MARBLE CAVES OF THE KLAMATH MOUNTAINS, OREGON AND CALIFORNIA

A Photographic Overview

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Abstract

In 1909, President William Howard Taft proclaimed Oregon Caves National Monument specifically to protect its scientific values. At that time, the only evident scientific value was Oregon Cave's supposed uniqueness as a cave in marble. Today hundreds of caves are known in marble in the Klamath Mountains and Sierra Nevada of Oregon and California, and their speleogenesis is known to be essentially identical to that of caves in limestone. Many extend to non-calcareous country rock which is not part of the cave. This short photographic overview demonstrates additional cave resources in the Klamath Mountains of Oregon and California, with a very brief additional overview of marble caves in California's Sierra Nevada for comparison. Whereas the gutted husk of Oregon Cave retains its value primarily as a hands-on show cave, additional protection is warranted for several of the depicted caves in the Klamath Mountains. Most are within national forests, and a unified cave management plan is needed for these.

Introduction

A decade of controversy about present, past, and future management of Oregon Cave and Oregon Caves National Monument has largely obscured the need for protective management of cave resources elsewhere In the Klamath Mountains. Regardless of good intentions of federal management agencies and private cave owners, some have been targets of dismaying vandalism for more than a century.

In 1909, President William Howard Taft proclaimed Oregon Caves National Monument specifically to protect its scientific value. At that time, the only evident scientific value was Oregon Cave's supposed uniqueness as a cave formed in marble. Today, hundreds of caves are known in marble in the Klamath Mountains and Sierra Nevada of Oregon and California, and their speleogenesis is known to be essentially identical to that of caves in limestone. Because of efficiency of dissolution, many extend to non-calcareous country rock which is not part of the cave.

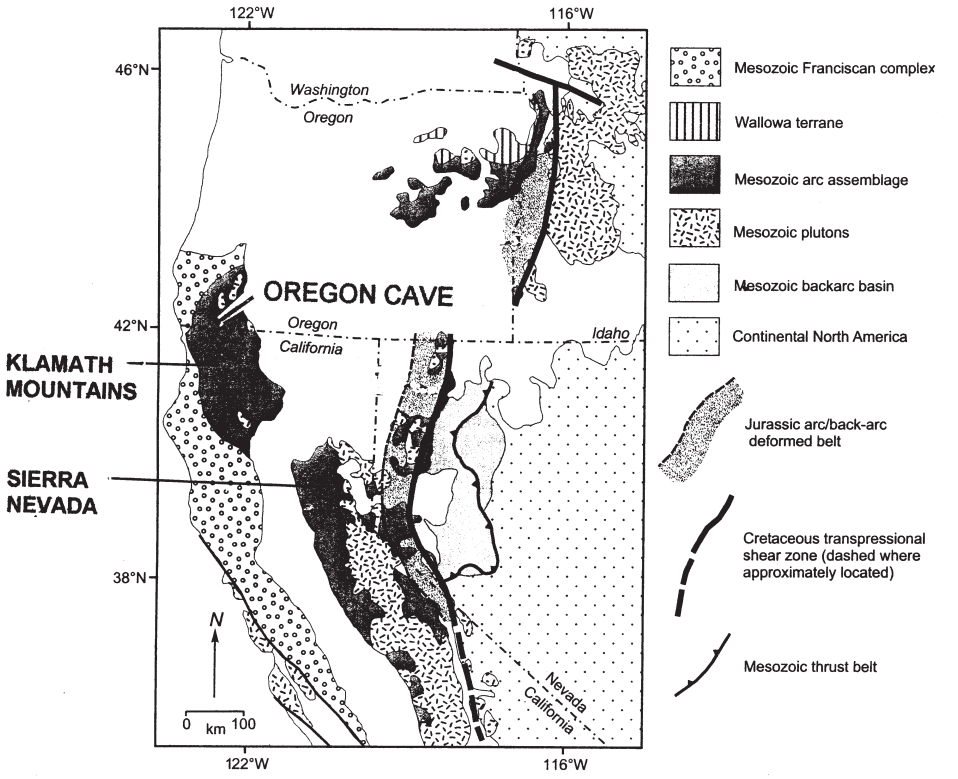
Geographically, the Klamath Mountains are the north end of California's ancestral Sierra Nevada, displaced 60 miles westward along a major fault and rotated slightly. Like much of the Sierra Nevada, they consist of a jumble of exotic terranes moved northward along faults much like today's San Andreas Fault. Some of these terranes originally contained calcareous continental or island fringing reefs, or other limestones. Subduction, metamorphism, and exhumation have transformed these limestones to scattered bodies of marble.

Dozens of dissolution caves are known in such marble in the Klamath Mountains and hundreds more in the nearby Sierra Nevada. Those in the Klamath Mountains are as much as 16 miles long and 1,100 feet deep. Oregon Cave has just over 3 miles of passages.

In these mountains, caves exist in a remarkable variety of geographic locations and climatic zones. They provide a notable spectrum of habitats, from ridgetop alpine karsts to canyon bottoms in near-Mediterranean climates. Although inadequately studied even in controversial Oregon Cave, they provide an unusual opportunity for study of terrestrial and aquatic invertebrate biodiversity within their caves and mesocaverns.[1] Their number is so great that only a few examples can be shown here. Many need protective cave management.

Present cave management in the Klamath Mountains varies widely, from the 1909 Presidential proclamation to simple "management by neglect." In some cases, past and present management strategies have been commendably effective. Others are sad object lessons. Despite 70 years of management by the National Park Service, the bulk of Oregon Cave itself now is little more than a gutted husk, now suitable for a hands-on show cave under new management and the Bureau of Land Management`s little No Name Cave also has suffered badly. This short photographic overview demonstrates cave resources remaining in the Klamath Mountains, with a very brief additional overview of marble caves in the Sierra Nevada for comparison. Most of these caves are within various national forests, and a unified cave management plan is needed. In addition, the attempted Western Cave Conservancy purchase of Wilderville Quarry Cave (Marble Mountain Cave) near Grants Pass, Oregon, merits wide support.

1 In the present rudimentary stage of biological inventory of caves in the Klamath Mountains, none of their caves should be presumed to contain fauna unique to a single cave.



