location of Gua Payung, South Kalimantan (Kalimantan Selatan)

In the southern zone, along the southeastern foothills of the Meratus Mountains, a number of caves occur in the limestone hills of *kecamatan* Mantewe, in *kabupaten* Tanah Bumbu (Figure 1). Balai Arkeologi Banjarmasin has conducted archaeological research in these caves since 2006, especially in three clusters of limestone hills near the villages of Mantewe, Dukuhrejo and Bulurejo. Each cluster contains many cave-bearing hills, and evidence of prehistoric occupation has been found in the caves of Liang Sugung (Mantewe), Gua Payung (Bulurejo) and Liang Bangkai (Dukuhrejo).

In October 2006, Liang Sugung and Gua Payung were excavated by Balai Arkeologi Banjarmasin. Freshwater shells, land snails, cowry shells (marine), animal bones and lithic debitage were found in Gua Sugung. Similar material was found in Gua Payung, with the addition of pottery and ornaments of shell and bone (Fajari 2010). Absolute dates were not obtained for Gua Payung in 2006 but the material culture suggests occupation from Pre-Neolithic into Neolithic times. This paper reports the results of our 2012 excavations in Gua Payung.

THE 2012 EXCAVATION OF GUA PAYUNG

Among the caves investigated in *kecamatan* Mantewe, Gua Payung presented the most significant occupation potential. The cave lies inside Bukit Batu Tanjak, a solitary hill in Desa Bulurejo surrounded by newly-grown oil palms and shrubs. Unfortunately, the 2012 team was informed by the Sekretaris Kepala Desa of Bulurejo that Gua Payung had been recently mined for guano, to be used as agricultural fertilizer for oil palm plantations. The limestone is also mined for constructing building foundations.

The mining in Gua Payung has removed almost one metre of upper deposit. By 2012, approximately 88% of the cave floor had been removed. Four test pits were dug in the least disturbed areas (Figure 2). TP1 was located in the north entrance passage of the cave; TP2 in the east entrance; TP3 in the inner southern chamber; and TP4 in the middle chamber next to the east wall (the red areas shown in Fig. 2 were laid out but not excavated). The digging technique applied to every excavation pit was carried out in accordance with the contours of the soil layers. Test Pit (TP) 1, undisturbed by the recent mining and 1x2 m in area, was excavated to 0.61 m. The stratigraphy consisted of three layers, from top to bottom: loose darkish brown sandy clay (7.5 YR 4/3.5), dark yellowish brown sandy clay (10 YR 4/4), and loose dark brown sandy clay (7.5 YR 3/3.5). Shells, animal bones, lithics, pottery, red ochre and modern glass were found mixed

throughout, suggesting some degree of disturbance. Layer 2 was particularly rich in animal bones, identified as bovid, deer, monkey, pig, turtle, fish and bird.

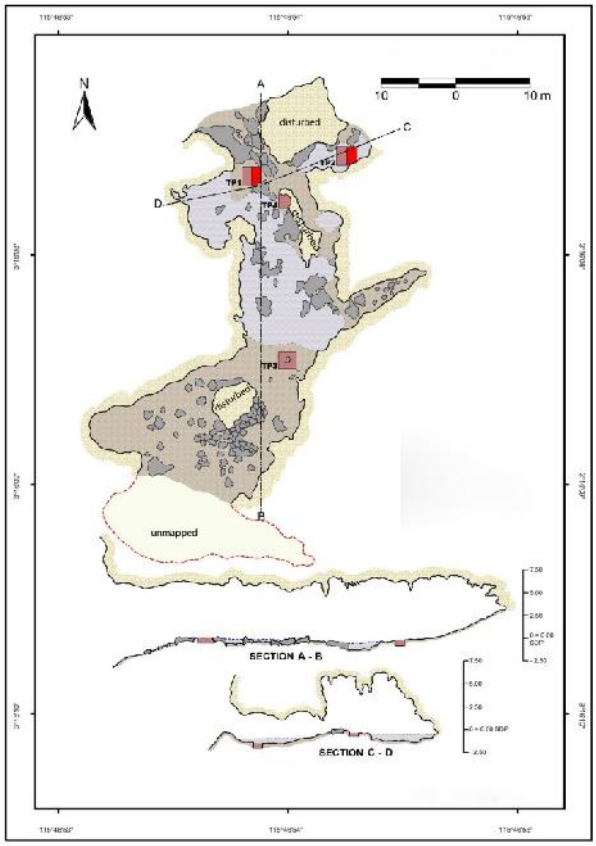

Figure 2: The locations of the four excavated test pits in Gua Payung.

