XVI. THE PERSONAL ORNAMENTS

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INTRODUCTION

DURING the excavation of Nong Nor, a wide range of personal ornaments was recovered, both in terms of form and material used. This chapter will provide a descriptive typology, in order to facilitate an understanding of the relationships between graves on the basis of age, gender and location within the cemetery. It first divides the ornaments on the basis of class, and then form. Following Kenoyer (1991:82), the following classes were identified:

1. Bead - any object that is perforated along its major axis, generally worn on a cord or a wire, sewn onto clothing or used as an ornament.

2. Pendant - any object that is perforated or scored at one end, *or otherwise hung from one end,* and is hung or attached to a cord or a wire, sewn onto clothing or used as an ornament (italics mine).

3. Bangle - any circlet (closed or open) made of a continuous homogenous material that can be worn on the arm.

4. Bracelet - any circlet made of components such as beads, chain or cord, etc. that can be worn on the arm.

5. Anklet - any circlet made of components such as beads, chain or cord, etc that can be worn on the ankle.

6. Solid Anklet - any circlet (closed or open) made of a continuous homogeneous material that can be worn on the ankle.

7. Necklace - any circlet made of components such as beads, chain or cord, etc. that can be worn around the neck.

8. Earring - any object, either of a homogeneous material or of composite manufacture, that is attached to, or hung from, the ear.

9. Miscellaneous - any object for which the primary purpose is ornamental but which does not fit into the previously defined groups.

Artefacts within these classes have been further subdivided according to material and form, and will be described by incorporating the following variables:

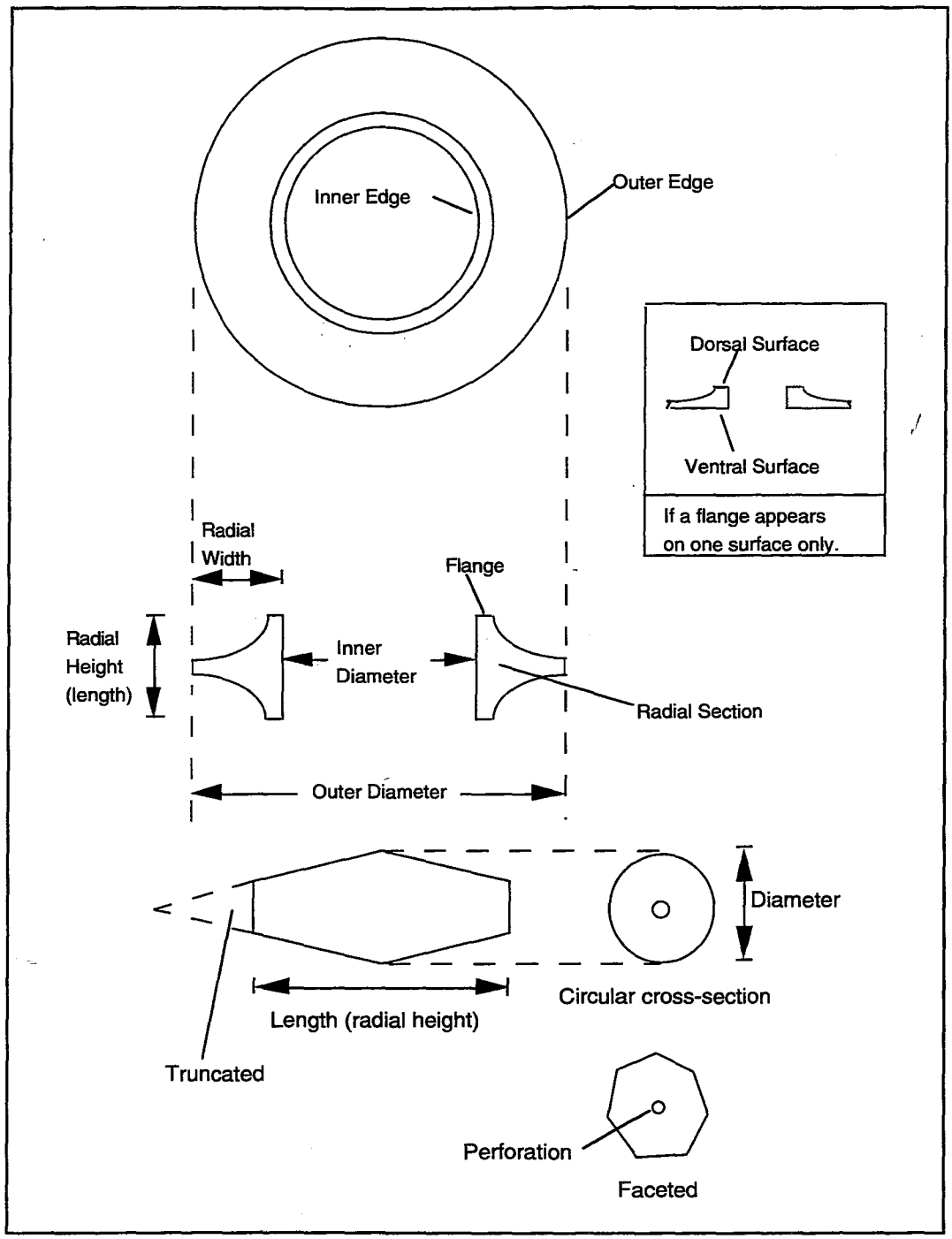

FIG. 78. Schematic illustration depicting descriptive terminology for bangles and beads. The bead shown in longitudinal section is biconical in shape

Catalogue number (cat.) - the identification number for each artefact.

Context within the site. Most involve a burial (B), but some were found in layers within the site (L).

Material was identified by eye and under hand-lens and stereoscope magnification. G. Mason has identified many of the materials, and Dr A. Reay has identified the tin and limestone-marble bangles.

Decoration - a simple description of any decoration on the surface of the artefact. This was very rare.

Dimensions recorded varied with the artefact type. Figure 78 illustrates those recorded for bangles and beads, as well as the relevant terminology. In cases of corroded or otherwise irregular artefacts, measurements were taken at the least corroded or most 'representative' points. For rigid artefacts, where the diameter varied, the largest measurement was taken. Second diameter measurements were always taken at right angles to the first. All measurements were recorded in millimetres.

BEADS

Various schemes have been proposed for the classification of prehistoric beads (Beck 1928, Bennyhoff and Hughes 1987, King 1990, Kenoyer 1991, Pilditch 1993). A relatively simple scheme has been used, based upon Pilditch's methodology at Ban Na Di and Khok Phanom Di (Pilditch 1986, 1993).

Shell

The vast majority of beads at Nong Nor are made of shell, and have been assigned four forms: disc, barrel, long barrel and spherical-carinated.

Disc Beads. These beads have a circular cross-section (transverse section) and a rectangular longitudinal section. In Kenoyer's (1991) terminology, they would ideally have a length measuring less than one third their diameter. However, length (or thickness) is more variable at Nong Nor, and for some is greater than one third the diameter. The designation of these as disc beads is based on their inclusion in strings where they fall at one end of a continuous scale of variation. One interesting example is cat. 378, identified as a belt, from B 58. This includes a large proportion of thick disc beads, all with relatively large perforations (one third or more of the total diameter). These were made from a thick-shelled bivalve, probably tridacna, suggesting that material significantly affects form.

The beads were passed through a graded series of sieves to establish the size distribution. In part, this was an attempt to replicate a technique employed by Pilditch (1993) at Khok Phanom Di. It was not possible to replicate her sieve series. Although her series ran in roughly 0.5 mm steps, investigations revealed that scientific sieves are produced in a variety of geometric, rather than arithmetic, series. This is reflected by the uneven steps in Pilditch's scheme. The Nong Nor sample is described using the international standard phi (ø) series of sieve sizes (Endecotts 1977). Table 13 outlines the relationship between the two size classification schemes.

Table 13. *The relationship between Nong Nor and Khok Phanom Di sieve series. The Phi (ø) series (NN) can be extended, and further subdivisions made, according to table 3.7 in Endecotts (1977)* Test Sieving Manual

Size Grade (NN)	Interval (mm)	Interval Width (mm)	Size Grade (KPD)	Interval (mm)	Interval Width (mm)
One	>0.71-1.0	0.29			
Two	>1.00-1.4	0.40	One	1.20-2.29	1.09
Three	>1.40-2.0	0.60			
Four	>2.00-2.8	0.80	Two	2.30-2.79	0.49
Five	>2.80-4.0	1.20	Three	2.80-3.39	0.59
			Four	3.40-3.89	0.49
Six	>4.00-5.6	1.60	Five	3.90-4.49	0.59
			Six	4.50-6.00	1.50
Seven	>5.60-8.0	2.40	Seven	≥6.00- ∞	∞
Eight	>8.00-11.2	3.20			
Nine	>11.20-16.0	4.80			

A total of 5474 disc beads have been analysed, of which 4766 are associated with burials, the remainder being found on the surface or loose within the midden. None fell through the 1.4 mm (-0.5 ø) sieve and the maximum diameter (measured directly) is about 12.8 mm. Over 40 per cent were retained in the 2.8 mm (-1.5 ø) sieve. That is, they have a maximum dimension between 2.8-4.0 mm (Fig. 79). Discounting those where size could not be determined, a normal distribution is indicated.

Barrel Beads. This term has been widely used, yet it is poorly defined in the archaeological literature. The level of variation that may be included, for example, has not been specified. At Nong Nor this term includes classic barrel-shaped beads with truncated elliptical longitudinal sections and circular transverse sections as well as cylinders and shorter, almost spherical, beads. Beads with curving longitudinal sections may or may not be truncated at the ends. Cross-sections vary from blunt triangular to circular and elliptical and in some cases are quite flat. Some are very regular in section and carefully finished, but others received little such treatment.

Long Barrel Beads. Almost all these beads come from a single artefact (a necklace in B 32, cat. 163). These are best considered a sub-type of the barrel beads where the ratio of length/width is ≥ 2.5. Figure 80 indicates why this ratio value is chosen to differentiate barrel and long barrel beads.

Spherical-Carinated Beads. There are thirteen beads of this distinctive form. They are nearly spherical with a carination running around the equator (where perforations occupy the poles). Length is usually slightly shorter than diameter, producing, in effect, a very short bicone.

Stone Beads

There are eight stone beads, seven from burials. They occur in carnelian and serpentine. The

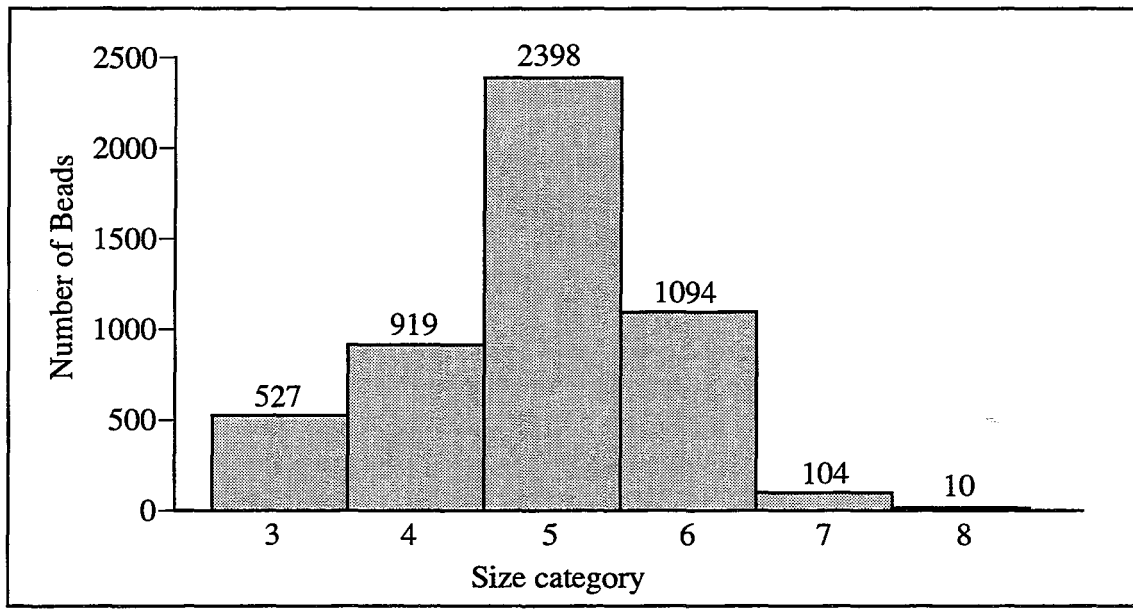

FIG. 79. The distribution of disc beads, sorted by size category. A normal distribution is indicated, centred on size 5 (also, 422 beads were unable to be assigned to a size category)

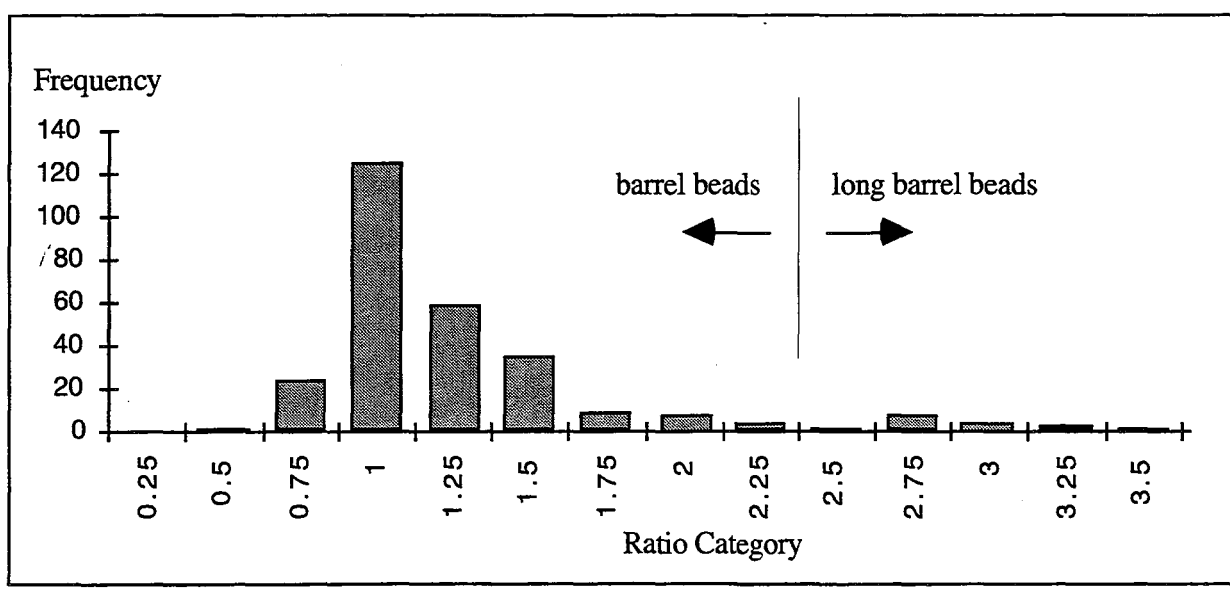

FIG 80. Histogram showing the distribution of the ratio length/width for barrel beads. A bimodal distribution is indicated with a probable demarcation at the ratio value of 2.5. Figures on the X-axis (Ratio Category) represent the lowest value in each category (rather than the mid-point)

former are found in three forms, sub-spherical, barrel and faceted-barrel. Serpentines occur in spherical and faceted-barrel forms.

