ROCK RINGS AND GRANARY BASES IN SAN DIEGO COUNTY

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ABSTRACT

A current topic of debate in Southern California is the function of rings of stones that are not uncommonly found during archaeological surveys. For about 20 years in San Diego County and the surrounding areas it has been postulated that these may represent bases for seed granaries, in particular acorn granaries. This paper will focus on sites containing these features within San Diego County.

INTRODUCTION

Recent surveys conducted throughout San Diego County during Phase I cultural resource investigations have produced a good number of prehistoric archaeological sites which contain, or consist entirely of, rings of rock placed on top of large outcrops of bedrock or, considerably less frequently, on the bare ground. These rings are usually between 1 and 2 meters in diameter and are usually only one or, much less frequently, two courses high. In the past these features were usually found in habitation sites or temporary camps, and were considered usually found in association with bedrock milling features. The area that these occur most frequently is in San Diego County, an area occupied by the Luiseño, the Cahuilla, the Cupeño, the Northern Diegueño (also known as the Ipai), and the Kumeyaay (also known as the Tipai). The primary focus of this study is surveys by Ogden, all but one of which, on Campo Indian Reservation in 1982 (Taylor 1982), were completed within the last 2 years.

In addition, I employed the NADB system to search for keywords which would help me find these features within all of the reports on file at the South Coastal Information Center located on the San Diego State University campus. This resulted in the inspection of 72 reports and the identification of 40 sites containing features identified implicitly or explicitly as granary bases.

ETHNOGRAPHIC LITERATURE

The earliest accounts, both archaeological and ethnographic, show that granaries have played a large part in the lives of various native peoples throughout the state, and it is very well documented in the San Diego County area. The use of rings of rock as bases is, however, mostly inferential. Those who do agree that these represent granary bases generally refer to them as features that appear on outcrops or boulders, but almost never on the bare ground. It was noted in 1900 by Barrows that the granaries of the mountain Cahuilla "are usually on tall bare rocks" (Kroeber and Hooper 1978:43). Speaking of the Luiseño, Sparkman (1908:211) noted that storage was on boulders if available, if not then on poles. Kroeber (1925:699) stated that granaries of the Luiseño are " laid flat on the ground, on a rock, or on a scaffold." It is thought that if elevation was

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achieved from the ground via scaffolding, then rocks would serve much the same purpose. There is some visual evidence for the use of stones as props in both cache situations and with regard to granaries. In Figure 1, a photograph from the TICOR collection "Indians #10468-1" at the San Diego Historical Society, taken in the Mesa Grande area from around the turn of the century, several stones are visible peeking out from underneath the granary on the left.

It is interesting to note that, despite the above quote from Kroeber, only once in my archival search did I find a ring that was "laid flat on the ground" that was even considered as a granary base. In that case it was an isolated ring about 2 meters in diameter with no artifacts found either on the surface or in the excavation of 5 shovel-test pits in and around the feature.

IDENTIFICATION

The reluctance to define a rock ring found on the ground as a granary base is somewhat understandable. The problem of differentiating between a lightly burned hearth and a granary base of the same size would be quite difficult. It should be noted that during a survey in Escondido a well-formed ring of stones was found on the ground, was seemingly unburned, and was found immediately adjacent to two other features that were almost certainly disturbed rings, one of which was partially on bedrock (James et al. 1991). However, because the features on the ground were not accepted as granary bases, those on bedrock are the only ones that appear in this study.

Identification as granary bases can be difficult for a number of reasons. Many of the rings are incomplete circles or add to either larger rocks in their natural position or the natural rise of sloping bedrock to complete the outline. A good percentage of the rings have been disturbed by natural erosion or were altered by modern activities. Another significant problem is assigning the proper definition of a feature once it is encountered. Ethnographic literature and earlier archaeological study, for example, show that the size of the ring is important in its identification. While the rings associated with granaries are defined as between 1 and 2 meters in diameter, there are a good number of other rock rings located on bedrock outcrops features which are either larger or smaller in size. A few very small rings (more likely to hold up pottery) were noted, one in direct association with those typically called granary bases.

