

Observations regarding the prehistoric archaeology of central Baja California

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Introduction

No region of Baja California is yet immune at the most basic level from archaeological discovery, adventure, and understanding of past peoples. This is not to say that tremendous strides in archaeological applications have not been cast upon the peninsula. Furthermore, as has been stated by a number of workers in peninsular archaeology, the fertile research opportunities and unique characteristics of the peninsula's geography will, and have led to discoveries and theory development relevant to students of the discipline working in areas near and far (cf. Hyland 1997; Moore 1999; Porcasi and Fujita 2000).

Baja California is a land of many contrasts not the least of which is the open Pacific coast on the west side versus the more sheltered, warmer Gulf coast on the east side. Long-term central peninsula archaeological studies by this author through the University of California system in cooperation with the Instituto Nacional de Antropología e Historia along and near these opposing coasts offers a venue for discussing discoveries and interpretations of the field results. This narrative is a synopsis of various finds with insights offered to fuel new studies and debate regarding the resulting hypotheses and models developed.

There are three localities that form the focus of this paper, the general locations around (1) Bahía de la Concepción, (2) Bahía de los Ángeles / Bahía las Ánimas, and (3) Laguna Guerrero Negro-Laguna Manuela. The first two localities are along the Gulf coast and the last is along the Pacific coast. All are considered part of the Central Desert as defined by Aschmann (1959). In each locality there have been systematic and intuitive inventories and documentation of archaeological remains as well as limited sub-surface testing. The desert regimes have allowed favorable visibility and preservation, and sample designs have not been disappointing-despite some regrettable heritage resource losses or natural obscuration-in revealing the richness of the human record. Archaeological studies at each of these localities have been chronicled in detail (Breiner, et al. 1999; Ritter 1979, 1985, 1994, 1995a, 1995b, 1997, 1998, 1999; Ritter et al. 1994, 1995). Only a brief synopsis of some of the relevant discoveries will be discussed herein.

Theoretical underpinnings

While the passing of decades has served to modify the theoretical focus of these archaeological works, the underlying principles and direction have remained much the same. These include the establishment of a workable culture history; the discovery of variability in human occupation and use across the landscape; the elucidation of ecological relationships with respect to culture and culture changes; and the search for the connectedness of ideology and the

social, economic and political underpinnings of past human behavior. The approach is rationalistic and a synthesis of sorts of cultural-ecological, evolutionary and cognitive methods seeking to generate models of hunter-gatherer behavior (cf. Kelly 1995). These studies have benefited considerably by the rich corpus of historic and ethnological observations of native peoples of not only the peninsula but also neighboring deserts and elsewhere (cf. Aschmann 1959, 1966; Baegert 1942; Barco 1988; Clavijero 1990; Felger and Moser 1985; Gifford and Lowie 1928; Hicks 1963; McGee 1898; Meigs 1939; Sales 1956; and Shipek 1982 to name only some).

Sampling approaches to site discovery

Each locality listed above was approached somewhat differently based on overall research scope, logistics, environmental diversity, regional familiarity and previous observations/work. The most extensive work was carried out in the Bahía de la Concepción locality in the early 1970s, followed by work in the 1990s in Bahía de los Ángeles / Bahía las Ánimas and then ongoing work at the west coast lagoon systems centered on Guerrero Negro. Each locality's work has been dominated by coastal inventories. However, the first two localities included interior sampling and investigation.

Bahía de la Concepción

At Bahía de la Concepción a systematic random sampling scheme of 1 km sq. quadrants was conducted within 5-km-wide spaced transects that ran from the coast west into the Sierra de la Guadalupe. In turn these transects crossed geomorphologic/environmental domains designated littoral, bajada, interior montane and canyon, highland, and highland/montane ecotone. These domains were selected to detect sub-regional variations in prehistoric occupation and use while the transects served to disperse the sample into broader north to south environmental zones including the Llano de San Bruno and various portions of Bahía de la Concepción and the mountain and valley settings to the east on the east side of the central peninsular divide (see Ritter 1985:395-398). Supplemental intuitive or purposive inventories were also conducted along with other studies such as rock art documentation. Three percent of the transect quadrants were inventoried, a problem shared in most peninsular studies: relatively small sample sizes from which to extrapolate hypotheses and models of past human activities.

Together with non-systematic inventories 160 sites were recorded, 117 of which were in the systematic sample. Site types include an array of basalt-silicified tuff and rare obsidian lithic scatters with and without associated non-flaked stone artifacts such as milling stones, or features; midden and non-midden rock shelters, mortuary rock shelters, shell mounds and shell scatters, quarries, rock art, and an array of historic sites. Site density averaged generally between 1 and 20 per km².

Bahía de los Ángeles

The sampling program at Bahía de los Ángeles has been summarized by the author in a 1998 article (Ritter 1998:13). The random sample inventory of 0.5-km² quadrats was oriented along the shoreline within the upper and lower halves of the bay resulting in coverage of approximately 29% of the present bay shoreline. This inventory resulted in the documentation of

25 sites (ca. seven sites/km²) with an additional 38 sites documented in purposive inventories of other bay areas, the shoreline along Bahía las Ánimas to the south (Ritter et al. 1994, 1995a), and locations within bay uplands and interior zones. Site configurations largely parallel those of Bahía de la Concepción and include the most common (as would be expected in a coastal inventory), shell deposits of various sizes, depths and association; lithic scatters, residential based rock shelters, one probable storage shelter, rare rock art locations, an interior midden, and a few small quartz and basalt quarries. Numerous rock enclosures match those of Bahía de la Concepción, although the Bahía de los Ángeles sample includes isolate enclosures lacking surface cultural associations. While perhaps a sampling and observational problem, this latter bay region also includes talus burials as well as those in small rock shelters, trails, cairn complexes, enigmatic cleared pathways and polygons, scratched and rubbed boulders, and far fewer rock art sites. There is also a range of historic sites.

