LATE PREHISTORIC BIOLOGICAL RESOURCE USE AND MEANING IN LOST VALLEY, SAN DIEGO COUNTY, CALIFORNIA

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ABSTRACT

This paper examines how the Cupeño, Takic speakers of inland San Diego County, used and understood the biological resources of their territory. Data sets analyzed include faunal materials from the Leaning Pines site in Lost Valley, ethnographic literature, oral history, and material culture items curated at the San Diego Museum of Man. The importance of deer in the Cupeño diet is established, the possible export of deer feet from the site for use in the construction of deer-toe rattles is discussed, and a seasonal round is suggested by examining ethnobotanic and faunal data, in conjunction with the Cupeño and Luiseño calendars. Based on archaeological and oral history information, suggestions are made about how the use and meaning of Lost Valley changed from prehistoric to historic times.

INTRODUCTION

Located at approximately 1450 meters above sea level in the Peninsular Ranges of San Diego County, Lost Valley comprises a remarkably diverse environmental zone. It contains a mosaic of biological habitats, including large upland meadows, oak woodlands, riparian habitats, extensive stands of chaparral, and pine forest. There is presently an abundance of water in the valley, mostly coming from springs. The abundance and diversity of plant and animal species available in Lost Valley would have made it an attractive area for prehistoric occupation.

Lost Valley lies within the recorded territory of the Cupeño, an ethnographically-recorded group which spoke a Uto-Aztecan language most closely related to Cahuilla. The Cupeño had their main village at Kupa, which is the area now known as Warner Hot Springs and from where the Cupeño were expelled in 1903 by U.S. government soldiers. Writing in 1929, 26 years after the forced removal of the Cupeño to the Pala Indian Reservation, William Duncan Strong placed Lost Valley near the eastern edge of the territory of the *Temewhanitcem* clan of the Cupeño. Strong's informants provided the name *Wiatava*, meaning place of the oaks, for Lost Valley. They stated that the Cupeño had gathered acorns, weed seeds, berries, and wild oats there (Strong 1929:245). According to Strong, "Only the most productive canyons, oak groves, cactus patches and seed-bearing areas were owned by the clans (ibid:248)." This demonstrates the importance placed on *Wiatava* by the Cupeño.

Writing in her 1882 publication, *A Century of Dishonor,* Helen Hunt Jackson reported that the Cupeño of Kupa "had in use ... Lost Valley, some fifteen miles from their village high up in the mountains, and reached only by one very steep trail." According to Jackson, Lost Valley was used for pasturing Cupeño-owned stock which could no longer be kept around Kupa. Based on figures provided by her informants, Jackson reported that up to 150 head of cattle, 50 horses, and 100 sheep were kept in Lost Valley (Jackson 1882:487).

Lost Valley has been the subject of recent archaeological investigations carried out by San Diego State University for the major landowner, the Orange County Boy Scout Council. During the summer of 1997, site SDI-2508, also known as Leaning Pines, was the subject of an archaeological field school carried out under the direction of Dr. Larry L. Leach. Analysis of the

collection recovered from this field work will be the subject of a master's thesis by Kaylene Fleming.

The Lost Valley archaeological project has included historical research, Native American involvement, and archaeological survey and excavation. Among the goals of the research program has been to determine how the natural landscape was perceived and used by its aboriginal occupants. In other words, what resources were available, how were they used, and what was the meaning of those resources to those who used them?

This paper addresses these questions by looking at how the biological resources of the valley were used by aboriginal people and particularly by those who inhabited SDI-2508.

FAUNAL RESOURCES

Today deer are commonly seen along the edges of meadows, and it is reported that two mountain lions regularly hunt in the valley. Coyotes and bobcats are occasionally seen, and small mammals present include jackrabbits, cottontails, woodrats, western gray squirrels, and western pocket gophers. Various birds of prey and passerines are common. Horses graze in the area.

