

# THE LIBBEN SITE SHELL ARTIFACTS

Written & Illustrated by  
Thomas R. Pigott  
Phalanx Mills, Ohio

One of the noteworthy characteristics of the Libben site artifact assemblage is the abundance of artifacts that were fashioned from marine shells. The extant inventory lists 2,711 such items. From the existing excavation records, it was determined that they were recovered from 181 burials. They can be divided into three categories: 1) items, excluding beads, fashioned from the body whorls of whelk shells (*Busycon*, sp.); 2) items, excluding beads, fashioned from the columellae of whelk shells; and 3) marine shell beads. Beads were made from small marine shells (all *Marginella* except for one *Oliva* shell), and from both the bodies and columellae of whelk shells. A total of 2,584 beads were tallied, constituting fully 95% (numerically) of the total marine shell artifact inventory.

Table 1 lists the extant marine shell artifacts from the site. The table distinguishes between artifacts recovered from burial and non-burial contexts. "Non-burial" includes all of those that were recovered from other contexts, including surface finds and those for which the provenience data has been lost. However, it seems highly likely that those in the non-burial category were originally placed with burials, but were disturbed and displaced from their original positions by later activities at the site.

## Whelk Shell Body Artifacts:

Artifacts made from the bodies of whelk shells from the Libben site can also be divided into three categories: 1) Items made from large body segments of large shells; 2) small complete whelk shells used as pendants; and 3) items made from small pieces of larger shells.

### Artifacts created from large body segments:

Five large modified segments from the body whorls of whelk (*busycon*, sp.) shells are extant from the Libben site excavations. Four of the five are pendants. They range in length from five to nearly fifteen centimeters. Three have drilled suspension holes, one has notches, or grooves, for suspension, and the fifth, the largest overall, does not demonstrate a manner of suspension. While similar, no two of these items are exactly the same, so each will be discussed separately.

The most striking of the pendants made from the bodies of whelk shells is shown in Figure 1. It was fashioned from a large segment of a whelk shell body that included a small section of the shoulder. It has a single perforation for suspension on what was the beak or siphonal end of the shell. All of the edges have been ground smooth.

It is approximately 15 cm long and 8.25 cm wide. The field notes report that it was recovered from beneath a "completely disturbed burial in bundle form" consisting solely of vertebrae and rib fragments. No other artifacts accompanied the burial.

The overall largest piece of a whelk shell extant from the excavations (Fig. 2) is approximately 12 cm in length, and 11 cm in diameter. It consists of a robust whelk shell from which most of the spire, all of the columella and about half of the body whorl have been removed. It was broken, and was recovered in pieces, one of which is missing. It does not demonstrate any modification for suspension, and thus cannot accurately be described as a pendant. It was recovered from Burial 3A in excavation unit L-I. This individual was identified as a seven-year-old of undetermined sex. The grave was richly furnished with marine shell artifacts. In addition to the large shell, those extant consist of twenty-one marginella shell beads; two columella tubes (Fig. 11G); a pendant fashioned from a columella tube that has been split lengthwise and drilled for suspension at one end (Fig. 12A); fragments of two other columella pendants, each broken in the middle, but with a drilled suspension hole at the surviving end; and two tubular columella beads. The field notes indicate that the marginella beads were along the legs, one columella bead was on the right side of the lumbar region, and the rest of the artifacts were found near the head.

A similar, but somewhat smaller, specimen (Fig. 3A) was recovered from Burial 18 in unit L-II, who was determined to be a thirty-one-year-old male. This shell segment is approximately 10.5 cm long by 7.75 cm wide. It has more of a "finished" appearance than the previously described item. The tip of the shell, towards what would have been the beak end, has been grooved for suspension. Also accompanying this burial, at the left elbow, were the remnants of a grit-tempered ceramic vessel, including a large portion of the rim. The entire surface, including the rim, is cordmarked. The neck has been smoothed, and there is a row of vertical oblique impressions below the rim on both the exterior and interior.

A smaller pendant (Fig. 3B) came from Burial 10 in unit L-IX. It is approximately 6 cm long by 5.5 cm wide. It accompanied the burial of an infant, less than one year old. In addition to this artifact, the grave also contained eight shell disk beads, two cylindrical columella beads, one marginella bead, and a conical, socketed, antler projectile point 6.75 cm long. The field notes do not mention the projectile point, but indicate that the shell artifacts were recovered by the left arm.

A second smaller pendant (Fig. 3C), the last of this category, was recovered from Burial 57 in Unit L-IV. It is 5 cm long by 4.2 cm wide. It was the only artifact accompanying this individual, who was determined to be a forty-year-old woman. At what would have been the top of this pendant, as suspended from the drilled hole, there is the remnant of a previous suspension hole, indicating that the artifact was at one time larger. It was likely refashioned when the previous hole broke out or wore through.

### Complete small shells:

There are two small complete whelk shells that were made into pendants. The first (Fig. 4A) is approximately 5.5 cm in length, although the beak, which was presumably modified for suspension, is missing. There is a geometrical cutout in the body whorl opposite the aperture at and below the shoulder. This cutout resembles a jeweler's stone setting, replete with tabs, *i.e.*, two small triangular shaped projections on opposite sides of the opening. The top edge of the cutout, with the shell in a spire-down position as it was presumably worn, is highly polished. This ornament was recovered from Burial 14 in unit L-IX, which contained an infant less than one year old. Other artifacts accompanying this burial were a small shell effigy pendant (Fig. 5A); three shell disk beads; two marginella beads; and a complete, very small (2 cm long), very sharp bone awl.

The other complete small whelk shell pendant (Fig. 4B) is from Burial 21 in unit L-VIII. The bones were those of a child estimated to be between the ages of five and ten. This shell is approximately 3 cm long, is grooved for suspension, and has three small cutouts on the spire. Also with this burial were three cylindrical shell beads; two of which are complete and one that has been split lengthwise.

Artifacts similar to these small shell pendants were recovered from Ft. Ancient sites in Southern Ohio. Griffin (1943) reports that near the neck and shoulders of Burial No. 84 at the Taylor mound and village site, "13 small busycon shells and pendants, some perforated, some grooved", were found. The burial was that of a very young child, perhaps 2 to 3 years old. Three of these shells had "conical perforations...in the outer wall." From the Baum site he reports, "A small *Busycon perversum* shell has the siphonal area broken off. It may have been perforated or grooved for suspension." And from the Madisonville site, "Five pendants were made of small *Busycon* shells by the cutting of a groove or perforation at the siphonal end." The text does not mention it, but an illustration of one of these shells (Plate LXXIX) shows a cutout on the spire.

### Small artifacts from body segments:

In this category there are three effigy pendants, three presumed implements, one unidentified ornament, and four pieces that were either unmodified, or are too fragmentary to permit identification. One of the three effigy pendants (Fig. 5A) was mentioned previously with the small whelk shell pendant from Burial 14 in unit L-IX. It is thin, delicately fashioned, and may represent a raptor talon or wolf claw. The second effigy pendant (Fig. 5B) could also represent a raptor talon, although it can also be seen as a mammal canine tooth. It is thicker and more robust than the other one, and shaped differently, having only one angle, not two. As with the first one, it had been drilled for suspension, but in this case the hole had broken out at some point. It then appears to have been reworked for suspension by cutting grooves, rather than drilling a new hole. It was recovered with Burial 38 in unit L-IV, who was also an infant, determined to be approximately nine months old. The third effigy pendant (Fig. 5C) is 4.25 cm long, and may also represent a canine tooth. It was recovered with Burial 7 in unit L-II, a thirty-four-year-old male.

Three artifacts (Fig. 6) have been listed as implements in Table 1. They accompanied Burial 80 in unit L-V, who was determined to be a nine-year-old boy. They are roughly rectangular in shape, with one end constricted that may have served as a handle for thumb and finger. The edges are smoothed around the entire circumference. These three items appear to be small scoops or spoons. This interpretation is, of course, speculative, but these are finished artifacts, not detritus. This individual was accompanied by a large number of items, one of which was a triangular arrowhead imbedded in the skull. In addition, there was a whelk columella pendant, three columella tubes (Fig. 11, H, I), a small fragment of an eyed bone needle, and thirteen arrowheads. These consist of seven socketed antler arrowheads and six triangular flint arrowheads that were found grouped together by the left shoulder, all pointing north, giving the impression that they tipped arrows that were in a quiver.

There is a unique item listed in Table 1 as an unidentified ornament. It was the only artifact recovered with Burial 228 in unit L-II, a male who was determined to be forty-seven years old. When it was discovered, the excavator listed it in the field notes as a "shell trowel." At this point, it would seem that the best way to proceed with the description of this artifact is to save a thousand words, and refer the reader to Fig. 7. From the obtuse angle in the artifact, it would appear to have been made from the shoulder, the dividing line between the spire and the body whorl, of a marine gastropod. One end of the artifact has rounded edges, is wider, slightly thicker, and more highly polished than the other end, which is roughly square in cross-section and comes to a point. The pointed end may, or may not, have served

as a handle, a tang for hafting, or a post for insertion through a body piercing. Since it was fashioned a thousand or so years ago within, to us, an alien culture, it just as easily may have been something that the differences in cultural experiences between then and there and here and now prevent us from comprehending. It is, in reality, a unique item whose function is unknown.

The final item in this category from a burial is a thin flat piece from the body whorl of a marine shell that is approximately 10.5 cm long x 4 cm wide. It accompanied a 26-year-old of undetermined sex. It is more or less straight on one end, and rounded on the other, with slight notches in the sides some 3.5 cm from the rounded end. The edges are not ground smooth. Completing the category are three fragments of body shells that do not have burial provenience. Two are irregularly shaped, one of which has several lines incised on it. The third piece (Fig. 8) appears to be part of a finished artifact, being shaped and polished except on the broken ends. It is too small for its complete form to be identified.

### Whelk columella artifacts

Ninety-seven artifacts that were fashioned from the columellae of marine shells (*Busycon*, sp.), discounting beads, are extant from sixty burials at the Libben site. An additional twelve such artifacts are extant that do not carry burial proveniences. Again, there are three basic types of artifacts that are being reported under this category, although there is some minor overlap between them. Two of the types, columella pendants (N = 69) and columella tubes (N = 20), are presumed to be ornaments, while the third category is columella implements (N = 8). There are an additional twelve fragments of columellae that do not retain enough of their original form to be classified. Of the burials containing columellae for which sex could be determined, eighteen were identified as males and fourteen as females. Columella artifacts were recovered from burials of all age groups, from infants to adults over fifty (Table 2).

Pendants are the most numerous columella artifacts. Sixty-one of the sixty-nine that are extant from the site are recorded as coming from forty-seven different burials. Eight are of non-burial or unknown provenience. An additional eight fragments that were degraded by fire were also recovered from one of the forty-seven burials. They were likely to have originally been parts of one or more pendants. There is another large, 11 cm long by 3.5 cm thick, columella segment that was recovered from the surface of the site that is more than twice as thick as any other extant columella. It may have been a pendant, but has no means for suspension on the part that survived.

Sixty-three of the pendants were created by cutting the columellae from the shells and grinding or polishing them down to the point where they were roughly cylindrical in form, but still retained a greater or lesser

amount of the spiral flange created by the canal. Small holes, seldom more than 2 mm in diameter, were then typically drilled through both ends of the shells for suspension in a horizontal fashion (Fig. 9, N = 34), or at one end for vertical suspension (Fig. 10, N = 11). There are an additional eighteen fragments of pendants that are broken in the middle, and have only one end remaining so that it cannot be determined with certainty whether they were suspended horizontally or vertically. Many of the horizontal pendants show a high degree of polish in the spiral canal, indicating that the suspension cord was inserted through the hole at one end, wound spirally around the columella in the canal, and out through the hole at the other end. Most of the fragments, from the locations of the holes and the wear on the canal, would appear to have been horizontal pendants. This type of artifact, as far as we can tell from searching the literature, appears to be nearly unique to the Libben site.

Thirty-four of the horizontal columella pendants can be considered to be "complete," in that they have suspension holes at both ends. They range in length from seven to twenty cm. However, nearly all of them show signs of having been reworked at least once. Nearly all have remnants of previous suspension holes, sometimes more than one, that have either broken or worn out. The broken ends were then polished smooth and, in most instances, new suspension holes drilled. The vertical pendants range in length from 5.5 cm to 13.5 cm. It is likely that some of them saw previous use as horizontal pendants. Three of the vertical pendants (Fig. 10, B, C & H), two of which still retain broken suspension holes, had grooves cut into them for suspension.

