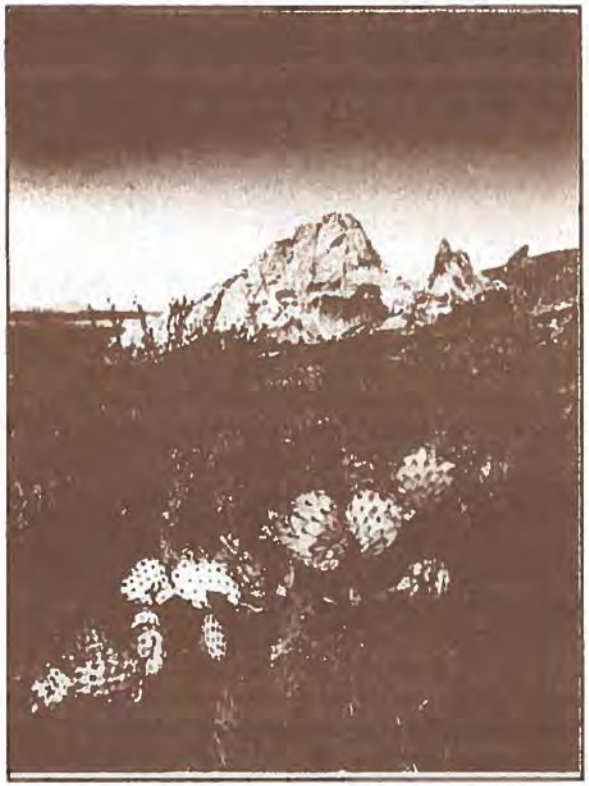
BUREAU
OF
LAND
MANAGEMENT

LA CUEVA



TRAIL GUIDE

BLM-NM-GI-98-008-1230

LA CUEVA

La Cueva rock shelter is an archeological site associated with the Jornada branch of the prehistoric Mogollon culture. La Cueva was identified as such by Dr. Donald Lehmer of the University of Arizona who conducted test excavations in the cave in the 1940s. Dr. Lehmer had hoped that the shelter was a totally dry environment where artifacts, such as baskets and yucca fiber sandals, would have been preserved. Unfortunately, he found that moisture entered the shelter, and few perishable artifacts were recovered.

La Cueva has seen considerable pothunting activity over the years. In fact, the dirt mound in front of the shelter is the screened "back dirt" the pothunters had removed from La Cueva's interior. This mound effectively capped and preserved archeological deposits immediately in front of the shelter.

In the mid 1970's, the Centennial Museum of the University of Texas at El Paso conducted test excavations in front of La Cueva where approximately 100,000 artifacts were recovered. Preliminary analysis indicated that the rock shelter was occupied from about 5000 B.C., through the historic period that followed the arrival of the Europeans. The lower levels of the excavation sites yielded artifacts from the early, or Archaic period; while the upper levels contained artifacts associated with the Jornada branch of the Mogollon culture. A considerable amount of animal bones were recovered during the excavations; some of which have been identified. It appears that the prehistoric occupants of La Cueva subsisted on rabbits, deer, antelope and bighorn sheep. These early occupants of the rock shelter probably spent most of their time outside of the cave, retreating to its interior only in times of bad weather.

During the 18th and 19th centuries, the rock shelter of La Cueva was probably known to the roving bands of Apaches who frequented the area. Then, in the late 1860's, the cave reportedly served as home to one of the more eccentric figures in New Mexico's history. Giovanni Maria Agostini, know to local folks as "El Ermitano"...the Hermit.

"EL ERMITANO" THE HERMIT OF LA CUEVA

Born to Italian nobles in 1800, Agostini-Justiniani may have studied for the priesthood but refused his vows and spent many years walking through Europe, South America, Mexico and Cuba.

At age 62, he walked with the wagon train of Eugenio Romero from Kansas to Las Vegas, New Mexico, and lived for a while in Romeroville before settling on Cerro Tecolote northwest of Las Vegas. The hill has since become known as Hermit's Peak. Agostini had known Penitentes in Spain and got along with them well in New Mexico, as they were in awe of his healing powers and believed in his sanctity. A "Sociedad del Ermitano" still makes rosaries of native plants to honor his memory at Easter.

