

Neolithic Site at Sanxingcun in Jintan, Jiangsu

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The Sanxingcun 三星村 site is situated at the Sanxingcun Village, which is at the east side of the watershed of the Taihu 太湖 plain and the Ningzhen 宁镇 hills — the Mao Mountains, and 2 km southeast to the Xigang 西岗 Township, Jintan 金坛 City, Jiangsu 江苏 Province. The 10 ha large site consists of eastern and western parts and occupies a relatively high land surrounding by rivers (Fig. 1). A cooperative archaeological team had conducted several excavations at the site from 1993 to 1998. Within the 525 sq m exposed area, were found 1001 burials, four houses, 55 ash-pits and more than 4000 artifacts and animal bones. The 1998 excavation won the “Fieldwork Award of the National Administrative Bureau of Cultural Relics” and was elected as one of the top-ten important archaeological discoveries of that year.

I. Stratigraphy and Features

The excavations were concentrated at the eastern part of the site. Five layers of deposits can be recognized in most of the 5×5 sq m grids. They are, from the top to the bottom, layer 1 of cultivated soil (20 cm thick); layer 2 of gray-yellowish soil (50–80 cm thick); layer 3 of gray-brownish soil (some burials were found in it); layer 4 of gray soil (40–120 cm thick, most of the burials and a large number of shells were found in it) and layer 5 (10–30 cm thick) with a few burials. Remains of houses and ash-pits were discovered under the layer 5. It seems that this part of the site might have been residential area during the earliest stage of the settlement and became a cemetery after the abandonment of houses. The large amount of burnt earth found in the east of the excavated area indicates that owners of the burials might have lived in the surrounding areas of the cemetery.

All the four houses were discovered under the layer 5. The high density of round postholes (12–25 cm in diameter, 20–55 in depth) indicates that the houses might be pile-dwellings. Some postholes have burnt earth at the bottom. No floors were found. Artifacts unearthed near

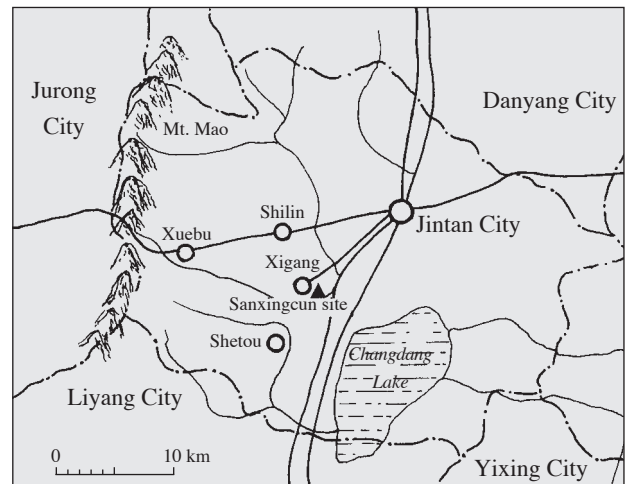


Fig. 1 Illustration map of the Sanxingcun site

the houses include ceramic cauldrons, *ding*-tripods, *dou*-stemmed plates, pots and net-weights. Burnt earth and ash-pits were found around the houses.

All the 55 ash-pits were also discovered under the layer 5. Hence they might have been contemporary with the houses. The pits are round, rectangular or irregular-triangle in shape, with smooth walls and flat bottoms. Together with shards of ceramic vessels and bones of aquatic animals, carbonized grains of domestic rice were recovered within the soft filling earth of the pits. The grains are similar in shape with modern *japonica* rice grains yet smaller.

The 1001 burials distribute with very high density within the excavated area (Fig. 2). More burials were found in the southern part and the highest density occurs in the southwestern part. Except for a few exceptions, most of the burials head to the southeast. Single burials, joint burials of adult and children, extended supine position burials, contracted burials, secondary burials co-exist in the cemetery. In some burials, secondarily buried human bones were put on the head or feet of extended skeletons.



Fig. 2 Burials

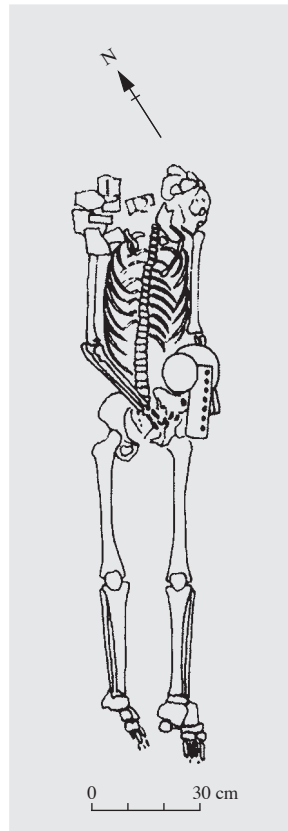


Fig. 3 Illustration of Burial M609

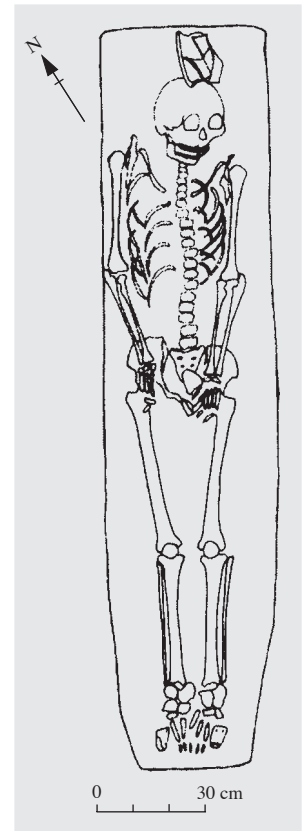


Fig. 4 Illustration of Burial M447



Fig. 5 Burials M446-M449

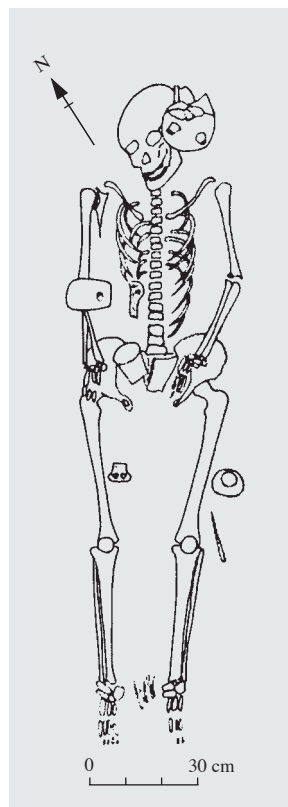


Fig. 6 Illustration of Burial M38

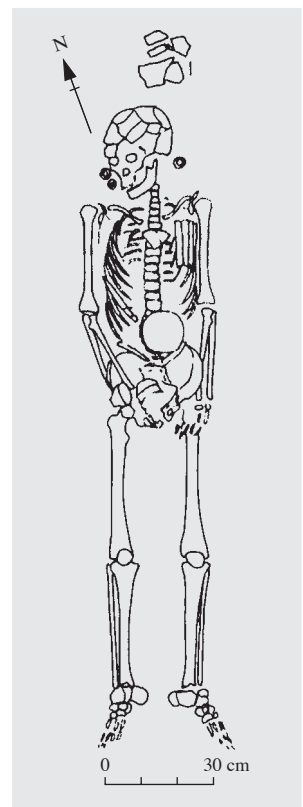


Fig. 7 Illustration of Burial M636

Burial offerings are usually small in size and concentrated near the pelvis and hands of the deceased. However, some are on the chest, belly or between the legs. Most of the deceased has a sandy ceramic *ding*-tripod on the top of the head. Feet of the *ding* were usually intentionally broken and put in the body. Only a few burials own jade and stone objects. Some burials have stone materials and whetstones. The quantity of offerings is different among burials; 5 to 6 in common burials, 10–20 in a few rich burials and zero in some poor burials. Here are some examples of the burials.