Columella tubes (Fig. 11) were made in the same fashion as columella pendants, but were ground down to the point where the canal and the flange were completely obliterated, so that what remains appears to be a smooth cylinder that was then drilled lengthwise to create a tube. Twenty-six of these artifacts are extant from the 1966 - 1968 excavations. Two more were recovered in 1917 by Arthur George "Sarge" Smith (Smith, 1964), when he knew the Libben site as the Montgomery site.

These artifacts are usually reported in the archaeological literature as being cylindrical or tubular shell beads. However, we would make a distinction between what are here referred to as columella tubes, and beads. The distinction is one strictly of size, and the categories are not cut and dried. The classification of individual artifacts as one or the other is admittedly subjective, but these items were fashioned by handcraft, not with machine tools. Those being reported here as tubes range in length from 3.3 to 8.5 cm, with an average length of 5.9 cm, and with diameters of one cm or more. Ninety percent of what are being classed as cylindrical beads from the Libben site are less than two cm in length, and only those

classed as barrel beads (see below) reach one cm in diameter.

Six (Fig. 12) of the twenty-six tubes were included in the pendant numbers above. These items were fashioned into tubes, but also have small holes drilled through them, one hole for vertical suspension (Fig. 12, A, B, C & E) or two holes for horizontal suspension (Fig. 12 F). Two of them have been split lengthwise, exposing the remaining half of the long drill hole. One (Fig. 12D) has a groove for suspension rather than a hole.

Surprisingly, in addition to pendants and tubes, the Libben site produced a third category of artifacts fashioned from columellae: marine shell implements. There are six awls and two gouges, all from burial contexts. Two awls (Fig. 13, A&B) were recovered from Burial 48 in unit L-V, a thirty-one-year-old male. Another (Fig. 13E) was recovered from the same grave, but in the mouth of Burial 47, a female estimated to be seventeen years old, who was buried holding hands with the man designated as Burial 48. The fourth shell awl (Fig. 13C) accompanied Burial 87 in unit L-V, who was classified as a twelve-year-old of undetermined sex. Another (Fig. 13D) was found in the mouth of Burial 94 in unit L-IV, a male who was also estimated to be twelve years old. The final shell awl (Fig. 13F), as well as a complete shell gouge (Fig. 13G), was recovered from Burial 17 in unit L-VI, an infant less than one year old. The final columella implement is the broken tip of a heavier gouge (Fig. 13H) that was recovered from Burial 7 in unit L-VI, a fifty-one-year-old female.

Forty-three of the sixty burials containing artifacts fashioned from columellae (other than beads) contained only a single columella; nine burials contained two; four burials contained three; one burial contained four; two burials contained five; and one burial contained ten, eight of which were the burnt fragments mentioned above. Of the burials containing multiple columella pendants, only two contain two complete, unbroken pendants; the rest are either fragments, or pendants in which the suspension holes have worn through or broken out. Nearly all of the columella pendants show signs of having been reworked from larger pendants. It seems likely that many of the smaller columella artifacts – tubes and beads, as well as pendants – were manufactured from larger columella ornaments that were damaged, getting smaller and smaller through time.

### Marine Shell Beads

#### Marginella beads:

The most common marine shell beads recovered at the Libben site were manufactured from the shells of small marine snails known as *marginella* (sp.), which are found on the beaches of the Gulf of Mexico, as well as Atlantic Ocean beaches from the Carolinas southward. 1,517 such beads (Fig. 14) are extant from the excavations. The shells were turned into beads by cre-

ating a small hole, apparently by grinding, in the shoulder of the shell on the same side as its natural aperture. The vast majority of the shells from the Libben site were made in this manner, although two burials (one with 17 beads, the other with one) had beads where the hole was created on the side, rather than the back of the shell, and one burial had beads (seven in number) that were created by grinding off the apex of the shell.

*Marginella* beads were recovered from a total of eighty-three separate burials. They were associated with all ages, from infants to the elderly, and with both sexes. The number of beads per burial ranged from one (with fourteen separate burials) to one hundred and thirty-one, with an average number of seventeen, and a median number of nine. Three individuals, all males in their twenties or thirties, had one hundred or more *marginella* beads each.

*Marginella* beads would appear to have been items of personal adornment. The locations from which they were recovered in relation to the body of the deceased ranged from head to toe. There is ample evidence that they were worn as necklaces, bracelets, and anklets, as well as evidence that they were attached to items of clothing, including footwear (Fig. 13). They were also likely attached to the hair and ears. Analysis revealed thirty-nine burials with *marginella* beads about the head and shoulders; thirty burials with beads from the forearms to the fingers; and fifty-seven burials with beads from the knees to the feet. This total (127) exceeds the total of eighty-three burials with associated *marginella* beads because many burials had them in more than one location.

#### Disk Beads:

A total of nine hundred and fifty-three disk beads, eight hundred and forty-six of them from forty-eight burials, are extant from the Libben site. Those interred with disk beads were of both sexes and all ages, from infants to mature adults. Fourteen of the burials had a single disk bead with them; ten had twenty or more. The most recovered from any single burial was three hundred and forty (Fig. 16). This individual was a male estimated to be thirty-five years old. According to the field notes, the beads were found draped in six rows around the neck and on the shoulders of this individual. This necklace is obviously impressive in the quantity of beads that it contains, but is even more so in that the beads composing it have been selected (or manufactured) to be of a relatively uniform diameter and thickness. Disk beads from the site range in diameter from less than 3 mm to approximately 23 mm, and in thickness from less than one mm to six mm.

The average number of disk beads per burial was seventeen, although if the 340-bead necklace is excluded (the next highest number extant per individual burial was sixty-four), the average falls to eleven. The median number is seven.

There are four beads among the multitude that have incising on them, three from one group (Fig. 17, A-C from Burial 27 in unit L-VII) and one from another (Burial I in unit L-III, not illustrated). If these beads were arranged in necklaces or bracelets, the incising would not show. It seems likely that the surface of a larger shell had the incising on it before it was cut up and made into beads. There is also one bead (Fig. 17D) of forty-two recovered from around the ankle and/or knee of Burial 27 in unit L-II, that has a slot cut across it.

Burial 262 in unit L-II was the only one of five dog burials recorded for the Libben site to have associated artifacts. It contained forty-three small (7–8 mm in diameter) disk beads. Except for one femur, two tibiae, the sacrum, nine vertebrae and a scapular fragment, all of the larger bones are missing. Twenty-six various small bones and fragments make up the balance of the extant skeleton. While only conjecture, since most of the meaty parts are missing, this may represent the remains of a ritual feast rather than laying a faithful companion to rest.

#### Cylindrical beads:

A total of one hundred and thirteen cylindrical, or tubular, shell beads (Fig. 18) are extant from the Libben site excavations (in addition to the twenty-six “tubes” discussed above). One hundred and two were recovered from twenty separate burials, and eleven were recovered from non-burial contexts. The burials were of four infants, five children under ten, two young adults aged eighteen and nineteen, and six mature adults between the ages of thirty-five and forty-four; the ages of three burials could not be determined. The number of beads per burial ranged from one (six burials) to eighteen (one burial). There was also one burial with sixteen beads and one with fifteen, with the next highest number then being eight; the average per burial was five.

There is a sub-variety of cylindrical beads that are known as “barrel” beads (Fig. 19). The name is descriptive of their shape and is undoubtedly a survival from an earlier time in our culture when wooden barrels and casks were a familiar item of everyday life. Thirty-five barrel beads (included under “cylindrical beads” in Table 1) were recovered from the graves of nine individuals at the Libben Site. The interred ranged from one to forty-four years in age. The sex of only three of the nine could be determined; they were all female. The number of barrel beads per burial ranged from one to ten, with an average of just under four. All but one of the burials accompanied by barrel beads also had other shell beads with them. In length they ranged from 0.8 to 2.2 cm; most were close to one cm in thickness, with three reaching the maximum thickness of 1.3 cm.

Seventeen shell beads (and a clay elbow pipe), accompanied Burial 239 in Unit L-0, a ten-year-old of undetermined sex. Sixteen of the beads were of the cylindrical type, ten of them being barrel beads (the most from a



single burial). Four of the ten (Fig. 19, A, F, H, I) still showed remnants of the canal exhibiting polish from where the suspension cord rubbed against it when they were still parts of columella pendants. One of these four (Fig. 19I), in addition to being drilled lengthwise, also had a hole drilled completely through it from the side, the only such example from the site. The seventeenth bead with this burial (Fig. 19G) is the only bead extant from the site fashioned from an *Oliva* (sp.) shell. The shell was turned into a bead by removing the apex of the spire. It is basically the same size and shape as a barrel bead. The field notes record that five of the beads with this burial were found near the skull; the others aren't mentioned in the notes.

#### Non-Extant artifacts:

All of the numbers reported above involve the extant marine shell artifacts from the Libben site. As with the bone and antler artifacts, the extant inventory was compared to a synopsis of the burial and field notes from the excavations, which was made possible by yeoman service performed by Gregory D. Golden. This revealed fifty-three additional burials that reportedly contained "shell" items. Other than one burial for which the notes report that a columella pendant was stolen, we are left to speculate about what was in the others; for the most part, the notes aren't too specific. Marine shell artifacts are undoubtedly far more rare and exotic in present day collections of prehistoric artifacts from northern Ohio than they were in the prehistoric societies that used them. Forty years have passed since the excavations were conducted, and the collection was moved several times and curated under a variety of different circumstances in different locations. Some of the discrepancies may be due to mistakes made during recording and curation, or less likely to losses in a fire at Olaf Prufer's house in Amherst, MA. However, given that ample opportunity existed, thievery is a likely explanation as well.

The distinction between freshwater and marine shells was not always made in the field notes. "Shell" that is no longer extant in the collection was reported from twelve burials in the following ways: shell; shells; two shell pieces; various shells; shell by right clavicle; shell on right ribcage; shell above head; shell above right side of pelvis; shell at mouth of pot; large shell above left scapula; and large shell near skull; and finally, two shells, one by the left foot and one by the left shoulder. Who knows what these were? They could have been anything from marine shell artifacts to freshwater mussel shell detritus that wasn't curated as artifactual.

Then there are eight burials with "beads," which we are assuming were shell beads, for, while not likely, they could conceivably have been of other materials, since there are several bone beads, one stone bead and one copper bead in the collection. As reported in the notes, they were: bead; small bead; bead at neck; bead at foot; two beads near skull; small beads along lower legs and

feet; many white beads along vertebrae and right humerus; and beads parallel to long bones. This last burial also reports a "columella shell" by the left wrist that is also no longer extant.

An additional nine burials reportedly had beads that were designated as shell beads thusly: shell beads (for two burials); shell beads at feet; shell beads at left hand; shell beads near skull; two large shell beads at the mouth; ten shell beads by feet (marginella beads in photo); marginella bead; and six marginella beads.

In addition to those mentioned above and below, we have ten other burials reporting non-extant columellae. These could be pendants, tubes, or beads, as all were variously referred to as "columella" in the notes: columella; one disc columella bead; columella shell; columella shell at neck (two burials); columella on neck; columella shell in mouth (this is the one noted as stolen); columella shell to right of skull; columella shell in each hand; and three columella shells.

Seven more contained miscellaneous items, including some major losses: small spiral shell near neck; two flat pieces of large ocean shell rested on the cranium; perforated conch shell around neck; leptoxis beads (probably marginella, as there are seven cases of extant marginella beads referred to as *Leptoxis* in the notes); bead bracelet on right leg; shell necklace (Fig. 20); and approximately 75 small disc beads.

Finally, there were seven burials that reportedly contained multiple items:

- four marginella, one disc and two cylindrical beads
- one-inch shell under right scapula, projectile point under left side of pelvis, and bead on left side of mandible
- three large beads, two columella on either side and another long drilled shell in the center
- conch columella bead sticking out from right side of jaw, conch columella bead right side of lumbar region, leptoxis (again, probably marginella) shell bead at skull
- two shell beads, one near the right humerus, one near the right foot; two columella shells, one parallel with the left clavicle and one in the mouth. [One columella tube is extant from this burial]
- sixty-nine columella disk beads around neck, approximately sixteen around the waist, and a "perforated shell" at the neck
- worked long bone bead, complete shell necklace (double strand), columella shell (drilled at both ends), complete fresh water clam shell

None of these items are included in Table 1. On the other side of the ledger, many extant shell artifacts from the Libben site are curated as being from burials whose field notes contain no mention of them. The

following items, which are included in Table 1, are extant, but lack provenience data: three disk beads; fifty-five disk beads strung together; one columella drilled lengthwise; three sets of marginella beads numbering 38, 27 and 18; and one thick marine shell body fragment with incising on it.