A total of 11 animal species was identified in a 44 percent sample of the faunal collection from SDI-2508 (a total of 1540 bone fragments). Compared to a typical collection from a habitation site in San Diego County, this collection lacks diversity. Only mammals were identified. There were no fish, amphibians, reptiles, or birds in the assemblage. Table 1 lists the species identified and presents counts, weights, and minimum numbers of individuals (MNI) for each.

Table 1: Species Identified and Quantified for SDI-2508

Species	Common Name	Count	Weight	MNI
Canis sp.	Coyote or dog	1	4.15	1
Urocyon cineroargenteus	Gray fox	1	1.15	1
Lynx rufus	Bobcat	2	2.45	1
Sciurus griseus	Western gray squirrel	3	1.9	1
Thomomys bottae	Western pocket gopher	7	3.20	2
Neotoma sp.	Woodrat	1	.50	1
Sylvilagus bachmani	Brush rabbit	2	0.65	2
Sylvilagus auduboni	Cottontail	3	1.00	1
Lepus californicus	Blacktail jackrabbit	10	5.70	2
Odocoileus hemionus	Southern mule deer	38	193.5	9
Ovis canadensis	Bighorn sheep	1	63.75	1

Of the species listed in the table, Western pocket gopher and possibly brush rabbit are intrusive to the site and do not represent subsistence remains. As apparent from the table, the occupants of SDI-2508 focused their hunting on large mammals, particularly deer. Calculations of Minimum Numbers of Individuals demonstrate that artiodactyl were hunted successfully to the almost complete exclusion of other species. The importance of artiodactyls to the SDI-2508 population is further substantiated by examining the total counts and percentages of large and small mammal bones shown in Table 2. Medium-large mammals are defined as either medium (i.e., coyote or bobcat size) or large in size, and bones classified as small-medium mammals could represent either small or medium mammals. Because of the overall rarity of identified medium mammal bones in the collection, it is felt that these composite designations can be added to either the "large" or "small" category without jeopardizing the accuracy of the conclusions.

Table 2: Comparison of Large and Small Mammal Bone Totals at SDI-2508

Taxon	Count	Percent of All Bones
Western mule deer	38	2.47
Bighorn sheep	1	0.06
Artiodactyl	28	1.82
Large mammal	766	49.74
Medium-large mammal	109	7.08
Subtotal	**942**	**61.17**
Small mammal	179	11.62
Small mammal species from Table 1	25	2.48
Small-medium mammal	14	0.9
Subtotal	**218**	**15**
Undifferentiated mammals	316	20.52
TOTAL	**1476**	**96.69**

As Table 2 demonstrates, large mammal constitutes 61.17 percent of all bones analyzed, while small mammals account for 15 percent of the analyzed assemblage. Because the assemblage as a whole was characterized by extreme fragmentation, there were 316 bone fragments which could not be classified beyond the class level of "Mammal" and 41 which could only be classified as "vertebrate." If these bones are excluded from the statistics, large mammal bones account for 79.63 percent of the total identified bone from the site. Small mammal bones constitute only 18.51 percent of the total assemblage by count.

An analysis of skeletal parts present at the site was conducted. This analysis demonstrated that most skeletal elements were present in the site, and that, at least over time, all body parts of the deer were brought to camp. Judging from the large numbers of fractured long bone and lower limb elements throughout the site, it is felt that a major part of deer butchering was performed at the site, and that deer were hunted fairly close to the site.

As would be expected, non-durable bone elements are rare in the collection. Non-durable bones include ribs and vertebrae and are bones which deteriorate more quickly in the soil because of their lesser thickness and density. Of the durable bones, the complete absence of antler is interesting. This can be explained in part by the age breakdown of the deer recovered from the site. Of the nine MNI, two are fawns, and one is a juvenile. The remaining six deer are adults, but their sex could not be determined. Therefore, the absence of antler from the site may be the result of the age and sex breakdown of animals being killed; on the other hand, antlers make excellent percussion flaking instruments and so may have been exported for personal use or as trade items.