Burial M609 was found in the layer 3 without any trace of burial pit and coffin. The young male deceased lying with the extended supine position and heading to 40 degrees on the compass had seven burial offerings with him, including a ceramic *ding*-tripod and a *dou*-stemmed plate, three stone adzes, a stone knife with seven perforations and a stone axe (Fig. 3).

Burial M447 was found in the layer 4 with a rectangular burial pit that is 1.93 m in length, 0.5 m in width and 0.25 m in depth. The adult male deceased lying with the extended supine position and heading to 32 degrees on the compass had four burial offerings with him, including a *ding*-tripod on the top of his head and antler boot-shaped objects (Figs. 4 and 5).

Burial M38 was found in the layer 4 without any trace of burial pit and coffin. The middle-age male deceased lying with extended supine position and heading to 34 degrees on the compass had ten burial offerings with him, including a stone *yue*-axe with its damaged handle (still 53 cm in length) on his right side between his belly and upper leg (Fig. 6).

Burial M248 was found in the layer 5 without any trace of burial pit and coffin. The baby deceased lying with extended supine position and heading to 37 degrees on the compass had three burial offering, including a *ding*-tripod, a *dou*-stemmed plate with painted cloud and thunder patterns and a tusk.

Burial M636 was discovered in the layer 5 without any trace of burial pit and coffin. The young female deceased lying with extended supine position and heading to 21 degrees on the compass had 15 ceramic, stone, bone, jade and ivory burial offerings with her, including four pieces of bone slips with carved fine patterns on her left breast (Fig. 7).

II. Artifacts

More than 4000 jade, stone, bone, antler, shell and ceramic artifacts were unearthed in the excavations.

1. Jade objects

Some 109 jade objects, including 63 *jue*-earrings, 13 *huang*-pendants, two *han* (jade piece put in the mouth of the dead upon burial) (Fig. 8:4), one *yue* axe (Fig. 8:1), one spindle wheel, two eardrops and 25 necklaces, were found.

Eight of the 13 *huang* each has a long narrow body with two raised ends and a perforation. M591:2, gray-white in color, 18.9 cm in length (Fig. 8:7). M514:2, gray-white in color, 16.1 cm in length (Fig. 8:6). Other five *huang* are arc-shaped. M846:1, quartzite, gray-green in color, 8.1 cm in length (Fig. 8:5). M191:3, dark green in color, 9.8 cm in length (Fig. 8:3). T1110③:1, 10 cm in length (Fig. 8:2).

All the 63 *jue* are finely polished. Sixteen of them are small and thick. M162:2, quartzite, gray-white in color, 2.4 cm in diameter (Fig. 8:9). Twenty-five of them are in the shape of flat-body-ring. M218:4, chalcedony, gray-white in color, 3.8 cm in diameter (Fig. 8:10). M985:4, crystal white, 3.8 cm in diameter (Fig. 8:11). The other 22 *jue* are relatively big in size and regular in shape. Nine of them are made of crystal chalcedony which is milk white in color. They are all in the shape of flat-body-ring. M889:1, 7 cm in diameter (Fig. 8:8).

2. Stone tools

Some 373 stone tools, including ten *yue*, 21 axes, three hoes, 3 knives, 3 spades, 109 adzes, 19 chisels, 8 hammers, 37 spindle wheels, a drill, a wheel-shaped object, rings, 11 boot-shaped objects, whetstones and raw materials were unearthed. Most of them are made of local raw materials and polished.

The ten *yue* are rectangular or square in shape, each with an arc top, a tongue-shaped blade and a perforation in the upper body. M504:3, 13.2 cm in length (Fig. 9:1). M38:1-3, the *yue* has a damaged handle which is 53 cm in length with a bone head ornament and ivory end ornament (Fig. 9:10). M26:2, 11.2 cm in length (Fig. 9:2). M531:1-3, 45 cm in length (Fig. 9:9).

The three knives are long rectangular in shape with bifacial blade. One has three perforations. The other two each has seven perforations. M609:5, 20 cm in length (Fig. 9:11).

The three hoes are rectangular in shape and each has an elliptical perforation in the middle. M985:9, 15.42 cm in width (Fig. 9:6).

Some of the 21 axes are relatively heavy and thick, while others are thin and each has a perforation. Only one shouldered axe was found. M197:7, 6.5 cm in length (Fig. 9:3). M273:3, 13.7 cm in length (Fig. 9:4). M487:

