

# 16

## *Drills, Knives, and Points from San Clemente Island*

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Limited numbers of chipped stone artifacts that might be called “finished” forms were recovered from the 1983-84 excavations by UCLA. These artifacts are described here.

### **Ledge Site**

Thanks to Gordon Redtfeldt (Fig. 16.1), we are able to combine the Archaeological Survey Association (ASA) collection of 1964 with the specimens exca-



Fig. 16.1. Gordon Redtfeldt during the 1964-1965 ASA excavations conducted on San Clemente Island. Photo courtesy of Mr. Redtfeldt.

vated by UCLA. The two collections have different kinds of provenience designations and the ASA material was recorded in feet and inches, here converted to metric for consistency with the UCLA records. In the accompanying tables, the UCLA items have catalog numbers while the ASA items have area numbers.

The combined collection includes 33 chipped stone artifacts (11 drills, 5 leaf-shaped blades, 2 knives, and 15 projectile points, see Table 16.1). Chert is the common material, although small amounts of chalcedony, fused shale, andesite, and obsidian were also used. Except for the andesite, the other materials are rare to absent on San Clemente and most of these objects can be considered to represent trade. They may have come to the island in finished form, but the presence of chipping waste of these materials indicates that there was some working or re-working of tools by the people of Ledge.

### **Ledge Site: Drills**

Two elongate drills of chert (Fig. 16.2 a and b) were found by the UCLA crew. They could be used for heavy-duty drilling such as holes in steatite or wood. Three broad drills (one each of obsidian, chalcedony, and chert, Fig. 16.3 a, b, and c), were found at the Ledge Site during the ASA excavations.



Fig. 16.2. Two elongate drills of chert from Ledge Site. Scale in centimeters.

Two large leaf blades of chert were recovered at a depth of 30-60 cm (Fig. 16.4 a and b). They are bifacially chipped and without points; one has evidence of asphaltum on the base. They could have been used as both knives and drills, but are classified as drills because of the slight edge wear on the long edges.

Three small bladelets of chert were recovered. They are bifacially chipped, without points, and similar to those reported from other island and coastal sites (Morales 1980:31). They are suitable for enlarging holes in shell to form fishhooks or pendants (Fig. 16.4 c-e).

There are 6 stubby, bifacially chipped drills of chert and chalcedony (Fig. 16.5 a-f) that were scattered

Table 16.1. Drills and Knives, Ledge Site, San Clemente Island.

Area	Depth (cm)	Description	Material	Length (cm)	Width (cm)	Thickness (cm)	Weight (gm)	Figure No.
Q-31	15-30	Elongate drill	chert	3.5	1.4	0.5	1.4	16.2a
Q-30	30-45	Elongate drill	chert	4.1	1.4	1.1	6.3	16.2b
AA25	30-45	Broad drill*	chert	2.9	2.4	0.7	4.5	16.3c
AA29	0-15	Broad drill*	chalcdny	3.1	2.8	0.6	5.4	16.3a
M-19	0-15	Broad drill*	obsidian	2.5	2.6	0.8	4.6	16.3b
P-31	30-45	Stubby drill	chert	2.4	1.4	0.6	1.6	16.5b
Q-30	15-30	Stubby drill	chert	3.3	1.4	1	3.5	16.5d
H-20	0-15	Stubby drill	chert	3.2	1.3	0.7	1.8	16.5e
P-27	15-30	Stubby drill	chalcdny	2.7	1.6	0.5	2.7	16.5c
D-17	30-45	Stubby drill*	chert	3.4	1.9	0.9	5	16.5f
Y-21	0-15	Stubby drill*	chert	2.6	1.7	0.8	3.3	16.5a
N-23	30-45	Leaf-shaped blade	chert	4.2	2	0.9	4.2	16.4a
U-20	45-60	Leaf-shaped blade	chert	4.4	1.6	0.5	3.8	16.4b
G-30	15-30	Leaf bladelet	chert	3.1	0.9	0.4	1.1	16.4e
P-32	15-30	Leaf bladelet	chert	3	1	0.4	1.2	16.4d
V-17	0-15	Leaf bladelet*	chert	3.8	1	0.4	1.8	16.4c
K-43	15-30	Side-notched knife	andesite	5.2	2.7	0.9	12.8	16.6b
M-31	45-60	Stemmed knife	chert	4.9	1.9	0.8	4.3	16.6a

