

## THE YAHİ AND SOUTHERN YANA: AN EXAMPLE OF CULTURAL CONSERVATISM, GENETIC ISOLATION, AND AN IMPROVERISHED RESOURCE BASE

JERALD JAY JOHNSON

*Archaeological Investigations since the middle 1950s have established that the Yahi and the Southern Yana had fluid settlement patterns, did not participate to any extent in developing regional trade systems, and remained relatively isolated genetically. During late prehistoric and early historic-contact times, the Yahi in particular chose to remain Yahi rather than acculturate to surrounding Indian or White cultures. Culturally and genetically they retained their distinctive way of life and physical characteristics, and disappeared with the death of Ishi, the Last Yahi.*

### THE RESOURCE BASE

#### GEOLOGICAL RESOURCES

The Tuscan Formation, which comprises much of the territory formerly occupied by the Yahi, is not known for its wealth of rock resources (MacDonald 1966:71). Significant rock types are limited mainly to andesite and basalt, with the occasional cobble of chalcedony and petrified wood. At one time the Yahi probably controlled the Kelly Mountain obsidian source, but before Ishi's time this had passed into the hands of the Northeastern Maidu (Nilsson et al. 1996). The Yahi's ancestors apparently lacked access to and used few rock types from adjacent regions and thus few items of chert, quartz, quartzite, sandstone, steatite, slate, schist, jasper, chalk, scoria, pumice, vesicular basalt, greenstone or other rocks and minerals were used (Johnson 1994). Tuscan obsidian was the most prevalent material obtained from outside the Yahi homeland, and it was from the former territory of the Central Yana (McGann 1993).

#### FLORAL RESOURCES

The plant communities associated with the Tuscan Formation and other volcanics of the southern Cascade Mountains are essentially similar to those found throughout the foothills and mountains of northern California. The lack of well developed soils of any depth on much of the Tuscan Formation prevented the growth of an abundance of flora that would have facilitated the development of a dense Native American population (Gowans 1967). A further complication

was the lack of dependable water supplies. Most of the rain disappeared as runoff because of the lack of soils to retain moisture. This often led to streams that would rise several meters in a few hours after several days of rain and then just as quickly return to a much lower rate of flow. Rainfall measured on the Dye Creek drainage for the last 40 years by the California State Department of Water Resources has ranged from just over 18 to just over 112 centimeters.

Further hindering the growth of vegetation was the variation in temperature throughout the year. In some years the lack of adequate moisture and the timing of the spring storms would result in the complete loss or at least major destruction of much of the acorn crop. In other years a prolonged period of temperatures over 38 degrees Celsius would cause the oak trees to shed more than 50 percent of their leaves and almost all of their immature acorns to protect the plants from too much moisture loss. These factors created a seven-year cycle of one good to excellent year, two moderate to mediocre, three poor, and one almost complete failure of the acorn crop. Usually during the poor acorn years the Yahi could count on some type of buckeye crop, but the grass and many other seed plants often failed to produce during hot and dry years.

#### FAUNAL RESOURCES

Animal resources were also often scarce because of the capricious nature and lack of availability of plants. At the current time, the Dye Creek drainage and lower Mill Creek are home to a portion of the Tehama deer herd. This population is substantially larger than that which

existed when Native Americans controlled the land. The herd was under continual pressure from Indian hunters and at the same time had a much different migration pattern than today. Not until just after the beginning of the 20<sup>th</sup> Century did the deer spend the winters in the foothills near the villages of the Yahis and then migrate to higher elevations around Lassen Peak in the vicinity of summer Yahis settlements. Instead most deer spent the summers in the riparian habitat on the Sacramento River flood plain, and only a small number moved to the mountains. The clearing of the flood plain and opening of the higher-elevation forests through logging, fires, and meadow enlargement forced most of the deer population to leave the valley in the summer and migrate instead to the newly established brush patches and enlarged meadows of the higher elevations (Wiant 1981).

The lack of abundant vegetation and hunting pressure also limited the numbers of rabbits, antelope, elk, bear and other important game animals. Fish and a few scattered freshwater mussel beds have been found in waterways in Yahis territory; however, fish and shellfish debris are found infrequently in Yahis sites.

#### WATER RESOURCES

The availability of water was critical to Yahis settlement patterns and available food resources. There were no lakes or other large bodies of water within their territory, so large numbers of waterfowl were not available. Most of the streams within their territory were small, warm-water, and often seasonal, and did not support any significant number of fish or shellfish. The larger year-round creeks and streams had salmon, trout, and eels, and perhaps a few mussel beds, but they were nowhere as prolific as the Sacramento and Pit River drainages to the west and north. Small springs and seeps do occur throughout Yahis territory but are not sufficient to support a large human population in one location for any length of time.