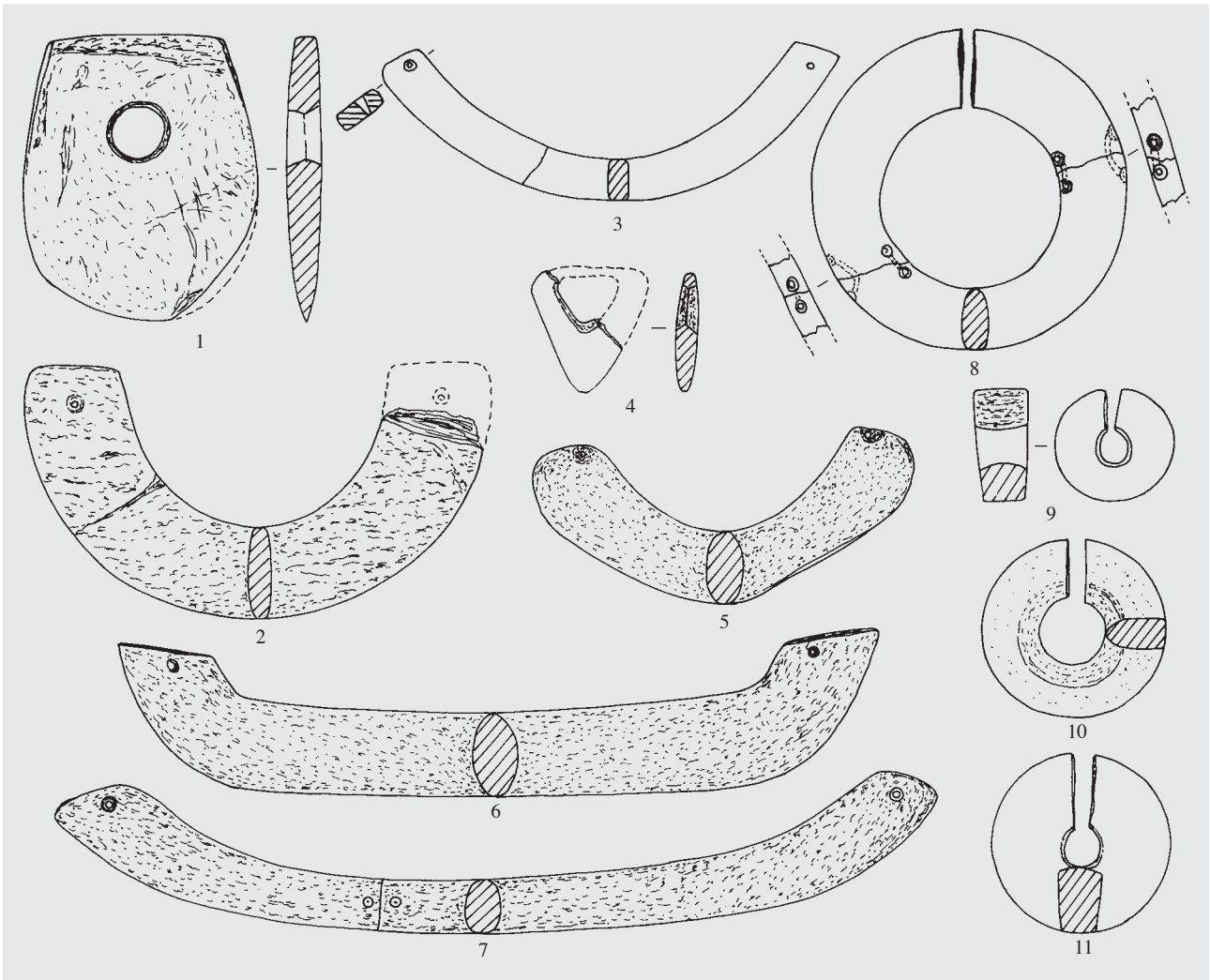


Fig. 8 Jade objects

1. *yue*-axe (M840:6) 2, 3, 5–7. *huang*-pendants (T1110 ③:1, M191:3, M846:1, M514:2, M591:2) 4. *han*-mouth piece (M860A:3) 8–11. *jue*-slit earrings (M889:1, M162:2, M218:4, M985:4) (scales: 1. c.3/10; the rest c.3/5)

6, 15.6 cm in length (Fig. 9:19). M54:2, 8.8 cm in length (Fig. 9:16).

The three spades are in the shape of flat rectangular. Each of them has a bifacial blade and a perforation in the upper middle. M411:3, 15 cm in length (Fig. 9:17).

Most of the 109 polished adzes are made of igneous rock and in the shape of flat rectangular or square. Some of them, usually heavy and thick, are stepped adzes. M389:2, 14.2 cm in length (Fig. 9:5). M611:6, 5.8 cm in length (Fig. 9:18). M162:3, 12.2 cm in length (Fig. 9:14). M611:5, 4.7 cm in length (Fig. 9:15).

The 19 chisels are in the shape of long rectangular cuboid and each has a unifacial blade. M1:2, 6.7 cm in length (Fig. 9:13).

The eight hammers are in the shape of ellipse and each has a perforation and a groove for handle fixing. M421:6, 9.4 cm in length (Fig. 9:12).

Eleven boot-shaped objects with concave surface were found. M467:8, 9, 4.5 cm in length (Fig. 9:7 and 8).

3. More than 680 bone, antler, ivory and shell objects, including bone slips with finely carved patterns, spoons, awls, chisels, needle-containers with needles, hairpins, tubes, rings, arrowheads, fish-spears, ivory hairpins, post-shaped objects, antler boot-shaped objects (Fig. 10:15), awls, shell sickles, *jue*-earrings and ornaments, were unearthed.

Each of the 15 polished bone spoons has an oblique unifacial blade. M932:8, 21.4 cm in length (Fig. 10:2). M450:2, 20.8 cm in length (Fig. 10:1).

Twenty-one bone needle containers with 97 needles in them were unearthed. The tube-like containers were polished both inside and outside. Some of them have carved geometrical patterns on the surface. M232:1, 10.5 cm in length (Fig. 10:14). There are three types of

