

A RECENTLY DISCOVERED CACHE CAVE IN THE BACKCOUNTRY OF SANTA BARBARA COUNTY, CALIFORNIA

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In February 2015, a cache cave was discovered in the remote backcountry of Santa Barbara County. An investigation of the cache was carried out by the authors. Three baskets, a cave stick, and cordage were identified from the cache, which was mapped using 3D scanning and photogrammetry. A decorated storage basket appears to be the largest known from the Chumash area. The implications of this cache, and its relationship to other nearby caches and rock art sites, are discussed.

Cache caves are a poorly understood archaeological phenomena. This is largely due to a long tradition since the latter half of the nineteenth century of pot-hunting, and looting, or simply collecting by non-professionals of the contents of caches found in the areas such as the Santa Barbara backcountry. Dozens, if not hundreds, of such sites have had their contents removed with little or even no documentation of the arrangement of the artifacts. Equally, many of the finds have long since disappeared so that we will never know the extent of prehistoric caching. However, recent years have seen something of a renaissance in the study of Chumash cache caves. This includes the acquisition of artifacts by museums from responsible collectors, new techniques of documentation, and, as discussed in this paper, new discoveries.

In February 2015, the primary author, Stephen Bryne, discovered a cache cave in the backcountry of Santa Barbara County. This cache has subsequently become known as the Bryne Cache. The cache included three baskets placed upon a stacked-rock platform, and a large “cave stick”¹ propped against the cave’s apron—jutting towards the cache. The largest basket of the cache measured some 73 cm in diameter, and represents the largest Chumash basket presently known. A state site form was completed (Bryne and Degner 2015) and this site received a trinomial (CA-SBA-4075) from the Central Coast Information Center.

In October 2015, a team was assembled to record and recover the cache in partnership with the Los Padres National Forest Service and Santa Barbara Museum of Natural History. The team members included: John Johnson and Katherine Bradford of the Santa Barbara Museum of Natural History, David Robinson of the University of Central Lancashire, Carol Bury and Rick Bury of the American Rock Art Research Association, Stephen Bryne of ICF, Joel Degner of Leidos, Inc., and Devlin Gandy and Joshua Roth, of Los Padres National Forest, Partners in Preservation. The team spent two days (October 25-26, 2015) recording and recovering the assemblage, which is presently curated at the Santa Barbara Museum of Natural History under a curation agreement with the Los Padres National Forest (I.P. B6326.1).

CACHE CAVES

Traditionally, it is extremely rare to find organic perishable objects associated with archaeological sites. While the coastal and island sites of the Chumash have provided many artifacts of stone, bone, and

shell; little or no basketry, wood, or cordage have been discovered at these sites (Grant 1964:21). Thus, cache caves provide a unique opportunity to study this major component of indigenous material culture (Whitby 2012:34). Whitby's (2012) research identified at least 83 cache caves in the Chumash and adjoining areas. The arid conditions in this area mean that in these dry caves there has been exceptional preservation of organic materials. Items found in cache caves include large quantities of basketry, feather bands, wooden bullroarers, deer tibia whistles, bundles of plant materials, arrows, and arrow straighteners (Robinson et al. 2012:283). Caching practices in Southern California no doubt developed over centuries, with the earliest evidence of caching in Chumash territory associated with the Middle Period (see Whitby 2012:440), continuing well into the American era, more than 100 years after the first missions were built (Harrington 1986: R95, Fr. 398; Whitby 2012:439). Bean (1972:54) provides a detailed description of caching among the Cahuilla:

In addition to the storage of food in the granaries located about the village, families or individuals characteristically kept caches of food secretly hidden from everyone—sometimes in distant and remote places, sometimes buried in ollas under the ground, or placed in small caves. The openings to these small caves were carefully covered with brush to keep their presence unknown to others.

