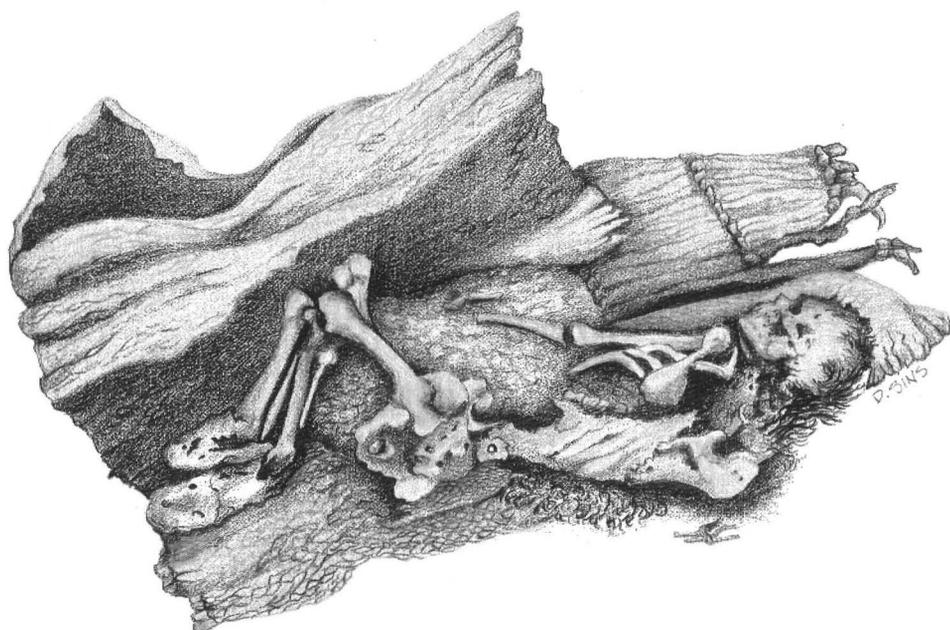


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NEW INFORMATION REGARDING EARLY HOLOCENE MANIFESTATIONS IN THE WESTERN GREAT BASIN

Donald R. Tuohy and Amy J. Dansie

INTRODUCTION

This article describes the sixty-seven artifacts which were found in Spirit Cave. Fifty-three artifacts were catalogued on five-by-seven inch cards by S. M. Wheeler, and the additional artifacts were found with the mummy, such as the remnants of the fur robe and the pair of moccasins. We start first with the ground stone, then the chipped stone, then the artifacts made of wood, fiber, animal skin, and hair, in that order. The dating of the artifacts and the radiocarbon laboratory numbers are shown in Table 1. The dimensions of the artifacts are given in Table 2, and the artifacts are shown in Figures 1-17. Catherine Fowler and Eugene Hattori whose paper was presented at the Sixty-second Annual Meeting of the Society for American Archaeology, April 2-6, 1997 (Fowler, *et al.* 1997), are conducting further study of the artifacts.

Not only do Donald R. Tuohy and Amy J. Dansie comprise the Anthropology Department at the Nevada State Museum, they also serve as co-editors of this special issue of the *Quarterly*.

Table 1. Spirit Cave and Related Dates

Spirit Cave Mummy Dates, 26Ch1f (AHUR 2064)			
Lab Sample #	Material	Date	Notes
UCR-3324-1/ CAMS 24194	Twined tule mat	9,410±60	total amino acids; 1-20-2
UCR-3324-2/ CAMS 24197	Twined tule mat	9,460±60	total amino acids
UCR-3323/ CAMS 24199	Diamond plaited mat	9,430±70	total amino acids; 1-20-2
UCR-3261-2/ CAMS 12353	hair AHUR 2064/1-20-2	9,360±60	water only
UCR-3261-4/ CAMS 12354	hair AHUR 2064/1-20-2	9,350±70	total amino acids
UCR-3261-2	hair AHUR 2064/1-20-2	9,440±60	water only
UCR-3260/ CAMS 12352	bone AHUR 2064/1-20-2	9,430±60	total amino acids
		9415±25	weighted mean
Other Spirit Cave Dates			
UCR-3480/ CAMS- 30558	Diamond plaiting	9,270±60	Burial #1; 1-20-60
UCR-3475/ CAMS- 33690	human bone, female	9,300±70	Burial #1 AHUR 770, scattered bone in site
UCR-3478/ CAMS -30557	Twined cordage bag	9,040±50	Cremation #2, 1-20-5 AHUR 752
UCR-3474/ CAMS- 33689	human bone, male	4,640±50	AHUR 748 scattered bone in site
UCR-3479/ CAMS-3479	Coiled basket	2,200±60	1-20-7
UCR-3481/ CAMS-30738	Twined grass mat	1,700±60	1-20-65
Relevant Dates from Other Sites			
UCR-3477/ CAMS- 3691	Diamond plaiting	9,470±60	Grimes Burial Cave, CM-13-G-8; Bone AHUR 743, 744=CM-13-G-2
UCR-3483/ CAMS -30739	Diamond plaiting	9,120±60	Crypt Cave, 26Pe3a/111
UCR-3482/ CAMS- 33669	Twined tule, cordage matting	180±50	Lovelock Cave, 1-20181, 26Ch5
UCR3445/ CAMS-28124,29810	human bone, male	9,225±60	Wizards Beach, Pyramid Lk. 9,250±60 / 9,200±60

The Wheelers only rarely kept notes on where the artifacts were found in the excavation, but the burials were handled with exceptional care. Of the five human burials they encountered, they re-buried part of one, and the rest they brought to the Nevada State Park Commission. They were incorporated in the State Museum collections after 1941 when the Nevada State Museum was founded. The Wheelers apparently were not aware that among the scattered human bones they collected from the cave fill were two individuals, one of which is probably a remnant of their Burial number 1, as the date on the female bone and the Burial number 1 matting are essentially identical (Table 1).

