Rock Art and Other Archeological Cave Use on the North American Plains from Canada to Northern Mexico

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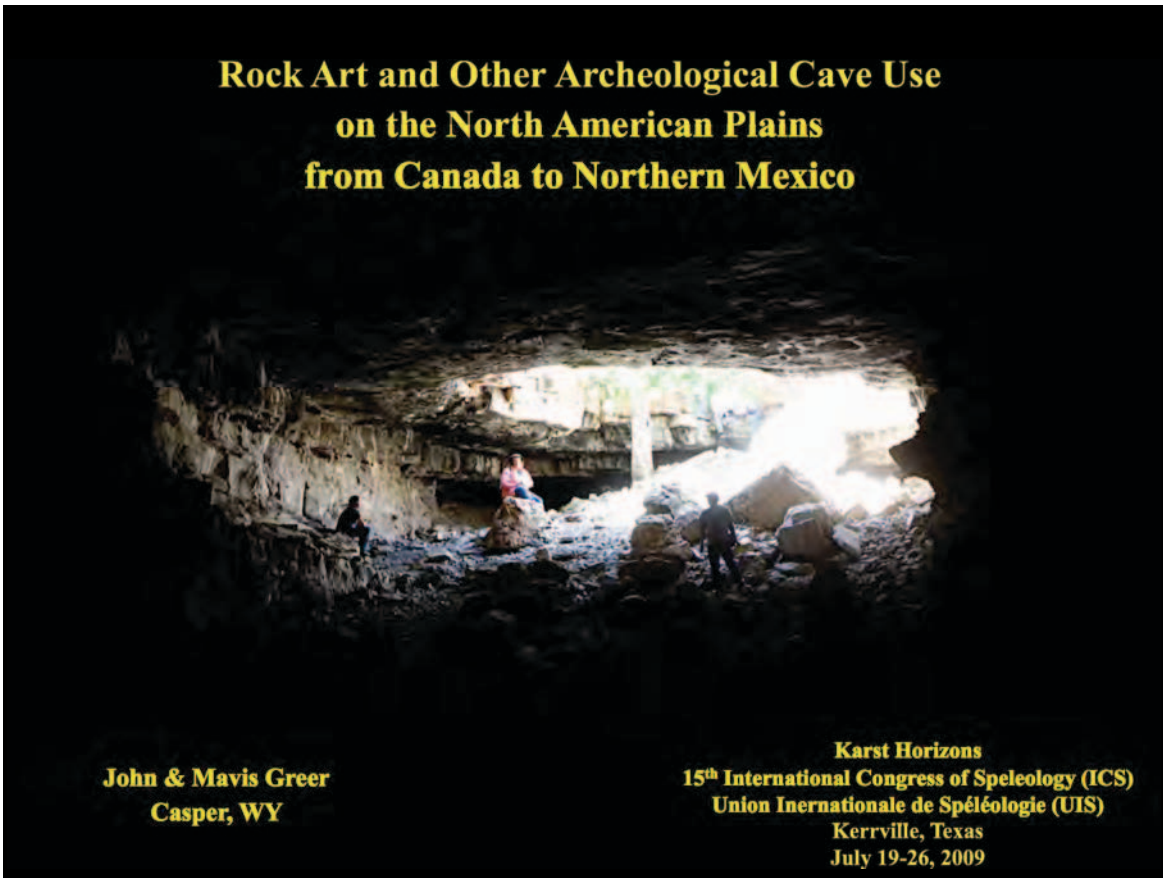

Figure 1 (cover). Boyd's Cave, New Mexico.

Introduction

In this paper we discuss briefly archeological remains associated with caves across the North American Plains. We will mention mostly a few kinds of materials and their relationship to available light and depth within the cave. For this discussion, we consider the Plains from southern Canada to northeastern Mexico, and including the island mountain ranges of the north and the more extensive limestone areas of the south. Caves range from deep rockshelters and open entrance rooms, to deep cavern systems and vertical pits.

