

# THE SITES OF GUA PASAUNG (RAMMANG-RAMMANG) AND MALLAWA: INDICATORS OF CULTURAL CONTACT BETWEEN THE TOALIAN AND NEOLITHIC COMPLEXES IN SOUTH SULAWESI

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## ABSTRACT

*This report discusses aspects of the excavated materials from Gua Pasaung and Mallawa in South Sulawesi. The question of transition from the Toalian into the later pottery-using assemblages is also investigated.*

*NB: All illustrations and tables for this paper are at the end of the text. They were submitted as pdfs and to save reformatting we have inserted them as jpegs with their original texts in Bahasa Indonesia. Text translation by P. Bellwood and Anggraeni.*

According to van Heekeren (1972), there were three phases within the development of the Toalian. The earliest was characterised by plain blade-like implements. This was followed by a second phase with backed blades and geometric microliths (crescentic and trapezoidal). The third phase was characterised by bone points, denticulate and winged stone points (Maros points), and pottery (van Heekeren 1972:145-8; Bellwood 2000:287). Later research by Glover (1984) and Tanudirjo (2005) indicated that the early Toalian was paralleled in the lowest layer dated to 31-19 kya in Leang Burung 2 in the Maros area of South Sulawesi, and the lowest layer dated to 31-21 kya in Leang Sarru in the Talud Islands. The middle Toalian was paralleled in the early Holocene assemblage from Ulu Leang 1 in South Sulawesi. The late Toalian was suggested to commence from c.6000 BP (Bellwood 2000:287), and was particularly interesting because of the later association of pottery with the bone and stone points (Bulbeck et al. 2000). This has suggested a mixing of cultures of Austronesian and pre-Austronesian origin.

In focusing attention on the van Heekeren hypothesis it becomes interesting to investigate this situation of a possible mixing of two cultures, asking if both (i.e., Toalian and Austronesian) merged into one community or

if they coexisted as separate cultures with exchange relations, as suggested from a regional perspective by Bellwood (2000:289). But it is clear that data at hand are insufficient to support either hypothesis over the other. To approach these questions, we applied to the Anthony Granucci Fund for funding to examine further the late Toalian via survey and excavation. The two sites that were chosen by us were the cave of Gua Pasaung at Rammang-Rammang and the open site of Mallawa. The reason for choosing Gua Pasaung was that earlier excavation by Balai Arkeologi Makassar had revealed a preceramic layer with flaked lithics below a layer of potsherds and denticulated (serrated) points.

In broad outline, the conclusion of the research that was done by Balai Arkeologi Makassar was that the site contained three cultural layers. The lowest contained unrefined flakes and evidence for exploitation of a marine environment. The second cultural layer contained flakes and microliths with diminishing evidence for maritime exploitation. The upper layer had more refined flakes increasingly mixed with pottery (Anonymous 2005-2006).

At Mallawa, lithics, pottery and quadrangular sectioned adzes were all associated together, and presumably utilised at the same date. Nevertheless, lithic quantities were smaller than those of adzes and pottery. It appears, therefore, that the two sites of Gua Pasaung and Mallawa contained elements of both the preceramic Toalian and the presumed Austronesian pottery-using culture. Gua Pasaung was predominantly Toalian, Mallawa predominantly Neolithic.

One major aim of this research was to determine the age of the preceramic and ceramic assemblages. Another was to recover information on environmental exploitation during the two phases. A third aim was to understand better the situation of cultural contact between Toalians and Austronesians in South Sulawesi.

## *Gua Pasaung and Mallawa – the sites*

Gua Pasaung and Mallawa are quite far apart and in different environmental situations. Mallawa lies on an

Inland plateau about 60 km east of Gua Pasaung, that lies in the Maros karst region near the west coast of South Sulawesi, facing Makassar Strait.