In 1994, R.E. Taylor from the University of California, Riverside, asked D.R. Tuohy for some examples of human hair and bone from the mummies housed at the Nevada State Museum to calibrate his new method of radiocarbon dating hair (Taylor *et al.* 1995). While opening and examining each mummy for the presence of hair, Amy Dansie opened the Spirit Cave mummy box which had been sealed since its arrival at the museum in the 1940s. Because Tuohy (1969) had published Wheeler's paper on the Spirit Cave mummy, the mummy was generally known to exist, but it had not been studied since the 1940s. Upon removal of the outer open-twined tule matting, we both noted that the second matting down was plaited, not twined as Wheeler had stated repeatedly (see the article by S.M. Wheeler in this issue).

After the astonishing date on the mummy was obtained, and a flurry of preliminary studies was made on the associated materials in the cave, it became clear that we had essentially a newly discovered major textile type in our collections. Far from a small fragment easily forgotten without a date or context, the Spirit Cave diamond-plaiting examples were large, beautifully woven mats and bags with radiocarbon dates consistently exceeding 9,000 years ago (Tuohy and Dansie 1996:4-5). In the process of confirming the bone and hair dates in 1995, other samples were submitted to UCR for radiocarbon Accelerator Mass Spectrometry (AMS) dating. In 1996, permission to date additional textiles from the Lahontan Basin was obtained from the Bureau of Land Management (BLM), the agency with jurisdiction over most of the dry caves in western Nevada. The results of all these assays are listed in Table 1. Because of the importance of each specimen, a summary of each is presented in Table 2.

THE ADDITIONAL ARTIFACTS FROM SPIRIT CAVE

There were found in Spirit Cave three ground stone tools, five chipped stone artifacts, one mountain sheep horn pendant, three wood artifacts, four baskets, three burial mats, one rabbit-skin robe, one pair of moccasins, and one twined-grass mat, plus a variety of fragments of the above. The list of artifacts and their dimensions is shown in Table 2.

Table 2. Artifacts and Dimensions from Spirit Cave, Nevada					
<i>Number</i>	<i>Original Description, Material</i>	<i>l. mm</i>	<i>w. mm</i>	<i>Th. mm or prov</i>	<i>Notes</i>
1-20-1	Burial No.1; most bones reburied	1'		2'3"	On top of Burial No.2 assoc., finely woven tule mat (1A)
1-20-2	Burial No.2, male mummy			2'3" to 3'8"	Under Burial No.1 on right side, semi-flexed position
1-20-3	Metate, found above cremations 1 & 2	?	?	?	It was "exchanged."
1-20-4 a,b	Cremation, No.1 in a close-twined bag	trench	---	2'3"	Cremation bags (outer bag)& (inner bag)
1-20-5	Cremation, No.2 in a close-twined bag	trench	---	2'6"	Hemp bag containing cremation
1-20-6	Plaited-tule matting, frags.	176	---	47	Burial No. 2
1-20-7	Basket, fragment, coiled, coiled basketry	51+	77	10.7	clockspring start, miniature size
1-20-8	Bone, frags., human female	--	---	---	30-35 year old female vertebrae, ribs, feet, pelvis
1-20-8 a,b,c	animal bones	---	---	---	bobcat calcaneus, coyote nasal/frontal bone, long bone shaft splinters
1-20-9	coyote mandible	109	35	?	mummified
1-20-10	Pelvic bone, human	---	--	---	15 yr. old male
1-20-11	Stone ball, black scoria	46	46	32	one face used for rubbing

Table 2. Artifacts and Dimensions from Spirit Cave, Nevada					
<i>Number</i>	<i>Original Description, Material</i>	<i>l. mm</i>	<i>w. mm</i>	<i>Th. mm or prov</i>	<i>Notes</i>
1-20-12	Worked stone, brown scoria	75	64	50	two faces used for rubbing
1-20-13	Knife, fragment, biface scraper	27	38	08	opaque obsidian biface
1-20-14	Scraper, fragment, pointed scraper	36	28	09	keeled, "wonderstone"
1-20-15	Flake, flake graver	39	15	04	heat-treated(?) chert
1-20-16	Proj. pt., fragment, proj. pt., blade, broken	39	21	04.5	banded b/w obsidian; central part
1-20-17	Proj. pt., fragment, proj. pt., base	34	26	03	Humboldt Basal-notched point, clear obsidian
1-20-18	Tule matting, frag.	100	36	16	probably from Burial 2
1-20-19	Tule matting, frag.	111	105	20	probably from Burial 2
1-20-20	Twined tule, from matting	52	16	7	z-twisted, probably from Burial 2
1-20-21	Tule matting, frag.	68	28	14	z-twisted, probably from Burial 2
1-20-22	Grass knot	67	32	27	s-twisted overhand knot
1-20-23	Knotted buckskin	33	13	4	tied in a square knot
1-20-24a	Bent grass in a loop	42	27	5	4 stalks, z-twisted
1-20-24b	Bent grass in a loop	84	---	2	U-shaped grass loop

