

# Neolithic Shunshanji Site in Sihong County, Jiangsu

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## Abstract

The three terms of excavation to the Shunshanji Site confirmed that this site is a large-scale ditch-enclosed settlement in 8000 BP; the excavations recovered burials, house foundations, ash pits, ash ditches, hearth remains, large areas of burnt clay clod accumulations and dog victim pits of Neolithic Age, and unearthened potteries, stone and bone implements and jades. The Neolithic remains in this site can be divided into three phases. This discovery filled the gap of the ditch-enclosed settlement archaeology in the middle and lower reaches of the Huai River and provided new data and chances for the understanding to and studies on the prehistoric cultural genealogy and the interchanges and integrations of the cultures in East China. It also provided new clues for the discussions on the change of the prehistoric environment, the migrations of the faunas and the man-land relationship.

**Keywords:** Neolithic Age; settlements; Shunshanji Site (Sihong County, Jiangsu)

## Outline of the site

The Shunshanji Site is located in Meihua (Prunus Blossom) Town of Sihong County, on a north-to-south slanting slope in the northern section of Chonggang Hill, and about 15km to the northwest of the seat of Sihong County. It occupies an area of 17.5ha in total. In 1962, the Nanjing Museum discovered the site through archaeological survey and gave it the present name. From the 1990s, the site was continuously damaged in the course of placer mining. In 2010 to 2012, the Institute of Archaeology of Nanjing Museum carried out three terms of excavation on the site. Meanwhile, we conducted trial excavation on the Hanjing Site that lies 4km apart from Shunshanji, which confirmed that the cultural features of the remains discovered there are identical with those of Shunshanji Phases I and II and correspondent to the latter in date. Through three terms of excavation it can be confirmed that the Shunshanji Site is a large-sized ditch-surrounded settlement about 8000 BP. Based on the stratigraphical relationships of the revealed vestiges and the evolution and assemblage of the unearthened artifacts, the Neolithic remains on the site can be divided into three phases.

## The surrounding ditch (moat)

The moat is roughly oval in plan and measures about 230m in minor diameter from east to west and about 350m in major diameter from north to south, forming an approximately 1000m circumference and surrounding an area of nearly 7.5ha. In terrain, the highest place is in the north, from which the slope gently descends to the south, where originally there was a section of a horizontally running natural river utilized as a part of the surrounding ditch to form an enclosed space but now it has been built into the Zhaozhuang Reservoir.

The ditch is generally about 15m wide, the broadest north part reaching 24m; in depth the maximum measurement is also in the north section that exceeds 3m. The bottom is roughly flat, and the outer wall is slightly steeper. The ditch intruded into the cultural accumulation of Phase I. The accumulations in the ditch belong mainly to Phase II, though some parts yielded richer remains of Phase III. The ditch bottom is commonly covered by thicker or thinner silt or sandy mud. The entire ditch was dug and functioned between Phases I and II; it began to be abandoned in Phase II, and on the whole had been heavily filled by Phase III.

As known from the south wall of sectioning trench TG9 in the east of the surrounding ditch, the stratigraphical accumulations can be divided into eight layers, of which the third to seventh layers belonged to the cultural remains of Phase II (Figure 1).

## The cultural remains of Phase I

1. Vestiges. There are two house foundations, 17 ash pits, three hearths and a dog victim pit. They are represented by ash pits H3 and H4 and house foundations F1 and F2.

H3 is opened beneath the third layer in excavation square T2155 and intruded into the fourth layer. It has an oval plan, slanting walls and an uneven bottom, and measures 2.7m in length and 1.6m in width for the opening and 0.16–0.4m in depth. The fill consists of relatively hard grayish-brown soil mixed with large amount of ashes, burnt clods and a few animal bones. The unearthened artifacts include pottery vessels belonging to the types of *fu*-cauldron, jar, *bo*-bowl, etc. and a jade tube.

F1 is left over from a shallow subterranean house. It has a roughly oval plan and measures 4.3m in length, 1.6–2.6m in width and 0.1–0.25m in depth, occupying an area of about 7.5sq m. In the periphery, 14 round post pits were discovered, each measuring 0.15–0.22m in diameter and 0.3–0.49m in depth. The doorway faces to the south.



**Figure 1** Part of the surrounding ditch (NW–SE).



**Figure 2** House foundation F1 (SE–NW).



**Figure 3** Red sandy pottery *fu*-cauldron (H4:1).

A hearth is found a little to the north of the center and yielded broken struts (Figure 2).

