

## **UC Merced**

### **Journal of California and Great Basin Anthropology**

#### **Title**

Ovate Pestles and an Isolated Processing Station in Interior Southern California

#### **Permalink**

<https://escholarship.org/uc/item/2jd2q6xf>

#### **Journal**

Journal of California and Great Basin Anthropology, 7(2)

#### **ISSN**

0191-3557

#### **Author**

True, D. L.

#### **Publication Date**

1985-07-01

Peer reviewed

Woodbury, Richard A.

1961 A Reappraisal of Hohokam Irrigation. *American Anthropologist* 63: 550-560.

Woodbury, Richard A., and James A. Neely

1972 Water Control Systems of the Tehuacan Valley. In: *The Prehistory of the Tehuacan Valley, Vol. 4: Chronology and Irrigation*, Frederick Johnson, ed., pp. 81-161. Austin: University of Texas Press.



## Ovate Pestles and an Isolated Processing Station in Interior Southern California

D. L. TRUE

Most archaeologists acknowledge the need to include all elements of the larger settlement - subsistence pattern in any consideration of a regional or local prehistory, and the value of small sites as sources of interpretative information has long been recognized. The inability of archaeologists, however, to place isolated processing stations which *lack* subsurface deposits and/or datable elements into meaningful interpretative contexts has resulted in a tendency to set such resources aside with minimal treatment once they have been recorded. Although this is a reasonable approach, and there is often very little that can be said about such milling stations, increasing concerns with subsistence - settlement details, and a revived interest in hunter - gatherer lifeways, make the systematic consideration of such cultural elements increasingly worth the investment of some research effort. This may be especially true since many milling stations are treated as expendable when con-

sidered as part of environmental impact or other cultural resource-related investigations.

On the other hand, it might be argued that because of their nature many bedrock features have been spared, and that such sites are still common in most parts of southern California. This may be the case, but many of these sites are increasingly inaccessible for research purposes, and milling stations with processing tools *in situ* are becoming especially rare. The degree to which the presence or absence of such tools affects the interpretation of processing stations is unknown, but it is a facet of the cultural inventory that needs to be addressed while such resources are still available.

This report describes a small undistinguished bedrock processing station located on an unnamed drainage tributary to Tualota Creek. The feature is situated at an elevation of 2,140 feet above sea level east of Colt Road not far from the junction of Colt and Barranca roads in western Riverside County (Fig. 1). It is proposed that this site has three characteristics worthy of comment:

1. As of the late 1970s the pestles used in the processing were still *in situ*.
2. The number of pestle-like artifacts present on this rock exceed the number of mortars by a factor of four to one (nine pestles to two mortars).
3. The pestle forms are ovate to nearly round in outline as opposed to the elongate forms often associated with bedrock mortars in the region at large. In addition to this difference in outline form, several of the pestles are characterized by multiple pounding surfaces, and all have clearly defined rubbing wear on one or both sides.

### THE SITE

The site (CA-RIV-3026) consists of a bedrock outcropping with two small mortars and two incipient slick areas situated on its upper surface. It is located at the base of a hill

D. L. True, Dept. of Anthropology, Univ. of California, Davis, CA 95616.

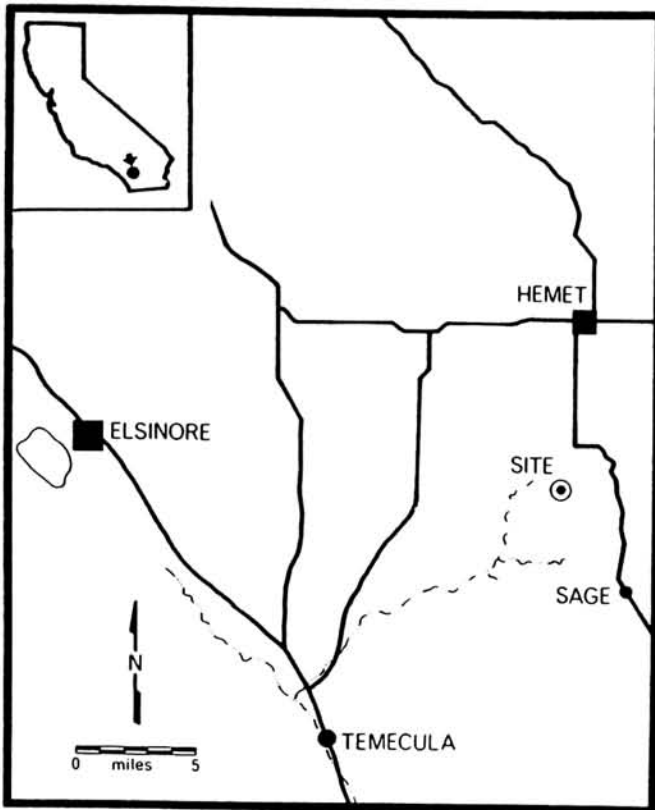


Fig. 1. Location map.

