

Preliminary Report of the Archaeological Survey in Four Sites in the Middle Reaches of Cagayan River, Northern Luzon: Discovery of Several Stone Adzes and Pottery

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I. Introduction

The basis of culture history is the chronological sequence. Northern Luzon in the Philippines is considered to be one of the gateways for the arrival of new cultural elements from South China and Taiwan. However, the chronological sequence of prehistoric cultures in this region is still unknown because of the lack of adequate chronological studies.

So this project is designed to fill the gap in the chronology of earthenware pottery in northern Luzon. The research of the project was conducted through three phases: the survey, the test excavation and the systematic excavation. This is a preliminary report of the survey phase.

And this is a joint project of the Archaeology Division, National Museum of the Philippines and Mr. Kazuhiko Tanaka, a fellow of the Japan Society for the Promotion of the Junior Scientists. And Mr. Tanaka received a study grant from the Ministry of Education in Japan for the research.

The research team was composed of Miss Amalia de la Torre (Mus. Researcher I), Mr. Melvyn Garcia (Mus. Artist Illustrator), Mr. Eustaquio Larios, Jr. (Mus. Technician I), Mr. Jimmy Fabela (Mus. Technician I) and Mr. Kazuhiko Tanaka. And Mr. Lolito Soriano (Tuguegarao Mus. Technician) guided us to the sites.

An archaeological survey was conducted in four sites (Carig, Nangalisan, Andarayan and Lanna) at Tuguegarao, Cagayan and vicinities from October 30th to November 14th in 1993.

II. Previous Research Works Done in Tuguegarao and Vicinities

One of the earliest excavation of the pottery sites in this area was conducted in the Cabaruwan Jar Burial Site in Solana, Cagayan in 1974 by A. E. Evangelista and W. P. Ronquillo. This excavation revealed 44 burial jars composed of 43 earthenware jars and one Chinese stoneware burial jar and other associated materials [Ronquillo *et al* 1992].

In 1974, L. Burton, a volunteer of the National Museum, excavated the Lanna site. Then in 1975, the National Museum and the Department of Sociology and Anthropology of Ateneo de Manila University excavated the Lanna site. These projects revealed a habitation site with many kinds of artefacts such as earthenware sherds, a ling-ling-o type jade ornament, flakes, waste flakes, petrified wood and a pendant of fine slate [Evangelista 1976; Burton 1974].

In 1978, Dr. Shutler and colleagues excavated the Andarayan Site in Solana, Cagayan. The excavation revealed many earthenware pottery, chert flakes and a stone adze. And the evidence of rice was also

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found in the earthenware sherd excavated in this site [Snow *et al* 1986].

In 1982, Y. Aoyagi surveyed the Lanna site, Bulawitan site in Nangalisan, and Caring site in Tuguegarao. He had collected earthenware sherds and other artefacts [Aoyagi 1983].

III. Archaeology Sites and Artefacts

I. Carig Site (II-93-Q)

Barangay Caring in Tuguegarao is situated 5 km northeast from the centre of Tuguegarao town. After a courtesy call to the Barangay Captain of Carig, Mr. Mariano Dayag, the team proceeded to the area to be surveyed (Fig. 2).

There is a small gentle hill in Carig village which runs from the northeast to the southwest. This hill is adjacent to the field along the Cagayan River. The site is located on the eastern slope of this hill. The eastern slope was cut by the Mahalika Highway. The surveyed area is at the eastern part of the highway, a vacant lot next to the Department of Education, Culture and Sports (DECS) Building (Fig. 3). The DECS Building is on the north side of the site. The area is accessible to public or private vehicle traversing or going to Iguig from Tuguegarao.

The team did not collect the modern garbage found near the fence of the DECS Building. A heavy concentration of artefacts was found on the western side or top of the area. We also found many artefacts in the section cut by the highway.

Materials Collected in Carig Site

The materials collected were 30 pieces of stone artefacts, 4 pieces of clay objects, 524 pieces of earthenware sherds, one piece

of porcelain sherd and one piece of stoneware sherd (Table 1).

Stone tools are composed of one polished stone adze, one polished stone axe/adze, 24 pieces of chert flakes and others. A quadrangular polished stone adze (Fig. 4:8) was retrieved. The butt of the adze was broken or gone. The middle part of the butt of a stone axe/adze with the lenticular cross-section was also collected. One of the chert flakes is long and has the triangular cross section and the evidence of use-wear at the edge (Fig. 4:7). Clay objects are four flat clay discs (Fig. 4:3-6) called "Pamato" in the Philippines.

Earthenware sherds are composed of parts of jars, shallow bowls, stoves and others. 37 earthenware sherds have designs. The main type of design is the impressed design on the rim (Fig. 4:1) and the ringfoot (Fig. 4:7). Among the rim sherds, majority have thickened rims. There are sherds which have coarse texture and the temper used has quartz and hematite. These are parts of bowl. Similar bowls were excavated from the Magapit Hill Top site⁽¹⁾ in Lal-lo in lower reaches of the Cagayan River [Aoyagi *et al* 1991, 1993]. There are various decorated earthenware sherds found from this specific area. There are sherds with rough paste and nail-shaped impressions. There are some sherds with incised and impressed designs and carinated bodies. Some sherds show some paddle impressions.

2. Bulawitan Site in Nangalisan (II-93-N)

Barangay Nangalisan in Solana is located on the western side of the Cagayan River and 7 km northeast from Tuguegarao town (Fig. 2).

The site is on top of a hill which is located south of the village. The hill is about 150 m high above the mean sea level. The top of the ridge of the hill is relatively flat and commands a splendid view of the lowland in the western side of the Cagayan River. The south side of the ridge has the steep slope and faces the ravine. The creek called "Lingu Creek" runs in the bottom of this ravine.

The mountain ridge is owned by Atty. Alexander Bulawiten, former Mayor of Solana, Cagayan. The site is 45° NE from the Barangay Captain's place (i.e. Barangay Captain Armamdo Abella). Mr. Dixie Casballedeo, nephew of Barangay Captain and Miss. Denise Casballedeo, niece of Barangay Captain accompanied us. It takes about 30 minutes on foot from the village to the site.

The end of the ridge extends from the southwest to the northeast and turns to the east (Fig. 5). The eastern part bounds the line between the notch at the southwest and the place where the datum point is located. This area is named Quadrant A. Quadrant B is adjacent to Quadrant A. Quadrant C is at the southwestern part of the site and is bounded on Quadrant B by a large rock. There is a field about 10m wide and 45m long in the southeastern part of Quadrant C. The researchers observed that majority of artefacts were eroded towards the slope and to the edge of the ridge. The team found plenty of artefacts at the trail. At the top of the ridge, visibility is poor due to the overgrown cogon grass.

Materials Collected in Quadrant A in Bulawitan Site in Nangalisan

Visibility of this area is good. Artefacts collected in Quadrant A are 9 pieces of stone

tools, 6 fragments of petrified wood, one piece of quartz, 18 pieces of porcelain sherds, 7 pieces of stoneware sherds, 357 pieces of earthenware sherds, 2 pieces of clay objects and one piece of animal bone (Table 1).

Stone tools are all chert flakes. Porcelain sherds are composed of 2 pieces of celadon sherds and 16 pieces of blue and white sherds (Fig. 5:2). One of the Celadon sherds is a rim of a basin with the lotus appliqué design on the outer side (Fig. 6:1). This type of specimen is dated about 14th century [Kamei 1981:3-5]. One of the clay objects is a spindle whorl with impressed design. The earthenware sherds are composed of 19 pieces of rim, one piece of stove sherds and two fragments of lids.

