BUSSING TABLES AND STACKING PLATES: A BRIEF REVIEW OF CENTRAL CALIFORNIA CHARMSTONES AS CULTURAL TRACERS

Peter T. Rhode
3008 Filbert St.
Antioch, California 94509

ABSTRACT

Rather than attempting to equate charmstones with shell beads as a reliable factor in determining temporal sequences, it seems useful to suggest that charmstones are uniquely representational of special relationships between cultures of two or more localities, no matter how distantly separated they may be from each other. Shell beads and ornaments can distinguish reliably certain social usages or vogues at a given phase in time within a "complex whole" (Bennyhoff 1986:68). Geographic distributional patterns of a whole range of shell bead and charmstone types resemble each other, and the latter especially point to some sort of spiritual unity within a wide area in central California.

Introduction

My prolonged interest in charmstones of central California has focused on three areas of inquiry. The first centers on the presumed function of these objects; second, on economic factors including raw material relationships and manufacturing processes; and finally, and of primary concern in this paper, site to site formal variation of charmstones. It is suggested here that distinct stylistic expressions of principal charmstone types, specifically body and end modification(s) and raw material selection shared by two or more sites can reflect direct cultural relations. One of the unique aspects of charmstones is their discrete pattern of distribution. From this standpoint we are able to follow a special tradition and its application. With further typological analysis, stylistic conformity (or non-conformity) and raw material relationships may prove to be reliable prospects in tracking continuity and cultural diffusion within respective time periods across a participatory realm.

Some Problems Spawned Out of Context and Form

Several ambiguities derived from functional and contextual aspects of charmstones have hampered their reliability as time-markers. In brief reference to function, considerations of physical appearance of the objects vs. ethnographic observation have drawn supporters towards either side, although more recently consolidation of profane vs. sacred connotations has come about (Gerow with Force 1968:77; Bickel 1981:247). Archaeologically, charmstones have not thus far met the early expectations that researchers held (Kroeber 1936:114). They are often found within site levels without diagnostic associations and randomly included as grave items in Berkeley and Augustine Pattern interments in central California. As time-markers, only charmstones from the Windmiller Pattern have adequately fulfilled a substantial role in determining cultural sequences at least in early periods. Sonja Ragir's phasing of the Windmiller Culture (with valuable aid from J. A. Bennyhoff) depended heavily on charmstone seriation, although it was overshadowed (but affirmed) by her emphasis on statistical analysis of projectile points (Ragir 1972:105).

One other misleading aspect centers around "heirlooming." Heirlooming, as defined here, is a principal type that by either inheritance, exchange, or scavenging, may defy accurate temporal assignments. For example, perforated spindle charmstones common to the Windmiller Pattern found in sites of a later time period (e. g., Heizer 1949:19 - a Ragir Type A charmstone recovered at the Hotchkiss mound, CCo-138), or conversely, plummet-shaped "objects" being found in Early Period components and sometimes beyond what is regarded as the "core area" (e. g., Harrington 1948:95; Wallace 1954:114). Such ambiguities as enumerated above may indicate a change over time concerning usage. In other words, following the termination of the Windmiller Pattern, borrowing from Phebus (1973:29), "it would seem their function, whatever, was more relative to the living than the dead."

Early Specialization of Charmstone Types

Notwithstanding these limitations, locality specialization of charmstone types appears to have blossomed out from Windmiller Pattern cultural practices. Marble or alabaster charmstones, primarily Ragir's Type C, were particularly popular at Windmiller sites mostly situated along the Mokelumne River (e. g., SJo-56 and SJo-68). Meanwhile, Type A charmstones of blue glaucophane schist were prominent at Cosumnes River localities (e. g., Sac-107 and Sac-168; c.f. Ragir 1972:100). Heizer (1974:186) offers two possible explanations for this inequity: (1) "That the inhabitants of each village were not in communication with the others." (2) "Each village had developed its own and distinctive charmstone form." Elsasser and Rhode (n.d.) have suggested that "characteristics such as 'piled' or 'phallic' end modification was part of a common frame of reference (i.e. principal type) that was shared by some or many groups in places sometimes distantly removed from each other." In consideration of Heizer's latter suggestion, however, it seems reasonable to propose that

Proceedings of the Society for California Archaeology, 1996, Vol. 9, pp. 228-244.

local specialization of charmstones was, in fact, intentional deviation from the so-called "common frame of reference," and although its cultural significance today remains uncertain such differentiation within Central California was perhaps seen either as a medium for social distinction or cultural conveyance of some sort of sumptuary law.

As to the proposition that separated Windmiller localities were not in contact with each other, it seems highly probable that they would have crossed paths assuming that Mokelumne inhabitants ventured eastward to the Sierra foothills obtaining marble while those living along the Cosumnes River were exploiting the North Coast Ranges for schist. After all, both the quarries and Windmiller sites are almost directly aligned at approximately the same latitude. It is indeed curious that marble and alabaster, with the potentiality for becoming such beautiful charmstones, fell out of vogue at the termination of the Windmiller Pattern, while schistose material continued to be utilized. The "fall-off" of marble and alabaster usage somewhat coincides along with the gradual "collapse" of obsidian procurement from Sierran quarries (Ericson 1982:144) and points to a loosening of commercial engagements between Windmiller localities and their Sierran contacts, in turn to more formalized valley and coastal orientated exchange alliances.

Close Encounters of the First Kind?

It has been an intriguing question why Windmiller charmstones were so well-established and so unusually beautifully crafted, considering that they fall in the beginning rather than the end of the traditional central California archaeological sequence. Was the charmstone trait an innovation conceived by Windmiller inhabitants? The presence of Windmiller-style charmstones turning up as surface finds at sites in the Petaluma and Sonoma River Valleys in southern Sonoma County presents several interesting questions: Is this an indication of direct social and commercial relations between both districts? Perhaps this represents a segment of Windmiller population diffusion into the Sonoma River Valley region? Or is this merely an example of charmstone heirlooming? Since schistose or other talcy raw materials for Windmiller charmstones were obtained from outside of the stoneless flood plains of the Mokelumne and Cosumnes Rivers, it seems that quarries in the North Coast Ranges were among those particularly utilized. Applying modern sourcing techniques similar to that used for obsidian hydration to schistose charmstones from each region and to PCN-laden schist "knockers" and other potential quarry boulders in southern Sonoma and Marin Counties may someday confirm these speculative associations.

Charmstones found in southern Sonoma County are not strictly isolated to a single sub-type familiar to the Windmiller assemblages. Samples analogous to types A, B, and E in the Ragir typology (1972:288-89) have also been collected. Type A specimens have a unique "swelling" around the center body, and to my knowledge have not heretofore been reported being found outside of the Delta district. It should be noted, however, that A types from Sonoma sites do not exhibit the distinctive "narrow, flat cross-section" common to those from Windmiller sites.

In addition, Excelsior and large concave base obsidian projectile points are also present with the perforated charmstones and represent another trait shared with Windmiller. In fact, nearly all of the projectile points from the Blossom site illustrated in Ragir's plate 3 (1972:297) are close analogs to those commonly found in fairly large numbers in the Petaluma and Sonoma River Valley region. However, hydration measurements of several concave base points found on the surface at Son-1903 averaged 3.5 microns (Origer 1991), thus indicating an apparently later position in time than the Windmiller period (ca. 3000 to 800 B.C.). This small, almost random, sample may not be significant however. From the same general vicinity Phebus (1990:139) reported hydration measurements of points ranging from 1.8 to 5.7, but noted that discoloration and weathering of specimens made "obsidian hydration dating of this site largely unsuccessful" (Phebus 1990:169).

Stylistic Variation of Early Berkeley Pattern Charmstones

Charmstones found in the lowest levels at West Berkeley (Ala-307), Patterson (Ala-328), and at University Village (SMa-77) along San Francisco Bay are not altogether "close" counterparts of those from Windmiller sites. True, "Early Period" Bay types are mostly perforated, symmetrical, and constructed of like material (mostly schist), but the similarities end here. They do not reflect the "ceremonial aspect of life" (Heizer 1949:31) as suggested by the highly polished and ornamental Windmiller spindle charmstones, but instead, are better represented by two separate and distinct types.