\* Specimens from ASA collections of 1964

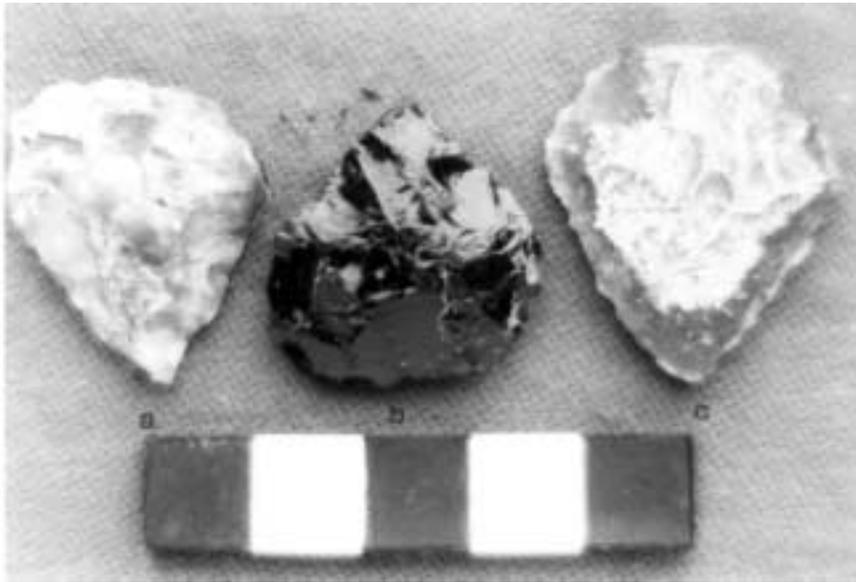


Fig. 16.3. Three broad drills, a. AA-25, b. M-19, c. AA-29.



Fig. 16.4. Two leaf-shaped blades (a, b) and three chert bladelets (c, d, and e).



Fig. 16.5. Six stubby drills, c: chalcedony, others: chert.

throughout the site. These are similar to those found in the Santa Monica Mountains on the mainland (King et al. 1968:69).

### Ledge Site: Knives

Only two recognizable knives were recovered at Ledge. One is a lanceolate stemmed knife chipped from chert (Fig. 16.6a) and the other is a bifacially chipped side-notched knife (Fig. 16.6b) of andesite. Neither shows wear. These are similar to examples recorded for San Miguel Island (Heye 1921:68) and in Big Dog Cave on San Clemente (McKusick and Warren 1959:141.)

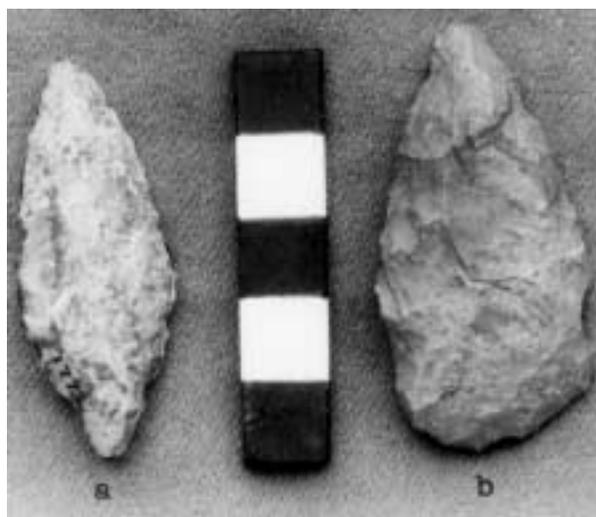


Fig. 16.6. Two knives from the Ledge Site.