The larger sizes are even more difficult to identify. Excavations at the Westwood complex of sites in central San Diego County produced seven circular features, three of which were on bedrock and four of which were on the bare ground (Kyle 1988:49-51, 68-71, 126). They ranged in size from 1.3 to 2.9 meters in diameter. Only the three on bedrock were considered to have potential as being granary bases because, like most granary bases, they had no other artifacts in immediate association with them. Of the four rings on the ground, however, three had artifact densities identical to the surrounding soil. The fourth ring, which was approximately the same size as the other three and was immediately adjacent to two of them, had dense artifacts within the ring itself, thus indicating occupation, so it was defined as a rock room. Hence the other three on soil were also assumed to be rock rooms. In summary, then, six of the seven rings had artifact quantities around them which were identical to their immediate surroundings. Those on bedrock were called granary bases; those on soil were called rock rooms.

Another problem in identifying rock rings on bedrock is that some rings which are larger than 2 meters in diameter could represent ethnographically-documented ramada or sun shade bases. Similarly, granaries have been recorded ethnographically to be as much as nine feet in diameter, which would require a much larger ring than the "1 to 2 meters" by which accepted granaries are limited. All of the above-described phenomena are within the Late Period, so there is no possibility of differentiating between the rings chronologically by looking at the associated artifacts.

Figure 1. Granaries or rock in a valley at Mesa Grande, San Diego County; note the stones underneath the basket on the left.

Nevertheless, an attempt at identification must be made.

SURVEY RESULTS

Granary base features were fairly common in our surveys (Glenn 1993; Ogden 1994; Pigniolo et al. 1994; Taylor 1982), and all were found in a Late Period context when some context was available. These surveys were over large blocks of land which allowed us to get a good look at the interrelationships between sites and see trends both spatially and artifactually. [It should be noted though, that these developer-driven surveys cannot constitute a valid statistical sample for the county.] We found a total of 37 sites which contained rings which we defined as whole or partial granary bases. Upon research, I noticed that, to most authors, there was an assumed link of bedrock milling with granaries. I also noticed that a very high percentage of these rings were considered to be in camps or habitation sites. However, this did not fit with what we were finding. Whereas there were a good number of camps containing granary bases, there were also large areas that had isolated or virtually isolated granary bases (Figure 2).

Two of the survey areas had a total of seven sites with rings, all of which occurred in camp or habitation situations. When you looked at the rest of the survey areas, however, only eight out of 30, just over 25%, were in camp or habitation sites. I also noticed that while there was almost invariably milling associated with those rings in camps, almost 80% of those away from camps had no milling. When all of these are combined, over half of the rings encountered were in isolated circumstances, with no camp and, in particular, no milling around them. These numbers are virtually identical to those I found in reviewing the reports from the Information Center. Of these 40 sites, 33% of the rock rings were in temporary camp or habitation sites, another 10% had just milling, and the remaining 57% were isolated, having no associated artifacts or features.

Once I started dividing the sites into these categories, other attributes became apparent. If only milling was associated with the ring, then it was always just grinding slicks, not basins or mortars. Those located away from camps also had a definite consistency in terms of their location. It seemed that a large number were located just above the site's tree line or riparian area. When one looks at the location of isolated ring sites at Campo (Taylor 1982), a definite pattern becomes clear. SDI-9006 is a temporary camp site with a granary base on the east edge of the valley floor. Five hundred meters to the south, just above the valley floor is the first of a string of 5 sites that are isolated granary bases, one of which has a few flakes nearby. None of the isolated granary sites are more than 30 feet in elevation or 75 meters in distance from the edge of the oak/riparian area.

This setting was very common for the sites in the rest of the surveys, and most seemed just as deliberate in their locations. One ring found during the Scripps Poway Parkway survey is another good example (Pigniolo et al. 1994). It is located in an area well away from any other sites and its only notable feature is that it is quite close to the only stand of oak trees for several hundred meters in any direction. When you look at the surveys as a whole (Figure 3), you can see that there is a very strong correlation between location and its corresponding vegetation. Seventy-one percent of the camps or habitation sites with rings are found in the oak/riparian habitat, and 79% of the granary sites not in living areas are just above the oak/riparian habitat.

