



LOST MINE

TRAIL

BIG-BEND NATIONAL PARK
TEXAS

PRICE 10 CENTS - IF YOU TAKE
THIS BOOKLET HOME

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Title: Lost Mine Trail
Big Bend National Park, Texas

Author: Anonymous

Release Date: June 12, 2019 [EBook #59740]

Language: English

*** START OF THIS PROJECT GUTENBERG EBOOK LOST MINE TRAIL ***

Produced by Stephen Hutcheson, Lisa Corcoran and the Online Distributed Proofreading Team at <http://www.pgdp.net>

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LOST MINE TRAIL

**BIG BEND NATIONAL PARK
TEXAS**

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LEGEND OF THE LOST MINE

Of the many romantic legends which abound throughout the West, few match the Lost Mine story from which the peak takes its name. Is it true? Did the mine exist? Or was it a campfire fabrication handed down from generation to generation?

Early Spanish explorers of the Southwest, in their fervent search for gold and other riches, discovered and developed many mines, some yielding silver and gold. According to legend, a rich ore body was discovered on the highest point of Lost Mine Peak. Life-term prisoners were forced to work the mine. These men were blindfolded on several occasions in their march from the Presidio in San Vicente, Mexico, to prevent them from learning its location. The ruins of this presidio may still be observed some 20 miles southwest of this peak across the Rio Grande in Mexico.

A story relates how the fierce Comanche Indians, who resented the Spaniards' invasion of their homeland and hunting grounds, attacked and killed them to the last man. The last act, so goes the story, was to seal the mine entrance to prevent further exploitation.

Legend states that if a person stands in the chapel door of San Vicente's Mission on Easter morn, he can watch the sun's first rays strike Lost Mine Peak at the exact mine entrance.

Lost Mine Peak in the Chisos Mountains
(Photo by 111th Photo Sec., Texas Nat'l Guard)

LOST MINE TRAIL

This is your guidebook for using the trail which starts at this registration desk. For about one mile of this walk the interesting plants, unusual geological features and other things of interest are explained. ***Each object of special interest is marked by a numbered stake.*** Refer to the corresponding number in this booklet, and you will find the name of the plant or feature and a description. The information recorded here is necessarily brief, but the rangers will be glad to answer your questions and give additional information.

1. EVERGREEN SUMAC (*Rhus virens*). This sumac is commonly found in Green Gulch and through the Chisos Mountains. It bears attractive clusters of small white flowers followed by red berries which are seen in the late autumn and winter.

2. ALLIGATOR JUNIPER (*Juniperus deppeana*). Observe alligator skin-like bark of the tree which easily identifies this evergreen and gives it its name. Under favorable conditions the species attains an age in excess of 500 years.

3. MEXICAN PINYON (*Pinus cembroides*), is the only species of pine found along this trail. Pinyon is the name given by the early Spanish explorers and was described by Cabeza de Vaca in 1536. The seeds are used by Indians for food and in recent years the nuts of a close relative, *Pinus edulis*, have become an article of commerce.

4. GRAY OAK (*Quercus grisea*). There are several species of oak on this trail, but this particular one is easily recognized by the blue-gray

color of its leaves.

5. EMORY OAK (*Quercus emoryi*). Of the several oaks in the park, this represents one of the larger evergreen groups. The acorns are edible, sweet, and are important as food for birds and small mammals. Notice the glossy hollylike leaves.

6. GRAVES OAK (*Quercus gravesi*). Here is another of the oaks with typical notched or toothed leaf margins. The lovely fall colors of the Chisos Mountains (pronounced CHEE-so-se) are principally due to the abundance of these trees whose leaves takes on the rusts and reds of autumn.

7. PICTURE! From this point on the trail there is an excellent view of Green Gulch. The high point on the left (north) of the gulch is Pulliam Peak, 6,921 feet high. The faraway hills are the Rosillos Mountains, so named because of their roan coloring.

Agave

8. AGAVE (*Agave scabra*). There are many different species of agaves (often called century plants) in the Southwest, several occurring in Big Bend. Plants of this group furnish many important products in Mexico, and were utilized by Indians in various ways. Among the products are fiber, food, drink (mescal), soap and medicine. Agaves are grown commercially in more than 40 countries. These plants store up food in the root and leaf systems for many years, finally send up one fast-growing flower stalk, mature their seeds, and then die. The bloom stalk grows almost 10 inches a day and represents the largest bloom of any North American plant.