MODIFIED FROM MAP BY

Keith D. Gray

John S. Oldow

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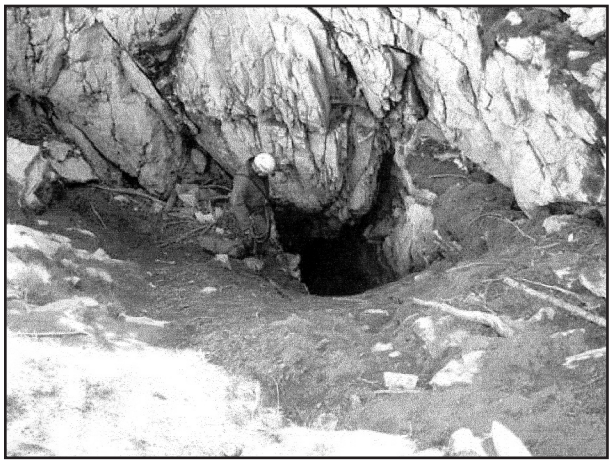
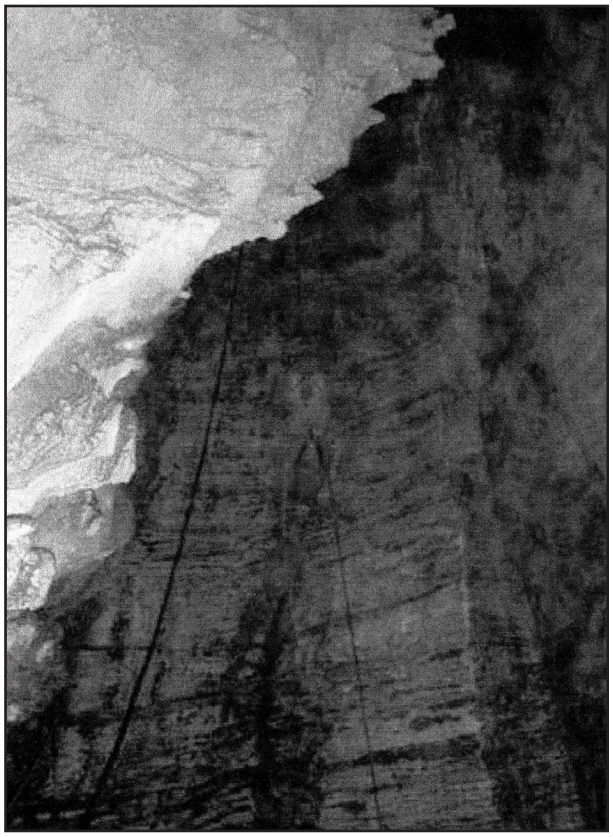
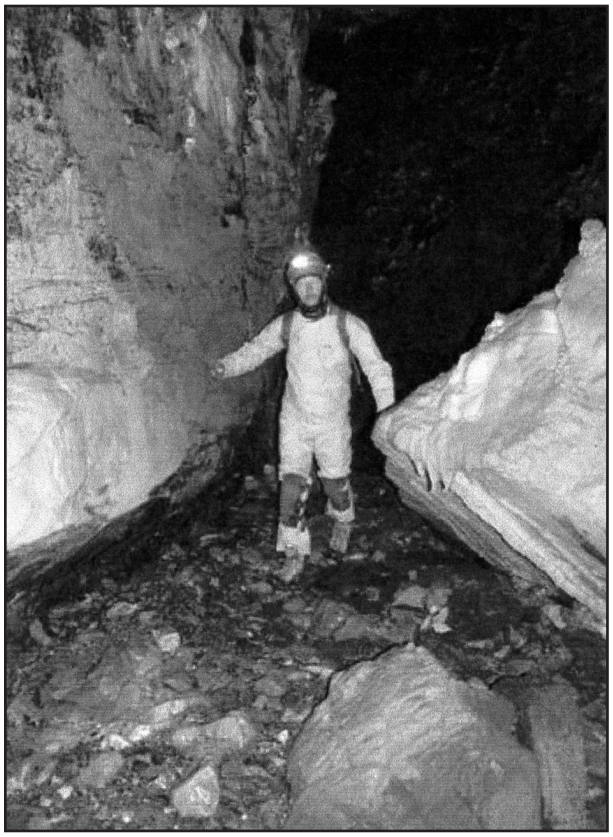


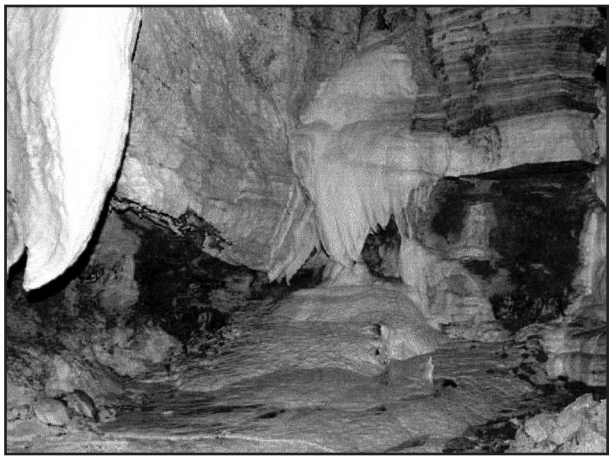
Located in the Marble Mountains Wilderness Area of northern California, Bigfoot Caveis not fully explored. At present 16.2 miles are mapped to a depth of 1,205 feet. It is in a complex alpine karst with much non-carbonate rock. Photo by Rich Collier, 2005.



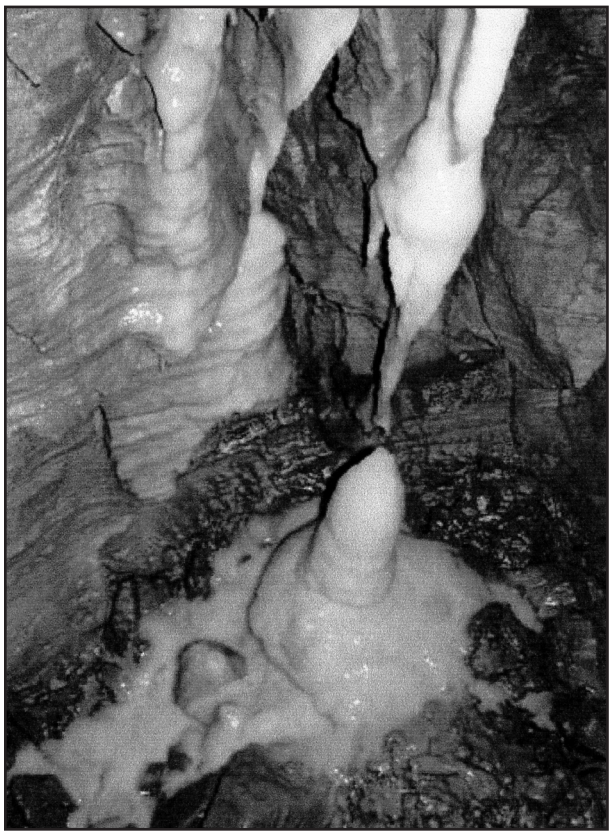
The Bigfoot marble deposit slopes moderately, but the cave contains vertical shafts typical of alpine karsts throughout the world. Photo by Rich Collier, 2005.



Intermittent streamcourse in Bigfoot Cave. Photo by Rich Collier, 2005.