marginal to a very short, steep, and minor tributary drainage overlooking a small flat-bottomed valley, which in precontact times may have supported several oak groves. Remnant stands of oak are still present, and there is a poorly developed riparian community strung out along the intermittent drainage that bisects the valley. The surrounding hills support chaparral and coastal sage scrub plant communities, and the region in general was certainly favorable for collecting a variety of vegetal and small animal resources.

An examination of the area around the feature, including both the adjacent hillsides and the valley bottom, revealed no evidence of midden or other cultural remains, and it seems quite obvious that the feature functioned as a processing station rather than as a camp area.

The outcrop is a coarse-grained rock which could be granitic or a grainy metamorphic in the Julian schist series. The two small

mortars are located centrally on an uneven surface. The boulder is about 7 m. long and 4 m. wide at the widest point. It extends out of the hillside on one edge and abuts the adjacent drainage some 75 cm. above grade. The base rock is relatively durable with no obvious signs of deterioration around the mortar basins. The two slick areas are not especially visible, but are well enough developed to be obviously cultural. A third *possible* slick area was also noted. The mortar holes range from 13 to 15 cm. in diameter and are no more than 8 cm. deep. Figure 2 shows the outcropping with the pestles *in situ*.

### THE ARTIFACTS

A total of nine artifacts (11 fragments) was recovered from the top of the rock surface and an adjacent crevice. Eight of these are definitely pestle-like forms, and one is a possible pestle with evidence of incipient pounding on one end (376-11). The artifacts have been accessioned as number 376 at the U. C. Davis Anthropological Research Facility. Specifications and additional descriptive detail are provided in Table 1 and in Figures 3 and 4.

All of the definitive pestles (all artifacts except 376-11) have ovate-to-rounded outline forms and roughly tabular cross sections. Five artifacts have mano-like wear on two surfaces. Three have similar wear on one surface only, but it should be noted that two of these are weathered so that one of the original surfaces is no longer visible. Two of the specimens have evidence of pestle-like pounding use around most of the circumference, one specimen has three clearly defined pestle surfaces, and five other artifacts have two recognizable pestle-related working areas. Specimen 376-11 is a questionable tool with only minimal evidence of cultural modification. It is included in the inventory because of its association with the other pestles on the feature.