In 1867, he accompanied the wagon train of Don Ramon Gonzales to Mesilla to find Colonel Albert J. Fountain to discuss a legal matter, then walked on to San Antonio, Texas, and then back to a cave near Juarez, Mexico. In 1869 he visited often with the Barela family on the plaza in Old Mesilla, sometimes preaching in their home. He told the Barela family of his plans to live at La Cueva. When they warned him of the dangers of staying there alone, he supposedly replied "I shall make a fire in front of my cave every Friday evening while I shall be alive. If the fire fails to appear, it will be because I have been killed. I shall bless you daily in my prayers." Antonio Garcia was aware of Agostini's miraculous healing powers and transported sick people to La Cueva to be healed. The Hermit found an abundance of herbs nearby to help effect his cures.

One Friday night in the spring of 1869 the fire failed to appear at La Cueva. Antonio Garcia led a group up the mountain to find the Hermit lying face down on his crucifix with a knife in his back. He was wearing a penitential "metal girdle full of spikes."

El Ermitano is buried in the Mesilla Cemetery with the following Spanish inscription, "John Mary Justiniani, Hermit of the Old and New World. He died the 17th of April, 1869, at 69 years and 49 years a hermit." This murder was one of many unsolved murders in the late 1800's in Dona Ana County.

REPTILES & AMPHIBIANS

Three groups of reptiles and three groups of amphibians are present here in the Chihuahuan Desert; turtles, lizards, snakes; and toads, frogs, and salamanders. Since reptiles and amphibians are cold-blooded, their body temperatures are the same temperature as their surroundings. They seek shady shelter during the hottest parts of the day and search for food during the cooler parts of the day.

While at La Cueva you may encounter several species of lizards. Whiptails are distinguished by long tails and quick movements. You may also see the collared lizard with their distinct neck band. Side-blotched lizards can be identified by their black spots behind the forelegs. Also, along here you may see the horned lizards which are characterized by spines on their heads, resembling horns.

Along this trail are several species of snakes; only the rattlesnakes are venomous. Rattlesnakes have triangular heads and rattles at the end of their tails. If alarmed, a rattlesnake will shake its rattle. If you see or hear a rattlesnake, go in the opposite direction and leave the snake alone.

Also at La Cueva you may see an occasional western box turtle. The amphibians you may encounter include spadefoots and toads. At La Cueva, you may see the spadefoots, green toads, red-spotted toads, and the woodhouse's toads. However, these toads prefer to be active following rain storms or at night when temperatures are cooler. For further identification, refer to the Peterson Field Guide to Western Reptiles and Amphibians or Amphibians and Reptiles of New Mexico.

"Nature is ever at work building and pulling down, creating and destroying, keeping everything whirling and flowing, allowing no rest but in rhythmical motion, chasing everything in endless song out of one beautiful form into another"

"None of nature's landscapes are ugly so long as they are wild" --John Muir

☐ - Checklist of Reptiles and Amphibians

LIZARDS

- ☐ Lesser Earless Lizard
- ☐ Greater Earless Lizard
- ☐ Collared Lizard
- ☐ Desert Spiny Lizard
- ☐ Side Blotched Lizard
- ☐ Tree Lizard
- ☐ Texas Horned Lizard
- ☐ Little Striped Whiptail
- ☐ Desert-Grassland Whiptail
- ☐ Chihuahuan Spotted Whip
- ☐ Western Whiptail
- ☐ Checkered Whiptail
- ☐ Great Plains Skink
- ☐ Round-tailed Horned Lizard

SNAKES

- ☐ Ringneck Snake
- ☐ Striped Whipsnake
- ☐ Coachwhip
- ☐ Texas Lyre Snake
- ☐ Trans-Pecos Rat Snake
- ☐ Glossy Snake
- ☐ Gopher Snake
- ☐ Black-Tailed Rattlesnake
- ☐ Black-Necked Garter
- ☐ Southern Black-Headed Snake*
- ☐ Long-Nosed Snake
- ☐ Night Snake
- ☐ Ground Snake
- ☐ Big-Bend Patch-Nosed Snake
- ☐ Mountain Patch-Nosed Snake
- ☐ Western Diamondback Rattlesnake
- ☐ Banded Rock Rattlesnake
- ☐ Hook-Nosed Snake
- ☐ Plains Black-Headed Snake*

