TWO UNUSUALLY LARGE CRESCENTICS FROM EASTERN CALIFORNIA

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Two unusually large cryptocrystalline silicate crescentics were found while cataloging Maturango Museum collections in the summer of 2015: one from the El Paso Mountains in eastern Kern County, the second from the Panamint Range in southern Inyo County. Both are broken, apparently in manufacture, but when intact were unusually large, probably exceeding 100 mm in length. Both are lunate crescent preforms, and show heat-treating. Their size is too large to be "transverse projectile points," but they may have been cutting tools or harvesting implements such as finger sickles. Crescents are typically Paleoindian temporal markers, and their (re) discovery suggests the value of examining museum collections.

Crescents are enigmatic flaked-stone artifacts found in association with projectile points of Paleoindian age; it has been asserted that they are more frequently found with Great Basin Stemmed points than with Clovis points (Beck and Jones 2010). They have been reported over wide areas of the west (Justice 2002:120ff). Their function is still a matter of debate. As a point of terminology, we use the term "crescentics" to denote crescent-like artifacts which may not have been finished.

In this paper we report on two crescentics found in the collection of the Maturango Museum in Ridgecrest, California. Both had been originally misclassified as "knife blades." The two crescentics are incomplete, but are noteworthy because they are much larger than typical crescents, perhaps because of being preforms. Both were found and identified by museum interns during the summer of 2015 during review and re-cataloging of collections.

DESCRIPTION AND METRICS

Justice (2002:116, 117) defines three basic morphologies for crescents: lunate (quarter-moon or half-moon), winged, and eccentric. Maturango Museum crescentic acc. no. 1989.01.32 (Figure 1) is half-moon lunate and was recovered from the Bickel Camp area in the El Paso Mountains of north-eastern Kern County. Notes indicate it was collected about 1968 by the late Alex Apostolides, in the course of a survey conducted by the Archaeological Survey Association for the Southwest Museum; Apostolides recorded the site as Ker 23, and it was subsequently recorded formally as KER-566.

The crescentic is part of a very small collection which came to the Maturango Museum in 1989 with some photographs and sketchy notes. The notes are by an unknown group who cataloged the collection, not by Apostolides, whose few extant notes are models of clarity. The crescentic is not mentioned in Apostolides' extant notes, but the site is clearly noted in the materials that came with the collection. Unfortunately most of Apostolides' collections and notes are no longer extant, so the exact provenience is lost. They are not at the University of California, Los Angeles, but it is possible they are at the Autry Museum of the American West or the Phoebe A. Hearst Museum of Anthropology (Mark Faull, personal communication).

The El Paso crescentic is manufactured of white crypto-crystalline silicate (ccs), and appears to have been heat-treated. It is 53.9 mm in length, 50.0 mm in width, and 13.0 mm in thickness. Its weight is 31.0 g. It is broken across the middle by a bending fracture, and may be an unfinished preform.

Figure 1. El Paso crescentic, Maturango Museum acc. no. 1989.01.32.

Crescentic accession number (acc. no.) 1990.03.361 (Figure 2) was recovered from the Panamint Mountains in southern Inyo County from an unidentified site. It is half-moon lunate, and was collected by the late Sylvia Winslow about 1960. Winslow was a trained archaeologist, and the first curator of the Maturango Museum. The crescentic was cataloged in 1990 as part of her Panamint Collection. Approximate provenience is noted on the catalog card, but no field notes have been found.

The Panamint crescentic is manufactured of yellow-orange cryptocrystalline silicate with black and white inclusions, and is typical of the Rainbow Ridge quarry in the El Paso Mountains. It is 53.4 mm in length, 33.7 mm in width, and 6.5 mm in thickness; its weight is 9.9 g. It appears to have been heat-treated and exhibits a bending fracture across the middle. It is again probably a preform, but is closer to completion than the El Paso crescentic.

Lunate crescents are typically small artifacts. Table 1 summarizes published data on lunate crescents from four areas: the northern Great Basin (Jew et al. 2015); the Albert Mohr collection from California (Mohr and Fenenga 2010); the Borden collection from southern Inyo County (J. Erlandson, personal communication); and Tulare Lake (Hopkins 2007).

The El Paso crescentic and the Panamint crescentic are much larger than those in Table 1; if complete they would have had a length of approximately 108 mm. A crescentic of similar size has been reported from Tulare Lake (Hopkins 2010:64, Fig 17, cat. no. 41090); it, too, is manufactured of cryptocrystalline silicate and appears to be incomplete. Overall, these crescentics appear to be unusually large for lunate crescents.

DISTRIBUTION AND CONTEXT

Lunate crescents have been reported over a large area in the west, from the California Coast, north as far as Lind Coulee, and east as far as the Wasatch Front (Justice 2002:120, Map 5). Crescents are typically associated with western pluvial lakes (Beck and Jones 1997; 2010), and the two crescentics discussed here are no exception. The El Paso crescentic was recovered from an area which was once near

Figure 2. Panamint crescentic, Maturango Museum acc. no. 1990.03.361.