Whitby suggests the continuance of caching in caves may have been related to indigenous cultures trying to maintain their traditional material culture, with little noticeable change to indigenous material culture items caches during the Colonial Period (Whitby 2012:435-436). Thus, these cached material assemblages distributed across the Santa Barbara backcountry, inland from the missions and other colonial influences, provide new insight into indigenous practices and value systems during the tumultuous early historic period (Whitby 2012:37).

CHUMASH CACHES

The need to store foods for future use was critical to the Native Californian way of life. Granaries outside the home protected stores of acorns, grass seeds, bulbs, dried greens, nuts, and berries from the elements, and from pilfering birds and small mammals (Bibby 2012:46). Some storage baskets held great quantities of acorns and were so huge that they were mounted on platforms (Shanks 2010:8).

Most dwellings probably contained several storage baskets (Bibby 2012:46). Inside the dwelling, large storage baskets served as pantries and wardrobes and held short-term food supplies and other household items (Bibby 2012:46). Storage baskets were often used for storing acorns, chia seeds, and other foods indoors (Shanks 2010:24). In addition to food storage, this type of basket was used for storing items of material culture (Hudson and Blackburn 1983:61). These interior granaries held to a basic design concept: a semi-globular form with an enclosing mouth. Storage basket lids appear to have consisted of either a flat tray or a small basket (Bibby 2012:46; Hudson and Blackburn 1983:61; Shanks 2010:24).

According to Shanks (2010:33), archaeological baskets recovered from caves in the Santa Barbara backcountry may inform Chumash basketry, of which we have a limited knowledge. Shanks (2010:33) believes that if these cave finds are representative, the Chumash of this area primarily used grass bundle coiling foundations, while juncus was used as a weft material, along with sedge root and sumac. The earliest documented cache from the region of the Bryne Cache came from a collection of nine baskets that were acquired by the University of California in 1907 (Grant 1964:5). These baskets were discovered by J.E. Heath while he was working for C.E. James (Grant 1964:5). Kroeber (1925:562-563, plates 52, 53, and 54) illustrates a number of these baskets, including basketry water bottles, a burden basket, and a storage basket (Elsasser and Heizer 1963:11; Grant 1964:5; Mohr and Sample 1955).

Campbell Grant (1964:7-11) described nine baskets that were recovered in the 1920s from caves by Mr. J.G. James and Mr. Henry Abels. Two of the baskets are large storage baskets, one decorated, one is a dish-shaped decorated basket, two are asphaltum-lined water bottles, one is a large olla-shaped basket, one is a sieve, and two are gaming trays (Grant 1964:7). This collection of baskets, now known as the

James-Abels Collection, is housed at the Santa Barbara Museum of Natural History. Other examples of basketry and perishable materials were collected in 1934 by William Duncan Strong and Waldo Wedel and are part of the anthropological collections at the Smithsonian's National Museum of Natural History (Horne 1981; Strong 1935).

In 1962, Gordon Grant and Nicholas Goodhue, under the auspices of the Santa Barbara Museum of Natural History, recovered two baskets in the Santa Barbara backcountry (Grant 1964:11). These baskets consisted of an asphaltum-lined water bottle and a decorated shallow dish [a parching tray] (Grant 1964:11). Other caches from the same region have been discovered on private ranches. Archaeologists in the Heritage Resource Program of Los Padres National Forest have supervised recoveries of cached items that have been found more recently (Goller 1996; Whitby 2012).

In broad terms, the cached assemblages are often objects for gathering and storage, rather than ceremonial or non-utilitarian items. The cached assemblage discussed herein falls within this gathering and storage theme, emphasizing the importance of storage and resource allocation in the Santa Barbara backcountry.

THE BRYNE CACHE: DISCUSSION OF ASSEMBLAGE

The cache assemblage (Figure 1) consisted of a three distinct coiled baskets—a storage basket (B1), parching tray (B2), and a base/lid (B3)—with a piece of yucca cordage 8 cm in length recovered within the storage basket. The assemblage was placed within a northwest-facing cave located approximately two meters off the ground. A platform of stacked stones at least 18 cm in height² had been built in the cave, and with the exception of some slight movements of stone to extract the baskets, the stacked stone feature was left intact. In the following sections, each basket will be individually addressed. The discerning and distinguishing of basketry techniques and materials were made with the aid of Jan Timbrook (Santa Barbara Museum of Natural History) and Ed Jolie (Mercyhurst University).