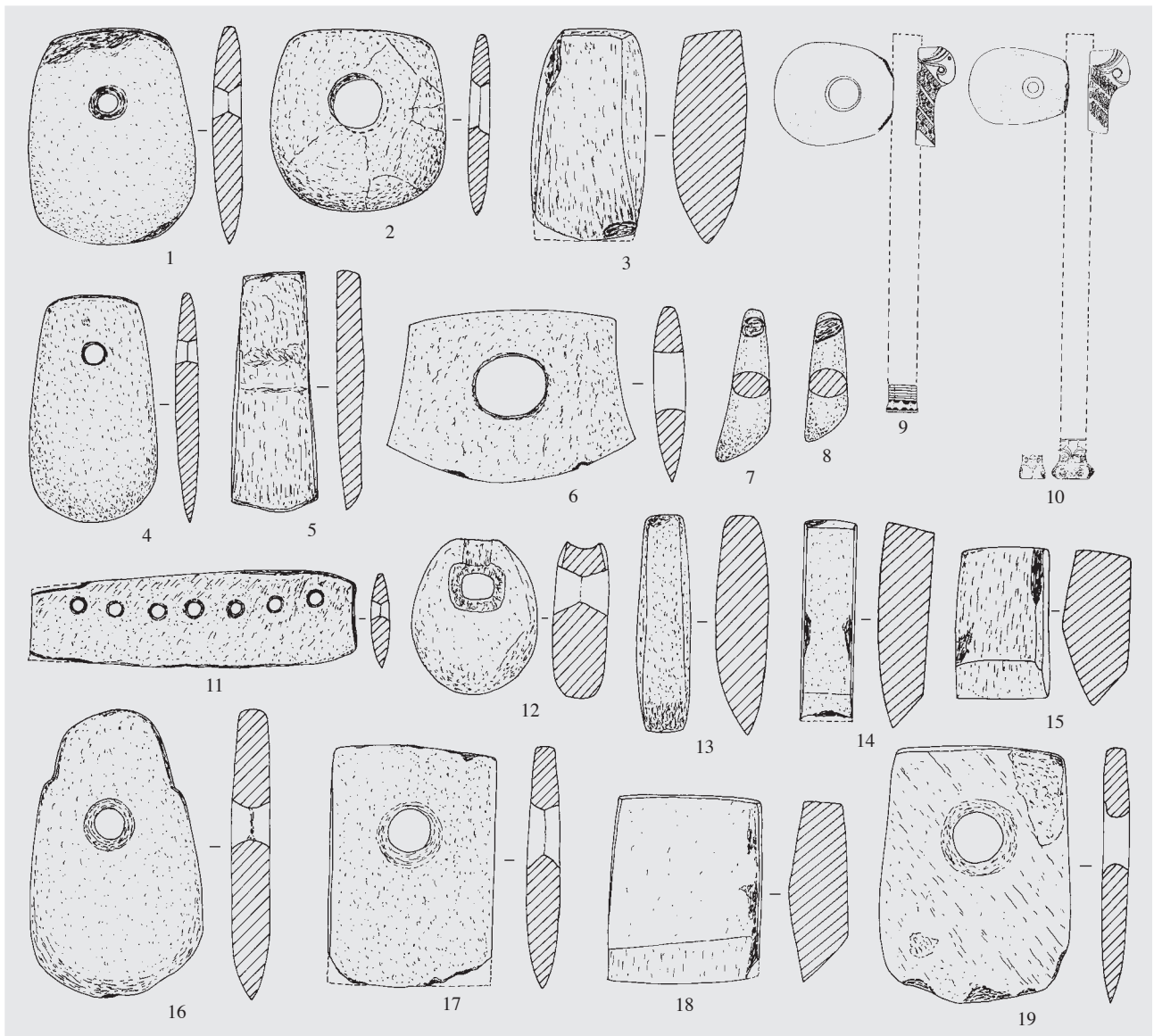


Fig. 9 Stone implements

1, 2, 9, 10. *yue*-axes (M504:3, M26:2, M531:1-3, M38:1-3) 3, 4, 16, 19. axes (M197:7, M273:3, M54:2, M487:6) 5, 14, 15, 18. adze (M398:2, M162:3, M611:5, M611:6) 6. hoe (M985:9) 7, 8. boot-shaped objects (M467:8 and 9) 11. knife (M609:5) 12. hammer (M421:6) 13. chisel (M1:2) 17. spade (M411:3) (scales: 3, 7, 8, 13, 15, 16, 18. 1/2; 9, 10. 1/8; the rest 1/4)

needles. Fifty-four of them are just common needles. M198:6, 21 cm in length (Fig. 10:12). There are eight hollow-body needles. M275C:6, 11.5 cm in length (Fig. 10:13). Thirty-five of the needles might have been used to pick out meat from shells. M467:18-1 and 3, 5.5 and 4.2 cm in length (Fig. 10:7 and 8).

The 32 polished awls are made of long bones of animals. M886:3, 14 cm in length (Fig. 10:4). M101:4, 12.1 cm in length (Fig. 10:11).

Four flat rectangular polished bone slips with carved concentric circles, arc lines, straight lines and dots were discovered in burial M636. It seems that there might be certain relationship between the patterns on each slip.

M636:5-8, 12.8 to 13.2 cm in length (Fig. 11).

The 248 bone hairpins fall into three types. Type I has flat curved body, wide top, and carved concentric circles and geometrical patterns on both sides (Fig. 12). Type II has long ellipse-shaped body and flat top with carved patterns (Fig. 10:10 and 16). Type III is in the shape of long conic (Fig. 10:5, 6 and 9).

The 23 bone arrowheads are all in the shape of conic. Some of them have a tang at the end.

There are four bone fish-spears. T1013 ③:1, sharp point, double wings, a groove near the end of the tang, 12 cm in length (Fig. 10:3).

4. Pottery wares

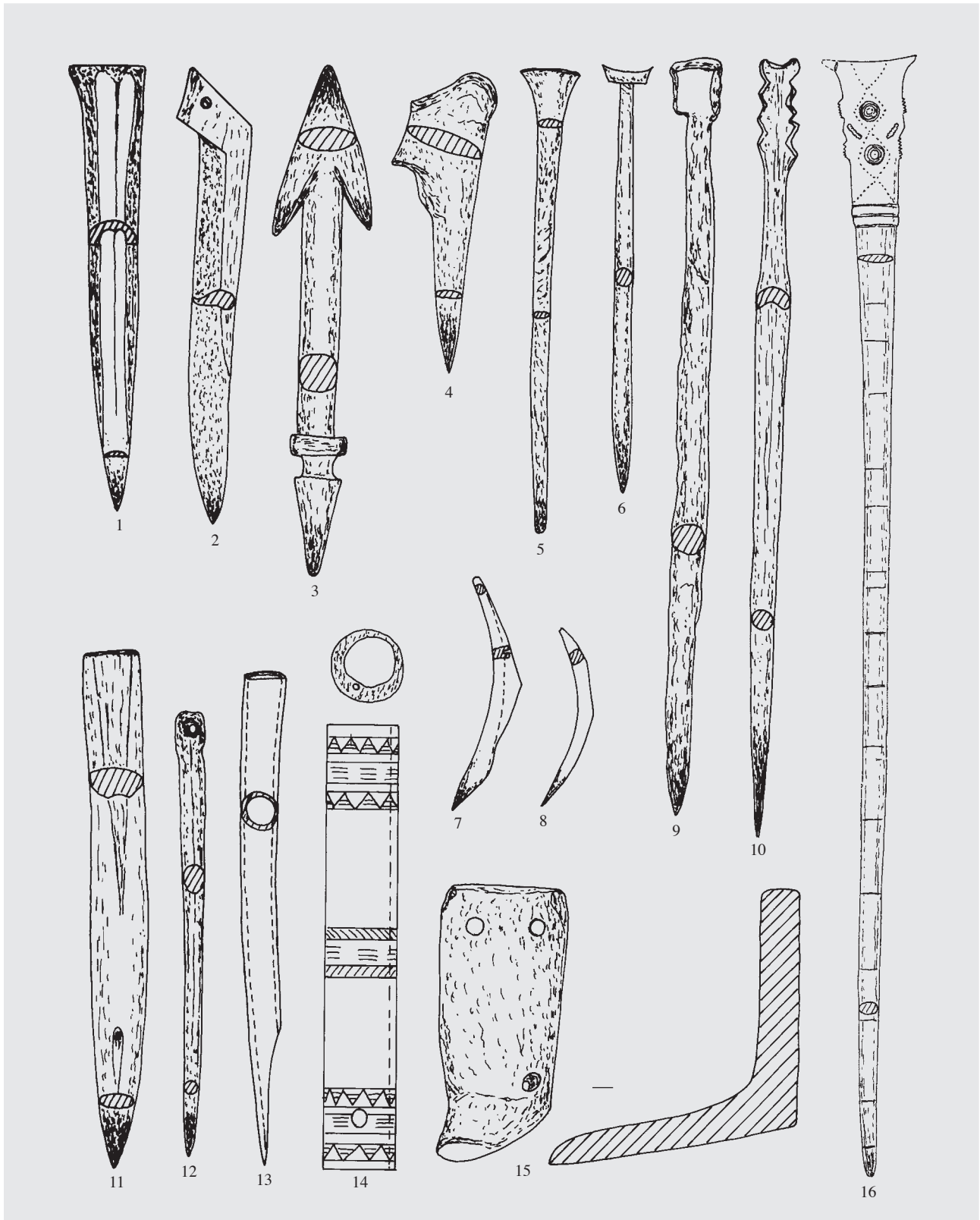


Fig. 10 Bone objects

1, 2. spoons (M450:2, M932:8) 3. fish-spear (T1013③:1) 4, 11. awls (M886:3, M101:4) 5, 6, 9, 10, 16. hairpins (M783:2-1, M742:8, M285:1, M450:21, M834:4-2) 7, 8, 12, 13. needles (M467:18-1 and 18-3, M198:6, M275C:6) 14. needle container (M232:1) 15. antler-shaped object (M226:2) (scales: 1, 2. 4-6, 12. 2/5; the rest 4/5)