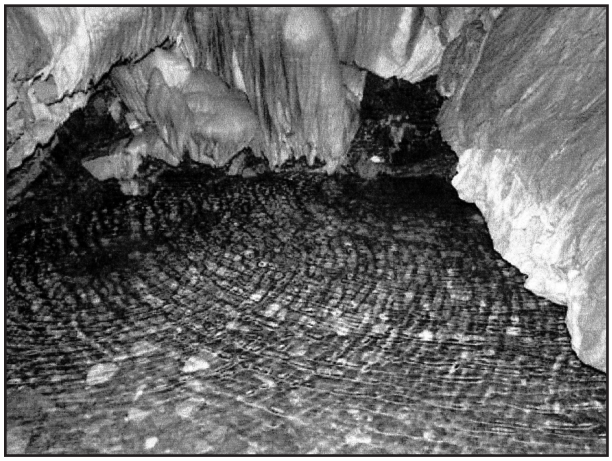


Despite 30 vigorous years of exploration by the Klamath Mountains Conservation Task Force and others, speleothems of Bigfoot Cave remain largely pristine. Photo by Rich Collier, 2005.

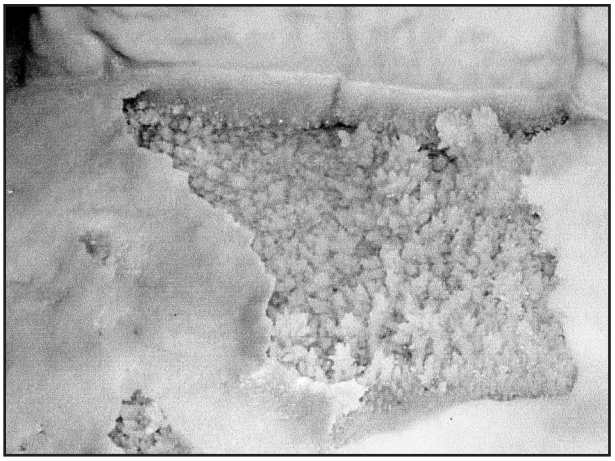


Calcite is deposited very rapidly in some parts of Bigfoot Cave. Photo by Rich Collier, 2005.

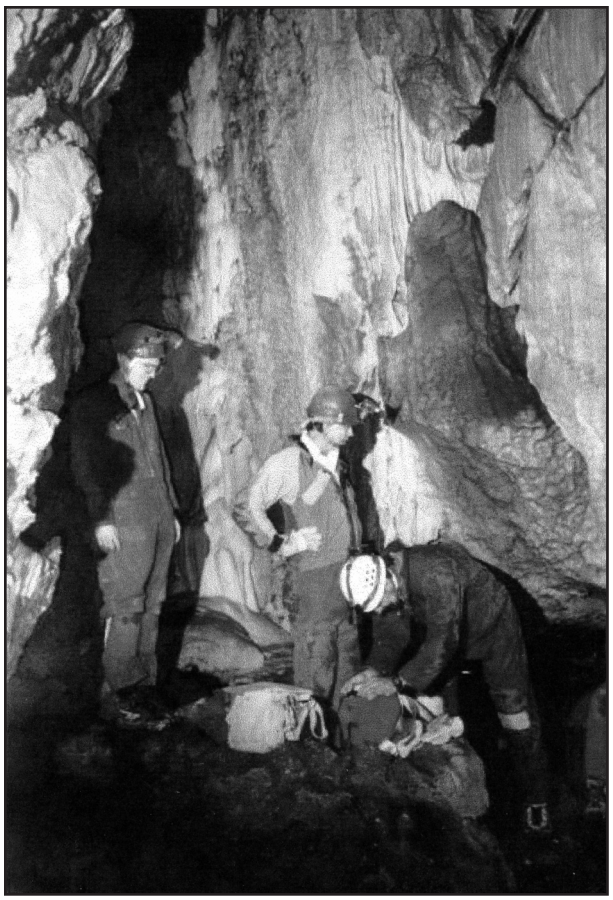
Bigfoot Cave and many others in the Klamath Mountains are traps for luckless vertebrates and probably contain important paleontological sites. Most of these are resently unstudied. This skeleton of a skunk or weasel, however, is very recent. Photo by Rich Collier, 2005.



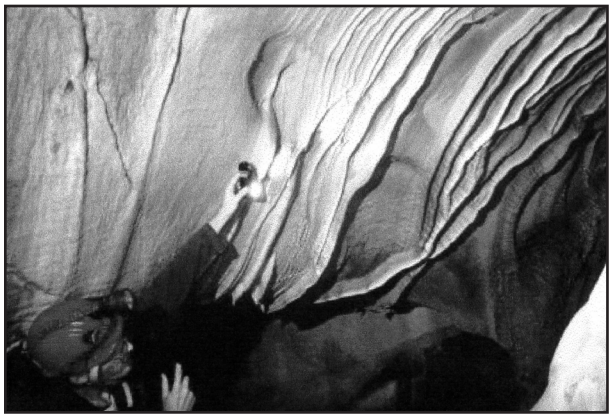
Because of altitude and isolation, this alpine karst may have a unique aquatic invertebrate fauna. This is much less likely at lower elevations. Photo by Rich Collier, 2005.



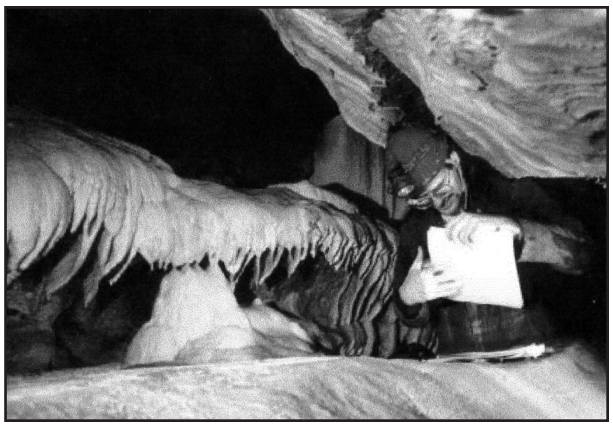
In the 1990s, administrators of the Klamath National Forest were actively working on a cave management plan for Bigfoot Cave and the adjacent karst, but since a meeting in 2000, nothing has been heard of it. Photo by Rich Collier, 2005.



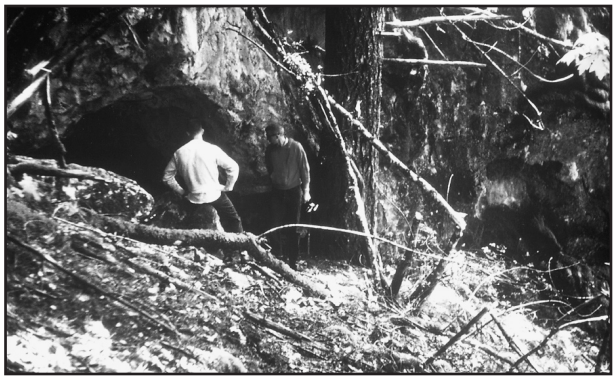
Scorpion Cave is protected by remoteness, a gate, and a cave management plan developed by the Happy Camp Ranger District including an access limit. It is not fully explored but is known to contain very large quartz dikes. About 2,000 feet has been maped to date. Photo by Tom Kline, ca 1999.