These food rich bay environments with known water supplies represent a contrast to those more expansive central peninsula Gulf coastal stretches where human uses appear more ephemeral. Hyland's (1997) work along the coast between the two locations discussed above serves as an example. The scarcity of fresh water and the archaeological sampling of this Bahía Santa Ana section of the Gulf suggest only short-term forays by mountain people were made to this section for purposes of exploiting the marine resources (Hyland 1997:252).

Laguna Manuela, Guerrero Negro and Ojo de Liebre

In sharp contrast geographically and archaeologically to the above locations, scientific investigations along the Three Sisters' Lagoons of Manuela, Guerrero Negro and Ojo de Liebre (Ritter 1999; Ritter and Burcell 1998; Ritter and Payen 1992) offer a far different pattern of archaeological signatures. Remnant evidence of prehistoric use has in large part been dictated by the sandy Vizcaíno Desert coastal plain environment and scarcity of fresh water compensated in large part by a rich marine environment, a natural world that also appears to be exceptional along the central Pacific coast where long expanses are separate from major lagoons (cf. Moore 1999).

The archaeological inventory was concentrated at coastal zones known through previous informal reconnaissance to contain archaeological evidence. The principal work was focused on a block 2.0 x .75 km in size along Laguna Guerrero Negro in which 30 sites were recorded (Ritter 1999). Following a pattern of prehistoric occupation and use north of this block along an ancient shoreline of Laguna Manuela, an additional seven sites were recorded. Finally, near the mouth of Laguna Guerrero Negro widely scattered historic and prehistoric remains within two sites were documented in a large block approximating 5 km x 1.5 km (see Breiner et al. 1999). Earlier informal reconnaissance by local interested citizens has also resulted in the location of numerous additional sites along the shores of Lagunas Manuela, Guerrero Negro and Ojo de Liebre (also see Ritter and Payen 1992) and a similar pattern appears present along Laguna San Ignacio to the south (Hyland 1997; personal observations).

The prehistoric and protohistoric sites are generally similar, consisting of small to extensive patches of surface and near-surface (5-10 cm) residential and activity debris dominated by faunal (shell and bone) remains and flaked, battered and ground stone and bone artifacts of a wide array (Figure 1). Burials/cremations are incorporated into the residential bases. Scattered expedient flaked stone can be found within dune settings near the mouth of Laguna Guerrero Negro where historic flotsam is also concentrated. Archaeological debris can be found within



Figure 1. Guerrero Negro Lagoon north end protohistoric site, 1986.

inter-dune pans or flats or on lower, older dune ridges. Present day fresh water sources other than those that might be derived from fog, are not known. What is not understood in this area is the pattern of site distribution between the central peninsula mountains and the coastal expressions. Hyland's inventory of the southeastern Vizcaíno desert (1997:215-217) suggests that flaked stone isolates and lithic scatters, some with milling tools, would dominate. One would also expect to find trails where alluviation and dune cover has not destroyed or covered such evidence.

Chronological issues

The issue of chronological control remains paramount in peninsular archaeological studies. Radiocarbon dating and obsidian hydration studies are most reliable where historic time markers are not present, although these are not absent problems (cf. Hyland 1997:268-273; Molto et al. 1997; Stewart et al. 1998).

The most complete dating sequence in the central peninsula using such methods is that of Hyland (1997). However, cross dating using such artifacts as projectile points has been used in a number of instances and still offers chronological insights when critically applied. The central peninsula can be best characterized at this point by four major periods of human activity. These include the period of historic contact, the well-known late prehistoric Comondú period defined by Massey (1966), a sequence of early and middle Archaic cultures as yet poorly differentiated (see Ritter 1979, 1985), and the Paleoindian period. Fine scale resolution of human use is illusive without considerable investment in its discovery, although there are exceptions such as Hyland's (1997:276) radiocarbon hiatus in the Sierra de San Francisco that may represent a possible cultural interruption between ca. 600 and 1,000 years ago, a fact seemingly supported by environmental change in the southern peninsula (cf. Molina-Cruz and Pérez-Cruz 1998). As such, this may suggest a broader period of cultural disruption in the peninsula as also defined in environmental changes in Alta California and the Southwest about this time (cf. Davis 1994;

Hong-Chun et al. 2000; Jones et al. 1999; Stine 1994; Waters and Ravesloot 2000).

Regional hunter-forager models

The models of prehistoric human behavior and change are more confident for human activities since about the mid-Holocene, especially during the Comondú period. The Gulf coast study localities share much in common while there is less congruence in the archaeological record between Gulf side and Pacific side human use.

Bahía de la Concepción

The basic, simplified model offered for this locality (Ritter 1979, 1985) is as follows: Since about mid-Holocene times major residential bases were situated (1) along Río de Mulegé/Bahía de la Concepción and (2) within well-watered mountain canyons. During the late summer-early fall, at least in late prehistoric times, macro band-like groups probably formed for various economic, ritual and social reasons related to marriage, exchange of goods, information flow, alliances, etc. These groups may have focused their gatherings at highland villages during a time of plant food abundance. During winter, highland groups may have visited the coast to exploit marine resources, as highland plant foods were less available. East-west connections seem to predominate. For instance, there is little evidence of any regular exchange of obsidian with groups near the Valle de Azufre source to the north. Nevertheless, Great Mural rock art motif complexes are shared to the north rather than to the south, although with apparent differing “schools” (Crosby 1997:213-217). There is little evidence of Pacific side contacts. Socio-political complexity was apparently at its highest just prior to the Spanish entrada.