Table 2. Artifacts and Dimensions from Spirit Cave, Nevada					
<i>Number</i>	<i>Original Description, Material</i>	<i>l. mm</i>	<i>w. mm</i>	<i>Th. mm or prov</i>	<i>Notes</i>
1-20-25	Dung containing string	---	---	---	coyote (?) dung
1-20-26	String; 4 cords, in 2 pairs	65	---	1	from fur skin robe
1-20-27	String; 4 cords, in 2 pairs	52	---	1	from fur skin robe
1-20-28	String, 2 ply	140	---	2	Apocynum z-twisted
1-20-29	Braid, 3 elements	33	5	5	
1-20-30	String, Apocynum	112		2	Two ply, z-twisted
1-20-31	String, ?	310	---	2	Two ply, s-twisted
1-20-32	Rope, z-twisted				
1-20-33	String, z-twisted	75	---	3	Apocynum
1-20-34	String, z-twisted	34	---	5	Two ply
1-20-35	Twisted rushes				
1-20-36	String, Apocynum	52	---	2	z-twisted
1-20-37	String, 2 ply	120	---	4	z-twisted
1-20-38	Twisted & knotted twigs	220	---	7	overhand knots
1-20-39	Arrow cane, fragments (1)				"Hemp Stalk" Apocynum? (2)

Table 2. Artifacts and Dimensions from Spirit Cave, Nevada					
<i>Number</i>	<i>Original Description, Material</i>	<i>l. mm</i>	<i>w. mm</i>	<i>Th. mm or prov</i>	<i>Notes</i>
1-20-40	Knot, made out of tule	63	52	10	2 overhand knots
1-20-41	Grass knot	155	45	24	4 overhand knots
1-20-42	Grass rope, 3 pieces	120 to 150	15 avg.	12	
1-20-43	Tule knot	90	30	24	1 overhand knot
1-20-44	Looped and twisted tule	250+	?	10	---
1-20-45	Fur string, rabbit	140	---	17	z-twisted fur
1-20-46	String, 2 ply	80	---	4.5	z-twisted
1-20-47	Dung containing string	---	---	---	coyote dung
1-20-48	Worked wood, knife handle	155	38	23	hardwood branch
1-20-49	Worked stick; foreshaft to arrow	122	---	07	greasewood
1-20-50	Foreshaft; foreshaft to arrow	152	---	09	greasewood
1-20-51	Quill	174	---	06	
1-20-52	Feather, 3 groups matted				
1-20-53	Tule, 2 pieces	210	---	20	seed pods from tule

Table 2. Artifacts and Dimensions from Spirit Cave, Nevada					
<i>Number</i>	<i>Original Description, Material</i>	<i>l. mm</i>	<i>w. mm</i>	<i>Th. mm or prov</i>	<i>Notes</i>
1-20-54	Group of tules tied in knot, for storage	300	80	80	Pit #1 untwisted
1-20-55	Group of tules tied in knot, for storage	300	80	80	Pit #1 untwisted
1-20-56	Tule braid	230	20	15	Pit #1, 3 elements
1-20-57	Tule braid	165	7	7	Pit #1, 3 elements
1-20-58	Tule braid	175	10	10	Pit #1, 3 elements
1-20-59	Tule Matting, 2 PCs.	167 114	160 68	33 9	Pit #1
1-20-60	Tule matting, frag.	214	60	27	General diggings
1-20-61	2 pieces plant stem, triangular	90 85	55 55	55 55	<i>Scirpus nevadaensis</i>
1-20-62	Sheep pendant	93	22	3	Pit #1, Mtn. sheep
1-20-63	Ball of fur (?) material	---	---	---	Pack rat nest
1-20-64	Ball of fur (?) material	---	---	---	Pit #1
1-20-65	Matting, fragment made out of six grass warps and 5 to 6 tule wefts	920	120	25	Made of bundles of grass twined together, Pit #1
1-20-66	Matting fragment, pit lining				

Table 2. Artifacts and Dimensions from Spirit Cave, Nevada

<i>Number</i>	<i>Original Description, Material</i>	<i>l. mm</i>	<i>w. mm</i>	<i>Th. mm or prov</i>	<i>Notes</i>
1-20-67	Rt. & Lft. moccasins on Burial #2's feet				Eaten by rodents, 3/4 of rt. still there, less than 1/2 of left

Ground Stone (1-20-3)

One ground-stone metate was found in Spirit Cave above the cremations. A later note on Wheeler's card said "exchanged." We do not know what was "exchanged" for the metate.

Two Ground -stone Tools (1-20-11 and 1-20-12)

Two other ground stones were used (Figure 1). Both were made out of scoria. The black smaller one has one face which was used for rubbing. The small rubbing stone can be held between the fingers. The larger one was made out of red scoria and it has two ground faces which are convex in shape. The larger one can be held by one hand. The Wheelers called the smaller one a "stone ball" and the larger one a "worked stone." The larger scoria has a ring around it formed by calcium carbonate, as though it had lain close to the water's edge (a stream or a lake).

Chipped Stone Artifacts (five)

Projectile point parts (2), (1-20-16 and 1-20-17). There were two parts of projectile points found in Spirit Cave (Figure 2). Number 1-20-16 was part of a projectile-point blade minus the tip end and the base. It is made out of banded obsidian, and both sides of it have diagonal parallel flaking which meet in the center of the artifact. This manner of flaking is common on Humboldt Series points in western Nevada (Thomas 1985:201).

Point 1-20-17 is a resharpened projectile point made out of clear obsidian. It shows considerable reworking along both edges. The edges are slimmer than the original design, which was a Humboldt Basal-notched point. The original point had diagonal parallel flaking which in part extended across the blade. The point may have served as a scraper after it served as a projectile point. The deeply notched Humboldt Basal-notched point, and the present radiocarbon dates from Spirit Cave give more credence to Early Holocene usage of this point and one other from Hidden Cave (specimen 20.4/973) found in Stratum VII, a pre-Mazama layer that may be as old as 7,500 B.P. (Thomas 1985:368). This artifact from Hidden Cave is a fine percussion obsidian biface.