### REGIONAL TRADE SYSTEMS

#### SHELL-BEAD COMPLEXES

Throughout northern California there were several trading complexes which had the

distribution of shell beads and ornaments as a major component. Perhaps best known is the Clam Shell Bead Complex which originated in the coast ranges north of San Francisco Bay. This Complex included large quantities of clam disks, some *Olivella* beads, *Haliotis* ornaments and beads, magnesite beads and cylinders, serrated and un-serrated obsidian projectile points, black steatite disk and hourglass beads, perhaps charmstones made of siltstone, and some unmodified raw materials.

From northwestern California came pine nut beads (Farris 1982) and *Dentalium* and *Glycerimus* shell beads. Also traded with these beads were steatite pipes and pipe plugs, oil lamps, and pendants, shaped pestles of glaucophine schist, fossils and a variety of other objects. In exchange large quantities of obsidian were obtained from sources in northeastern California and perhaps southern Oregon and northwestern Nevada.

There is no evidence that the Yahis ever participated to any extent in the receiving or exchange of these artifacts and raw materials. Excavations along the Sacramento and Pit rivers, near Yahis territory, establish that the Wintu and their neighbors, the Nomlaki and Achumawi, received large amounts of shell beads and ornaments. Pine nut beads were also often found in abundance (Dotta and Hullinger 1964). Objects of steatite, glaucophine schist, and fossils, while infrequent, also occurred. The abundance of obsidian from northeastern sources is also well documented in the sites of these three groups. The Yahis and Southern Yana archaeological sites which have been test-excavated exhibit no such wealth of materials (Greenway 1982; Greenway and Nilsson 1986; Johnson 1984; Lassen National Forest and Mountain Heritage Associates 2001; Hamusek 1988).

### SETTLEMENT PATTERNS (100 TO 1,500 YEARS AGO)

#### SOUTHERN CASCADE FOOTHILLS

*Winter Villages.* Winter village sites are abundant in the southern Cascades. This does not mean, however, that this represented a large population. On the 15-hectare Dye Creek Ranch, 411 archaeological sites have been located and 33 have been identified as winter villages (Johnson 1994). Most of the larger rockshelter locations

have also been identified as winter villages, while many of the smaller shelters may have served as seasonal campsites. Of those identified as villages, it is likely that only one was occupied at a time. This is mainly because many of these sites had been abandoned hundreds if not a thousand years prior to Yahi occupation of the drainage. The high level of carbonates, presence of house pits, occasional larger ceremonial structures (at least six examples) and dark, greasy, friable middens clearly indicate that many were occupied within the last 500 years (Johnston 1975). The estimated population of the Yahi and Southern Yana Indians at about 800 individuals clearly shows that most drainages within their sphere of influence would have had no more than one or two winter villages active at the same time. Some drainages, such as Dye Creek, may have been unoccupied at various times in the past.

The same is true of the adjacent lower Mill Creek drainage, where of the 17 identified winter villages (and others unidentified) only one might have been occupied each winter (Johnson 1994). The lack of available firewood, over-exploitation of local bulb beds and rabbit populations, and movement of the deer away from occupied locations all may have contributed to the Yahi moving either upstream or downstream on a fairly regular basis.

Winter villages also have an abundance of surface artifacts, which represent a variety of activities. Metates and manos, and hopper mortars and flat-ended pestles, are relatively common. Arrow-shaft straighteners, occasional shell beads, abundant lithic debris and shaped chipped stone, faunal remains, housepits, and pitted-boulder petroglyphs are often present (Johnson 1994; Lassen National Forest and Mountain Heritage Associates 2001).

*Seasonal Camps.* On the Dye Creek drainage, the settlement pattern included hundreds of small seasonal camps located between winter village sites. These small, seasonal sites range from middens of less than a meter square and 20 centimeters deep to as much as 96 square meters of 20 or less centimeters depth (Johnson 1994:183-184). These sites are seldom found at the junction of side streams with the main drainages, and housepits are almost non-existent. Many of these sites on some drainages have one or more rock rings associated with them (Johnson 1994:184-

185). On the surface of these sites, there are few lithics, shell beads, or faunal remains, and hopper mortars and pestles are infrequent, while manos and metates are often abundant. It is assumed that the acorns were taken to the winter villages and stored for processing with the mortars, while at the seasonal camps grass seeds were gathered and prepared on the metates and consumed on a daily basis. The middens at the seasonal camps are also not as well developed and seldom have the black, greasy, ashy, friable deposit often found at the winter villages.

*Quarry Sites.* Few quarry sites have been identified in the foothills. One is a basalt quarry located at Black Rock (TEH-199; Lassen National Forest and Mountain Heritage Associates 2001:Chapter 6), another is an excavation into an ocher deposit at CA-TEH-263, inside a rockshelter (Johnson 1966:14). Both of these sites are in Mill Creek Canyon.