#### Freshwater shell artifacts

##### Leptoxis shell artifacts:

One complete example and one fragment of a unique shell artifact type from Burial 24 in Unit IV, a forty-one year old of undetermined sex, are the only extant artifacts recovered from the site that were made from fresh water snail shells (*Leptoxis*, sp.). The apex of the spire of the conical shell was cut away, leaving a circular opening at the top. The bottom was cut away at an angle, leaving a large cavity. All cut edges were polished smooth. Six small holes, in symmetrical pairs, were drilled through the edges around the large cavity in the complete example, two at each end and two opposite each other in the middle. It becomes even more exotic when one learns that it is a composite artifact. Two complete and three fragments of small, flat bone disks, fashioned from turtle plastrons, were recovered from the same grave. They, too, have small holes drilled through them in symmetrical pairs, one of the complete examples having eight holes, and the other having six. The size and shape of the six-holed disk matches the size and shape of the cut bottom of the complete *Leptoxis* shell, and the locations of the holes in the disk coincide with the holes in the shell. These two items were obviously fastened together to make a composite bone-shell artifact. (Fig. 21). The size and shape of the eight-holed disk is different from the six-holed disk, showing that each was made to custom fit a specific snail shell. Odds are that we still don't have all of the pieces. It is quite possible that an organic item or items that didn't survive completed the assemblage. Whatever it is, to the best of our knowledge it is totally unique.

##### Mussel shell spoons or ladles:

Finally, the Libben site produced a number of fresh water mussel shells that are artifacts largely by context and association, rather than by modification. "Nearly all" of the complete ceramic vessels excavated with burials at the site contained a single half shell of a fresh water clam (Prufer, personal communication). These were interpreted in the field to be "spoons" or ladles with which to consume or distribute the contents of the pot. These items were so poorly preserved that most of them disintegrated when exposed; only four from the burial ceramics are curated in the extant collection, and they are eroded and fragmentary. There are, however, two complete examples (Fig. 22) that demonstrate their appearance when preserved. These were both recovered from pots that were reported as being upside



down when discovered; the shells inside had been shielded from, rather than soaked in, percolating rainwater.

### The Jesuit Relations and the “porcelain” trade

Artifacts fashioned from marine shells have been recovered from archaeological sites located hundreds of miles from the sea, and dating from historic times far back into the Archaic time period. As with other organic materials, shell artifacts do not survive well, if at all, on open sites, and so have been found almost exclusively with burials. As a result, they have taken on an aura of being ritual items involved primarily with the mortuary customs of prehistoric peoples. Those recovered accompanying the bodies of people buried at the Libben site would seem to consist primarily of items of personal adornment. They were found in positions indicating that they were used as necklaces, bracelets, and anklets. They were also found around the head, where they may have adorned the hair and/or ears of the deceased. They were recovered from positions around the feet, indicating that they decorated footwear, and along the arms and legs, indicating that they were attached to clothing.

We learn what we can from the archaeological record, but it tells us only so much. Fortunately, we have another remarkable resource that informs us of how the descendants of the prehistoric peoples of the Great Lakes region used marine shells at the dawn of the historic era. As early as 1611, Jesuit missionaries came from France to Canada to convert the “savages” of New France to Christianity. As time went on, native peoples from the hinterlands, from as far away as Lake Huron, traveled to Quebec on missions to obtain European trade goods. Eventually, Jesuit priests, individually and in pairs, began to accompany some of them back to their homelands in the “wilderness” to establish missions in the villages there. Native customs and traditions still held sway, not yet subverted by European influences, when the priests, truly strangers in a strange land, first arrived. If not the first Europeans to see many of these lands, they were hard on the heels of traders, who have left little or no written record of their activities. The Jesuits were intelligent, highly educated, literate men who sent annual reports of their activities back to their superiors in France. They lived as the natives lived and recorded observations and descriptions of the native peoples and their customs and beliefs. They (and Sagard, the Recollect, who wrote of making a long journey to Lake Huron in 1623), were the precursors of all cultural anthropologists in North America. Their collected missives are known as the *Jesuit Relations*, and make fascinating reading.<sup>1</sup>

There is frequent reference in the *Jesuit Relations* to certain of the natives’ items of adornment that are referred to as “porcelain,” most frequently as “porcelain collars” and “porcelain beads.” For the most part it goes unmentioned, but there are a couple of passages in the *Relations*, one of which is quoted below, where it is reported that “porcelain” was made from seashells. When the shells are excavated on archaeological sites, for the most part they are a dull white in color, having lost their iridescent sheen. However, it is easy to imagine how the good fathers mistook shell artifacts for porcelain when the shells were fresh and still retained their nacreous luster. “Porcelain collars” are mentioned very often as being items of adornment, and also as gifts presented on formal occasions to memorialize transactions and agreements. These are, apparently, what are referred to in later history as wampum belts. “Porcelain” was also reported as being used in “belts and bracelets ingeniously manufactured,” in “girdles,” necklaces, headdresses, and suspended both from the ears and on locks of hair. They speak of strings of porcelain, scarves of porcelain, and “sticks” and “branches” of porcelain as well. Another use was reported by Father Jerome Lalemont, who wrote that the natives would “fill the cavity of the Gourd, or Tortoise, with some beads of their porcelain; then pierce it with a stick, which serves at once to hold and to shake the drum.”

The appearance of mother-of-pearl must have initially seemed quite exotic to inland peoples hundreds of miles from the nearest source. Father Paul Le Jeune, in a letter dated August 28, 1632, writes, “Their gold and silver, their diamonds and pearls, are little white grains of porcelain...” It is an assertion that is repeated many times throughout the *Relations*. In Le Jeune’s Relation for 1636, he writes, “...the Porcelain that takes the place of gold and silver in this country is all-powerful,” and in another passage refers to it as “the best part of their money.” It is also referred to as “the jewels of this country,” and “the currency of their country.” In a 1651 letter, Father Gabriel Dreuillette reports that, “The *Abnaquiois* [Abenakis], joining me, had made a present to the *Sokouckiois* [Sokokis, historically located on the Saco River in Maine and New Hampshire], of fifteen collars, and ten or twelve porcelain bracelets, which might be valued at seven or eight bundles of Beaver skins.”

There are references in the *Relations* to quantities of porcelain beads in the hundreds and, sometimes, thousands. When the Iroquois sent a three-man deputation to discuss peace with the French in July of 1645, Father Vimont reports that the lead Iroquois negotiator, one Kiotseaeton, when he first appeared before them was “almost completely covered with Porcelain beads.” Granted, the people who were interred at the Libben site lived a half millennium or so before these reports, but it seems likely that what appears to be a wealth of shell artifacts recovered in the Libben site excava-

tions, is but a drop in the proverbial bucket of what was extant in the society.

When one sees the shell artifacts from the Libben site assembled together, or simply looks at the numbers reported here, the sheer volume is impressive. However, when they are viewed separately by burial, the impression is quite different. Dividing the gross number of extant shell artifacts by the number of burials containing them, one gets an average per burial of approximately fifteen. However, if sets of multiple beads accompanying given individuals are assumed to be single items such as bracelets or necklaces, the average falls to less than two per individual. One also needs to keep in mind that less than a quarter of the people buried at the Libben site were accompanied by any surviving “grave goods” at all. In this light, they appear at first blush to be jewelry, items of individual personal adornment.

That they functioned as such is undoubted, but that they were more than this is indicated by the nature of the items themselves. There are very few of the larger items, the columella pendants and tubes, that are in pristine condition. Nearly all are either broken or reworked. The edges of many of the pendants have evidence of previous suspension holes that have broken or worn through with the edge then reground. Sometimes grooves were added for suspension when the holes were no longer functional. A few of the columella pendants were drilled horizontally in the manner of tubes, and there are several unworked fragments. Who knows how long they were in circulation to arrive at such reduced states? Even the ones that appear entire, without the remains of previous holes showing on the edges, may have been refashioned, with the broken holes ground away. Nearly all of the columella tubes are also damaged. Typically, parts of the suspension holes that are drilled through the lengths of the tubes are broken out at the ends, sometimes one end, sometimes both. When both ends are broken, the breaks are in line with each other on the same side of the tube. A few are broken out in the middle.

At the historical horizon what we call marine shell artifacts, and the French called porcelain, were objects of great value to their owners, the wealth of the country, “diamonds and pearls.” It was likely so well into the prehistoric past. Apparently the wealthy constituted only about fifteen percent of the population, since that is the approximate percentage of burials excavated at the Libben site with extant shell artifacts. However, if they were simply a display of wealth, the personal jewelry of the deceased laid out in his or her “Sunday best,” one would not expect such a high percentage of flawed items. As far as the columella ornaments are concerned, it would seem that the “good stuff,” consisting of new and undamaged items, was largely kept by and for the living. The shell must have served a ritual purpose as well. A broken, worn-out, reworked or fragmentary shell item seems to have sufficed for the afterlife, to have fulfilled the

<sup>1</sup> For those who are interested, the *Jesuit Relations* are available on-line in English. See the bibliography.

ritual function. Perhaps “porcelain” held a mythological significance that is lost in time; something that is culturally beyond our, and the Jesuits’, comprehension, although it may well have been understood by Hopewell and Adena peoples and their predecessors.

Some shell beads, including “wampum,” are historically documented as being manufactured on the east coast of North America. There is a passage in the *Jesuit Relations* reporting that the Iroquois required “annual tribute of porcelain” from the Sokokis. Ritchie (1965), in describing his Kipp Island Phase under the heading of “Dress and Ornament,” writes, “These sundry varieties [of beads] were all fabricated from the columella of the conch *Busycon*, two large species of which are available along the Atlantic coast from Cape Cod southward.” Marginnella shells, he adds, “occur along the South Atlantic coast from Florida to the Carolinas.” While he believed that the Atlantic Ocean provided the source material for Late Woodland shell artifacts, which it may well have for those found in the state of New York, these shells are also found along the shores of the Gulf of Mexico.

The Jesuits write not only of the Abenakis, Sokokis and Iroquois possessing and displaying “porcelain,” but also the Neutrals, the Huron, and the Nippissing, all of whom lived to the west. While some trade may have gone west through the Neutrals, it doesn’t seem likely that other western tribes were obtaining the bulk of their shell from the Atlantic Ocean, between which and them lay the dreaded Iroquois Confederacy. There are passages in the *Relations* that seem to indicate a different origin. The first is from the pen of Father Lalemant in 1641, reporting on Father Brebeuf’s 1640 sojourn with the Neutrals. He reports, “Some old men related to our Fathers that they had acquaintance with a certain Western Nation, against which they were going to make war, and which was not far removed from the sea; that the inhabitants of the place fished for Vignots, that are a kind of oyster, the shell of which serves to make porcelain beads, which are the pearls of the country.” The Neutral Indians occupied the land north of eastern Lake Erie. To go west from there to the sea, likely meant going west to go south, down the Mississippi River to the Gulf of Mexico, and not to the Pacific Ocean.

Father Paul Ragueneau penned a very interesting passage in April of 1648. He was writing from the Huron country, and reported encountering one Charles Ondaaidiont, “a good Christian returned from a very long journey of six months’ duration.” Father Paul writes, “On his return from that long journey, when he learned that the Hurons had not gone down to Quebec,

and that consequently we had received no assistance from that quarter, he divided up what he had brought back from his journey,—about fourteen thousand Porcelain beads, that are a valuable treasure here,—and came to present us with as many as he kept for himself.” He does not tell us from where the traveler, or perhaps we should say trader, brought this treasure.