*Table 1. Lunate crescent metric data.**

Provenience	Mean length, mm	Length standard deviation, mm	N
Northern Great Basin	46.3	9.9	11
California**	52.6	11.0	40
Southern Inyo County	43.7	6.7	11
Tulare Lake***	46.1	8.0	118

* Complete artifacts only; **Combined data for Mohr's Type 1, 2, and 3 (Mohr and Fenenga 2010:150-151); *** Hopkins 2007:83-89, Type 3 and 4 only.

the southern margin of Pleistocene Lake China, and the Panamint crescentic was from the eastern margin of Lake Panamint. Figure 3 shows the eastern California lake chains in the terminal Pleistocene - early Holocene, with approximate provenience of the two specimens marked.

These specimens are fully consistent with other Paleoindian period specimens from the area. E. L. Davis (1978) reported Great Basin Stemmed points and crescents from the north-western area of the Lake China playa (although some of the crescents would not be so classified today). Surveys and test excavations on the east margin of the Lake China playa reported Great Basin Stemmed points (Giambastiani 2008), and Yohe and Gardner (2016) reported Great Basin Concave Base (Clovis) points from the Airport Lake playa to the north. In the El Paso Mountains, south of the Lake China playa, E. L. Davis recovered a Clovis point fragment from the "Teapot Site;" the point is curated at the Maturango Museum. Furthermore, Alex Apostolides recovered a Great Basin Stemmed point from KER-261, the same site as the El Paso crescentic (Maturango Museum collection). In Rose Valley, north of the Lake China playa and bordering the glacial Owens River, a major collection by Ferris Borden about 1970 includes eleven crescents, all obsidian (Maturango Museum collections). Finally, Justice reports crescents in the Panamint Valley area (Justice 2002:120). Thus we conclude that crescents (or crescentics) are not unusual artifacts for this area.