9. TEXAS MADRONE (*Arbutus texana*). This beautiful tree has thin,

peeling bark. Its red berries, which mature in November, are highly favored by deer which often rise up on their hind legs to reach them. The name "Naked Indian" is sometimes applied because the twigs and branches are the copper color of the Indian torso. A close relative of this madrone is found along the west coast. Most of the madrones along this trail were killed by drouth. This one is sprouting from the old base. There are a number of fine living madrones along the road in upper Green Gulch.

A fine angle view of Casa Grande is obtainable here. This large single mass of volcanic rock (rhyolite) is 7,300 feet high.

10. SKUNKBUSH SUMAC, or SQUAWBUSH (*Rhus trilobata*). Although this sumac belongs to the same family as the obnoxious poison ivy, it has none of the latter's irritating qualities. Leaves turn brilliant shades of red and orange in the autumn.

11. BASKETGRASS (*Nolina erumpens*). Although referred to as a grass, this plant belong to the lily family. The narrow, fibrous grasslike leaves often attain a length of 5 feet, making them excellent material for native basketry. The compact clusters of small pinkish-white flowers rarely rise above the rank mass of foliage.

12. GEOLOGICAL EXPLANATION. This rock is called conglomerate, because it is formed from many kinds of rocks from many places. Note the rounded shapes of the individual stones, caused by wearing away of the sharp corners and edges when they were being transported by streams millions of years ago. Later these materials were deposited in beds and under the terrific pressure of overlying masses of sediments were compacted with mineral cementing materials to form the solid mass which you see here.

13. DROOPING JUNIPER (*Juniperus flaccida*). Appearing to be slightly wilted, the drooping aspects of this graceful evergreen suggests grief.

Botanists claim that Big Bend National Park is the only area in the United States in which it is found.

Drooping Juniper

CACTUS GARDEN

14. LECHUGUILLA (*Agave lechuguilla*) (pronounced lay-choo-GHEE-yuh) is a small species of agave whose leaf crown somewhat resembles a bunch of green bananas, and does not belong to the cactus family. The plant is so well protected by its spine-tipped leaves that even hungry goats refrain from eating it. The fibers within the fleshy leaves are used extensively in northern Mexico for making brushes, matting, coarse twine and rope. The short stem is used as a substitute for soap.

15. CLARETCUP ECHINOCEREUS (*Echinocereus triglochidiatus*). This is one of the commonest and most spectacular of our hedgehog cactuses. Occasionally, plants will have as many as 50 salmon-colored blossoms open at the same time.

Desert vegetation and Chisos Mountains as seen from the east.

16. ENGELMANN PRICKLYPEAR (*Opuntia engelmanni*) is one of the desert's most useful plants. Its fruits may be eaten raw and delicious jams and jellies may be made from them. When young and tender, the young joints are called "nopalitas" (no-pahl-EE-tahs), and are cooked and eaten. Ranchmen burn off the spines to supply hungry cattle with food when the range is poor. In the lower elevations of the park a lovely purple-colored species is found, known as purple-tinge cactus.

17. STRAWBERRY CACTUS (*Echinocereus stramineus*) has one of the desert's tastiest fruits. When ripe, the fruit resembles a strawberry in texture and is delicious served with cream. The blossom is a deep red

and is one of the park's gems of floral beauty. Large numbers of these dome-shaped plant mounds may be observed along the highways throughout the park.

18. BROWNPITAYA (*Echinocereus chloranthus*) is one of the so-called rainbow cactus group. Notice the banded color separation of the short needles. The small brown flowers grow around the plant in large numbers during the bloom period. Another variety, which grows at low elevations in the park, has yellow-orange blossoms reaching a diameter of 4 inches.

19. MOUNTAIN-MAHOGANY (*Cercocarpus eximius*). The wood is extremely hard, so brittle that it may be broken very easily. Deer browse on the leaves, and, outside the park, cattle and sheep feed upon it.

20. LICHEN. Raise your eyes to the exposed barren escarpments of Casa Grande and other rock outcroppings. Here you observe greens, blacks, and other colors. Much of this color may be attributed to the lichens (LYK-ehnz) encrusting the bare rock surfaces.