Materials Collected in Quadrant B of Bulawitan Site in Nangalisan

There is a minimal amount of artefacts observed in this area. Visibility of this particular area ranges from poor to good due to the overgrown cogon grass. Materials collected in Quadrant B are 6 pieces of stone tools, 8 fragments of petrified wood, 2 pieces of porcelain sherds, 7 pieces of stoneware sherds and 468 pieces of earthenware sherds (Table 1).

Stone tools are composed of 3 fragments of stone adzes (Fig. 6:3,4), 2 pieces of chert flakes and one piece of cryptocrystalline quartz flake. Porcelain sherds are all celadons. Among the earthenware sherds, there are 51 pieces of rim sherds, 3 handles and 6 fragments of stoves.

Materials Collected in Quadrant C in Bulawitan Site in Nangalisan

Only a few artefacts were retrieved from this area because visibility is poor due to the

cogon grass that abound here. Majority of the artefacts were retrieved from the southwest end where a small part was plowed and planted with camote or sweet potato (*Ipomoea batata* L.).

Materials collected in Quadrant C are 4 pieces of stone tools, 3 fragments of petrified wood, 5 pieces of porcelain sherds, 102 pieces of earthenware sherds, one animal tooth and 4 shells.

Stone tools are composed of one fragment of stone adze, 2 pieces of chert flakes, one piece of andesite flakes. Among the earthenware sherds, there are one sherd with design, 11 pieces of rim sherds, 2 fragments of stoves and one fragment of a lid. (Table 2)

3. Andarayan Site (II-93-P)

Barangay Andarayan in Solana is located at the western side of the Cagayan River and about 8 km north of Tuguegarao town (Fig. 1). This village is situated 121° 41.30" longitude east and 17° 41.30" latitude north. And the village is adjacent to Lanna village at the western side.

The site is situated at the north-western end of the village. This site is already famous for the evidence of rice in second millennium BC in the paste of an earthenware sherd found by Dr. R. Shutler and others (Snow *et al* 1986). The site is located about 100m north from the road which connects Andarayan village to Lanna village (Fig. 7). A small creek runs from the northeast to the southwest and turns to the south then crosses the road. The southwest side of this site is also bounded by this creek. This site is divided into two fields, namely: Field A and Field B (Fig.7).

Field A is surrounded with bamboo grooves. This is a grassland or used as grazing land for carabaos (water buffaloes). The team had learned from informants that the area would be converted into a cemetery. The visibility of the field is poor (around 10%) due to the overgrown weeds or grass. Field B is composed of two fields with two different landowners. The western half is owned by Mr. Sinto Mora. A path or trail separates this field from that of Mr. Alturo Pagulayan on the eastern half. The fields were newly or freshly plowed and planted with string beans, corn and peanuts.

Materials Collected in Field A in Andarayan Site

Artefacts collected in Field A are only 22 pieces of earthenware sherds.

Materials Collected in Field B in Andarayan Site

Artefacts collected in Field B are 28 stone tools, one piece of petrified wood, 2 pieces of clay objects, 549 pieces of earthenware sherds and a lump of fired clay (Table 1).

Stone tools are composed of 2 pieces of flake tools (Fig. 8:1,2), 22 pieces of chert flakes and 4 pieces of obsidian flakes. These obsidian flakes are important because these are rarely found in the Cagayan Valley. Some sherds collected from Field B have coarse texture, angular or carinated body and hand moulded. The temper used includes quartz, biotite and hematite. These are thick sherds probably from a bowl or jar. A few of the sherds have has smooth surface with red slip. Some sherds with coarse texture have thick, flattened rims. There are a few sherds with stoneware-like body, hard and highly-fired. There are plenty of sherds which are part of a cooking stove. These

have coarse texture, thick-body and the temper used is sand with granules of quartz, hematite, carbonates and hornblende. For the decorated earthenware sherds, the design ranges from incised linear design to impressed design. Another 5 specimens have circular perforations.

Unfortunately we could not find any polished stone adze in this site at this time.

4. Lanna Sites (II-93-0,S,G2)

Barangay Lanna in Solana is located in the western side of the Cagayan River. It is situated about 9 km north of Tuguegarao town. The site is situated at the eastern part of this village.

Six fields were surveyed (Fig. 10). Field #1, 2, and 3 have an Accession Code of II-93-0, Fields # 4, and 5 have an Accession Code of II-93-S, and Field #6 has an Accession Code of II-93-G2. Field #1, 2 and 3 are planted with string beans, corn and mongo beans. Field #1 was freshly plowed. This is owned by Mr. Jose Pamittan while Field #2 is owned by Mr. Leon Mallillin. Field #4, 5 and 6 are found to be overgrown with weed or grass. There are plenty of materials collected from Field #1.

Materials Collected in Field #1 in Lanna

Artefacts collected in Field #1 are 34 pieces of stone tools, one fragment of petrified wood, 2694 pieces of earthenware sherds, 8 pieces of clay objects and 15 lumps of fired clay.

Stone tools are composed of 24 pieces of chert flakes, one piece of andesite flake, 8 pieces of core tools and one probable anvil for pottery making. There are 673 pieces of rim sherds, 17 fragments of stoves, 5 handles and 2 pieces of knobs of lids. There

are some decorated sherds (Fig. 9:1, 2). Clay objects are composed of one earring (Fig. 9:3) and 7 pieces of clay discs.

Materials Collected in Field #2 in Lanna

Only one probable stone tool was found.

Materials Collected in Field #3 in Lanna

The materials collected are all earthenware sherds (8 pieces).

Materials Collected in Field #4 in Lanna

The materials collected are one stone which is probably used as an anvil for pottery making, a metamorphic stone and 73 pieces of earthenware sherds. The earthenware sherds are composed of 23 pieces of rim sherds, one handle and others.

Materials Collected in Field #5 in Lanna

The materials collected are 18 pieces of stone tools, 3 pieces of petrified wood, 2 stones, 68 pieces of earthenware sherds and 2 pieces of clay objects (Table 1). Stone tools are composed of 15 pieces of chert flakes and 3 fragments of polished stone adzes (Fig. 9:4). There are 26 pieces of rim sherds, 9 fragments of stoves, 4 handles and a fragment of a lid. Clay objects are composed of one fragment of an earring and one piece of disc called "pamato".

Materials Collected in Field #6 in Lanna

Materials collected are 35 pieces of earthenware sherds. There are 11 pieces of rim sherds among them.

IV. Concluding Remarks

Finally, we would like to review the results of the survey and discuss the task of future research.

We found polished stone adzes in three sites namely: Carig site, Bulawitan site in

Nangalisan and Lanna sites during our survey. Although we could not find a stone adze in Andarayan site, the team of Dr. Shutler excavated a fragment of polished stone adze in this site.

So, the polished stone adze is a common cultural element among these sites. A lot of attention has focused on the analysis of polished stone adzes, especially those stone adzes with quadrangular cross-section which are one of the diagnostic artefacts for the determination of the age of a site.

Beyer claimed that the polished stone adzes with quadrangular cross-section belonged to the late Neolithic age [Beyer 1948:37-47]. And Bellwood claimed that the polished uni-bevelled stone adze was introduced with pottery and cereals by the Austronesians into Indo-Malaysian Archipelago including Philippines [Bellwood 1985: 205]. So, the polished stone adze is one of the important artefacts used for the consideration of the age characteristics of a site.