CONCLUSIONS

In *Luiseño Social Organization*, White (1963:121-122) stated that his informants indicated that acorns supplied as much as 50% of the Luiseño diet. These were harvested in late autumn and accounts suggest that people went as far as a day's hike to gather acorns around their homes. In many accounts, including interviews with noted native informants Delfina Cuero and Tom Lucas, it has been noted that during harvest times the acorns were gathered into small baskets and slung

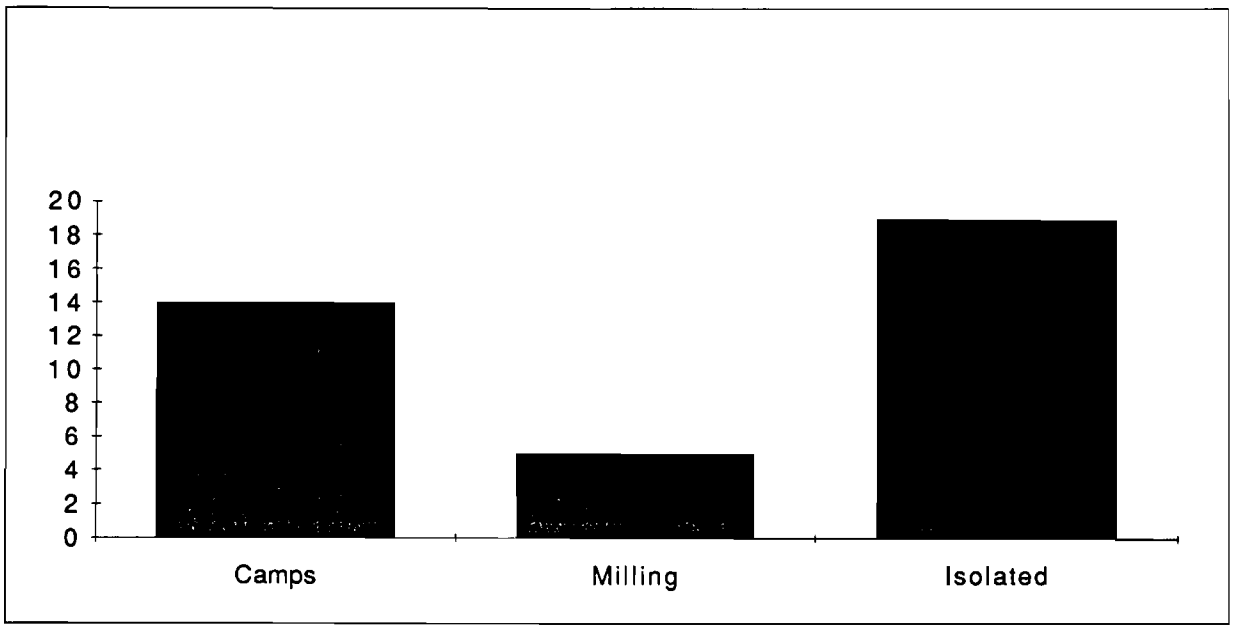

Figure 2. Rock rings in relation to site type.