Archaeological evidence suggests, as in the ethnographic record (Aschmann 1959), that there were groups focused principally toward the coast and those focused primarily toward the highlands. Evidence includes such information as rock art differentiation, low incidences of marine food remains in highland settings, and settlement data. The plant and animal diversity, abundance, predictability and availability from base camp settings were apparently sufficient-with exchange practices-to support seasonal or multi-seasonal residential units in both zones. The data for at least Comondú times suggest base camps (sometimes perhaps closely dispersed into family units as in coastal playa/rock shelter cluster interfaces) were placed near dependable fresh water sources and secure resources such as fisheries and rich plant zones. These principal residential nodes were complemented by satellite extraction camps or locations for seasonal or periodic exploitation by specialized task groups or individuals at less dependable, mobile or dispersed resources such as terrestrial game animals or at sacred locales where rock art manufacture, burial ritual, etc. could be performed. The density of mixed site types along the littoral fringe bespeaks of the richness of the marine food base supplemented by nearby terrestrial foods and other resources.

Earlier periods offer less clear evidence of mobility patterns, although projectile point types at upland and lowland residential bases suggest a similar configuration dating back 3,000-5,000 years (e.g. Elko/Gypsum Cave, San Pedro, and Pinto-like points). One is left with the impression-admittedly lacking in sound data--that there was a relatively rapid population increase in late prehistory resulting in many regional sites from this time frame. Resource use may have intensified (e.g. increasing use of marine products and highland cheno-ams and root and other plant products) and became more diversified (e.g. use of added marine resources, grass

seeds, etc.) with a concomitant development of increasing socio-cultural complexity and a rich ceremonial complex manifested in various petroglyph complexes, Great Mural-related pictographic art, and other evidence. This author suspects, based on site/artifact distribution and frequency, that earlier Archaic and Paleoindian peoples were extra mobile, fewer in numbers, and more oriented to mammalian fauna, shoreline marine foods and easily accessible plant foods such as cactus fruits and legumes. Relationships between groups were probably not well formalized with north to south trends in group movement and technological diffusion prevalent or likely on a periodic basis. Settlements probably shifted in pre mid-Holocene times more frequently to take advantage of shifting resources and changing habitats. Economic exchanges were probable increasingly developed and regulated during the early to middle Archaic times setting the foundation for the Comondú pattern.

Bahía de los Ángeles/Bahía las Ánimas

Paleoindian use of this region is sketchy at best represented by a few early point forms at coastal and inland lake sites (Davis 1968). By 6000 years ago groups oriented to marine resources and tethered to major springs and water holes are present (Bendímez et al. 1993). At about this time current climatic conditions more or less became established (Van Devender et al. 1984) but with later perturbations as discussed above. Responses to mid-Holocene environmental changes may have led to alterations in resource scheduling and harvest efficiency with associated variations in socio-cultural responses as in group dynamics, ritual, etc. with increased group mobility (fewer/less long standing water holes)--except near the few major oases and their larger associated groups. There may have been an implementation or improvement in food preservation and storage techniques as the late Holocene progressed. Furthermore, the paucity of archaeological remains during mid-Archaic times, perhaps a sampling problem, may represent retrenchment of those groups without a major oasis center into other areas such as interior canyons or further concentration of peoples at major water sources (see Ritter's 1998 discussions).

By Comondú times it is hypothesized that there was likely the development of regularized, culturally influential interactions between interior and coastal groups with the exchange of goods and establishment of kin alliances. Such a culture change may have been precipitated by shifting environmental conditions like those previously discussed, possibly coupled with influences from events to the north as listed below and/or from internal cultural evolution processes brought about by experimentation and experience. Concurrently, there is a proposed population increase as these alliances grew stronger and exchange of foods and goods led to less nutritional insecurities and personal and interpersonal conflict/stress. Increased procurement efficiency was perhaps due to such factors as resource intensification (e.g. greater use of annual and leguminous seeds, agave, etc.), use of broader food choices (possibly certain fisheries [turtles, deeper water species?], various cheno-ams, halophytes, and grass seeds?), and better fresh water management. This was a time of possible influences from events to the north as along the Colorado River and in areas beyond like the Great Basin and Pimeria, etc. At least limited contact with northerly groups is documented in rare ceramics, obsidian from Bahía San Luis Gonzaga, and possible point styles (Desert series?) and the bow and arrow. There is no indication of influences from the south including obsidian from Valle de Azufre or Great Mural rock art (see Ritter 1995b). Most interaction, however, is seemingly on an east-west basis based on rock art motif complex similarities, local obsidian distribution, Gulf shellfish remains at

inland sites, and early historic accounts.

In this model, during Comondú times, where the archaeological evidence is greatest, single and limited multiple family units were dispersing and congregating at different times of the year depending on resource availability, water accessibility following storms or wet seasons, and food resource trends and productivity. In all likelihood, major water centers were year-round foci for at least part of the population. Macro-band fragmentation may have occurred during the winter-springs when fixed marine resources and small land animals could complement the diet dominated by ripening seeds from annual plants. This would agree with the widespread distribution of late prehistoric sites observed in the region. Spring and summer would bring periods of population aggregation at key oases where abundance of important resources occurred on a regular basis (cactus fruits, sea turtles, legumes, rabbits, fledgling sea birds, agave, zaya, etc.) (See Aschmann 1959:127-128). This is not to say that during this time small foraging groups could or would not roam wide and far with the spatial differentiation of resources most expeditiously gathered by the dispersed task groups who could then periodically interact with kin groups for social/ritual reasons.