(Figure 2) Caves across the region experienced considerable variation in prehistoric use, function, and associated cultural groups through time and space. Caves were individually selected for different functions — with meaning related to attributes of formations, walls, and ceiling. Group size and composition obviously varied according to activity, distance into the cave, and available space. Trying to sort out such variables is what cave archeology is all about.

Natural Lighting Zones and Cave Forms

(Figure 3) Materials occur in all zones of light and darkness and in all kinds of caves, a setting that uniquely provides darkness, isolation, visual effects, auditory stimulation, and various psychological reactions not common in open-air settings, although similar conditions can be achieved at night in semi-enclosed cave rooms — again an emphasis on caves. Cave settings, however, can require greater preparation and energy for an activity than do open locations. (Figure 4) Ritual far below the surface in total darkness requires artificial light and could require transport of people and materials through areas of difficult access — that is, very small notches or openings that one barely fits through. Thus, lighting and location within a cave are important considerations both for difficulty of access and for psychological effect or personal orientation.

Next, we can look at four settings for available light and access.

2.1 Daylight Zone.

(Figure 5) The Daylight Zone precludes the necessity of artificial light during daytime. This is the most common setting, and cultural remains include rock art, houses, hearths, and other occupational debris. Some remains appear to be the result of daily habitation activity, but many are clearly the result of ritual.

2.2 Twilight Zone.

The Twilight Zone has adequate light during most daylight hours, but artificial light may be necessary to view paintings on the walls or ceiling, or in recessed niches and ceiling domes as are common on the Northern Plains (such as in Dillinger Cave, Figure 6). Structures and other features are unusual in the shadows and are the result of special activity — such as storage, mineral extraction, or ritual — rather than daily habitation.

2.3 Transitional Dark Zone.

(Figure 7) For archeological consideration, we divide the Dark Zone on the basis of complexity, with the Transitional Dark Zone the area nearest the entrance. Natural entrance glow is seen from a distance, maybe with some movement from the specific location. The cultural consideration is identifying the general entrance area and assuring exit from the cave, at least during the day, with little chance of becoming lost. Rock art occurs throughout this zone, and other relatively rare items are the result of ritual activity.

2.4 Interior Dark Zone.

(Figure 8) The Interior Dark Zone is more distant and often more complex, with a good possibility of becoming disoriented, even with a torch. The occurrence of rock art and rare archeological materials indicates familiarity with total darkness, while human remains appear to be from intentional placement of the dead as well as lost individuals.

Size and shape of the cave also are important, whether a single room, a complex cavern, a vertical system, or a deep vertical shaft — all of which contain archeological materials.

2.5 Single Room.

Entrance rooms vary from sunlight to twilight zone, or even dark zone depending on the size and shape of the entrance. On the Northern Plains, rock art is common in small dark ceiling domes or lateral alcoves. Rainbow Bear Cave in Montana (Figure 9) has a duck-under area inside the cave and an elaborately painted rear ledge viewed only with artificial light. Rock art in entrance rooms with restricted light has ritual association more than simply expressing beliefs, myths, or history. In Texas, several large rooms with small vertical entrances were used as burial sites. Other entrances of easier access contain both habitation and ritual materials. Multiple rooms and connecting passages are more often ritual locations with painted rock art, unusual structures, and unique artifact clustering.

2.6 Multiple Rooms and Levels.

More complex horizontal and vertical cavern systems contain archeological materials in any area or depth, although artifacts are most often within view of natural light. At Lookout Cave in Montana (Figure 10), sunlight enters through a very small hole into an enclosed room and lights up a small patch of wall with a stylized red bison while other figures around the room are in total darkness. At Frozen Leg Cave in Montana (Figure 11) pictographs of different ages and traditions are in large twilight rooms, while other materials in that system, including a log structure, are in dark interior rooms and passages. Surratt Cave, a deep vertical system in New Mexico (Figure 12), contains pictographs in remote shrine locations throughout the complex series of rooms and passages. In southwest Texas a location with chipping debris and specialized artifacts was found in a very restricted lateral passage, indicating specialized activity. Nearby Litter Barrel (Whitehead) Cave (Figure 13) contains deep stratified cultural deposits in an interior dark zone room indicating repeated ritual use over a long period of time. Several caves contain unique historic inscriptions and drawings not available elsewhere.