The first example bears an effigy-like resemblance to fish, with some specimens exhibiting flared ends similar to a fish's caudal fin. It can also be observed in most specimens that the perforation and over-the-end groove resemble an animal-like head. In order to avoid possible confusion between true spindle forms and the just-described Bay variant, it is suggested that these should be typologically segregated. Thus, the term "fishform" is proposed when such a refinement is warranted.

The second type, often appearing concurrently with fishforms in Early Bay components, is the perforated oval charmstone. Oval-forms found in the Bay Area seem ideal for uses such as sinkers or line weights. Gerow with Force (1968:80) suggest that perforated charmstones found in Early components around San Francisco Bay were modified successors to the so-called "edge-notched stones." Both types were found at Ellis Landing (CCo-295), Stege (CCo-300), and at West Berkeley (Ala-307). Similar oval analogs also occurred quite profusely around the Buena Vista Lake region in the southern San Joaquin Valley. Oval types found in the Bay Area and lower San Joaquin Valley more often bear what has been called a utilitarian appearance, complete with chips and scars. Oval charmstones from the Windmiller Pattern are typically well-made, highly polished, and made of marble, alabaster, and schist—once again, adhering to an apparently consistent aesthetic sense. (Compare [Bay Area] Davis and Treganza

1959:pl. 3 e,f,g,m; Gerow with Force 1968:191 D,G; Heizer 1953:pl. 33 L; Loud 1924:pl. 19 #8-12; Schenck 1926:pl. 53 A-C; Wallace and Lathrap 1975:pl. 4 a,b,c,f; [Delta] Ragir 1972:289 B3, B6; [San Joaquin Valley] Gifford and Schenck 1926:pl. 22 A-M).

The perforated fishform charmstone, in my opinion, is the Bay Area's equivalent to the Windmiller spindle-types and first appears early on during the Stege Aspect of the Berkeley Pattern. The fish-like emphasis on Bay charmstones compared to the elegant spindle forms from the Windmiller District perhaps reflects an interesting psychological dichotomy between the two cultures; Early Bay inhabitants as an economical-minded, industrious group in contrast to a more cosmopolitan-like Windmiller community.

Phallic Charmstones and Their Significance

One of the most interesting types considered here is the phallic charmstone. Ragir (1972:176, 263) notes that phallic types first appear in phase 5 components in Windmiller sites. From the San Francisco Bay region, Davis and Treganza (1959:17) report that phallic charmstones were found in the basal component level (116 inches) at the Patterson Mound (Ala-328), two of which were associated with burials. Wallace and Lathrap (1975:25) reveal that perforated charmstones (viz. phallic charmstones) were recovered from the "7 to 16 foot levels" at West Berkeley (Ala-307), although they do not list exact proveniences for individual types. Although we cannot pin down conclusively from which district phallic charmstones appeared first, the introduction of this type was evidently one of the earliest cultural links between Bay, North Bay, and Windmiller inhabitants (Sac-107 and Sac-168 at least).

Windmiller and Berkeley Pattern phallic forms reflect a blend of characteristic traits introduced from both localities, including bi-polar symmetry, proximal up-and-over-end groove, distal end modification, and variation in size.

Incidentally, out of the several charmstones recovered from the Borax Lake (Lak-36) site, one schistose specimen in particular stands out (Harrington 1948:pl. XXV f). Perhaps incipient, it certainly bears enough of the distinguishing attributes to qualify as being phallic. The specimen is listed as the deepest of all those recovered, from a depth of sixty-five inches.

A General Shift Towards Asymmetric Charmstone Types

During the Middle Period, non-perforated, asymmetric forms eventually replace Windmiller/Early Berkeley Pattern perforated symmetric types, exemplifying further coalescence with Berkeley Pattern traits. In fact, a general shift towards asymmetry can be recognized in projectile points and shell ornaments as well. An increased presence of asphaltum on the stem and neck ends of charmstones at sites along San Francisco Bay may have had some profound influence on size and shape. Bay types are generally more ponderous and present a broader range in size than Sacramento Valley types. Very close similarities are seen in charmstones from Bodega Bay (Son-299) and at sites in the Sonoma and Petaluma Valleys. A tendency for "clustering," whereby certain localities practiced unique stylistic variations of principal types, becomes more and more evident throughout central California.

Large amounts of raw material debitage, including slabs, spalls, preforms, shaping and polishing tools, incipient charmstones, as well as unusually large quantities of finished specimens found in Sonoma County at Son-371 (Elsasser and Rhode n.d.), in Solano County at Phebus's Nakamura site (Phebus 1990:56), in Alameda County at Ala-329 (Coberley 1973:56ff; Wilson 1994:103ff.), and at several sites in the San Joaquin Valley (Roehr 1992) possibly indicates that about during phase 1 of the Augustine Pattern, production and distribution of charmstones was regulated within respective districts.

The Piled Plummet Phenomenom

About at the time of transition from Berkeley into Augustine Pattern, a remarkable efflorescence in both stone and shell production is discernible in the artifact assemblages. It was about here when a distinctive tradition seems to have come into vogue that placed unique secondary nippling on the distal end of plummet charmstones. Exactly where the piled-plummet complex first came about is unclear; nevertheless, the closeness in physical appearance of specimens within its core-area indicate a popular convention that was industriously followed. A path of location of sites, beginning arbitrarily from San Francisco Bay particularly at Crocker Mound (SFr-7), crosses the Bay to the Ryan (Ala-329) and Emeryville (Ala-309) localities, leads east to Glen Cove (Sol-236) on the Carquinez Straits, skirts Suisun Bay and its associated sloughs (Lindsey Slough site, Sol-2 is noteworthy), into the Delta at Hotchkiss (CCo-138), and ultimately south into the San Joaquin Valley, especially in the Tulare Lake region (e. g., compare Gifford and Schenck 1926:pl. 20; Lillard *et al* 1939:pl. 31 d-f; Wilson 1994:pp. 138-41).

It should be noted that one other principal type, the biconical asymmetric spindle, with its maximum diameter characteristically off-center, often appears in conjunction where piled plummet charmstones are found at sites in the Bay Area. Remarkably similar incised grooving style on similar charmstone types seemingly point to close cultural relations between Hotchkiss, Lindsey Slough, and Glen Cove localities.

Piled-plummet charmstones appear about at the same time along with angularly serrated arrow points, steatite and baked clay objects, bilateral bone harpoon heads, and geometric Haliotis shell ornaments. Taken as a whole, the assemblage reflects broadening sociocultural development which seemingly flowered on the heels of a receding Meganos Aspect. Based on the charmstone data alone, we can envision a shoreline conduit where raw and finished material goods were passed along, ebbing and flowing, ultimately throughout central California. Close affiliations of artifact types are seen between Bay and Valley peoples, with inlanders relying heavily on the coastlanders for shell and stone imports—materials needed in subsistence activities, and certainly in the social and spiritual lives of the people as well.

REFERENCES CITED

Bennyhoff, James A.
1986 The Emeryville Site, Viewed 93 Years Later. In *Symposium: A New Look at Some Old Sites* edited by Gary S. Breschini and Trudy Haversat, pp. 65-74. Coyote Press Archives of California Prehistory Number 6. Salinas.

Bickel, Polly McW.
1981 *San Francisco Bay Archaeology: Sites Ala-329, Ala-13, and Ala-312.*. Contributions of the University of California Archaeological Research Facility 43. Berkeley.

Coberley, Mary B.
1973 *The Archaeology of the Ryan Mound, Site Ala-329, A Central California Coastal Village Site.* Occasional Publications in Anthropology and Archaeology Series No. 4. University of Northern Colorado.

Davis, James T., and Adan E. Treganza
1959 The Patterson Mound: A Comparative Analysis of the Archaeology of Site Ala-328. *Reports of the University of California Archaeological Survey* 47:1-92. Berkeley.

Elsasser, Albert E., and Peter T. Rhode
n.d. Further Notes on California Charmstones. In press. Manuscript in possession of authors.

Ericson, Jonathon E.
1982 Production for Obsidian Exchange in California. In *Contexts for Prehistoric Exchange*, edited by Jonathon E. Ericson and Timothy K. Earle, pp. 199-211. Academic Press, New York.