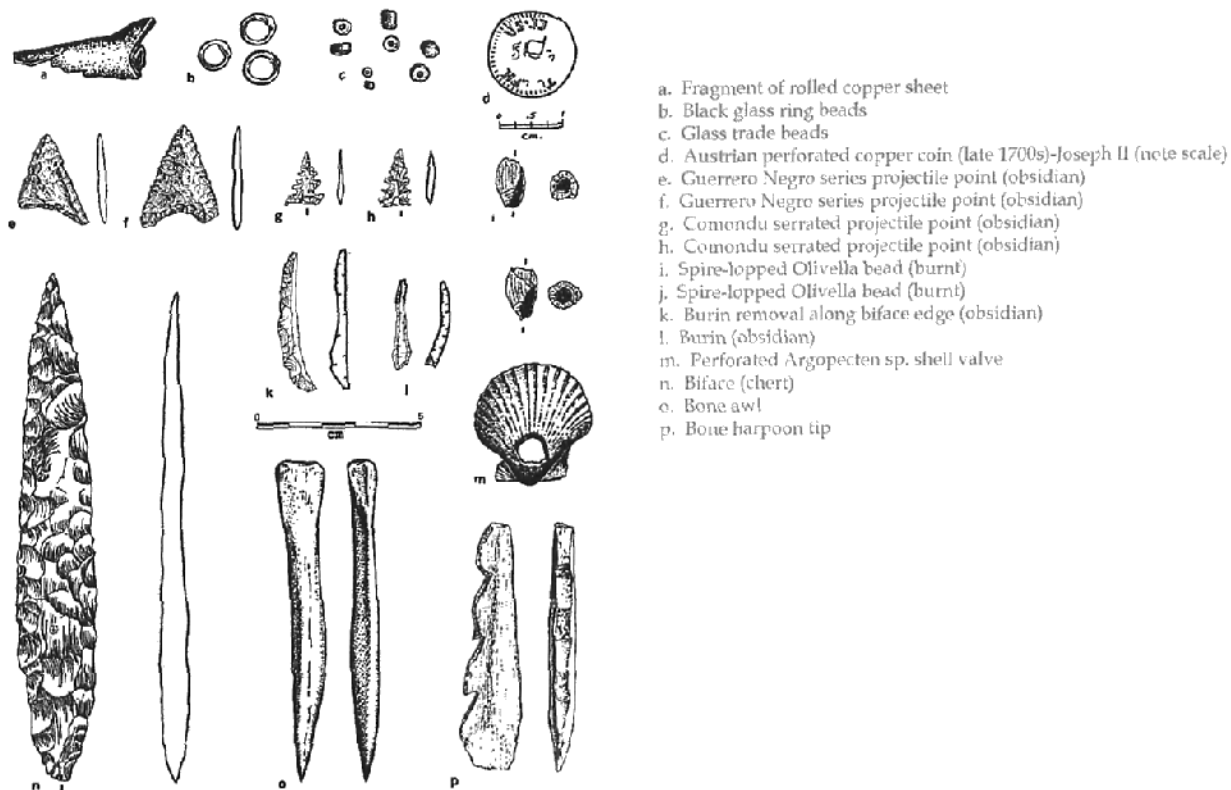
While hypothetical and with little supporting evidence, during late prehistoric times there may have been an emerging economic pattern combining elements of diversification and intensification of resource use with increased use of certain high ranking and reliable food resources like sea turtles, shellfish beds, and reef/near shore fisheries. Ideally, here was a time of better food acquisition scheduling, more efficient use of seasonally available annual plant foods, increased interior-coastal exchange of foods and goods, and better management of food reserves through drying and storage with efficient food distribution mechanisms to kinsmen and partners. Some of this distribution may have occurred during times of feasting, ritual and exchange at principal ceremonial centers such as Yubay, Adac, and Montevideo.

Finally, in the locality there is a suggestion of an incipient increasing cultural complexity as evident in mortuary/presumed ritual complexes, status burials (shamans[?] and others) (Massey and Osborne 1961), rock art complexes at special inland centers (Ewing 1988), and a possible highly integrated exchange/alliance systems between coast and interior (as suggested in the ethnographic data-Aschmann 1959:127-130). Missionization, of course, brought a rapid and dramatic change to regional peoples, with coastal-interior alliances and interaction serving at least to lessen interpersonal conflicts and allow, from a missionary standpoint, a relatively smooth transition into mission life. Evidence along Bahía de los Ángeles/Bahía las Ánimas for contact period archaeology is illusive and minimal as in ceramics and cotton cloth at scattered littoral sites. Evidence for prehistoric or historic cross-Gulf Seri contact is equivocal (but see Bowen 1976 and Foster 1984).

Laguna Manuela, Laguna Guerrero Negro and Laguna Ojo de Liebre

Work around these three lagoons has centered mostly on the central lagoon of Guerrero Negro and portions of the southern reaches of Laguna Manuela. Here a rich linear carpet of archaeological evidence from contact period back at least several thousand years is present, mostly along recent or older shorelines. However, much of the archaeological indications point to a florescence of late prehistoric use and a prolonged protohistoric presence from the 1500s into the 1800s. The model of human occupation and use of this region differs remarkably from those previously discussed.