### Ledge Site: Points

The Ledge Site produced two long triangular stemmed points with broken bases, bifacially chipped of chert. There are also five small concave base points, chipped from chert and fused shale and found at shallow depths. These average 2.4 cm long and are similar to those found on San Miguel Island (Heye 1921:70) and along the mainland coast (Hoover 1971:60).



Fig. 16.7. Small, triangular projectile points from the Ledge Site.

Also found at shallow depths were two narrow triangular points with concave bases (Fig. 16.7 a and b)

They are bifacially chipped of chert and similar to those from San Miguel Island (Heye 1921:70). In addition, there are three small triangular points with concave bases, finely pressure-flaked of chert and averaging 2 cm in length (Fig. 16.7c, d, e); a similar one is also finely pressure-flaked but of chalcedony (Fig. 16.7f). Finally, there is a small chert leaf-shaped point and a tip fragment of chert (Table 16.2).

### Comments on the Ledge Site Assemblage

All of these small projectile points are typical of late points (after AD 1000 to historic) along the coastal mainland and on the islands. The use of fused shale is also indicative of later points as there is some indication that fused shale may have replaced obsidian in the last few hundred years before the Spanish arrival.

While it is presumed that the people at Ledge were Shoshonean speakers of relatively recent arrival on the island, the use of the site as a refuge area for Mission runaways (Rechtman, in press) means that a variety of point forms and styles can be present without necessarily identifying the cultural affiliations of the site.

The two crude knives suggest minimal meat and hide processing and the general lack of stone chipping waste at this site shows that there was little or no manufacture of the stone tools here. The collection of 16 drills suitable for working shell, together with the volume of shell at the site, would argue for the production of shell ornaments (or artifacts such as fishhooks), but evidence of manufacture (shell blanks, etc.) is virtually absent in spite of the great number of

shell beads found. The small micro-drills characteristic of bead manufacture, and found in great numbers on Santa Cruz Island, are notably absent at Ledge.

The use of projectile points on an island with no game animals is a puzzle. Warfare is implied because it was typical of southern California tribes to use sharpened wooden foreshafts for small game and to make stone points only for large game or warfare. Redtfeldt reported finding a human vertebra on the island with an arrowhead imbedded in it (personal communication). The total number of projectile points from Ledge is extremely small compared to mainland sites where deer and other animals were important resources. The site of Molpa, for example, in inland San Diego County, yielded hundreds of small points from

Table 16.2. Projectile points, Ledge Site, San Clemente Island.\*

Area	Depth (cm)	Description	Material	Length (cm)	Width (cm)	Thickness (cm)	Weight (gm)
H-20	0-15	Stemmed	chert	3.1	1.5	0.6	2.4
N-18	30-45	Stemmed*	chert	3	1.4	0.5	1.9
M-15	15-30	Concave base, long*	chert	3.2	1.4	0.5	2
M-16	15-30	Concave base, long*	chert	2.9	1.1	0.4	1.2
Auger test hole 32		Concave base, short	chert	1.9	1.2	0.4	0.7
O-27	15-30	Concave base, short	chert	2.1	1.2	0.3	0.6
Y-22	0-15	Concave base, short*	chert	2	1.2	0.3	0.6
O-29	20-35	Denticulate	chalcedony	2.7	1.1	0.4	0.7
P-29	0-40	Oval Leaf-shaped	chert	2	0.8	0.3	0.6
X-30	0-20	Leaf-shaped	chert	2.7	1	0.4	1
M-29	0-15	Leaf-shaped*	chert	2	1.1	0.5	1.2
M-29	15-30	Leaf-shaped*	chert	2.4	1.2	0.4	1
N-18	15-30	Leaf-shaped*	chert	2.6	1.2	0.7	1.5
V-18	15-30	Leaf-shaped*	chert	2.2	1.3	0.4	1.3
V-23	0-15	Tip fragment*	chert	incomplete specimen			

\*Specimens from ASA collections of 1964.

an excavated site volume smaller than that of the excavations at the Ledge Site.

### Eel Point Sites

Two discrete areas of this site were excavated: Eel Point B (5,000-10,000 years BP) and Eel Point C, a cemetery area approximately 2000-3000 years BP. No recognizable projectile points came from this site and the few bifacially chipped implements at Eel Point are all believed to be knives or drills.