On February 16, 1701, Father Gravier writes of having descended the Mississippi River to its mouth from *Chikagoua* (Chicago) in the country of the Illinois, a journey by canoe that took him 68 days. He writes, “The navigation of the Mississippi (*sic*) is very slow and tedious, and very difficult — especially in ascending it. It is also very troublesome on account of the gnats and other insects called Mosquitoes, midges, And black flies; the heavy rains; the excessive Heat; the wretched landing-places, — where one must wade in mud and clay, Often half-way up one’s Legs, — and the bad food. Unless one set out with a Canoe half full of provisions, he must expect to fast long; and I find it difficult to believe that our savages up above and in the Illinois Country come here to seek for merchandise from so great a distance, with so many difficulties and so many risks.” Perhaps it was because they were seeking “porcelain” — the equivalent of “gold and silver,” “diamonds and pearls” — that made the risks and difficulties worthwhile. Father Gravier started from a point farther south than Charles Ondaaidiont, and spent over two months on the downstream leg of the journey. One would assume, as he intimates, that paddling against the current on the return journey would take even longer. Add time for travel between the country of the Huron and that of the Illinois, and time at the destination to transact business, and six months, as reported by Father Ragueneau, seems reasonable for such an enterprise.

Finally, there may be another clue in the story of “the trader,” an individual whom Pruffer first encountered while researching his doctoral dissertation on the Hopewell culture in 1959. This was one Alvar Nuñez Cabeza de Vaca, the king’s treasurer attached to the ill-fated Narvaez expedition, who found himself, after much adventure, washed up naked and free of property on the Texas coast in 1528. After a period of enslavement among the local natives, he became a trader, spending up to two years traveling as much as 150 miles along the coast of the Gulf of Mexico, and “as far inland as I wanted.” He reports, “The main items of my trade were pieces of sea snails and their insides, and seashells which they use to cut a certain fruit that looks like a bean, used by them for medicinal purposes

and for dances and festivals (and this is the thing they value most), sea beads and other things. These are what I carried inland, and in exchange and barter I received hides and red ochre, which they rub on their faces and hair to dye them, flints for arrowheads, paste and stiff canes to make arrows, and some tassels made from deer hair, which they dye red. I liked this trade, because it gave me the freedom to go wherever I wanted. I was obligated to nothing and was not a slave. Wherever I went they treated me well and fed me because I was a trader.”

Here we can perhaps see whelk shells and columellae in the “sea snails and their insides,” and perhaps marginella in the “sea beads.” The northerners had access to hides and red ochre, and in the *Jesuit Relations*, Father Jean Brebeuf, relating his experiences while attending a Feast of the Dead among the Huron in 1636 writes, “From day to day the souls arrived. It is very interesting to see these processions, sometimes of two or three hundred persons; each one brings his souls, that is, his bones [of relatives who had died in the dozen years that had passed since the last Feast of the Dead], done up in parcels on his back, under a handsome robe, in the way I have described. Some had arranged their parcels in the form of a man, ornamented with Porcelain collars, and elegant bands of long red fur.” While this report is from more than a century later than that of “the trader,” would not “elegant bands of long red fur” make items of trade as attractive as “tassels made from deer hair, which they dye red”?

Cabeza de Vaca intimates that his status as a trader gave him immunity to travel between neighboring tribes when “people do not travel or trade much in that land because of the continuous warfare that goes on.” How far inland these practices were carried, we have no way of knowing. Traders among the Libben people may not have had to travel nearly as far as Father Gravier or Charles Ondaaidiont, they may have traded with Mississippian middlemen. Or indeed, for all we know, traders from the south may have come to them. We have only these hints from the dawn of North American history, but whether by the incremental steps implied by Cabeza de Vaca’s story, or by long-distant journeys such as the one reported by Father Ragueneau, or by long distance raids as can be inferred from Father Lalemant’s report, or by other mechanisms unknown to us, it seems likely that marine shells and items manufactured from them found their way from the Gulf of Mexico up the Mississippi River and beyond in volume, and likely did so for centuries, if not millennia.

**Bibliography:**

Cabeza de Vaca, Alvar Nunez  
 The Cabeza de Vaca Relación Digitization and Access Project. Steve Davis, project director. Albert B. Alkek Library, Texas State University-San Marcos.  
<http://alkek.library.txstate.edu/swwc/cdv/>

Gold Thwaits, Ruben, ed.  
 The Jesuit Relations and Allied Documents, 1610 – 1791. Creighton University. Originally published by The Burrows Brothers Co., Cleveland.  
<http://puffin.creighton.edu/jesuit/relations>

Griffin, James B.  
 1943 *The Fort Ancient Aspect*. University of Michigan Press. Ann Arbor.

Ritchie, William A.  
 1965 *The Archaeology of New York State*. The Natural History Press. Garden City, New York.

Smith, Arthur George  
 1964 "The Montgomery Burial Site near La Carne, Ottawa County, Ohio." *The Ohio Archaeologist*, Vol. 14, No. 3.

	Burials	Non-burial	Totals
Whelk shell pendants	7	0	7
Whelk shell implements	3	0	3
Shell effigy pendants	3	0	3
Unidentified ornament	1	0	1
Whelk shell fragments	1	3	4
<b>Total whelk body artifacts:</b>	<b>15</b>	<b>3</b>	<b>18</b>
Columella pendants:	56	7	63
Columella tubes	17	3	20
Columella tube pendants	5	1	6
Columella implements	8	0	8
Columella fragments	11	1	12
<b>Total columella artifacts:</b>	<b>97</b>	<b>12</b>	<b>109</b>
Marginella beads	1439	78	<b>1517</b>
Disk beads	846	107	<b>953</b>
Cylindrical beads	102	11	<b>113</b>
Oliva, sp., bead	1	0	<b>1</b>
<b>Total shell beads:</b>	<b>2388</b>	<b>196</b>	<b>2584</b>
<b>Total marine shell artifacts:</b>	<b>2500</b>	<b>211</b>	<b>2711</b>

Table 1 (Pigott) Marine shell artifacts.





Figure 1 (Pigott) Large whelk shell pendant from burial 3 in "Zimm's Trench."

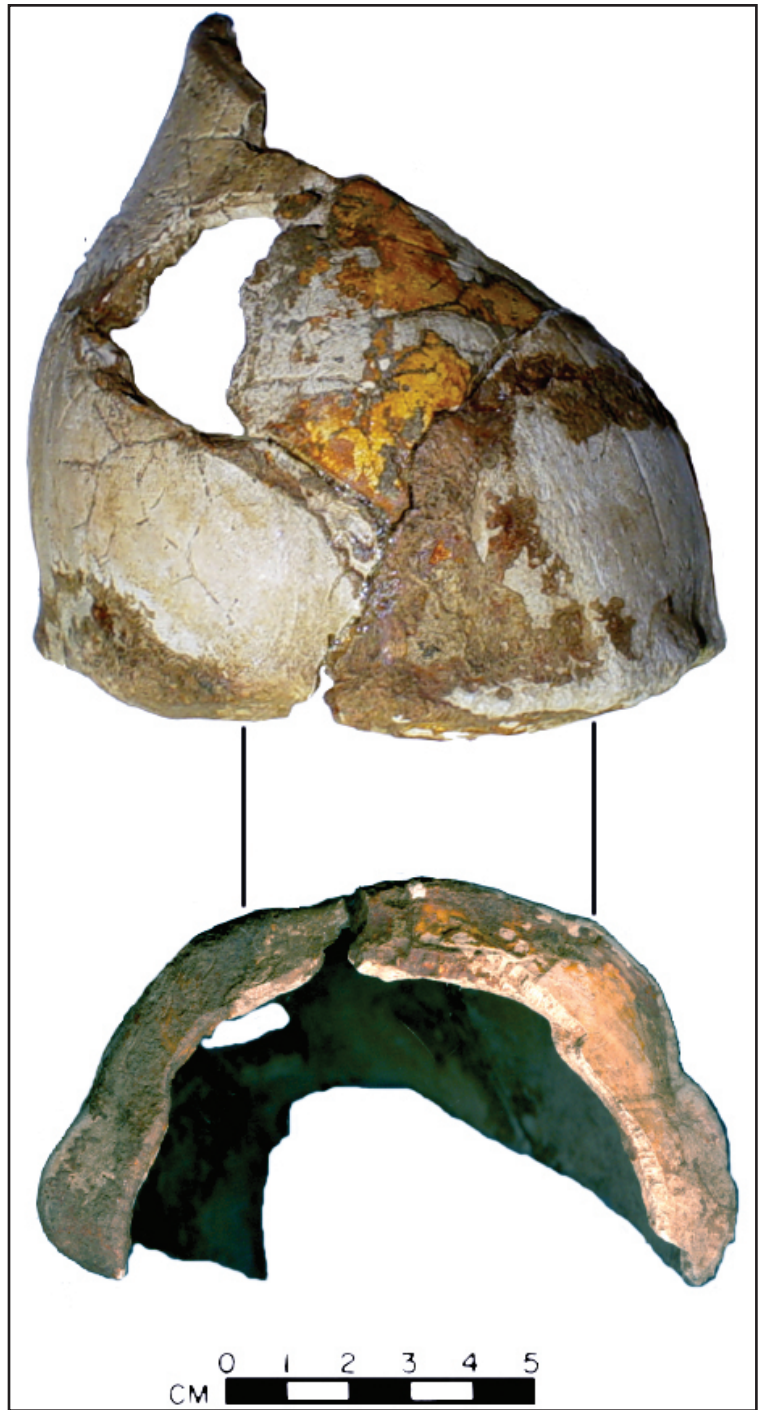


Figure 2 (Pigott) Large cut whelk shell segment from burial 3 in unit L-I.

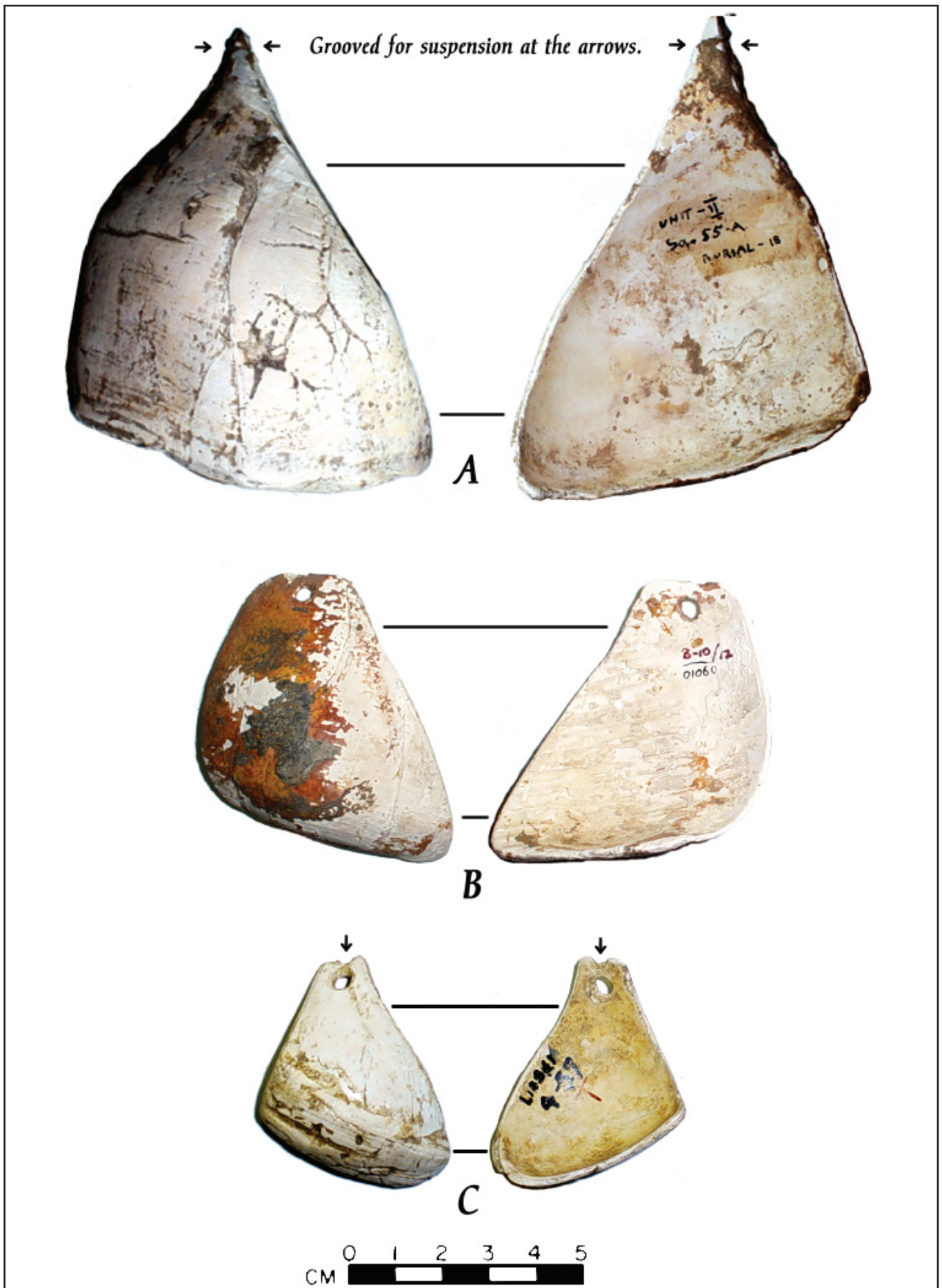


Figure 3 (Pigott) Whelk body shell pendants. A, burial 18, unit L-II; B, burial 10, unit L-IX; C, burial 57, unit L-IV.