Environmental changes reflected in on-going landscape modification are more dynamic



- a. Fragment of rolled copper sheet
- b. Black glass ring beads
- c. Glass trade beads
- d. Austrian perforated copper coin (late 1700s)-Joseph II (note scale)
- e. Guerrero Negro series projectile point (obsidian)
- f. Guerrero Negro series projectile point (obsidian)
- g. Comondú serrated projectile point (obsidian)
- h. Comondú serrated projectile point (obsidian)
- i. Spire-lopped Olivella bead (burnt)
- j. Spire-lopped Olivella bead (burnt)
- k. Burin removal along bifacial edge (obsidian)
- l. Burin (obsidian)
- m. Perforated Argopecten sp. shell valve
- n. Biface (chert)
- o. Bone awl
- p. Bone harpoon tip

Figure 2. Artifacts from Laguna Guerrero Negro-lower Laguna Manuela sites.

in this region than those previously discussed where many rock-defended older landscape features are present. As such there is a greater likelihood that earlier sites in this region, if present, have been buried or eroded. At least one site along Laguna Ojo de Liebre has been radiocarbon-dated ca. A.D. 270 (UCR 2319/UCRAMS 82) (Ritter and Payen 1992:254), a site situated on an early Holocene beach terrace or ridge. At another site along Laguna Guerrero Negro there are historic artifacts that may run into the early 19th century (Ritter 1999). Almost all of the sites are proposed to represent the Guerrero Negro focus of the Comondú period, perhaps commencing around A.D. 250 to 500 and running to contact with the Spanish. This complements a central highland focus (or focuses) previously discussed and one or more Gulf focuses as also mentioned above.

Technologically these Pacific side sites not unexpectedly exhibit tool kits (Figure 2) strongly oriented towards a marine economy, a fact apparent in the faunal remains of various sea mammals, sea turtles, crabs, and fishes left behind. Terrestrial and avian animals were not totally ignored, either, and milling stones suggests some plant food processing, although marine products cannot be dismissed from the milling stone food preparation mix. The artifact assemblage contrasts in a number of ways with Gulf and montane assemblages, a fact not surprising when considering the contrasting ecological setting. The absence of workable stone at these coastal sites meant some stone tools, workable stone, and associated tool kits had to be imported. Subsequently, some stone tools were worked and maintained, and bone and shell were processed into tools and ornaments (Figure 2i, j, m, o, p). Quality flaked stone was used, re-used (Figure 2k, l), and apparently curated; and a transportation network for such valuable commodities as obsidian derived from the distant Valle de Azufre source existed.

Contact with Spanish explorers and acquisition of goods in the general vicinity (Cedros Island) dates to 1540 and Chinese ceramics and possibly cupriferous sheets (Figure 2a) and wire and iron debris located in sites were acquired from apparent local coastal Manila galleon debris dating to the 1570s. Other goods such as a perforated Austrian coin (Figure 2d) and glass trade beads (Figure 2c), perhaps worked green bottle glass, and brownware ceramics derived from mission sources date from the 1700s into the early 1800s. The bowls and ollas of plain ware ceramics were utilitarian wares, like milling slabs and cobbles and boulders of flakable stone, carried a long distance.

Not all sites around these lagoons are the same, although all possess characteristics of marine resource procurement and probable residency. Some sites were apparently much more ephemeral than others and special tasks may have been conducted at these locations absent periods of residency. Few locations outwardly exhibit sustained, large residential unit, long-term use where you would expect shell mound buildup, crushing of ecofactual debris and greater use of fire in cooking and heating. Rather, use was broadly dispersed along coastal strips bordering the lagoons. A very few sites do exhibit a density of occupation debris, albeit shallow, in broad patches, totaling up to forty thousand square meters in size. People occupying these sites buried or cremated their dead, including aged, arthritic individuals. In one case hundreds of small cylindrical to cupped shell beads accompanied the dead. In another cremation end lopped *Olivella* beads occurred (Figure 2i, j). Still other individuals appear to lack mortuary goods that have preserved. The dispersal of occupational remains follows Gamble's (1991:5) observation among ethnographic mobile people that "high residential mobility by a core group, rather than individuals working away from a base, can be predicted from general ecology and results in a regional signature of comparatively high resolution which forms a continuous scatter, albeit variable in terms of density, across the landscape."

The archaeological signatures suggest we are dealing primarily with family and small multi-family groups clustered for short periods of time (days to weeks?) at select inter-dune or coastal locations bringing with them a specialized maritime adaptation and tool kit. Ecofactual remains indicate use of a broad spectrum of terrestrial and maritime habitats, including shore and bay resources. Maritime resources provided food and equipment. There was use of a diverse fishery, mollusks, sea mammals, sea turtles, migratory and resident birds, terrestrial mammals, and likely exploitation as well of local plants such as eel grass, *Spartina* sp., *Lycium* sp., etc. The circumstances leading to this hypothetical florescence of west coast use in this region are uncertain, but work elsewhere in the peninsula, such as previously referenced in various central peninsula studies, suggest some possibilities, singularly or in combination.

A scenario for increased lagoon use would have a population increase in the highlands to the east. Bernbeck (1991:54) notes that one model of forager behavior assumes that after some time of demographic increase and an associated depletion of resources populations tend to disperse into unexploited (or under exploited) areas. This pattern assists in mediating crises in the productive sphere. Lourandos (1988:150) believes that "the area of intergroup relations (for example, feasting, ritual and exchange) provides the context for change, rather than the domestic level of production." Intensification and diversification of the resource base to better include Pacific resources could be one such result of intergroup relations and exchange of information and goods. If it is good enough for Group A and the resources are plentiful then why should it not be good enough for related Group B?