Serpentine Beads

Spherical. A single bead in black serpentine was associated with B 107. It was neatly finished.

Faceted-barrel. Two beads were found in the mouth of B 8. Neither is carefully finished, both exhibiting irregular polygonal transverse sections.

Carnelian Beads

Sub-spherical. Three beads were found with B 40, shaped as if a sphere were squashed by pressure from both ends. The perforations are relatively large and crudely formed.

Barrel. One bead was collected as a surface find. It was neatly finished with a symmetrical longitudinal section, circular transverse section and finely drilled perforation.

Faceted-barrel. One bead, found with B 40, together with the three sub-spherical beads. It was neatly finished with a fine and well-formed perforation. The transverse section is square with rounded corners.

Stone belt ornament

This cylindrical serpentine ornament was found in the pelvis region of B 83. It is bead-like in shape, very long (99 mm), tapering slightly to one end and cut diagonally across the long axis at the ends. It is perforated longitudinally.

TABLE14. *Stone barrel beads of form 1-4*

Form	Cat. No.	Context	Material	L.	D.1	D.2	P.D.
1	4	Surface	Carnelian	9.10	5.65	5.65	1.30
2	231a	B 40	Carnelian	12.15	6.05	5.80	1.20
2	237a	B 8	Serpentine	13.50	7.00	7.25	2.65
2	237b	B 8	Serpentine	7.35	5.15	5.65	2.35
3	6	Surface	Carnelian	6.60	10.10	-	2.00
3	231b	B 40	Carnelian	6.20	9.80	9.60	1.85
3	231c	B 40	Carnelian	5.80	9.15	9.40	2.20
3	231d	B 40	Carnelian	5.15	8.40	8.50	2.00
3	674	B107	Serpentine	6.10	6.40	6.25	2.00
4	522	B 83	Serpentine	99.00	14.20	14.00	5.10

L.: Length, D.1: Diameter 1, D.2 : Diameter 2, P.D.: Perforation Diameter

Glass beads

Barrel/rod. Two very small glass beads were recovered, one blue-green and the other pale yellow. Both were found loose in the midden and cannot be considered to have been *in situ.* Both have circular transverse sections.

Disc. A single opaque, brick-orange coloured bead found during post-excavation cleaning of the femur of B 56.

Clay beads

Spherical. A single sandy-brown coloured bead was included in B 107.

TABLE 15. *Glass and clay beads*

Form	Cat. No.	Context	Material	Colour	L.	D.1	D.2	P.D.
1	152	A1-A L2:3	Glass	Opaque powdery green	4.15	4.70	7.30	1.55
1	223	A1-1 L2:3	Glass	Opaque sandy yellow	4.50	4.20	4.25	1.20
1	950	A12 disturbed	Glass	Opaque blue/green	3.45	3.90	3.90	1.50
2	304	B 56	Glass	Opaque brick orange/brown	1.60	5.20	-	2.55
3	675	B 107	Clay	Yellow/brown	6.40	6.70	7.45	1.20

L: Length, D.1: Diameter 1, D.2: Diameter 2, P.D.: Perforation Diameter

Beads as composite artefacts

Beads are usually components of composite artefacts (Table 16). Identification of such ornaments was based predominantly on their location with respect to the body. These identifications may be insecure. For example, those identified as belts may actually have been attached to clothing. The general lack of ordered arrangement of the beads when excavated argues against this interpretation; Garanger (1972: figs. 47, 104, 162 and 181) has shown the expected patterning when embroidered disc beads are encountered during excavation. However, the level of disturbance at Nong Nor may preclude the survival of such arrangements. In any case, such clear patterning was not noted during excavation and a level of ambiguity persists.

Table 16 indicates that disc beads are by far the most numerous components of composite artefacts, less than half of those recovered have anything else and only four have no disc beads. Only three artefacts have significant numbers of non-disc shell beads and two of these also include very large numbers of disc beads. One spherical-carinated bead is represented *in situ*. Beads of materials other than shell are rare in these composite artefacts.

PENDANTS

This is a conspicuous class at Nong Nor. Initially it was difficult to decide whether these should be considered separately from the beads, because most are perforated along their length rather than at one end. However, these artefacts are found in the chest or neck area in a position indicating that they hung vertically, rather than horizontally as a bead. As well as shell, pendants are made of bronze and perforated animal teeth.

Shell

This is the least modified of the ornaments at Nong Nor. Made from a large shell (perhaps tridacna), these are generally pendulum shaped, varying from 57-114 mm in length. Some are sinuous in

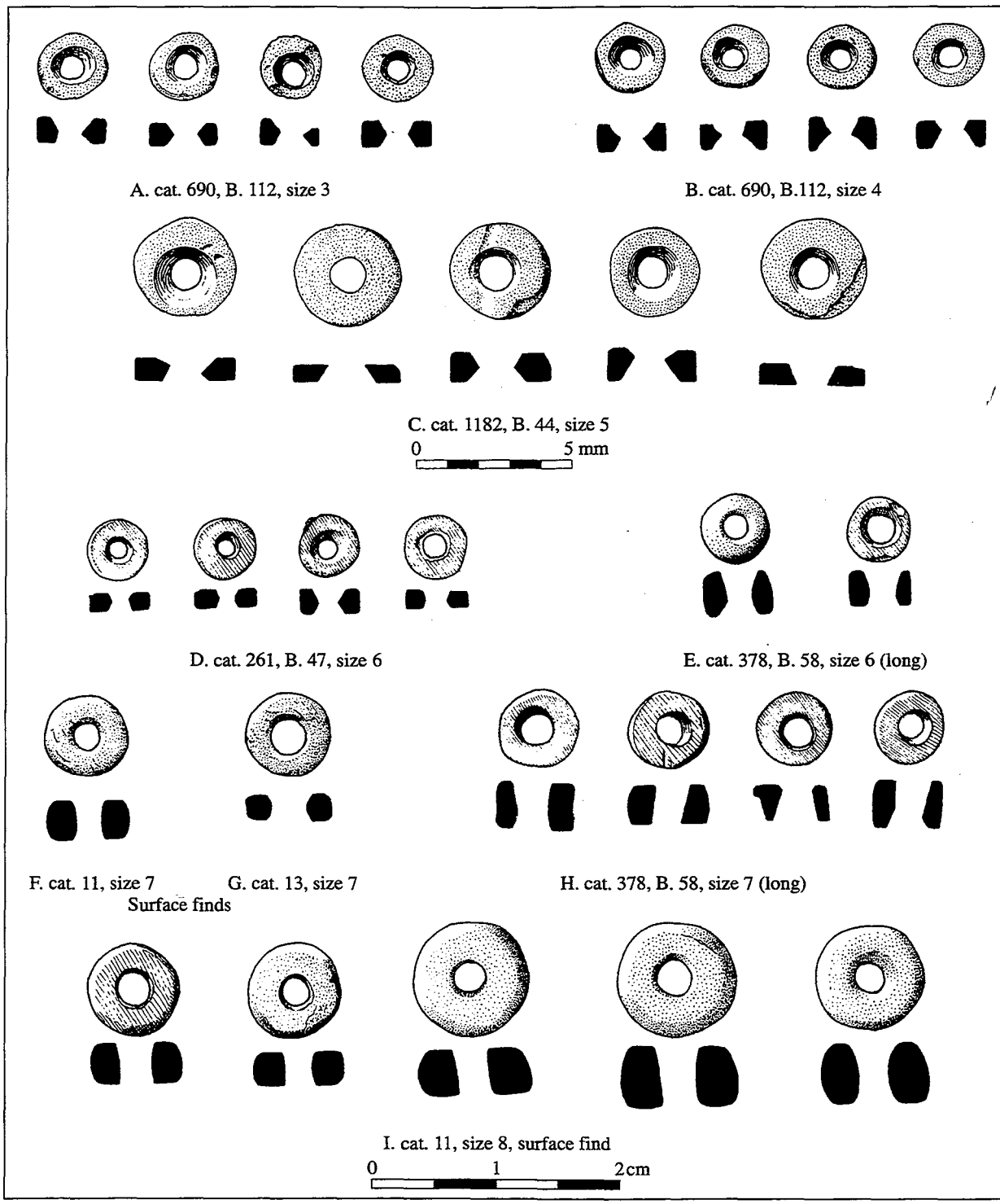

FIG. 81. Disc beads, sizes 3-8

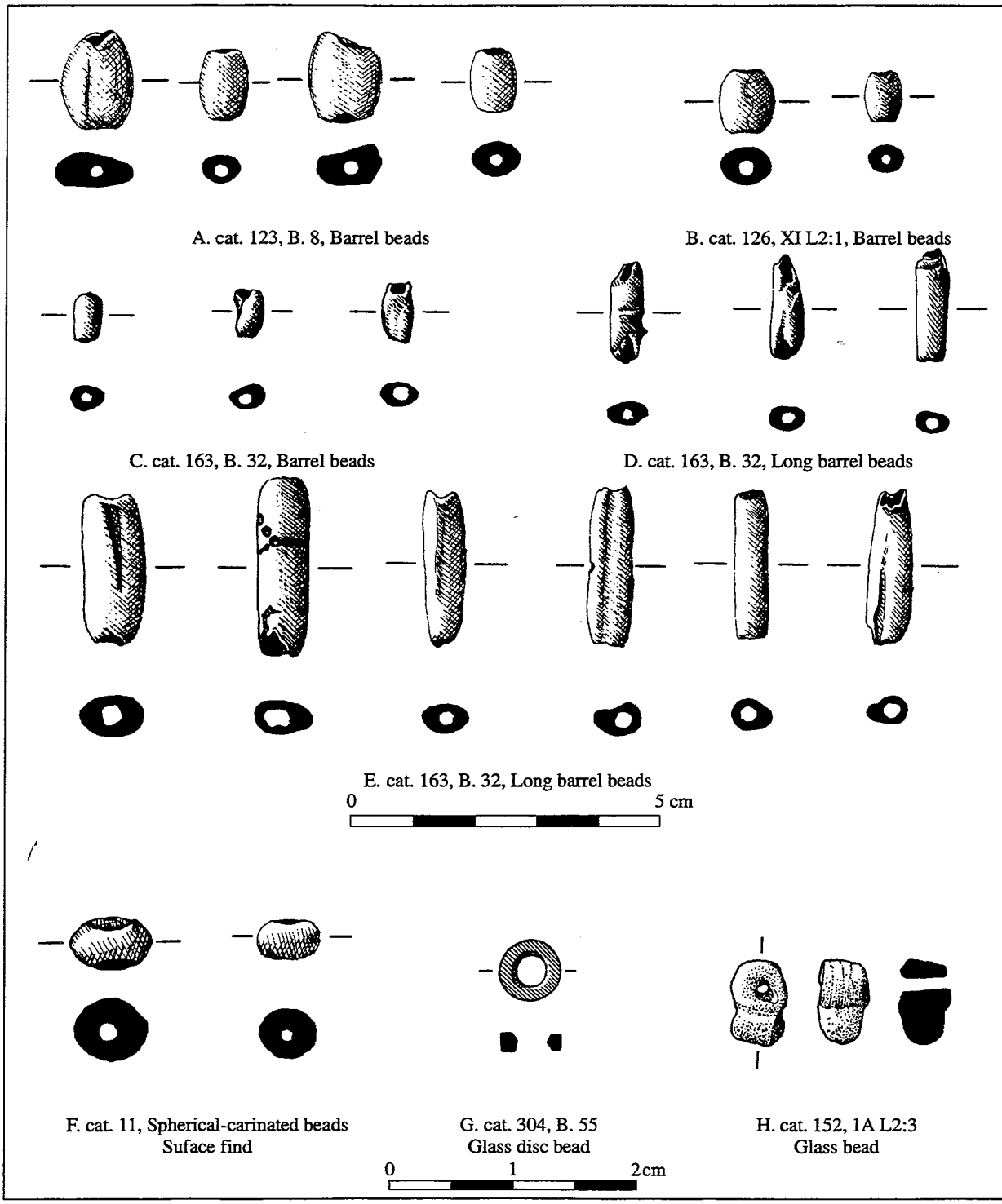

FIG. 82. Shell and glass beads

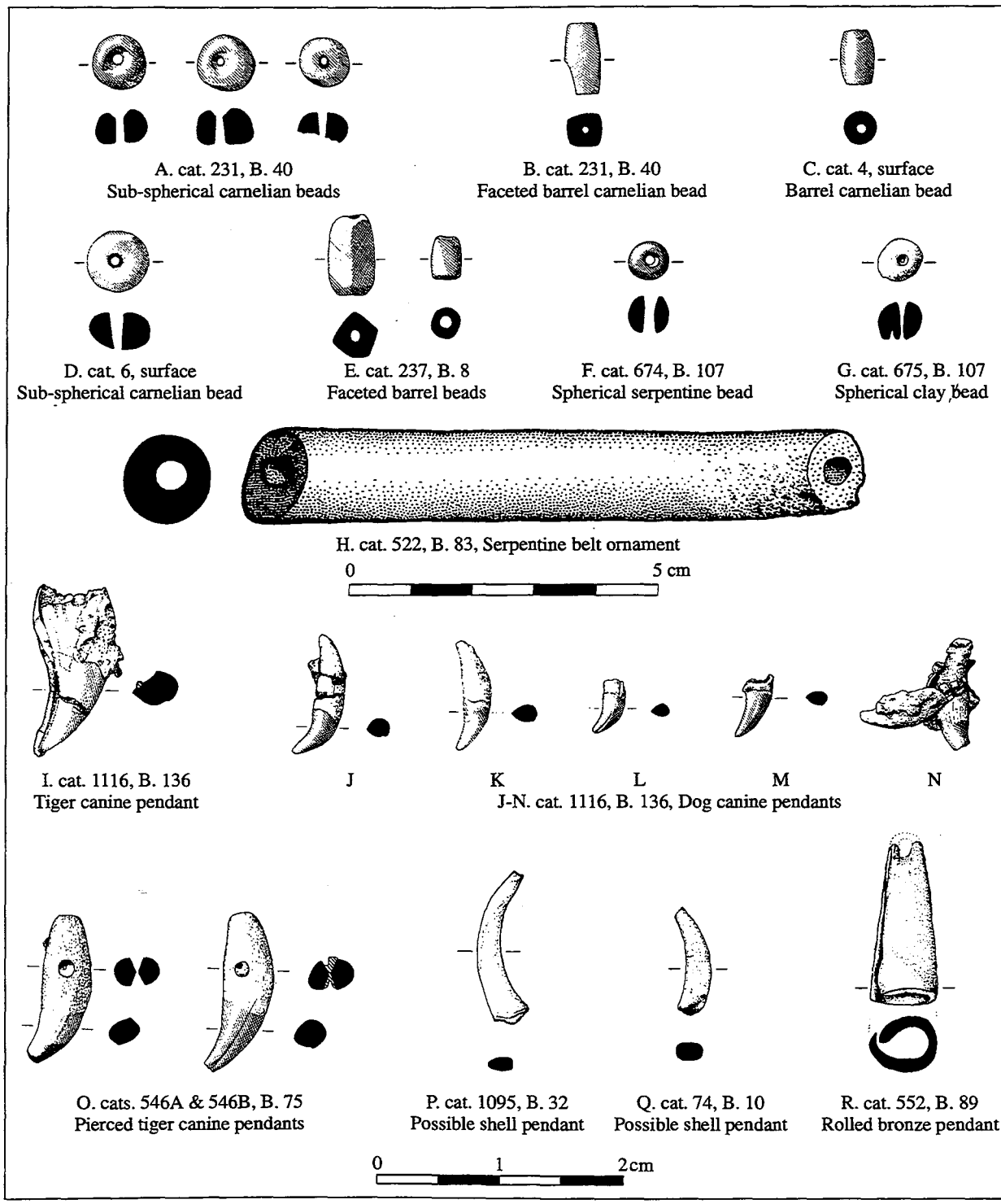

FIG. 83. Stone & clay beads (A-H), animal tooth, shell & bronze pendants (I-R)

outline giving the effect of a scimitar blade rather than a symmetrical pendulum. They recall Poulsen's (1987) 'Long Units (class 5D)' from Tonga, ascribed to tridacna on the basis of the surviving hinge of the shell (*ibid*, pers. comm.). This feature is repeated in the Nong Nor examples. Poulsen has noted parallels in Fiji and the Mariana Islands (*ibid,* 199-200) and Samrong Sen, Cambodia (Mansuy 1902). A similar artefact has recently been recovered from the Balobok rock shelter site in the southern Philippines (Ronquillo *et al.* 1993: plate 13b).