Gerow, Bert A., with Roland B. Force
1968 *An Analysis of the University Village Complex with a Reappraisal of Central California Archaeology.* Stanford University Press, Stanford.

Gifford, Edward W., and W. Egbert Schenck
1926 Archaeology of the Southern San Joaquin Valley. *University of California Publications in American Archaeology and Ethnology* 23. Berkeley.

Harrington, Mark R.
1948 An Ancient Site at Borax Lake, California. *Southwest Museum Papers* No. 16. Los Angeles.

Heizer, Robert F.
1949 The Archaeology of Central California: The Early Horizon. *University of California Archaeological Reports* No. 12(1). Berkeley.
1953 The Archaeology of the Napa Region. *University of California Archaeological Reports* No. 12(6). Berkeley.
1974 Studying the Windmiller Culture. In *Archaeological Researches in Retrospect* edited by Gordon R. Willey. Winthrop Publishers, Cambridge.

Kroeber, Alfred E.
1936 Prospects in California Prehistory. *American Antiquity* 2:109-116.

Lillard, Jeremiah B., Robert F. Heizer, and Franklin Fenenga
1939 An Introduction to the Archaeology of Central California. *Department of Anthropology Bulletin* No. 2. Sacramento Junior College.

Loud, LLewellyn L.
1924 The Stege Mounds at Richmond, California. *University of California Publications in American Archaeology and Ethnology* 17:6. Berkeley.

Origer, Thomas
1991 Letter Report. Unpublished hydration analysis in author's possession.

Phebus, George
1973 Contributions to Costanoan Archaeology: Archaeological Investigations at 4-Ala-331 and 4-SMa-22. *Treganza Museum Papers* 12:1-75. San Francisco.
1990 *Archaeological Investigations in the San Pablo-Suisun Bay Region of Central California.* Privately printed, Astoria, Oregon.

Ragir, Sonia
1972 The Early Horizon in Central California Prehistory. *University of California Archaeological Research Facility Contributions* 15. Berkeley.

Roehr, Phil
1992 Personal Communication.

Schenck, W. Egbert
1926 The Emeryville Shellmound: Final Report. *University of California Publications in American Archaeology and Ethnology* 23 pp. 147-282. Berkeley.

Wallace, William J.
1954 The Little Sycamore Site and the Early Millingstone Culture in Southern California. *American Antiquity* 20:112-123.

Wallace, William J., and Donald W. Lathrap
1975 West Berkeley (Ca-Ala-307): A Culturally Stratified Shellmound on the East Shore of the San Francisco Bay. *Contributions of the Archaeological Research Facility* 29. Berkeley.

Wilson, Glen B.
1994 *The Archaeological Collection from CA-Ala-329, the Ryan Mound, Alameda County, California.* Coyote Press Archives of California Prehistory 39. Salinas.

Table 1. Distribution of charmstones in significant sites or areas in Central California.

Type	Ala-307[1]	Ala-309[2]	Ala-328[3]	SJo-68[4]	Sac-107[5]	San Joaquin Valley[6]	Son-371[7]
Oval	28 (.66)	4 (.11)	1 (.01)	-	-	37 (.19)	6 (.02)
Phallic	4 (.10)	-	14 (.23)	-	4 (.09)	-	13 (.05)
Piled Plummet	-	13 (.36)	8 (.14)	-	-	88 (.46)	-
Plummet	3 (.07)	11 (.31)	8 (.14)	1 (.01)	-	14 (.08)	173 (.63)
Squat	1 (.02)	1 (.01)	6 (.10)	-	-	10 (.05)	10 (.04)
Round	1 (.02)	-	1 (.01)	-	-	20 (.10)	29 (.11)
Spindle Asymmetric	2 (.04)	-	6 (.10)	73 (.97)	41 (.87)	22 (.11)	10 (.04)
Spindle Longitudinally	3 (.08)	7 (.19)	15 (.25)	-	-	-	5 (.02)
Grooved	-	-	-	1 (.01)	1 (.01)	-	9 (.03)
Fishform	1 (.02)	1 (.01)	1 (.01)	-	1 (.02)	-	12 (.04)

1 Wallace and Lathrap 1975
2 Schenck 1926
3 Davis and Treganza 1959; Bickel 1981
4 Ragir 1972
5 Heizer 1949; Ragir 1972
6 Gifford and Schenck 1926; Wedel 1941
7 Son-371 totals from private collections or records

Note- in parentheses are percentages of types compared with total number of specimens recovered in each site or locality.

Table 2. Principle Types with Known Distributions.

Type O: Oval Charmstones-
Oval, egg, diamond, or rectangular in shape and cross-section. Ca. 6–12 cm. length. Usually perforated at one end. Not always symmetrical. Incorporated into Type O are "lemon stones" commonly found in Northeastern California and the Great Basin. Crude and sturdy construction may indicate a utilitarian function compared to highly polished and unbattered perforated Windmiller Pattern specimens.

Comments-
Key identifying feature is the lack of a neck, stem, or pile. The main representative of the Oval class is a perforated, roughly made specimen, commonly found in southern Sonoma County and the San Joaquin Valley. Many have an "over-the-top" groove above the perforated end.

Synonyms-
"Sub-cylindrical," "net sinker," "bola stone," "lemon stone."

Typology concordance-
Beardsley: Type III Ragir: B 6
Davis: IAI Gifford and Schenck: D

Temporal assignment-
Early–Middle Berkeley (Bay Area)

Distributions-
Central Valley and Delta-
SJo-112, Bear Creek (Olson and Wilson 1964: fig. 5 c, e, f).
Sac-126, Booth Site (Lillard and Purves 1936: pl. 20 #4).
San Joaquin Valley-
(Gifford and Schenck 1926: pl. 22 A–M).
Napa and Sonoma Counties-
Nap-1, (Heizer 1953: pl. 33 l).
Son-371, (Private col.)
Bay Area-
Ala-307, West Berkeley (Wallace and Lathrap 1975: pl. 4 a, b, c, f).
Ala-309, Emeryville (Schenck 1926: pl. 53 a, c).
Ala-328, Patterson (Davis and Treganza 1959: pl. 3 e, f, g, m).
CCo-259, Fernandez (Davis 1960: pl. 2 k).
CCo-300, Stege (Loud 1924: pl. 19 #7–12).
Mrn-266, McClure (Beardsley 1954: pp. 49).
Mrn-357, 374, 391, San Antonio Creek (King et al 1966: pp. 13, 17, 68).
SMa-77, University Village (Gerow and Force 1968: pp. 191 G).
Great Basin/Northern California/Southern Oregon-
Lost River Circle, Oregon (Strong 1969: fig. 94 d).
Lovelock Cave, Pyramid Lake, Honey Lake, Sierra Valley, Modoc County, Siskiyou County (Johnson 1985: 284).
Pistol River, Oregon (Heflin 1967: pl. 7 M, O).

Type PH: Phallic Charmstones-
Unusual because of accurate representation of the human penis, c.f. apparent lack or crudity of human stone figurines in prehistoric central California. Found rarely in San Joaquin Valley but to the north may be the only type to be recovered from Early, Middle, and Late Period components. They are usually perforated at one end, and may have one or both ends evidently representing the human glans penis.

Synonyms-
"fascinus." (Latin)

Typology concordance-
Beardsley: Type VDavis: IB2a
Gifford and Schenck: Type C Ragir: Type E 1, 2.

Temporal assignment:
Early-Middle-Late Berkeley Pattern; Phase 3 to Terminal Windmiller.