Two chipped-stone scrapers (1-20-13 and 1-20-14). The first scraper was made on a plano-convex flake with a central keel on the convex side (Figure 3). It was made of "wonder stone" common in the Fallon area. Both convex edges show use wear.

The second scraper is made on a piece of opaque obsidian biface. S.M Wheeler called it a piece of a "knife," but I think it would fit into Lorann Pendleton's (1985:207) "pressure flaked biface fragments" of which six tips, eight mid-sections and two bases were found in Hidden Cave.

One flake graver (1-20-15). There was one keeled-flake graver made from chert from Spirit Cave (Figure 3). Wheeler called it a "waste flake," but we noted the graving tip and the edge opposite the platform have been, indeed, reworked, showing the scars of flake removal.

Mountain Sheep (Ovis canadensis) Horn Pendant, (1-20-62).

One pendant is made out of horn from a young mountain sheep (Figure 4). The pendant was drilled on one end with a 4-mm hole. The other end is broken. The bighorn prefers the roughest country on or near the mountain tops, and if the animal were taken in the Stillwater Range, you can be certain the Paleo-Indians knew how to hunt by digging a large hole in the ground or by going higher than the sheep and ambushing it from above.

Wood Knife Handle (1-20-48).

One knife handle is made out of a branch burned at both ends and scraped clean for the sinew or buckskin wrapping, which is now almost gone, but the impressions still remain (Figure 5). The knife handle is tapered to a roundness at the butt end, and the other end is split to receive the knife. Both ends are fire hardened. S. M. Wheeler noted that the knife handle was found "on matting besides the left ribs" of his Burial number 1, which was reburied by him.

Two Wood (Sarcobatus) Foreshafts, (1-20-49, 1-20-50).

There were two wooden (*Sarcobatus*) foreshafts with the Wheeler collection (Figure 6). One, number 49, looks freshly made, with one pointed end and the other end broken. The other, number 50, looks as though it had been used as an arrow point for a long time. It also has one pointed end, and the other end is tapered. There are forty-eight foreshafts from Hidden Cave (Pendleton 1985:251), where greasewood (*Sarcobatus*) was the favorite material.

Four Baskets

There were four baskets found in Spirit Cave, two made by twining, one made by diamond-plaiting and one made by coiling. The two twined and one plaited baskets were used as cremation bags.

One coiled basketry fragment (1-20-7). One coiled basketry fragment was recovered from the excavation of Spirit Cave (Figure 7). A piece of it was dated recently by Donna Kirner of the University of California, Riverside, at 2,200±60 (UCR-3479). This was the only coiled basket which was found, and it features a Miwok basketry start known as "a clockspring start." As Craig Bates and Martha

Lee (1990:52) explain "a clockspring start" is where one sewing strand is coiled around itself until it resembles a wound-up clockspring. The coiled basketry walls have split stitches both on the inside and the outside, too. It was made on a three-rod foundation and it features a self-rim. The date on the coiled basket makes us wonder if the Miwok traded the basket to western Nevada or if they, the Miwok, preceded the Paiute in western Nevada.

Two close-twined and one diamond-plaited cremation baskets, (1-204A&B, 1-20-5A). Two close-twined and one plaited cremation baskets were used as human burial bags (Figures 8, 9, 10). The Wheelers dug a five-by-six-foot trench in Spirit Cave after they found two close-twined and one diamond-plaited bags with two cremations in them, numbered one and two. Cremation one, whose adult human bones were contained in an inner bag, had an outer, side-opening bag which we called "diamond-plaited matting" after Charles Rozaire (1974:69). The outer bag, 1-20-4A, which is closed by a two-ply z-twisted string on each side, has three animal-skin strips stained with red ochre woven into the bag. The three animal-skin strips, two of which extend almost the full length of the bag, average about 5 mm wide and about 444 mm in length. The bag also has four cordage closures attached to the open end with overhand knots acting as stops to the z-twisted cordage. The bag has three warps and five wefts to one centimeter, and the wefts conceal the warps.

The interior bag, 1-20-4B, which held the human bones, is a close-twined, side-opening bag with fringes on both sides. The fringe on one side at the very end is tied with an overhand knot, and averages about 114 mm. The folded bag itself is 508 mm long and between 304 and 317 mm wide excluding the fringe. The bag was made by using two-ply z-twisted cords exclusively as warps and wefts. The warps were placed closely together, averaging 4.5 to 5 cords to one centimeter, while the weft elements are placed farther apart, at 3 cords to one centimeter. An interesting feature of the inner cremation bag is the bird feathers caught up in 4 of 74 rows of weft elements. Counting from the right, the bird feathers occur in rows 14, 22, 42 and 56 of the total of 74 rows of weft elements. The small feathers appear to be from various migratory waterfowl, but also from the American coot known as the mudhen. The Pacific Flyway covers all of western Nevada; thus, the migratory waterfowl were available in the spring and fall seasons. There is another feature on one side of the side-opening twined bag, and that is four strings made out of s-twisted animal (rabbit?) hide which were used as strengtheners for the center part of the bag; an additional three strings were used to tie something to it.

The third basket, 1-20-5A, is a close-twined, side-opening bag with the weft rows completely concealing the warps, which are two-ply z, single-ply s cords. The original bag was fringed on both sides, but both fringes were eaten away by rodents. There are three warps and five wefts per centimeter on this bag. In addition, there are five small dark brown and light brown and yellow bird feathers caught in the wefts of this bag. One supposes that the original bag when placed in Spirit

Cave held many more feathers than the total of five. This cremation bag contained a twenty-five-year-old female.