The storage basket (known as a *xʔim* in Barbareño, Ventureño, and Samala Chumash languages) measures 73 cm across, and was placed horizontally atop the parching tray. Within the storage basket, a woodrat nest approximately 15 cm thick had been constructed. To recover the basket, portions of the woodrat nest were excavated, revealing the third basket—adhered to the larger basket by *amberrat*, a molasses-like mass. This third basket was later removed and cleaned at the Santa Barbara Museum of Natural History, revealing a small and heavily mended, coiled basket with a differing weave and stitch count from the storage basket, a differing overall structure, and multiple repairs. Further removal of pack rat midden at the Santa Barbara Museum of Natural History revealed copious amounts of piñon nuts as well as an 8-cm length of yucca cordage.

The storage basket (B1) measures 79.5 cm at its widest, and 68 cm in height (Figure 2). It is closely coiled with a bundle foundation and non-interlocking stitches at 1.5 to 2 coils per centimeter, and 4 stitches per centimeter (Figure 2). The basket's bundle base was formed with deer grass (*Muhlenbergia rigens*), while sumac (*Rhus aromatica*) served as the sewing material; the black designs appear to have been created from mud-dyed juncus (*Juncus textilis*). Sumac may have been a preferred sewing material in the interior regions, and is generally more prevalent for baskets intended for harsh utilitarian uses, being a stronger and more durable weft material than juncus, though it is harder to weave (Dawson and Deetz 1964:15).

The basket is patterned with what is often referred to as the butterfly stitch, an X-shaped motif known throughout South Central California, as well as from Chumash basketry (see Shanks 2012; Dawson and Deetz 1964). Interestingly, a similar storage basket, also recovered from the remote Santa Barbara backcountry, and housed in the Santa Barbara Museum of Natural History (NA-CA-146-4F-7), has an almost identical pattern of decoration to this storage basket (see Hudson and Blackburn 1983: Figures 5.72 and 5.73).



Figure 1. Bryne Cache in situ. Photograph by Devlin Gandy.



Figure 2. Storage Basket (x?im) (B1), sideview (left), looking through former base (right). Photograph by Devlin Gandy.



Figure 3. Parching Tray (B2), working surface on left. Photograph by Devlin Gandy.



Figure 4. Heavily mended basket (B3), potential base of storage basket. Photograph by Devlin Gandy.

The parching tray (B2) measures 47 cm across and is more closely coiled (at 5-6 stiches per centimeter) than the storage basket. The surface appears to have been treated with asphaltum, which has left a thick, dark patina (Figure 3). The sewing material is difficult to identify due to heavy carbonization and good residue. It appears to potentially be sumac (*Rhus aromatica*), rather than *Juncus textilis*, but the identification is speculative. Likewise, the foundation is obscured heavily by use and patination, but appears to be a deer grass (*Muhlenbergia rigens*) foundation. The convex surface utilized intentional split stitches, while the base, and repairs to the base, utilized non-interlocking stitching at 3.5 coils per centimeter. Approximately 35 percent of the parching surface is missing, with gnaw marks from rodents evident. The original rim coil of the parching tray was also absent, but the outermost remaining coil shows polish that suggests it served as the rim for some time after the original rim coil was lost, prior to caching.