Distributions:
Central Valley-
Sac-168, Sac-107, SJo-142, SJo-56, Rio Vista, Sac-16 (Ragir 1972: pp. 176;
Heizer 1949: fig. 10 a–f; Lillard et al 1939: Pl. 14 g, h, I).
North Coast Ranges-
(Blake 1873: fig. 1, 2; Rau 1889: fig. 319).
Eel River (Treganza et al 1950: pl. 12 j, k, m).
San Joaquin Valley-
Alpaugh Region (Seals 1992: fig. 1–2).
Los Banos Creek, Merced Co. (Private col.)
Santa Barbara Region-
Las Llagas (Hudson and Blackburn 1986: fig. 318.9-4).
Bay Area-
Ala-307, West Berkeley (Wallace and Lathrap 1975: pl. 4 h, e).
Ala-328, Patterson (Davis and Treganza 1959: pl. 3 l; Bickel 1981: pl. 11 f).
Ala-413, Santa Rita Village (Wiberg 1989: pl. 35 c, e).
Ala-329, Ryan (Wilson 1993: pp. 138 #1328).
CCo-30, La Serena (Fredrickson 1968: pl. 20 D).
CCo-295 Ellis Landing (nelson 1910: pl. 43 #4).
Mrn-242, Cauley (Beardsley 1954: pp. 50).
Mrn-275, Mendoza (Beardsley 1954: pp. 50).
Mrn-357, San Antonio Creek (Novato High School 1967: fig. 14).
SMa-77, University Village (Gerow and Force 1968: fig. 5 F).
Santa Clara Valley, Alviso (Private col.).
Sol-236, Glen Cove (Beardsley 1954: pp. 96).
Son-371 (Private col.)
Sonoma River (Private col.).
Great Basin-
(Strong 1969: fig. 84).
Pyramid Lake (photo courtesy of Dan Foster, USFS).
United States-
New York, Brewerton phase (Ritchie 1965: pl. 29).
Colorado, Magic Mountain (Irwin-Williams/Irwin 1966: pp. 157).

Type PP: Piled Plummet Charmstones-

Piled plummet charmstones usually have a bulbous "tear-drop" body at one end, that gradually tapers evenly inward to the opposite tip, forming a long, narrow, sometimes delicate, stem. This tapering gives such charmstones a "giraffe neck" appearance. Some sub-types may lack bulbous body. Many long necked varieties are finely polished. Piled plummets are usually found at sites along major watercourses and particularly common in the Tulare Lake area.

Synonyms-

"Knob piled plummet," "pendular."

Typology concordance-

Beardsley: I b Davis: IIBib, c
Gifford and Schenck: WBa2

Temporal assignment-

Late Period–Augustine Pattern.

Distributions-

Central Valley and Delta-
CCo-138, Hotchkiss (Lillard et al 1939: pl. 31 d).
Sol-2, Lindsey Slough (Dan Foster, pers. com. 1987).
San Joaquin Valley-
(Gifford and Schenck 1926: pl. 20 A–H; pl. 33 A–I, O, and Z; pl. 34 A to AB).
(Latta 1949: 206).
Bay Area-
Ala-309, Emeryville (Uhle 1907: pl. 10 #2; Schenck 1926: pl. 53 m–p).
Ala-328, Patterson (Bickel 1981: pl. 11 B).
Ala-329, Ryan (Coberly 1973: pl. II f–I; pl. III h–I; Wilson 1993: pp. 107,
115, 122, 128, 131, 138, 141, 144, 148, 149, 150, 151).
Ala-330, Newark (Phebus 1973: fig. 6, 7).
CCo-30, La Serena (Fredrickson 1968: pl. 21 g).
CCo-259, Fernandez (Davis 1960: pl. 2 j).
CCo-295, Ellis Landing (Nelson 1910: #1, 5).
SCl-343, San Jose (Private col.)
SFr-7, Crocker (Heizer ed. 1978: 42).
SFr-356, Castro (Beardsley 1954: pp. 92).
Sol-2, Lindsey Slough (UCMA col.)
Sol-236, Glen Cove (UCMA; Beardsley 1954: pp. 96).
Great Basin-
(Strong 1969: Fig. 46; 106 B).
United States-
Poverty Point, Louisiana (Ford and Webb 1956: fig. 33 d–o).

Type PT: Plummet-

Plummets fall between "spindle and "squat" forms and represent a broad variety of subtypes. Plummets have generally cigar to football-shaped bodies with a stem or necked end. They lack the ponderous body such as seen in Squat and Round types. Particularly common to the Bay Area and San Joaquin Valley. Rarely perforated. Most are crude in appearance, especially compared to other types.

Synonyms-

"Thunder stone (ceraunia)," "plumb-bobs," "fusos."

Typology concordance-

Beardsley: I A, IIAa Davis: IIBib Gifford and Schenck: WBa2 Ragir: D

Temporal assignment-

Berkeley and Augustine Patterns

Distributions-

Central Valley-
Sac-16, 66, 73, 151 (UCMA col.)
San Joaquin Valley-
Gifford and Schenck 1926: pl. 22 O, P, U; pl. 23 G, H, I; pl. 33 J–N).
Bay Area-
Ala-307, West Berkeley (Wallace and Lathrap 1975: pl. 4 p, r).
Ala-309, Emeryville (Uhle 1907: pl. 10 #1, 9; Schenck 1926: pl. 53 E, J, L).
Ala-328, Patterson (Bickel 1981: pl. II H; Davis 1959: pl. 3 a, b).
Ala-329, Ryan (Coberley 1973: pl. II e, j; Wilson 1993: pp. 103 (1123, 1161), 106 (1068), 108 (1524), 109 (1-74211), 119 (1693), 125 (2150), 133 (1305), 135 (29210, 29255, 74208, 74209, 136 (1614), 137 (1235), 139 (1953, 1999), 140 (1871, 1878, 1887, 1900, 1947), 145 (1111, 1175, 1135), 146 (1070, 1111A), 147 (2385, 2657), 148 (1258, 1965), 151 (1914, 1915).

Charmstone Typology

Principal Type	Description
O	Oval to Egg-shaped
PH	Phallic
PP	Piled Plummet
PT	Plummet
Q	Squat
R	Round
S	Spindle (symmetrical bipolar)
AS	Asymmetric Spindle
T	Longitudinally Grooved
U	Unique
V	Fishform
W	Boatstone

(Example: Plummet with neck and football-shaped body with traces of asphaltum= PT 3.16. a.)

Special Features

Modification to the end(s):	Modification to the body:
1. perforated (usually biconically grooved)	a. symmetrical spindle-to-football shaped (appearing on Plummet types only)
2. with pile (recurved end) often like "nipple"	b. tear-drop body
3. pronounced neck (larger than pile)	c. bottle-shaped body
4. fish-tail end (flattened/flared)	d. pronounced bulge at or near mid-section
5. long tapering proximal end (stem)	e. flanging or girdling
6. knobbed end	f. one side flat or concave, e.g. "Boatstone"
7. "lipped" end (like animal mouth, e.g. fish)	g. triangular or pendular
8. shallow incision or roughening at proximal end	h. stubby or diamond-shaped
9. tapering distal end	i. with central perforation
10. partial grooving, lengthwise (up and over end)	j. "soft stone" e.g. steatite
11. grooved transversely (partial or entire)	k. "hard stone" e.g. basalt or indurated sandstone
12. nipple or neck on pile	l. with inlaid beads
13. pointed end(s)	m. fine quality inlay
14. rounded end(s)	n. multiple longitudinal grooves
15. collared end(s)	
16. with traces of asphaltum	
17. faceted end(s)	

Endnotes:
* asterisk denotes specific features occurs twice (i.e. feature occurs at both ends)
Underline (e.g., PH*1) denotes miniature specimen