Metapodials appear in numbers far exceeding random expectation. This is common in archaeological sites, and may be explained in part by the ease with which metapodials can be identified, even from very small bone fragments. Their main interpretive value in this collection is to demonstrate that entire legs of deer were brought to the site, raising the question as to why phalanges, another durable element, are so rare in the site. All things being equal, we would expect six phalanges for each one metapodial. Instead, the collection contains 32 metapodial fragments (12 MNE) and only two fragments representing the first phalanx (2 MNE).

A possible explanation is that the feet were exported from the site for construction of deer-toe rattles. These musical instruments have been recorded for all ethnographic groups in the region, including the Cupeño (Drucker 1937:25). Fairly detailed information is available for the Ipai/Tipai, formerly referred to as Diegueño, the ethnographic group immediately south of the Cupeño. A specialist singer made and later used a deer-toe rattle in the keruk ceremony, which is the mourning ceremony held a year after an individual's death. According to informants, the

deer-toe rattle was burned following its use in a keruk (Luomala 1978:605; Almstedt 1968:1). There may have been other occasions when the rattle was used and not later destroyed. Among the Cupeño, deer-toe rattles were used in ceremonies for the dead (Miranda 1998:personal communication), but not in the keruk (ibid; Drucker 1937:25). Examination of rattles in the collections of the San Diego Museum of Man revealed that a single rattle required the feet of between two and five deer. Given the relatively low numbers of deer bones in the local archaeological record, one would expect that deer feet would have been carefully saved for this important use.

The two fawn elements from the site provide seasonal information. They were compared to elements from a fawn which was killed on a San Diego County highway in the month of June. The archaeological specimens were found to be the same size or somewhat smaller than the control specimen, indicating a summer kill for the animals. This is revealing, given that information provided by William Duncan Strong's informant suggests primarily autumn use of the valley.

BOTANICAL RESOURCES

The excavation at SDI-2508 produced very little in the way of macrobotanicals. Therefore, our analysis of aboriginal usage of botanicals is based on ethnographic research and the artifacts recovered and features recorded at the site. The archaeological evidence includes one deep mortar and at least eight portable metates in the immediate site area. Surrounding the site are nine boulders containing more than 60 mortars. About one km south on a shelf above the meadow is a large concentration of milling features. According to D. L. True's typology, these features together indicate general food processing with an emphasis on processing acorns (True 1993).

Approximately one km further west lies a smaller cluster of milling surfaces. This appears to be a site of grass seed processing as it is comprised of shallow basins and slicks (Fleming 1997).

Little is documented about the ethnobotany of the Cupeño. However, some information has been gleaned from Cupeño oral histories. Much of the ethnobotanical material has been suggested by the more abundant information on the Cahuilla, whose tribal territories were adjacent to the Cupeño (Strong 1929:183, 245). The ethnobotanical information cited in the text and summarized in Table 3 was compiled from several references (Barrows 1967; Bugbee n.d.; Hedges and Beresford 1986; Higgins 1952). Plant distribution data were derived from Munz and Keck (1973) and Beauchamp (1986).

Lost Valley is located between the desert on the east, home to the Cahuilla, and San Jose del Valle on the west, where the Cupeño village of Kupa was located. The artifactual evidence at SDI-2508 appears to indicate that Lost Valley, in addition to being a rich source of botanicals for the Cupeño, was a meeting place of the Cahuilla and the Cupeño. This interaction and the proximity of the Cupeño and Cahuilla territories allows us to infer much about Cupeño ethnobotany.

Lost Valley, with its diversity of floral resources, would have provided a bountiful supply for subsistence from late spring into fall. In the early spring, possibly as early as April, the agave begins to send up shoots which then flower. (While not noted in Lost Valley proper, agave is available within a few km of the site.) Both shoots and flowers may have been eaten. Summer supplies an abundance of berries, fruit, and seeds. These include manzanita berries, gooseberries, and elderberries, the fruit and tunas (paddle-like structures) of the prickly pear, and the seeds of chia and wild oats. Watercress and white sage provide greens. Wild oats and watercress, being introduced, could have been important only after European contact.