2.8 Vertical Shafts.

Vertical shafts and pits in Texas and northern Coahuila, some of which drop vertically into large rooms, were used mainly for disposal of the dead. Entry into deep overhanging vertical shafts during prehistoric times is known mostly in northern Mexico (as well as Guatemala and Peru), and ceramics and other objects were left in lateral passages and wall niches. Entry required direct aid, although rawhide ropes could have been used throughout the Plains, and special sticks, such as those used by honey climbers in Mexico (Figure 14), could have been used. Still, there presently is no evidence of deep pit entry on the Northern or Central Plains.

3. Kinds of Cultural Remains

Cultural remains are as varied in caves as they are in any other sites. Among evidence of human use, the most visible is occupational debris, scattered artifacts, painted rock art, and human remains.

3.1 Rock Art.

Rock art includes both painted and engraved figures, although images in caves are almost exclusively painted. Rock art occurs most frequently in the Daylight Zone of entrance areas (Figure 15), mostly just out of direct sunlight. Variable function appears to include marking territory, vision quest, shamanism, hunting magic, and commemorating biographic events.

Rock art also occurs in the Twilight Zone and Transitional Dark Zone. Several sites have paintings (and in rare cases, finely engraved petroglyphs) in areas where artificial light is necessary to see the rock art, although navigating may be possible without additional light. At a few sites rock art extends from the entrance back into the Dark Zone. At **Triangle Cave** in Montana (Figures 16-17) the wall from the cave entrance to the back of the phreatic tube is covered with paintings relating to shamanism. Long cracks and tubes in sandstone, though relatively rare, similarly extend back into near darkness, and the walls of two such passages in South Dakota and Wyoming are intensively covered with carved petroglyphs.

Rock art in the Interior Dark Zone is not common, but New Mexico caves provide some of the best examples. **Surratt Cave** (Figures 2, 12) has paintings throughout the complex vertical system, and **Feather Cave** (Figure 29) is similarly painted in a system of rear rooms of extremely difficult access.

3.2 Ritual Artifacts.

(Figure 18) Rock art is usually assumed to result from various kinds of ritual, along with other cultural remains. Historic offerings include plants, flowers, tobacco, candles, food, and other items that offer insight into what is missing from the prehistoric record. Prehistoric items are more varied and include chipped stone tools, various kinds of jewelry, religious wands, sandals and baskets, flutes, and a whole array of ritual items, sometimes buried or hidden. Conch shell masks, probably transported from the southeastern United States, have been found in Mask Cave in Montana (Figure 19), with its walls completely painted with red ochre.

Ceremonies leave behind trash and discarded items, and midden deposits indicate organized arrangement of activity. Such remains, sometimes deep within caves and particularly common from New Mexico south, indicate locations of shrines, often at the base of rock art panels. Based on our ethnographic observations in northern Mexico (Figure 20), items are left whenever one or more people, either alone or together, conduct ceremonies in a room, with or without additional participants or audience. The amount of debris depends on the number of participants, with more discarded material from larger groups, or from repeated use of the location. Even when the group is large, the focus location within the cave is usually small and specific.

3.3 Houses and Habitation Remains.

Circular house floors, stone foundations, and platforms are occasionally in entrance areas of horizontal caves, and more rarely back into twilight areas, often associated with painted figures. Circular foundations for small wickiups, and even the remains of the pole

wickiups themselves (Figure 21), occasionally occupy entrance areas, again associated with paintings. Remains of pole structures also have been found in dark interior rooms (Figures 23, 30), and in a few cases, (Figure 22) small entrances have been closed off with logs. Some of these remains may be associated with habitation, but others clearly have ritual function.