TURTLES

- ☐ Western Box Turtle

TOADS

- ☐ Great Plains Toad*
- ☐ Green Toad*
- ☐ Red-Spotted Toad
- ☐ Woodhouse's Toad
- ☐ Couch's Spadefoot*
- ☐ New Mexico Spadefoot*
- ☐ Plains Spadefoot*

SALAMANDERS

- ☐ Tiger Salamander*

FROGS

- ☐ Canyon Treefrog*

* - Unconfirmed

ACKNOWLEDGEMENTS
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RULES AND REGULATIONS

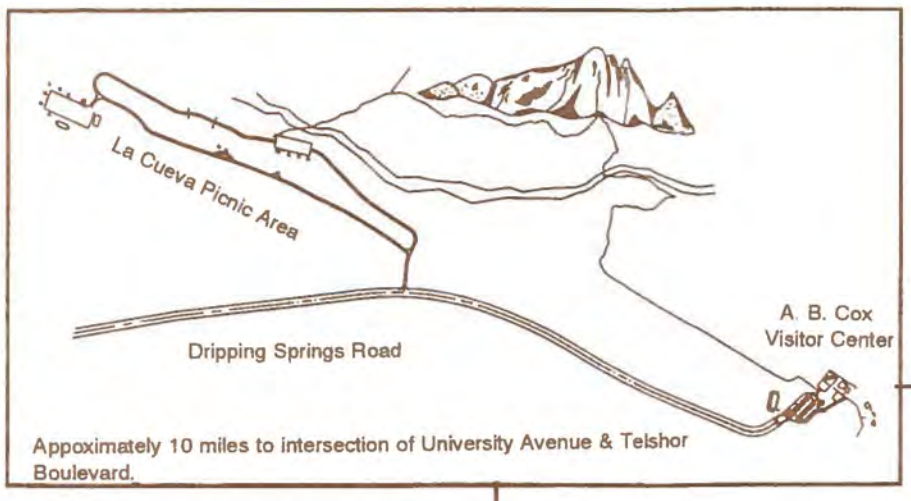
HOURS:	The entrance is opened from 8 a.m. until sunset
FEES :	$3.00 per vehicle. Pay at the Visitor Center from 9 a.m. to 5 p.m. Before or after this time, fees can be paid at the La Cueva self-pay station.
PETS :	No pets are allowed except seeing eye dogs.
VEHICLES:	Park only in designated areas. No mountain or motor bikes allowed on trails.
FIRES:	Do not cut or gather firewood. Use only grills provided at picnic sites. Portable charcoal grills and campstoves are acceptable but should be placed on a picnic table or on bare ground near table. Do not build groundfires.
GRAFFITI:	Do not write on tables, trees, rocks or any other objects in this area so that we could enjoy the natural beauty together.
FIREARMS:	All firearms, fireworks, hunting, and trapping are prohibited.
ARTIFACTS:	Do not dig for or take historical artifacts.

This is a natural area. Do not collect or disturb rocks, vegetation, or animals.

SAFETY TIPS

1. Register at the A.B. Cox Visitor Center before heading down the trail. Make sure they know your plans and the route you will take.
2. Wear proper clothing. A good pair of walking or hiking shoes is recommended. Carry a jacket even in the summer.
3. Don't hike alone. Hike with at least one other person.
4. Carry water and a high energy snack.
5. Know your limitations. Don't attempt hikes or climbs that are beyond your ability.
6. Leave wildlife alone. Watch out for the snakes and leave them alone.
7. If you become lost, stay in one place. You will conserve energy and make it easier for the searchers to find you.
8. In case of accident or lost person, please notify the nearest New Mexico Police office as soon as possible. Local State Police:
9. Be prepared for the drastic changes in the weather. There can be flash floods in the low lying areas.