A heavily mended basket (B3) measuring 26 cm in diameter was found within the storage basket (Figure 4). As with the other baskets, it appears to have been sewn with sumac (*Rhus aromatica*), rather than *Juncus textilis*. The foundation appears to be deer grass (*Muhlenbergia rigens*), turning into a 3-rod juncus base for the basket walls. The lack of designs, heavy deposition of material, copious repairs, size,



Figure 5. Bryne Cache in situ with cave stick. Photograph by Josh Roth.

and location within the storage basket suggests it likely served as the storage basket base, a repair after the initial base was lost. It is not evident whether the basket was intentionally made to serve as a base for the storage basket (B1), or, whether the basket was repurposed as the base after being damaged.

An approximately two meter-long cave stick made from a trimmed California juniper (*Juniperus californica*) bough was found resting against the cliff face holding the cache, and leaned into the cavity containing the baskets (Figure 5). Whitby's (2012) work shows that it is not uncommon to find such sticks associated with caches in the greater Southern California region. McArthur's (2015) analysis suggests that cave sticks may have had a number of purposes such as marking a cache location, being used as part of the architecture of storage such as for hanging baskets, or even being simply part of the cache themselves, saved for potential future usages. Such sticks being associated with baskets in caves or shelters are therefore best called "cave sticks" which reflects their possible multiple usages. While a poorly understood phenomena, the temporal importance of cave sticks seems to point to relatively late usage. Recent work on cave sticks shows no evidence of them being utilized any earlier than the Late Period (i.e. no earlier than circa A.D. 1350, and perhaps not this early) into the Mission Period. Further research should help clarify this issue as there are very few dated caches with associated cave sticks.

DOCUMENTATION METHODS

In considering extraction of the baskets and the unique nature of an in situ cache, a highly detailed documentation through multiple methods was undertaken, emphasizing redundancy and minimalizing errors. To that end, Devlin Gandy and Joshua Roth recorded the in situ cache assemblage through both laser scanning and photogrammetry modeling. David Robinson made additional archaeological sketches. The

combination of laser scanning and photogrammetry required a total of 12 hours of field effort, divided between two days.

Laser scanning utilized a FARO Focus 3D laser scanner with resolution set to ¼, and quality at 4X. A total of 18 scans were made of the baskets and rock shelter. These were divided between seven scans outside of the cave feature, and 11 within the cave. Three one-meter scales were used outside of the shelter, while six 10-cm scales were used within the shelter.

Photogrammetry modeling was undertaken using two full frame 36.3 megapixel Nikon D800 cameras. Two lenses were utilized: a Nikon 18-35 mm f/2.8 and a Nikon 28-70 mm f/2.8. Three one-meter scales were used outside of the shelter, while six 10-cm scales were used within the shelter.

Photographing the cache presented unique difficulties. The high dynamic range of the contrasting light conditions, exceptionally low light, confined spaces, dust, and a high potential for accidental movement of the stone platform resulted in a slow and tedious process.

The initial effort to model began during midafternoon, due to the orientation of the draw. Midday and afternoon lighting presented unforeseen extremes of contrast between illuminated and darkened portions of the cache which resulted in loss of details, image distortion, and data loss through blowouts and shadows of light. Exacerbating the issues, due to the strong contrasts of light, and uniquely confining nature of the cave, the use of auxiliary flash units was unfeasible.

The following day, photogrammetry began at dusk to allow artificial lighting of the assemblage. Three handheld LED panels were used to light the cache. Photographs were taken with 20-second exposures at ISO 100 and at f/22, each image was individually hand painted with LEDs, allowing even lighting over the entire cache without blowouts from highlights or blackouts from shadows (Figure 6).

In total, 350 images were taken of the cache. These were color corrected, adjusted for contrast and brightness, and corrected for lens distortion in Photoshop CS6 prior to modeling. Modeling was accomplished with Agisoft PhotoscanPro. This model is to be merged with the FARO data to create an immersive and high fidelity 3D model of the cache in situ that will be accompany the large basket on display at the Santa Barbara Museum of Natural History. The model also will be developed into an interactive website and forms an exceptionally detailed addition to the site record form—allowing future researchers the ability to access an in situ cache.