Besides the two cremations, the Wheelers uncovered two more burials, Burials numbers 1 and 2. Burial number 1 was disarticulated when found and associated with a large diamond-plaited mat. Wheeler reburied the bones of Burial number 1, but he kept the mat. In addition to the mummy, which he called Burial number 2, and the two cremations, there were portions of two individuals in the cave collections. These were identified by Sheilagh Brooks as a fifteen-year-old male and a thirty-to-thirty-five-year-old female, the latter of which probably represents Burial number 1 (see dates on Table 1), making a minimum total of five individuals from Spirit Cave.

We shall continue by describing the three mats wrapped around the mummified remains of Burial number 2, and the moccasins which were on the feet of the mummy. The last mat wrapped around the mummy was made of tule, *Scirpus lacustris* (1-20-59), and it was approximately 137.8 cm long, 119.3 cm wide, and about 20 mm thick (Figure 11). This tule mat had seven whole tule warps to 10 centimeters, and seven wefts to 10 centimeters. The tule mat was dated to 9410 ± 60 (UCR-3324-1) (see Table 1).

The second mat down is made up of two pieces of diamond-plaited matting. One piece, which was wrapped around the head and shoulders of the mummy, consists of a *doubled* piece of matting approximately 75.5 cm in length and 60 cm wide (Figures 12 and 13). The two halves of the mat are sewn together by a two-ply cord which is z-twisted, and made of two single-ply s-twisted cords. The matting which enveloped the lower half of the body of the mummy is also a square-shaped diamond-plaited mat approximately 121.92 cm in length, and in width, too. It is not sewn like the upper mat. This mat yielded a date of 9430 ± 70 (UCR-3323) (see Table 1).

Rabbit-skin Robe; Not in Wheeler's Catalogue

Right next to the body was a rabbit-skin (?) robe (Figure 14). It was made by twining s-twisted pieces of skin and fur between two pairs of cords, z-twisted, spaced approximately 1 cm apart. The fur, by and large, has disappeared from the blanket, leaving the twisted (rabbit?) skin as warps and the four cords as weft elements. It is believed that the fur robe together with the doubled diamond-plaited mat and the upper tule mat preserved the flesh on the upper half of his body. Thus, the cover of the upper three robes made a mummy out of the 45 ± 10 -year-old man, who lived a hard life, as Douglas Owsley says in one of the following articles.

The Pair of Moccasins, Not in Wheeler's Catalogue.

The Wheelers' Burial number 2 had a pair of moccasins still attached to the feet (Figures 14 and 15). The pair were well used, the right one having two patches

(toe and heel) on the bottom side with the artiodactyl (antelope?) hair on the outside. Each moccasin originally was made of three parts, a sole, one side piece or vamp, and an ankle wrap. They were sewn together very carefully by a simple running stitch or a blanket stitch made of two-ply cordage (two-ply z, single-ply s). The bottom side of the left one was worn through, but the sole extended over the toes, and the ankle wrap was missing. On the right foot, the vamp was made out of a hide with yellow fur, and the ankle wrap was made out of thick hide folded over at the top. Both moccasins had woven tule acting as "duffel" or "socks" for the wearer.

The moccasins do not resemble those found at Danger Cave in Danger V (Jennings 1957:221), nor do they resemble the two leather moccasins ornamented with *Olivella*-shell beads or the leather moccasin of deer fur found at Lovelock Cave (Loud and Harrington 1929:46, plates 21, 22). They are completely different from the one-piece "hock" moccasin and the Fremont-style moccasin (Morss 1931:64-65) known from the eastern Great Basin (Aikens 1970:102-103). But they do resemble the Hogup-style moccasin made to a three-piece pattern. Differences are apparent between the Spirit Cave right moccasin and the Hogup Cave moccasins (Aikens 1970:108-109) and the Wilson Butte Cave moccasin (Conn 1961:196-200), and there should be differences. The Hogup Cave moccasins date from Unit II which runs from 1250 B.C. to A.D. 400, and the Wilson Butte moccasin dates to the "Dietrich Phase" which dates from about A.D. 1300 to around A.D. 1700-1750. The radiocarbon dates stretch the time backward for the Spirit Cave three-piece moccasins to ca. 9,400 years ago.

The Spirit Cave right moccasin was puckered around the toes and on the side piece too, where the ankle wrap was joined to the vamp. The hide of the sole was turned so that the hair side was out; the patches were the same, and the man's foot measured 21.2 cm. Two-ply woven fiber cordage was used extensively on both moccasins to the exclusion of other materials, such as rawhide or buckskin thongs. This is an unusual feature for the Spirit Cave moccasins. L. S. Cressman (1981:28) states that almost no leather clothing, including sandals, was worn in the northern Great Basin where he dated the well-known fiber sandals from Fort Rock Cave at 9,053±350 years ago (see the introductory paper, this issue). In this regard, note that the three-piece Spirit Cave sandals were sewn together by woven-fiber cordage, not sinew or buckskin.

Twined Grass Matting (1-20-65)

A fragment of twined grass matting was found in the Spirit Cave collections. There is no information in the Wheeler catalogue regarding provenience or direct associations, other than "Pit number 1." It appears to be made from Great Basin wild rye, or similar heavy grass, with six large bundles of grass warps with five to six tule wefts, made by simple twining. It is unusual for western Nevada assemblages. It was dated by Donna Kirner at 1,700±60 (UCR 3481). This is the

second date younger than the hair or bone dates. The other was on the coiled basket which yielded an AMS date of $2,200 \pm 60$ (UCR 3479).