Polished stone adzes found this time are broken fragments. A comparative study of these specimens with complete materials will be done later. It is important to clarify what kind of artefacts is associated with polished stone adzes. It is particularly important to clarify whether porcelain sherds are associated with the polished stone adzes in Bulawitan site or not, because many porcelain sherds were found in all four sites. The flaking technology and the function of them need to be clarified and compared with the specimens found in cave sites such as Rabel cave [Ronquillo 1981] in Penablanca, Cagayan.

Most of the pottery were fired in the

oxidized flame and turned to reddish brown. A few of the shallow bowls are gray. The pottery are composed of pots, jars, shallow bowls, the wares with ring foot, stoves and others. Most of the sherds are plain. Only a few sherds have design, mainly the impressed design. It was made by pointed tools and a split bamboo. Another important observation is that some bowls collected in the Carig site are similar to those excavated in the Magapit shell-midden sites. So it is assumed that the people of the lower reaches of the Cagayan River had some contacts with the people of the middle reaches of the Cagayan River. Majority of the earthenware sherds (2687 pieces) were collected from Field A of Lanna sites. Less than 600 pieces of sherds were collected from each site. So Lanna is the most suitable area for our goal.

The clay earring is the most noteworthy artefacts among clay objects. Clay earrings were found only in Lanna Sites. However the specimens are partially broken. So it is difficult to compare this specimen with other clay earrings from other sites. Similar clay earrings were also excavated in the Hoa Loc Site in Vietnam [Oobayasi 1982]. It will be worthwhile to compare the Lanna specimens with these. We would like to discuss the location of sites now. Lanna site and Andarayan site are located along the flat flood plain or at the alluvial deposit of the Cagayan River. Meanwhile, Carig site is located on the slope of the mound facing the Cagayan River. And the Bulawitan site is located on top of a ridge about 150m high. It is assumed that the site was selected for different human activities. But the details of human activities are still unknown.

The excavation will solve these many problems.

Acknowledgement

The team would like to express their heartfelt gratitude to Prof. Wilfredo P. Ronquillo, Chief of the Archaeology Division, National Museum, our colleagues in the Archaeology Division, Prof. Yoji Anyagi of Sophia University and Prof. Hidefumi Ogawa of Tokyo University for Foreign Languages.

Note

(1) This fact was already noticed by Aoyagi, Y., H. Ogawa and K. Tanaka in 1983 when the specimens collected in Cagayan in 1982 were measured and drawn.

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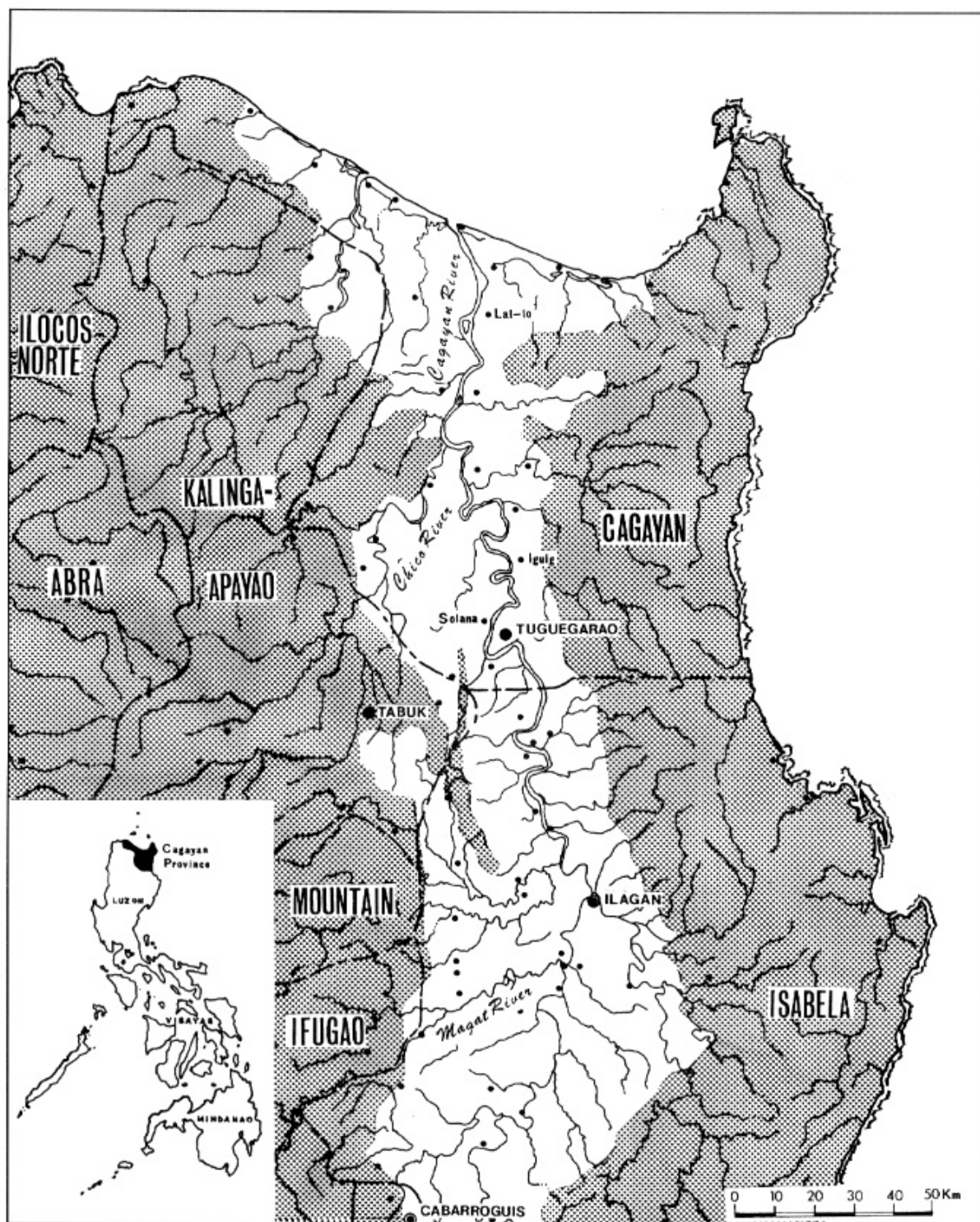


Fig. 1 Map of the Cagayan Valley and Cagayan Province, Northern Luzon
 北呂宋加牙因省及加牙因河谷地圖

