

Archaeology in Africa and Asia : Prehistoric Coexistence : The Expansion of Farming Society from the Yangzi River Valley to Western South China

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Prehistoric Coexistence: The Expansion of Farming Society from the Yangzi River Valley to Western South China

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INTRODUCTION

South China refers to the present Guangxi, Guangdong, Fujian, and Hainan provinces, as well as the Hong Kong and Macau Special Administrative Regions. This paper focuses on Guangxi Municipality, which is in western South China (Figure 1). Located between latitudes 26°33' and 20°54', and longitudes 104°28' and 112°04', Guangxi Municipality is a subtropical to tropical area with an average precipitation of between 1,400 mm and 2,000 mm, and average annual temperatures



Figure 1 Archaeological sites mentioned in the text.

between 20°C and 22°C (The Editing Committee of China's Physiography 1984). The Pearl River runs from western Guangxi to the east, with several tributaries flowing to different directions. Among these tributaries, the Zi River runs northwards into a tributary of the Yangzi River Valley (Figure 1). This is an important pathway for human diasporas and cultural exchanges between the Yangzi River Valley and South China.

Guangxi has very rich floral and faunal resources. There are over 1,000 species of fungi, of which nearly 200 are edible. More than 1,950 species of hardwood had been identified by 1995, including 100 species bearing edible fruits and more than 60 species containing edible starch (The Editing Committee of Natural Resources in China 1995). Even after thousands of years of human exploitation, up until the mid-1990s there were still over 130 species of mammals, more than 150 species of reptiles, over 300 species of freshwater and marine fish, and more than 500 species of birds in Guangxi (The Editing Committee of Natural Resources in China 1995).

Guangxi is also a landmass with various geomorphological features. Northern Guangxi is characterised by limestone hills with many caves and small basins, providing natural shelters for humans and habitats for many species of animals. Plateaux, basins and river valleys form the central area of Guangxi, while small plains, river terraces and deltas are the major geomorphological features of the south.

RECENT ARCHEOLOGICAL DISCOVERIES

Archaeological investigations in Guangxi can be traced back to 1935, when Teilard de Chardin and Pei Wenzhong discovered human remains and artefacts in several caves (Pei 1935). Hundreds of archaeological sites have been located in this region since then, dating from the Palaeolithic to the historical periods.

Several prehistoric sites have been excavated in Guangxi since the mid-1990s. In northern Guangxi, the Dayan and Zengpiyan caves were excavated in 1999 and 2001 respectively. Further north, a river terrace site, Xiaojin, located near the source of the Zi River, was dug in 1999–2000 (Fu 2004). Another river terrace site, Dingsishan, was excavated in several seasons from 1997 to 1999 (Fu 2004), while a cave site, Gantuoyan, was dug in 1997–1998 (Guangxi Archaeological Team and Napi County Museum 2003). These new discoveries provide novel data for our understanding of prehistoric cultural diversity in Guangxi.

With a habitable floor of about 220 m², Zengpiyan Cave was discovered and dug in the 1970s, but its stratigraphy was not clearly distinguished at that time. The Institute of Archaeology (CASS) excavated there again in 2001 in order to clarify the stratigraphy. Thousands of artefacts and large amounts of animal remains were found, as well as macro- and micro-remains of plants retrieved by flotation, phytolith studies, and pollen analysis (The Institute of Archaeology CASS *et al.* 2003). Deposits in Zengpiyan are dated from 12,000 to 7,000 years ago based on radiocarbon dating and comparative analysis of the archaeological remains (The

Institute of Archaeology CASS *et al.* 2003).

Located approximately 8 km northwest of Zengpiyan Cave (Figure 1), Dayan is a small cave with a habitable floor of about 200 m², situated on a small limestone hill with an underground stream nearby. Found in 1999, the archaeological remains at Dayan are well preserved, and a total of 300 m² of deposit survive, of which 72 m² were dug between October 2000 and January 2001. Large quantities of plant and animal remains, as well as burials, fired clay, pottery and stone and organic tools were found. The cultural deposits here are dated from 15,000 to 3,500 bp (Fu *et al.* 2001).