Test Pit (TP) 2, also 1x2 m, was excavated in an area subjected to mining. Layer 1, visible in TP 1, was here absent. Layer 2, visible in the southwest quadrant, was a loose dark brown sandy clay (7.5 YR 3/3.5) with pottery, animal bone, crab claws, lithics and shells. Layer 3, a sandy clay (7.5 YR 4.5/6), started at a depth of 0.9 m in the northwest corner and ended at 1.25 m in the southwest corner. This layer is mostly compact, but loose in places, perhaps reflecting disturbance. It also contained animal bones, lithics and pottery. No modern glass was found in TP 2.

Test Pit (TP) 3, at 2x2 m, was excavated in the middle of the inner southern chamber to a depth of 0.65 m. Layer 1 is a compact, almost strong brown sandy clay (7.5 YR 4.5/4), with a few shells. Layer 2, a compact brown sandy clay (7.5 YR 4/3.5), contained the densest cultural remains. Layer 3, with two sub-layers, also contained lithics and sherds. No glass was found in this test pit.

The surface of Test Pit (TP) 4, 1.5 x 1.5 m, was uneven, sloping from north to south, hence the excavation depth varied between 0.34 and 0.45 m. This location was chosen because of reports that long bones were found near here by locals during guano quarrying in 1997. These bones were assumed to be human, but disappeared with the removal of the guano for fertiliser.

Layer 1, excavated to 0.35 m, was a disturbed deposit left by guano quarrying. It was a very loose dark brown sandy clay (7.5 YR 3/3.5), with the normal range of prehistoric material and some glass bottle sherds. Layer 2, excavated through a depth of 0.3 m, is a dark brown sandy clay (7.5 YR 4.5/6), with few cultural materials. Layer 3 is a very thin (depth between 0.3 – 0.4 m) loose dark brown sandy clay (7.5 YR 3/3.5) that sits on the limestone bedrock. Interestingly, this basal layer seems to contain some evidence for a pre-ceramic occupation of the site, with stone tools only, and no pottery.

HUMAN ACTIVITIES IN GUA PAYUNG

The animal bones, shells, sherds, lithics and haematite found in Gua Payung suggest that it functioned as a dwelling site, rather than a site used purely for burial. The lithic assemblage consists of flakes (some blade-like), cores, hammerstones and debitage. Haematite was also found in Layers 2 and 3 in TP1, from moist brick-red to brownish yellow in colour. Smudges of ochre were also observable on a number of lithic items. It is assumed the haematite was ground on an anvil and applied as red paint (slip) on to pottery surfaces.

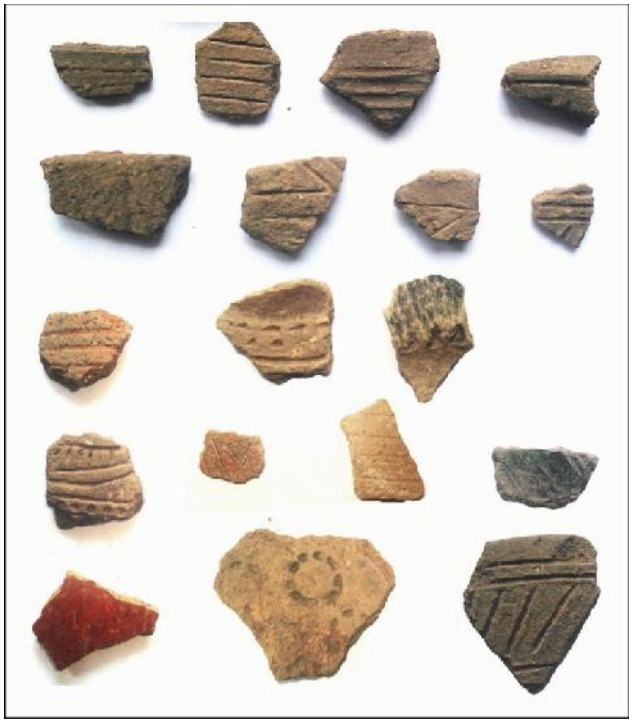

Figure 3: Sherds of incised, stamped (including dentate), grooved (paddle impressed?) and red-slipped pottery from Gua Payung.