Elsasser and Rhode 1992

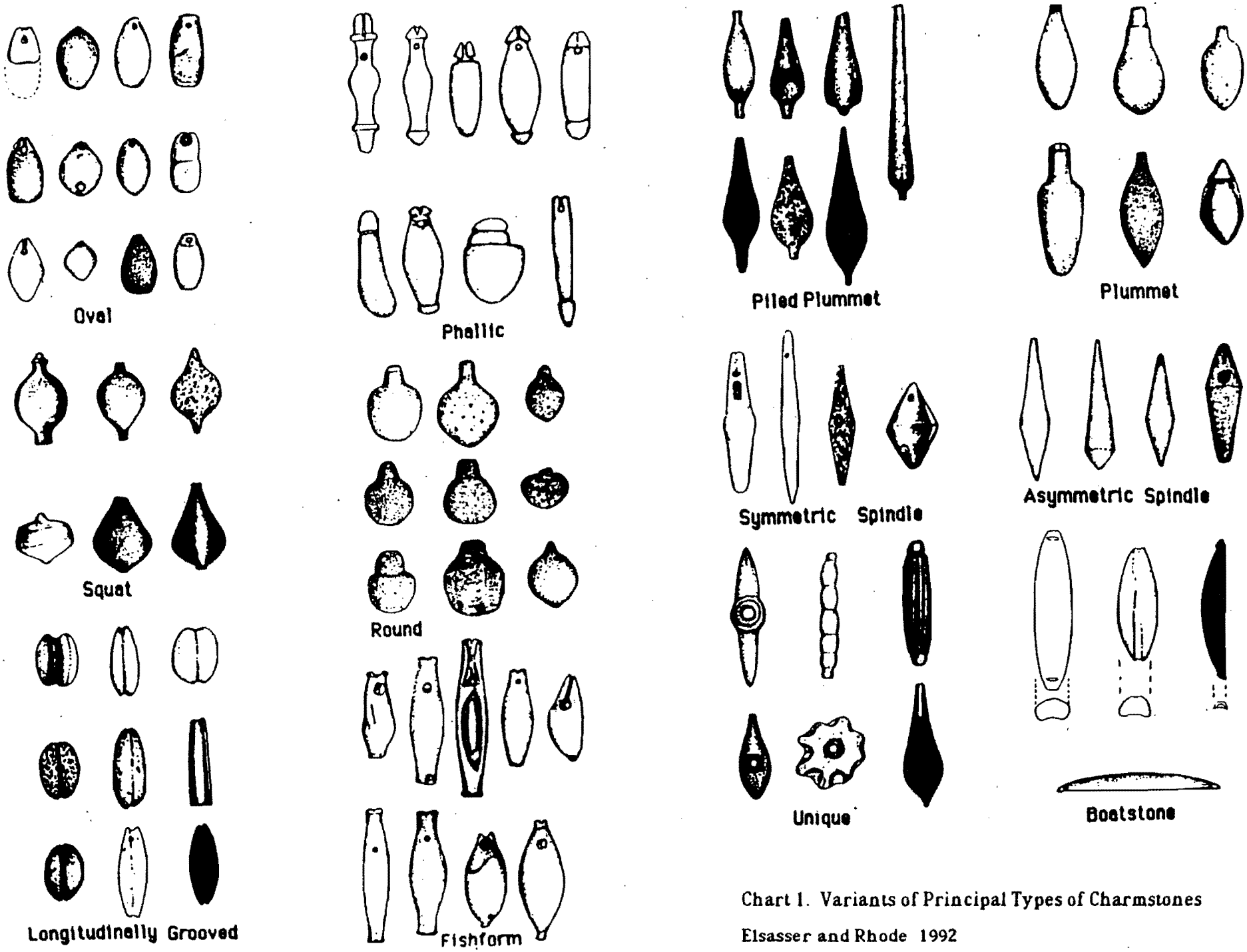
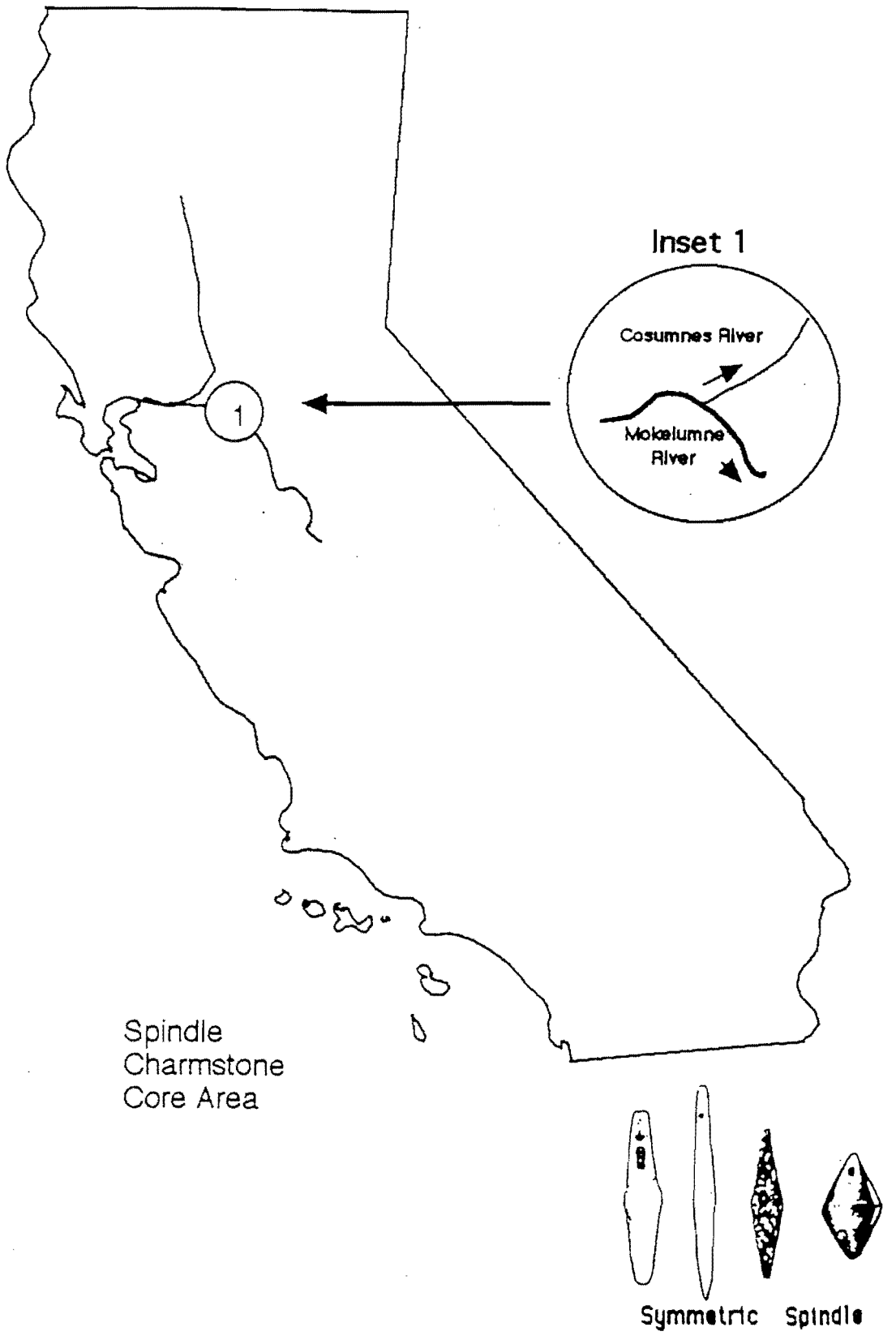
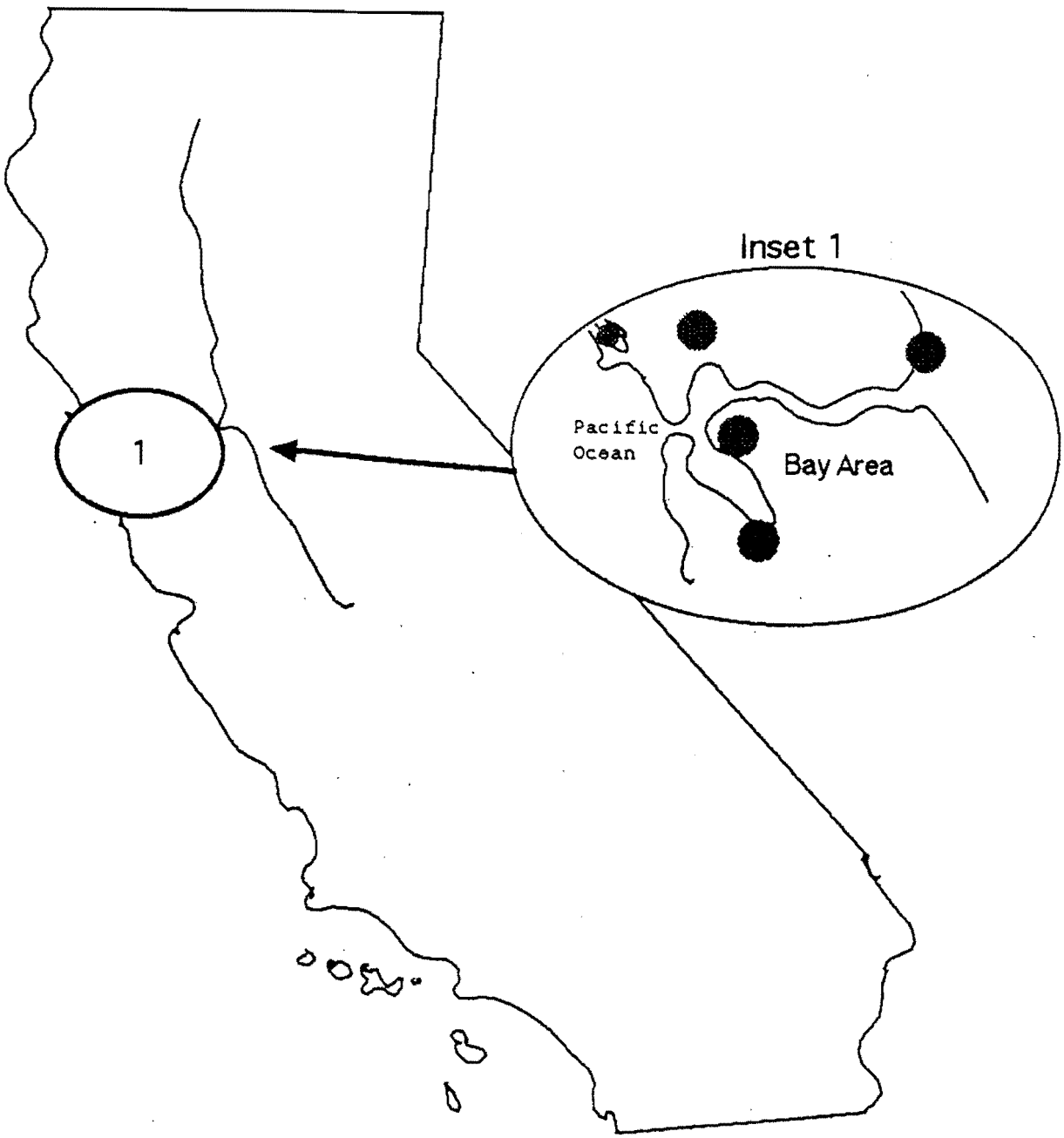