October and November are the months to harvest acorns, a primary subsistence staple of many native Californians. In Lost Valley, these acorns are produced by four species of oak – black oak, canyon oak, coastal live oak, and scrub oak (Fleming n.d.). According to Ethel Higgins, one acre of scrub oak can produce ten tons of acorns in a good season. Pine nuts are part of the Cahuilla diet. However the literature refers only to piñon pine nuts. Coulter pine is the native species in Lost Valley. It is not known if the Coulter pine nut was eaten. However, many other

uses for Coulter pine have been documented in sources for both Cahuilla and Diegueño, such as using needles for basketry and the pitch for medicinal purposes. Therefore, the fact that it was not mentioned as a food source is probably telling.

Lost Valley has the resources to provide an extensive pharmacopeia. Remedies for ailments ranging from head to toe can be extracted from the indigenous vegetation in the valley. A tea from the oak bark can aid gum inflammation; the sap can be chewed for toothache; and the bark can also be boiled for an astringent. Yerba santa tea may be used to treat respiratory ailments. Chia seeds and elderberry tea relieve stomach aches. Manzanita tea eases kidney problems and diarrhea, as well as helping to relieve the itch from poison oak. Agave roots relieve arthritis, while the agave sap soothes burns. The bark of both willows and cottonwoods contains salicin, a precursor to aspirin (Vogel 1970). Buckwheat, in addition to being a food resource, had important uses related to childbirth and infant health. All of these medicines were available during spring through autumn months.

Utilitarian needs can also be filled by the flora of Lost Valley. Deer grass and bunch grass, rushes, three-leaf sumac, and the needles of the Coulter pine were all used in basketry. Cordage, sandals, and horse blankets, for which the Cupeño were renowned, all were made from fibers of agave and yucca leaves. Bows and arrows were made from willow and cottonwood branches. Apron-like skirts were made from willow bark, and might have been made from the local cedar. The latter is known for northern California (Schulz 1954:105 cited in Alvarez 1995:72), but is not documented in the south. Dyes were produced from various barks and berries. Oak bark was used in tanning hides. The pitch of Coulter pine may have been used as an adhesive. Building materials and fuel were provided by oak and manzanita.

The residents of *Wiatava* had available to them several plant species important in ceremonies and rituals. For example, datura was used in the boys' ceremony, and the thorns of ceanothus were used to pierce their ears. The charcoal from the agave stalk provided dye for tattooing, and the smoke of burning white sage was a purifier and brought good luck. Cattails, available in the riparian habitats of the valley, were the material used in making the *masvut*, or sacred bundle of the clan, which was kept in the possession of the *nuut*, or clan leader.

DISCUSSION

William Duncan Strong wrote of a Cupeño calendar comprised of eight seasons that appear to be based on availability of plant foods. A very similar eight-period calendar is reported for the Luiseño, but the meaning of most of the period names has been lost (Kroeber 1925:682). Table 4 correlates the two calendars and suggests what part of the year each of the seasons may have represented.

Table 4: Cupeño and Luiseño Calendars and Suggested Correlations with Roman Calendar

#	Cupeño Season	Meaning	Luiseño Season	Meaning	Month
1	*tovakmal tovakic*	Acorns getting black	tovakal	fallen leaves	January-February
2	*tasmoimal tasmoiyil*	Everything coming up; greens ready to eat	tasmoyil	grass is green	March-April
3	*taupakmail taupakic*	"summer;" everything ripening, plenty to eat.	tawut?	?	May-July
4	*tausumbakmaiyil tausumlaxic*	ripening of grass seeds	tausanal	grass sere [withered]	July-August
5	*pakumoimal pakmoiyil*	wild cherries ripe and gathered	pahoyil	?	August-September

6	*nimoimal* *nimoiyil*	acorns ready to pick (Dec., the month when the eagle is supposed to die)	nemoyil	deer are fat	October
7	*novanomal* *novanwut*	"kwinil" acorns gathered.	novanut	?	November
8	*soimaimol* *someyil*	Finishing month (month in which the Luiseño Wiyot died)	Somoyil	?	December

With respect to the sixth period, we believe that the reference to December as the month when acorns are ready to pick is an error. Most other references place the acorn harvest in October and November. The Luiseño meaning for this period is "deer are fat." Deer become fat during the summer and are normally at their peak just prior to the beginning of the rut, or breeding season. In the coastal mountains the rut peaks in October (State of California 1998).