DISCUSSION

Almost exactly 30 years ago, and very near the present cache shelter, John Johnson of the Santa Barbara Museum of Natural History recorded another cache location, known as Año Nuevo Cache (SBA-1985). The SBA-1985 cache contained portions of two small, twined water bottles and three long sticks (Johnson 1985). The three sticks appeared to partially define the basketry cache and the central basket rested on a small slab of sandstone. Although the three sticks did not have any obvious function, they may represent cave sticks (Whitby 2012:358).

Also in relatively close proximity to the Bryne Cache are three pictograph sites (SBA-1668, -1669, and -1984). All three pictograph sites also contain bedrock mortars and/or cupules. The presence of multiple cache caves, pictograph sites, and bedrock mortars (BRMs) in the Santa Barbara backcountry suggests that there may be a relationship between these three site types, at least in this area (Whitby 2012:359, 433). Robinson (2006; 2010; 2011) has demonstrated a link between pictograph sites and BRMs, particularly in the San Emigdio region. Cache caves may also be related to the activities taking place at the other site types (Whitby 2012:359). Whitby (2012:433) suggests that caching in caves and the use/production of rock art may have been integral parts of the food resource gathering/processing/storage regime.

Of the three types of caching identified by Whitby (2012:423-434), the present cache cave appears to represent *Type 3 caching*, that is, the cave appears to be related to the caching of equipment used for hunting and gathering or food resources such as nuts and seeds (Whitby 2012:429-430). Whitby (2012:430) observes that storage of food resources would have been vitally important to indigenous hunter-gatherer



Figure 6. Cross-section of photogrammetry model.

groups such as the Chumash and the caves of the Santa Barbara backcountry may have provided a valuable storage facility.

In the ethnographic notes of John P. Harrington, Samala Chumash informant Maria Solares gave an account of how one should take care of their storage baskets. Solares stated, “[You] kept them inside house. Do not put them on bare ground—place on wood, basket tray, or reed mats so won’t rot on ground” (Harrington 1986: R8, Fr. 585). In considering the present cache, it is pertinent to note that the baskets were placed on the stacked rock platform. The stacked rock platform not only separated the baskets from potential moisture from the host rock but also aerated the cache—as a framework of sticks might.

The use of cave sticks appears to have been a long-standing practice in the Santa Barbara backcountry (Whitby 2012:433-434). Although cave sticks are a common feature of many caches in Chumash territory and in Southern California, their meaning and purpose remains debatable.

CONCLUSION

The discovery of this singular cache assemblage by a trained archaeologist was fortuitous. Bryne was able to first document it in situ, create a site form, and then assemble a team to apply the most rigorous documentation methods available with modern technology. This allows an unprecedented view of the caching process which entailed utilizing stacked rocks to form a platform, then a placement sequence of parching tray, large basket, and mended basket. The cave stick, whatever its purpose, was likely placed afterwards, although this is somewhat uncertain.

As the largest Chumash basket ever discovered, the cache certainly was part of the local gathering practice for a small group who may have utilized the bedrock mortars at the nearby rock art site as well as other nearby landforms. With a relatively diverse flora, along with the previously discovered nearby caches,