Chart 1. Variants of Principal Types of Charmstones

Elsasser and Rhode 1992

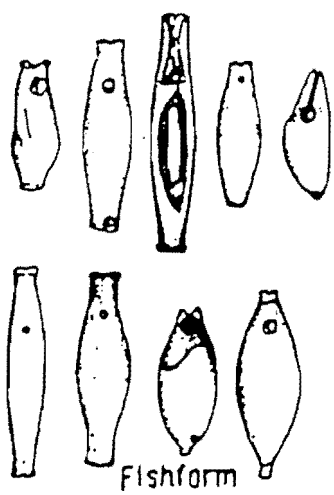

Inset 1
Cosumnes River
Mokelumne River
1
Spindle
Charmstone
Core Area
Symmetric
Spindle

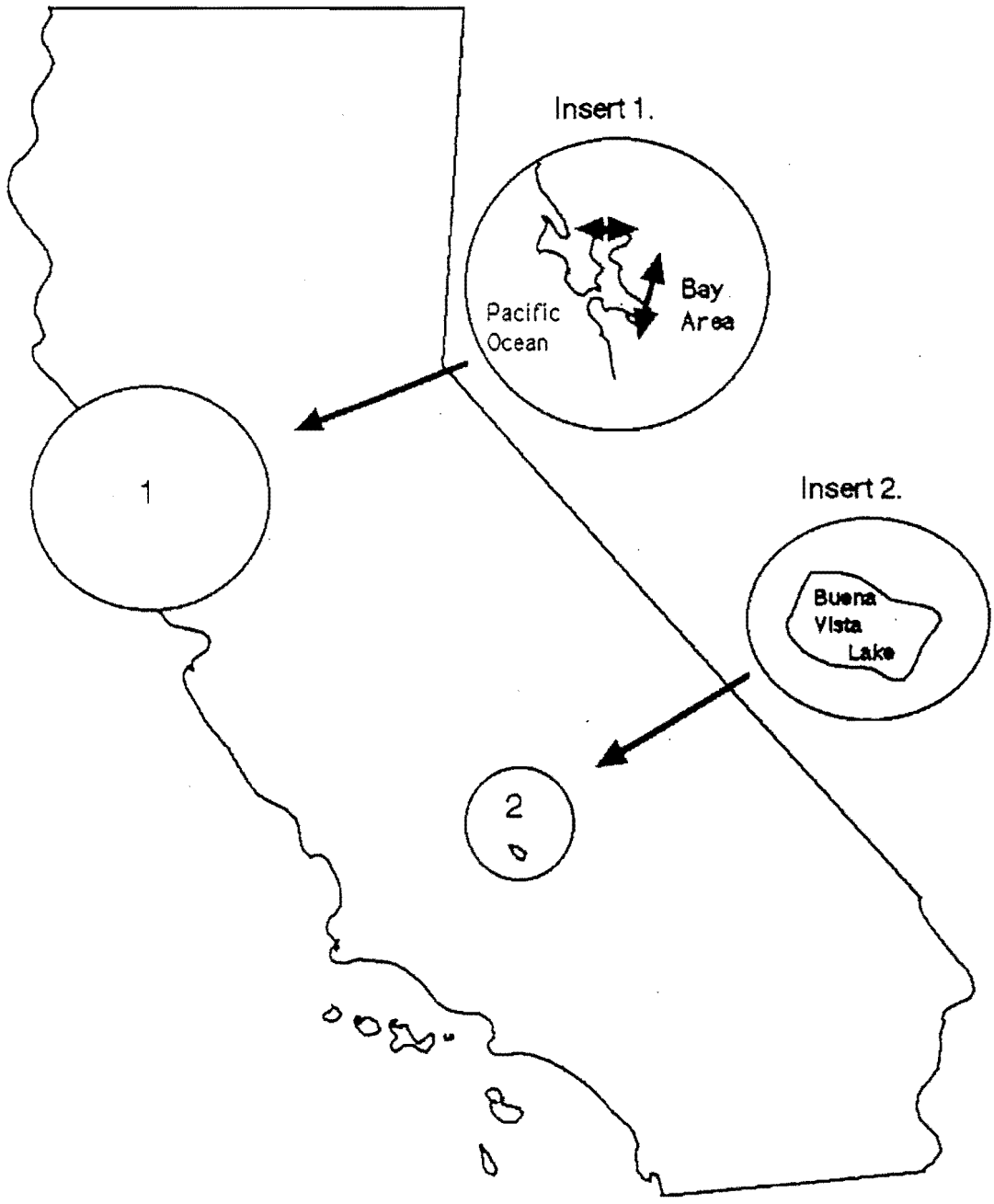
Map 1.



Map 2.