Although the Nong Nor examples are all of the same basic form, they can be sub-divided on the basis of the nature of the perforation.

Form 1a, End drilled. These are perforated diagonally from the end to one side, with a perforation length of *c.* 5-10 mm. As they are only pierced at one end, they were intended to be worn as pendants. Poulsen's 'units', by contrast, were perforated at both ends.

Form 1b, Length drilled. These have been perforated longitudinally. X-ray analysis has shown that some perforations are remarkably straight and regular in width. Others have been drilled more than once, with the holes not meeting. Some of the holes are filled, or lined, with bronze and one pendant had been repaired with bronze 'wire'. This had involved three sets of paired holes being drilled, two on one face and one on the other.

TABLE 16. *Composite artefacts made up of beads*

Artefact Class	Burial No.	Cat. No.	Shell 1	Shell 2	Shell 3	Shell 5	Serpentine 6	Serpentine 4	Carnelian 7	Carnelian 2	Carnelian 4	Clay	Total
Necklace	32	163	-	47	11	-	-	-	-	-	-	-	58
	8	237	-	-	-	-	-	2	-	-	-	-	2
	44	254	424	-	-	-	-	-	-	-	-	-	424
	47	261	449	-	-	-	-	-	-	-	-	-	449
	77	410	40	2	-	-	-	-	-	-	-	-	42
	75	547	13	2	-	1	-	-	-	-	-	-	16
	39	626	2	2	-	-	-	-	-	-	-	-	4
	107	670, 674-5	458	60	-	-	1	-	-	-	-	1	520
	111	685	257	-	-	-	-	-	-	-	-	-	257
	112	689	8	11	-	-	-	-	-	-	-	-	19
	126	826	-	5	-	-	-	-	-	-	-	-	5
	165	1067	27	-	-	-	-	-	-	-	-	-	27
Bracelet	9	202	17	-	-	-	-	-	-	-	-	-	17
	44	253	149	-	-	-	-	-	-	-	-	-	149
	63	340-1	167	-	-	-	-	-	-	-	-	-	167
	63	346	33	-	-	-	-	-	-	-	-	-	33
	35	514	6	4	-	-	-	-	-	-	-	-	10
	107	559	326	16	-	-	-	-	-	-	-	-	342

TABLE 16 *(cont.)*

Artefact Class	Burial No.	Cat. No.	Shell 1	2	3	5	Serpentine 6	4	Carnelian 7	2	4	Clay	Total
	107	667	186	-	-	-	-	-	-	-	-	-	186
	111	684	106	-	-	-	-	-	-	-	-	-	106
	112	690	78	-	-	-	-	-	-	-	-	-	78
	165	1068	60	-	-	-	-	-	-	-	-	-	60
Belt	58	378	49	-	-	-	-	-	-	-	-	-	49
	36	438	550	64	-	-	-	-	-	-	-	-	614
	39	443	138	-	-	-	-	-	-	-	-	-	138
	107	668	186	-	-	-	-	-	-	-	-	-	186
	90	737-8	77	-	-	-	-	-	-	-	-	-	77
Anklet	37	213	4	-	-	-	-	-	-	-	-	-	4
	25	214	27	-	-	-	-	-	-	-	-	-	27
Head Ornament	40	231	-	-	-	-	-	-	3	-	1	-	4

Bead Forms - 1: disc, 2: barrel, 3: long-barrel, 4: faceted-barrel, 5: spherical-carinated; 6: spherical, 7: sub-spherical

Although drilled longitudinally, the placement of these artefacts in relation to the body confirms that they were worn as pendants.

Form 1c, Double drilled. A single pendant that has been perforated longitudinally as well as diagonally at the thinner end.

Form 2, Claw or canine form. This form is rectangular in cross-section, tapering from a roughly finished thick end to a more regular thin end. They do not appear to come to a point and there is no evidence of perforation. However, binding at the thicker end would be effective. It is also possible that these are bangle fragments. Tridacna shell is the most likely material.

TABLE 17. *Shell pendants*

Form	Cat. No.	Context	L.	W.	T.	P.D.
1b	196	B 33	71.9	23.4	9.1	3.6
1b	197	B 33	105.8	27.3	9.8	2.7
1c	203	B 23	90.7	23.3	11.4	2.8
1b	263	B 47	82.4	26.3	14.3	3.4
1b	345	Surface	-	16.6	9.0	2.9
1b	399	B 69	89.3	17.4	9.3	6.9
1b	518	B 35	-	18.8	10.5	4.4 & 2.4

TABLE 17 *(cont.)*

Form	Cat. No.	Context	L.	W.	T.	P.D.
1b	519	B 35	57.7	20.5	7.2	3.1
1b	615	B 98	114.5	23.4	11.8	3.1
1a	624	B 105	112.8	21.0	10.2 & 13.0	2.4
1a	742	B 109	109.0	24.8	15.8	2.3
1b	1008	B 163	108.0	27.0	13.8	2.4
2	74	B 10	35.0	9.0-5.3	8.2 -4.4	-
2	1095	B 32	52.8	11.8-5.4	7.2-3.1	-

L: length, W: width, T: thickness P.D.: perforation diameter

Bronze

Cat. 552, B 89. A single bronze pendant has been recovered. It consists of a rectangle of bronze rolled into a tapering tube. The bottom is open and the top, closed. An eyelet, or suspension loop, is found at the closed end. The original metal sheet was about 3-4 mm thick (length: 53.0 mm, width: 22.8 mm, perforation diameter 3.2 mm).

Animal tooth

Canines of dog (*Canis familiaris*) and tiger (*Panthera tigris*) are present. Some have been drilled for suspension through the root, near to the base of the enamel. On others the root has broken off and it is impossible to know if they had been similarly treated.

TABLE 18. *Animal canine tooth pendants*

Cat. No.	Context	Species	L.	P.D.
1116a	B 136	Tiger	58.00 (broken)	-
1116b	B 136	Dog	36.85	1.80
1116c	B 136	Dog	38.20	1.50
1116d	B 136	Dog	21.70 (broken)	-
1116e	B 136	Dog	28.75 (broken)	-
1116f	B 136	Dog	33.10 (broken)	-
1116g	B 136	Dog	28.25 (broken)	-
546a	B 75	Tiger	49.70	4.20-5.00
546b	B 75	Tiger	53.50	4.50

L: Length, P.D.: Perforation Diameter

Pendants as composite artefacts

Pendants, like beads, are often components in composite artefacts. It is notable that at Nong Nor, no artefacts combine pendants and beads. However, pendants are sometimes combined with other

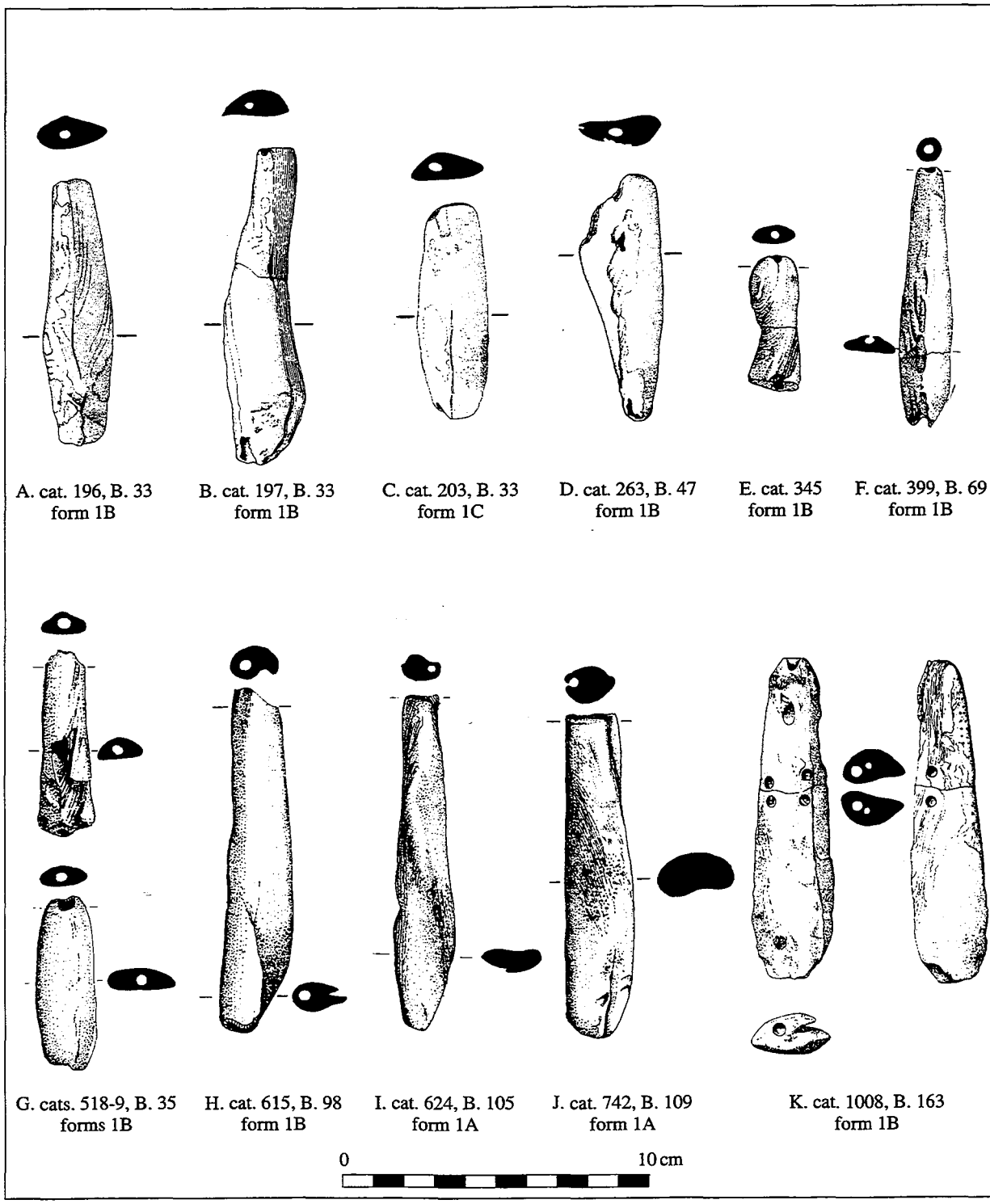

FIG. 84. Shell pendants

pendants. Cat. 1116 is a necklace made up of six dog and one tiger canine. Cat. 546 is a necklace combining two tiger canines. Cats. 196 and 197 are a pair of form 1 shell pendants, associated with a single burial, and are interpreted as components of a single necklace. The same is true for cats. 518 and 519.

BANGLES

In sorting the Khok Phanom Di artefacts Pilditch (1993) was prompted to begin a comprehensive classification scheme for 'Southeast Asian Disc/Bangle Forms'. In the interest of consistency the Nong Nor artefacts are similarly classified. However, due in part to the addition of bronze as a material at Nong Nor, additional classes are employed. Most of Pilditch's 12 basic 'styles' are further subdivided (e.g. style 1, 1a, 1b etc.). These subdivisions are not used here as their basis is debatable; the criteria may be site specific. Pilditch's scheme, including the styles created to include Nong Nor (styles 13-21), can be summarised as follows (for descriptive terminology see figure 78).

Style 1 discs with L-shaped radial sections formed by a single flange around the inner edge. Subdivisions include discs with perforations too small to be worn as bangles (less than 3.5 cm) and artefacts with no perforation at all, the 'flange' becoming a horn-like projection in the centre of the disc. These variations are absent at Nong Nor.

Style 2 discs with T-shaped radial sections formed by concentric flanges on either side of the inner edge.

Style 3 discs with triangular radial sections, the long sides of which are deeply concave (the short side formed by the inner edge).

Style 4 discs with triangular radial sections. The internal to external diameter ratio is 1:1.75–2. This results in a heavier bangle that projects further out from the arm when worn. In some specimens the triangular radial section has been truncated at the outer edge.

Style 5 discs with triangular radial sections. The internal to external diameter ratio is 1:<1.75, resulting in a lighter weight, less projecting, bangle. In some bangles the triangular radial section has been truncated at the outer edge.

Style 6 discs with rectangular radial sections, modified by single or double bevels at the outer edge. Internal to external diameter ratio is 1:≥1.5, and the radial width to depth ratio is 1:≥4, resulting in a heavy bangle that projects considerably from the arm when worn.

Style 7 discs with rectangular radial sections, modified by single or double bevels at the outer edge. The internal to external diameter ratio is 1:<1.5, resulting in a lighter, less projecting, bangle than style 6. Variations of radial width to depth ratios occur, but width is always greater than depth.

Style 8 discs with a rectangular radial section; unbevelled and approaching square. The radial width to depth ratio is 1:>1.25-≤2. Variations in absolute radial dimensions occur.

Style 9 discs with rectangular radial sections; unbevelled. The radial depth to width ratio is 1:>2. Variations in absolute radial dimensions occur.

Style 10 discs with approximately square radial sections. Radial width to depth ratio is 1±0.25:1. Variations in absolute radial dimensions occur.

Style 11 bands with rectangular radial sections. Radial width to depth ratio is >1.25:1, resulting in a bangle orientated along the arm, not projecting, when worn. Variations in absolute radial dimensions occur.

Style 12 discs with concave arcs removed from the outer edge producing a star shape in plan view. Other features vary.

Style 13 discs with right-angled triangular radial sections, the long side of which curves convexly from the inner to the outer edge. Variations in absolute radial dimensions occur.

Style 14 discs with D-shaped radial sections in which the straight side is formed by the inner edge. The inner to outer diameter ratio is 1:≥1.5, resulting in a heavy bangle.