2. Artifacts. Including pottery wares and a few stone implements.

The pottery artifacts are largely round-bottomed vessels such as *fu*-cauldron, jar, *bo*-bowl, basin, stove, strut, vessel stand and some other types. Most of them belong to sandy ware, accounting for 90%, while fine clay utensils occurred only in a small number. The sandy pottery is usually red outside and black inside, and the color is uneven and the body thick. The fine clay ware is chiefly red both in slip and in body and coated with red color. In decoration the surface is usually plain except for some products adorned with finger nail, impressed, stud and raised bowstring patterns. H4:1 is a red sandy *fu*-cauldron with a wide-opened mouth, a curvy belly and a round bottom, and measures 43cm in mouth diameter and 23.6cm in remaining height (Figure 3). T2055 ④:1 is a reddish-brown sandy pot. It has a flared mouth, a contracted neck, a bulging belly and a slightly flattened round bottom. The shoulders are attached with two symmetric nipple-like lugs, either bearing a round hole. The mouth measures 10.6cm in diameter and the whole body 17.8cm in height (Figure 4).

The stone implements are small in number and mostly coarse in processing. In type there are the grinding ball, ax, hammer, adze, etc. Jade artifact was encountered only one (H3:2). It is a broken tube with a bilaterally drilled hole. The body is polished and measures 5.6–5.8cm in remaining length (Figure 5).



**Figure 4** Reddish-brown sandy pottery pot (T2055 ④:1).



## The cultural remains of Phase II

1. Vestiges. There are three house foundations, 70 burials in the cemetery of Zone II, five ash pits and a broad burnt clay spot.

The house foundations (F3-F5) are adjacently located in the northwest of the ditch-enclosed area and belong to the ground-level structures in circular plan. A ring of peripheral postholes and one or two central posts are discovered in each case. A thin burnt clay layer is found in the center of the floors of F3 and F5 and fragments of pottery struts are left. All the houses are larger than those of Phase I. For example, F3 reaches 22sq m (Figure 6).

The cemetery of Zone II is located to the northwest of the ditch-surrounded area. The burials are all rectangular earthen shaft pits arranged in neat rows, major axis pointing mainly to the north by east with some exceptions pointing to the south, and intrusion between graves was rarely encountered. The human skeletons are poor in condition. Grave goods are generally absent; the burials containing the most grave goods yield no more than three items, which belong to the pottery *fu*-cauldron, *bo*-bowl, pot, etc. Usually the occupants are laid in extended supine position, and the ones in on side position are seen occasionally. They are generally in a single burial, though double and multiple burials occurred in a few cases (Figure 7).

Burial M39 is a multiple burial in a rectangular earthen pit grave with vertical walls and a roughly flat bottom. It measures 2.37m in length and 0.95-1.1m in width for the opening and 0.18-0.25m in depth. The human skeletons are in a poor condition. They belong to six individuals and are in extended supine position. Three of them are juveniles 12-15 years old. The grave goods are a pottery pot, a pottery jar and a pottery *bo*-bowl (Figure 8).

2. Artifacts. The pottery utensils are largely round- or flat-bottomed, and belong mainly to the *fu*-cauldron (Figures 9 to 12), double-lugged jar, *bo*-bowl, stove and strut. The other types include the *yi*-pourer, *dou*-stemmed bowl, pot, stand, small cup, vessel lid, spindle whorl, and clay model. The sandy ware accounts for 99%; the surface is chiefly red and grayish-brown, while the inner side is black. In decoration, most of the



Figure 5 Jade tube (H3:2).



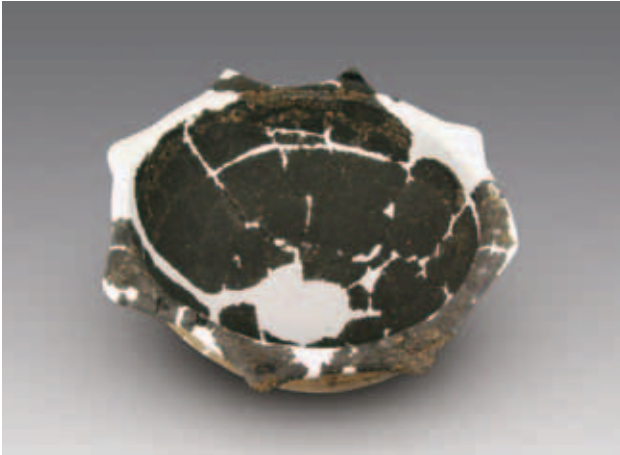
Figure 6 House foundation F3 (SW-NE).



Figure 7 Cemetery in Zone II (S-N).



**Figure 8** Burial M39 (S–N).



**Figure 9** Pottery *fu*-cauldron (TG7 ③ :1).



**Figure 10** Pottery *fu*-cauldron (TG9 ⑥ :7).



**Figure 11** Pottery *fu*-cauldron (TG12 ⑧ :5).



**Figure 12** Pottery *fu*-cauldron (TG9 ④ :6).



**Figure 13** Red sandy pottery stove (TG9 ④ :15).



**Figure 14** Clay sculpture monkey mask (TG11 ⑩ :6).



**Figure 15** Clay sculpture dog head (TG12 ⑨ :9).



**Figure 16** Clay sculpture fowl head (TG12 ⑦ :8).



**Figure 17** Clay sculpture human face (TG7 ③ :2).

objects are plain; the decorated artifacts bear generally studs, incised and openwork patterns.