In terms of local administration, the cave complex of Rammang-Rammang, with 3 caves, belongs to Dusun Rammang-Rammang, Desa Salenrang, Kecamatan Maros Utara, Kabupaten Maros. Gua Pasaung (Figs 1-6, after text was dug in 18 spits, mostly 10 cm thick but with some variation. 11 stratigraphic layers were identified, over a basal breccia of unknown thickness. There was a possibility that under this breccia there could be more occupation, but we stopped owing to time and funding limitations. The layers all contained artifacts in varying frequencies and it could be concluded that Pasaung cave was occupied on a fairly continuous basis, without any hiatus. The richest spit was 16, with 1107 artifacts accounting for 11.29% of the cave total. Flaked lithics occur from spit 2 to the base of the site, with greatest numbers in spits 16 and 17. The artifacts from these spits were larger in average size than those in the higher spits. A radiocarbon sample of charcoal from spit 13 gave a date of  $6026 \pm 70$  bp (Wk-20381).

Shells were the most numerous items, with maximum numbers in spits 6, 7, 8 and 16 and a presence throughout all layers. Animal bones were also numerous, especially in spits 8-11 and 17. Sherds occurred from spit 12 (only one piece) upwards, being most numerous in spits 2-4. Figure shows the total numbers of artifacts in each of the 18 excavated spits.

Three squares were excavated in the open site of Mallawa (Figs 6-8). TP1 (2 square metres) was on ground sloping towards the north, and only contained 3 spits above bedrock owing to erosion. Plain sherds dominated the assemblage, with five flakes and one unidentified metal item, probably iron.

TP2 (1 square metre) was also on sloping ground like TP1. 9 spits were excavated, and a total of 2665 sherds recovered, mostly plain, together with 44 flakes, 4 microliths, 3 adzes and one axe. There were also 31 adze roughouts. All of these artifacts appeared to belong to one contemporary assemblage, without stratigraphic separation (Figs 9-12).

Because no charcoal for dating was recovered from TP1 and 2 we decided to open TP3 at the base of the hill slope. 3 spits were excavated, yielding 1927 artifacts, mainly plain sherds. Spits 1 and 2 revealed intensive occupation whereas spit 3 was sparse. A charcoal sample was recovered from spit 2, and dated to  $2281 \pm 46$  bp (Wk-20380). Again, this deposit appears to have belonged to a single cultural phase, with the use of pottery, flakes and stone adzes.

### *Subsistence*

The occupants of Gua Pasaung from the lowest level (spit 18) up to spit 12, the latter dated close to 6000 bp, left behind a "pure" Toalian lithic assemblage with no pottery or other Austronesian markers. Maritime exploitation is revealed by the predominance of *japing* (*Placuna epiphium*) shells, suggesting that the sea coast was much

closer to the site then than now. The walls of Gua Karama and Gua Karrassa, also in the Rammang-Rammang limestone complex, contain depictions of boats and fish. Animal bones occurred in greatest numbers in spits 8 to 11.

At the inland site of Mallawa we found no evidence for contact with the sea, suggesting that the economy was terrestrial-based. The polished axes and adzes and the pottery suggest a presence of food production with forest clearance, and also hunting. Flake tools continued from earlier Toalian times, but not in large numbers.

### *Cultural contacts*

Based on the analysis of stratigraphy, Gua Pasaung has no clear separation between the lower layers with lithic tools only and the upper spits that contain pottery. There is no evidence that pottery was made in Gua Pasaung, and several sherd samples from the Rammang-Rammang cave complex were analysed to reveal an average content of 60% clay and 40% sand temper. Most sherds are dark red-brown in colour (3/2.5 YR) with thicknesses averaging 5.4 mm, hardness 3 on the Mohs scale, water content 7.4%, specific gravity 2.46, porosity 26.74%, and water absorbency 12.90%. Thus, pottery from the Rammang-Rammang Complex can be categorised as middling in quality, or low in terms of water absorbency (Intan 2002).