Large numbers of animal bones, including teeth and mandibles, occurred in Gua Payung, especially in TP1 Layer 2 (Table 1). A number had been burnt. Human bones were not found. Preliminary analysis of the bones and teeth indicate a presence of macaque, deer, pig, bear, turtle, bird and fish. Some bones were used as points, and

Layer	Sherds	Bones	Lithics	Ochre	Freshwater shell	Marine shell	Glass
1	1	155	33	20	12	1	0
2	318	4452	966	206	1251	8	76
3	178	130	143	34	156	1	3

Table 1: Distribution of archaeological categories by numbers of specimens in Gua Payung TP 1.

Layer	Sherds	Bones	Lithics	Ochre	Freshwater shell	Marine shell
Surface	71	64	166	0	1	3
1	0	0	0	0	0	0
2	66	96	71	0	1	0
3	28	93	32	1	0	0

Table 2. Distribution of archaeological categories by numbers of specimens in Gua Payung TP 2.

Layer	Sherds	Bones	Lithics	Ochre	Freshwater shell	Marine shell
1	0	0	0	0	0	0
2	19	3	8	0	5	0
3a	3	0	4	0	2	0
3b	3	0	2	0	0	0

Table 3. Distribution of archaeological categories by numbers of specimens in Gua Payung TP 3.

Layer	Sherds	Bones	Lithics	Ochre	Freshwater shell	Marine shell	Glass
Surface	16	36	0	0	18	0	10
1	167	469	102	0	73	4	28
2	10	3	1	0	0	0	0
3	0	0	32	0	0	0	0

Table 4. Distribution of archaeological categories by numbers of specimens in Gua Payung TP 4.

spatulae were made by splitting the long bones down the middle into two concave halves. Shellfish include freshwater gastropods of the *Thiaridae*, *Pupinidae* and *Lymnaeidae* families, together with three marine cowry shells in TP 1 Layer 2, and fragments of *Tridacna* shell in TP 1 Layer 2 and TP 4 Layer 1. The site is located 30 km geodesic distance from the Strait of Makassar coastline.

The pottery from Gua Payung (Fajari 2010) includes decorated and undecorated body sherds, rims, carinated shoulders, lids, handles, foot rings and bases. Orifice diameters measured from plain rims range from 100 to 260 mm, but the decorated rims represent smaller vessels with orifice diameters between 50 and 100 mm. As well as red-slip and black burnished sherds, some were decorated by linear incision and stamping, the latter including rows of small punctate or dentate stamps (Figure 3). Body sherds have wall thicknesses between 5 and 10 mm, and many show soot marks. The Gua Payung pottery is very similar to that reported by Chazine and Ferrié (2008) from caves in the Mangkalihat Peninsula in Kalimantan Timur, slightly north of the Equator, and also from Bukit Tengkorak in southeastern Sabah (Bellwood 1989; Chia 2003).

Insufficient charcoal was found for ^{14}C analysis, so Thiaridae shells with cut apices were dated from TP1 Layers 2 and 3, unfortunately from probably disturbed contexts. The analysis was undertaken by Darwin Siregar at the Radiocarbon Dating Laboratory in the Geological Survey Centre at Bandung. The sample from Layer 2 was dated to 2970±130 BP, and Layer 3 to 3070±130 BP (no laboratory numbers provided). The difference between the two dates is only 100 years, which encourages some confidence in their validity. However, it is difficult to calibrate these dates owing to the possibility that the shells contain ancient carbon from the limestone bedrock. Allowing for such a reservoir factor, which would make the dates younger, they suggest Neolithic occupation in the cave sometime during the first millennium BC.

Little evidence was found for mid-Holocene occupation at Gua Payung, contemporary with that at Gua Babi, apart from the lithics in the very thin layer at the base of TP4 (see Table 4).

CONCLUSION

The southern zone of the Meratus Mountain contains many clusters of karstic hills which may contain data from cave occupation. Gua Payung is only of many such sites in Desa Bulurejo. Although many have had their contents damaged by intensive guano quarrying, continuing research in neighboring caves in the Bulurejo cluster may provide significant new information on prehistoric cultures in the southern Meratus Mountains. The archaeo-

logical evidence suggests that Gua Payung was occupied mainly during Neolithic times, circa 1000 BC, much later than Gua Babi, which also produced only plain pottery in its upper layers. However, the Gua Payung pottery is closely paralleled in Mangkalihat Peninsula, more than 500 km to the north. The first millennium BC dating for Gua Payung is significant since it is likely to apply to pottery with some red-slipping, punctate/dentate stamping and incision, even though the contexts are somewhat disturbed. The lithics assemblage at the base of Gua Payung Test Pit 4 may indicate that mid-Holocene occupation once existed in the cave, but only further excavation will reveal if any more traces remain.

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