The stoves are all broken and belong to red sandy ware with a thick body. TG9 ④ :15 has a roughly square plan, a thick wall and an inward-slanting top. The upper mouth is slightly contracted; the door is opened right in the center of the front. A protuberance is added to the center of the inner side of the back, and two concavities for carrying are made on the outer sides. It measures 37.6cm in length, 35cm in width and 20.4cm in height (Figure 13).

There are clay sculpture human faces and animal figures and masks. The subjects include the human being, bear, monkey, pig, dog, fowl, bird and fish (Figures 14 to 19).

Among the stone implements are the grinding ball, ax, adze and some other types, such as a round flat-bottomed quern and one with legs (Figure 20).

The unearthed bone implements are small in number.

They represent the types of deer antler hoe, arrowhead and the like.

### Cultural Remains of Phase III

The excavated vestiges include 22 burials and four ash pits, which are represented by the cemetery in Zone I.

1. Burials. The cemetery of Zone I is located beyond the southwestern section of the moat. The graves are usually rectangular in plan with the orientations to the south and north, though the ones with orientations to the east and west are also recorded in some cases. The human skeletons are all poorly preserved. A part of burials are larger in size and richer in grave goods (Figure 21).

M97 is a sub-rectangular earthen pit burial with sloping walls and an uneven bottom. It is 2.68m long and 0.9–1.15m wide for the opening and 0.1–0.19m deep. The





**Figure 18** Clay sculpture bear mask (TG10 ⑤ :5).



**Figure 19** Clay sculpture human face (TG9 ④ :16).



**Figure 20** Stone quern (T3657 ② :2) and grinding ball (TG12 ⑥ :2).



**Figure 21** Part of the cemetery in Zone I (S-N).

human skeleton is very poor in condition; still his position can be identified as an extended supine position heading south. Eight pieces of grave goods are found in this grave, including three *fu*-cauldrons, two ring-foot plates, one *dou*-stemmed bowl and one vessel lid (Figure 22).

2. Artifacts. The pottery vessels are largely round-bottomed, with the *fu*-cauldron, ring-foot plate, *bo*-bowl, pot, basin, stove and strut forming the basic assemblage; the rest artifacts belong to the jar, vessel stand, vessel lid, file, spindle whorl, etc (Figures 23 to 28). The sandy ware accounts for 99%, the paste of which are generally tempered with chopped-up plant stems, and the bodies are often red and brown except for a few gray and black products. The bodies are coarse and often coated with slip but without designs except for the cord marks and the pierced, incised and attached emboss patterns added to some items.

Stone implements were discovered occasionally. The unearthed types include the ax, hammer, adze, chisel and grinding ball.

### Cultural features and chronology

In cultural aspect the remains of Phases I and II of Shunshanji Site are similar to each other and represent two evolutionary stages within the same culture, while those of Phase III show clear difference from the former two. Below are individual discussions on the two parts.

1. Distinctive features of the first and second phases.

(1) The surrounding ditch (moat) was opened in the transitional stage

between Phases I and II; it is large in size but shallow, gentle and wide. The enclosed area reaches 7.5ha in total, which is the only case of the same period known so far in the Huai River valley.

(2) Among the house foundations only F1 is an oval shallow semi-subterranean structure, the rest are all circular ground-level buildings. A ring of postholes remains in the periphery of the floor, traces of one or two central posts were seen in the center, and a layer of red burnt clay was often revealed in the houses.

(3) The cemetery of Zone II is clear in layout and orderly in arrangement; very few intrusion relationships are



**Figure 22** Burial M97 (E-W).



**Figure 23** Pottery *fu*-cauldron (M15:1).



**Figure 24** Pottery *dou*-stemmed bowl (M73:3).



**Figure 25** Pottery pot (M98:3).



**Figure 26** Pottery bowl (M76:6).



**Figure 27** Ring-foot pottery plate (M97:3).



**Figure 28** Pottery *fu*-cauldron (M98:6).

discovered. They are mostly single burials, joint burials were also practiced, and grave goods are absent in most cases. It means that at that time, there was no obvious differentiation in the society.

(4) The pottery belongs mostly to sandy ware, which accounts for 90% and 99% in Phases I and II respectively. The basic assemblage comprises the *fu*-cauldron, jar, basin, *bo*-bowl, pot, *yi*-pourer, stove and strut. The cooking assemblage is a *fu*-cauldron on a stove or on struts.