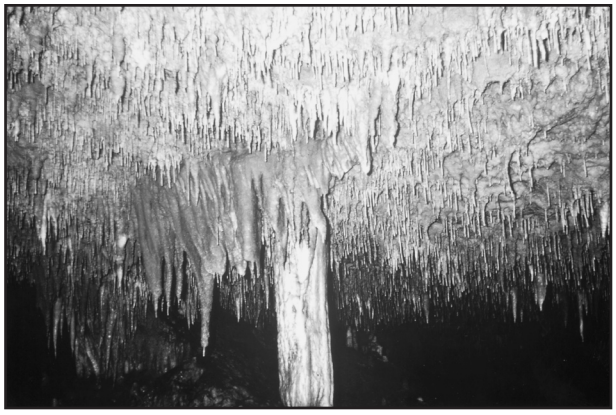


The elated discoverers of Scorpion Cave originally give it a name reflecting its beauty. They were persuaded to change it to a name that would not attract visitors and chose Scorpion Cave instead. Photo by Tom Kline, ca 1999.

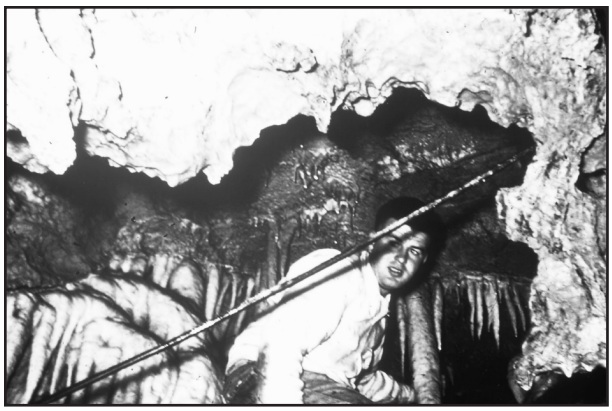


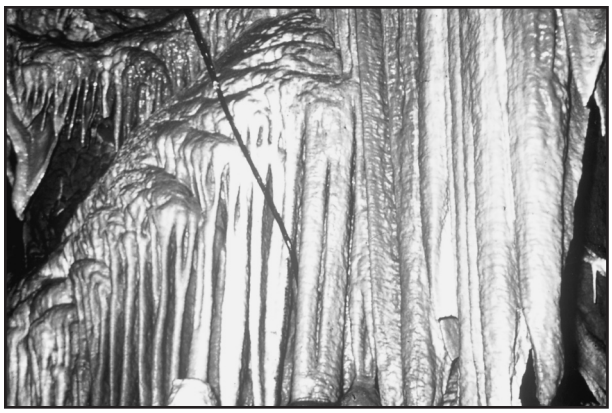
Scorpion Cave has some of the finest scenic resources of all the caves of the Klamath Mountains. The staff of the Happy Camp Ranger District deserve much credit for their protectiveness toward the cave. Photo by Tom Kline, ca 1999.



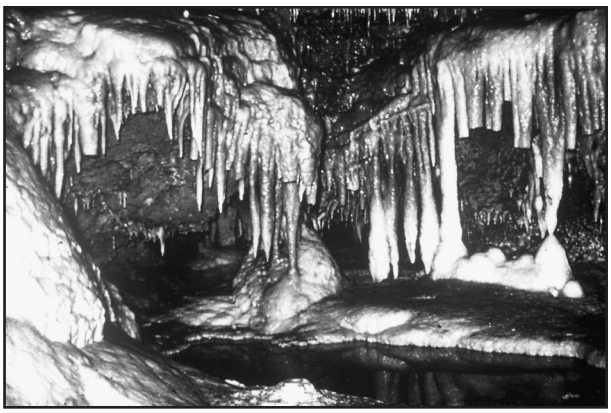


No Name Cave is a small cave south of Grants Pass, Oregon, on Bureau of Land Management land. Its original beauty (shown here) was destroyed before a bat gate was installed around 2000. Unfortunately the Bureau of Land Management did not use recommended materials and the gate soon was breached. The breach was repaired, but the future of the gate and the cave's remaining resources are doubtful. Photos by Stu Eide, ca 1975.

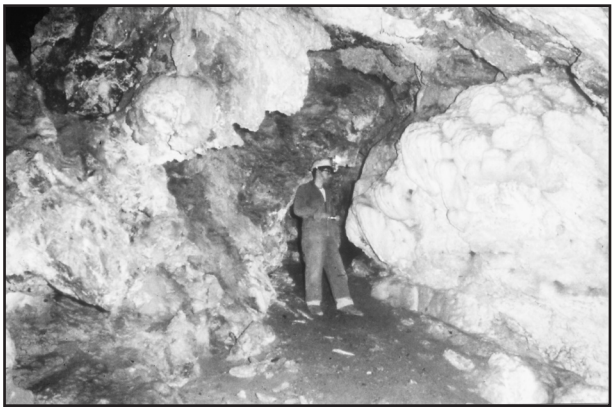




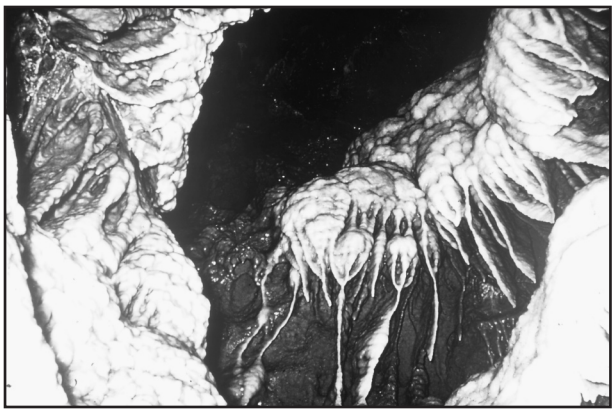
Located in Oregon, south of Grants Pass, Marble Mountain or Marble Quarry Cave is termed Wilderville Quarry Cave to differentiate it from the Marble Mountain caves in California. It is the most important privately owned cave in the Klamath Mountains. It was a show cave in the late 1930s or early 1940s but the operation was unsuccessful and the cave suffered. The Western Cave Conservancy has been attempting to purchase the cave but it is currently owned by land speculators. Unknown photographer, ca 1950.