Based on the ethnographic information specific to *Wiatava*, the ethnobotanical literature, and the seasonality information provided by the faunal analysis, we propose that some Cupeño were probably present in the valley from the third through the seventh seasons. They would have returned to the milder lower elevations by the time of *soimaimol*. While we could not substantiate the attribution of this season to the month of December, we would suggest that the month when Wiyot died might correspond to the winter solstice.

Because it is unusual to find a faunal collection in San Diego County so dominated by large mammal bone, we would like to return to this subject. The faunal assemblage from SDI-2508 demonstrates a strong emphasis on the hunting of large game, particularly deer, to the near exclusion of other animals. This is in marked contrast to the ethnographic and archaeological literature for the region, which time and again emphasizes that rodent and lagomorph meat was the primary protein source in the Late Prehistoric diet. The data from SDI-2508 suggest that, at least seasonally, deer was a very important component of the diet in this region of the County.

In 1983, test excavations were carried out at Kupa, the main village of the Cupeño at Warner Springs. This work produced a faunal collection dominated by jackrabbit and cottontail remains, followed in frequency by rodent bones. Large mammals were poorly represented. Reasons proffered for their small numbers include low population densities, elusiveness around a village area, and that butchering may have occurred away from the site, with bones being left at the kill site (Cheever 1983). We suggest that deer populations would be depleted in the vicinity of a permanently occupied large village site, and other less desirable meat sources would become more important in such a location.

Given this likelihood for Kupa, it is suggested that *Wiatava* would have been an extremely important seasonal camping area for the *Temewhanitcem* clan. The other two Cupeño clans probably had comparable hunting areas within their clan territories.

One of the unanswered questions about SDI-2508 is whether it was occupied solely by Cupeño people. The prominence of desert imports in the site casts some doubt. However, it is possible that the desert materials so prominent in the SDI-2508 collection might have been traded by visiting desert dwellers to the Cupeño for the opportunity to obtain deer, acorns, and other valued plant products at *Wiatava.*

Given the obvious importance of deer to the occupants of SDI-2508, one must question why deer were not mentioned as an important resource of *Wiatava* by Strong's informant. The answer to this question lies in information provided by Helen Hunt Jackson's informants. By the late 1800s, *Wiatava* was being used by the Cupeño to pasture approximately 300 cattle, horses, and sheep. Not only would these domesticated grazers have out-competed native species, they were also much easier prey. The fact that acorns remained an important part of the diet despite the introduction of domesticated

plants suggests that acorns remained an optimal resource, certainly in terms of net energy cost, when compared to agriculture.

In conclusion, we wish to consider how the Cupeño viewed the landscape known as *Wiatava*. Based on this study of its biological resources, it is suggested that, prior to European contact, *Wiatava* was a place of abundant food resources where, during most years, *Temewhanitcem* clan members ate sufficient protein during the warm months to grow strong in body and where they gathered stores in preparation for the leaner winter months. We suggest that *Wiatava* was a place of gathering foods and people. Based on ethnographic accounts, we would expect that children learned from their grandparents how to hunt and how to prepare the tools and products of the hunt -- arrows, hides, bone tools, and rattles -- and how to gather and produce the products of gathered resources -- such as baskets, sandals, and medicines. Where people gathered, they traded, visited with kin, and found marriage partners.

After European contact, *Wiatava* appears to have remained an important place for the Cupeño. It may have been seen as a haven from European influence, remaining a place to regain strength and to gather food stores for the winter. As the Cupeño began to raise introduced livestock, they probably did not hunt as much in *Wiatava*. And when their livestock had to be moved from Kupa, they recognized that *Wiatava* was a place with abundant graze. Perhaps it was still possible to occasionally see desert kin in that location and even to discuss a marriage possibility. But with the forced resettlement of the Cupeño to Pala almost a hundred years ago, the physical connection of the *Temewhanitcem* to *Wiatava* was severed and it became a place of memories, and when those with the memories were gone, a place of legends.