3.5 Ochre Mining.

At other caves, mineral extraction is represented. An early reference describes Flathead Indians in Montana extracting red pigment from a limestone cave. We recorded one cave in central Montana, Hand Stencil Sink (Figure 30), perhaps the same cave, with dark zone rooms and interior passage used for extraction of red ochre, the main paint material in the region. Two negative handprints are at the entrance (Figure 27).

3.6 Human Remains.

(Figure 23) As for human remains in caves, bodies were placed intentionally mostly in crevices or single rooms on the Northern Plains, or in larger cave rooms on the Southern Plains. In Texas and northern Mexico bodies were both placed and thrown into vertical shafts and small vertical systems. Remains, some of Archaic age, are also in deep, somewhat inaccessible parts of interior passages. It is unknown if the people were lost, crawled into the cave to die, or if bodies were carried into remote areas for disposal.

3.7 Objects Removed from Caves.

Cave use is also evidenced by objects removed from caves and taken to other locations, with or without modification, often far from known caves. Cave formations are broken and pieces removed, presumably for ceremonial use. One small stalactite on an open site in Montana (Figure 24) has been polished and then finely incised into what appears to be a decorated snake or salamander. The carved piece is at least 200 km from known cave areas.

4. Caves as Refuge Locations

Caves often blend into the surrounding environment and provide places for people to hide from enemies, although little is documented about such use. Boyd's Cave (Figure 25) in New Mexico has an obscured sinkhole entrance and is said to have been used by Apache Indians hiding from the Army in the 1800s. Such use may have been more frequent, but there would be little, if any, remaining physical evidence. Human remains in some caves suggest such use for refuge.

5. Summary and Conclusions

(Figure 26) Thus, people used caves at least in Montana and Texas for at least 11,000 years and probably much longer. This is based on projectile points excavated from stratified deposits in restricted entrance rooms, not deep within the dark zone. By 8000 years ago there was fairly consistent cave use from Canada to Mexico (again mostly twilight zone), with increased widespread use during the last 3500 years (which includes some dark zone use). Artifacts, cultural deposits, in-cave construction, and rock art all show intensification of cave use during the last 1000 years, with a dramatic increase in

ritual use and dark zone activity. Thus, use of caves across the region has a long and complex history covering thousands of years and many cultures.

(Figure 27) Use and function were equally complex, and caves were used by many cultures for both secular and religious reasons, with setting in the cave more important than available light. Daily habitation and most rituals were concentrated in open areas with at least some entrance light. Activity occurred in all zones, however, perhaps due in part to the fact that, at night, many enclosed entrance rooms and the entire Twilight Zone are dark and isolated from external light and sound. (Figure 28) The emphasis, therefore, would be to conduct ritual in the dark. At least some religious activities were done in the Dark Zone, suggesting that complete isolation, remoteness, and depth into the underworld were important. The characteristics of total darkness within a constricted space surrounded by solid rock, with the auditory effects of supernatural noises and pounding trance-inducing reverberations within deep cavern passages cannot be replicated elsewhere — and we have found evidence in New Mexico for exactly that kind of cave use Figures 2, 12). Also, the degree and intensity of interaction with the earth could change with the depth into which one goes into the cavern and the degree of isolation one would experience (Figure 29). Although activities could take place in enclosed entrance rooms, those same activities conducted far within the Dark Zone could have different psychological and cultural effects than in rockshelters or rooms open to the outside. Such use of Dark Zone on the Plains is reflected in various ways, especially where paintings are far from the entrance, and shrines were constructed far beyond natural light. Access to remote areas is often controlled by a tiny constriction — or notch — barely large enough for a small human body.