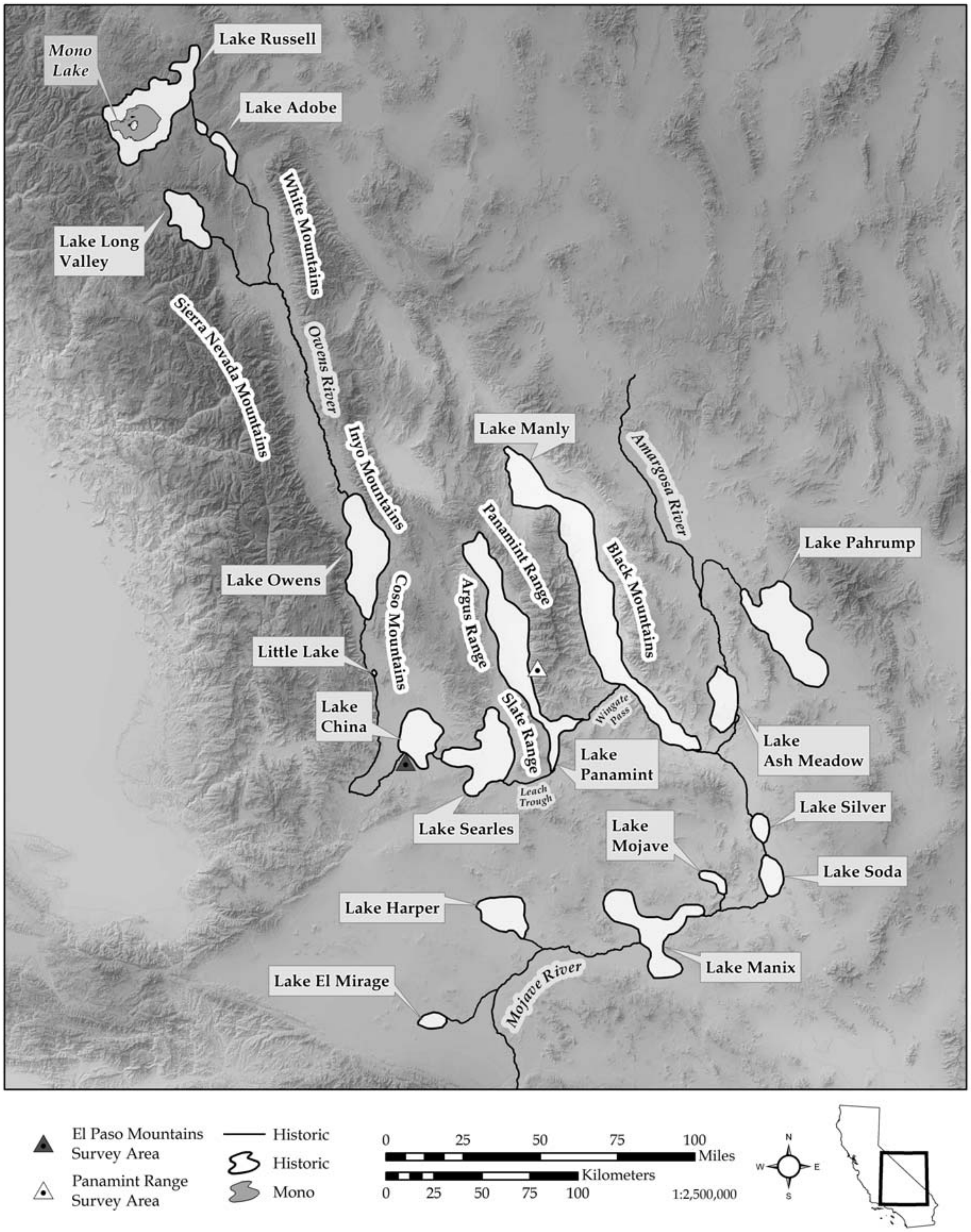

Figure 3. Terminal Pleistocene – Early Holocene pluvial lakes east of the Sierra Nevada, showing location of the El Paso and Panamint study areas. Map courtesy of the Maturango Museum and Epsilon Systems Solutions, Inc.

Figure 4. Use of a finger sickle.

FUNCTION

The function of crescents is a controversial subject, which will not be resolved here. Before attempting to address function, we suggest that the issue is probably being confused because archaeologists are probably conflating many distinct tool types based simply on morphology. A modern analogy would be grouping screwdrivers and crow bars simply because appearance is similar; there may be some overlap in use, but the tools are actually quite distinct. For this paper we only address lunate crescents.

It is well known that crescents tend to co-occur with Great Basin Stemmed points at sites dated to the Terminal Pleistocene – Early Holocene period (Beck and Jones 2010), typically at pluvial lake areas. Functions proposed include scrapers, cutting tools, decorative amulets, and transverse projectile points. We suggest the lunate crescents were cutting tools and most likely finger sickles, used to harvest lacustrine plants. Finger sickles are well known from the Levant, where they were used to harvest barley and emmer wheat, and could have performed the same function in the Great Basin. In this role the straight or concave margin would be the working edge, with the tool held in the hand as in Figure 4, and the plants being harvested would be gathered and held by the other hand.

It has been asserted that the breakage patterns exhibited by crescents are consistent with their use as "transverse projectile points" (Jew et al. 2015). However, cutting with a finger sickle would cause similar breakage patterns, so the breakage data are not conclusive. Further, the two crescents reported here are far too large to be a projectile point, and harvesting waterfowl with a net would be much more effective.

PROTEIN RESIDUE ANALYSIS

A protein residue analysis was performed on the crescents by the Archaeology Laboratory at California State University, Bakersfield. Results were negative, as summarized in Table 2.

Table 2. Protein residue analysis results.

ANTI-SERA	TYPICAL SPECIES COVERED	RESULTS
Bear	black bear, grizzly bear, etc	Negative
Bovine	bison, cow, musk ox	Negative
Camel	all camelids (New & Old World)	Negative
Feline	bobcat, cougar, lynx, etc.	Negative
Chicken	quail, grouse, & other gallinaceous fowl	Negative
Deer	deer, elk, moose	Negative
Canine	wolf, coyote, domestic dog	Negative
Elephant	elephant, mammoth	Negative
Guinea Pig	guinea-pig, beaver (Castoridae), porcupine (Hystricidae, Erethizontidae), squirrel (Sciuridae)	Negative
Horse	horse, donkey, kiang, etc.	Negative
Human	human	Negative
Rabbit	rabbit, hare, pika	Negative
Mouse/Rat	all rat & mouse species	Negative
Pronghorn	pronghorn antelope	Negative
Sheep	bighorn & other sheep	Negative
Triops	tadpole shrimp	Negative
Salmon	trout and salmon species	Negative
Agave	Agave, yucca species	Negative
Amaranth	amaranth, pigweed, etc.	Negative
Asteraceae	rabbitbrush, sagebrush, sunflower, thistle	Negative
Buckeye	buckeye	Negative
Portulacaceae	bitterroot	Negative
Camas	camas, wild hyacinth	Negative
Capparaceae	beeplant, bladderpod, stinkweed, etc.	Negative
Cupressaceae	cedar, cypress, juniper	Negative
Chenopodiaceae	goosefoot, greasewood, pickleweed, saltbrush, etc.	Negative
Malvaceae	mallows	Negative
Mesquite	Mesquite	Negative
Carrot/parsley	*Lomatium sp*	Negative
Oak	Oak species	Negative
Pine	fir, hemlock, pine, spruce	Negative

These negative results are not surprising if the crescentics are unfinished preforms which were broken in manufacturing and never used. Further, microscopic examination of the margins showed no evidence of use wear.

CONCLUDING OBSERVATIONS

We conclude that these crescentics are consistent with other Paleoindian artifacts from the same region and that they are unfinished finger sickle blades for harvesting lacustrine plants. We also note that the existence of these artifacts was not suspected until collections were re-cataloged in the summer of 2015, which demonstrates the value to interpretations of prehistory of examining museum collections.

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