The purposes of this paper were to explore how the biological resources of the valley were used prehistorically, and based on this usage, how the inhabitants of the valley viewed their landscape called by the Cupeño *Wiatava*. We hope that this exploration has provided some insight into these topics.

Notes

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Table 3. Ethnobotanical Uses of Plants Found in Lost Valley

Cultural/Utilitarian Uses

Plant Use	Scientific Name	Common Name
Basketry	*Juncus sp.*	Rushes
	Muhlenbergia rigens	Deer grass
	Muhlenbergia sp.	Bunch grass
	Pinus coulteri	Coulter pine
	Rhus trilobata	Three-leaf sumac
Cordage and yarn	*Agave deserti*	Desert agave
	Yucca whipplei	Whipple's yucca
Bows, arrows, apron skirts	*Salix sp.*	Willow
	Populus fremontii	Cottonwood
Dyes	*Quercus sp.*	Oak
	Salvia apiana	White sage
	Sambucus mexicana	Elderberry
Building and Fuel	*Pinus coulteri*	Coulter pine
	Populus fremontii	Cottonwood
	Quercus sp.	Oak
	Arctostaphylos sp.	Manzanita
Tanning hides	*Quercus kelloggi*	Black oak
Adhesive	*Pinus coulteri*	Coulter pine
Whistles	*Sambucus mexicana*	Elderberry

Ritual Uses

Charcoal for tattooing	*Agave deserti*	Desert agave
Thorns for ear-piercing	*Adenostoma fasciculatum*	Ceanothus
Boy's ceremony	*Datura meteloides*	Jimson weed
Thorns for tattooing	*Opuntia sp.*	Cactus
Purification, good luck	*Salvia apiana*	White sage
Sacred bundle (Masvut)	*Typha sp.*	Cattail

Subsistence

Scientific Name	Common Name	Part Used
Agave deserti	Agave	Stalk, flower, heart
Arctostaphylos sp.	Manzanita	Berries, seeds
*Avena fatua**	Wild oat	Seeds
Eriogonum fasciculatum	Buckwheat	Shoots, seeds
Opuntia phaeacantha	Prickly pear	Fruit, tuna
Pinus coulteri	Coulter pine	Nuts (questionable)
Quercus sp.	Oak	Acorns
Ribes roezlii	Mountain gooseberry	Berry
*Rorippa nasturtium**	Watercress	Greens
Salvia apiana	White sage	Leaves, seeds, young stalks
Salvia columbariae	Chia	Seeds
Sambucus mexicana	Elderberry	Fruit

* Introduced

Medicinal Uses

Scientific Name	Common Name	Part Used	Use
Agave deserti	Agave	Root, sap	Arthritis
Anemopsis californica	Yerba mansa	Whole plant	Many uses
Arctostaphylos sp.	Manzanita	Leaves	Kidney, poison oak, diarrhea
Ceanothus leucodermis	Wild lilac	Leaves	Itch
Eriodictyon parryi	Yerba santa	Leaves	Respiratory
Eriogonum fasciculatum	Buckwheat	Leaves, flowers	Stomach ache, female needs, baby diarrhea
Opuntia sp.	Cactus	Plant	Asthma
Pellaea mucronata	Bird's foot fern	Rhizomes	Stop bleeding
Pinus coulteri	Coulter pine	Pitch	Expectorant
Phoradendron flavescens	Mistletoe	Leaves, berries	Wash for sores, dandruff
Populus sp.	Cottonwood	Bark	Pain, fever
Quercus sp.	Oak	Bark, pitch	Gum for toothache
Rosa californica	Wild rose	Hips	Restorative
Salix sp.	Willow	Bark	Pain, fever
Salvia apiana	White sage	Leaves	Respiratory
Salvia columbariae	Chia	Seeds	Stomach, decrease secretions
Sambucus mexicana	Elderberry	Berry	Female needs, stomach