



## More than acorns and small seeds: A diachronic analysis of mortuary associated ground stone from the south San Francisco Bay area

Tammy Y. Buonasera

School of Anthropology, University of Arizona, Tucson, United States

### ARTICLE INFO

#### Article history:

Received 23 September 2012

Revision received 23 January 2013

#### Keywords:

Ground stone

Manufacturing cost

Use-wear

Gender

Status

Feasting

Ritual

Complex hunter-gatherers

Central California

### ABSTRACT

The archaeological record of central California contains a rich variety of ground stone milling tools—from highly expedient cobble tools to large ornate mortars and finely finished pestles more than half a meter in length. Historical trends in research objectives, along with assumptions about the entirely mundane character of ground stone tools, have caused much of the variability and many “extra-utilitarian” aspects of these artifacts to be overlooked. This study analyzed grave-associated ground stone from the southern San Francisco Bay Area and employed use-wear analysis (macroscopic and microscopic) and morphological comparisons to investigate potential distinctions in form, manufacturing effort, use, and association over approximately 6000 years of prehistory. Ground stone morphologies, patterns of use-wear, and the way that ground stone was interred with people changed between the earliest and the latest periods analyzed in this study. During the Late Holocene, ground stone underwent a diversification of form and perhaps purpose. An overtly symbolic dimension associated with mortars and pestles seems to emerge with the addition of highly formalized and expensive flower-pot mortars, very long shaped pestles, and additional embellishments such as shell bead appliqué and painted designs. Large, costly, highly formalized, and embellished mortars exist alongside smaller, less costly, less formalized milling tools. Archaeological and ethnographic evidence supports the inferred association of certain mortars with feasting and ritual activities. Differences in the representation of some of these forms in male and female graves may reflect changes in the roles of women and men in community ritual and politics.

© 2013 Elsevier Inc. All rights reserved.

### Introduction

Throughout prehistory, ground stone milling tools have played a crucial role in increasing both the quantity and repertoire of available foodstuffs. Hence, it is reasonable that many ground stone analyses focus on which types of resources were processed with these tools. Use-wear analysis, morphological-functional analogies, and residue studies of mortars, pestles, milling slabs, and handstones<sup>1</sup> provide important clues about the relative importance of certain types of plant resources and how they were processed in the past. A dietary emphasis has been especially prominent in central California, a region where later, more sedentary “acorn” economies are associated with mortars and pestles, and earlier, more mobile populations are associated with grinding slabs and small seed utilization. While information about subsistence is important for understanding past life ways, ground stone tools may be able to tell us more than whether people were processing

<sup>1</sup> E-mail address: [tyb@email.arizona.edu](mailto:tyb@email.arizona.edu)

<sup>1</sup> Throughout this paper, the terms “grinding slab”, “milling slab”, and “metate” are used synonymously to indicate the lower stone of a pair of processing tools used predominantly for grinding. Likewise, the terms “handstone” and “mano” are used interchangeably to indicate the upper stone of this pair.

a lot of acorns or mostly small seeds. Social and ideological conditions surrounding changes in subsistence labor are likely to have affected patterns of manufacture, use, and distribution of food processing tools.

At contact, central California was occupied by relatively dense populations of hunting and gathering peoples with a degree of social complexity more commonly associated with horticultural or some agricultural economies. Acorns were an important staple throughout much of contact period California, and use of this resource has been credited with supporting larger populations (Baumhoff, 1963) and increasing the amount of labor expended on subsistence pursuits (Basgall, 1987). When and why people shifted from more mobile subsistence economies to ones that were dependent on the storage and processing of acorns are questions of long-standing importance in central California archaeology (Basgall, 1987; Heizer, 1949; Schulz, 1981).

The current picture of population growth, increased sedentism, and resource intensification through time posits that increased processing labor associated with the intensified exploitation of plant foods, especially acorns, was absorbed primarily by women (Jackson, 1991; Jones, 1996; McGuire and Hildebrandt, 1994; Willoughby, 1963). Social and ideological changes must have occurred along with increased demands on female labor and

emerging social stratification, and the very tools central to these economic and social transformations may in turn reflect some of those changes in their design, manufacture, and ownership. This study explores diachronic changes in design, manufacturing effort and uses of ground stone tools along with their association with men and women in the San Francisco Bay Area. Mortuary contexts provide an opportunity (albeit imperfect) for connecting ground stone artifacts to different members, or portions of society – especially in a region where distinct features such as preserved house floors and well defined activity areas are in short supply.

Ground stone processing tools interred in burials at five sites in the southern San Francisco Bay Area (CA-ALA-329, CA-SCL-38, CA-SCL-65, CA-SCL-287/SMA-263, CA-SCL-354—see Fig. 1) spanning approximately 6000 years of prehistory were analyzed. Initially, distinctions were sought among broad groups of processing tools by comparing artifact morphologies and microscopic and macroscopic patterns of use-wear. This information was then used to investigate potential social and gender-based distinctions in artifact design, manufacturing effort, and use over time. Diachronic changes in form, raw material choice, use-wear, and mortuary association are apparent. Most striking, perhaps, is the late addition of large finely made grinding tools and some mortars embellished with shell bead appliqué, or painted with red, black and white pigments. Archaeological and ethnographic data suggest that certain mortars could provide durable markers of feasting in central California.