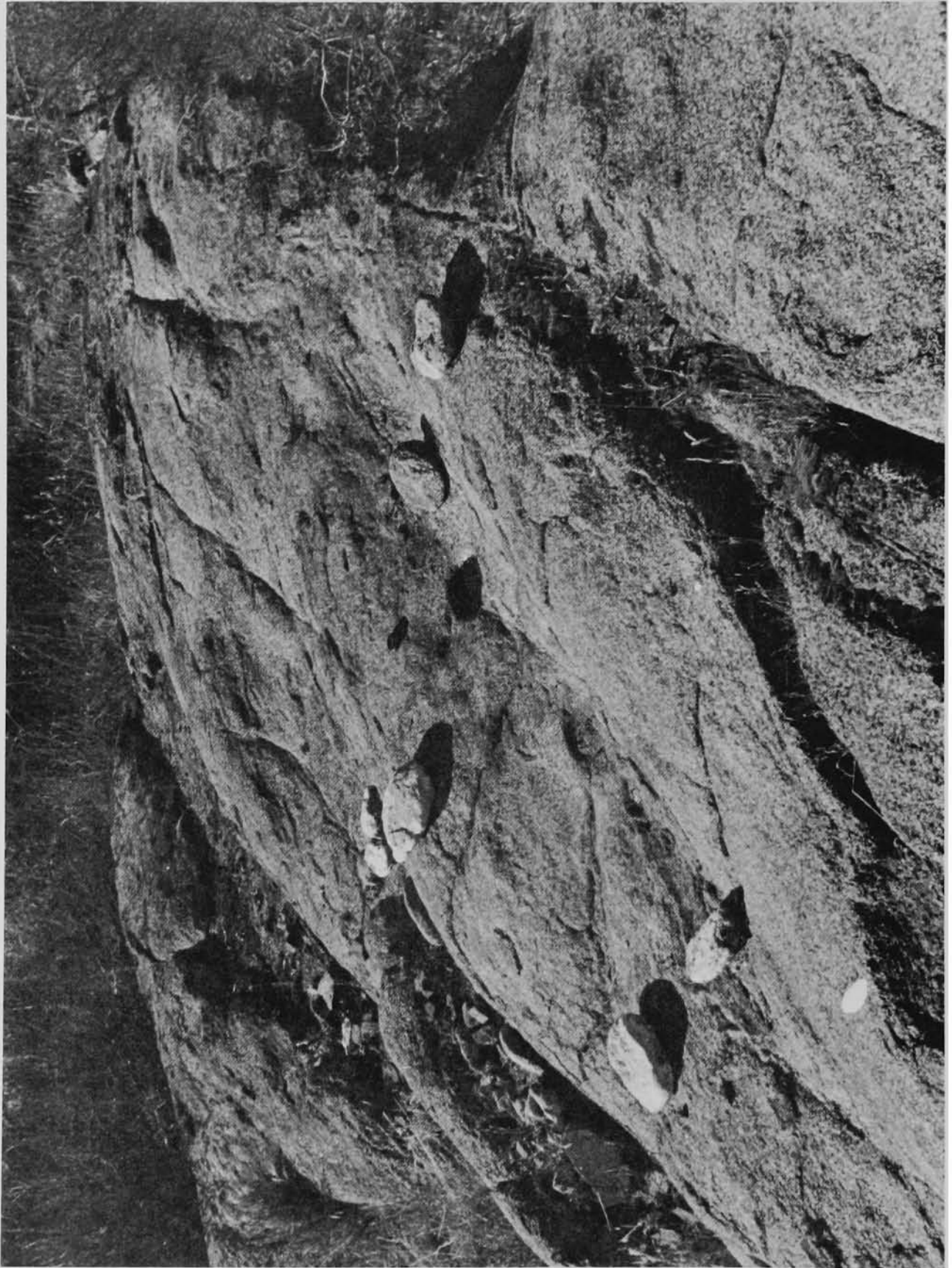


Fig. 2. The bedrock outcropping with the two mortars and several of the pestles *in situ*.