A side-notched knife of quartz is unifacially chipped; it is flat on one side and relatively thick. The basal fragment of a corner notched white chert point was about 6 cm long when complete. The edges are dulled by weathering and wear and it is identified as a knife from the size and shape.

Also present is a triangular drill tip fragment of banded gray chert, rhomboidal in cross-section. The edge wear identifies this as a drill; presumably it was used in the manufacture of shell ornaments or fish-hooks.

The burials in area C yielded six large obsidian knives, four with Burial 3 and two with Burial 5b. All of them show heavy wear on the edges and all are bifacially chipped from black obsidian (Table 16.3). Three are large corner-notched lanceolate knives, two are medium corner-notched knives, and one is a large fishtail lanceolate blade. These are similar in material and shape to knives found in Late Horizon sites on the mainland. One closely similar knife was recovered from a burial in the Santa Monica Mountains (LAN-153) and dated by obsidian hydration to about 1000

Table 16.3. Drills and knives, Eel Point Site (SCLI-43), San Clemente Island.

Area	Depth (cm)	Description	Material	Length (cm)	Width(cm)	Thickness (cm)	Weight (gm)
<b>B</b>							
Unit 3	45-60	Lanceolate fishtail knife	quartz	3.5	1.5	0.75	4.2
Unit 6	10-20	Corner-notched knife*	chert	4.4	2.2	0.8	
Unit 4	15-30	Triangular drill tip	chert	3.2	1.4	0.6	
<b>C</b>							
Knives							
Burial 3	205	Lanceolate, corner-notched	obsidian	8	3.4	0.75	18.9
Burial 3	205	Lanceolate, corner-notched	obsidian	8.2	3.5	0.8	19.5
Burial 5B	200	Lanceolate, corner-notched	obsidian	8.7	3.6	0.9	24.5
Burial 3	205	Triangular corner-notched	obsidian	6	3.1	0.7	11
Burial 3	205	Triangular corner-notched	obsidian	5.2	3.1	0.6	9.4
Burial 5B	200	Lanceolate fishtail	obsidian	7.6	2.9	0.7	17.5
Fragments							
Burial 5A	195	Triangular knife tip	chalcedony	4.6	3.2	0.9	
Burial 19	190	Triangular drill tip	chert	2	1.3	0.7	

years ago. There is no evidence of asphaltum or hafting, but two hafted knives were recovered from Big Dog Cave by Woodward in 1939 (McKusick and Warren 1959:141).

Eel Point C also yielded a large triangular knife fragment of bifacially chipped gray chalcedony. The edges show signs of heavy wear. In the fill around Burial 10 was a triangular drill tip fragment of white chert with a rhomboidal cross section, resembling one found in Area B (Table 16.3). This tip has a wear notch at about 0.5 cm, which could have resulted from drilling shell ornaments.

### **Trade**

Obsidian is an imported material on San Clemente Island. Because the large knives are intact, they were not cut to provide samples for obsidian dating or determination of the obsidian source. Numerous other samples of obsidian from this site were subject to laboratory study (see Scalise 2000 and Bouey 2000) and it's likely that this obsidian came originally from the Coso obsidian source in eastern California.

Fused shale is also an imported material heavily used in the latest archaeological periods. The known source is Grimes Canyon in Ventura County.

Chalcedony is widely available in the Santa Monica Mountains on the mainland; small amounts may be found on some of the islands, but no source on San Clemente is known. Some cherts occur on the islands, but the harder, banded and colored varieties may have come from the coast near Santa Barbara. Quartz is available on some islands, particularly Santa Catalina where sites like Little Harbor contain numerous projectile points made of local quartz. It was also common on the mainland and widely used in San Diego County. There is no known source on San Clemente.

The overall picture of imported stone materials, plus the general scarcity of chipped stone artifacts on San Clemente, argues for these artifacts coming to the Island in finished form rather than a trade in raw material. Trade relationships were primarily with islands and mainland to the north and very little is seen that could be derived from the coastal areas adjacent to San Clemente.