Societal crises and stresses, whether from overpopulation, resource depletion, environmental change, or other factors are generally ameliorated through ceremony, ritual and

other mechanisms (see Hyland 1997; Ritter 1995b; Turpin 1990). One aspect of ritual and ceremony in the highlands is thought to be elaborate rock art display, including depictions of marine life as possible shaman influenced trans-state symbolism. The increase in rock art production in the highlands may coincide with an increase in the convergence of social units on a short-term basis to select locations along the western peninsular lagoons.

A change in climate in the peninsular as proposed during Medieval times might tend to affect terrestrial resources more than marine. This could lead to an increase in use of rich coastal resources to offset highland resource uncertainties. It is about this same time that there may have been technological changes such as the introduction of the bow and arrow and its effects on hunting behavior and mobility patterns. There is also the possibility that the introduction of the composite harpoon may have increased coastal exploitation. The Guerrero Negro series projectile point (Figure 2e, f), confined to late prehistoric central Pacific coast areas, may relate to harpoon use. In any event, use of western lagoons appears to have climaxed during late prehistoric times, a representation of seasonal use by family groups from various mountain communities bringing and taking back tool and equipment products and food resources of many sorts. These people carried with them the technology or technological know-how of a specialized lifestyle as one would expect reflected archaeologically in a somewhat differing display than those groups living on the other side of the peninsula.

Prehistoric diversity in the central peninsula

The basic proposed dichotomy of cultural relationships, at least during late prehistoric times, includes focus groups along the Gulf side and mountain groups with coastal contacts along both coasts. The antecedents for this pattern likely extend back into pre-Comondú times, even along the west coast where Elko-like projectile points are found at some sites. However, prior to about A.D. 1, as a rough estimate, prehistoric use in this central peninsula seems to have been focused on highland and Gulf coast areas with at best occasional hunter forays into the Three Sisters' Lagoons area. Further north in the peninsula early residential use along the west coast is clearly present (cf. Moore 1999; and Bryan and Gruhn 2000).

The technology of central peninsular societies exhibits considerable similarity across ecological and historical dialectical boundaries, the most glaring difference being tool kits of western Pacific foraging units in at least late prehistoric times (Figures 2, 3, 4). At least this is what seems apparent at first glance in the small triangular points of the Comondú series, the earlier Elko, Pinto and La Paz-Gypsum Cave-like points, the *chacuacos* or tubular stone instruments, a generally long lasting un-shaped or little shaped mano-metate assemblage, pitted hammer stones and manos, expedient volcanic material flake-core use, spire-lopped *Olivella* beads (Figures 2i, j; 3a-h), and *Dosinia* sp. cutting-scraping tools (Figure 4g, h). In the highlands and Gulf coast there is also common scraping planes (cordage making and woodworking?), cleaver-like tools (Figure 4j), infrequent well-shaped cupped end manos, widespread square knot cordage (Figure 3t), cane whistles and skirts, fiber carrying bags and head nets (Figure 3w), wooden *tablas*, human hair capes, numerous rock enclosures or *corralitos*, and secondary burial in shelters.

While the variations observed in late prehistoric and earlier archaeological records in the central-east peninsula may be a matter of sampling (see Ritter 1995:14-15) and/or observational error, there are a few differences. Notable are the abundant flaked shell tool assemblages around Bahía de los Ángeles / Bahía las Ánimas (Figure 4g, h), the absence of a pronounced staged