The pottery at Rammang-Rammang was possibly brought in from other Neolithic sites in Sulawesi Selatan, although probably not from Mallawa. However, the Mallawa pottery was also imported according to previous studies by Puslit Arkenas. The clay that occurs around Mallawa is different chemically from the archaeological samples, the latter being stiff and whitish-grey in colour, whereas that from the local environment is yellowish and soft (Intan 1995). However, the Mallawa site has yielded several stone anvils that could have been used for making pottery.

Open air Neolithic sites are still very rare in Sulawesi Selatan. In terms of date, it is possible that the cave site of Leang Codong in Soppeng, about 100 km northeast of Mallawa, contains an assemblage roughly contemporary with Mallawa at about 2000 BP. Bulbeck (1996-7: 1026) regards Leang Codong as representative of the beginning of the Metal Age in South Sulawesi, with artifacts such as an iron arrowhead, a sheet of bronze, glass and stone beads that were used as grave goods. 2700 loose teeth recovered from the site showed dominantly Mongoloid characteristics (Soejono 1983:134).

Coming back to the flake tools from Mallawa, the surface and excavation findings indicate a significant amount of waste material. This suggests that flaking occurred on site. Similarity in types and manufacturing techniques between Mallawa and the Toalian cave assemblages leaves little doubt that the technology descended from the latter. Nevertheless, we do not yet know whether Mallawa was occupied by two separate communities (Toalian and Austronesian). But we would not be surprised if further research demonstrates that the flaking technology was adopted by Austronesians from

pre-existing Toalian populations. Likewise, preceramic Toalian sites in South Sulawesi have not yet produced any polished stone axes or adzes.

CONCLUSIONS

Based on the spit percentages and types of artifact in Gua Pasaung, our tentative conclusion is that the pottery-using community that eventually occupied this cave did not occupy it intensively. When compared with caves with intensive usage such as Leang Codong, we find major differences in artifact densities. This suggests, in wider conclusion, that the pottery-using communities occur more commonly inland, examples being Mallawa, Tallasa and Leang Codong. The Toalian communities have a more coastal distribution, although this may also reflect the location of limestone terrain and caves.

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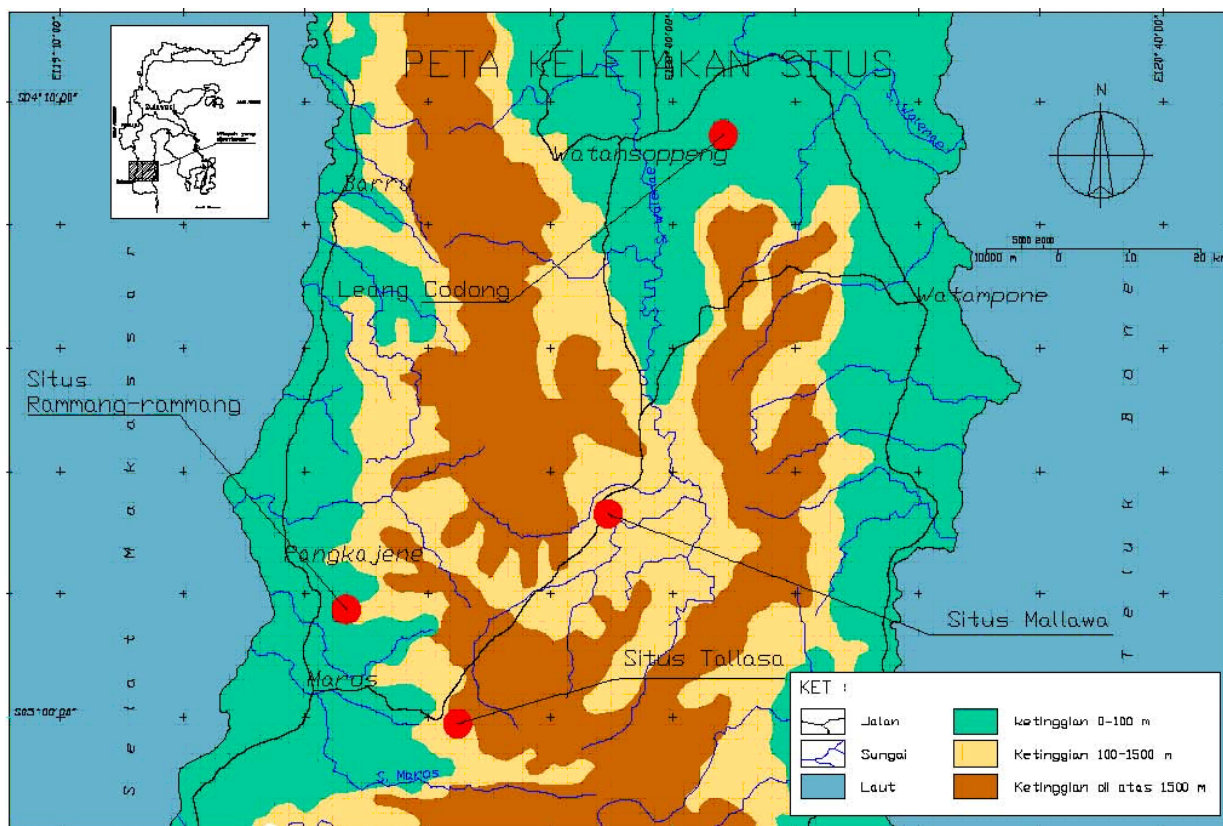