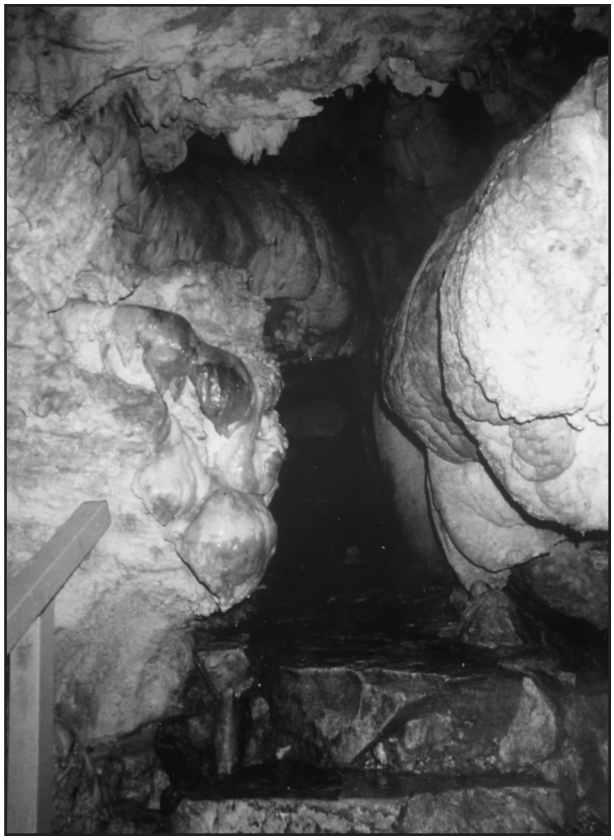
About 2,000 feet of passages are known to exist in Wilderville Quarry Cave. Some of it compared favorably with Oregon Cave and it supposedly has been closed almost all the time since the show cave failed. Nevertheless, local teenagers camping in it are understood to have broken some of these speleothems as well as trashing the cave. Unkonwn photographer, ca 1950.

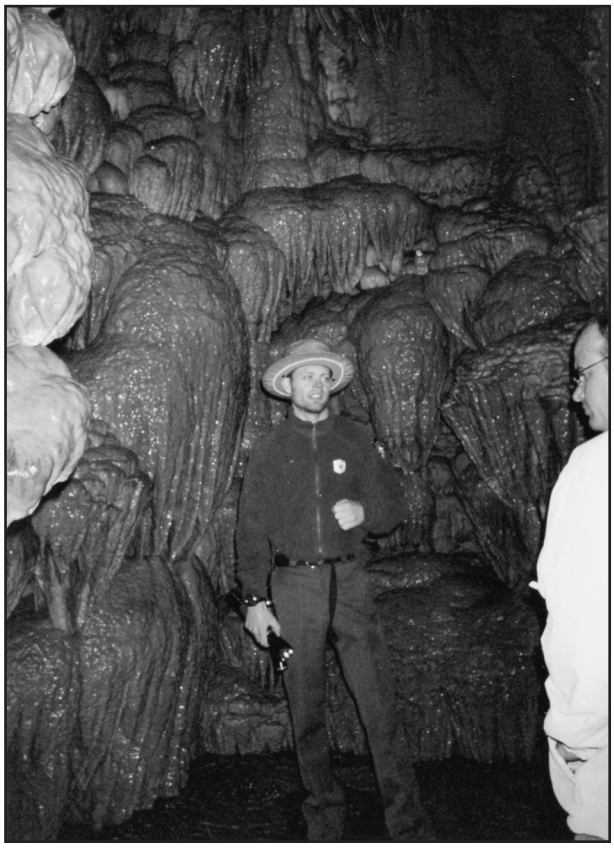


In the south end of the Klamath Mountains, several small caves are well known recreational sites. These include Forest Glen, Hall City, and Natural Bridge Caves. Some lesser known caves here are up to 1,000 feet long, and are well decorated. These are largely protected by obscurity. Photos by Rod Twain and Keith Trexler, ca 19675.

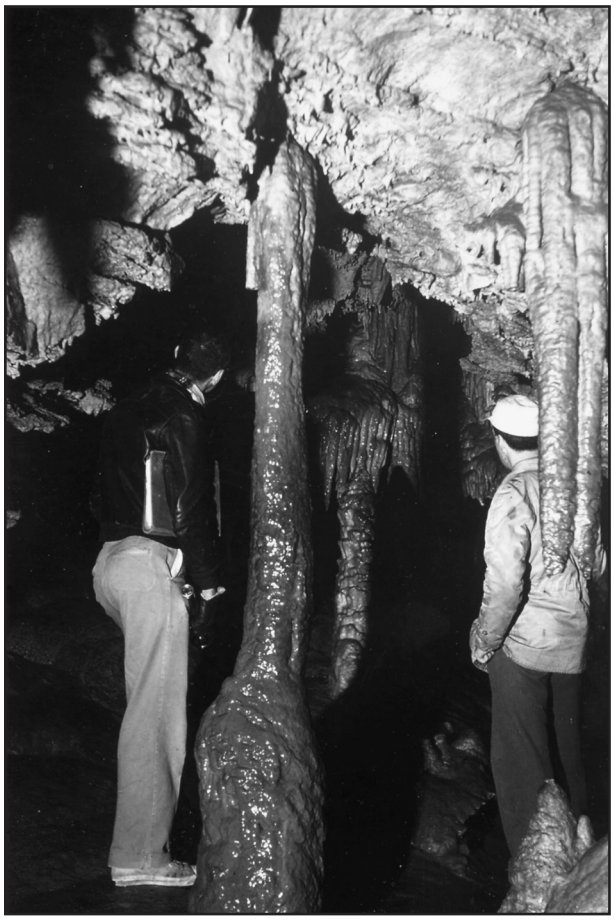


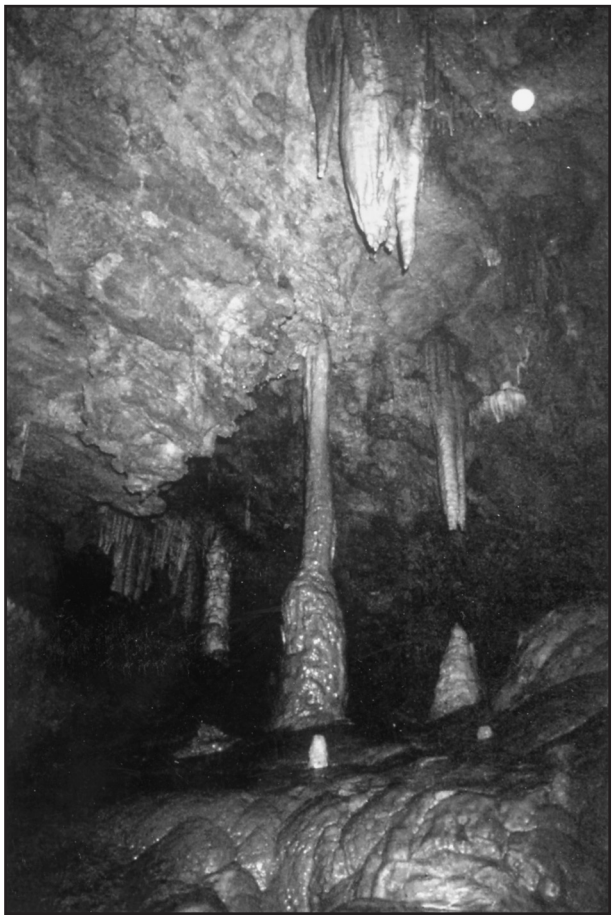
(Above) Despite 70 years of management by the National Park Service, Oregon Cave has become a shattered husk. Even high overhead, everything that can be broken, is. Photos by William R. Halliday, 2005.