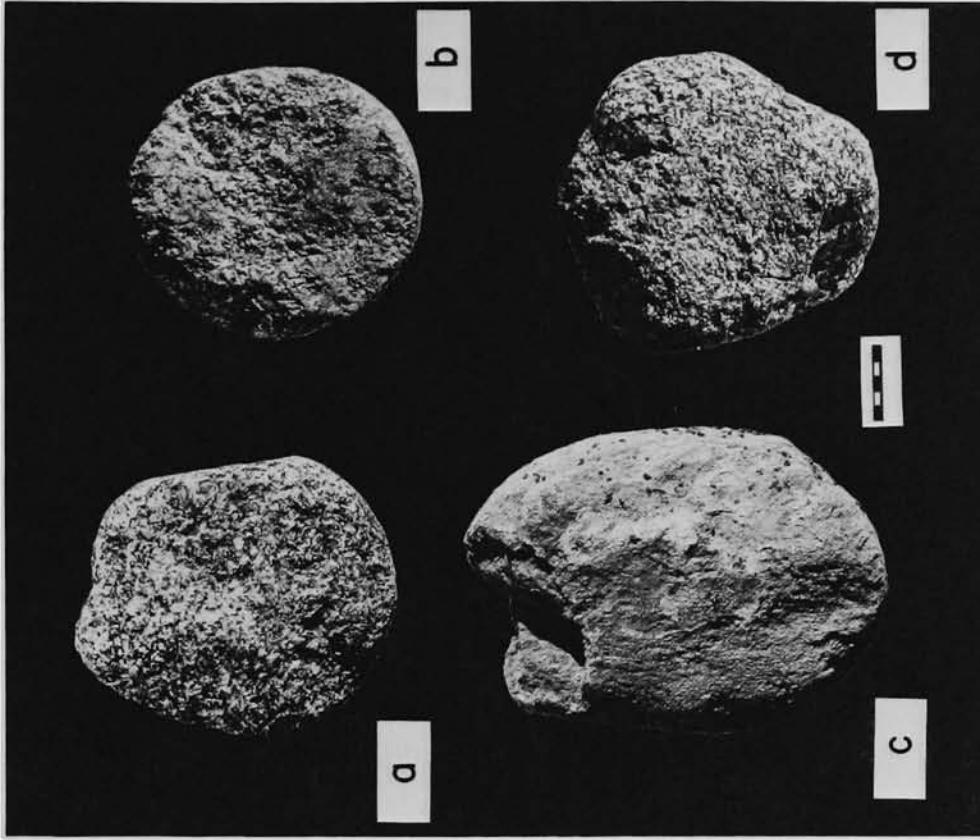


Fig. 4. Ovate pestles from CA-RIV-3026: a. artifact 376-5, b. artifact 376-6, c. artifact 376-4, and d. artifact 376-2.

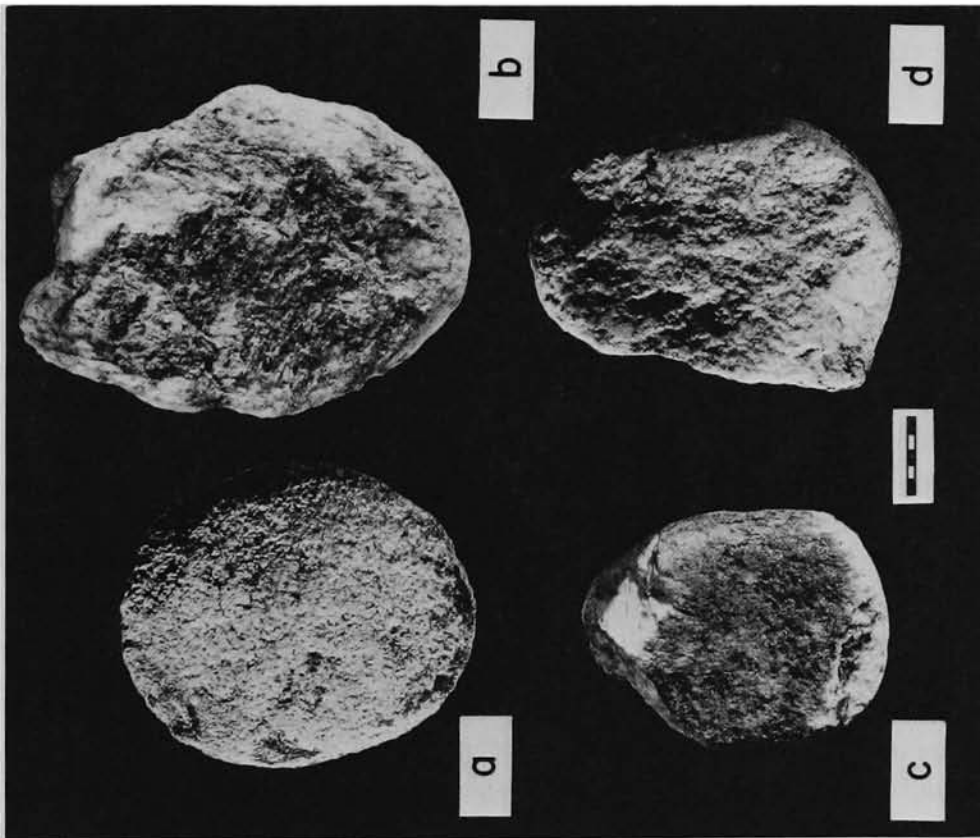


Fig. 3. Ovate pestles from CA-RIV-3026: a. artifact 376-9, b. artifact 376-3, c. artifact 376-10, and d. artifact 376-1 — one of three pounding surfaces is missing in photo.