WELCOME TO LA CUEVA!



CHIHUAHUAN DESERT

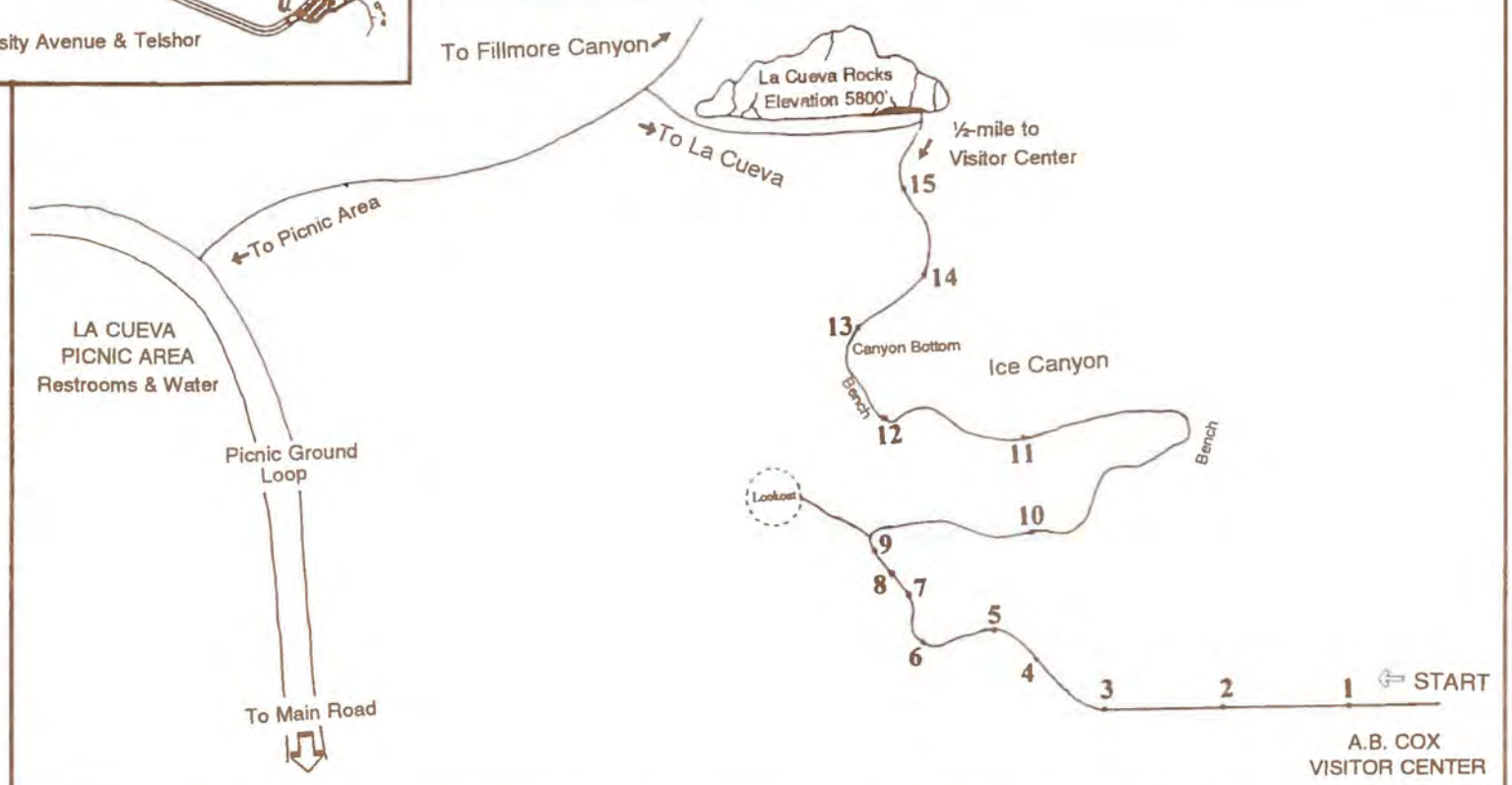
If you include both the Mexican and U.S. portions of the Chihuahuan Desert, it is the largest of the four deserts in the United States (and North America), occupying 175,000 square miles. In the U.S., the Chihuahuan Desert occurs as a band across west Texas and has four fingerlike projections reaching into New Mexico (one of which covers the valleys from Las Cruces to north of Socorro). The Chihuahuan Desert is a high elevation desert with long, hot summers and cool winters. Most precipitation (7 to 12 inches per year) is received in the later summer by intense and fast thunderstorms.