Figure 1. The locations of Rammang-Rammang and Mallawa.

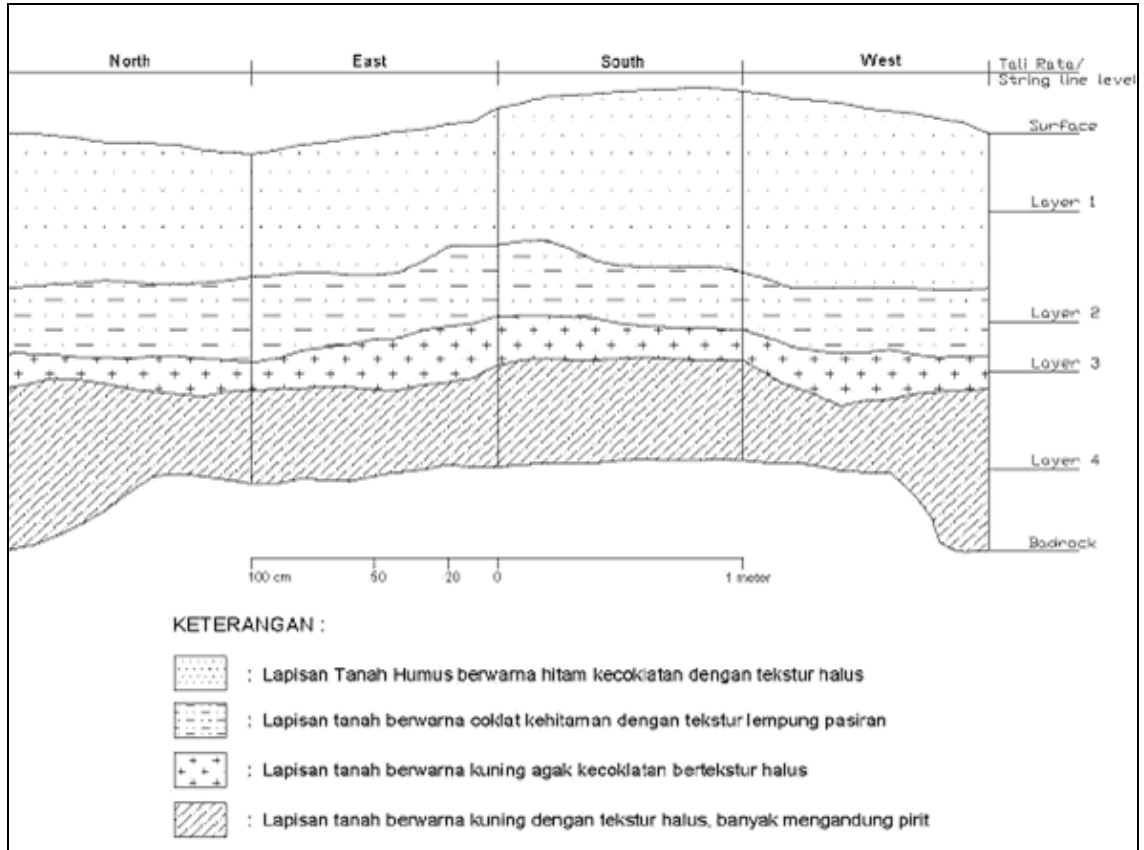


Figure 2. The stratigraphy of Mallawa TP 3.