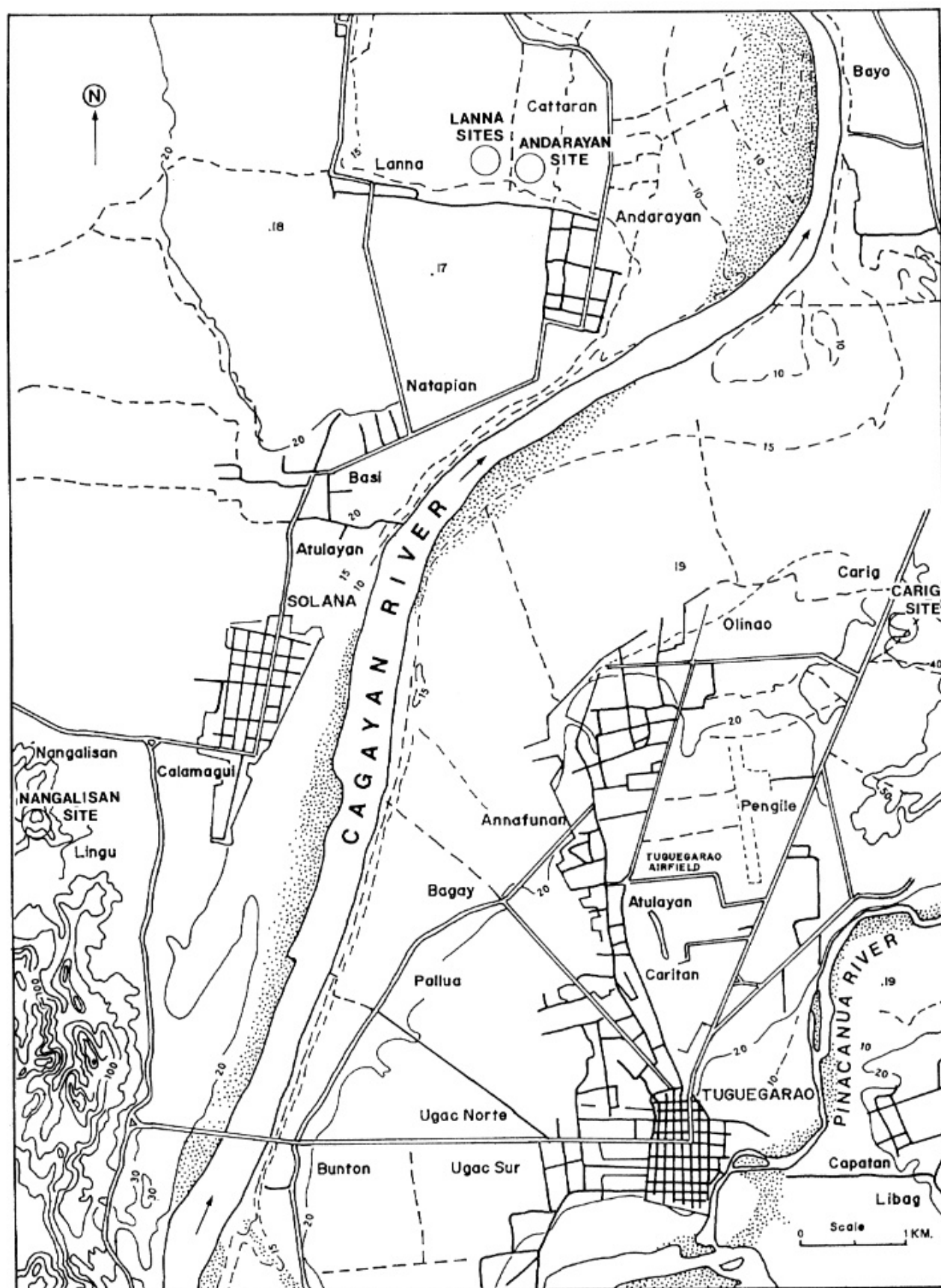


Fig. 2 Topographical Map Showing the Municipalities of Solana and Tuguegarao, Cagayan and Sureyed Four Sites
加牙因河中游遺址分佈圖

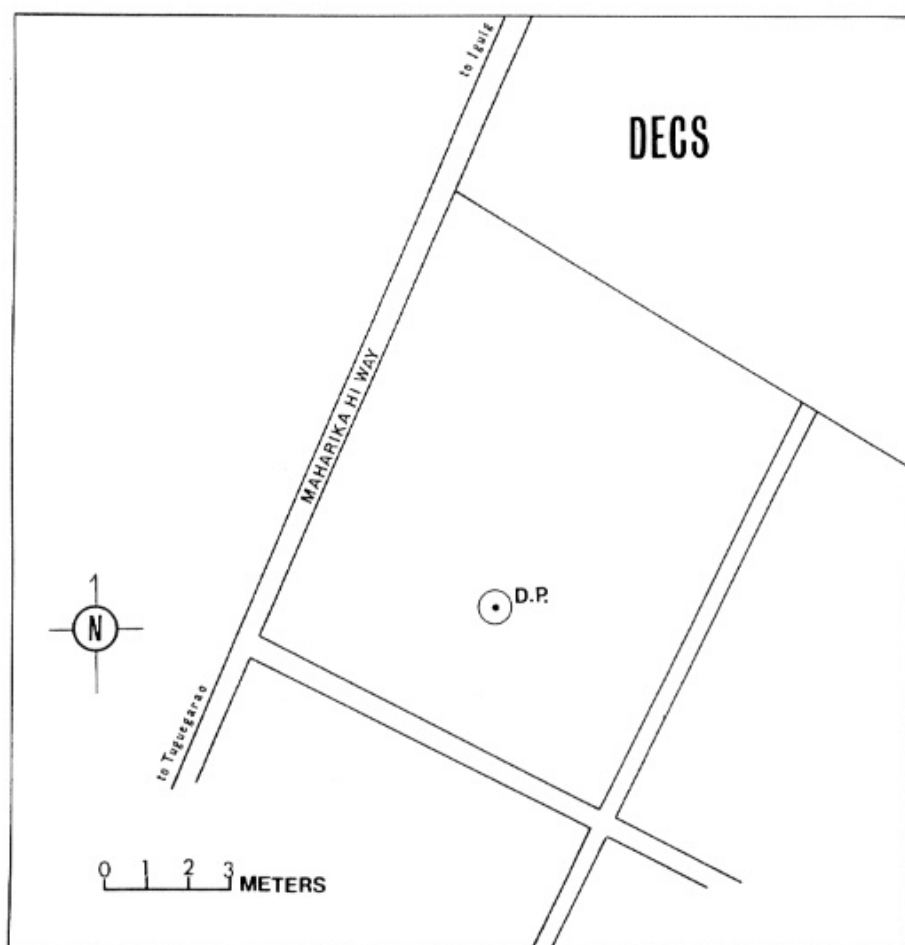
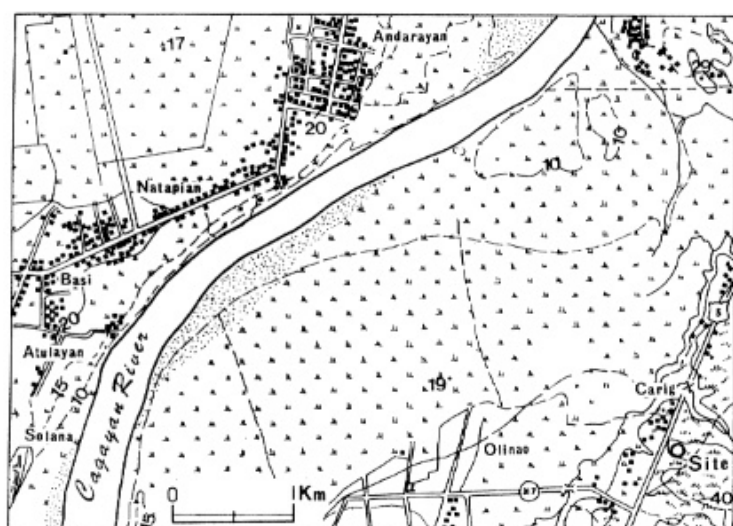