HOW DO THE PLANTS SURVIVE SUCH A DRY CLIMATE?

Succulent plants such as cacti store water as a defense against prolonged drought. Annual plants grow only during the rainy season and survive drought as seeds. Cacti and other perennial plants may have thick, waxy coating on their leaves and often have small leaves–both of which help prevent water loss.

HOW DO ANIMALS LIVE IN SUCH A HOT, DRY AREA?

Since animals move, they can physically escape the heat. Desert animals usually forage outside their homes at night or on rainy days when it is cooler. Some animals may even go into dormancy during the hottest, driest parts of the year. Desert animals have concentrated urine to reduce water loss. They can last a long time between drinks and often drink dew from leaves. Some desert animals can even obtain their metabolic water needs entirely from the foods they eat and never need a drink of water, hence the many signs of animal life around cactus plants.



The following text accompanies the numbered sign posts along the trail.

HAVE A NICE WALK!

1. MESQUITE (*Prosopis glandulosa*)

This shrub and close relatives of it are common throughout much of the Southwestern United States. It's inconspicuous flowers develop into beans with sweet pulp that were eaten by Indians, cattle and other animals. In parts of the desert, blowing sand settles around mesquite clumps forming hummocks through which rodents tunnel.

2. WHITETHORN ACACIA (*Acacia constricta*)
This shrub is a member of the legume family (like mesquite). Its small bright yellow flowers look like little balls and are important sources of nectar for honeybees. How do you think it got its common name?

3. GEOLOGY OF LA CUEVA AND ORGAN MOUNTAINS
The main portion of the Organ Mountains (the high peaks) consists of a granitic batholith of Tertiary age. A batholith is a large body of igneous rock that cooled (from a magma) below the surface of the earth. It is exposed now because of uplifting and weathering. The batholith has been dated at 36 million years. The southern portion of the Organs (roughly from Fillmore Canyon to Pena Blanca) represents a series of rhyolitic ash-flow tuffs and lava flows. These are volcanic rocks-that is, magma that was extruded onto the surface and then cooled. These volcanics are older than the Organ batholith. La Cueva is a tuff (a compacted deposit of volcanic ash and dust).

4. CAT CLAW (*Mimosa biuncifera*)
Cat claw is also in the legume family. The small curved thorns seem to reach out and catch onto a person's clothes. Do not try to power through this bush!

5. PRICKLY PEAR CACTUS *(Opuntia phaecantha)*

No doubt the best known of the cacti throughout the West, prickly pear reaches its greatest size in the desert areas of the Southwest. The large red to purple pear-shaped fruits, known as tunas, are edible and can be used to make jelly. The flowers are bright yellow. You will find bigger prickly pear cacti further on down the trail.

6. RAINBOW CACTUS (*Enchinocereus chloranthus*)
This attractive little cactus plant gets its name from the color of the spines which are generally produced in alternating bands of red and white. In early spring it blooms with small greenish brown flowers that do not open wide. Why do so many desert plants have spines? Spines absorb and reflect radiation from the sun (especially when dense and light colored) and create a boundary of air between the surface layer of the plant and the spines. This helps to keep the plant cooler in the desert heat. Did you know that cacti spines are actually reduced leaves? This reduction in the surface layer of their "leaves" lead to reduced evaporative losses of water from the plant. And, of course, the spines protect the plant from being eaten.

7. BANANA YUCCA (*Yucca baccata*)
Yucca baccata is called the banana yucca because the fruit looks somewhat like a banana and is edible. The leaves can be used as a source of fiber for making baskets, shoes and ropes, and the roots can be used for soap. Yuccas have a relationship with a certain moth which reveals one of nature's interesting partnerships. The moth visits the yucca flower at night and lays her eggs in the flower. When she does this, she pollinates the flower so it can make seeds. The yucca repays this moth by sacrificing some of its developing seeds as food for the moth's larvae.