Figure 4 (Pigott) Small whelk shell pendants. A, from burial 14 in unit L-IX; B from burial 21 in unit L-VIII.

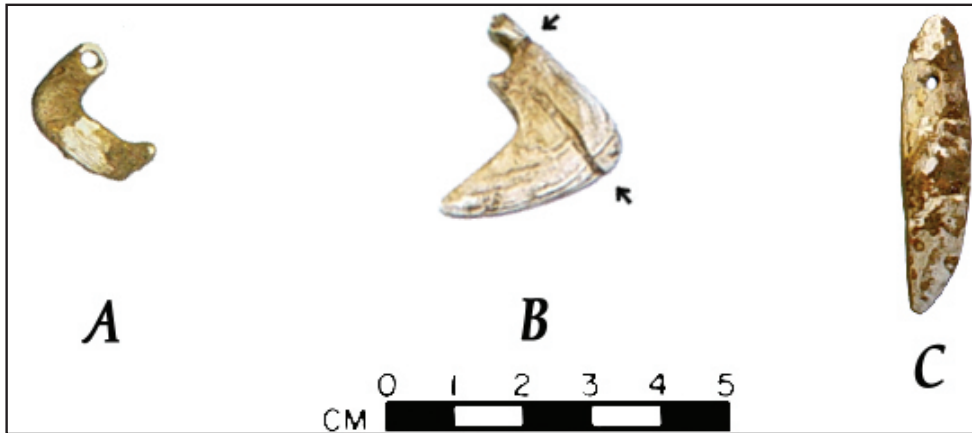


Figure 5 (Pigott) Marine shell effigy pendants, all from burials. Arrows on B indicate grooves that were apparently cut after the suspension hole broke out.

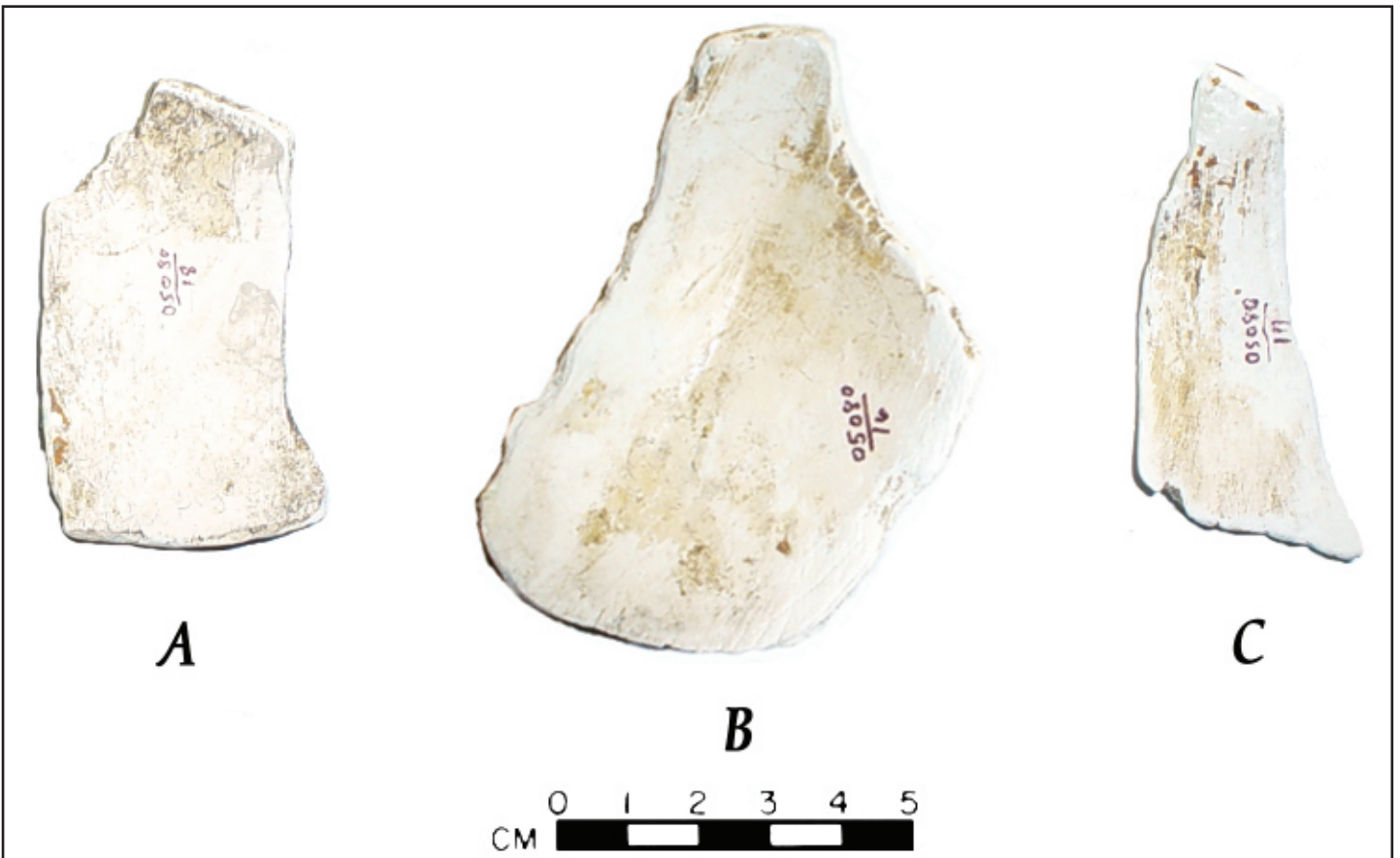


Figure 6 (Pigott) Shaped marine shell pieces, possible scoops or spoons, from burial 80 in unit L-V.



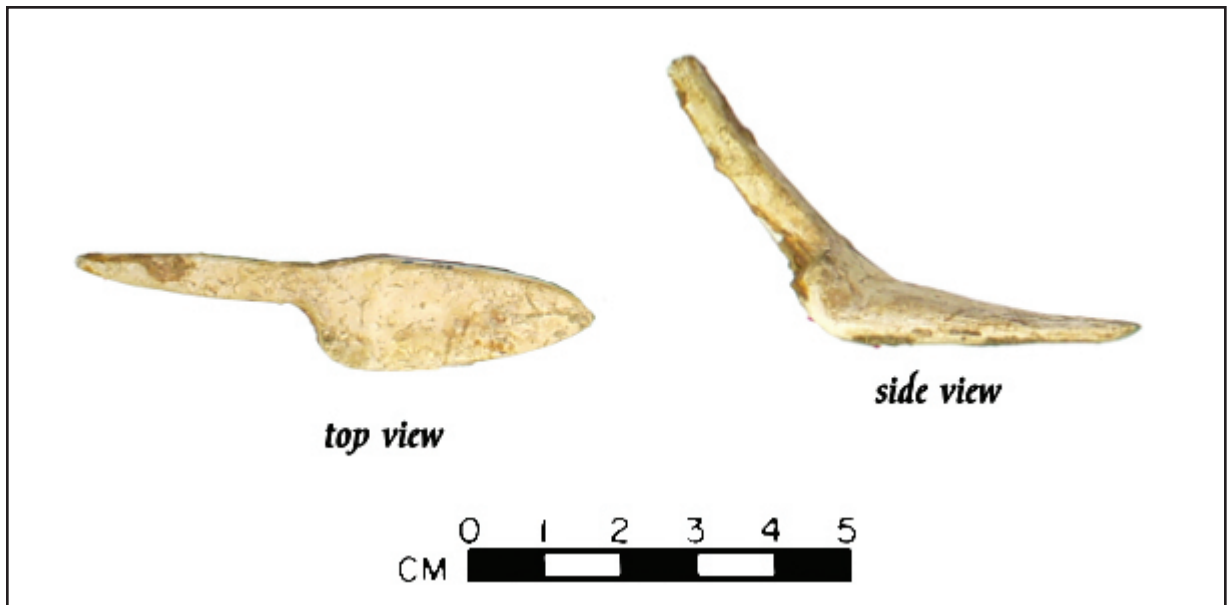


Figure 7 (Pigott)  
Unidentified marine  
shell object from  
burial 228 in unit L-II.

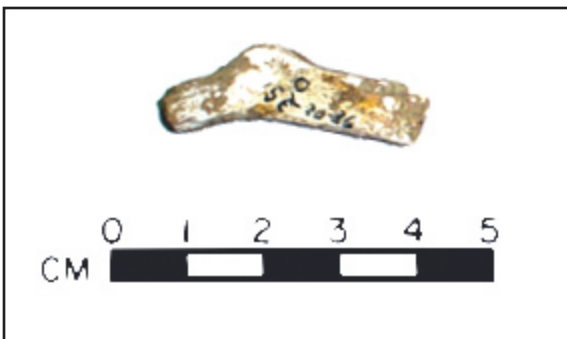


Figure 8 (Pigott)  
Unidentified shell  
ornament fragment.

Age	pendants	tubes	implements	fragments	totals
0-5	10	1	2	0	13
6-10	5	3	0	0	8
11-15	3	0	2	0	5
16-20	5	1	1	0	7
21-25	8	2	0	0	10
26-30	2	1	0	0	3
31-35	11	6	2	0	19
36-40	2	0	0	2	4
41-45	0	0	0	0	0
46-50	3	0	0	0	3
50+	2	1	1	0	4
child	1	1	0	0	2
adolescent	1	0	0	0	1
adult	3	0	0	0	3
indeterminate	5	1	0	9	15
<b>totals</b>	<b>61</b>	<b>17</b>	<b>8</b>	<b>11</b>	<b>97</b>

Table 2 (Pigott) Age distribution for burials accompanied by columella artifacts.