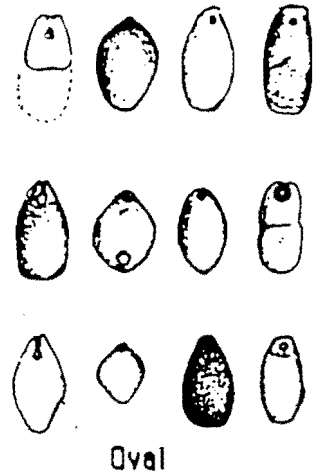
Fishform
Charmstone
Core Area(s)

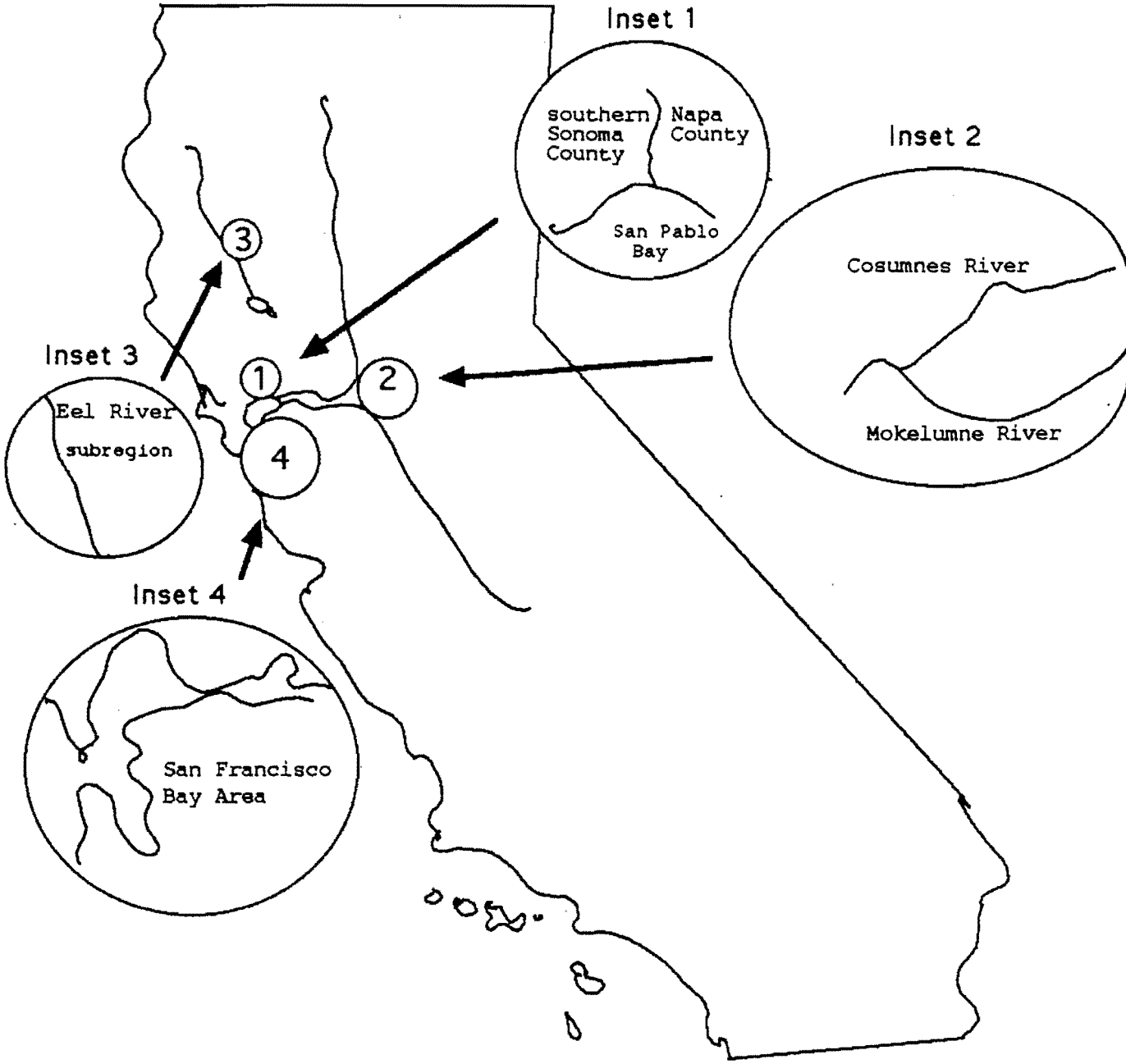


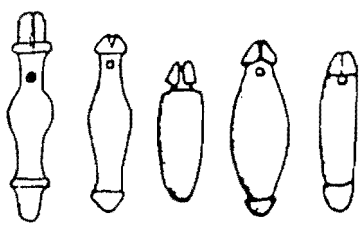


Map 3.

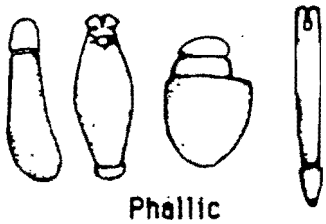
Oval
Charmstone
Core Area(s)



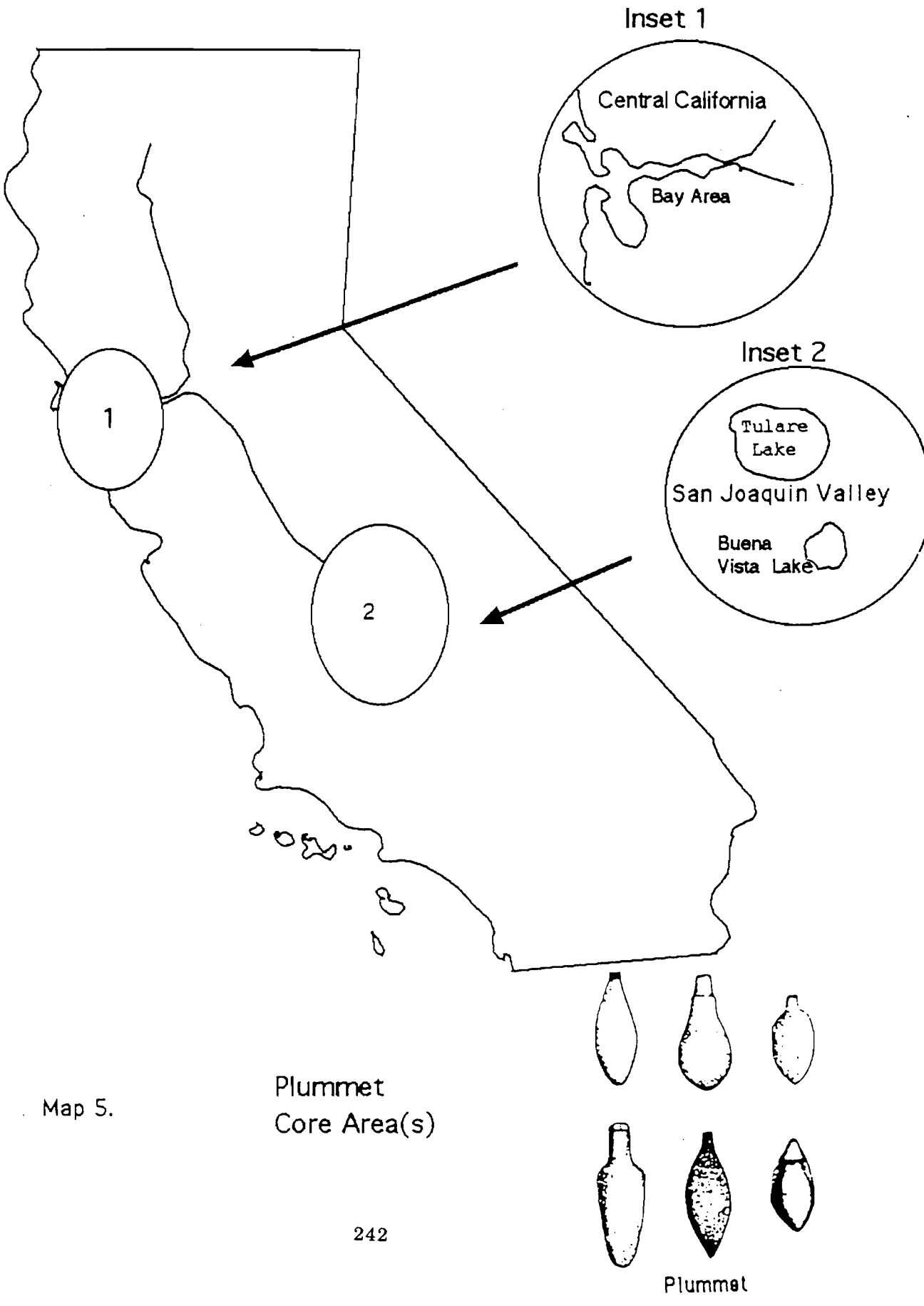




Phallic
Charmstone
Core Area(s)