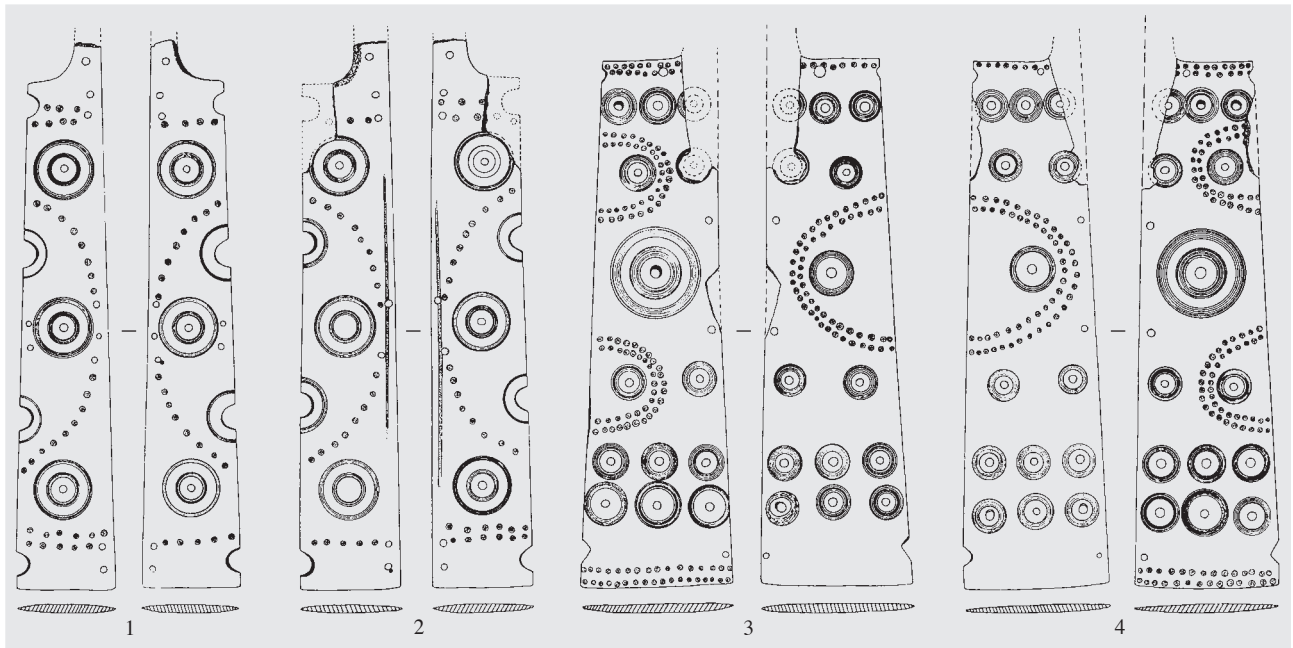


Fig. 11 Flat rectangular polished bone slips with carved design
1-4. M636:5-8 (scale: 1/2)

More than 2000 sandy and fine clay ceramic vessels and tools were unearthed. Shell powder was put into the bodies of some vessels as tamper. Surface colors include red, gray and black. Decorations, including dots, raised stripes, openwork patterns, red covering and color painting are found on some of the vessels. The main types of ceramic objects consist of the cauldron, the *zeng*-steam basin, the *ding*-tripod, the pot, the *zun*-vessel, the *dou*-stemmed plate, the *yi*-vessel, the cup, the spoon, the lid, the spindle whorl, the net-weight and the hammer.

The sandy cauldrons are red or gray in color, and have three sub-types.

Type A is relatively big, with straight mouth, oblique lower belly, waist-brim and flat wide handle. H53:1, 29 cm in mouth diameter (Fig. 13:3). Type B can be recognized from the contracted mouth, the curved rim, the round belly, the flat bottom, four symmetrical handles on the shoulder and red covering. M875:1, 8.4 cm in mouth diameter (Fig. 13:4). Type C can be recognized from the flared mouth, the oblique belly, the flat bottom and line patterns on the upper belly. M899:1, 10.4 cm in mouth diameter (Fig. 13:1).

A typical gray sandy-ware *zeng* (M635:2) was found in burial M635. It has a big mouth, a round belly, a bottom with round holes and two handles on the belly and is 22.4 cm in mouth diameter (Fig. 13:10).

The *ding*-tripods can be grouped into three sub-types. Type A can be recognized from the *bo*-shaped body. T1021 ④:8, gray-red sandy-ware, 17.2 cm in mouth

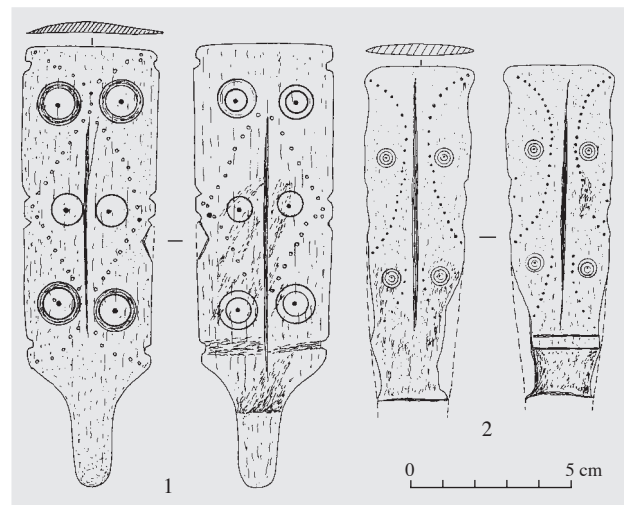


Fig. 12 Hairpins
1. M909A:9 2. M677A:1

diameter (Fig. 14:1). M733:1-2, red fine clay made, polished surface with red covering, 17.6 cm in mouth diameter (Fig. 14:2). Type B can be recognized from the cauldron-shaped body. M318:1, gray sandy-ware with waist-brim and two handles, 13.6 cm in mouth diameter (Fig. 14:4). M204:1, gray sandy-ware, 10.4 cm in mouth diameter (Fig. 14:3). Type C can be recognized from the pot-shaped body. M866:1, gray-red sandy-ware with two handles, dots and carved patterns on the feet, 13.6 cm in mouth diameter (Fig. 14:5). M451:1, gray sandy-ware with saw-shaped raised strips, 11.2 cm in mouth diameter (Fig. 14:6).