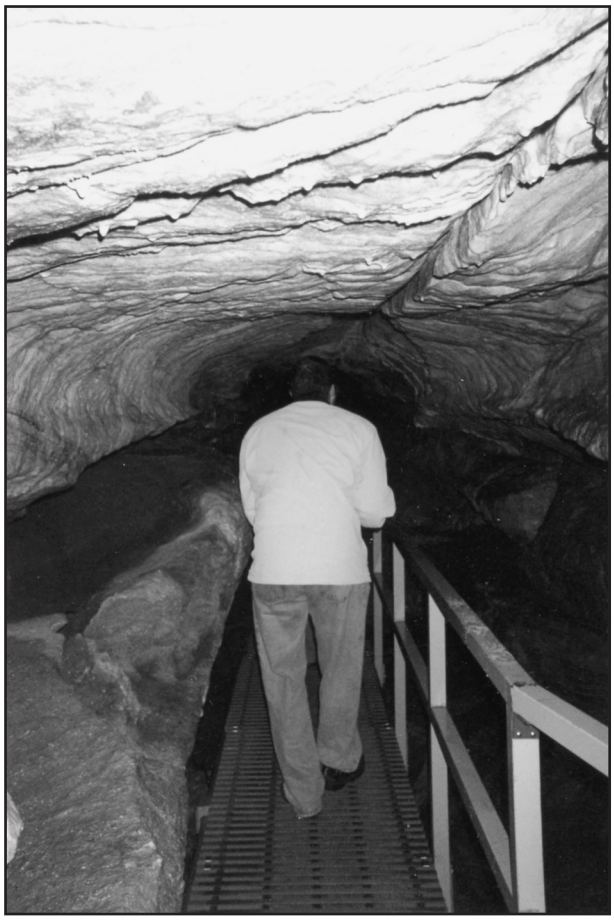


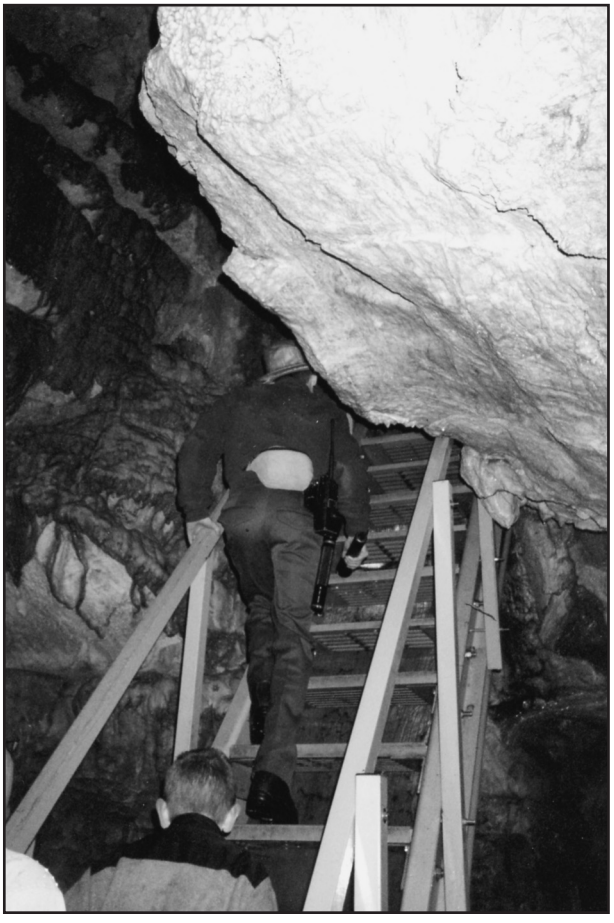
(Right) The tight geometry of Oregon Cave passages compels visitors and guides to touch the walls in many places, leaving skin oils and lint behind. Photos by William R. Halliday, 2005.



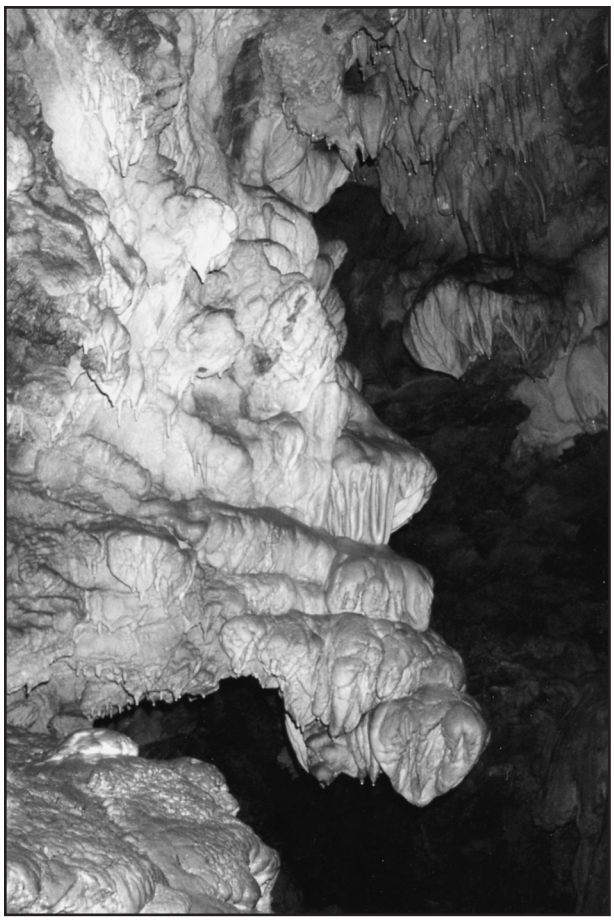


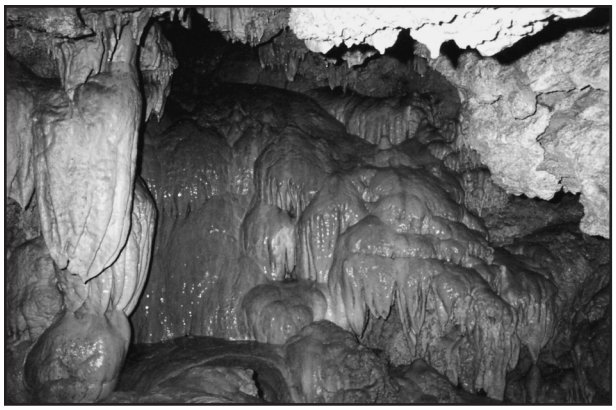
Ill-Judged restoration in Joaquin Millers Chapel has produced a mud-colored column and likely damaged invertebrate cave life. Photos by William R. Halliday, 1959 and 2005.





