

BULGARIAN ARCHAEOASTRONOMY SITE OR BULGARIAN QUARRY SITE?

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Stoev and Stoytchev (1992) identify circular rock carvings near Bailovo, Bulgaria as lunar calendars or observatories. Based on their photographs, we observe that strikingly similar sites in California and elsewhere have been identified as known or probably soft-stone quarry sites (Schumacher, 1879; Heizer, 1954; Meighan and Johnson, 1957; Wlodarski, 1979; Mark, Newman & Rogers, 1990). The materials quarried include steatite (soapstone), chlorite-glaucophane blueschist, and greenstone, all relatively soft rock and capable of being worked with flint or other hard stone tools.

The best-known sites, in ethnographic Chumcash territory on Santa Catalina Island, California (Figures 1 and 2), were still being used to quarry bowls or jars, and other utilitarian and ritual objects when the Spanish arrived. CA-SBn-12, a petroglyph site in San Benito County, California, is also thought to have been used as a quarry site (Mark et al., 1990) (Figure 3). Meighan and Johnson (1957) report that “Stone bowls were quarried...cutting a circle of the proper size on the rock face. Then...cut downward and inward to isolate a block...[and] as soon as he could, he broke off the block.” The cores were then hollowed out using other stone tools (Figure 4). Whole faces were reduced in this manner, leaving numerous circular scars in close proximity (Figure 1). Some separation scars were smooth and flat due to the planar cleavage of minerals in the rock (Figure 5). In others, due to the proximity of other scars or to jointing or other imperfections, the rock split in an uneven manner and the resulting scar appears to be a half-moon or crescent to full circles with raised interiors in shape (Figure 6).

The apparent random array of circular scars on the travertine faces at Bailovo and Lipnitza appears to be very similar to some of the sites in California, where it appears that the location of the bowl cores was selected to both utilize the best material available and maximize ease in quarrying. At both the quarry sites on Santa Catalina Island and a likely quarry site in San Benito County (Figures 3, 5, and 6), the quarry faces are covered with closely packed scars indicating maximum utilization of the soft schist. It appears that Stoev and Stoytchev’s (1992) photographs may be of similar quarry sites. Have travertine artifacts been found in the region, and if so, could they have been produced from such quarry sites?

In view of the possibility of alternative interpretations, we suggest that the authors may want to review the literature on the quarry sites and then reexamine and reevaluate the Bulgarian sites.



Figure 1. Site of Native American quarry in steatite outcrop on Santa Catalina Island, California (from Meighan & Johnson, 1957). Note closely packed scars especially under the figure at top center, where the large stone jars were quarried out with stone tools. Over 80 jars were removed from this outcrop alone.

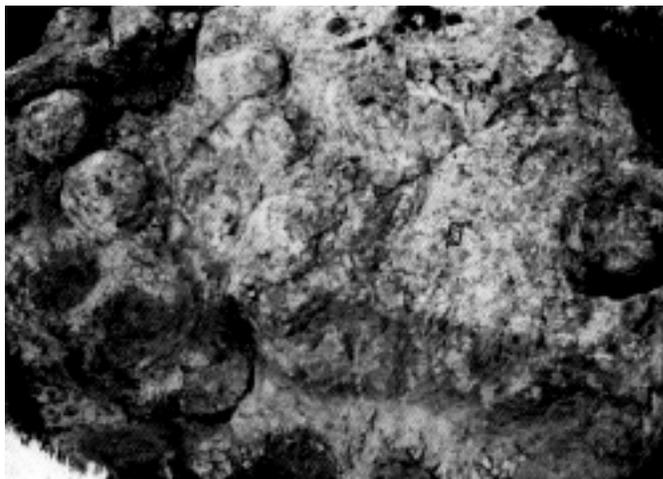


Figure 2. Another steatite quarry site on Santa Catalina Island, California. The quarry face here has apparently been worked to a considerable depth. The remaining cores are in bas-relief and appear very similar to those depicted in Stoev & Stoytchev’s (1992) photographs of both the Bailovo and Lipnitza sites. Centimeter scale at right center of photograph.



Figure 3. Top of a 20 m long chlorite-glaucophane blueschist outcrop at CA-SBn-12 site, San Benito County, California. Note dense concentration of bowl core scars at this location. Field of view is approximately 2.5 m. Centimeter scale is at right edge of photograph.



Figure 5. Detail of CA-SBn-12 site, San Benito County, California. Note flat-bottomed full circle quarrying scar on left and two crescent-shaped scars just to the right. Note jointing and structural grain in rock which, along with tool marks(?) has been accentuated by weathering. Scale is in centimeters.



Figure 4. Reconstruction of Native Americans making bowls. After the bowl blank is quarried and broken out of steatite or soapstone outcrop, it is hollowed with stone chisels and smoothed with sandstone files. Some bowls are then decorated with incised markings. After contact with Europeans, metal tools were probably used. Illustration adapted from original by Stanley Cowards in Heizer (1954).



Figure 6. Detail of CA-SBn-12 site, San Benito County California. Note large circular core base at left and small circular scar at center. Also note crescent raised core bases either side and below center where cores were quarried from outcrop. Most scars are in contact with each other. Largest scar at upper left of outcrop is approximately 20 cm in diameter.

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