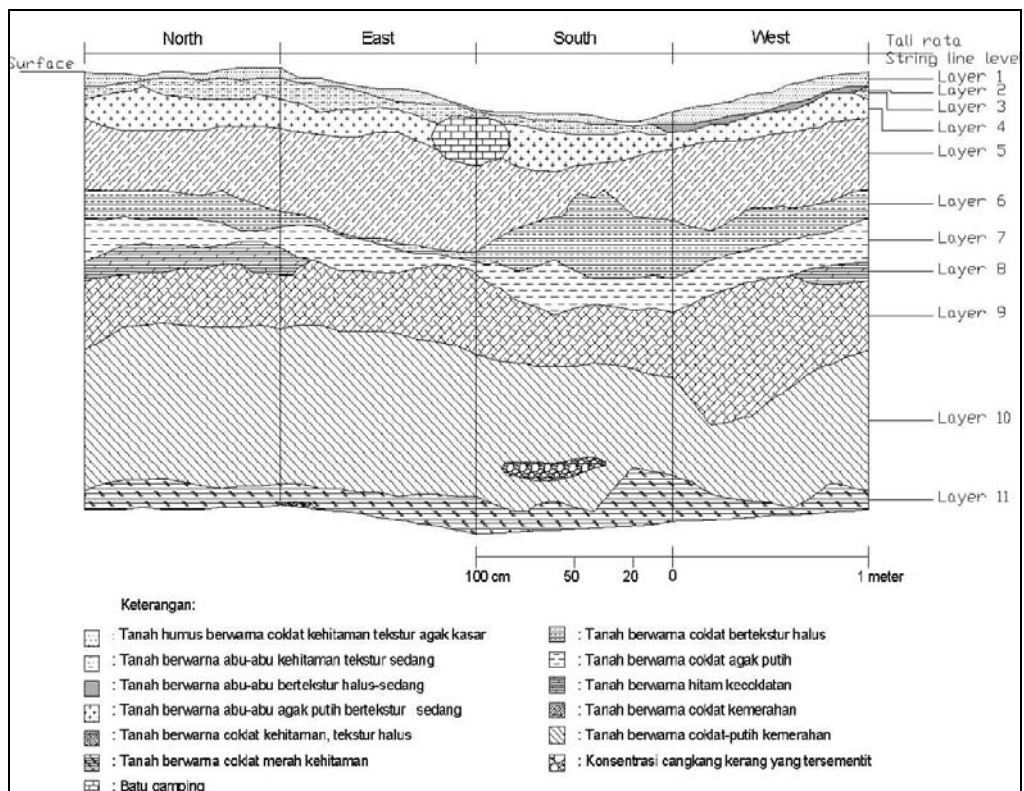


Figure 3. The stratigraphy of Gua Pasaung TP 6.

Table 1. Distribution of materials in Gua Pasaung.