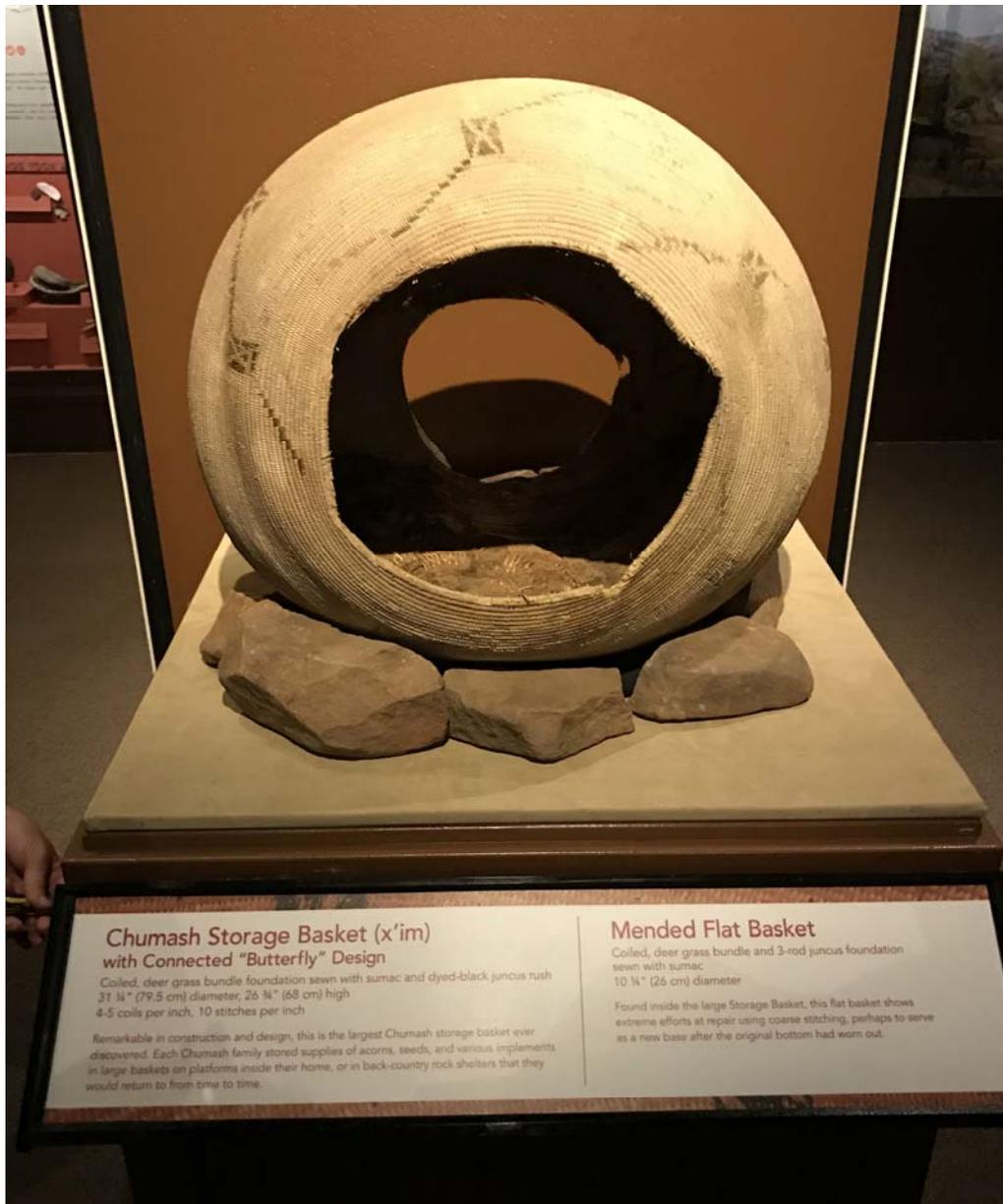


Figure 7. Bryne Cache baskets on display at the Santa Barbara Museum of History's Chumash Hall. Photograph by John Johnson.

the evidence indicates that the area was heavily utilized by hunter-gatherers. Importantly, the enormity of the basket further suggests that a sizable amount of storage was an important function for a discrete group (perhaps a household) and so that visits to the area likely had some degree of duration.

Importantly, the objects were left alone and in place at the time of discovery. This allowed for a team of archaeologists and other specialists to document the Bryne Cache in the highest detail currently possible. The subsequent recovery and exhibition of the storage basket alongside an interactive 3D reconstruction at the Santa Barbara Museum of Natural History and on its website means that for the first time ever the public will be able to appreciate both the object and the context in which it was found (Figure 7).

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¹ "Cave sticks" are large sticks with bifurcated ends.

² The platform feature was not excavated, but the sidewalls of the feature indicated a minimum height of 18 cm.