Park News

National Park Service
U.S. Department of the Interior

The Ranger Review

Montezuma Castle, Montezuma Well, & Tuzigoot National Monuments

Life and Death in Limestone

By SCA Resource Assistant Ryeon

For archaeologists and geologists, some of their most devoted stewards dwell in the outcroppings of the Earth's natural cemeteries; and for the lucky ones studying the Southwest, thousands of these very tombstones rise as the canyons and ridges that traverse the Four Corners. Formed from chemical precipitation and organic matter, limestone plays a significant role in the cultural and natural histories of the Valley.

Iconic among the ruins, Montezuma Castle, a twenty room dwelling built out of bricks, is nestled in the recesses of a 150 foot limestone cliff. The limestone here is chalky, crumbling away at even the slightest touch. This powder holds a record, one older than the ruins we observe. Dusting our skin are fragments of bones, the scattered potpourri of plants and animals long dead. These organic ghosts haunting the cliffs are composed of the calcium carbonate that their once living hosts absorbed and then later deposited as debris at the bottom of Lake Verde, a shallow body of water that stretched over the valley about 2 million years ago. This lake produced the alternating patterns of white limestone and gray mudstone featured at the monuments today.

At Montezuma Well, the lake generated another long-lasting effect. When the spring water hit the lake water, the surge issued tremendous amounts of dissolved limestone. The precipitated limestone released carbon dioxide, making the aquatic environment impossible for fish to live. In the absence of these predators, a new regime developed. Found only at the Well, species of leeches, amphipods, and water scorpions launch into nocturnal frenzies. Nighttime snacking aside, the dissolved limestone drains for several minutes along another waterway, flowing into a canal the Sinagua dug to irrigate their fields. Originally, dirt and mud likely lined the prehistoric canal, but given the water's high calcite concentrate, the water coated the sides of the canal with travertine, which effectively preserved this structure for our viewing, and their irrigating pleasure.

Ultimately this rock, using the remnants of the dead for fortification, acts as a sustainable cemetery, replete with monuments to those who have passed through. The observant visitor Might spy one of these tokens tucked into the rock that lines Montezuma Well. A trio of fossilized leaves lies embedded the water-worn wall. Just another tribute paid to those who have come before.

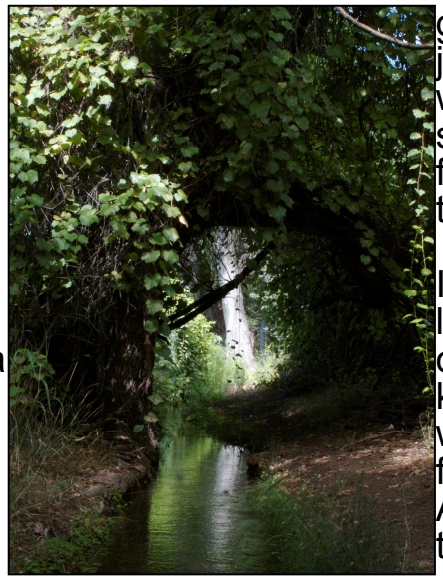
Fossilized leaves left their mark in the limestone at Montezuma Well. Photo by Ryeon Corsi.

Prehistoric World Trade

By Ranger Case Griffing

From the 600's through the early 1400's, the Verde Valley was populated by the Sinagua Indians. Much like us, their lives were filled with trade. Instead of money they used salt from nearby mines as currency and bartered with surrounding cultures for their needs and wants. Traders brought pottery and obsidian from the Colorado Plateau, scarlet macaws from Central America, vivid shells from the Pacific Ocean and the Gulf of California, and turquoise from the Mojave and Sonoran Deserts.

Along with items brought by trade, there also came new ideas. Learning form others' perspectives, the Sinagua did not just get by. They were not simply scratching out the barest living from this thirsty land, but instead they thrived. They developed a complex social order. They communicated over long distances. They played sports. They had religious beliefs and sacred practices. Women, men, and even children were decorated with jewelry, crafted with care by hand.



The ancient irrigation canal still in use today at Montezuma Well. Photo from NPS Archives.

Contemplate the value of diversity as you visit the national monuments of the Verde Valley. Gaze up at the ancient, five story pueblo called Montezuma Castle. Where did the Sinagua learn to build such magnificent structures as this and Tuzigoot? Does it remind you of other places in the Southwest?

Saunter down the short, shaded path to the outlet at Montezuma Well. You will discover the silently flowing irrigation canal, dug by Sinaguan hands a thousand years ago. Where did the Sinagua learn the engineering to channel this water to their farms? The system is driven by gravity; if the canal is too level, the water cannot flow downhill and will never reach the plants that need it. But, if the canal is too steep, the water will flow too fast and can crash through the side of the canal to be lost altogether. The Sinagua had to dig the canal at just the right slope for the water to flow at just the right speed or there would be no food or cotton. But who taught them how to do this?

It is likely that the Sinagua learned irrigation and some other skills from the Hohokam, the American Indians who cultivated the Saguaro filled deserts to the south. Archeologists are still trying to uncover whether the Sinagua adapted their building techniques from the Ancestral Puebloans near Mesa Verde, discovered the practice for themselves, or learned them from another group entirely.

Today, like the Sinagua, we continue to learn from the diverse cultures around us and among us. As technology makes it ever easier to communicate from one side of our planet to the other, what valuable insights do we discover from other traditions in our own quest to thrive?

Upcoming Events:

October 24th—November 6th, 2010

October 30th, 2010
Rough Riders Visit Montezuma Castle National Monument. 12:00 to 4:30 pm.

October 30th, 2010
Special Site Talks at Montezuma Castle National Monument. 10:00 to 12:00 pm.

View Through the Lens

A small mouse caught in a Black Widow's web met an unsuspected end. Photo taken by Archeologist Matt Guebard.

Did you know?

Madrean Alligator Lizard foraging on the ground. Photo courtesy of Tom Brennan.

The Madrean Alligator Lizard (*Eligari kingii nobilis)* is a common species to the Verde Valley, but not commonly observed or studied. Although classified as a lizard, this reptile has smooth, shiny scales like a skink, and moves like a snake. In fact, it is most often misidentified as a snake until one spots the small, stubby legs that it uses to move around. No need to be alarmed by its appearance! This unique little reptile eats grasshoppers, caterpillars, moths, and even scorpions!

Jr. Ranger Page

Ancient Markings

Along ancient trade routes, people would leave messages for one another carved into the rocks. These are known as Petroglyphs. Draw your own message on the rock below in picture form for

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Park Happenings & Funny Pages

By Ranger Laura Albert

The Ranger Review is designed to give you more information about what to see and do while visiting our sites. We hope that you enjoy seeing our parks from a Ranger's point of view!

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Comments? Write to:
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