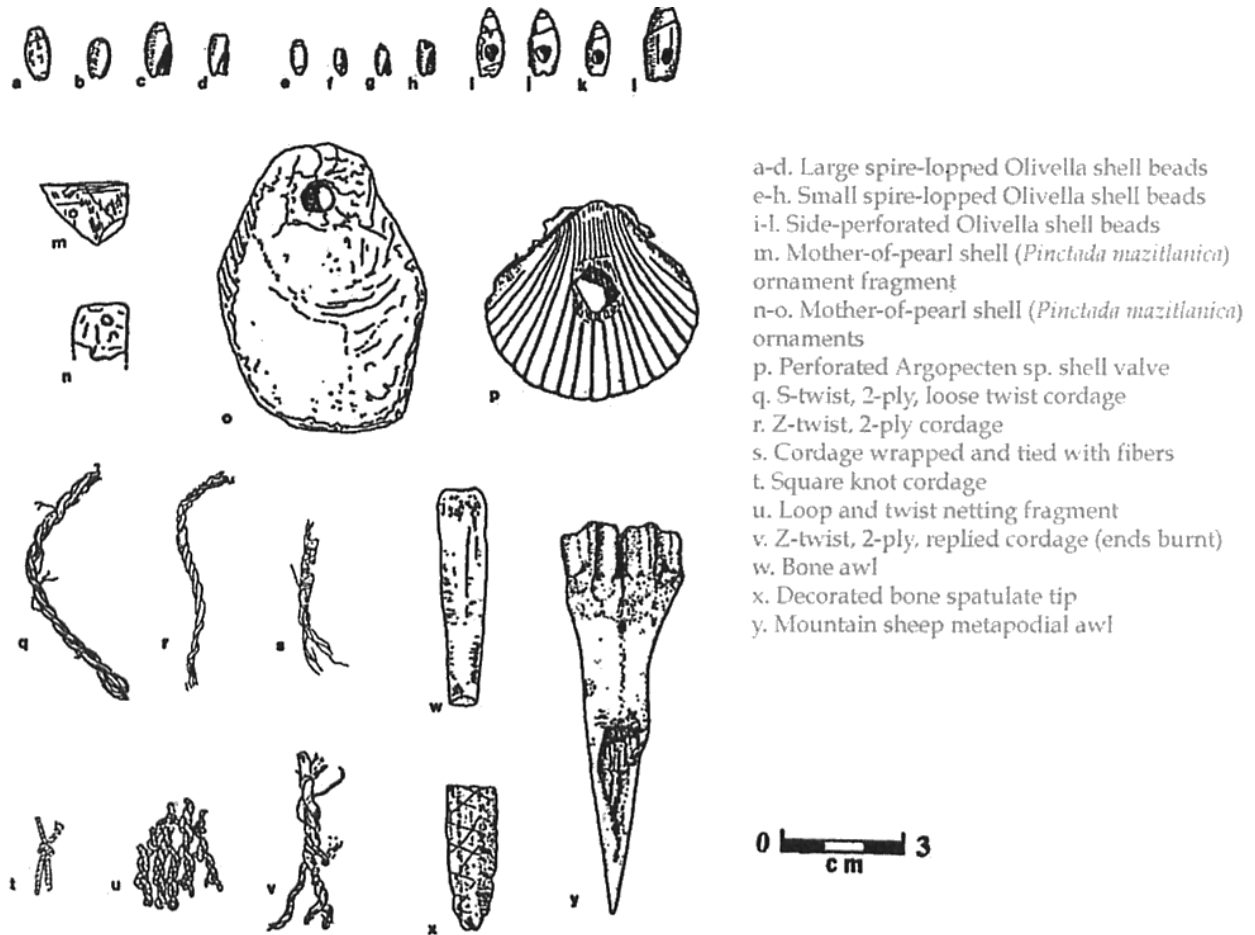


Figure 3. Bahía de la Concepción miscellaneous artifacts of shell.

biface reduction grouping as in the vicinity of Bahía de la Concepción and Laguna Guerrero Negro (many of the presumed finished bifaces/points are quartz); rare plain ware ceramics from pre-contact traditions to the north, extended burials, well-defined talus burial chambers, and the absence of lark's-head knotting as found around Bahía de la Concepción (Ritter 1979:356). Most evident, as discussed by Ritter (1995), is the difference in rock art traditions, with common Great Mural art found to the south and less frequent Northern Abstract art occurring to the north, likely corresponding with a linguistic/cultural division among Cochimí/Comondú peoples. A similar division is apparent between the Sierra de Guadalupe and the Sierra de la Giganta below Bahía de la Concepción.

Even more varied than the assemblages found along the east-central side of the peninsula is the Comondú assemblage along the west central peninsular lagoons (Figure 2). Frequent obsidian artifact presence is shared with the Sierra de San Francisco locality to the west, the source area. Obsidian at these west coast sites is manifested in a complex reduction system ranging from use and curation of imported large obsidian boulders, large flakes and early stage bifaces to small nodules that are bipolar reduced. Many techniques are evident aside from bipolar including uniface-biface reduction, radial breakage, burin formation (Figure 2k, l), multi-stage biface reduction (Figure 2n), various stages of core reduction, and final pressure flaking on finished bifaces and projectile points. Obsidian is carefully curated and used, and used again. A