SPIT	BONES	BONE TOOLS	SHERDS		BURNT CLAY	OCHRE	STONE TOOLS	MAROS POINTS	SHELL "FISHHOOKS"	SHELL TOOLS	SHELLS	CRABS	SHELLS													TOTAL	PERCENTAGES		
			RIMS	BODIES									POTAMIDIDAE	TELESKOPIUM	OLIVIDAE	LITTORINIDAE	NERITIDAE	STROMBIDAE	ARCIDAE	VENERIDAE	CRASSOSTREA/ CULCULATA	NARATIDAE	PLACUNA EPIPHIUM	TURRITIDAE	GASTROPODA				
1	0	0	2	2	0	0	0	0	0	0	42	2	11	0	0	1	0	0	0	0	0	0	0	0	0	0	0	60	0.61
2	2	0	6	59	0	0	3	0	0	4	150	2	153	2	0	1	7	2	13	130	9	0	3	0	0	540	5.51		
3	1	0	1	11	0	0	1	0	0	0	0	0	45	1	0	0	7	0	6	66	4	0	5	0	0	152	1.55		
4	29	0	0	7	0	0	0	0	0	1	245	4	16	3	0	0	3	0	10	48	3	0	20	0	5	398	4.06		
5	18	0	1	0	0	0	1	0	0	0	168	7	0	2	0	0	0	1	18	225	2	0	66	0	5	516	5.26		
6	30	1	0	7	2	0	2	0	0	3	900	21	10	5	0	0	2	4	13	54	7	0	17	0	0	1074	10.96		
7	41	0	0	4	0	0	1	0	11	3	650	77	0	0	37	0	2	102	10	96	17	0	37	0	0	1087	11.09		
8	77	9	0	0	4	0	1	0	1	1	170	370	3	1	6	0	12	20	3	192	96	4	45	0	0	1002	10.22		
9	96	1	0	0	0	0	2	0	2	4	162	220	3	0	3	0	13	21	9	94	67	2	85	0	1	770	7.86		
10	117	1	0	0	0	1	1	1	0	3	83	164	3	17	2	0	3	13	24	202	42	0	45	0	0	719	7.34		
11	77	0	0	0	1	0	5	0	0	0	173	44	3	11	3	0	2	7	36	306	13	0	32	0	0	712	7.26		
12	19	0	0	1	0	0	11	0	9	2	62	21	4	54	19	0	1	18	60	69	25	0	1	0	0	375	3.83		
13	5	0	0	0	0	0	6	0	0	0	27	11	7	8	4	0	0	9	2	4	0	0	6	0	0	93	0.95		
14	4	0	0	0	0	0	3	0	0	0	67	52	0	35	28	0	0	6	4	27	1	0	16	0	0	247	2.52		
15	5	0	0	0	0	1	1	0	0	0	100	25	0	12	6	0	2	6	6	48	6	0	13	0	0	232	2.37		
16	12	0	0	0	0	2	104	0	0	0	190	72	4	402	17	0	0	111	20	54	14	0	100	0	0	1107	11.29		
17	58	0	0	0	0	0	26	1	0	0	0	12	0	288	1	0	0	98	116	85	3	0	11	0	0	702	7.16		
18	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	1	4	0	2	0	0	15	0.15		
	591	12	10	91	7	4	168	2	23	21	3189	1104	262	843	126	2	54	420	352	1701	313	6	504	0	11	9801	100		
%	6	0.1	0.1	0.9	0.1	0	1.7	0	0.2	0.2	32.5	11.3	2.7	8.6	1.3	0	0.6	4.3	3.6	17.4	3.2	0.1	5.1	0	0.1	100			

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Table 2. Distribution of materials in Mallawa.