(5) The stone implements are spare in type. They belong mainly to the grinding ball, quern, ax, hammer, adze and chisel. The round or oval grinding ball and the quern were assembled into the basic tools for grain processing.

## 2. Distinctive features of the third phases.

(1) Most of the burials in the cemetery of Zone I are in the north-south orientation except for a few in east-west orientation. They are single burials with the head of the occupants pointing to the south in the burials with orientations to the both the south and north. Social differentiation began to appear as shown by rank division in the cemetery: a part of burials are larger in size and richer in grave goods.

(2) The pottery belongs mainly to sandy ware (paste of some of which tempered with chopped-up plant stems), which accounts for 99% of the total. The basic assemblage comprises the *fu*-cauldron, ring-footed plate, *bo*-bowl, pot, basin, *dou*-stemmed bowl, vessel lid and strut. The cooking utensil assemblage is chiefly a *fu*-cauldron assembled with struts or a stove.

## 3. The date of the site.

According to the  $^{14}\text{C}$  dating of a part of the unearthed finds belonging to the Phases I and II and referring to the dates of the carbonized rice yielded from a number of ash pits and strata of the Hanjing Site and other vestiges, we can take five calibrated data as effective evidences.

Sample BA111867 of Shunshanji Site dates as 6220–

6100 BCE according to its calibrated datum (confidence interval 68.2%); Sample ZK-3447, as 6370–6240 BCE (confidence interval 68.2%); and Sample ZK-3448, as 6210–6140 BCE (confidence interval 26.8%) or 6110–6040 BCE (confidence interval 41.4%).

Sample BA111868 of Hanjing Site dates as 6430–6240 BCE (confidence interval 95.4%); Sample BA111869, as 6240–6100 BCE (confidence interval 68.2%) or 6250–6060 BCE (confidence interval 95.4%).

Sample BA111867 of Shunshanji Site is yielded from the fifth layer of excavation grid T2374 that can be attributed to the late stage of Phase III. Samples ZK-3447 and ZK-3448 came from sectioning trench TG1, namely from its 13th layer that belongs to the early stage of Phase III; the 14th layer superimposed by the 13th layer goes back to the late stage of Phase II. The two samples are slightly antedated. The potsherds from ash pit H3 of Hanjing Site (the provenance of sample BA111868) are similar to those from the remains of Phase I of Shunshanji Site and corresponding to them in date. Therefore it can be preliminarily inferred that *terminus post quem* of Phase I of Shunshanji Site must go back to about 8500 BP, and the *terminus ante quem* of Phase II dates as about 8000 BP. The typical objects of Phase III, such as pottery *fu*-cauldron with flaring mouth, wide rim and round bottom and decorated with cord marks, ring-footed plate and some other vessels, have their counterparts in the Chengbeixi, Lower Zaoshi and Kuahuqiao Cultures in the middle and lower reaches of Yangtze River, and their dates must roughly correspond to that of the latter cultural complexes, i.e. going back to the stage between 8000 BP and 7000 BP.

## Conclusions

The cultural remains of Phases I and II of Shunshanji Site show distinctive features, unique cultural style, explicit chronology and periodization and vast distribution in the



aspects of ditch-surrounded settlement, circular ground-level houses, the using of stone quern and grinding ball and other production tools and rice farming. It can be concluded that the cultural complex represented by the remains of Phases I and II of Shunshanji Site should be classified as a new archaeological culture and called Shunshanji Culture. It goes back to about 8500-8000 BP, existed in the valley of the ancient Sui River, a tributary of the Huai River, and maintained wide and continuous interrelationship with the Houli, Peiligang and Pengtoushan Cultures. The remains of Phase III of Shunshanji Site contain elements of the Kuahuqiao, Chengbeixi and Lower Zaoshi Cultures and present clear confluence of local tradition with external elements. Still its cultural nature has not been completely clarified to date owing to the insufficient data unearthed so far. The excavation to the Shunshanji Site is an important breakthrough of the archaeological study on the early stage of the mid Neolithic Age in the middle and lower reaches of the Huai River in recent years. It provided

new material for further understanding and researches on the prehistoric cultural pedigree in the middle and lower reaches of the Huai River, as well as for inquiring into the cultural interchange and confluence of the archaeological cultures in eastern China. The discovery of the large-scale ditch-surrounded settlement made up the gap in the ditch-surrounded settlement archaeology of the middle and lower Huai River valleys at this time and provided new clues for the studies on the prehistoric environmental change, species migration and the man-land relationship in those regions.

### Postscript

The original report written by Liugen Lin 林留根, Huiyuan Gan 甘恢元, Long Yan 闫龙 and Feng Jiang 江枫 was published in *Kaogu* 考古 (Archaeology) 2013. 7: 3–14 with 33 illustrations. This abridged version is prepared by Liugen Lin, Huiyuan Gan and Long Yan and translated into English by Runxian Mo 莫润先.