Faunal Remains

In addition to the fauna which was used to manufacture artifacts, there were five faunal specimens saved by the Wheelers for identification (Figures 16 and 17). These were identified by Amy Dansie and are shown in Table 3. Unknown to the Wheelers, but included with the mummy, were fish remains which included the bones from the tui chub, sucker, and other minnow bones. These fish remains are analyzed in Sunday Eiselt's article, this issue. All of the faunal species found in Spirit Cave are surviving and thriving today in the Carson Desert and nearby environs.

Table 3. Identification of Faunal Remains from Spirit Cave

Catalog Number	Bone	Identification	Comments
1-20-8 a*	long bone splinters	probably artiodactyla	
1-20-8 b*	calcaneus	bobcat (<i>Lynx rufus</i>)	exact match in all attributes, 1.3 mm longer than comparative specimen
1-20-8 c*	frontal, nasal, maxilla joined	coyote (<i>Canis latrans</i>)	exact match, slightly larger than comparative specimens, but suture shape is identical
1-20-9	anterior 2/3 of mandible, right and left	coyote (<i>Canis latrans</i>)	dried skin and ligaments remain, articulated, juvenile (molars are just emerging)
1-20-51	Quill	Unidentified	(with feathers still on it)

* associated with AHUR 770, a 30-35 year old female, represented by vertebrae, ribs, feet and a pelvis fragment, dated $9,300 \pm 70$.

COMPARISONS

There are a few Western Great Basin sites of the same age or younger than the tule matting and the diamond-plaited mat from Spirit Cave.

1. *Grimes Burial Shelter, Carson Sink*. This small rock shelter in the vicinity of Spirit Cave was disturbed by guano miners, and the matting and fragmentary human bones were given to Margaret Wheat, who reported the site to Sydney Wheeler. He investigated the site, finding little else, catalogued the finds, and recorded the site. During the search for additional examples of diamond plaiting in 1996, this essentially forgotten collection was discovered by Amy Dansie to have a large fragment of diamond-plaiting. The textile was dated a little older than the Spirit Cave mummy, at $9,470 \pm 60$ B.P. (UCR3477).

2. *Lake Winnemucca, western Nevada*. Hester (1974:2) who reported on archaeological materials recovered by amateurs from a tufa stack located at the southwestern end of Lake Winnemucca, western Nevada, had this to say about the date:

An atlatl or spearthrower was discovered by the excavators near the base of the cave deposits, approximately 16 feet below the surface. At this approximate depth, lying just above the spearthrower, were several twined baskets. The group of baskets and the spearthrower appear to be two separate caches. A portion of one of the baskets has been radiocarbon-dated at $7,980 \pm 610$ B.P. (I-6873). The radiocarbon determination suggests that the atlatl is at least 8000 years old, and given its stratigraphic position below the dated basketry, it is possibly even older.

The twined baskets were not illustrated, so we have nothing to compare Spirit Cave textiles with those from the tufa stack which was given a Berkeley site number of NV-Wa-197.

3. *Crypt Cave, located at the north end of Lake Winnemucca, western Nevada*. Charles Rozaire had noticed the distinctive weave of the diamond-plaited matting fragment from Crypt Cave. He also mentioned Chimney Cave, but it has not been confirmed that such a textile is present in the collections. Both sites are among the dry caves excavated by Phil Orr in the middle 1950s. Radiocarbon results yielded a date of $9,120 \pm 60$ B.P. (UCR-3483). The Crypt Cave specimen is shown in Figure 16.

4. *Fishbone Cave, Winnemucca Lake, western Nevada*. Two dates from Fishbone Cave, east side of Winnemucca Lake, on a bed of shredded bark associated with human bone fragments, bones of a marmot, horse, and camel, some basketry fragments, and two large chert knives were dated at $11,250 \pm 250$ B.P. (L-245) and $10,900 \pm 300$ B.P. (L-245) (Orr 1956).

5. *Shinners Site A, Falcon Hill, Winnemucca Lake, western Nevada*. A z-twined basketry from Shinners Site A, on Falcon Hill, was radiocarbon dated at $9,540 \pm 120$ B.P. (UCLA 675) (Hattori 1982:14). Eugene Hattori says open-twining is the earliest

technique present at Falcon Hill (Hattori 1982:96). Although his date is a little older than the dates on the cremation bags, the several dates are comparable.

6. *Pyramid Lake, western Nevada*. A two-ply sagebrush fishing line from the north end of Pyramid Lake dated to $9,660 \pm 170$ B.P. (GX-13744) (Tuohy 1988:212). Northern Side notched points from Wizards Beach also suggest significant time depth of human occupation at the north end of Pyramid Lake.

7. *Pyramid Lake, western Nevada*:. A partial skeleton at the north end of Pyramid Lake found by Peter Ting, an amateur, dated at 9515 ± 155 B.P. (GX-19422-G), and at 9110 ± 60 and 9225 ± 60 B.P. (UCR3445).

CONCLUSION

The first radiocarbon dating of Spirit Cave artifacts was explained by Kirner *et al.* (1996) and Burky (1995-1996:126-133), and we have included the Accelerator Mass Spectrometry dates presently available in our Table 1. The AMS dating done so far confirms an age of 9,000 to 9,400 years for the mummy, Burial number 1, and the two cremations from Spirit Cave, Wizards Beach Man and Grimes Burial Shelter.

