



Leslie Bush (Macrobotanical Analysis), Kevin Hanselka (Texas Department of Transportation), Christina M. Nielsen (Texas State University), Daniel Rodriguez (Texas State University), and Carol A. Macaulay-Jameson (Baylor University)

## Eagle Nest Canyon

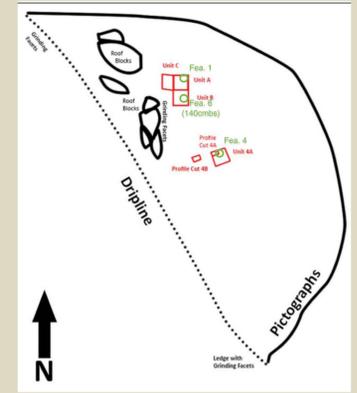
**Kelley Cave (41VV164)**

**Feature 1**, identified at the modern surface, consisted of multiple ash lenses with reddened soil at the base. The lack of correlation between bone, debitage, and dung fragments in the Feature 1 level of the cave reflects human digging and rodent turbation (Rodriguez 2015:162). This feature contained less plant material per liter than Feature 6, which was also a burning context.

**Feature 4**, identified at the surface, dates to roughly 600 cal B.P. It included dense layers of fiber detritus beneath a layer of compacted mud. Sorting and identification of the rich assemblage of plant material in Feature 4 is ongoing, but many leaves and fibers of agave and similar plants and onion bulbs are present. Some carbonized plants are present, but these are mostly wood charcoal and are estimated at ten percent or less of all plant remains.

**Feature 6** was encountered at 140 cubs and dates to roughly 7400 cal. BP. It is interpreted as a series of overlapping rock-lined pits, with the lower rocks heated in place. No rodent burrows were visible in feature exposures (Rodriguez 2015:126). Insect (termite) and rodent (mouse) feces were recovered in flotation in carbonized form, but the plant remains most likely to represent rodent use (grass and prickly pear seeds) are uncarbonized. It contains more plant material per liter, both carbonized and uncarbonized, than Feature 1.

**Summary:** The presence of plant remains in particular contexts within Kelley Cave is conditioned both by the types of activities represented (cooking/burning in Features 1 and 6 versus raw plant deposition in Feature 4) and taphonomic processes. Preservation is mostly through carbonization in Features 1 and 6, but a mud drape at the top of Feature 4 led to the preservation of more uncarbonized plant material there. The lower depth of Feature 6 contributed to better plant preservation than in Feature 1 because it afforded better protection from later events such as pit construction and modern looting. The deposition of the mud layer in Feature 4 demonstrates that unique events can produce good preservation of large quantities of uncarbonized plant material at shallow depths in specific locales.



41VV164	Feature 1	Feature 1	Feature 6	Feature 4
Liters	2.5	2.75	1.0	1
Wood charcoal (g)	0.48	14.06	10.60	~ 10%
Carbonized leaves, bulbs, leaf bases (g)	0.02	0	0.62	~ 10%
Carbonized seeds	10	15	22	
Uncarbonized wood	--	--	--	
Uncarbonized leaves, bulbs, leaf bases (g)	0.02	0.05	0.03	~ 90%
Uncarbonized seeds**	4	125	1281	~ 10%

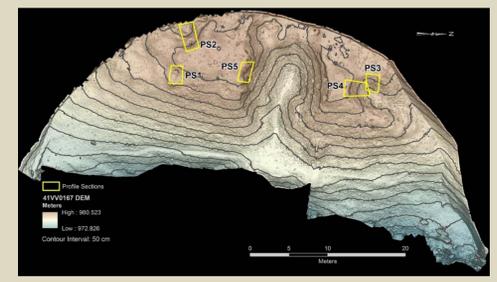
\*\*especially bristleglass and prickly pear

**Eagle Cave (41VV167)**

**PS4.** Deposits in this area reflect mixed discard of refuse from cooking, plant processing and possibly other activities. Three samples, including one from feature context (Feature 2) yielded both carbonized and uncarbonized remains of wood, leaves, bulbs, and seeds. Density of several classes of plant remains (wood charcoal, carbonized leaves and bulbs, and uncarbonized seeds) was higher in the feature context than in other samples.

**PS3,** located at right angles to PS04, is an ash lens that contained carbonized wood, leaves, and bulbs. The sample comes from beneath a heating element, but it is not clear whether that heating event carbonized PS3 plant material. Uncarbonized plants were limited to three fragments of hackberry seeds, which are particularly durable and occur even in pre-Holocene geological deposits (Wang et al. 1997).

**Summary:** The presence of botanical material in Eagle Cave deposits is conditioned by the type of deposit and taphonomic processes. In PS4 the concentrated focus of human activity represented by Feature 2 produced a greater density of plant remains than other samples in PS4. In PS3, only carbonized plants were preserved, suggesting that uncarbonized plant material succumbed to taphonomic processes that were not operating in PS4 despite the proximity of the two units, possibly due to higher moisture coming from the shelter wall. Interestingly, PS3 is farther from the cave mouth than PS4, indicating that a simple gradient of increasing preservation from dripline to back wall does not apply.