*Menstrual Lodge Locations.* Several sites have been identified as potential locations of menstrual lodges. They are small midden areas with a few lithics and sometimes a ground stone milling implement or two on the surface. They are within 105 meters of large winter villages, from which they are easily visible. They resemble small seasonal camp sites, and unless certain types of artifacts (such as backscratchers) are found in association, it may not be possible to determine if they were used for this purpose.

*Petroglyphs.* Pitted-boulder petroglyphs have been noted at more than 50 sites in the southern Cascades (Johnson 1994:99, Plates 7-9, Map 8). Some are so fresh in appearance that they look like they were made during recent Yahi occupation, while others range from slightly to extensively weathered. At TEH-539 on Mill Creek, there are 14 boulders that contain several hundred cupules (Johnson and Wiant 1975:20,23,114-116; Johnson 1994:99,161). This is the biggest concentration thus far found in Yahi territory. This type of rock art is seldom found on winter villages or seasonal campsites but is often at a distance of 50 meters or more from the edge of the sites. The cupules seldom appear to be in any pattern and are generally five centimeters or less in diameter and 2.54 centimeters or less in depth. At some locations, a single boulder will have from 25 to over 100 cupules on one or more surface (Johnson 1994:Plate 7B). A few sites also

contain cupules and lines, and at one location a bird-like figure was noted (Johnson 1994: Plate 7C).

#### SOUTHERN CASCADE MOUNTAINS

*Summer Villages.* Many of the villages on Mill Creek, at elevations between 350 and 900 meters, may have been occupied year-round by some of the residents. Few sites have been identified between 900 and 1,200 meters, while small, seasonal villages, hunting camps, and raw-material procurement sites are relatively abundant above the latter elevation to 2,300 meters or above. The villages are often located in protected meadow and valley locations and near significant food and raw-material resources. At TEH-296 and TEH-283 at 2,042 meters in Lassen National Park, *Wyethia*, manzanita, and gooseberries are in abundant supply while nodules of white chalcedony are nearby (Johnson 1975:22). Also in the vicinity are sulphur and other minerals at the Sulphur Works and Bumpass Hell. The surface of these sites contain metates, manos, and a few hopper mortars, large numbers of projectile points and lithic debris, burned faunal remains, and a midden deposit up to 27 centimeters in depth (Johnson 1975:16-22). CA-PLU-969/H at Drakesbad is at an elevation of 1,720 meters, at a hot springs at the edge of a meadow; the site lies near the volcanic hot springs and mud flows of Devils Kitchen and the Kelley Mountain obsidian source (Nilsson et al.1996). This site contains evidence of a long prehistory and a variety of artifacts. No rock art has been identified near summer villages while a few possible housepits have been noted (Johnson 1975:21,48, Figure 6). At sites such as these, a large population of Native Americans would have assembled to spend at least a portion of the summer.

*Hunting Camps.* Throughout the Lassen region there are many small camps that do not contain the variety of artifacts that occur with the summer villages. They do not have ground stone artifacts, there is no evidence of midden or burned faunal remains, and they are primarily defined by the presence of lithic debris and occasional projectile points, scrapers, and fragments of various other chipped stone tools. These sites occur near game trails, on the edges of meadows, and in the vicinity of alpine lakes (Journey 1974; Johnson 1975: 88-106).

#### *Quarry and Raw Material Procurement Sites.*

Besides the lack of an adequate food supply in the foothills, one of the other main reasons to move to higher elevations was the availability of several lithic resources not available at lower elevations. Prior to the movement of the ancestors of the Northeastern Maidu into the Lassen region, the Yahi probably controlled the Kelly Mountain obsidian source. At locations, such as Willow Lake, the largest site at the head of the valley had ten hopper mortars and metates, while at various locations around the lake and on Kelly Mountain, lithic scatters of various sizes occur (Johnson 1975:95). At PLU-969/H in upper Hot Creek Valley, about 0.8 kilometers to the northeast of Kelly Mountain, extensive reduction of this type of obsidian occurred at this summer village which had been occupied on-and-off for more than 2,800 years (Nilsson et al. 1996:41-42). The procurement of minerals associated with the various active volcanic features were also an important attraction of the Cascade highlands.

#### SACRAMENTO VALLEY

There is no evidence that the Yahi had settlements in the Sacramento Valley within the last 350 years. This lack of occupation by these people may have occurred even earlier than that further north. The Maidu's ancestors are believed to have moved into the Chico area about A.D. 1650, while the ancestors of the Wintu may have excluded the Yana living on Dye Creek from the valley well before 500 years ago (Dreyer 1984:38-40; Deal 1987:44-45, 234, 240; Kowta 1988). Excavations and chemical testing has demonstrated that no Native American populations occupied the lower end of the Dye Creek drainage from about 11.5 kilometers from the mouth of the canyon to 0.8 kilometers into the valley. Ten winter villages have been located within this locality, but none had been occupied within the last 500 years. Sometime prior to this (perhaps as long ago as 1500 B.P.), the Yana's ancestors may have moved easily back and forth from the Sacramento Valley into the Southern Cascade foothills (Johnson and Theodoratus 1984:205-209).