The Spirit Cave mummy, Wizards Beach Man, and the Kennewick Man (who was found by two young men near Kennewick, Washington on the banks of the Columbia River and was studied by James C. Chatters and dated by Donna Kirner of the University of California, Riverside, at $8,410 \pm 60$ B.P. [UCR-3476]), all exhibit "Caucasoid traits," particularly on features of the skull (Chatters 1997:9-10). As R. L. Jantz and Douglas Owsley discuss in this issue, there may be a relationship between these ancient Americans and the ancient Ainu of Japan, a Caucasoid group predating the arrival of oriental traits of the modern Japanese. Modern American Indians have distinctly "Mongoloid genes" expressed in their make-up. There are five tribes and bands of Native Americans who are claiming Kennewick Man for reburial, as opposed to the physical anthropologists and archaeologists who want to study him further scientifically. The Kennewick Man case will be settled in a court-of-law. The Kennewick Man only had one artifact inside him, a projectile point, a leaf-shaped serrated Cascade point, partially healed within the ilium.

Further research on the diamond-plaited mats will be done by Catherine Fowler and Gene Hattori, who want to know the relationship of the mats to woven textiles in Hokkaido, Japan. They will send black-and-white photographs of Spirit Cave textiles to Japanese anthropologists to see if there are any similarities between Spirit Cave textiles and those of the ancient Ainu of Japan of 9,400 years ago. Genetic studies are under way in Japan, and the debate centers around the extent to which the ancient Ainu (Jomon culture) did or did not contribute genetically to the modern Japanese (Powledge and Rose 1996:36-44). A list of twenty-seven plants used by the Ainu was mentioned by Hitashi Watanabe (1964:38039), but how they used the plants to make textiles was not mentioned by the author.

The artifacts were compared with those from Hidden Cave, and the lithics, what few of them were found in Spirit Cave, compare favorably with those found in the Stillwater Range caves (Thomas 1985). The only exceptions are the diamond-plaited matting, (the second mat down when the mummy was opened for the second time), which is rather rare in western Nevada archaeology, and the three-piece moccasins which do not resemble any others found in the Great Basin. One of these artifacts, the diamond-plaited matting, can be used as a time marker when, if ever, in these days of NAGPRA, excavations are resumed in those remarkable caves and rockshelters in the foothills of the Stillwater Range of mountains in Nevada.

NOTE: All the figures and photographs included with this article are by S. M. Wheeler and are in the collections of the Nevada State Museum.

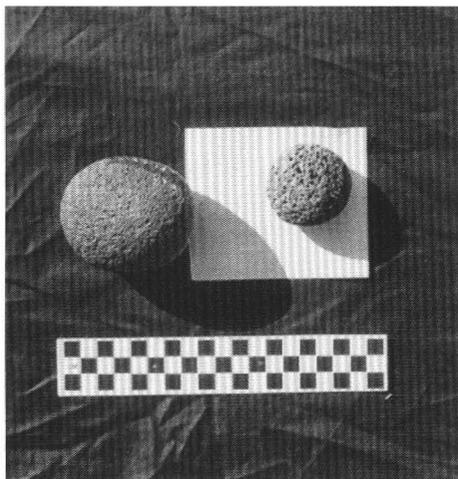


FIGURE 1. Two ground stone tools made out of scoria. Wheeler called the larger one "a worked stone," and the smaller one, a "stone ball."

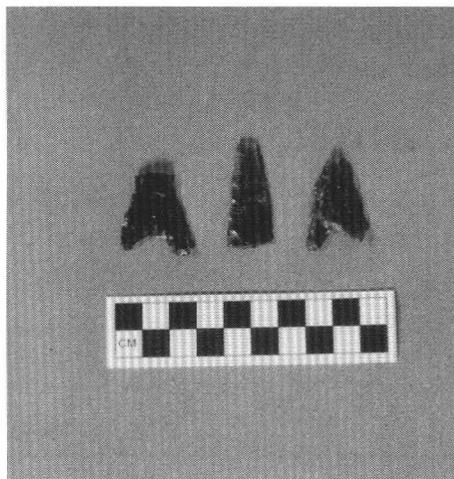


FIGURE 2. Two projectile point which were found in Spirit Cave are located to the left in the photo. The other projectile point came from the sand dune 1/4 of a mile in front of the cave.



FIGURE 3. Two chipped stone scrapers and one flake graver are shown in this photo. The graver is on the extreme right.

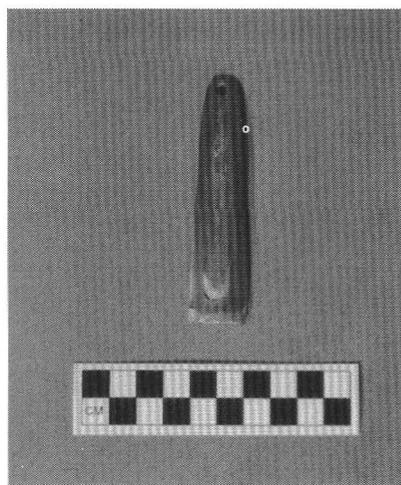


FIGURE 4. One Mountain Sheep (*Ovis canadensis*) horn pendant was recovered. It was drilled near one end.



FIGURE 5. One wooden knife handle was found with Burial no. 1, which was re-buried by Wheeler.



FIGURE 6. Two wood (*Sarcobatus*) foreshafts from Spirit Cave.

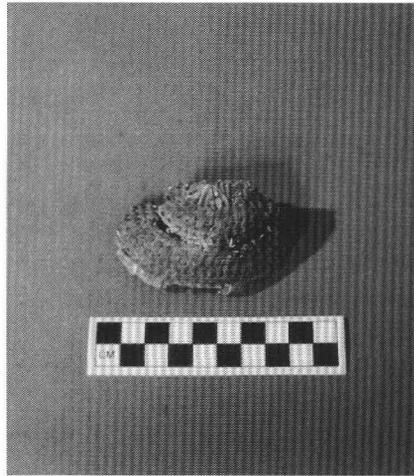


FIGURE 7. One coiled basket with a "clockspring start" was recovered from Spirit Cave. It was younger than other textiles at $2,200 \pm 60$ (UCR-3479).