Table 1  
ATTRIBUTES OF PESTLES FROM CA-RIV-3026

Artifact	Number of Pounding Surfaces	Material	Dimensions (mm.)			Mano-like Wear	Comment
			Length	Width	Thickness		
376- 1	3	granitic	207	210	60	2 surfaces	(Fig. 3d)
376- 2	2	granitic	194	176	94	1 surface	weathered (Fig. 4d)
376- 3	1	quartz-like	255	186	74	1 surface	(Fig. 3b)
376- 4	2	schist	257	187	77	2 surfaces	some use on most of circumference (Fig. 4c)
376- 5	1	granitic	175	147	84	2 surfaces	(Fig. 4a)
376- 6	2	granitic	182	167	67	2 surfaces	(Fig. 4g)
376- 9	2 <sup>a</sup>	granitic	196	176	77	1 surface	weathered (Fig. 3a)
376-10	2	quartz-like	182	145	72	2 surfaces	(Fig. 3c)
376-11	?	quartzitic	282	132	82	unknown	possible artifact (not illustrated)
		mean <sup>b</sup>	206	174.25	75.6		
		S.D.	32.42	21.49	10.32		
		Var.	1051.4	462.2	106.55		

<sup>a</sup> All edges badly weathered, one pounding surface definite, one likely but unconfirmed.

<sup>b</sup> Excludes artifact 376-11 which is questionable and lacks pestle surfaces.

## DISCUSSION

The illustrations and table should suffice to characterize the artifacts and there is not much that can be said about a rather ordinary two-hole processing station; however, a few short comments may be in order here.

The first point relates to the material used for the pestles. Three kinds of locally available rock are represented: quartz, metamorphic (Julian schist?), and granitic. The quartz tools are still hard and usable and the single metamorphic specimen is intact and in reasonably good shape. In contrast, the artifacts made of granitic rock are significantly weathered, and if used as pestles *now* would almost certainly crumble or disintegrate. It is assumed that this latter condition is generally the result of using somewhat weathered rock at the time of manufacture. On the other hand, there is every reason to believe that when the granitic artifacts were manufactured, the rock must have been stable enough for use as pestles long enough to acquire their present configuration. The post-manufacture weathering, under the circumstances, suggests

the passage of some reasonable period of time.

This kind of relative time frame for the assemblage is supported in part by the presence of lichen on the pounding surface of some specimens. No technical analysis has been made, and no rates have been established for this region, but generalizations from other southern California locations indicate that the pestles are prehistoric rather than historic in age (Robert Bettinger, personal communication 1985).

A second point relates to the width of the pestle pounding surfaces relative to the diameter and depth of the mortar basins present on the feature. The pestle configuration is such that the pounding surface just fits the mortar with little room to spare and the width of the pestle at the upper margin of the pounding surface precludes its use with a mortar of any depth. All pestle surfaces have convex rather than flat configurations (laterally and longitudinally).

A third consideration relates to the rubbing wear on the somewhat flat surfaces of the artifacts. These surfaces are generally

irregular rather than smooth, and the wear facets are confined to the highest ridges and knobs. Given the associational context, it is very likely that they were used in conjunction with the adjacent slick-like bedrock surfaces, which are also irregular and do not have the leveled or polished finish characteristic of many slicks in the larger area. In sum, the artifacts have mano-like surfaces but probably were not used as manos in the traditional sense, and it is proposed, as speculation, that they were used for mashing or macerating vegetal or organic material other than hard seeds. The proximity of the mortars and slick-like surfaces along with the two kinds of wear on the pestles, suggests the possibility of some kind of undefined multi-step processing.

While the importance of associations with dated and/or defined cultural units for almost any comparative analysis or interpretation is too obvious to belabor here, and a detailed distributional analysis is beyond the scope of the present report, some comment in those directions may also be in order.

The first and most obvious thought in this regard might be to stress the fact that few descriptive or distributional data exist for this class of artifact so far. Ovate pestles apparently have not been previously recorded, described, or discussed in terms of specific contexts, components, or sites, dated or otherwise. Lacking such basic information there is, as yet, no basis for proposing temporal, cultural, or economic-subsistence affiliations.

A second point refers to a dearth of pestle-related information in general for sites in the larger southern California study area. A cursory examination of the literature suggests that pestles are not uncommon, but it appears that they are (were) often not collected, and usually are not described in any detail. Illustrations of pestle forms are, as often as not, lacking or minimal and when descriptions have been provided, the most common form

appears to be an unshaped elongate or elongate triangular form with a single pounding surface.