Style 15 discs with D-shaped radial sections in which the straight side is formed by the inner edge. The inner to outer diameter ratio is 1:<1.5. resulting in a relatively light bangle.

Style 16 discs with approximately square radial sections; though the exact form round the circumference and between artefacts varies, due to the natural form of the original gastropod (e.g. conus or trochus shells).

Style 17 bands with approximately rectangular radial sections in which the ratio of radial width to radial depth is 1:>2. The exact form varies with the natural form of the original shell (e.g. conus or trochus shells).

Style 18 discs with circular radial sections. The internal to external diameter ratio varies.

Style 19 bands with a rectangular radial section in which the ratio of radial width to height is about 2:1. A very light form, 3 mm is a typical measurement for radial width, and the inner to outer diameter ratio is 1:<1.5.

Style 20 bands with a very small rectangular or D-shaped radial section, 1.5 mm (width) by 3 mm (length) being typical dimensions, resembling a wire. Inner to outer diameter ratio is 1:<1.5.

Style 21 bands with a rectangular radial section where the radial width to depth ratio is >1.25:1. There is a concave depression around the outside edge. Inner to outer diameter ratio is 1:<1.5.

Shell Bangles

The shell bangles occur in a variety of forms. They were manufactured from two basic materials, a large bivalve, probably tridacna, and one or more gastropod species, probably conus. Six styles are recognised (Tables 19-20, Figs. 85-87).

Style 1. Only two bangles are present, manufactured from tridacna shell. Both are large artefacts with perforations consistent with use as bangles. While the cross section sweeps sharply up from the outer edge to the top of the flange, the flange itself is not clearly demarcated. These would have been impressive personal adornments.

Style 9. Cat. 877, B 138 is the only example. It is a fragment only and was probably relocated from the midden deposit during the interment of B 138.

Style 10. These seven bangles form a particularly homogenous set, despite the fact that two (cats. 466, 680) do not strictly conform to radial width:depth criteria. They are included because of an obvious 'intuitive' similarity with the rest of the group, due particularly to the presence of a carved 'notch' on the outer edge. This decoration imitates the natural effect on bangles made from gastropod shell. These bangles are manufactured from tridacna shell.

Style 13. These appear similar to style 1. They show basically the same radial section except that the curve of the upper surface is convex, from the inner down to the outer edge. At Nong Nor, these bangles are small and always associated with infant burials, whereas the style 1 examples are relatively very large.

Style 14. Manufactured from tridacna shell, these two D-sectioned bangles are massive artefacts, especially as both are associated with child burials (reflected in the internal diameters – less than 50 mm).

Style 15. Of the five bangles only cat. 741 is complete, it is also set apart by a carved notch on the outer edge identical to the style 10 bangles. All are manufactured from tridacna.

Style 16. Seven artefacts are present. Variable solidity of the bangles suggests that more than one species is being employed, though all are within the *Conus* genus. Cat. 354 was associated with a young adult burial, the rest with infants and children.

TABLE 19. *Shell bangles – tridacna and conus*

Style	Cat. No.	Context	R.H.	R.W.	I.D.	O.D.
1	155	B 23	21.7	36.0	61.0	134.4
1	746	B 128	23.2	37.5	61.9	*c.*140.2
8	396	B 66	5.1	6.7	31.3	44.6
9	877	B 138	8.3	19.2	-	-
10	193	B 32	8.5	9.8	-	-
10	381	B 36	10.4	7.8	57.9	74.6
10	406	B 35	14.4	11.8	55.2	75.2
10	466	B 87	12.3	7.9	54.8	72.1
10	679	B 111	14.4	11.3	56.5	78.3
10	680	B 111	14.3	9.5	56.2	76.2
10	747	B 128	8.4	8.0	57.9	74.4
10	794	B 128	9.0	8.4	60.0	71.2
13	181	B 28	5.8	9.3	33.3	*c.*51.5
13	425	B 68	7.9	10.1	36.9	58.4
13	426	B 68	8.4	13.2	38.3	61.7
13	427	B 68	5.6	8.2	*c.*38.0	*c.*52.0
13	461	B 68	7.5	9.0	36.3	*c.*51.0
14	198	B 33	26.0	12.5	44.0	67.3
14	394	B 69	17.8	14.3	38.1	67.7
15	67	B 15	12.5	5.6	*c.*45.8	*c.*57.0
15	124	B 8	4.1	6.3	-	-

TABLE 19 *(cont.)*

Style	Cat. No.	Context	R.H.	R.W.	I.D.	O.D.
15	293	A1-B, L2:2	8.1	6.3	-	-
15	741	B 90	12.7	7.9	53.5	68.8
15	793	B 118	10.9	5.6	-	-
16	258	B 50	8.1	8.1	36.9	51.5
16	354	B 56	14.5	12.6	34.8	57.6
16	465	A3:42, L2:2	7.7	10.8	*c.*46.0	*c.*67.0
16	748	B 130	14.2	9.3	31.4	49.7
16	1088	X1, surface	13.2	9.4	35.8	52.7
16	1089	A1-A, L2:2	7.0	-	-	-
16	1092	B 50	8.1	8.3	-	-
17	280	B 49	32.1	13.5	41.5	67.8

R.H.: Radial Height, R.W.: Radial Width, I.D.: Inner Diameter, O.D.: Outer Diameter

Fragmentary. Cat. 193 is from a relatively lightweight bangle with a nearly square radial section. The complete bangle was probably a style 10 (above). Cats. 300 and 347 are from fairly thick bands, with the latter being irregularly formed. Cat. 339 is probably a fragment from a style 16 shell bangle, but appears to have had the original spiral architecture ground away. Cat. 474 is probably from a T-sectioned or simple disc form.

TABLE 20. *Shell bangles – fragmentary*

Cat. No.	Context	Material	R.H.	R.W.
300	A3 L1	Tridacna ?	14.4	9.0
339	B 63	Conus ?	11.7	3.9
347	A3:16 L2:1	Tridacna ?	19.3	10.1
474	B 73	Shell ?	-	-

R.H.: Radial Height, R.W.: Radial Width

Stone Bangles

There are two forms of stone bangle in a variety of raw materials, including serpentine, marble and talc (Tables 21-23, Figs. 88-91).

Style 4. This is the most common stone form. They are made from marble and both Reay and Mason (pers. comm.) consider that all 22 examples could derive from the same quarry. Many are significantly corroded. Their consistent form suggests standardised production.