The small colorful organisms are the first visible signs of life to gain a foothold on rocks. Without true roots, this little "mutual" obtains moisture from the atmosphere. A lichen is actually a fungus and an alga living together in mutual dependence (one provides board and the other room for both). As a product of their life processes, carbonic acid is formed. This slowly disintegrates the rock, helping to form soil, thus aiding in the production of suitable living conditions for higher types of plants.

21. ASH (*Fraxinus* sp.). Ash has long been identified as a very useful wood; even the early Indians utilized it for paddles, bows, arrows, etc. The winged seed resembles a small canoe paddle.

22. ONE-SEED JUNIPER (*Juniperus monosperma*). There are four junipers found in the park. (You have already seen two of the others along this trail.) This one is so named because it has but one seed in each berry. Junipers (often miscalled cedars) are distinguished from other cone-bearers by the seeds being enclosed in a berry instead of a cone. The wood is resistant to decay and used much for posts. Of course, in a National Park, trees are preserved for their scenic and watershed protection value and are not harvested for commercial purposes.

23. ANOTHER PICTURE JUST AHEAD—Striking view of Juniper Canyon.

***Help Protect the Park from FIRE
Please Smoke Only in Designated Areas***

ORIENTATION POINT

As an inducement for hikers desiring to continue farther along this trail, an orientation table has been constructed about 1½ miles beyond this point. The table points out the major landscape features together with their elevations. From the same general area, a spectacular view of the rugged Big Bend country may be enjoyed.

GEOLOGICAL SIGNIFICANCE

Millions of years ago, the ocean which extended from the Gulf of Mexico to the Arctic Circle covered this part of west Texas. Muds, sands, and gravels were deposited in the bottom of that ocean. In these sands and gravels were preserved the remains of fish, shellfish, and various other forms of sea life.

Tremendous pressures within the globe's interior caused the earth's surface to rise in this region and the waters to recede. Much of the area became swampy, forming suitable habitat for the giant dinosaurs. Peat beds were compressed to form coal deposits. The remains of these coal beds as well as of petrified trees and dinosaur bones may be seen in the rock exposed in various parts of the park. At a still later date there were more extensive earth movements which caused great breaks to occur in the earth's surface.

Sierra del Carmen in Mexico

Generally speaking, the geologic structure in the Big Bend area is a "sunken block" that might be compared to cutting through the elevated landscape twice. One cut is along the Sierra del Carmen mountains on the east, and the other at Santa Elena Canyon on the west. The area between the two cuts has sunk an average of several thousand feet. The central part of this block has been arched upward forming the Mariscal, Chisos, and Christmas Mountains.

Part of this uplift was caused by volcanic activity. Large masses of

molten rock pushed toward the earth's surface and arched and deformed the overlying sedimentary layers that had long before been deposited on the floor of the ocean. The Chisos Mountains were formed by this volcanic pressure.

As you look south or north, you see an extensive plain that is underlain very largely by sedimentary rock layers. The isolated peaks for the most part were caused by hot lava that pushed up from below, then cooled to make the present highlands. This is also true of the Chisos Mountains which are a much larger mass. Cooling of these melted rocks caused fracture joints, or shrinkage cracks, and weathering along these breaks caused the columns, spires, buttresses, and pinnacles that you see in all directions near you. Forces of erosion have done most of the carving, forming the various rugged features near at hand.

The geological history is very complex and cannot be even summarized in a few paragraphs. Park Rangers can give you additional information regarding the geological history, or explain the origin of features you may wish to know more about.

WHAT TO DO IN BIG BEND NATIONAL PARK

	Approximate Round Trip Time
1. HIKING TRIPS	
A. Lost Mine Trail	3 hours
B. Juniper Flats	2 hours
C. Window Trail	3½ hours
D. South Rim Loop Trail	10 hours
2. HORSEBACK TRAIL TRIPS	
A. Juniper Flats	2 hours
B. Window Trail	3½ hours
C. South Rim Loop Trail	9 hours
D. Pack Trips by special arrangement.	
3. AUTO TRIPS	
A. Santa Elena Canyon	4-6 hours
1. Visit Mouth of Canyon.	
2. Castolon trading post.	
3. Terlingua and Study Butte ghost mining towns (outside park)	
B. Boquillas Canyon	4-6 hours
1. Excellent View of Del Carmen Mountains and Mexican Village of Boquillas.	
4. SUNSETS	
A. From the Basin through the “Window.”	
B. Del Carmen from Vicinity of Lower Tornillo and Boquillas.	
C. Chisos Mountains from vicinity of Lower Tornillo and Boquillas.	
D. Chisos Mountains from vicinity of Santa Elena Canyon and Study Butte Area.	
5. SUNRISE	
A. Over Casa Grande from the Basin.	