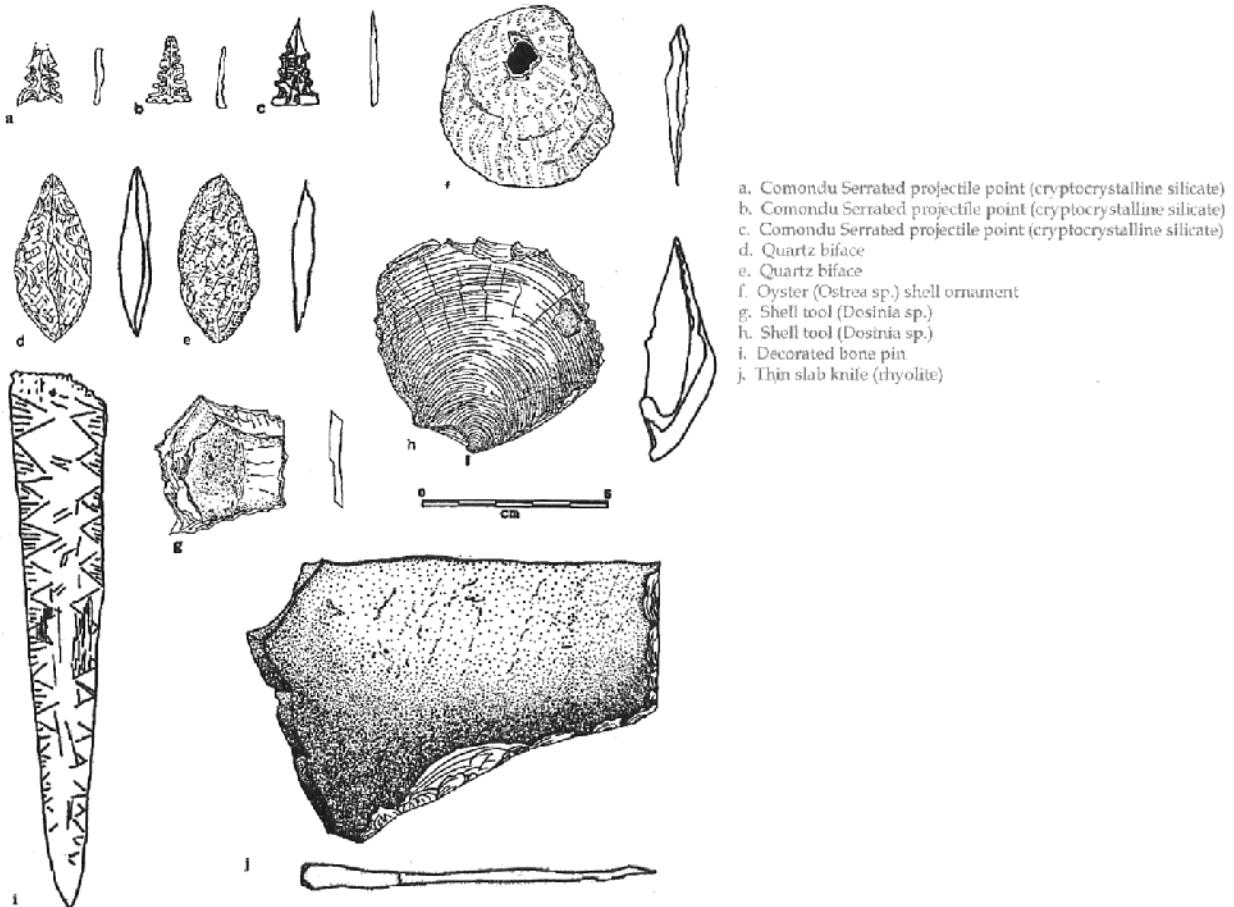


Figure 4. Artifacts from Bahía de los Ángeles-Bahía las Ánimas.

variety of fine grained and crystalline volcanic materials as well as quartz are also commonly employed for various flaked stone implements including some projectile points and common late stage bifaces.

Small eccentric projectile points occur in these western lagoons as they do in the highlands to the east, as well as Guerrero Negro triangular series projectile points (Figure 2e, f), possibly harpoon inserts. Bone harpoons and many bone awls are also found (Figure 2o, p). Only the larger stone tubes (*chacuacos*) are found in the dune sites. The diversity of late and earlier projectile points in this locality (see Ritter and Burcell 1998) is shared with areas to the west and south, a variety seemingly not as great to the north (also see Massey 1966b). This, again, may be a sampling problem or could be a reflection of more linguistic group diversity toward the south (i.e. stylistic or emblematic variation among cultural units) as represented in the division of Cochimí-pre-Cochimí groups, a reflection seemingly of a diverse, relatively food and water rich ecology (See Laylander 1997; Massey 1949; Sinopoli 1991; Weissner 1983).

Certainly what has been discussed in terms of technological variations is relatively superficial and surely over-generalized. These differences suggest a level of cultural diversity even among Comondú period peoples that occupied ecosystems quite variable. In turn, these variable ecosystems are reflected in varying mobility patterns as briefly discussed above. Certainly the areas around Bahía de la Concepción and in the Sierra de San Francisco contained more water and a richer terrestrial biomass. Habitats around the northern bays discussed and the

western lagoons were fertile in marine foods but were far more dependent on key water holes and/or transportation of water over longer distances, at least since early Holocene times.

Implications and new directions

Some archaeologists (cf. Rossignol and Wandsnider 1992) have advocated looking at archaeological landscapes, the investigation of past land uses by means of a landscape perspective combining regional geomorphologic, actualistic, taphonomic, site formation processes and ethnohistorical studies within a dynamic methodological and theoretical perspective. In reality, while sites have remained the conceptual unit for organizing information, the larger picture of human uses on various landforms and oceanographic units has been incorporated into the assorted investigative processes, albeit in a somewhat passive sense. Hyland (1997), for one, has emphasized the place of central peninsular rock art in the landscape as a cultural construct. The various principal studies listed earlier have been undertaken on a regional sampling basis. Despite their inherent partiality in terms of selection of locality, broad brushed regional examinations have lessened observational biases. There are obvious differences in particular prehistoric land and maritime uses across the central peninsula based on proposed strategies of movement, resource use, and social and ideological rationale and conception. The constraints of landform, resource distribution and character, near shore and off shore oceanic characteristics, and fresh water availability on these past peoples seem quite evident. The changing natural systems almost certainly influenced cultural dynamics on a short term and long term, evolutionary basis. The central peninsula is not homogeneous in landform or natural resources now or in the past. There are many localities lacking scientific investigations, especially in the northern reaches of the Central Desert and large sections of the western flanks of the central sierra and adjoining coasts. No location can be considered well studied. Paleoenvironmental data are still largely lacking.

There seems little doubt that Paleoindian peoples made their way down the peninsula. Whether they formed the base for subsequent, descendant populations is uncertain. By mid-Holocene times Archaic hunters/foragers seem well entrenched in the middle peninsula, in places occupying residential bases re-used into late prehistoric times in both upland and Gulf-side bases. Overall, in the last 2,000-3,000 years or so (cf. Hyland 1997:274-275; Ritter 1979, 1998:39) human use of varying landscapes in the mountains and on the Gulf side of the central peninsula has left a relatively dense heterogeneous pattern of residency, ritual, and task group vestiges. Along the Pacific side, on the other hand, a relatively linear pattern of concentrated mixed residential and task group remains occurs.

The proliferation of late prehistoric sites throughout the central peninsula and the regional differentiation is not solely a factor of procurement strategies and mobility variations. A number of possible reasons have been offered above, both in terms of internal socio-ideological mechanisms, including rock art displays and communication, but also outside influences and pressures. There appears to have been a high degree of group interaction and fluidity in social composition and mutual reciprocity and exchange of goods with partners, but primarily on an east-west basis, much as among ethnographic groups in the north peninsula. Such mechanisms tend to circumvent environmental risk while encouraging the spread of general technology and technological, even emblematic variation (as in point styles and rock art motif variations) and practice, and the formation of loose territorial/dialectical groupings. These were seasonally mobile groups with complex and dynamic socio-political and geographical arrangements. The

models offered above are more impressionistic than real, models that can hopefully stir useful discourse and study of the archaeological frontier set before us.

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