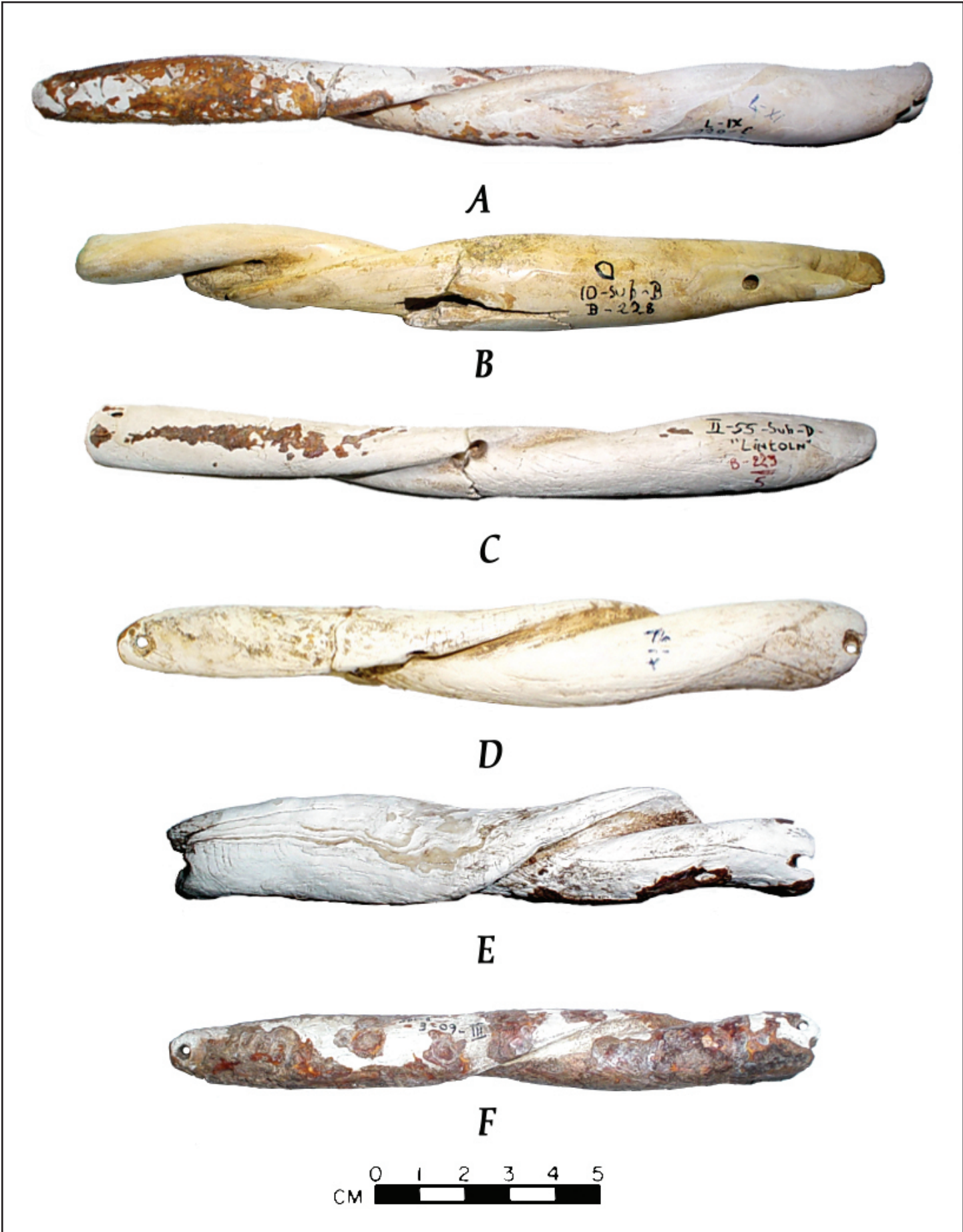


Figure 9 (Pigott) Whelk columella pendants, with holes drilled at each end for horizontal suspension.

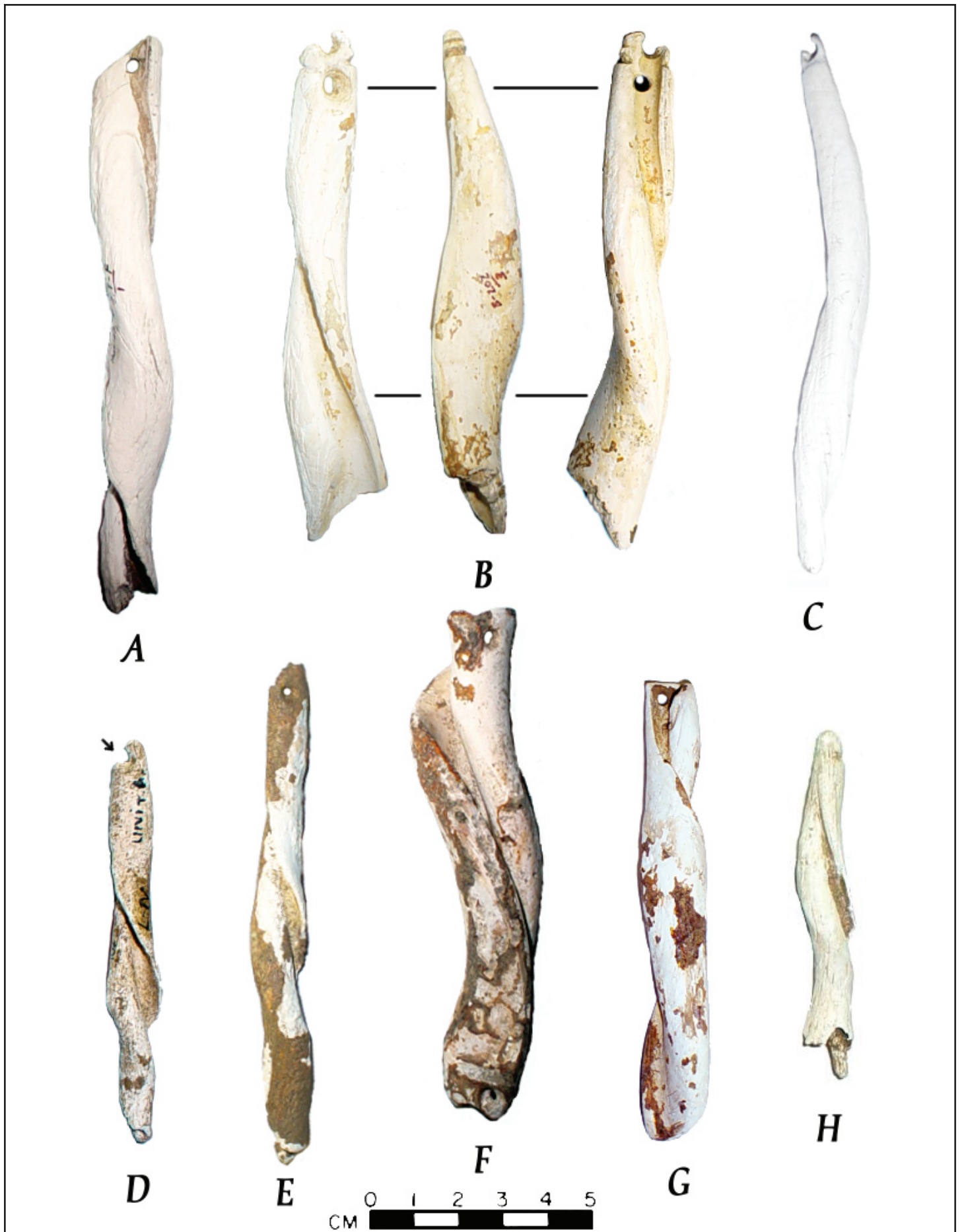


Figure 10 (Pigott) Whelk columella pendants, with a hole or groove at one end for vertical suspension.





Figure 11 (Pigott) Whelk columella tubes from the Libben site excavations.

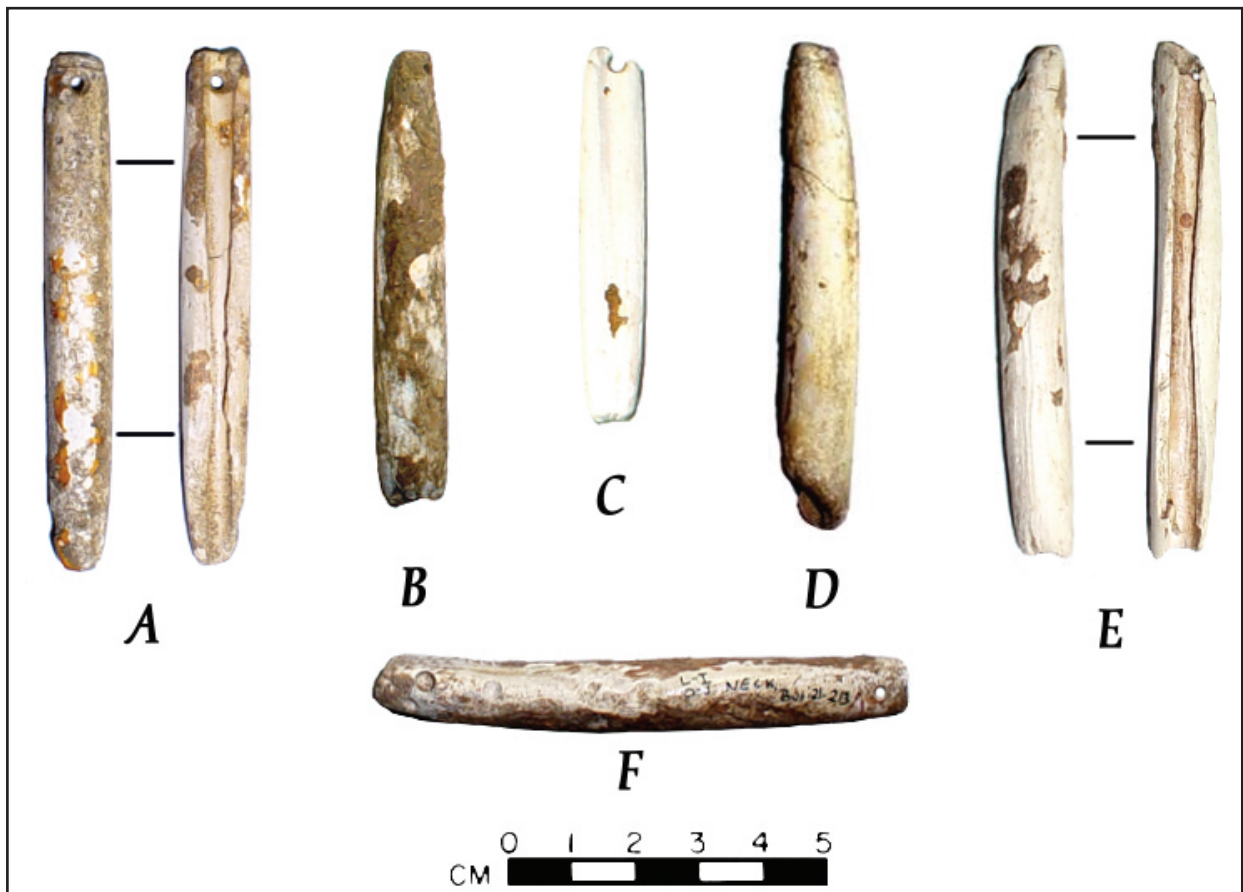


Figure 12 (Pigott) Whelk columella tube pendants from the Libben site.