Based on archaeological data, the subsistence strategies of the residents of Dayan and Zengpiyan Caves were mainly hunting and gathering. A total of 108 species of animals have been found in these two sites, including 47 species of freshwater molluscs dominated by Chinese mystery snail, one species of crab, two species of fish, one species of alligator, 20 species of birds, and 37 species of mammals dominated by deer and wild boar. These faunal remains are associated with flaked pebble tools and ground lithic and organic tools, burials, pottery and other organic implements (Fu 2004; The Institute of Archaeology CASS *et al.* 2003). Plant remains found at Zengpiyan include roots (yams), cruciferous plants, ferns, and other vegetables. Legume pollen and taro residues have also been found at Zengpiyan, but whether they are wild or domesticated species remain unclear (The Institute of Archaeology CASS *et al.* 2003).

The aforementioned data suggest that the people living at Zengpiyan and Dayan produced pebble and organic tools, as well as tempered and fine pottery in different periods (Table 1). Both the quantities and qualities of the plant and animal remains found in these two sites increased substantially after 12,000 years ago, indicating that the natural resources available to, and exploited by, local inhabitants became richer and more diversified. This may have been linked to the warmer and humid climate and local environment after the onset of the early Holocene, which may have sustained more edible plants and animals.

The discovery of plant and animal remains and the relatively small size of the habitable areas in the two caves indicate that the people living at Zengpiyan and Dayan were foragers organised in small bands, although their mobility patterns are not yet clear. Burials found in both caves are without grave goods prior to 7,000 years bp, and with only limited items after 7,000 years ago, indicating relatively egalitarian social structures. As no significant changes are visible in the quantities and qualities of plants and animal remains found in these two sites after 12,000 years ago, it seems that the subsistence strategies of the cave dwellers were relatively stable up to 7,000 and 3,500 years respectively (Table 1).

However, it is necessary to note that grains and/or phytoliths of rice have so far been found at three sites in Guangxi after 7,000 bp: Xiaojin, Dingsishan, and Guantuoyan. The river terrace site Xiaojin is located further north than Dayan and Zengpiyan (Figure 1). Ground stone tools, pottery and, most importantly, rice phytoliths and grains of domesticated rice have been found here, dated to between

Table 1 Prehistoric cultural developments in Guangxi, western South China.

Cultural phases and characteristics	Dayan	Zengpiyan	Xiaojin	Dingsishan	Gantuoyan
Upper Palaeolithic (Flaked cobble tools, some animal remains)	Phase I (Before 15,000 bp)				
Transitional period (Ground organic tools and fired clay; shell and terrestrial animal remains; occurrence of flexed burials without grave goods except some cobbles)	Phase II (15,000–12,000 bp)				
Early Neolithic I (Occurrence of pottery vessels and pierced stones)	Phase III (12,000–11,000 bp)	Phase I			
Early Neolithic II (Occurrence of ground stone tools; pottery)	Phase IV (11,000–8,000 bp)	Phases II-IV		Phase I (10,000–9,000 bp)	
Middle Neolithic I (Occurrence of fine pottery and grave goods)	Phase V	Phase V (8,000–7,000 bp)	Phase I	Phases II and III (dis-articulated burials)	
Middle Neolithic II (Rice farming and finely ground stone tools)			Phase II (6,500–5,500 bp)	Phase IV (6,500–6,000 bp)	
Late Neolithic (More fine pottery with diversified decoration; foxtail millet and rice)	Phase VI (5,000–3,500 bp)		Phase III		Phases I and II (5,500–3,000 bp)

6,500 and 3,500 bp (Guangxi Archaeological Team and Ziyuan County Museum 2004). As large quantities of rice-leaf phytoliths have been found in cultural deposits (Lu 2002), it is likely that rice farming was practised at Xiaojin, for it is quite unconvincing that the rice leaves were obtained by exchange or trade.