Fig. 3 Map of the Carig Site, Tuguegarao, Cagayan
Carig 遺址位置圖

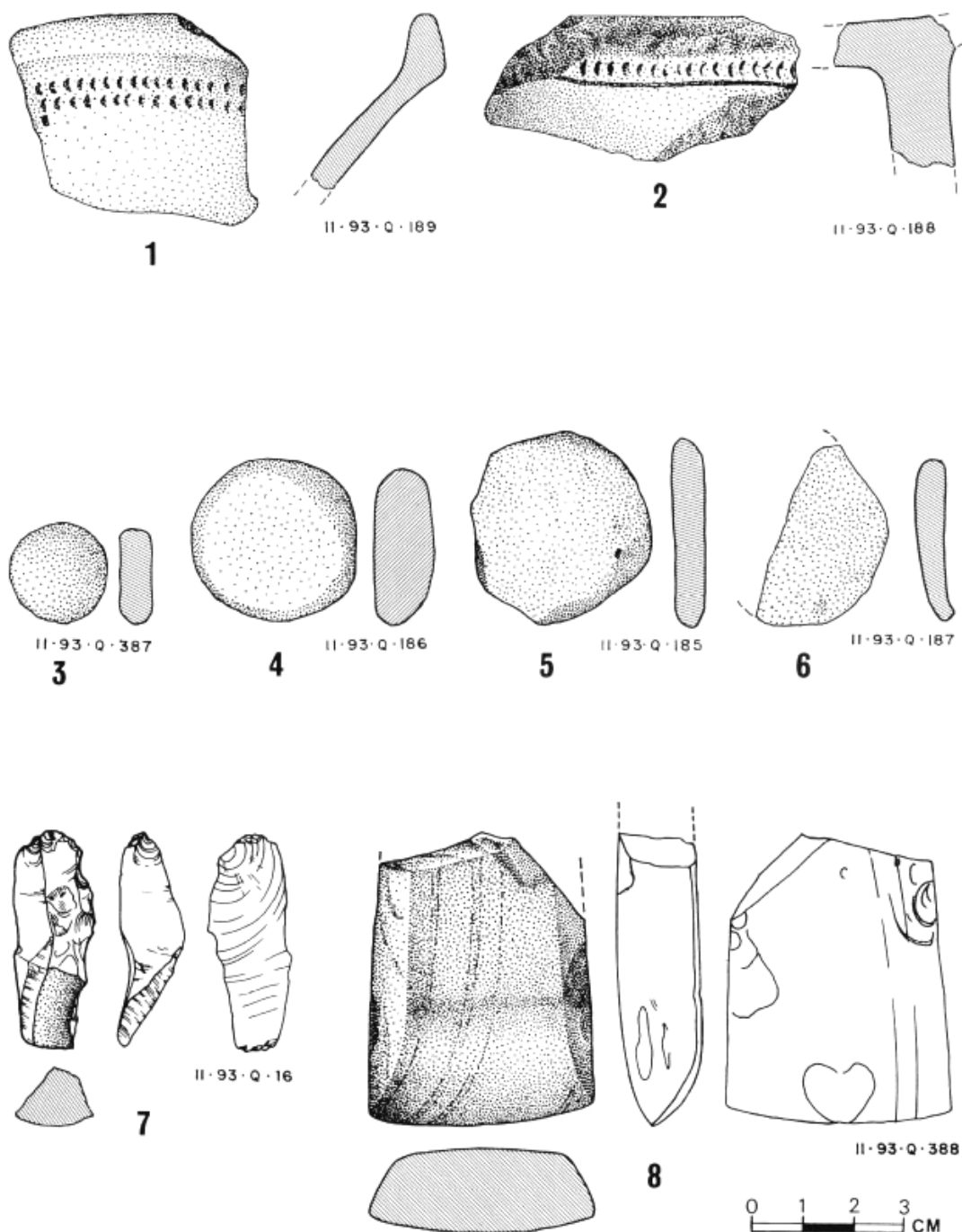


Fig. 4 Artifacts[earthenware sherds (1,2), clay disks (3~6), a flake tool (7) and a stone adze (8)] Collected in the Carig Site,
Solana, Cagayan
Carig 遺址出土陶片及石器