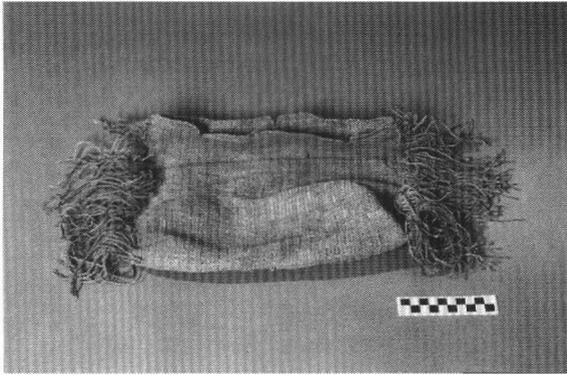


FIGURE 8. One close-twined cremation bag which was found inside the diamond-plaited-bag shown in Figure 10.



FIGURE 9. The other close-twined bag which contained the bones of a 25-year-old female.



FIGURE 10. The diamond-plaited bag which held the bones of Cremation no. 1 inside the inner close-twined bag shown in Figure 8.

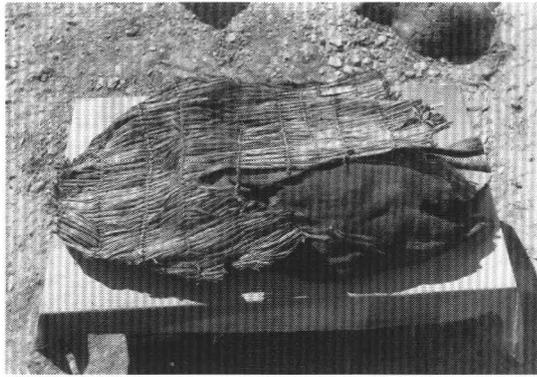


FIGURE 11. The last mat found around Burial no. 2 was made of tule, *Scirpus lacustris*, and it is shown here in a picture taken by S.M. Wheeler.



FIGURE 12. The second mat down was in two pieces. The doubled-up piece of diamond-plaited matting covered the head and the upper trunk of the Burial no. 2 body, and a single long piece of the same weaving covered the lower half.

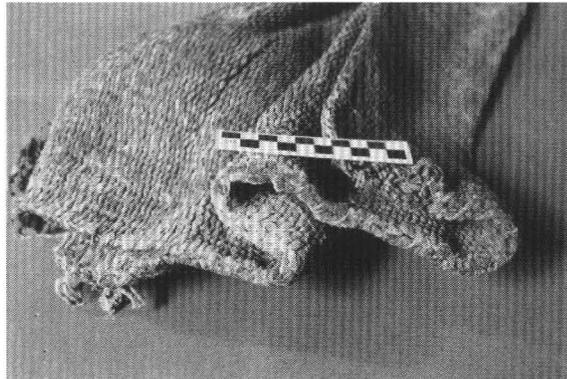


FIGURE 13. The doubled-up piece of the diamond-plaited matting which covered the top half of Burial no. 2, the male mummy of Spirit Cave.



FIGURE 14. Remnants of the rabbit skin robe may be seen in this photograph which shows the pair of moccasins. Note the remnant of the rabbit skin robe on the top moccasin next to the scale.



FIGURE 15. Note that the right moccasin has two patches on the toe and on the heel. The left one is almost all eaten away.



FIGURE 16. This is the coyote mandible (*Canis latrans*) which was saved by the excavator, S.M. Wheeler.

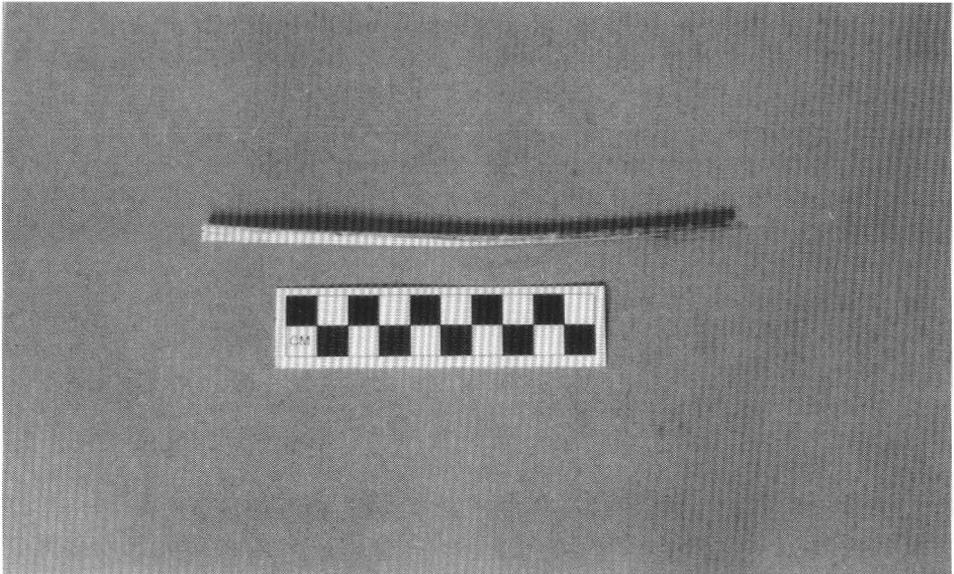


FIGURE 17. This is the quill of an unidentified bird which was catalogued in the collection of S.M. Wheeler.

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