It has been argued that some white potsherds with incisions and red-painted pottery found at Xiaojin resemble those of the Neolithic farming cultures dating to 7,500–7,000 years ago in the Yangzi River valley, but the other cultural components at Xiaojin are local (Lu 2002). The Xiaojin data therefore suggest that rice farming was practised in northern Guangxi by 6,500 years ago and that there might have been cultural influences from the Yangzi River Valley to northern Guangxi. In fact, according to our ethnographic survey, there are still farmers today who migrate from the middle Yangzi River valley to northern Guangxi along the Zi River, which connects the Yangzi River Basin and western South China.

In southern Guangxi, Dingsishan was dug in the late 1990s in three seasons. Major discoveries include stone tools, disarticulated burials, pottery, animal remains and large quantities of freshwater shells from Phases I to III, dating from

approximately 10,000 to 7,000 years ago (Fu 2004). Most importantly, rice phytoliths have been found in Phase IV (7,000–6,000 years ago), indicating the occurrence of farming, while fresh water shells are absent in this period (Zhao *et al.* 2005). As pottery of Phase IV at Dingsishan differs from the previous three phases, the Dingsishan occupants at around 7,000 to 6,000 years ago may not have been of local origin.

The last site, Gantuoyan, is a cave located at Guangxi's southwestern border with Vietnam. It was excavated in the late 1990s. Pottery, stone implements, and animal remains, as well as remains of domesticated rice and foxtail millet (*Oryza sativa* and *Setaria italica* respectively) have been found here, the cereal grains being dated to between about 4,000 and 3,000 bp (Guangxi Archaeological Team and Napi County Museum 2003). This suggests the possibility of rice and foxtail millet cultivation at this time, although the acquisition of these cereals by exchange cannot be ruled out. This is also the earliest archaeological evidence of foxtail millet in South China to date.

DISCUSSION

The aforementioned archaeological data suggest that before 7,000 years ago Guangxi was occupied by foragers. After 7,000 years ago, some peoples in northern and southern Guangxi practised farming, manifested by the discovery of rice remains at Xiaojin and Dingsishan and of rice and millet remains at Gantuoyan. On the other hand, the Dayan data suggest that hunters and gatherers continued to live in this region up to 3,500 years ago. It seems likely, therefore, that prehistoric rice farmers and foragers coexisted in northern Guangxi from 6,500 onward (Dayan vs. Xiaojin). The pottery assemblage from Xiaojin indicates that there were cultural influences from the Yangzi River Valley, and this may account for the occurrence of rice farming in western South China by 6,500 years ago.

Archaeological data in southern Guangxi seem to illustrate a different picture. While the archaeological remains of Phases I to III at Dingsishan manifest a cultural continuity of foragers in this region, the pottery of Phase IV seems to suggest the replacement of an indigenous culture by an exogenous one, which preliminary analysis of the ceramics suggests might not have come from the Yangzi River Valley. Ceramics found at Gantuoyan also seem quite different from those found in the contemporaneous Yangzi River Valley. The homelands of the prehistoric farmers of Dingsishan and possibly Gantuoyan remain unclear at the moment.

In summary, archaeological data to date suggest that there was more than one culture in western South China by 7,000 years ago. While the Dayan and Zengpiyan residents were foragers from about 15,000 to 3,500 years ago, those who occupied Xiaojin and were responsible for the last phase of occupation at Dingsishan were farmers, although they may also have practised other subsistence strategies, such as hunting and collecting. Farming and foraging are not reciprocally exclusive activities. In fact, many archaeological data suggest that prehistoric farmers in many

parts of China were also foragers (Lu 2006). Therefore, the presence or absence of farming activity may only be viewed as different subsistence strategies in prehistoric western South China, resulting from different human adaptations and cultural developments, as well as cultural contacts and exchanges between local and non-local societies.

The coexistence of different cultures in prehistoric Guangxi illustrates diversified human adaptations and cultural developments in this subtropical to tropical area. However, much work is still required to study past cultural developments in western South China, as well as the cultural dynamics between South China, the Yangzi River Valley and other areas, such as Southeast Asia.

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