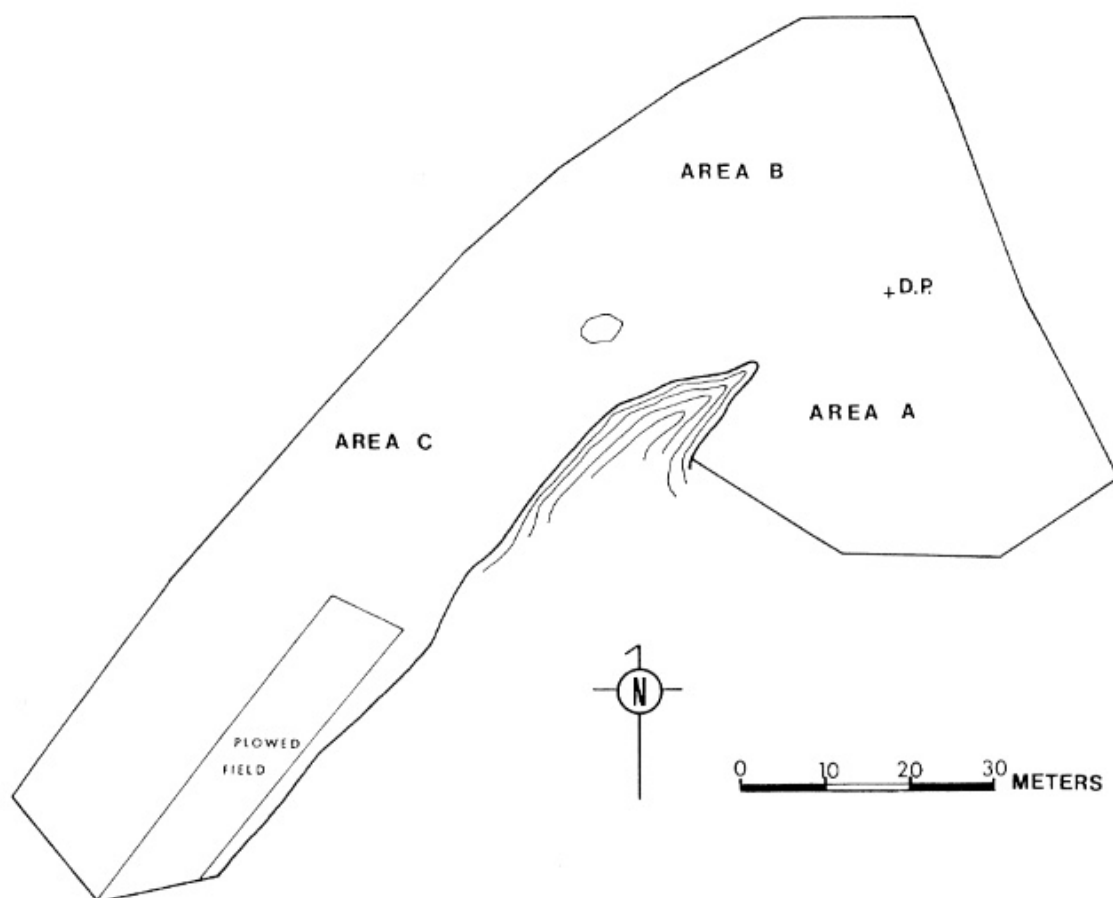


Fig. 5 Map of the Nangalisan Site, Solana, Cagayan
Nanaglisian 遺址位置圖

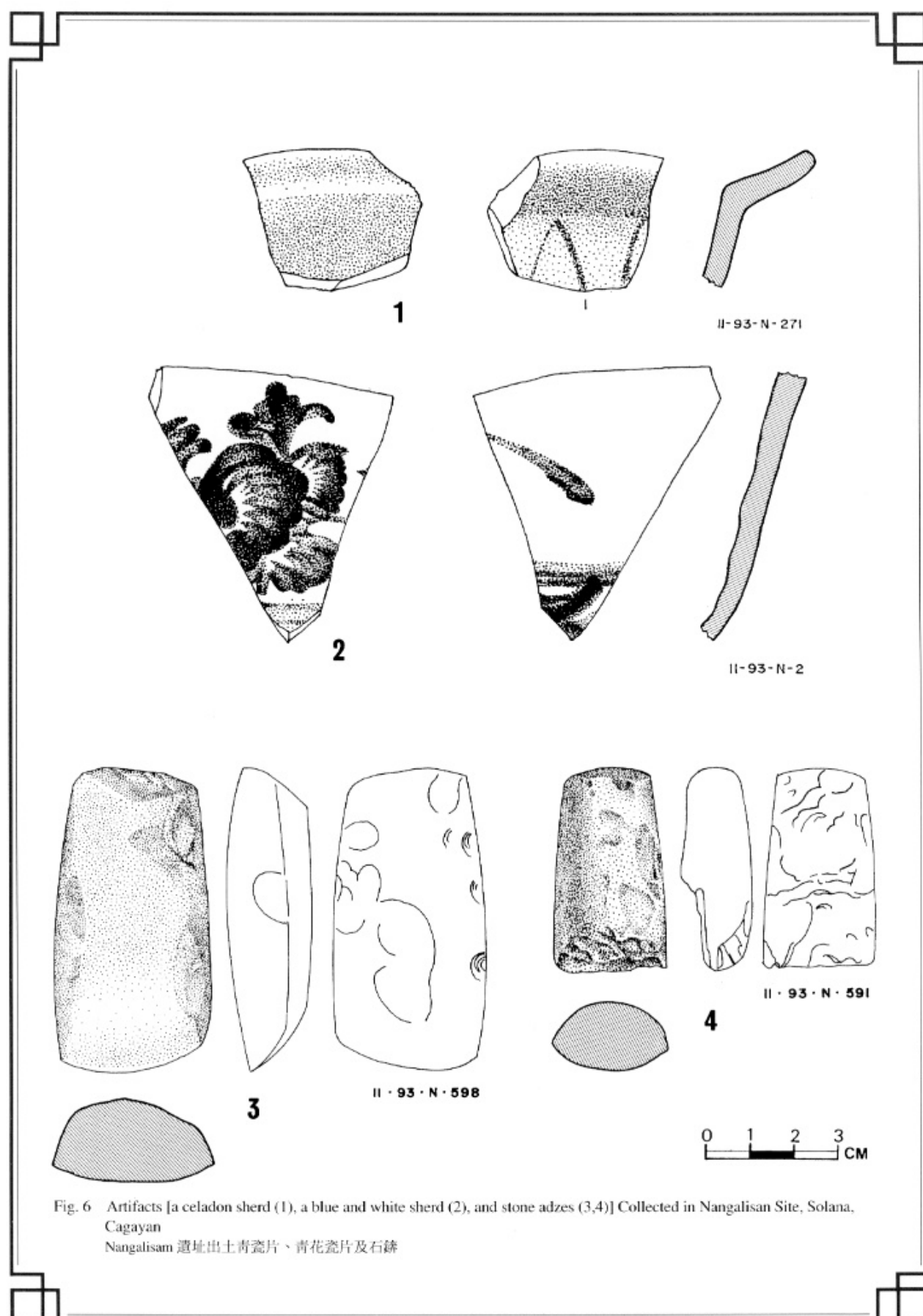


Fig. 6 Artifacts [a celadon sherd (1), a blue and white sherd (2), and stone adzes (3,4)] Collected in Nangalisam Site, Solana, Cagayan
 Nangalisam 遺址出土青瓷片、青花瓷片及石鐮