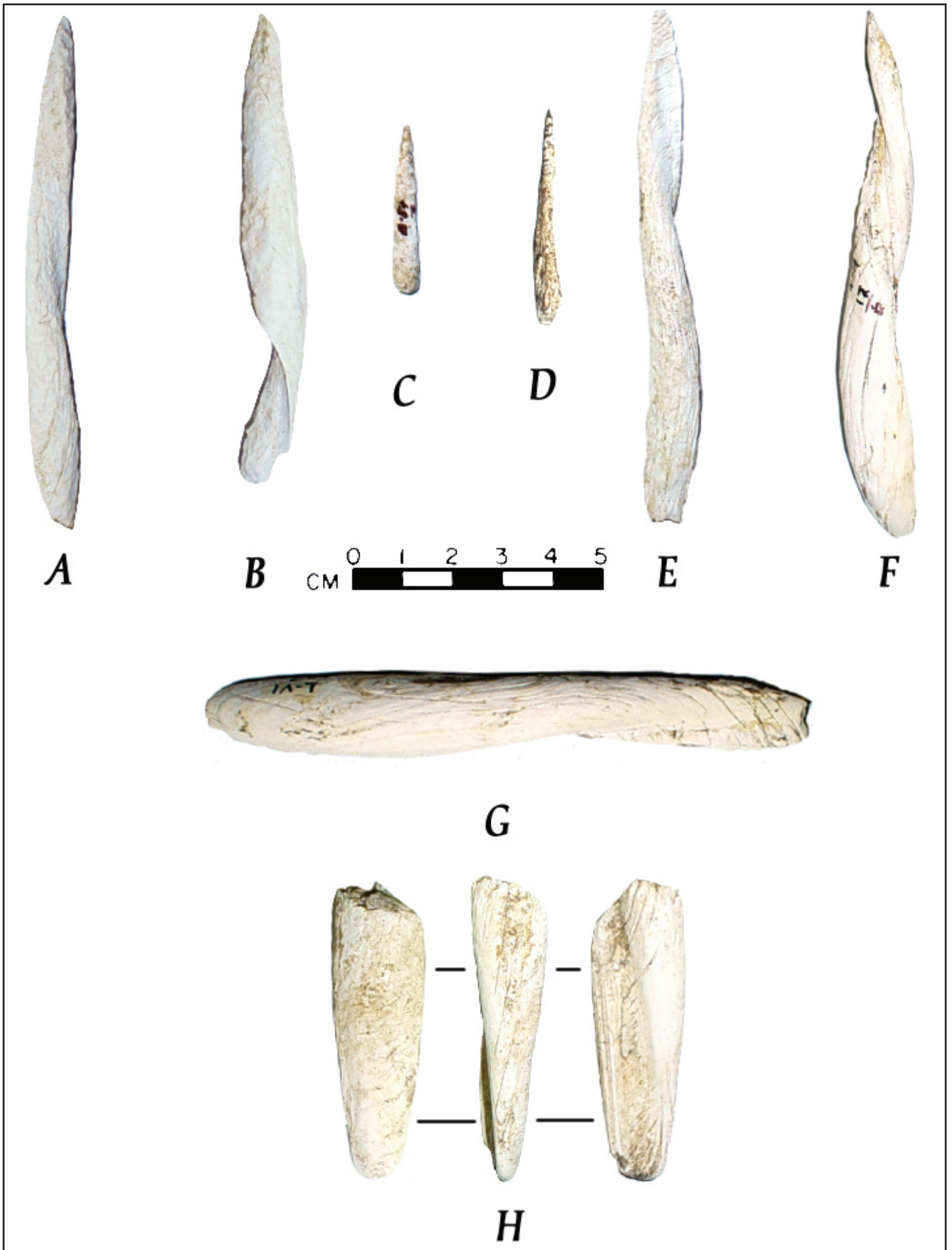
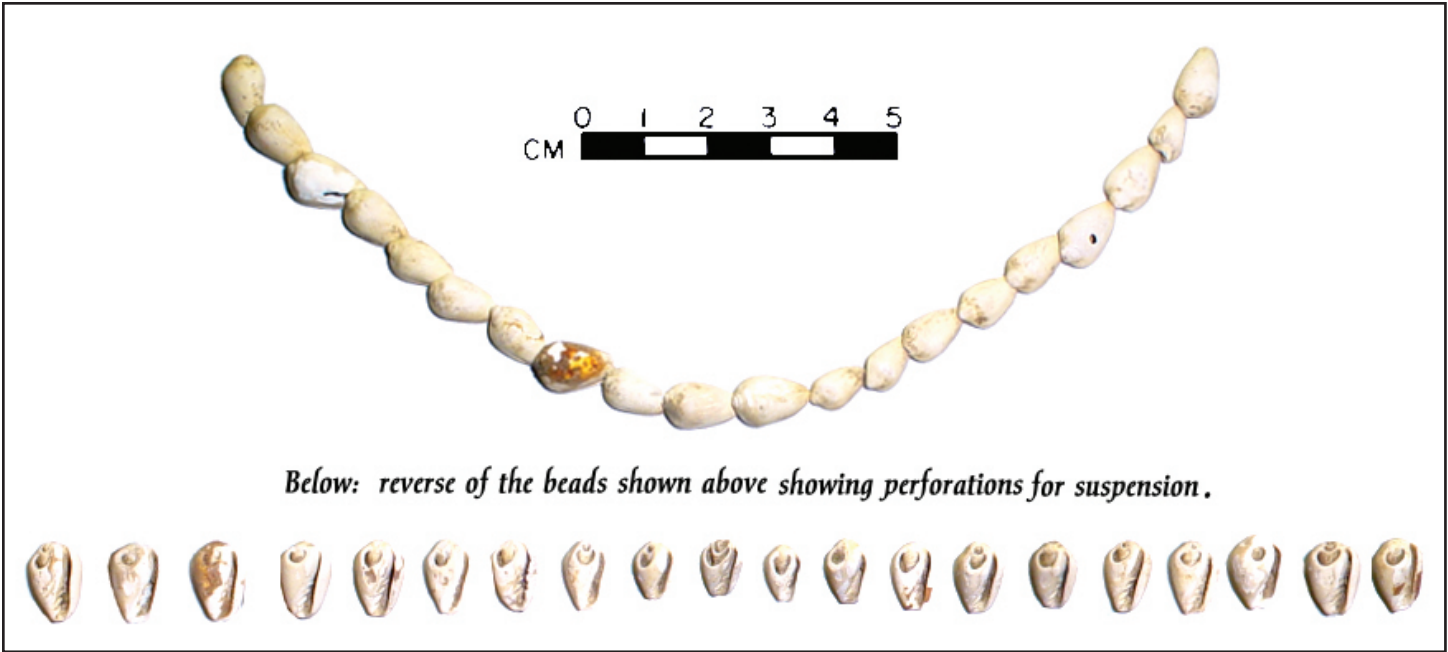


Figure 13 (Pigott) Whelk columella implements, awls and gouges, from the Libben site excavations.





*Below: reverse of the beads shown above showing perforations for suspension.*

Figure 14 (Pigott) Marginella beads from burial 61 in unit L-IV.

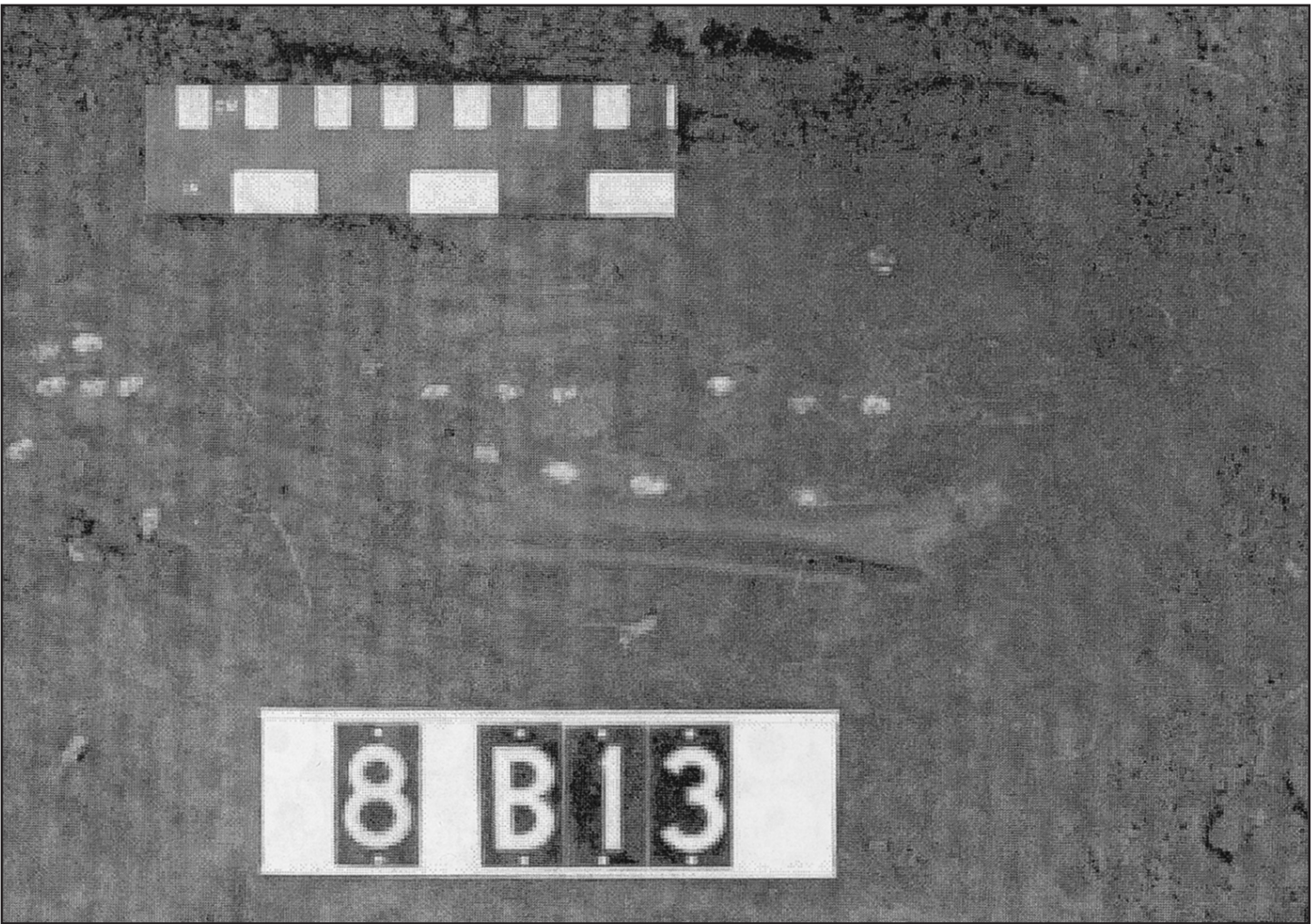


Figure 15 (Pigott) Marginella beads lying along the lower legs and feet of burial 13 in unit L-VIII, possibly attached to knee length boots, or moccasins and leggings.



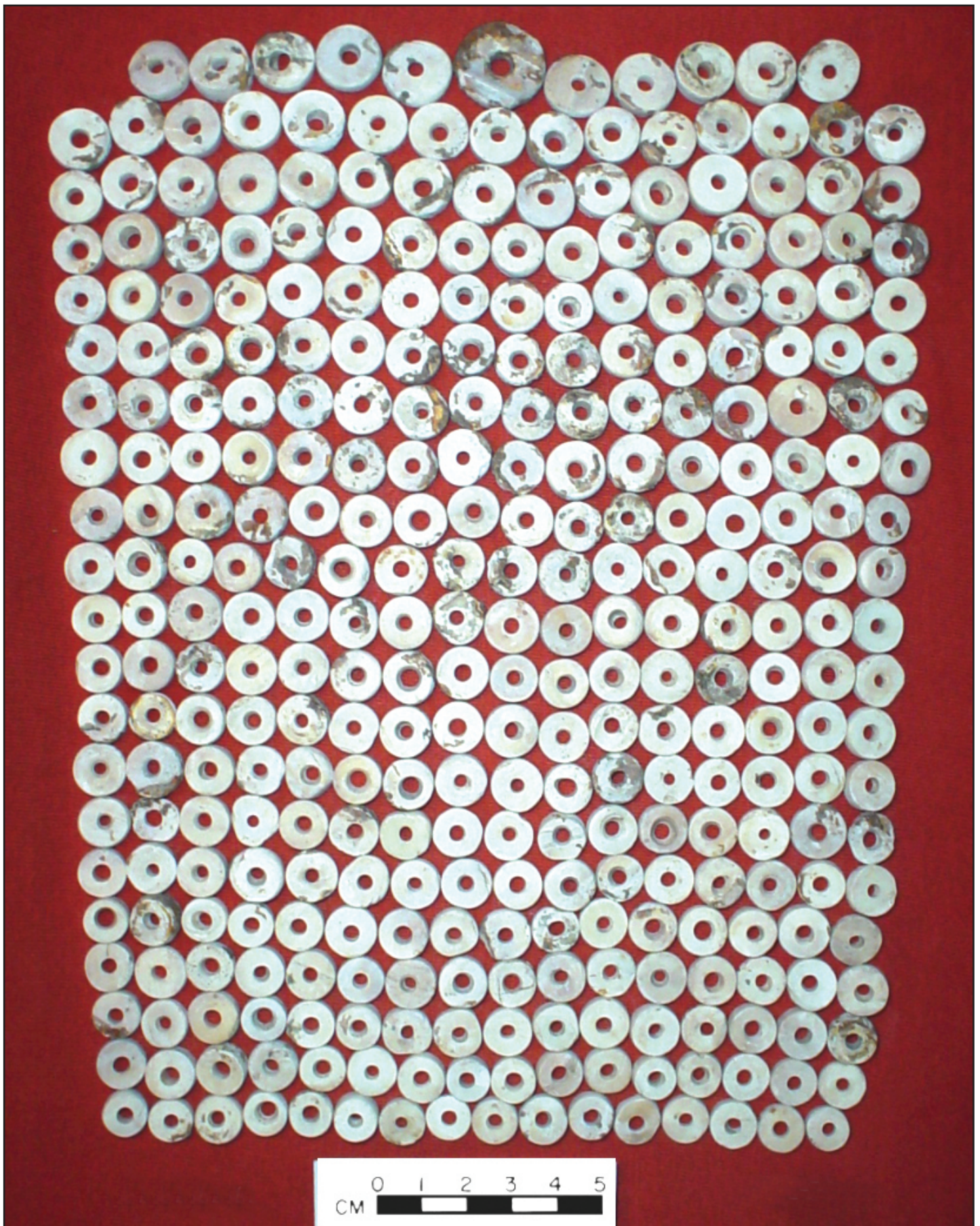


Figure 16 (Pigott) Marine shell disk beads accompanying burial 4 in unit L-I.