M783:5 is a gray sandy-ware pot-seat-combination

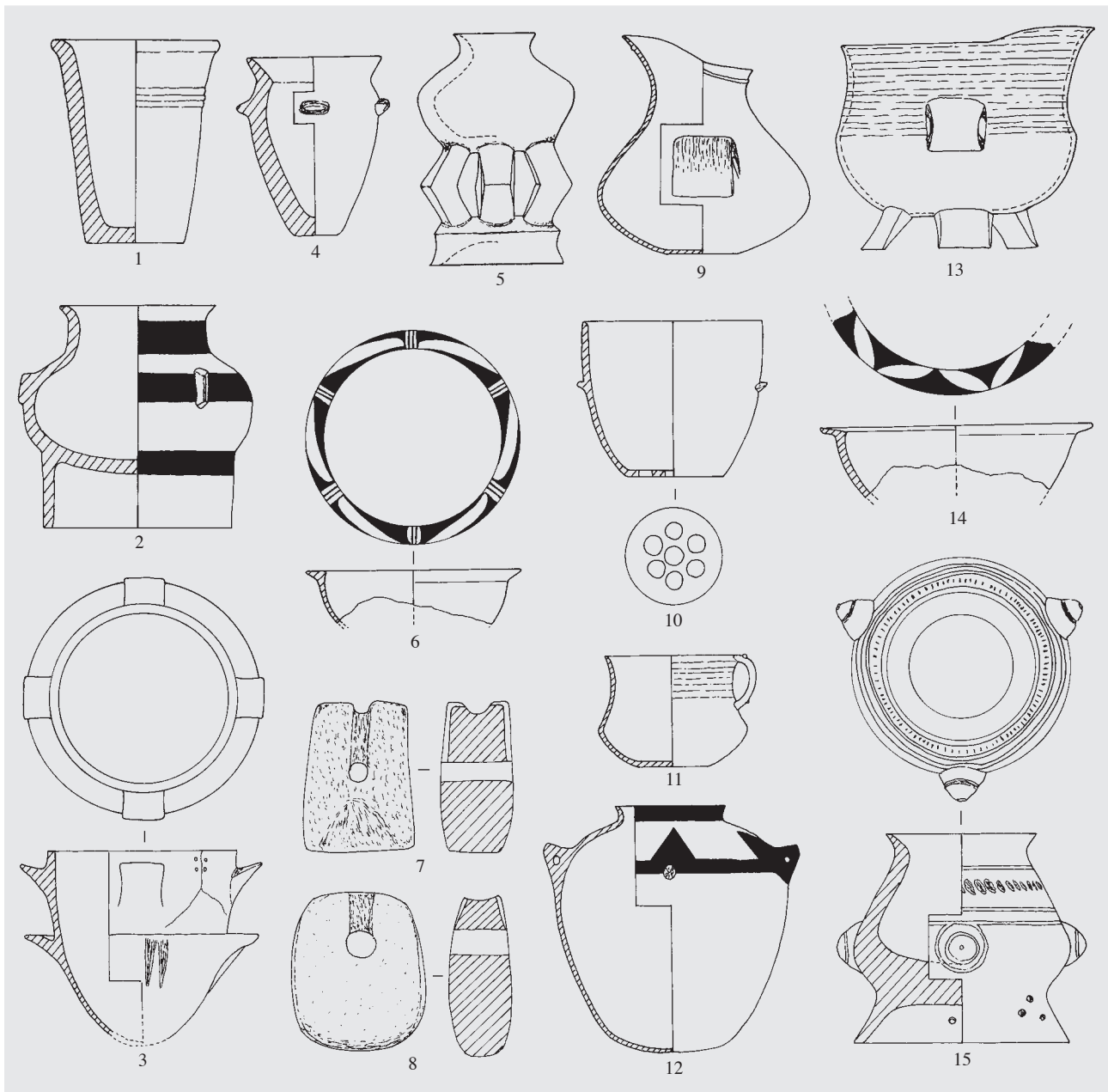


Fig. 13 Ceramic objects

1, 3, 4. cauldrons (M899:1, M53:1, M875:1) 2, 15. *zun*-vessels (M980:2, M429:4) 5. pot (M783:5) 6, 14. painted basins (T1622 ②:1, T1622 ③:11) 7, 8. hammers (M840:5, M482:5) 9, 13. *yi*-vessels (M191:1, M214:1-3) 10. *zeng*-steamed basin (M635:2) 11, 12. *guan*-pots (scales: M465:3, M733:1-4) (scales: 3. 1/10; 6, 10-12, 14. 1/8; 15. 1/2; the rest 1/4)

with polished surface. It is 6.8 cm in mouth diameter and 7.4 cm in height (Fig. 13:5).

The pots can be grouped into two sub-types. Type A can be recognized from the big mouth. M465:3, fine black sandy-ware with a flat bridge-shaped handle, 16.8 cm in mouth diameter (Fig. 13:11). M733:1-4 is a typical type B red fine clay pot, which has a small mouth and polished surface with red and orange painting. It has two handles on the shoulder, nipple patterns between the handles and is 30.4 cm in height (Fig. 13:12). M904A:4

is another type B pot which is 18 cm high (Fig. 14:15).

M55:2 is a 19 cm high red fine-clay kettle with a handle. It has a lid and a stamped mark on the bottom (Fig. 15:2).

M669:3-1 is a black fine-clay bird-shaped kettle which is 21.2 cm in length. There are two holes under its mouth. Its polished surface is decorated with concave line patterns (Fig. 15:4).

The *dou*-stemmed plates can be grouped into three sub-types. Type A can be identified with the deep plate,