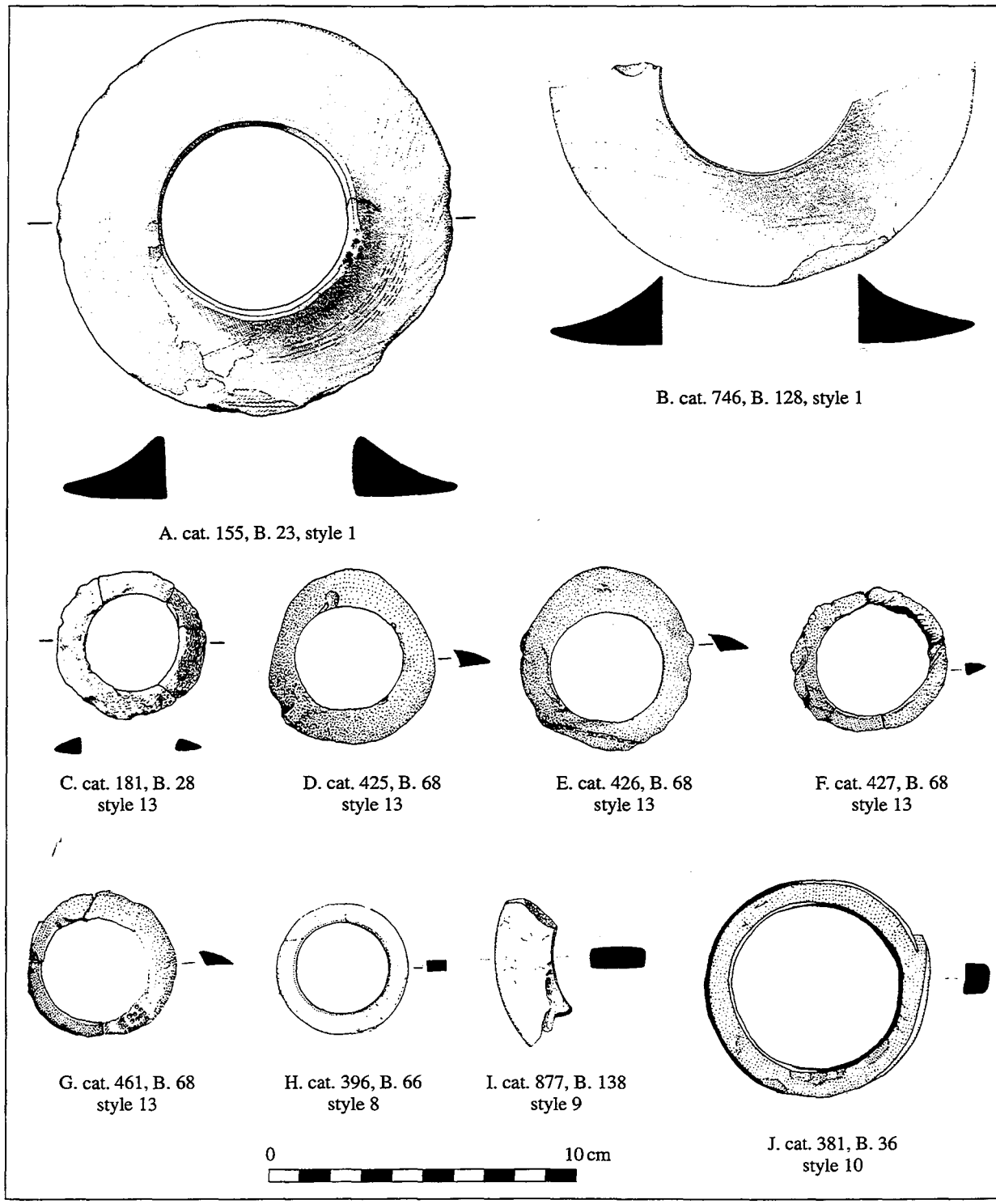

FIG. 85. Shell bangles; styles 1, 8, 9, 10 and 13

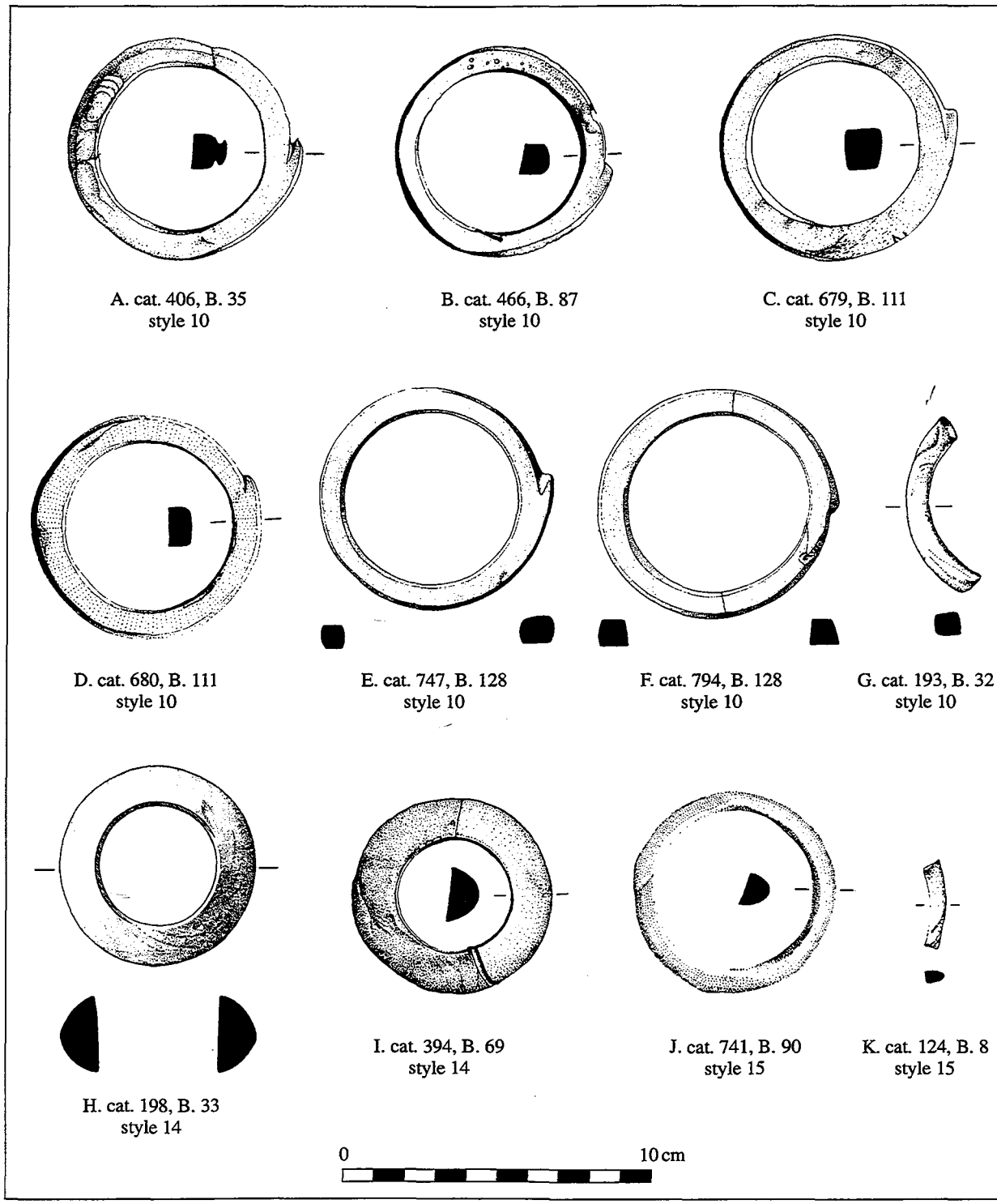

FIG. 86. Shell bangles; styles 10, 14 and 15

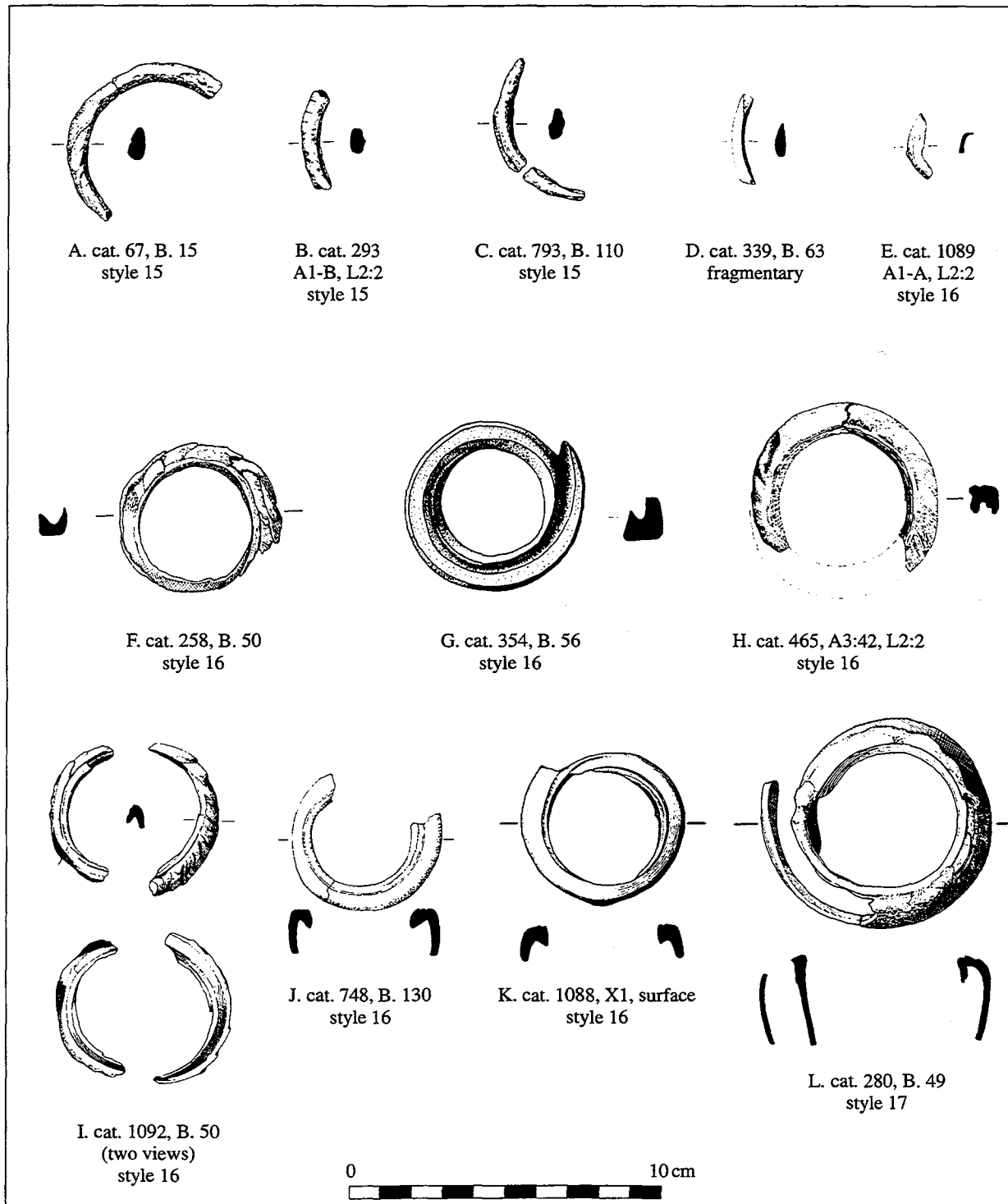

FIG. 87. Shell bangles; styles 15, 16 and 17

TABLE 21. *Marble bangles of style 4*

Cat. No.	Context	R.H.	R.W.	I.D.	O.D.
262	B 47	-	-	-	-
271	B 44	-	-	-	-
370	B 35	8.6	19.3	*c.*58.0	*c.*92.0
379	B 36	7.4	23.7	54.7	99.0
380	B 36	8.1	19.2	54.0	89.0
382	B 36	8.2	22.9	57.4	103.3
383	B 36	7.9	24.0	53.4	101.2
386	B 39	8.4	19.9	56.3	97.8
387	B 39	8.3	15.6	60.5	88.2
388	B 39	7.1	19.8	53.3	99.5
447	B 77	6.1	24.8	55.5	105.2
448	B 77	6.4	20.0	55.5	96.0
449	B 77	8.6	23.4	59.1	104.2
450	B 77	8.5	23.4	56.7	101.2
623	B 105	7.7	21.2	57.4	98.6
656	B 111	9.4	20.9	59.6	100.3
664	B 106	8.2	20.6	55.9	94.9
752	B 128	7.8	23.0	*c.*59.0	*c.*103.0
753	B 128	9.3	22.4	*c.*51.4	*c.*97.0
755	B 128	10.2	21.0	*c.*58.0	*c.*98.0
1025	B 165	9.9	21.2	55.0	97.3
1059	B 165	7.3	20.0	54.9	94.7

R.H.: Radial Height, R.W.: Radial Width, I.D.: Inner Diameter, O.D.: Outer Diameter

Style 2. At Nong Nor the degree of demarcation of the flanges from the main body in these T-sectioned bangles is variable. In some, both the flange and the main body of the radial section are thin and platelike, and the demarcation between them is clearly defined; i.e. very close to a true T-shape. On others the flange is very low (less than 5 mm), and merges with the main body in such a way that no point of demarcation can be identified.

TABLE 22. *Stone bangles – style 2, T-section*

Cat. No.	Context	Stone	R.H. 1	R.H. 2	R.W.	I.D.	O.D.
316	B 53	Marble	13.0	6.3	23.6	*c.*57.0	*c.*97.0
332	A3:55, L2:1	Serpentine	8.6	5.2	17.2	-	-
356	B 56	Marble	8.7	2.2	2.8	-	-

TABLE 22 *(cont.)*

Cat. No.	Context	Stone	R.H. 1	R.H. 2	R.W.	I.D.	O.D.
495	B 83	Serpentine	9.3	3.0	13.1	50.8	76.7
662	B 111	Serpentine	17.3	7.7	21.9	54.8	97.0
697	B 109	Serpentine	8.9	7.0	22.4	*c.*57.0	*c.*111.0
792	B 127	Marble	9.0	4.1	28.6	*c.*58.0	*c.*115.0
802	B 123	Marble	*c.*8.0	-	-	-	-
890	B 136	Marble	15.4	6.2	15.0	55.8	*c.*83.4
943	B 149	Talc	6.9	3.8	29.4	*c.*57.7	*c.*115.6
944	B 149	Serpentine	14.3	4.5	18.0	59.2	94.4
1087	B 83	Serpentine	13.6	4.2	18.3	*c.*51.7	*c.*88.0

R.H.1: Radial Height 1, R.H.2: Radial Height 2, R.W.: Radial Width, I.D.: Inner Diameter, O.D.: Outer Diameter

Fragmentary. Three fragmentary artefacts have been recovered. Although width and thickness measurements are given for cat. 1243, it is impossible from the fragments present, to know which radial dimension is represented by either figure.

TABLE 23. *Stone bangles – fragmentary*

Cat. No.	Context	Stone	R.H.	R.W.
292	X1, L2:2	Marble?	-	-
1090	B 56	Serpentine	-	-
1243	B 136	Marble?	1.9	10.9

R.H.: Radial Height, R.W.: Radial width

Bronze

Bronze is a third raw material employed in bangle manufacture. It is found in seven main styles (Figs. 91-94, Table 24).

Style 2, T-sectioned. One very large T-shaped bangle of this form was recovered (cat. 604, B 105). The flanges and body are clearly demarcated and well defined. This artefact clearly recalls style 2 bangles in stone.

Style 11, Simple Band. This is by far the most common form. The radial section is narrow and deep, with typical dimensions of *c.*9 mm (height) and *c.*3 mm (width). A possible join, where the circlet has been closed, is often visible as a diagonal lump of corrosion.

Style 18, O-sectioned. Only two bangles, from a single burial, were ascribed to this form (cats. 671-2, B 112). They have a circular radial section. Once again, there appears to be a join at one point on the circlet, however, the level of corrosion makes it difficult to be certain.

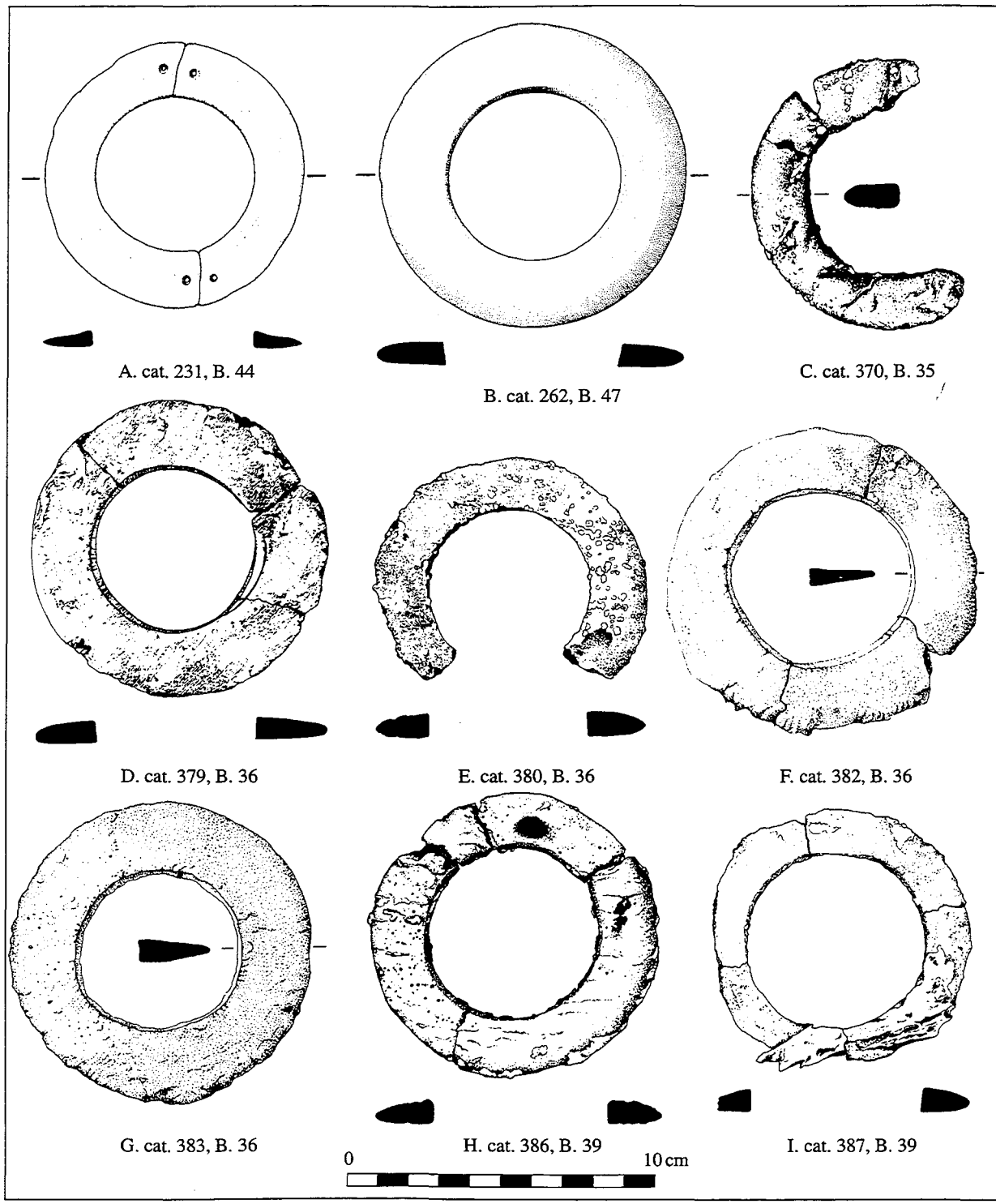

FIG. 88. Marble bangles of style 4

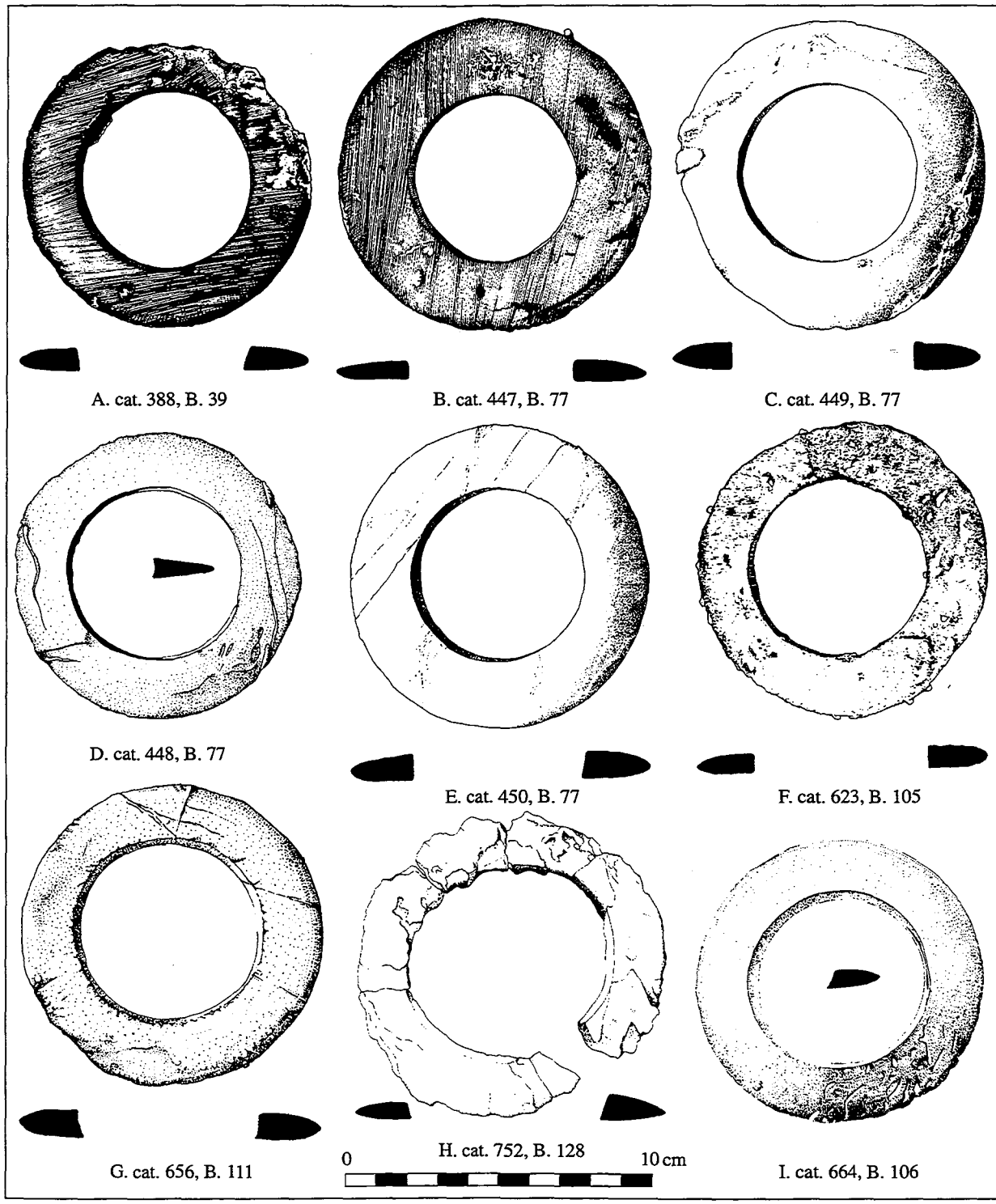

FIG. 89. Marble bangles of style 4 (cont.)