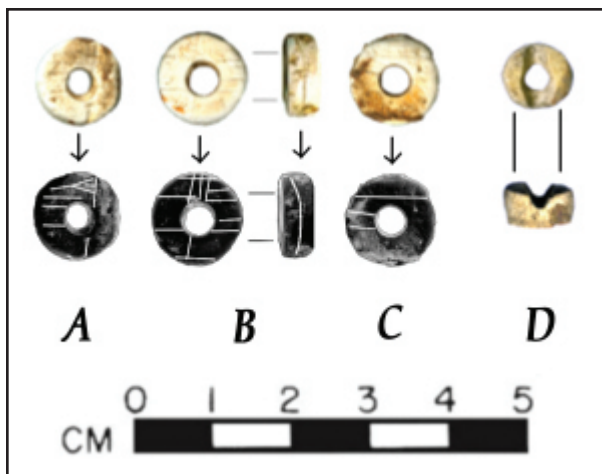


Figure 17 (Pigott) Incised disk beads (A-C, with enhanced negative views to highlight the incised lines) and slotted disk bead (D) from Libben burials.

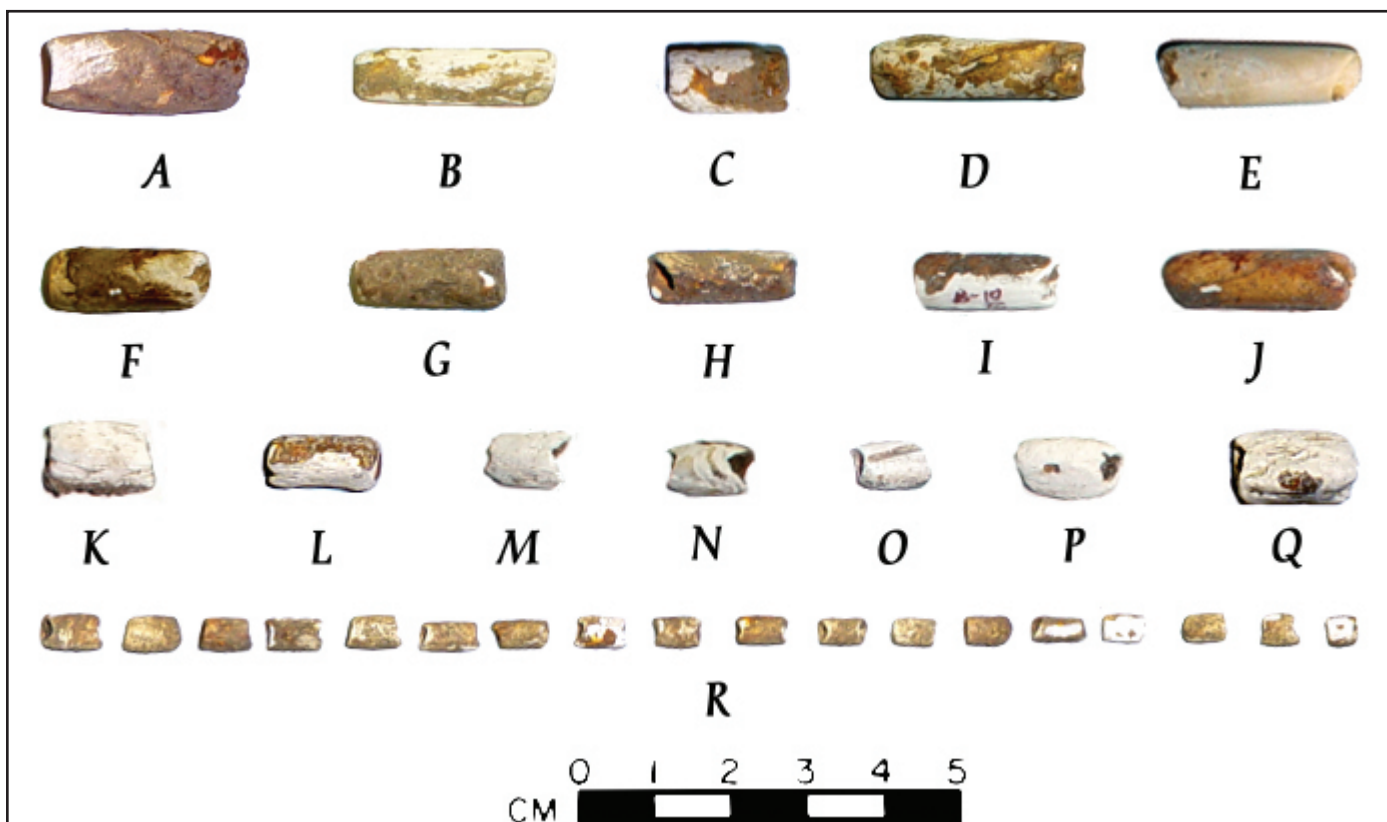


Figure 18 (Pigott) Cylindrical shell beads from Libben Site burials.

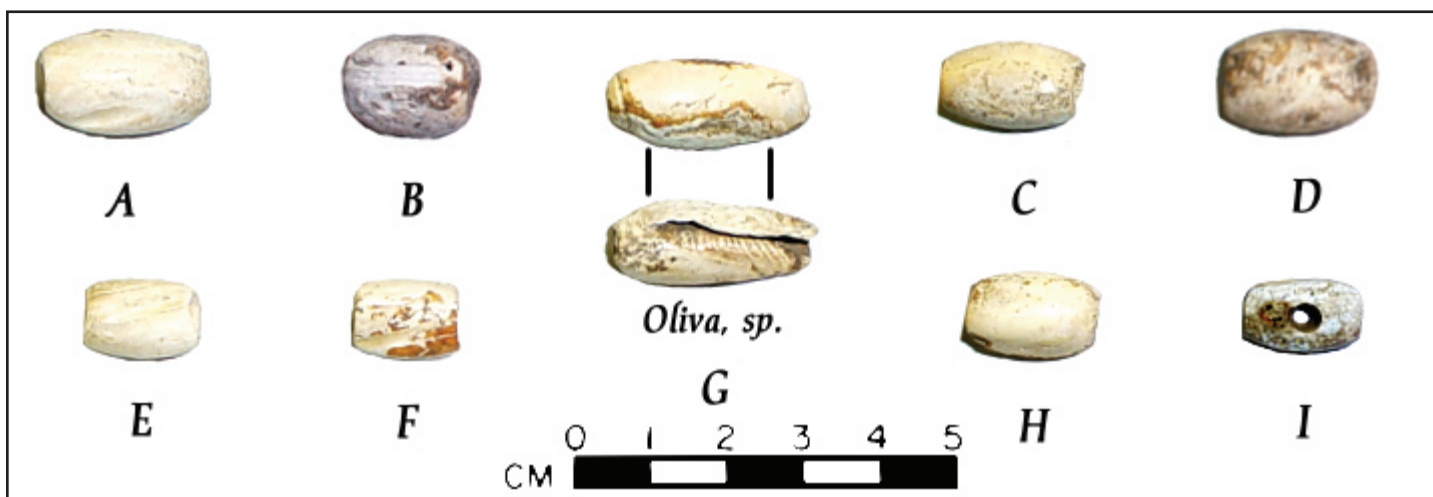


Figure 19 (Pigott) Marine shell columella "barred" beads, (A-F, H, I) and an *Oliva* shell bead (G) from Libben Site burials.



Figure 20 (Pigott) Non-extant, unidentified shell necklace with burial 15, unit L-V, an infant less than one year old.

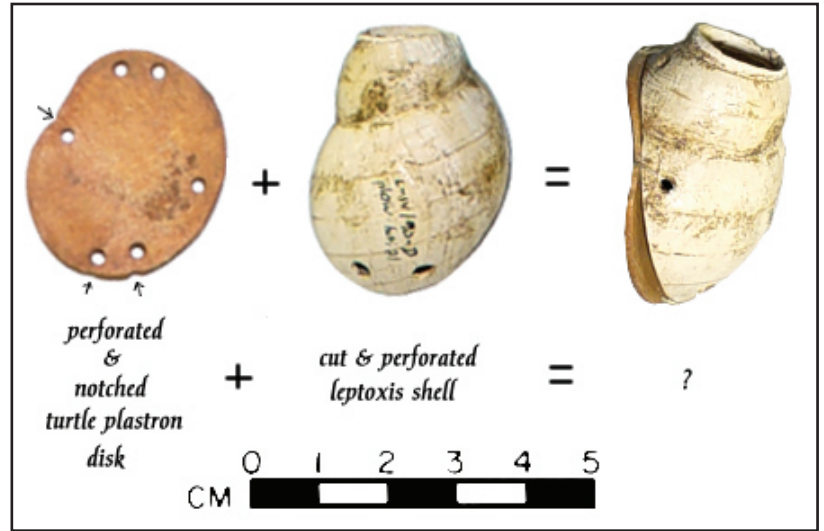


Figure 21 (Pigott) Composite bone and *Leptoxis* shell artifact from burial 24 in unit L-IV. Arrows indicate notches in the edge of the disk opposite three of the holes.

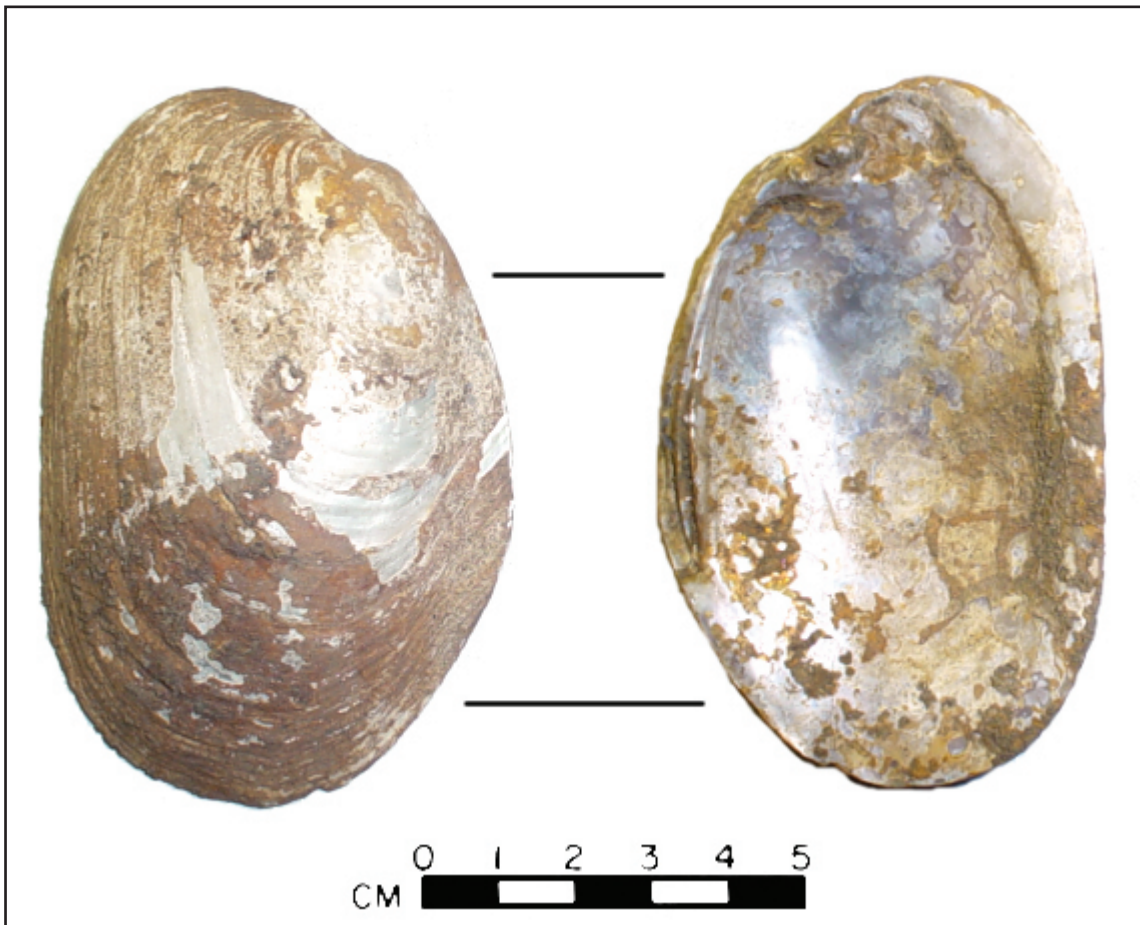


Figure 22 (Pigott) Shell spoon or ladle from inside an inverted pot excavated from unit L-O.