- B. Over the Del Carmen from vicinity of Hot Springs and Boquillas.
 - C. Over the Chisos Mountains from Santa Elena area.
6. WILDLIFE
- A. Over 55 mammals have been identified to date.
 - B. Approximately 200 birds have been identified to date, including the rare Colima warbler and Aplomado falcon.
Fifty-four reptiles, which include 4 species of turtles, 22 species of lizards, and 28 species of snakes.
7. WILDFLOWERS, TREES, AND SHRUBS (1,100 plants identified to date)
- A. Cactuses and other desert flowers are usually at their height of bloom from the latter part of March to the middle of April.
 - B. Semi-desert shrubs—mostly July, August, and early September, depending upon rain.
 - C. Autumn foliage coloring—late November and first half of December.
8. GEOLOGY
- A. The oldest rocks (Persimmon Gap) are comparable in age and structure to those found in the Appalachian Mountains.
 - B. The Lowland area is underlain by rock with fossil content, comparable to the Gulf Coast and Great Plains areas.
 - C. Chisos Mountain volcanic area is comparable in age and structure to the great volcanic activity period of the Northwest.

Santa Elena Canyon

Mariscal Canyon

(Photo by 111th Photo Sec., Texas Nat'l Guard)

Big Bend is one of the newest of the great, scenic National Parks, having been established June 12, 1944. A unit of the National Park System, it is administered by the National Park Service, U. S. Department of the Interior.

MISSION 66

MISSION 66 is a 10 year development program, now in progress, to enable the National Park Service to help you enjoy and understand the Parks and Monuments, and at the same time, preserve their scenic and scientific values for your children and for future generations.

CONSERVATION—YOU CAN HELP

If you are interested in the work of the National Park Service and in the cause of conservation in general, you can give active expression of this interest, and lend support by alining yourself with one of the numerous conservation organizations which act as spokesmen for those who wish our scenic heritage to be kept unimpaired for the enjoyment of future generations.

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ALSO AVAILABLE

are the following booklets of information on Big Bend National Park:

“A GUIDE FOR THE BIG BEND,” by Maxwell and Koch may be purchased from National Park Concessions or Big Bend Natural History Association **\$1.00**

“BIG BEND NATIONAL PARK,” by Ray Scott, may be purchased from National Park Concessions, Inc., Big Bend National Park, Texas **\$.50**

“PLANTS OF BIG BEND NATIONAL PARK,” by McDougall and Sperry may be purchased from Big Bend Natural History Association or National Park Concessions, Big Bend National Park **\$1.00**

The following may also be purchased in the park:

“ANIMALS OF THE SOUTHWEST DESERTS,” Olin and Cannon. Handsome illustrations, full description and life habits of the 42 most interesting and common mammals, members of the strange animal population of the lower desert country of the Southwest below the 4,500 foot elevation. 112 pp., 60 illus., color cover, paper **\$1.00**

“FLOWERS OF THE SOUTHWEST DESERTS,” by Natt N. Dodge and Jeanne R. Janish. In 100 beautifully drawn plates are illustrations of 145 of the most interesting and spectacular plants of the deserts of the Southwest, with descriptive text. 112 pp., color paper cover. May be purchased from Southwestern Monuments Association, Box 1562, Globe, Arizona **\$1.00**

“FLOWERS OF THE SOUTHWEST MESAS,” by Pauline M. Patraw and Jeanne R. Janish. A companion volume to the Deserts flower book, but depicting and describing more than 150 common and interesting plants of the higher plateau country of

the Southwest. 112 pp., color paper cover. May be purchased from the Southwestern Monuments Association, Box 1562, Globe, Arizona**\$1.00**

“FLOWERS OF THE SOUTHWEST MOUNTAINS,” Arnberger and Janish. Descriptions and illustrations of plants and trees of the southern Rocky Mountains and other Southwestern ranges above 7,000 feet elevation. 112 pp., color cover, paper. May be purchased from the Southwestern Monuments Association, Box 1562, Globe, Arizona**\$1.00**

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