Two artifacts which appear to fit the ovate pestle pattern were reported from the Perris Reservoir investigations (Robarcheck 1974: 112), but they are not illustrated, and it is not possible to say whether or not they have multiple pounding edges and surface wear facets. Several similar specimens were noted by the writer in association with a milling feature at the base of Fish Creek Mountain near Carrizo Wash, but no measurements or detailed notes were taken. From photos taken of the Carrizo Wash feature, however, it is possible to document at least ten pestle-like artifacts believed to be associated with two medium-sized, bedrock mortars. All of the pestles there are granitic and at least two had tabular cross sections with evidence of wear on one or more surfaces (True 1974).

In sum, while not all possible sources of information have been examined, it seems clear that there is no obvious published data base relating to ovate pestles. On the assumption that these artifacts, in conjunction with particular mortar sizes and locations, *may* be diagnostic in either a temporal or economic-subsistence sense, it is proposed that investigators with knowledge of such artifacts make every effort to get their data into print, or in some other way make them available for comparative analysis.

#### ACKNOWLEDGEMENTS

The development of this report was assisted in part by a Faculty Research Grant, University of California, Davis. This help is greatly appreciated. Jack True helped record the site, and was instrumental in getting a very large bag of heavy pestles from the site to a distant truck.

## REFERENCES

- Robarcheck, Clayton A.  
 1974 Ground Stone Artifacts. In: Perris Reservoir Archeology: Late Prehistoric Demographic Change in Southeastern California. James F. O'Connell, Philip J. Wilke, Thomas F. King, and Carol L. Mix eds., pp. 111-120. Sacramento: Department of Parks and Recreation. Archeological Report No. 14.
- True, D. L.  
 1974 Unpublished field notes in possession of the author.



## A Fluted Point from the Mendocino County Coast, California

DWIGHT D. SIMONS  
 THOMAS N. LAYTON  
 RUTHANN KNUDSON

Recent discovery of a fluted, cryptocrystalline projectile point near Caspar, Mendocino County, California, completes documentation of the coast-to-coast distribution of this artifact form. Fluting, a highly refined stoneworking technological innovation having a limited temporal duration (late Pleistocene/early Holocene), is known in numerous North American localities – from the Debert site on the Bay of Fundy in Nova Scotia (MacDonald 1968) to, now, within ten meters of the Pacific Ocean at Caspar, an east-west distance of 4,788 km. (2,975 mi.).

In this report the depositional context and formal attributes of the Caspar fluted point are described and discussed. A recon-

struction is then offered of the probable Mendocino coastal habitat that could have been exploited by hunter-gatherers 11,000 years ago.

### THE SITE

Since 1980, the Albion Archaeological Project of San Jose State University has been an ongoing research program of archaeological survey and excavation focusing on the northern coast of California in central Mendocino County. The work is being conducted with the approval and support of the Mendocino County Archaeological Commission. In August 1983, during investigation of a shell midden (CA-MEN-1918) near Caspar, a fluted projectile point was discovered lying on the sub-midden surface of a recently bulldozed cut running through the northern edge of the site. In the area where the fluted point was found, the about 20 m.-wide cut extended approximately 30 m. along an east-west axis and was roughly a meter deep. The main concentration of overlying shell midden had a depth of about one meter and covered an area approximately 1,600 m.<sup>2</sup> in extent. Given the generally good condition of its shell, which is contained in an acidic soil matrix, the midden is suspected to be no older than 1,000 years. The midden rests atop the wave-battered face of a receding coastal bluff, about 9.2 m. above a narrow rocky beach. An unnamed, seasonal stream is located just north of the midden.

The bluff forms part of the coastward side of Terrace 1, lowermost in a series of five marine terraces recognized in this region of coastal California. A generalized east-west geological and vegetational transect of the Caspar area is presented in Figure 1. The bottom of the bulldozer cut from which the fluted point was recovered penetrates slightly a sub-midden deposit composed of consolidated, yellowish, beach alluvium estimated to be of late Pleistocene age based on geo-

Dwight D. Simons, Anthropological Studies Center, Sonoma State Univ., Rohnert Park, CA 94928; Thomas N. Layton, Dept. of Anthropology, San Jose State Univ., San Jose, CA 95192; Ruthann Knudson, Woodward-Clyde Consultants, 1 Walnut Creek Center, 100 Pringle Ave., Walnut Creek, CA 94596.