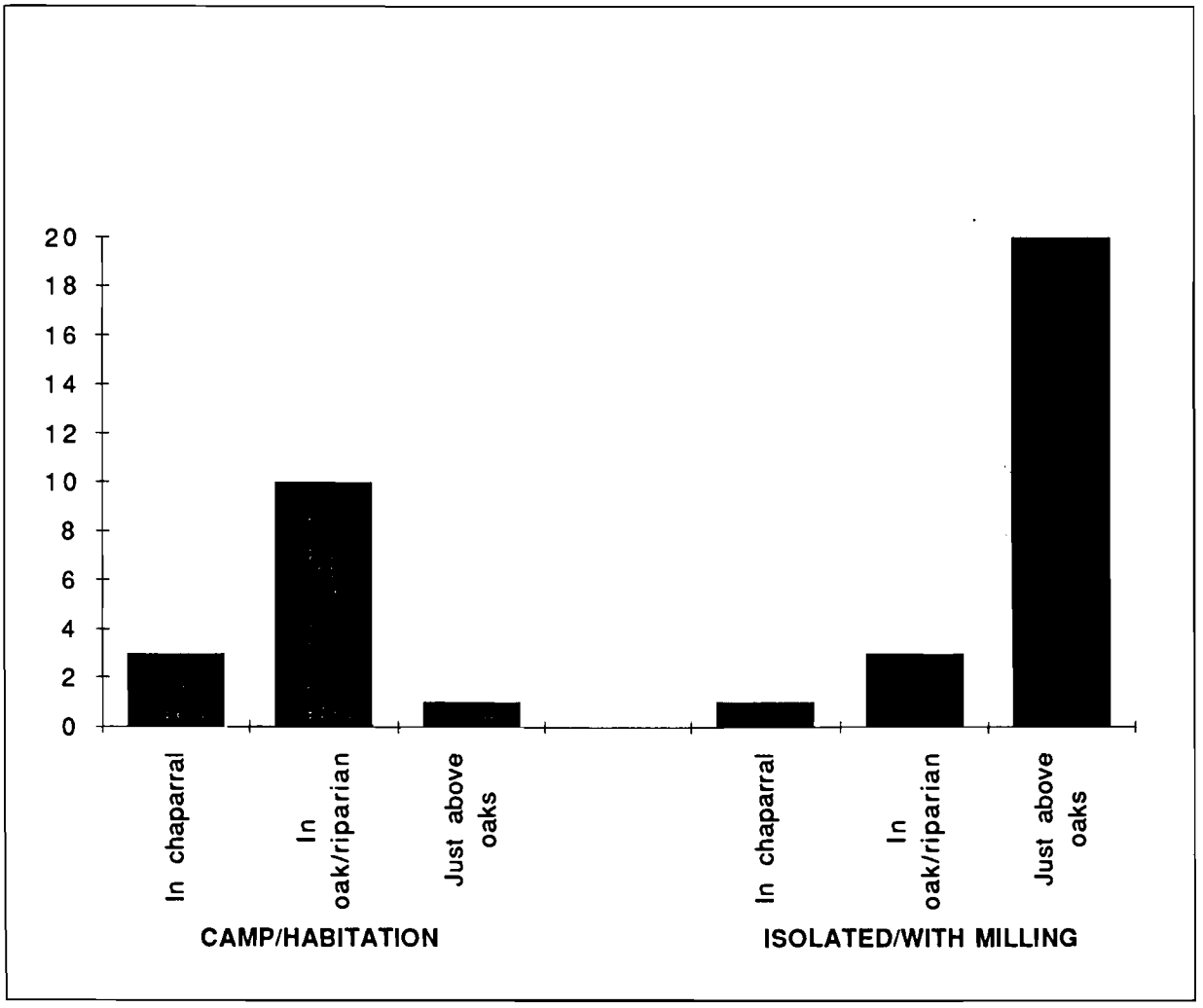

Figure 3. Site type in relation to vegetation.

into net-like bags for carrying back to the village (Shipek 1970). According to White, the acorns were then placed in granaries within the village, frequently near each group or family's house. Bean (1972:55), however, stated that granaries are in villages but "some are hidden just outside". And Spier (1923:334) noted that: "Acorns are gathered by women in their carrying nets and dumped into the storage baskets in the groves on the hills."

When we look at the archaeological reconnaissance work done in San Diego, we see definite patterns relating to vegetation and location that vary depending on the type of site involved. This is also true in regard to the presence of bedrock milling in association with these rings. When inside a camp, the likelihood of bedrock milling with the granary bases is extremely high. When away from camps or habitation sites, the likelihood of milling in association goes way down to about a one in four chance.

The issues raised in this paper are many and some are quite complex. No absolute proof is given that these rings are in fact granary bases. Figure 1 goes a long way in supporting this idea however. The sites in our surveys are not that different than previous sites listed in previous reports. To my knowledge, however, this information has never been synthesized. Hopefully, with a new understanding of granaries and their placement within sites and within the natural environment, a greater recognition of both their form and their function can be attained.

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