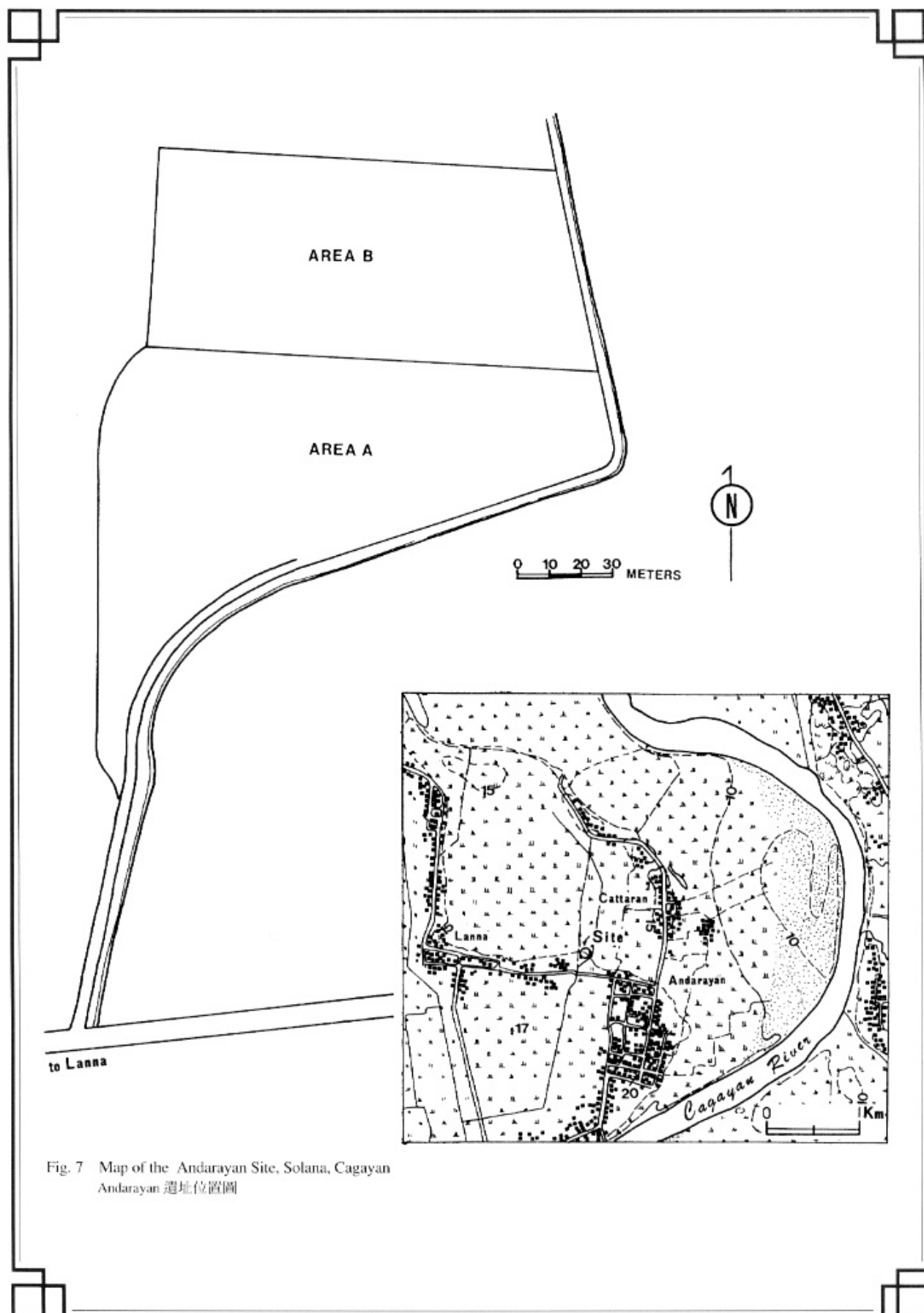


Fig. 7 Map of the Andarayan Site, Solana, Cagayan
Andarayan 遺址位置圖

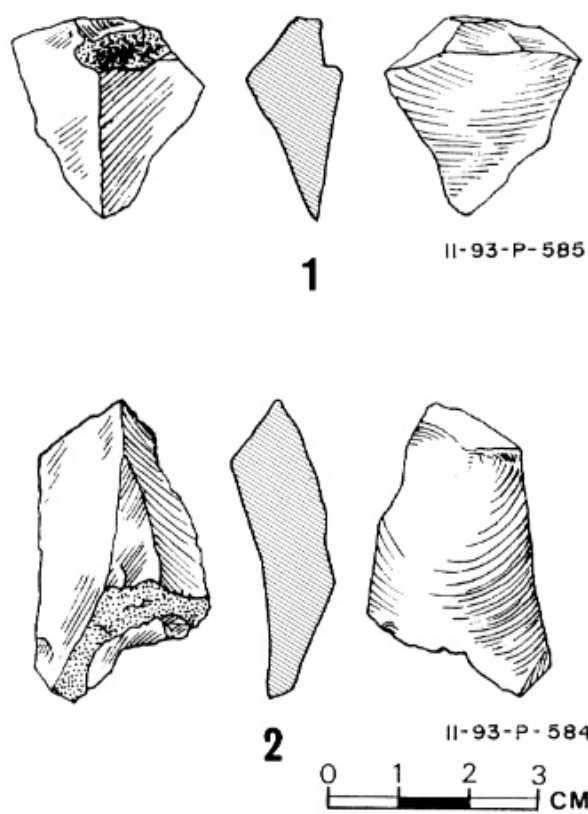


Fig. 8 Flake Tools Collected in Andarayan Site, Solana, Cagaya
Andarayan 遺址出土石器

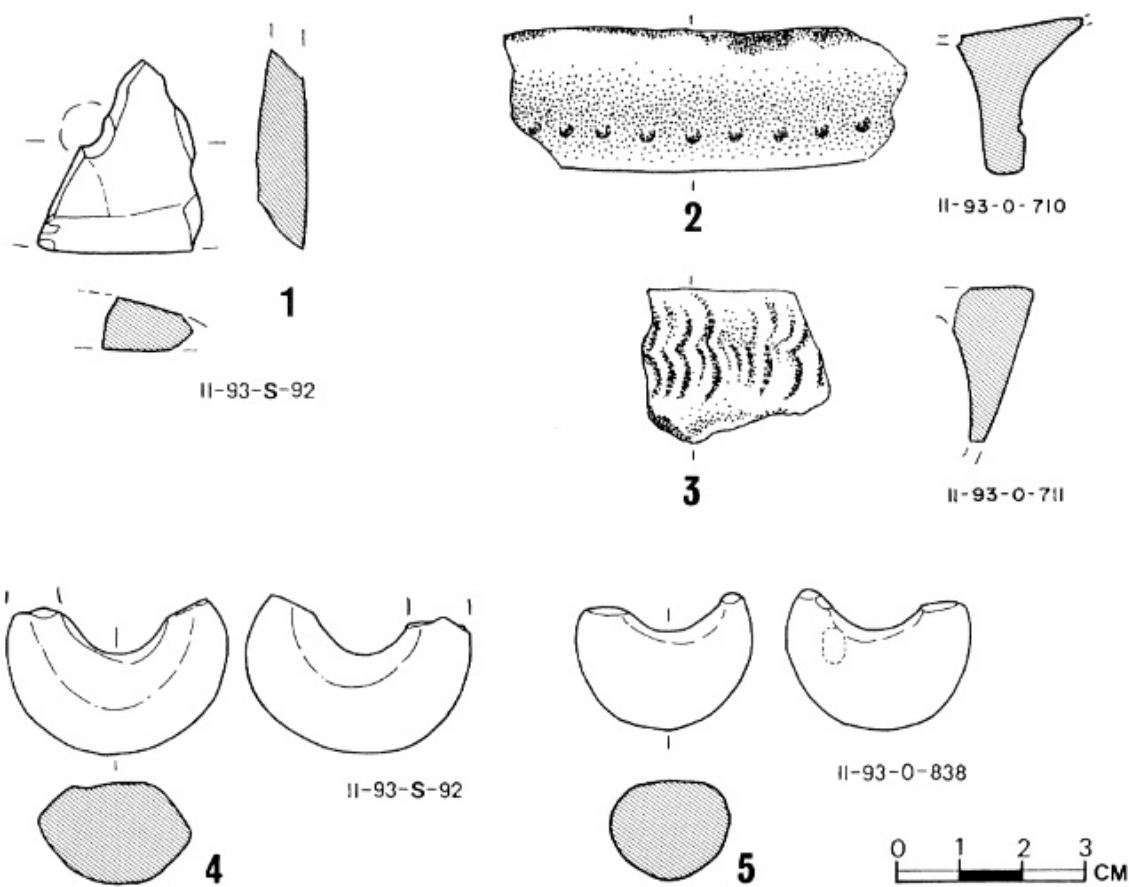


Fig. 9 Artifacts [a stone adze (1), earthenware sherds (2,3) and clay earrings (4,5)] Collected in Lanna Site, Solana, Cagayan
Lanna 遺址出土石鏟、陶片及陶耳飾