NO.	SQUARE	SPIT	TYPE OF FINDS										TOTAL	PERCENTAGES			
			STONE ARTEFACTS							SHERDS		Metal objects			Hammer Stone		
			Cores	Arrow heads	Flakes	Microliths	Adzes	Axes	Debitage		Plain					Decorated	
Flakes	Adzes																
1	TP 1	1	0	0	3	1	0	0	0	0	90	0	0	0	94	53.11	
2		2	0	0	2	0	0	0	0	0	62	1	1	0	66	37.29	
3		3	0	0	0	0	0	0	0	0	17	0	0	0	17	9.60	
<b>TOTAL</b>			<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>169</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>177</b>	<b>100</b>	
4	TP 2	1	0	0	0	0	0	0	1	0	73	0	0	0	74	2.79	
5		2	0	0	1	0	0	0	0	0	53	0	0	0	54	2.04	
6		3	1	0	0	0	0	0	0	0	85	0	0	0	86	3.24	
7		4	0	0	0	0	0	0	0	1	0	347	2	0	0	350	13.20
8		5	4	2	8	4	1	0	16	0	440	3	0	0	478	18.02	
9		6	0	1	12	0	1	0	6	31	717	9	0	0	777	29.30	
10		7	3	0	7	0	0	1	16	0	500	2	0	0	529	19.95	
11		8	0	0	0	0	0	0	15	0	152	2	0	0	169	6.37	
12		9	2	0	16	0	1	0	0	0	111	1	0	4	135	5.09	
<b>TOTAL</b>			<b>10</b>	<b>3</b>	<b>44</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>55</b>	<b>31</b>	<b>2478</b>	<b>19</b>	<b>0</b>	<b>4</b>	<b>2652</b>	<b>100</b>	
13	TP 3	1	3	0	5	0	8	0	6	19	1523	15	1	2	1582	82.22	
14		2	2	0	14	0	3	0	17	0	299	0	0	0	335	17.41	
15		3	0	0	0	0	1	0	0	0	6	0	0	0	7	0.36	
<b>TOTAL</b>			<b>5</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>23</b>	<b>19</b>	<b>1828</b>	<b>15</b>	<b>1</b>	<b>2</b>	<b>1924</b>	<b>100</b>	





Figure 1. Gua Pasaung (arrow) and the Rammang-Rammang massif.



Figure 4. Gua Pasaung TP 6 before excavation.



Figure 2. Gua Pasaung looking west.



Figure 5. Gua Pasaung TP 6 at the surface of spit 18.



Figure 3. Gua Pasaung looking east.

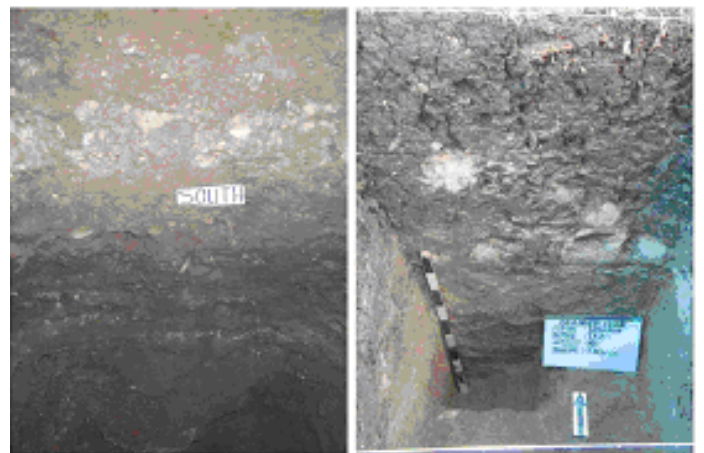


Figure 6. South wall of Gua Pasaung TP 6 (left) and north wall of Mallawa TP 3 (right).





Figure 7. The Mallawa site, under secondary vegetation with teak plantations behind.



Figure 8. Mallawa TP 1, surface of spit 3.



Figure 9. Blade-like flakes from TP 6 at Gua Pasaung.



Figure 10. Mallawa: stone axe/adzes from TP 3.



Figure 11. Mallawa: pottery handles from TP 3.



Figure 12. Mallawa: decorated sherds from TP 3.