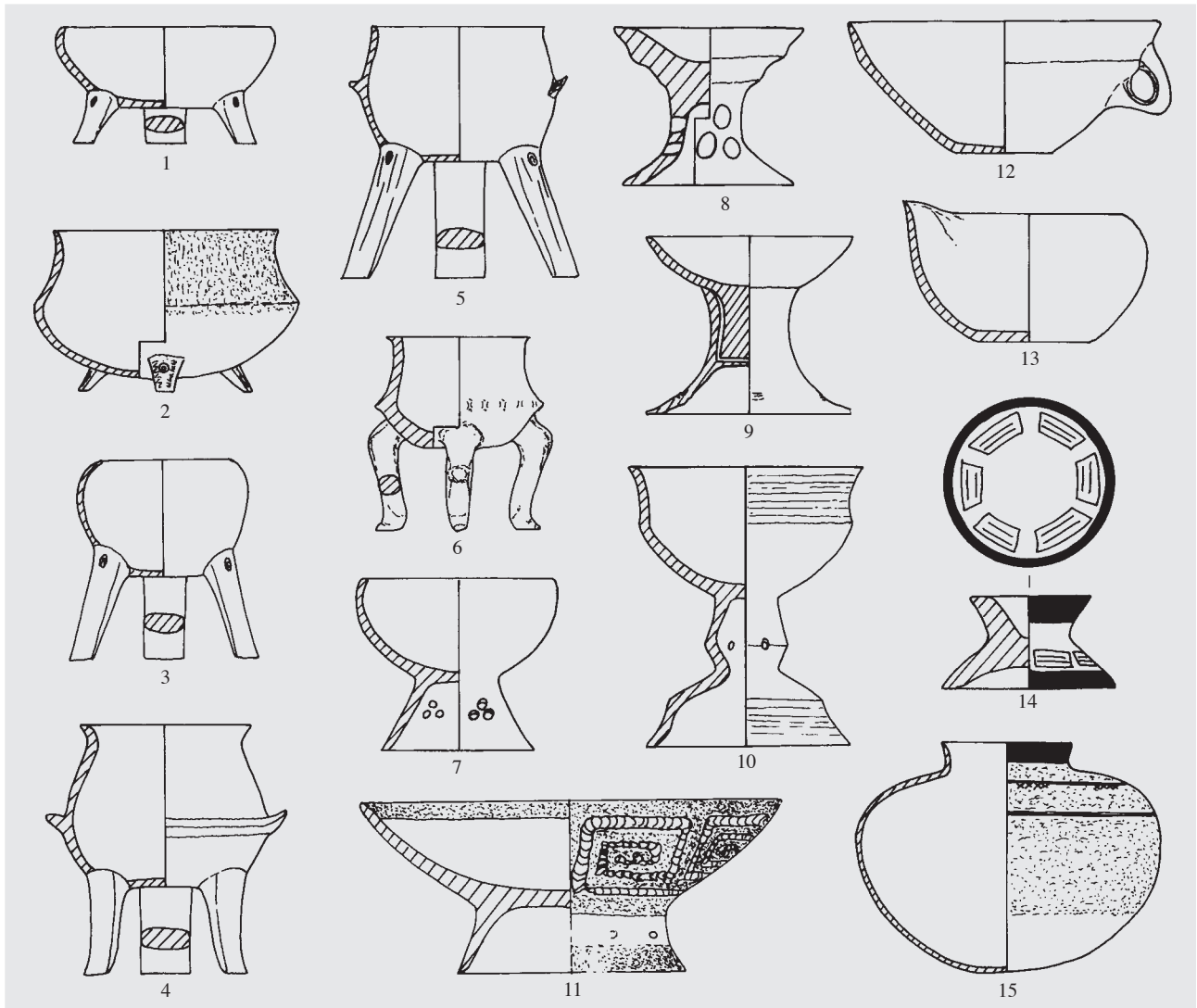


Fig. 14 Ceramic objects

1–6. *ding*-tripods (M1021④:8, M733:1-2, M204:1, M318:1, M866:1, M451:1) 7–11. *dou*-stemmed plates (M258:3, M941:4, M171:5, M514:1, M248:3) 12. *bo*-bowl (M196:2) 13. *yi*-vessel (M64:1) 14. lid (T0820⑤:3) 15. *guan*-pot (M904A:4) (scales: 8, 9, 14. 3/10; 11. 7/10; the rest 1/6)

the polished black fine-clay body (some have line patterns) and openwork on the stem. M258:3, red covering on the surface, 15.2 cm in mouth diameter (Fig. 14:7). M514:1, bamboo-like stem, red covering on the surface, 18.4 cm in mouth diameter (14:10). Type B can be identified with the shallow plate, polished red fine-clay body, red covering on the surface and openwork on the stem. M941:4, 7 cm in mouth diameter (14:8). M248:3, red painting inside and outside the rim and on the bottom of the stem, four curved cloud and thunder patterns on the plate, 8.4 cm in mouth diameter (Fig. 14:11). Type C can be identified with its special formation technique: fixing the separately made plate and stem with mortise and tenon. M171:5, red fine-clay body with red covering, 8 cm in mouth diameter (14:9).

The *yi*-vessels can be divided into three sub-types. Type A can be identified with the ring foot. M214:1-6, 13.6 cm in mouth diameter, black fine-clay made, a spout on the rim and a handle at one side (Fig. 15:1). Type B can be identified with the tripod. M214:1-3, 15.8 cm in mouth diameter, polished black fine-clay body (Fig. 13:13). Type C can be identified with the flat bottom. M191:1, black fine-clay made, small mouth, deep belly, a handle at one side, 8 cm in mouth diameter (Fig. 13:9). M64:1, contracted mouth, deep belly, 18 cm in mouth diameter (Fig. 14:13).

The *zun*-vessels can be divided into two sub-types: flat bottom *zun* and ring-foot *zun*. M429:4, gray-red fine-clay, conic raised strips and stamped patterns on the belly, openwork on the ring-foot, 4.6 cm in mouth