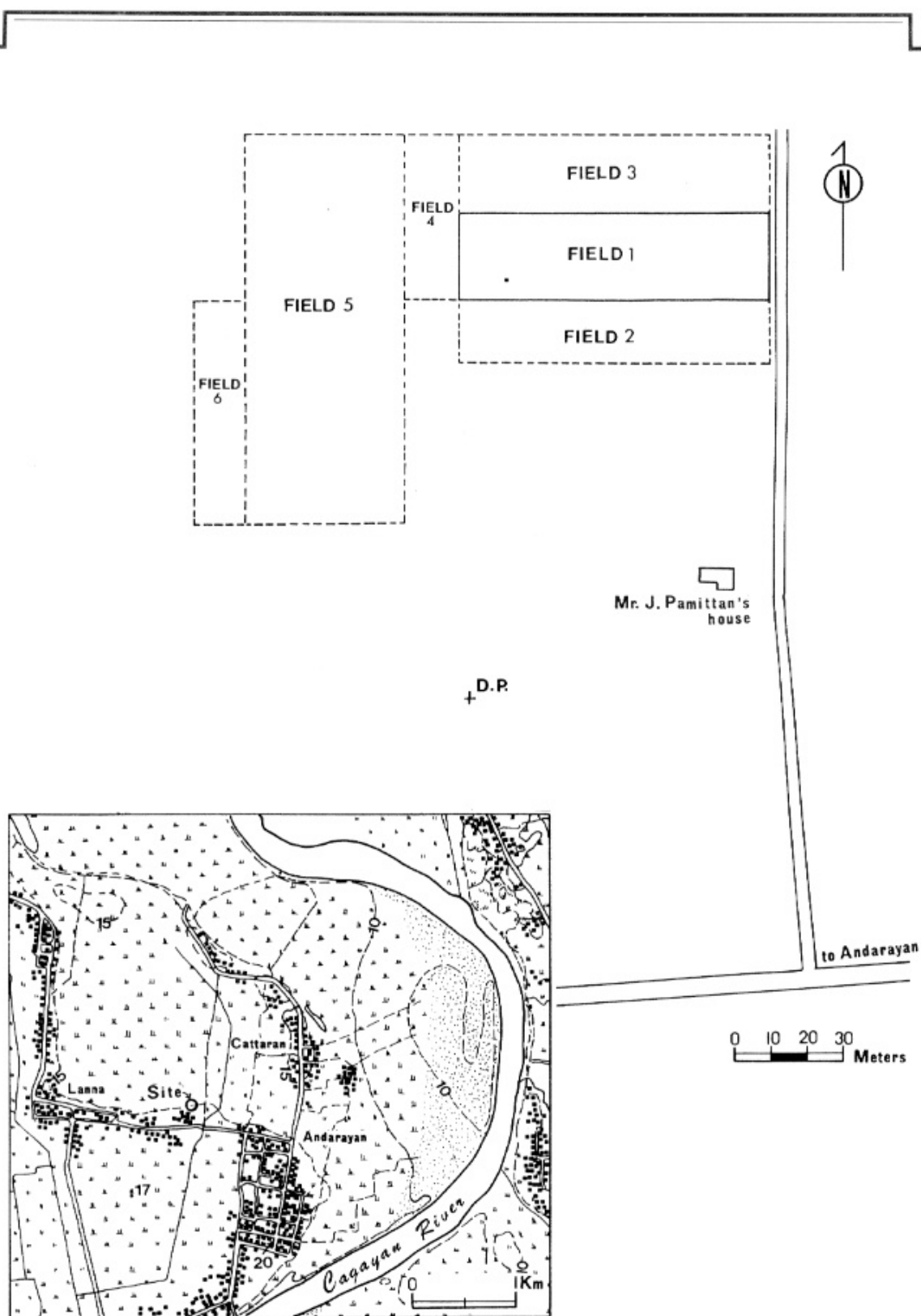


Fig. 10 Map of the Lanna Site, Solana, Cagayan
Lanna 遺址位置圖

Artifact & Ecofact	Site	Carig Site	Bulawitan Site (Naga-Ilan)			Andarayan Site		Lanna Site		
			Quad A	Quad B	Quad C	Area A	Area B	Field 1	Field 4	Field 5
Stone adze		2	0	3	1	0	0	0	0	3
Chert flake		24	9	2	2	0	22	24	0	15
Andesite flake		0	0	0	1	0	0	1	0	0
Obsidian flake		0	0	0	0	0	4	0	0	0
Quartz flake		0	0	1	0	0	0	0	0	0
Flake tool		0	0	0	0	0	2	0	0	0
Chert core		1	0	0	0	0	0	8	0	0
Hammerstone(?)		1	0	0	0	0	0	0	0	0
Petrified wood		1	5	8	3	0	1	1	0	3
Probable stone anvil for pottery making		0	0	0	0	0	0	1	1	0
Probable stone tool		1	0	0	0	0	0	0	0	
stone		0	1	0	0	0	0	0	1	2
Clay earring		0	0	0	0	0	0	1	0	1
Clay disc		4	1	0	0	0	0	7	0	1
Perforated clay disc		0	0	0	0	0	2	0	0	0
Clay spindle whorl		0	1	0	0	0	0	0	0	0
Lump of fired clay		0	0	0	0	0	1	15	0	0
Earthenware sherd		524	357	468	102	22	549	2694	73	68
Porcelain sherd		1	-	-	-	-	-	-	-	-
Stoneware sherd		1	7	7	2	0	0	0	0	0
Celadon sherd		0	2	2	1	0	0	0	0	0
Blue-and-white ware sherd		0	16	0	2	0	0	0	0	0
Animal bone		0	1	0	0	0	0	0	0	0
Animal tooth		0	0	0	1	0	0	0	0	0
Shell		0	0	0	4	0	0	0	0	0

Table 1 List of number of artefacts and ecofacts by kind found in four sites in Cagayan Province, northern Luzon, Philippines.

北呂宋 牙加因省四個遺址出土的器物種類圖

Part \ Site	Carig Site	Bulawitan Site (Nangalisan)			Andarayan Site		Ianna Site		
		Quad A	Quad B	Quad C	Area A	Area B	Field 1	Field 4	Field 5
Mouthrim	120	19	51	11	3	177	673	23	26
Part of Neck	22	16	29	7	5	62	512	21	3
Part of body	285	314	379	77	11	267	1399	21	12
Base/Bottom	42	5	0	3	3	24	79	7	13
Part of pot cover	0	2	0	1	0	0	2	0	1
Decorated sherd	37	0	0	1	0	1	7	0	0
Perforated sherd	0	0	0	0	0	5	0	0	0
Handle/lug	3	0	3	0	0	4	5	1	4
Part of stove	15	1	6	2	0	9	17	0	9

Table 2 List of number of parts of earthenware sherds found in four sites in Cagayan Province, northern Luzon, Philippines.

北呂宋 牙加因省四個遺址出土陶片種類圖

呂宋北部加牙因河中游四個遺址 初步考察報告

田中和彥 及 Amalia de la Torre

【摘要】

菲律賓呂宋島北部是南島語系民族最先登陸地之一，在史前學及考古學研究方面有重大價值。近年北呂宋加牙因省Solana發現公元前2000年的稻米遺存，更引起各方學者的廣泛注意。然而，由於年代研究方面仍有不足，故此難以拼湊出各個史前文化的發展軌跡。為了建立此地陶器遺存的年代序列，本文作者聯同菲律賓國家博物館考古部門Ms Amali de la Torre及其他人員於1993年在各陶器遺址展開了一連串的考古研究工作。工作分勘察、試掘及系統發掘三個程序進行。本文為考察工作之初步報告。

考察工作在加牙因河中游展開，勘察範圍包括東岸的Carig及西岸的Nangalisan, Lanna及Andarayan等遺址。全部遺址都發現石片器，前三處且有斷面作四角形的磨光石鏃。雖然Andarayan只有一塊磨光石鏃的碎片出土，但

已足以證明這類石器是各遺址的典型器物。此外，四處皆有陶器出土，其中Lanna A區藏量最豐，陶片數目超過2000塊。Carig有部份粗質陶碗碎片則與加牙因河下游發現的陶片相類。Lanna出土的陶製耳環則與東南亞大陸的同類器物近似。由於Nangalisan尚發現十四世紀中國青白瓷及青花瓷器碎片，可能屬多個年代或多元組合的遺址。這四個遺址的出土物尚包括木化石、玉飾、炆器碎片等。

勘察結果引發了一連串相關疑問，例如磨光石鏃的年代和其有關器物，與Nangalisan出土瓷片的關係、打製石片的技術和石器用途、遺址居民的生活型態、與加牙因河下游的交往及與其他東南亞大陸地區的接觸等等，都很具研究價值。待發掘工作逐步展開後，相信很多問題都會迎刃而解。由於Lanna的陶片出土量最豐，故試掘將由此處開始。