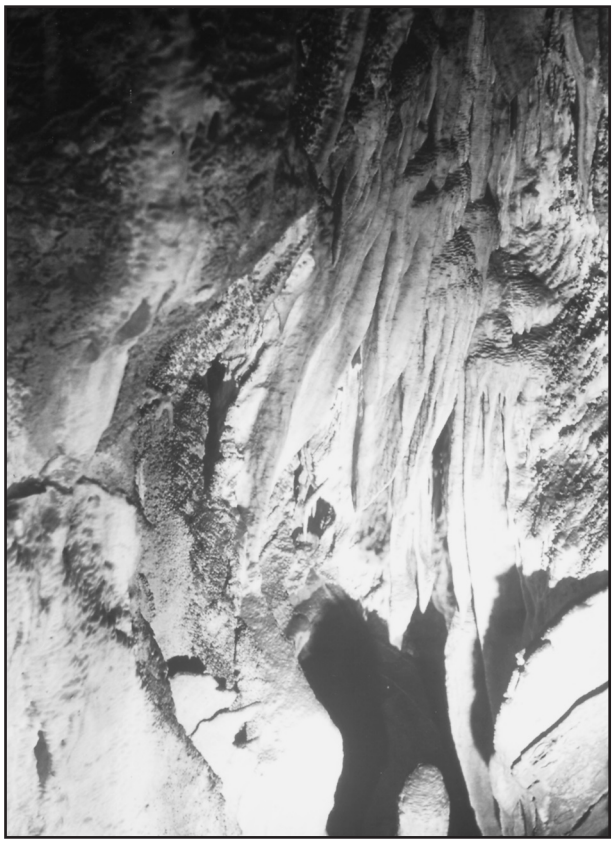
The thermal conductivity of stainless steel railings produced a safety hazard in this cold cave, and its shininess detracts from the naturalness of narrw passages. Photos by William R. Halliday, 2005.

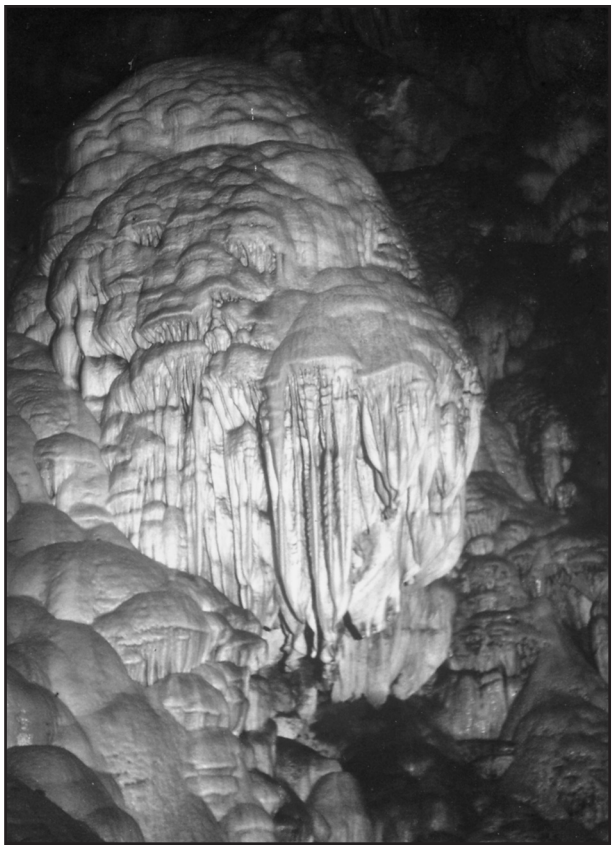




(Above) A few speleothems in Oregon Cave are massive enough to have resisted vandalism and it remains a fun cave for visitors because of the narrow, twisting passages. Photos by William R. Halliday, 2005.

MARBLE CAVES OF THE MOTHER LODE.