## GENETIC ISOLATION

### YAHİ AND SOUTHERN YANA

Based on information derived from the test excavation of 27 sites, and human remains from both controlled excavation and deposits looted by vandals, it is possible to advance ideas concerning the longevity and nature of Yana occupation, and their physical characteristics. Physically the Yahi and Southern Yana were very short, with females averaging 154.9 centimeters and males 160 centimeters. The skeletons of these individuals were by far more gracile than any of the surrounding native populations. This is consistent with the observations of Powers (1877), who said the Yana were the smallest and most gracile Indians he had ever observed (Johnson 1992).

The Southern Yana and Yahi are also distinguished by having extremely long and narrow heads. Most have an index which ranges between 72 and 74 (dolichocephalic), compared to surrounding groups which most often had broad (brachycephalic) to very broad (hyperbrachycephalic) heads. Many crania of these Yana often exceeded 195 millimeters in length while most other Indians living in adjacent regions were seldom above 190 centimeters (Johnson 1992).

The skeletal remains from this portion of the southern Cascades represent a population that does not resemble any of those living in the surrounding localities. Further, this prehistoric skeletal type in Mill, Deer and Dye Creek canyons has been evident in this locality from at least 2,500 or more years ago until an 1867 massacre. Ishi has no resemblance to this population in skeletal characteristics. He is taller, has a very broad head, and is big-boned (Johnson 1992).

### MAIDU, ACHUMAWI, ATSUGEWI, WINTU, AND NOMLAKI

The prehistoric Wintu, Achumawi, and Atsugewi had very broad heads, the Maidu had a tendency for broadness, while the Nomlaki ranged from narrow to mostly mesocranic (Johnson 1992). In stature the ancient Achumawi and Nomlaki were short like the Yahi and Southern Yana, while the Wintu and Maidu tended to be taller. Unlike the Yahi and Southern Yana, these

other Native Americans were substantially larger in boney structure. The Nomlaki, who like the Yahi and Southern Yana tended to have narrow heads and short stature, were completely different in the robusticity of their skeletons (Sullivan 1990: 34-35, 91-108). The diameter of their long bones were so much larger that Yahi and Southern Yana males were substantially less robust than the females in the Nomlaki population. There is simply no comparison.

### ISHI'S GENETIC AND CULTURAL AFFILIATIONS

Ishi, who is known as "the last Yahi," more closely resembled in stature the Maidu and the Wintu, not the Yahi or Southern Yana (Johnson 1992). He was tall, broad-headed, and big-boned. These characteristics fit many of the surrounding Native American populations, but not the Yahi or Southern Yana. The Yahi and Southern Yana retained their long narrow heads, short stature, and very gracile skeletal types for several thousand years. It is quite possible that his mother might have been Maidu or Wintu and that Ishi might have come to the Yahi as a young child or an unborn baby with his mother.

There is no question, however, that Ishi was Yahi, culturally. His small band did not adopt the use of guns, metal knives, axes, or a variety of other cultural paraphernalia that was readily available and which had been adopted by many of the surrounding Native American populations. Most of the historic artifacts and materials adopted by the Yahi were used to make and continue their traditional, culture, and not adapt to Euro-American ways. Bottle glass was used to make arrow points and scrapers; arrows were not replaced by the use of guns. Square nails were used as harpoon toggles held by string, tips for arrows, chipping tools. A saw was used, bottles and coffee pots were probably used for containing water and other liquids, and tea tins and other lidded cans may have been used for storage. The use of these containers did not supplant the making of baskets for cooking and storage and instead may have facilitated the storing of additional native foods and important objects. String, cordage, and human hair snares were still made and used, as were harpoons, rabbit-skin blankets, wildcat quivers, and a host of other traditional Yahi artifacts.

## CONCLUSIONS

## RESOURCES, TRADE, AND GENETICS DO COUNT

The lack of resources hindered the success of the Yahi and Southern Yana in many ways. They had few commodities that any of the surrounding groups needed or wanted, and in most cases they did not even have a food supply that assured them of sustenance from year to year. This resulted in a very small population that maintained considerable mobility between and on drainages within their territory. They readily moved back and forth between winter villages and seasonal camps in the southern Cascade foothills, and summer villages and procurement and hunting sites in the mountains. The lack of durable goods and food stuffs also did not allow these people to participate in the major trade networks that are evident throughout other portions of northern California.

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