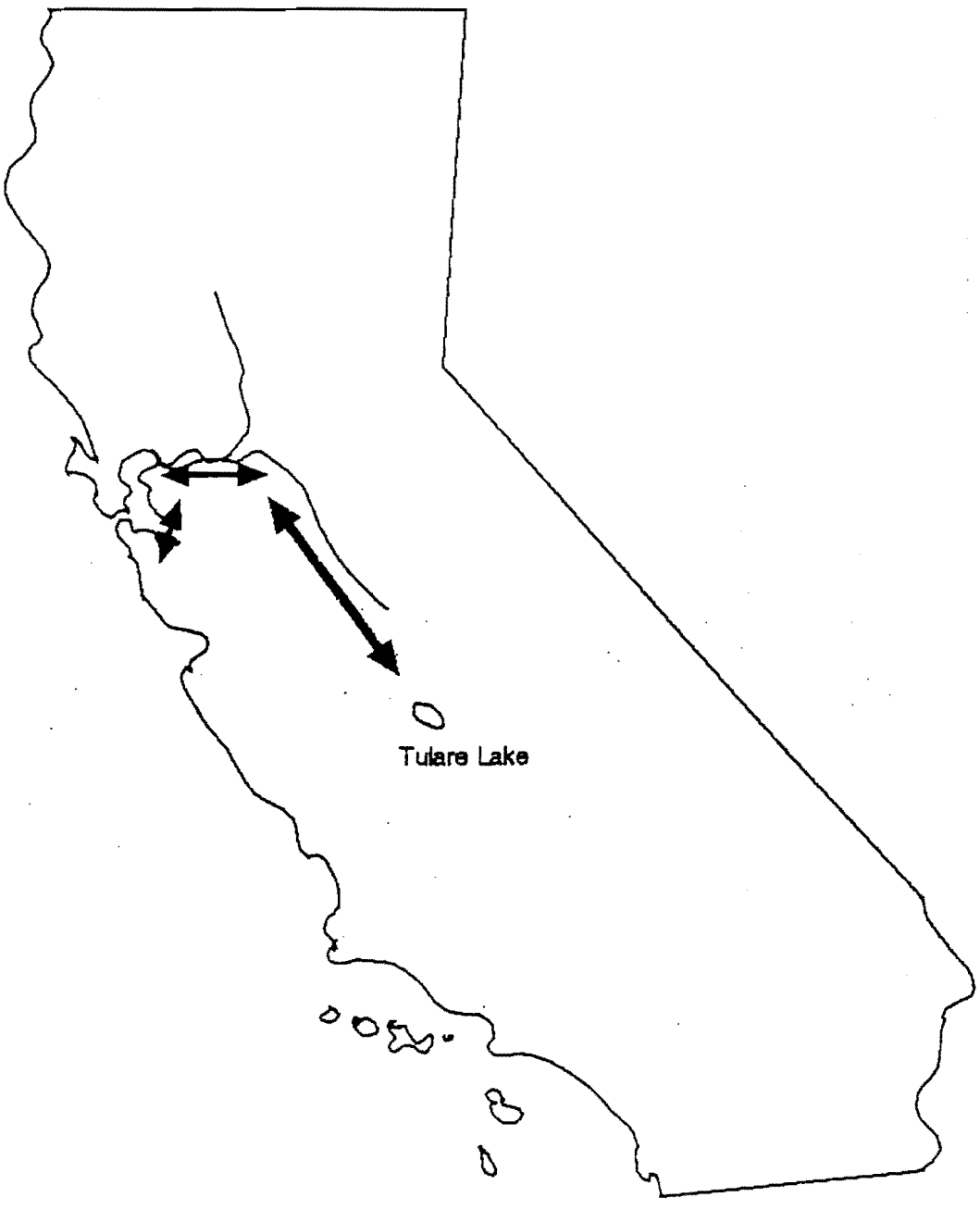


Map 4.



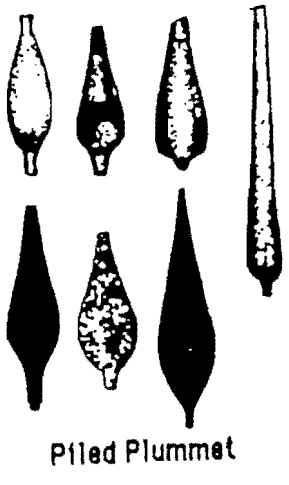
Map 5.

Plummet
Core Area(s)

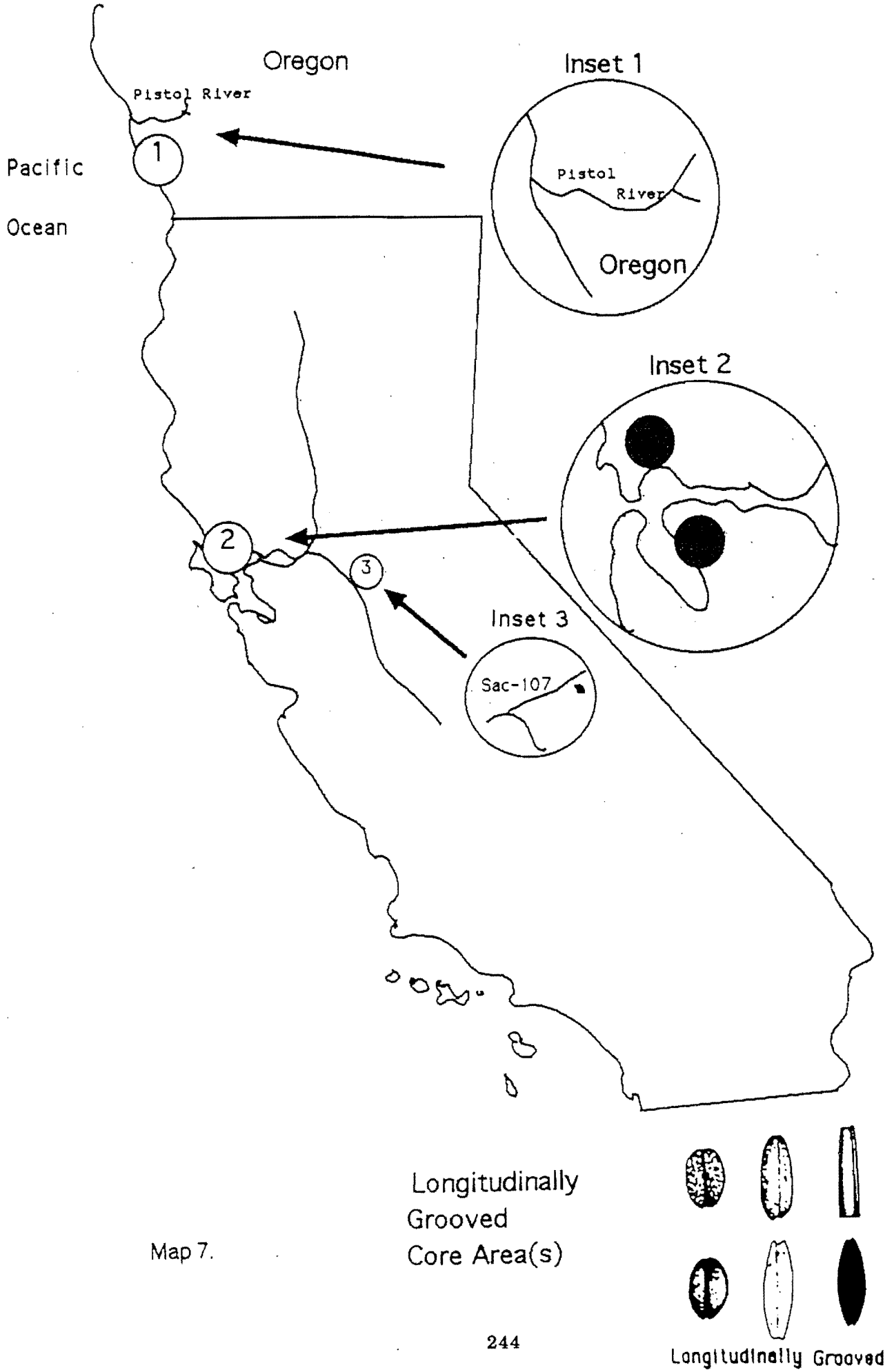


Piled Plummet
Core Area(s)

Map 6.



Piled Plummet


Oregon
Pistol River
Pacific
Ocean
1
Inset 1
Pistol
River
Oregon
Inset 2
2
3
Inset 3
Sac-107
Longitudinally
Grooved
Core Area(s)
Longitudinally Grooved

Map 7.