8. MORMON TEA (*Ephedra* species)
The Mormon tea bush is behind the mesquite and to the left of the prickly pear. Look closely, it almost looks as if the plant has no leaves. The green stems contain leaves which are reduced to tiny scales. The stems are used to make a palatable brew, used by the Indians as well as the settlers, particularly the Utah pioneers. Hence the popular name Mormon tea.

9. ALLIGATOR JUNIPER (*Juniperus deppeana*)
Alligator juniper is easily recognized by its bark which resembles the skin of an alligator. Alligator juniper is an evergreen tree with stout rounded trunks and spreading canopies. It is one of the largest junipers occurring on rocky hillsides and mountains at elevations between 4,500 - 8,000 feet. This juniper produces berries which are eaten by birds and mammals. Here at La Cueva the juniper is at its lower edge of its range. If you look up the canyon you will see the tree occurring more often as you increase in elevation.

10. WAS THIS AREA ALWAYS A SHRUBLAND?
For miles on the drive up here the most common shrub is the creosote bush. A hundred years ago it was restricted to lower elevations and rocky soils. Now it and other shrubs have spread to the area this trail covers which used to be a grassland. The grass substantially reduced within a decade after the Spanish settlers introduced cattle grazing. You'll see some creosote bushes further along this trail but because of various terrains, finer soils, and a higher elevation, a range of other shrubs prosper. Exclusion of livestock and natural fire within the Natural Area will allow the grasslands to recover.

11. ICE CANYON
Water from rainfall and flash floods is channeled in this arroyo from the Organ Mountains to the Rio Grande. Because the soil remains moist longer in the arroyo than in the desert (and the water table is higher), the arroyo supports diverse plant, animal and bird life. In this arroyo, you will see different trees (oaks, netleaf hackberries, and hop trees) and shrubs (seepwillows, sumacs, and grape vines) than in the desert. The hackberry and seepwillows require a permanent water source and are common indicators of desert riparian area. What a contrast between the ocotillos and desert shrubs on the opposite slope! It is easy to see that arroyos provide a cool protected corridor for wildlife to traverse from the mountains into the desert.

12. SQUAWBUSH, LEMONADE BERRY, SKUNKBUSH, PEMMICAN BERRY, THREE-LEAF SUMAC (*Rhus trilobata*)
The common names of *Rhus trilobata* give clues to many of its characteristics. The stems were used for basketry (squawbush) and with sugar and water the berries yield a refreshing, lemonade-like drink that is bitter. What does the aromatic odor of the crushed leaves smell like? Indians used the berries in making pemmican (dried deer meat). Sumacs in the east have brilliant red leaves in the early fall which resemble from afar the fall colors of this three-leaf sumac.

13. CREOSOTE BUSH (*Larrea tridentata*)
If you crush a leaf of the creosote bush in your hand and smell it, you will immediately recognize the odor so typical of the Chihuahuan Desert, especially noticeable after a rain. Creosote bush, which is also known as greasewood, occurs from southern California into central Texas, most frequently on gravelly soils below 4,000 feet. Some bushes are known to be over 500 years old.

14. ARE THE ONLY POTHOLES THE ONE'S ON CITY STREETS?
These potholes are really bedrock mortars. The grinding action of cylindrical stone pestles in these bedrock mortars has worn the sides of the holes smooth. These mortars were used by prehistoric Indians to pound up and grind seeds such as mesquite beans. They may have also been used to pulverize clay or mineral pigments.

15. BARREL CACTUS (*Ferocactus wislizenii*)
A large barrel cactus 20-24 inches tall is probably 75 years or older. It is sometimes called fishhook cactus because of the hooked spines. It is reported that Indians used the spines as fishhooks. In late summer large 2-3 inch flowers are produced that may be yellow, orange or red. The flowers develop into large, inedible yellow fruits that mature later in the year.