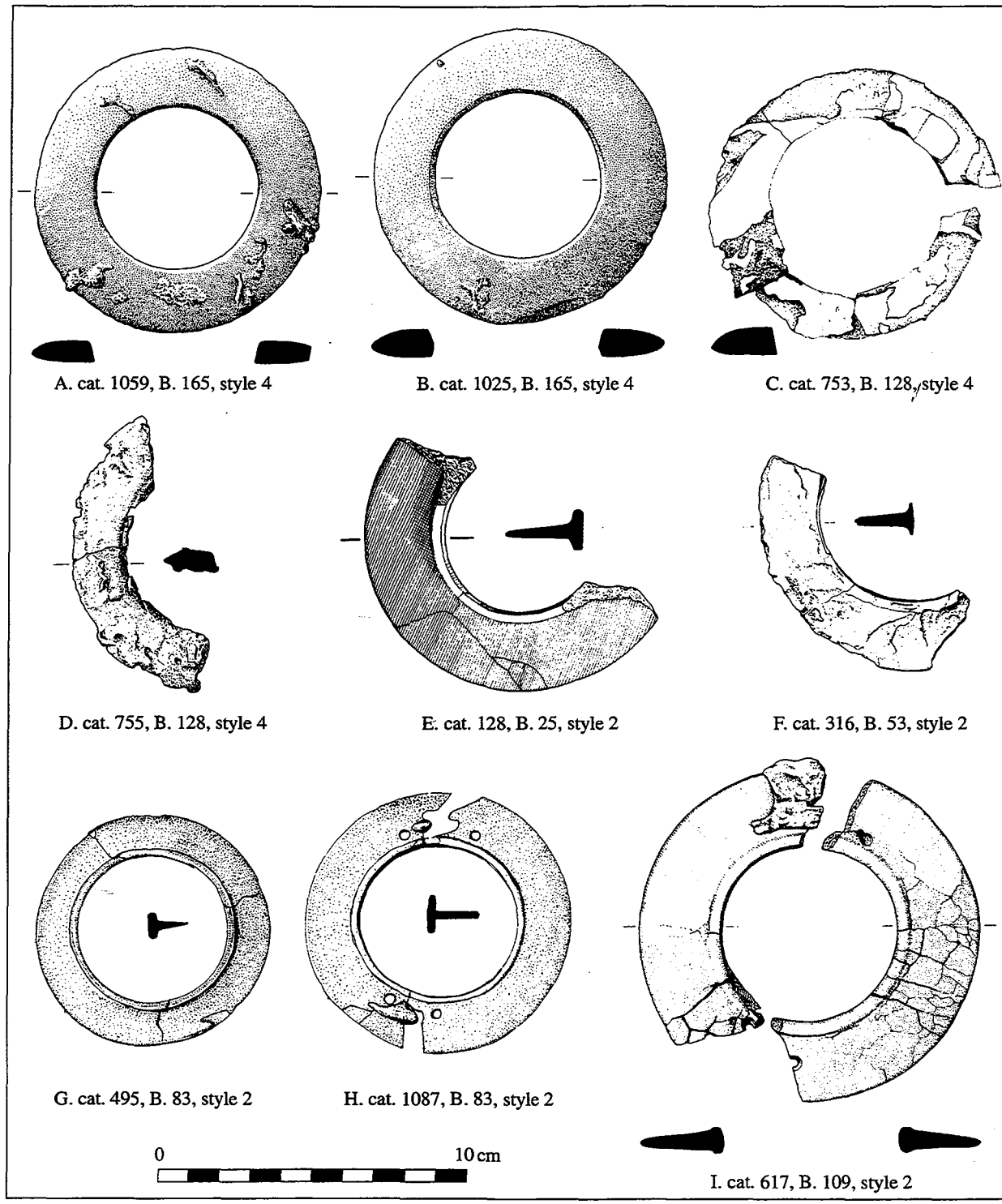

FIG. 90. Marble bangles of style 4 (cont.) also marble and other stone bangles of style 2

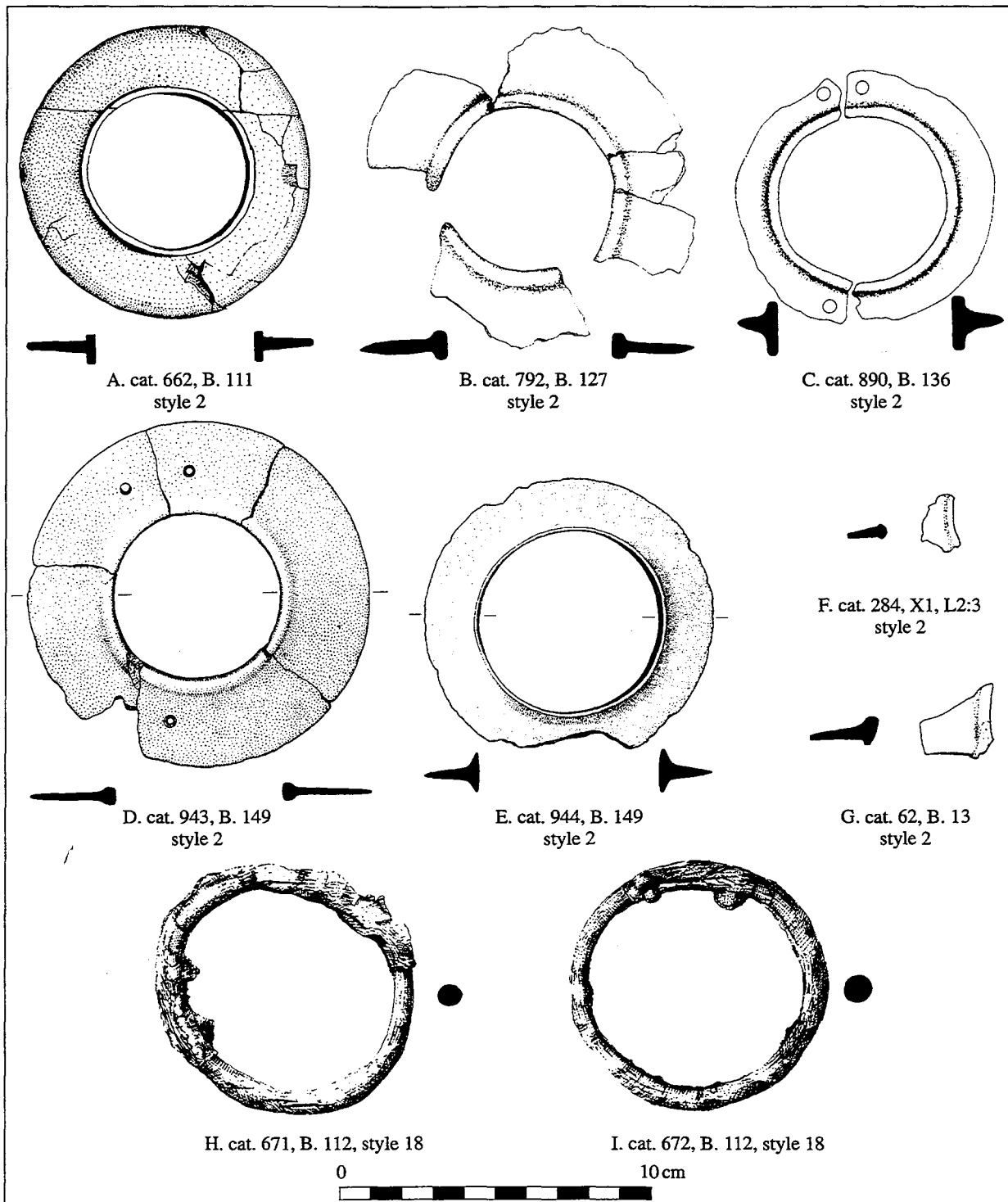

FIG. 91. Stone bangles of style 2 and bronze bangles of style 18

TABLE 24. *The bronze bangles*

Form	Cat. No.	Context	R.H.	R.W.	I.C.	Form	Cat. No.	Context	R.H.	R.W.	I.C.
11	8	surface	6.7	2.9	-	11	966	B 147	9.7	3.2	*173.0
11	29	B 7	9.0	2.6	-	11	967	B 147	6.8	3.0	192.0
11	38	B 7	9.4	2.9	-	11	999	B 147	8.7	2.3	-
11	59	B 12	5.0	2.0	-	11	1000	B 147	11.4	2.1	168.0
11	95	X1, surface	11.2	3.8	-	11	1001	B 147	11.4	1.9	170.0
11	97	X1, surface	9.1	2.2	-	11	1096	B 111	7.1	2.7	*183.0
11	102	A1, L2:2	6.5	2.2	-	11	1097	B 35	8.6	3.1	*179.0
11	117	X1, L2:1	11.8	4.2	-	11	1098	A3:28, L2:1	7.3	2.1	-
11	204	B 25	9.2	4.6	-	11	1100	A3:69, L2:1	4.6	2.2	-
11	227	B 43	8.1	2.3	129.0	11	1102	B 97?	7.0	2.2	-
11	301	A3, L1	10.8	2.8	-	11	1103	X1, L2:1	9.2	4.6	-
11	309	A3:28 L2:1	11.9	3.2	-	11	1104	B 25	10.5	4.1	-
11	335	A3:55 L2:1	7.0	2.7	-	11	1105	B 43	7.8	2.7	-
11	360	B 56	6.6	2.9	-	11	1107	A1-B L2:2	6.8	2.6	-
11	384	B 39	9.2	3.3	207.0	18	671	B 112	8.3	6.8	218.0
11	385	B 39	9.6	3.0	*176.0	18	672	B 112	8.7	7.3	213.0
11	389	B 35	8.8	3.5	184.0	2	604	B 105	20.6	36.4	195.0
11	390	B 35	8.0	3.0	185.0	20	205	A1-D L2:3	*c.*1.5	*c.*1.5	-
11	391	B 35	8.3	3.4	*177.0	20	283	B 48	2.3	1.8	-
11	392	B 35	7.4	3.3	*178.0	20	305	B 55?	2.4	1.7	-
11	393	B 35	7.2	2.9	202.0	20	326	A3:69 L2:1	2.6	1.5	-
11	419	B 80	9.7	3.9	-	20	350	A3:46 sfce.	3.3	1.6	-
11	457	B 84	10.6	4.0	-	20	433	A3:58 L2:2	3.4	1.8	-
11	467	A3:44 L2:2	12.0	4.2	-	20	460	A3:55 L1b:1	3.0	1.6	-
11	475	A3:15 L2:3	10.4	3.7	-	20	464	A3:59 L2:2	3.0	1.3	-
11	488	A3:41 L2:2	9.4	3.8	-	20	470	A3:59 L2:2	3.0	1.6	-
11	492	A3:41 L2:2	7.6	2.5	-	20	1101	surface	2.0	1.4	-
11	515	A3:28 L2:3	9.8	3.9	-	15	3	surface	5.7	3.1	-
11	517	B 35	8.8	3.5	-	15	32	A1-A L2:1	5.3	3.1	-
11	520	A3:30 L2:2	11.0	4.3	-	15	36	A1-A L2:1	5.8	4.4	-
11	525	B 96	10.6	3.3	-	15	47	A1-D L2:1	4.3	3.3	-
11	539	B 92	9.2	2.2	-	15	101	A1-A L2:1	5.5	3.7	-

TABLE 24 *(cont.)*

Form	Cat. No.	Context	R.H.	R.W.	I.C.	Form	Cat. No.	Context	R.H.	R.W.	I.C.
11	661	B 111	7.6	3.1	200.5	15	123	B 8	5.5	2.6	-
11	796	B 65	8.6	4.1	*257.0	15	281	B 48	5.9	3.3	-
11	830	B 116	7.2	2.5	-	15	337	A3:30 L2:1	5.4	3.5	-
11	873	B 138	11.1	1.8	-	15	486	A3:44 L2:3	5.1	2.8	-
11	882	B 147	11.1	2.3	-	19	48	A1-D L2:1	5.5	2.9	-
11	963	B 147	11.0	2.0	172.0	19	89	A1-C L2:1	6.4	3.2	-
11	964	B 147	7.6	2.7	-	21	1099	B 84	10.4	3.5	-
11	965	B 147	11.4	1.8	166.0						

R.H.: Radial height, R.W.: Radial width, I.C.: Inner circumference, * measurements taken from incomplete bangles

Style 15, D-sectioned. These have a D-shaped radial section with the flat side of the 'D' formed by the inner edge of the bangle. Indications are that they were lightweight bands with the inner diameter large relative to the radial dimensions. Some longer fragments show the longitudinal curvature expected in a bangle.

Style 19, Double Wire. The fragments recovered give the impression of two wires, each almost square in section, fused together along one side. A complete bangle would resemble two thin bands fused side by side. Once again, only fragments are present and it is possible that they are not bangles at all, or perhaps represent remnants of more complex forms, for example spiral bangles (see the spiral forms in tin, discussed below).

Style 20, Wire. Only one of these collections of fine wire-like bronze fragments was confidently associated with a burial. The radial sections generally resemble a flattened 'D' with typical dimensions being 1.5 mm (width) by 3 mm (length). As none is complete, it remains possible that they are not bangles but needles, wires (Maddin and Weng 1984) or some other utilitarian artefact.

Style 21, Concave Band. A single fragment with a radial section similar to the simple bands (form 1) described above, but with a concave depression around the outside edge.

Fragmentary. Cat. 1010 & Cat. 1048, B 117. The fragments are so small and broken that no likely form can be reconstructed.

None of the artefacts represented by styles 15, 19, 20 and 21 is complete and it remains possible they are not bangles at all. The most questionable are those assigned to style 20. Conversely, the curvature of style 15 specimens is consistent with their being bangles. Most of these bangles were not associated with burials, so interpretations cannot be confirmed by their location. Very few other types of bronze artefact have been identified, so that an interpretation as bangles remains the most likely.

Tin

Two tin spiraliform bangles are associated with B 86 (Fig. 94, Table 25). These are made by coiling a length of metal, the radial section of which is circular and has a diameter of about 1 cm.