#### Archaeological and theoretical background

Ground stone milling tools are associated with some of the earliest dates for human activity in the San Francisco Bay Area. Charcoal found beneath an inverted grinding slab at CA-CCO-696, east of Mt. Diablo, has been dated to 7920 cal BC (Meyer and Rosenthal, 1997; Milliken et al., 2007, p. 114). This artifact is associated with an early Millingstone component. The Millingstone tradition (also known as the Millingstone Horizon), is marked by accumulations of grinding slabs and handstones (metates and manos), many core and cobble tools, and very few formal flaked tools. The Millingstone Horizon was originally identified in Early and Middle Holocene contexts in southern California (Wallace, 1955; Warren, 1968; True, 1958) and has since been described in central and northern California (Fitzgerald, 1993; Fitzgerald and Jones, 1999). Millingstone components with early dates have been identified at several sites in the southern Bay Area (e.g., 6000 cal BC at SCR-177 in Scotts Valley, and 7500 cal BC at SCL-178 in Santa Clara; Jones et al., 2007). Large accumulations of ground stone and other processing tools in Millingstone sites are believed to represent multiple short-term procurement and processing events by small groups of mobile foragers (McGuire and Hildebrandt, 1994). Due to a lack of preserved site structure, and accumulations of the same limited array of processing tools across a variety of ecological zones, some authors propose that the Millingstone tradition

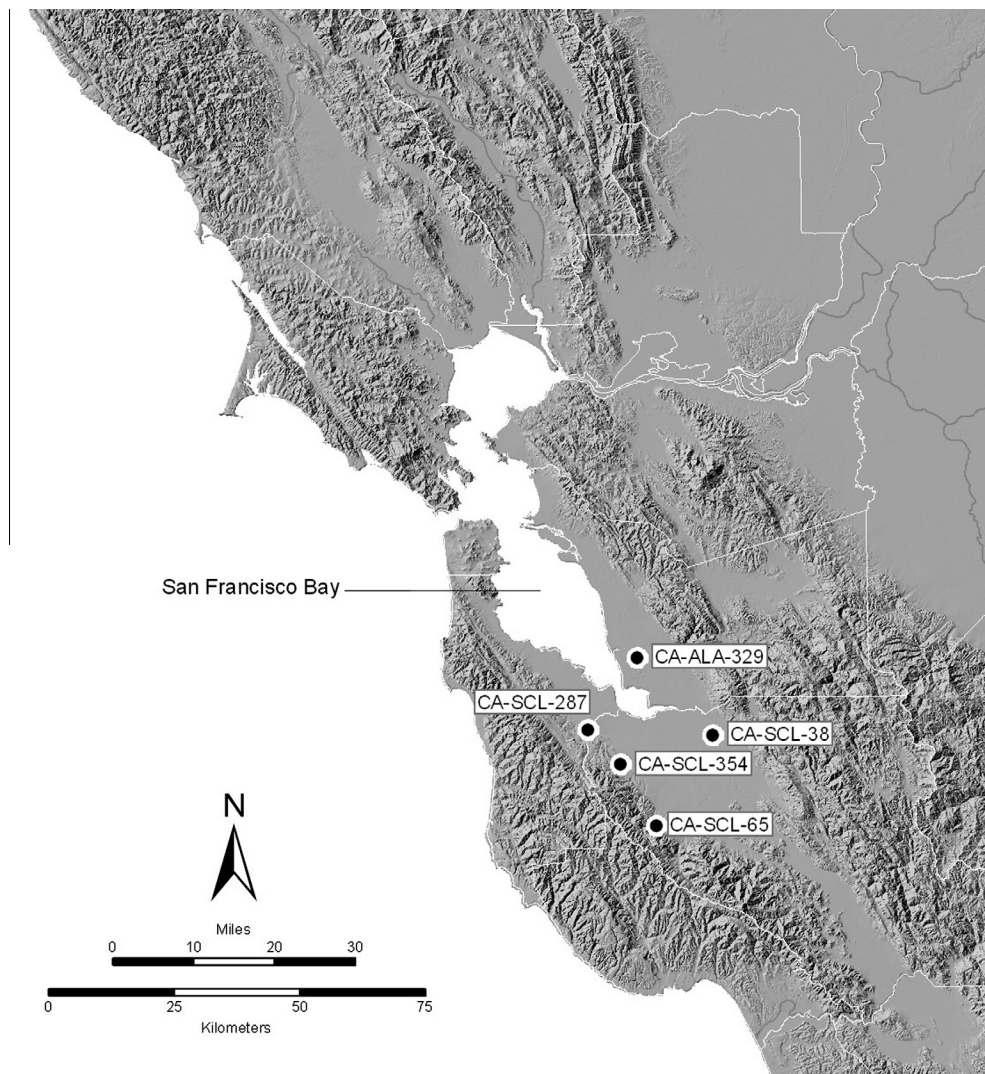


Fig. 1. Map of the San Francisco Bay Area of California with sites included in the study.

Download English Version:

<https://daneshyari.com/en/article/10498731>

Download Persian Version:

<https://daneshyari.com/article/10498731>

[Daneshyari.com](https://daneshyari.com)