41VV167	PS04	PS04	PS04a	PS03
Liters	1.3	1.0	1.0	1.0
Wood charcoal (g)	45.66	1.82	26.52	59.27
Carbonized leaves, bulbs, leaf bases	3.68	0.95	3.08	0.23
Carbonized seeds	21	32	184	--
Wood	0.36	--	0.62	--
Uncarbonized leaves, bulbs, leaf bases	2.72	0.06	3.28	--
Uncarbonized seeds**	1092	8	34	3

\*\*especially yucca, chenopodium, and mesquite

**Eagle Nest Canyon in Regional Context**

Two open-air sites in Val Verde County preserve only carbonized plant remains and few small seeds. Eagle Nest Canyon samples have these plant remains in abundance and provide unique opportunities to access this part of prehistoric subsistence.



Yucca seeds from Eagle Cave Feature 2

Site	41VV838	41VV1991
Type	Earth oven	Earth oven
Liters	4.40	25.85
Wood charcoal (g)	3.99	13.25
Carbonized leaves, bulbs, leaf bases (g)	0.44	0.01
Carbonized seeds	1	--
Uncarbonized wood	--	--
Uncarbonized leaves, bulbs, leaf bases (g)	--	--
Uncarbonized seeds	--	--



Fiber bundle tied with cordage *in situ* in Kelley Cave Feature 4

## Barnhill #3 Rock Shelter (41CV1646)

Twenty-six flotation samples from ten features within the shelter and two off-site samples were examined. In this Central Texas shelter, only carbonized archaeological plant remains survived.

**Earth ovens** yielded wood charcoal, bulb fragments including camas and wild onion, nutshell (hickory, walnut, and acorn), and 123 small carbonized seeds. A corn kernel fragment was present in one earth oven sample.

**Charcoal/ash deposits/middens** contained wood charcoal, bulb fragments including wild onion, nutshell (hickory, walnut, pecan, and acorn), and 207 small seeds.

The number of samples analyzed from **hearths** was smaller, but they included wood charcoal, an unidentifiable bulb fragment, and 59 small, wild seeds.

Only a single **pit** sample was analyzed. It contained hickory and black walnut nutshell, wood charcoal, and 17 small seeds.

**Summary:** Plant density at Barnhill #3 is conditioned by feature type, with earth ovens and charcoal/ash deposits/middens having higher botanical density than hearths or the pit feature. Although plant density is higher in the southeastern portion of the site, this seems to be due to the unusual density of charcoal in one sample from Feature 11 (F6-2013; 20.92 g/liter) rather than a true reflection of higher charcoal density in the southeastern area as a whole.



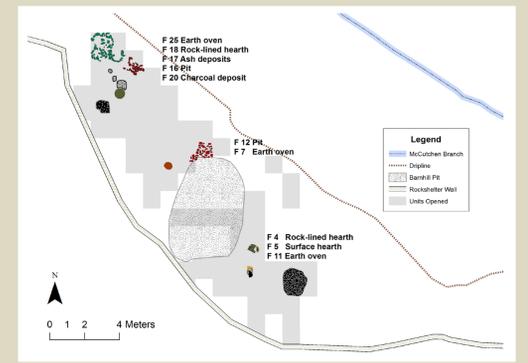
Sunflower



Seeds from Barnhill #3 Rock Shelter, scale in mm: vetch from Feature 25 (l) and maygrass from Feature 7 (r)



Wild tobacco



41CV1646	Total plants (g)	Total liters	Plants (g)/liter
<b>Central cluster</b> (Features 7 & 12)	26.45	10.7	2.47
<b>NW cluster</b> (Features 16, 17, 18, 20 & 25)	114.65	42.8	2.68
<b>SE cluster</b> (Features 4, 5 & 11)	108.45	24.85	4.36

**Barnhill #3 Rock Shelter in Regional Context**

Uncarbonized plants do not survive at Barnhill #3 as they do in the Chihuahuan Desert shelters, but the protection of the shelter allows for much better carbonized plant preservation than is usual in limestone regions (Braadbaart 2009). Bulb fragments and, especially, small seeds are present in much higher numbers than on other sites in Coryell County.

Site	# seeds	# bulb scales	liters
41CV1104	0	0	7.0
41CV389	3	0	19.0
41CV1049	0	4	30.0
41CV1657	0	0	33.0
<b>41CV1646</b>	<b>406</b>	<b>28</b>	<b>78.35</b>
41CV947	0	0	78.5
41CV984	0	36	128.5
41CV1553	1	18	349.0
41CV594	0	28	482.5
41CV286	3	20	512.5

## Conclusion

The presence of plant remains in particular archaeological contexts is conditioned at multiple scales of analysis. Plant samples from the three shelters considered here show several variables in play:

- regional climate (moisture, soil chemistry),
- local geology (physical protection of site),
- activity and intensity of ancient use (thermal events, feature v. non-feature context),
- taphonomic processes (moisture channels through site deposits, insect and rodent burrowing, looting), and
- unique events (mud drape on Feature 4).

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