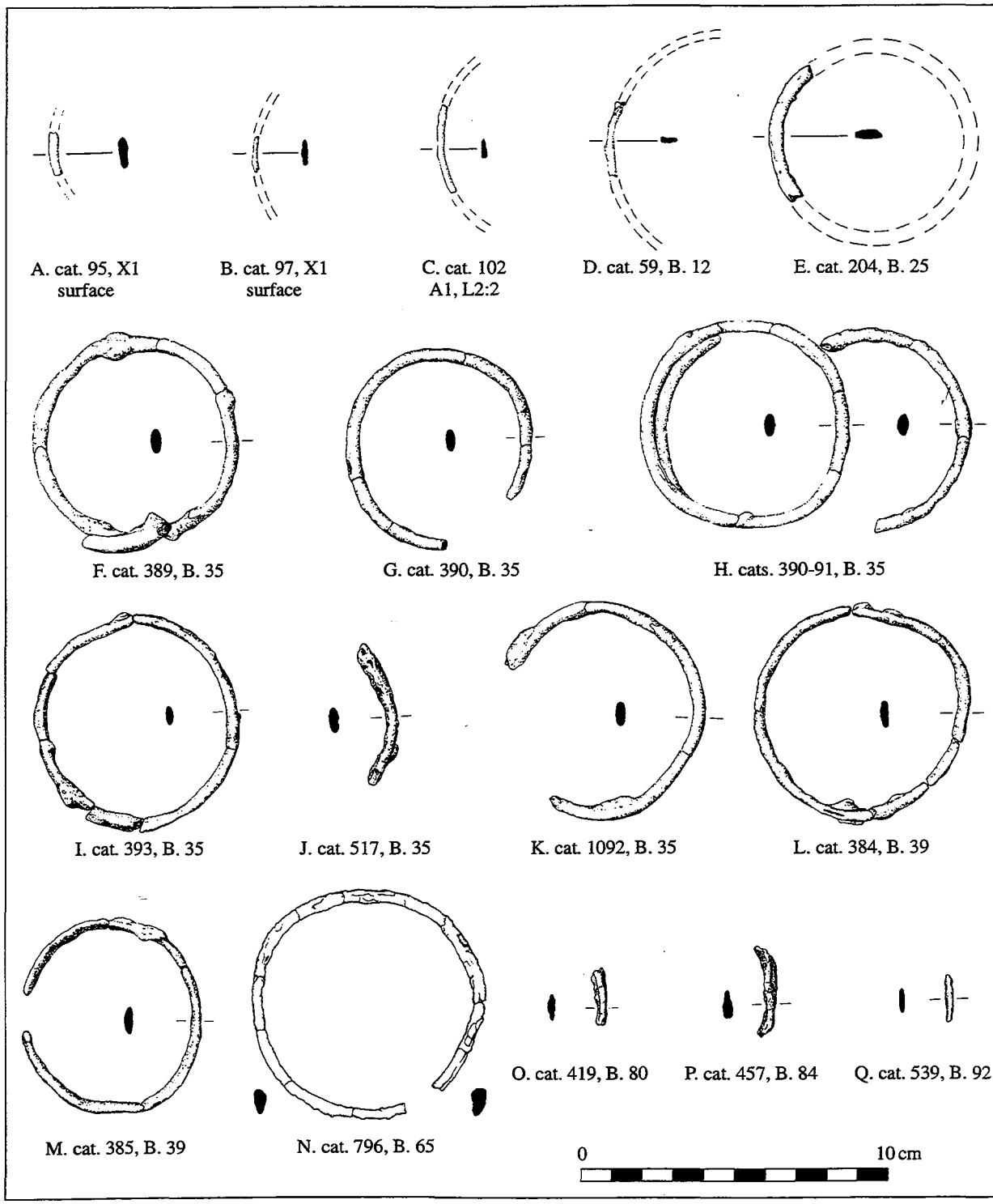

FIG. 92. Bronze bangles, style 11

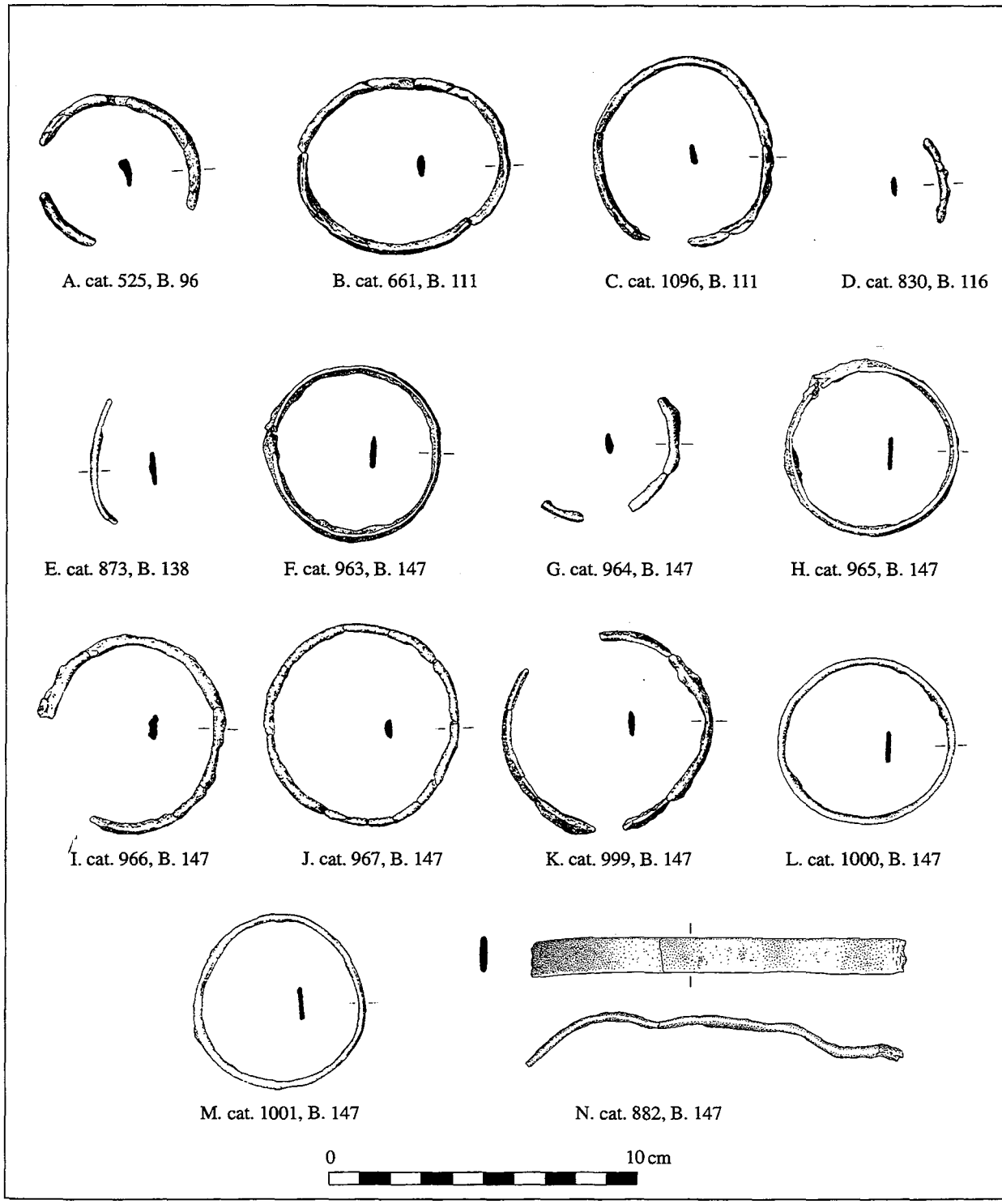

FIG. 93. Bronze bangles, style 11 (cont.)

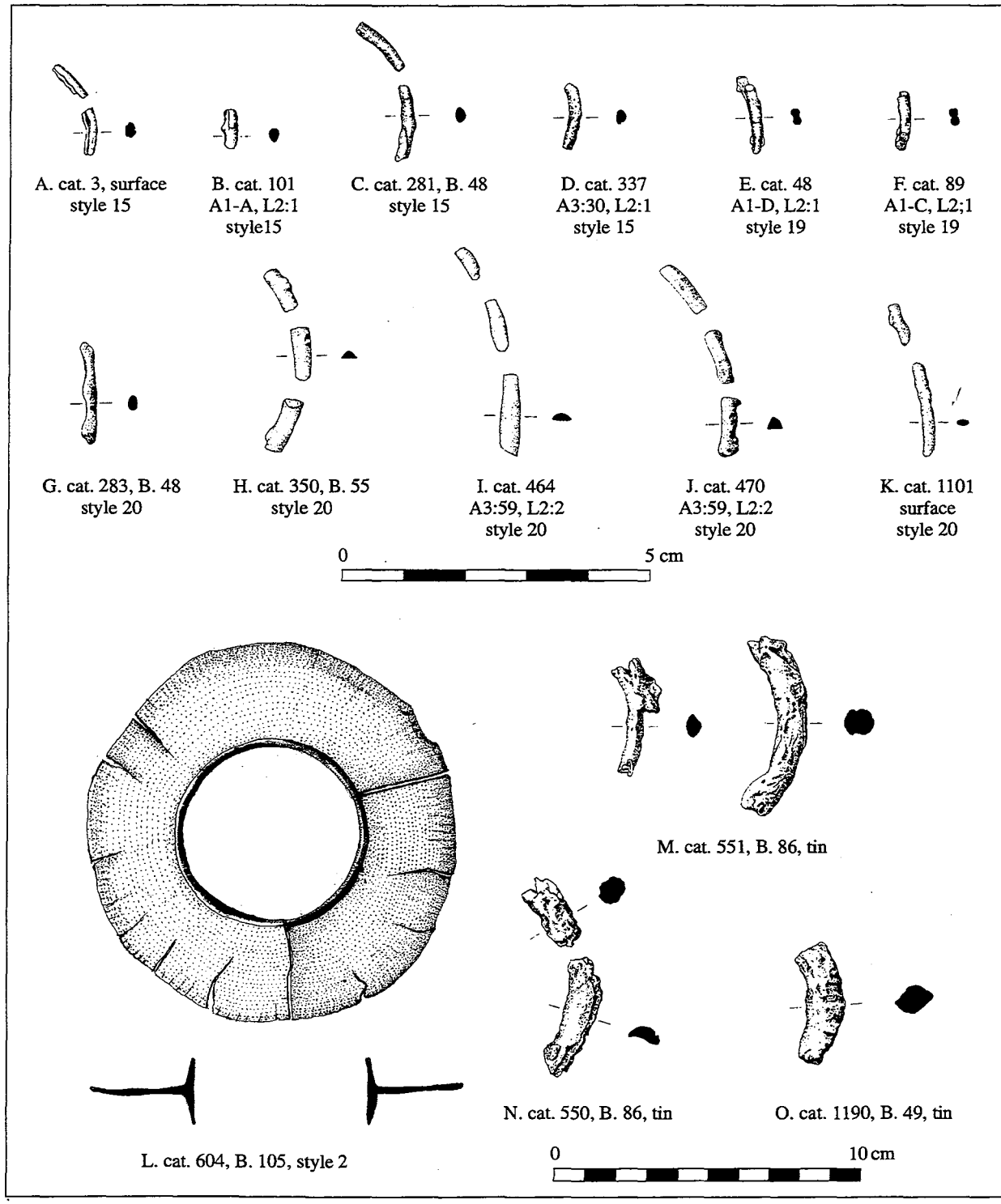

FIG. 94. Bronze bangles, styles 15, 19, 20 & 2 and three tin bangles

They can be assigned to style 18 on the basis of radial section, but may be a special example due to the spiral form. A third possible bangle fragment was recovered from B 49. The radial dimensions appear similar, although only fragments remain. It is impossible to tell if the complete artefact was of spiral form. Two other fragments were recovered, near the wrists of B 154, and are interpreted as bangles. They are exceedingly fragmentary and no form can be reconstructed.

TABLE 25. *Tin bangles*

Cat. No.	Context	R.H.	R.W.	Cat. No.	Context	R.H.	R.W.
550	B 86	*c.*11.0	*c.*11.0	1190	B 49	10.2	12.1
551	B 86	10.2	10.3	925	B 154	-	-

R.H.: Radial Height, R.W.: Radial Width

Discussion

Two points can be made about the bangles as a whole. There are few matching forms in different materials, the T-shaped bronze and stone bangles being the only clear examples (style 2). This is interesting as more such parallels may have been expected. Second, we should note the standard character of some of these forms, in particular the style 10 shell bangles, the style 4 stone bangles (and to a lesser degree the style 2 stone bangles) and the style 11 bronze bangles. The first two of these forms appear to be unique to Nong Nor. The third (the T-sectioned bangles) represent a form that is widespread across Southeast Asia. The style 11 bronze bangles may also represent a widespread form.

ANKLETS

A single flake of tin was found in the ankle area of B 154 (cat. 921). Its location has prompted the identification.

EARRINGS

Artefacts most likely to be earrings are present in most of the materials already noted at Nong Nor.

Shell Earrings

Two forms are present (Fig. 95, Table 26). None was found in a burial context, and their designation as earrings cannot be supported by contextual evidence.

Form 1, Simple ring. These possible earrings are flat circular discs perforated centrally, and with a slot cut at one point in the circumference so that the ring is discontinuous. The radial section is rectangular with the radial height generally less than the width. The ratio between the diameter of the central perforation and the outer diameter varies from less than a third (cat. 377, ratio = 0.29) to more than a half (cat. 745, ratio = 0.54, figures are calculated based on the maximum outer diameter). Therefore, while this last specimen can be described as ring-like in appearance, others are better described as perforated discs. Those identified as of bivalve origin have obvious growth lines creating a layered effect (except cat. 745, which appears homogeneous). These layers usually lie nearly parallel to the planar face of the ring. The single gastropod example has the spiral

structure of the original shell still visible, even though it has been considerably modified. This last artefact appears to have been burnt.

Serpentine and Nephrite Earrings

Two forms are present. (Fig. 95, Table 27).

Form 1, D-shaped keyholed. While the shell earrings were circular these are generally D-shaped. The straighter edge is thicker than the curved one. A hole is drilled centrally (usually from both sides) and a slot cut, joining the hole with the centre of the curved edge in such a way as to resemble a keyhole. The serpentine example is amber-yellow in colour and the serpentine/nephrite artefacts range from a pale mottled green through to a dark, evenly-hued black-green; no two appear the same colour. Two of these stand out. Cat. 805 has been made from part of a T-sectioned bangle, as has cat. 477. This specimen has a second hole at one end which has been filled with bronze, it also appears to have been burnt. The bronze may have been a deliberate decoration, a suspension device or the means of repairing the original bangle.

Form 2, Barrel Bead. A single artefact was recovered. Cat. 245 was originally classified as a stone bead, However closer examination reveals a slot cut diagonally down the side in exactly the same way as the earrings. The form is similar to a short barrel bead with flat (truncated) ends.

TABLE 26. *Shell earrings of form 1*

Cat. No.	Context	Shell	L.	W.	Th.	I.D.	S.W.
11	surface	Tridacna	29.1	29.1	3.7	11.5	2.8
81	X1 surface	Tridacna	32.4	32.3	8.4	14.9	2.5
376	A3:89 L2:1	Conus	25.2	25.0	5.6	8.5	3.0
377	A3:2 L2:2	Tridacna	17.9	17.78	5.7	5.2	3.2
745	A5 L1a	Tridacna	20.3	20.0	3.7	11.0	2.0
33	A1-D L2:1	Conus	36.2	-	6.1	9.4	-
132	A1-A L2:2	Conus	-	-	3.0	-	-

L.: Length, W.: Width, Th.: Thickness, I.D.: Inner Diameter, S.W.: Slot Width

TABLE 27. *Stone earrings of forms 1 and 2*

Form	Cat. No.	Context	Material	L.	W.	Th.1	Th.2	I.D.	S.W.
1	477	B 84	Serpentine	32.9	24.8	2.2	5.2	5.8	2.0
1	655	B 111	Serpentine	35.3	28.8	4.8	-	5.4	3.2
1	805	B 123	Nephrite	45.4	22.5	2.0	7.9	3.7	2.6
1	895	B 86	Serpentine	21.0	17.7	6.8	-	6.6	2.9
1	1078	B 44	Serpentine	23.9	17.4	5.0	-	4.0	2.3
2	245	B 44	Serpentine	14.7	14.1	9.1	-	6.1	2.0

L.: Length, W.: Width, Th.1: Thickness, Th.2: Thickness at flange, I.D.: Inner Diameter, S.W.: Slot Width

Bronze

This item might be an earring (B 147, cat. 998). It comprises a strip of bronze of similar radial dimensions to the form 1 bronze bangles, and was found in close proximity to a number of the same. However it is not a closed circlet but has been bent into a U-shape and could have been worn as an earring. The other possibility is that it is a broken bangle, however, it seems too short. Also, there is little other evidence for the deformation or 'killing' of mortuary jewellery at Nong Nor.