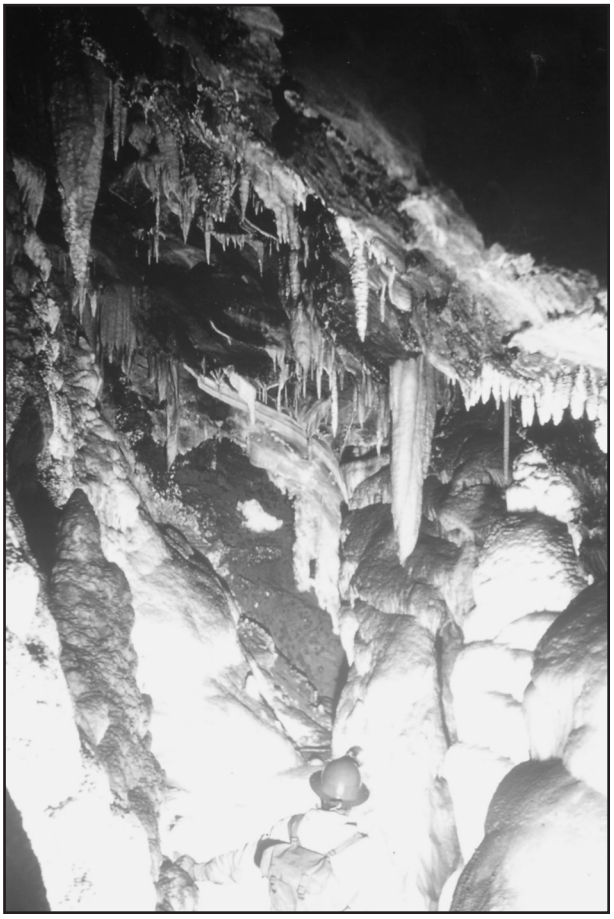




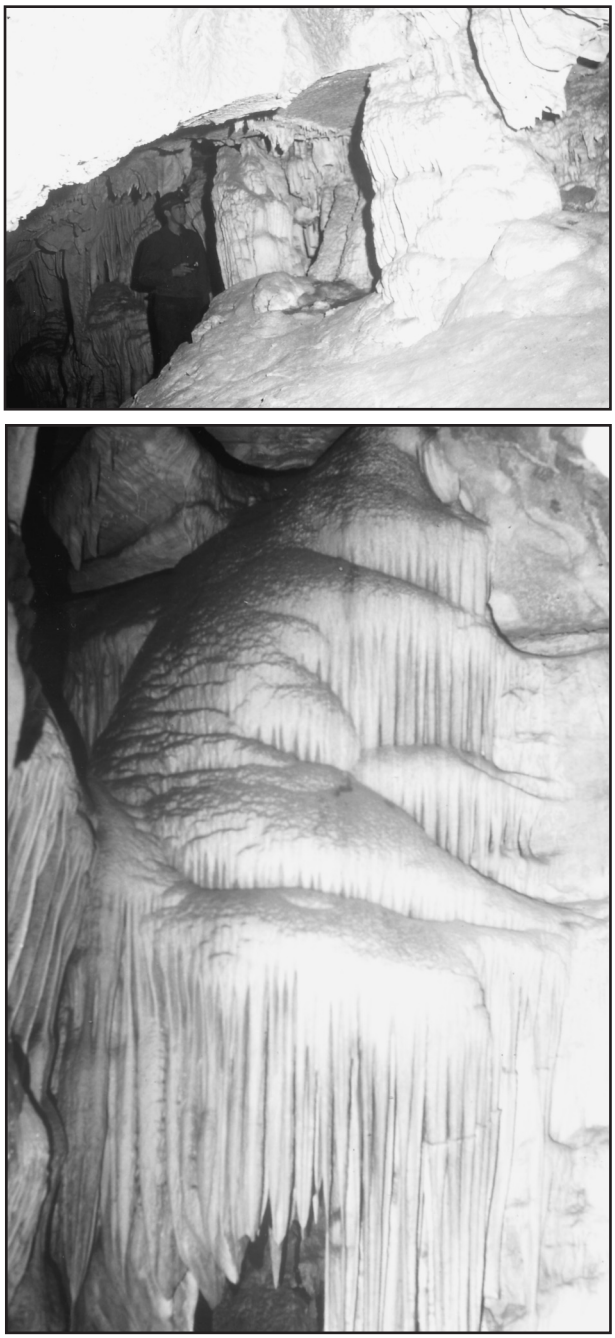
(Right) The Calaveras Formation of the Mother Lode section of the Sierra Nevada contains innumerable marble caves. Most are on privately owned land and several are deveolped as show caves. Shown here are Mercer Cave and Moaning Cave. Photos by William R. Halliday, 1955.

The Black Chasm is notable for helictites. Some extrude from cracks in non-calcareous rock. Photos by William R. Halliday, 2003.

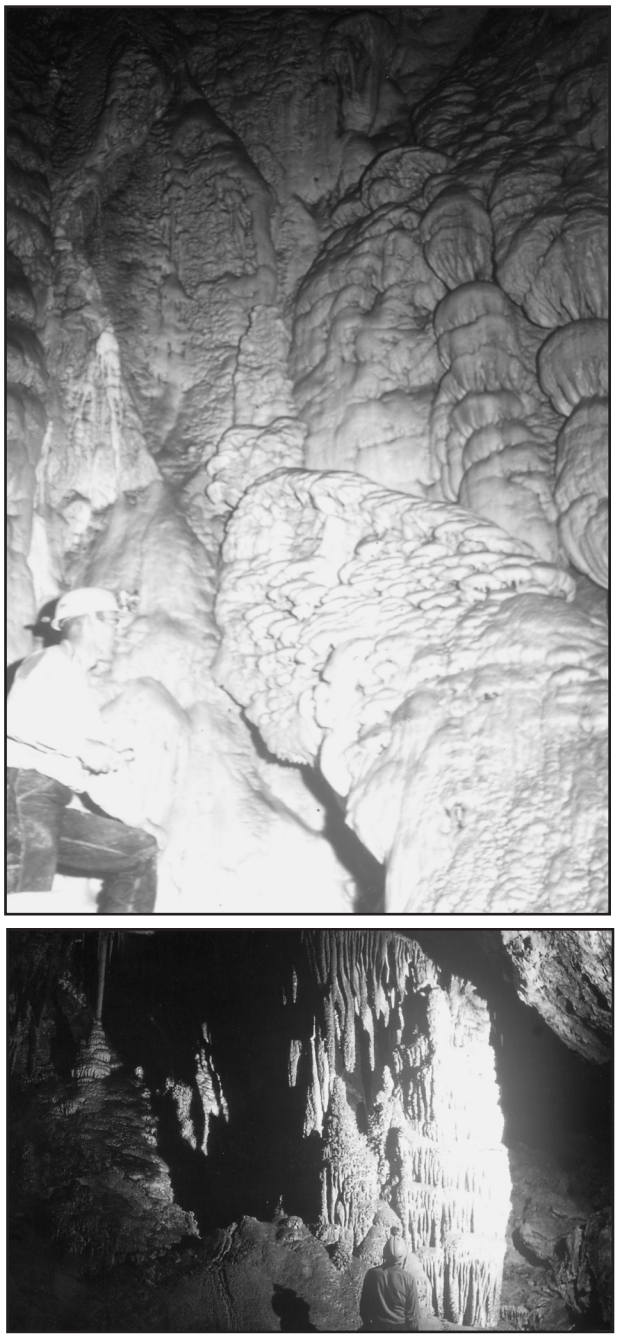
MARBLE CAVES OF THE SOUTHERN SIERRA NEVADA



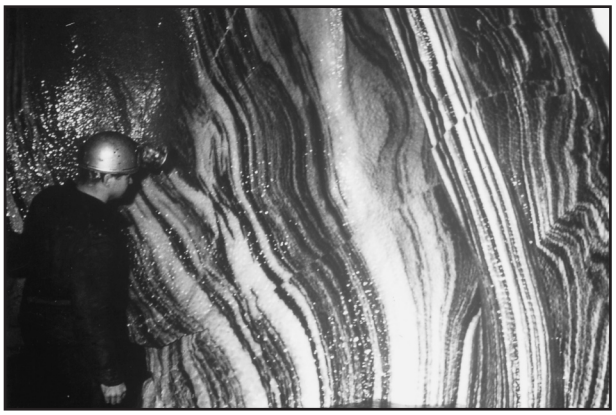
Marble in "roof pendants" amid granite and other non-calcareous rocks forms large, well-decorated caves in the area of Sequoia and Kings Canyon National Parks. Shown here are Soldiers Cave and Clough Cave. A wooden gate was no protection for the latter but its speleothems are so massive that it remains a pleasant cave. Photos by William R. Halliday, 1950 and 1954.



Two show caves in the Southern Sierra Nevada are notable for massive dripstone. These are (above) Boyden Cave, a USDA Forest Service concession and (below) Crystal Cave, a show cave in Sequoi National Park about the same size as Oregon Cave. Despite damage suffered during an ill-judged experiment with self-guided tours, it remains a thing of beauty. Photos by William R. Halliday, 1954 and 2003.



Less-known marble caves in the Southern Sierra include largely vertical Church Cave (above) and Palmer Cave (below) where dissolution has been so efficient that little of the roof pendants' marble remains. Photos by William R. Halliday, 1954.



Lilburn Cave is famous for its banded marble walls and its white speleothems. It also is the largest marble cavve in the USA. Oregon Cave is a comparatively small cave of the Lilburn Cave type. Photos by William R. Halliday, 1950 and 1954.