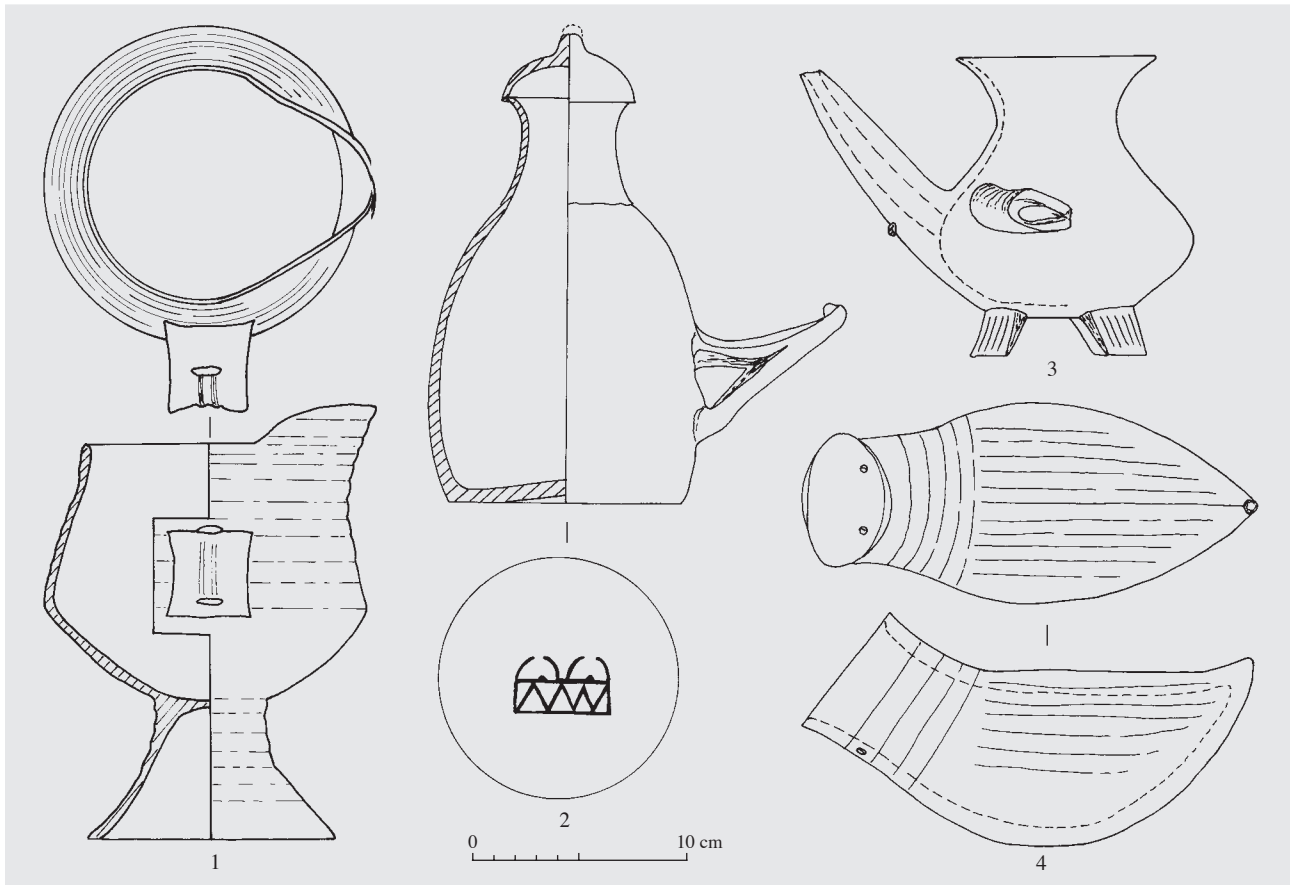


Fig. 15 Ceramic objects

1. *yi*-vessel (M214:1-6) 2. kettle with handle (M55:2) 3. *he*-tripod (M191:6-1) 4. bird-shaped kettle (M669:3-1)

diameter (Fig. 13:15). M980:2, red fine-clay body with red and black painting, three knobs on the shoulder, 9.6 cm in mouth diameter (Fig. 13:2).

M191:6-1 is a polished black fine-clay *he*-vessel, 9.2 cm in mouth diameter. It has a flared mouth, a contracted neck, a round belly, three feet under the flat bottom, tube-like spout and flat ring-shaped handle (Fig. 15:3).

M196:2 is a gray fine-clay *bo*-bowl, 24.8 cm in mouth diameter. It has a flared mouth, an oblique belly, a flat bottom and a flat ring-shaped handle (Fig. 14:12).

The nine hammers were all made of gray-red fine-clay. Each of them has a hole and a groove for handle fixing. M482:5, 9.8 cm in height (Fig. 13:8). M840:5, 9.2 cm in height (Fig. 13:7).

Besides, some lids, 103 spindle whorls and 828 net weights were unearthed.

Painted pottery was found in the assemblage of both the early and late phases of the site. Yet the quantity is relatively small. Most of the painted vessels have red covering. Some have brown-red, black, orange, silver-gray patterns including belts, diamonds, arc-side-triangles, straight lines and meander patterns. T0820⑤:

3, lid (Fig. 14:14). T1622②:1 and T1622③:11, shards of a basin rim (Fig. 13:6 and 14).

III. Conclusion

According to the context and typological analysis of artifacts, we divided assemblage of the site into three phases.

Phase I consists of two sub-phases: the early sub-phase (remains under the layer 5) and the late sub-phase (remains in the layer 5). Features of the early sub-phase include houses and ash-pits. The high density of round postholes indicates that the houses might be pile-dwellings. Pits with carbonized rice distribute near the houses. Artifact of this sub-phase is small in number. Pottery is simple in type. Most of the ceramic vessels have no surface decoration. Red covering are painted on the polished body of some vessels. Main vessel types include the cauldron with waist-brim and four handles, the pot-shaped *ding*-tripod and the cauldron-shaped *ding*-tripod. Large net-weights were popular. Main features of the late sub-phase consist of burials in the layer 5. All the burials headed to the northeast. Burial offerings are small

in number. Some burials even have no offerings. The most common artifacts found in burials include the *ding*-tripod, the *dou*-stemmed plate, the *zun*-vessel and the bone hairpin. The unusual small size of ceramic vessels implies that they might have been made particularly for burial ceremony. Bone objects are relatively large in quantity and fine in quality. Few stone tools were found.

Phase II also has two sub-phases. The early sub-phase is represented by burials in the layer 4. Bone objects were the most common burial offerings of this sub-phase. Some jade ornaments were also found. Stone tools were seldom discovered. The late sub-phase is represented by burials in the layer 3. In this sub-phase, the number of bone objects decreased, while that of jade ornaments increased. Stone tools were finely made, yet still small in quantity. Burials of phase II are well-preserved and distribute within the excavated area with high density. Typical ceramic vessels of the phase include the cauldron-shaped *ding*-tripod, the *bo*-shaped *ding*-tripod and the pot-shaped *ding*-tripod. Cauldrons are small in size and might have been made especially for burial ceremony. Noticeably, the stone *yue*-axe emerged in this phase.

Phase III is represented by burials in the layer 2. The burials are small in number and badly-preserved. Funerary customs, such as burial orientation, burial style, position of burial offerings, are almost the same with those of the phase II. Ceramic vessels also share a lot of similarities with the phase II. However, some new types, such as the pot-shaped *ding*-tripod with a handle, the *dou* with bamboo like stem, and the *yi*-vessel emerged. Quantity of bone objects decreased. Jade and stone objects were only found in a few burials.

Burials of the three phases show some important

similarities: 1) most of them (98%) head to the northeast; 2) burial offerings are small in size and might have been made particularly for the burial ceremony; 3) offerings were put in relatively fixed positions; and 4) a *ding*-tripod with its broken feet in its body was usually found on the top of the deceased's head. Hence we suggest that the three phases are successive stages of the same archaeological culture.

The cauldron with waist-brim and four handles of the early phase shows both similarities and differences with the cauldron found in the lower Yangtze River valley. Houses of the early phase in that area were also pile-dwellings. In addition, some types of artifacts found in Sanxingcun are also popular in the Ningzhen 宁镇 Taihu 太湖 Lake region. For example, similar designs on painted pottery, bone rings, bone needles, bone awls and ceramic hammers were also discovered at the Weidun 圩墩 site in Changzhou 常州; antler boot-shaped objects mainly found in the burials in the layer 4 and layer 5 of Sanxingcun were very popular in the Majiabang 马家浜 culture centered in the lower Yangtze River valley; the *bo*-shaped *ding*-tripod, the *zun*-vessel, the stone knife with seven perforations and the stone hoe are similar with their counterparts of the Beiyinyangying 北阴阳营 culture; the *zun*-vessel with openwork designs (M707:5) of Sanxingcun is almost the same with the *zun* (M156:3) of the Longqiuzhuang 龙虬庄 site in the Huai River 淮河 valley. However, considering its distinct characteristics, we suggest to name the Sanxingcun assemblage "Sanxingcun cultural style" to emphasize its independence among surrounding cultures. The absolute date of the assemblage might be between 6500 BP to 5500 BP.

Note: The original report, published in *Wenwu* 文物 2004.2: 4–26 with 56 illustrations (including 36 photos), is written by Wang Genfu 王根富 and Zhang Jun 张君. The summary is prepared by Wang Genfu and translated by Li Xinwei 李新伟.