Tin

Form 1, Simple Ring. A single earring, cat. 652, was recovered from B 105. Although poorly preserved, it appears to be a simple ring with a circular radial section of *c.*7 mm diameter. Cat. 1108 is a fragment of tin associated with B 45 (radial depth: 4.75 mm, radial width: 5.65 mm).

Fragmentary. Some possible flecks of tin were found near the skull of B 163 (cat. 1054).

RAW MATERIAL AND MANUFACTURING DEBRIS

A number of tridacna shell artefacts provide evidence for local manufacture (Figs. 95-96, Tables 28-29). Two forms are present.

Flaked Blanks. These are a variety of roughly-flaked circular discs. Some have relatively flat surfaces, being one of the planar faces or occurring along part of the outer edge and forming an 'end'. One was partially ground to a more regular, circular shape round part of the circumference. Diameters vary considerably and none is large, suggesting that these were blanks for children's bangles. All come from a single burial cache except cat. 516, which is an irregular block rather than an obvious preform.

Bangle cores/truncated cones. These are all cylinders with a slightly tapering longitudinal section. One is very short. The most interesting is cat. 531. A circular groove was deeply cut into the thinner end to form a ring and a small core. The artisan had then begun to saw round the outside to separate the ring from the main block. It is not known whether the other examples resulted from, or were destined to be subject to, the same treatment. Diameters are again small and it seems likely that these artefacts are re-used bangle cores (Ciarla 1992).

TABLE 28. *The shell bangle blanks*

Cat. No.	Context	M.D.	M.Th.	Cat. No.	Context	M.D.	M.Th.
498	B 87	35.4	15.4	504	B 87	55.6	19.0
499	B 87	33.0	16.7	505	B 87	55.4	21.0
500	B 87	34.2	12.4	506	B 87	52.9	15.1
501	B 87	33.5	9.9	507	B 87	53.4	18.0
502	B 87	30.6	11.0	508	B 87	52.0	19.5
503	B 87	47.9	15.3	516	A3:28 L2:3	32.0	19.0

M.D.: Maximum Diameter, M.Th.: Maximum Thickness

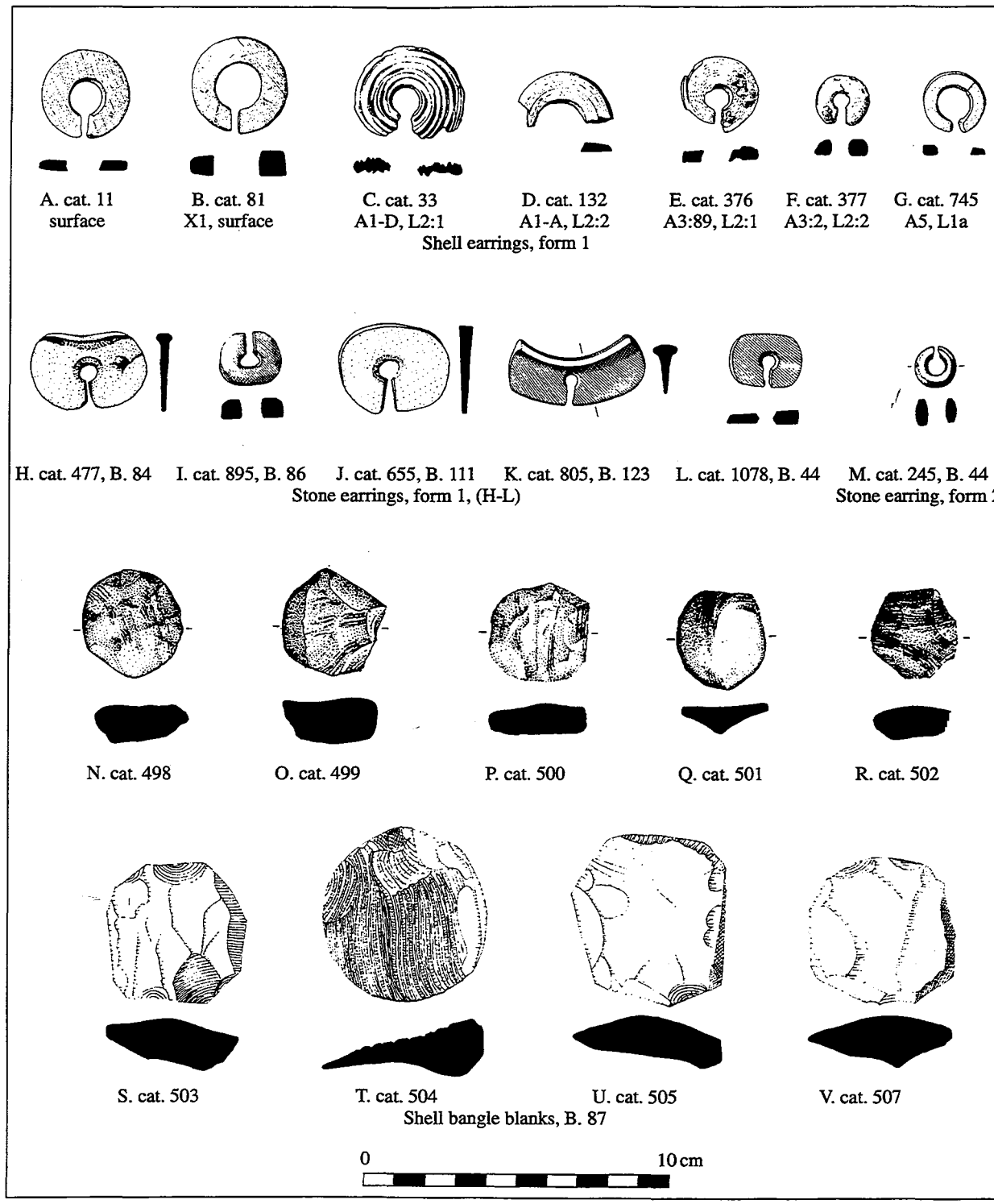

FIG. 95. Shell & stone earrings and shell bangle blanks

TABLE 29. *The shell bangle cores*

Cat. No.	Context	L.	Mx.D.	Mn.D.
239	B 44	38.0	38.6	35.6
318	A3:57 L2:1	20.5	26.0	22.2
531	B 89	44.1	42.8	36.0
627	A2:91 L2:2	11.7	30.3	27.5

L: Length, Mx.D.: Maximum Diameter, Mn.D.: Minimum Diameter

MISCELLANEOUS

As with all archaeological investigations, a number of artefacts, in particular bronze fragments, cannot be easily classified. It is likely that some are not ornaments at all, however, they are discussed here as some sort of ornamental function is the simplest explanation for their presence.

Shell

Modified operculum. Cat. 806, B 138. A piece of fossil or sub-fossil operculum from a gastropod shellfish. It is perforated at one end, probably by gouging rather than drilling. It is of relatively even width and thickness and is curved along its length. The main planar surfaces have not been ground or smoothed in any way (length: 138.0 mm, width: 13.7 mm, thickness 3.3 mm).

Earplug/spindle whorl. A single, probably tridacna, artefact (cat. 78). It has a concave outer edge and so could have been worn as an earplug. However, it is also perforated centrally and could have been used as a spindle whorl. The overall shape is similar to a thin pulley with one end smaller in diameter than the other.

Animal tooth

A single pig tusk is present, found under the right femur of B 83 (cat. 484). There is no evidence of working but part of the base of the tusk has broken away. It remains possible that it was perforated for suspension as with the dog and tiger teeth noted above. Alternatively, binding round the base would serve equally well for suspension. However, no notches, or distinctive wear, were noted.

Bone

Disc. Two artefacts made from fish vertebrae. The outer edges appear to have been smoothed and relatively large perforations made through the centre. The most likely use is as beads or pendants.

TABLE 30. *Fish vertebra discs*

Cat. No.	Context	R.H.	R.W.	I.D.	O.D.
230	X1 L2	5.7	8.8	10.2	26.2
236	A1-B L2:2	5.4	9.6	14.9	*c.*34.4

R.H.: Radial Height, R.W.: Radial Width, I.D.: Inner Diameter, O.D.: Outer Diameter

Clay

Disc. Cat. 751, A7 L2:1, Unit 5. A single fragment of a disc-shaped object with an original diameter of about 5 cm. The cross section is bowl like and it is perforated in the centre. The most likely uses would be as some sort of pendant or bead, or as a spindle whorl (diameter: *c.*50.0 mm, perforation diameter: 6.3 mm, thickness; 10.4 mm).

Earplug/spindle whorl. A single artefact (cat. 69) that resembles the shell artefact noted above (cat. 78) in that it is cylindrical and perforated longitudinally with the outer edge being concave around its circumference. One end has a greater diameter than the other. However, it may be too heavy, and the outer groove too shallow to have functioned as an earplug. Other interpretations include use as a spindle whorl or as a bead.

TABLE 31. *Earplug/spindle whorl*

Cat. No.	Context	Material	L.	D.1	D.2	W.D.	P.D.
69	B 15	Clay	22.1	40.6	35.2	35.1	6.4
78	X1, surface	Tridacna	12.9	28.2	23.9	20.7	5.3–9.0

L.: Length, D.1: Diameter end 1, D.2: Diameter end 2, W.D.: Waist Diameter, P.D.: Perforation Diameter

Bronze

Sphere. Cat. 1 is solid bronze sphere with a diameter of 11.9 mm. It may have been a bead.

Metal sheet. Cat. 523, B 93. A single object which may simply be part of a larger, original artefact. It is oblong in shape, slightly curved along its length and with a small triangular projection to the side, near one end. It may be a pendant but does not appear to be perforated for suspension. The area most likely to be perforated, in the case of a pendant however, has not survived (length: 36.1 mm, width: 21.1 mm. thickness: 1.7 mm).

Isolated Fragments. A number of small fragments of bronze were recovered in various contexts. None can be identified as belonging to particular artefacts but given the paucity of other types of complete bronze artefacts, it is likely that most are from bangles.

TABLE 32. *Bronze fragments*

Cat. No.	Context	M.D.	Cat. No.	Context	M.D.
10	A1 L1	10.2	177	A1.B L3 feature 29	10.2
35	A1.C 2:1	7.4	180	B 33	2.0
98	A1.D 2:1	3.8	1019	B 117	5.2
137	B 8	8.7	1191	X1 L2:2	6.9

M.D. : Maximum Dimension

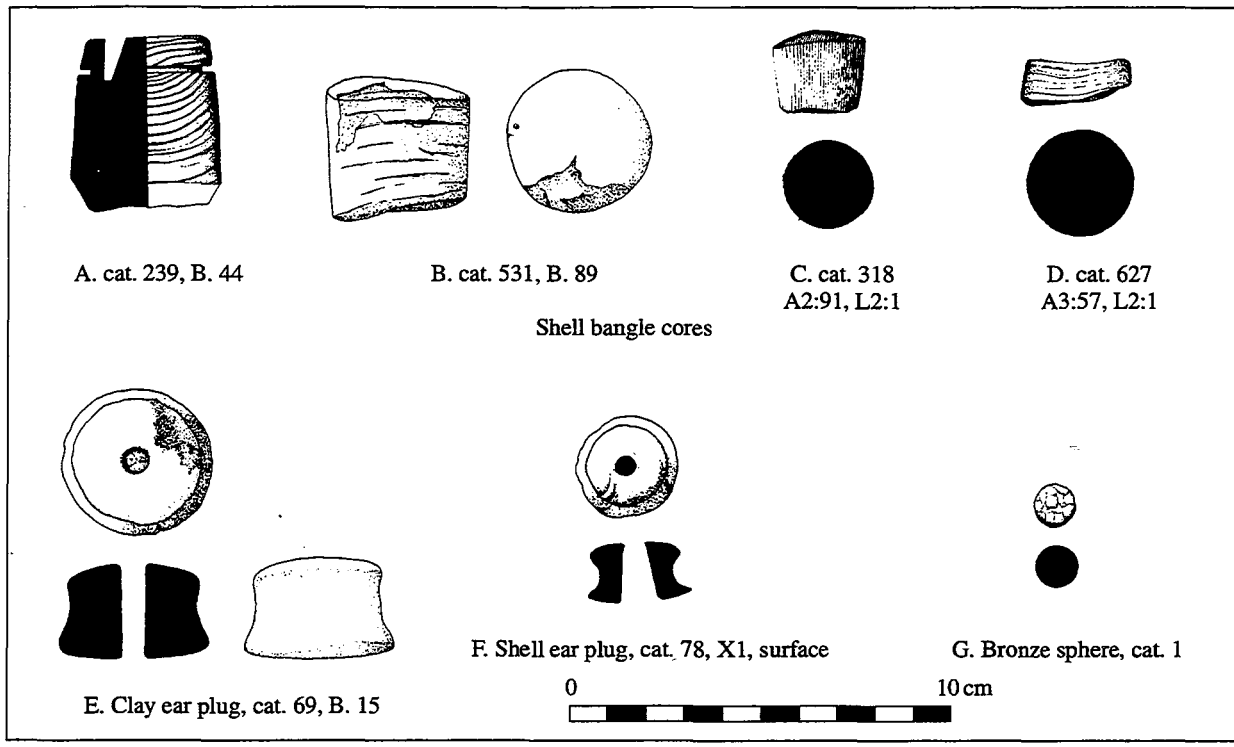

FIG. 96. Manufacturing debris and other miscellaneous artifacts

METALS AT NONG NOR

Metal artefacts in this report have been described as made of either bronze or unalloyed tin. Recent work has confirmed the status of the tin artefacts. For the bronzes however, while the majority are likely to be copper/tin alloys at least one artefact, cat. 882, may in fact be composed of copper only. Similarly, a cache of projectile points (cat. 556), or possibly chisels, found at the knee of B 102 also appear to comprise unalloyed copper (Fig. 101). In this report then, 'bronze' is a convenient appellation and some variation is implied. A fuller discussion of the analysis of metals at Nong Nor is provided in Reay and Chang (this volume).

SUMMARY AND CONCLUSION

In this report a classification scheme for the personal ornaments from Nong Nor has been presented, the types have been described, and data concerning the individual artefacts have been tabulated. This work builds upon that of Pilditch (1986, 1993), who first introduced an holistic approach to the study of prehistoric personal ornaments in Southeast Asia. For such an approach to succeed, it is important that basic information is available for comparison between sites and regions; such information is rare (Williams 1984). This report is a first step in this process.

It is acknowledged that refinements to classification schemes and descriptive and analytical methods will be made. These will be important in elucidating manufacturing techniques, sources

and other information required for detailed social and economic analysis. At present, the classification scheme presented here is appropriate to the goal of describing and comparing the range of personal ornaments within, and between, sites.