(Figure 30) For other functions, such as removing formations, minerals, or water from the cave, the desired resource was more important than access or light, and all areas were susceptible to use regardless of their location within the cave. Use of caves for individual or group hiding or refuge was dependent on the hidden nature of the entrance and the depth and complexity of interior passages.

(Figure 31) In conclusion, through time people have been attracted to caves as important locations for a variety of activities that range from secular to sacred. Each cave must be analyzed on its own from remaining cultural evidence to determine how it functioned, when it was used, and by which social or cultural groups.

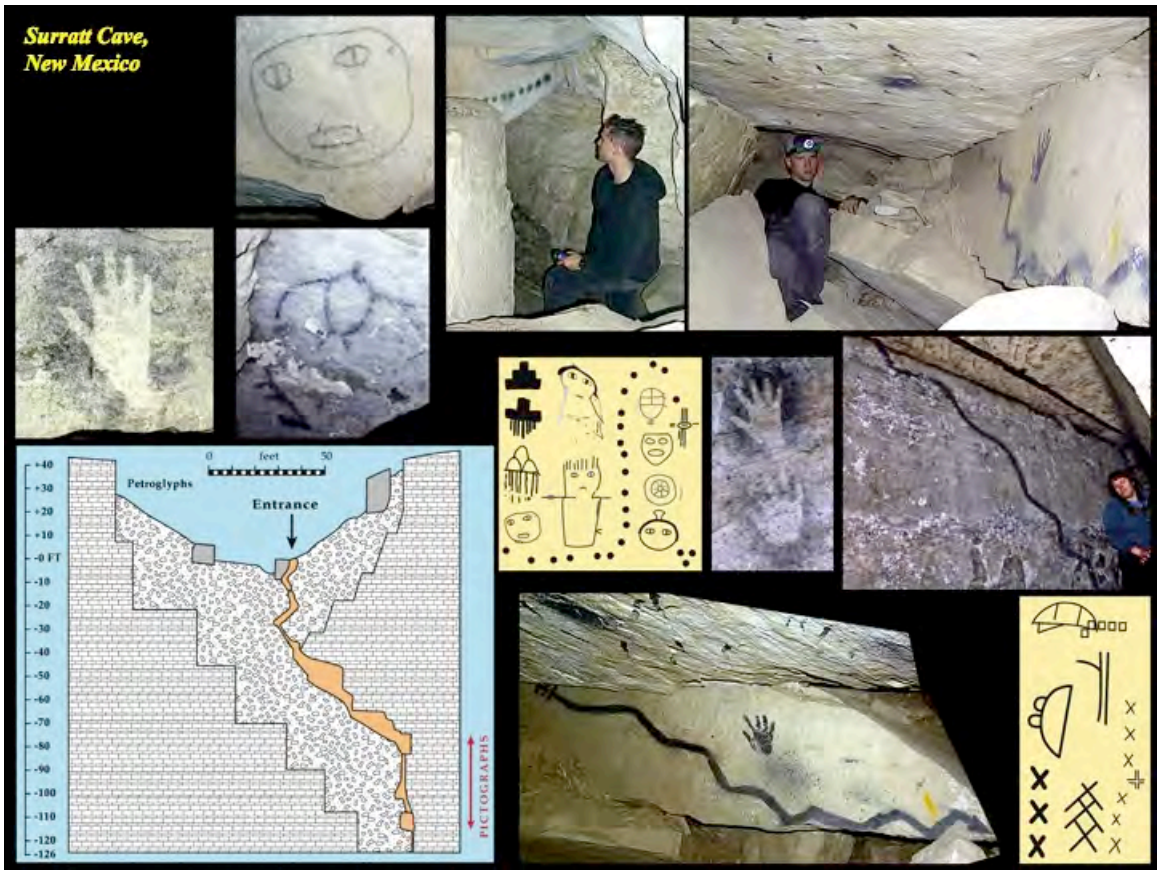

Figure 2. Surratt Cave, a complex vertical system in New Mexico. Art in this cave is Interior Dark Zone, far down the vertical system.

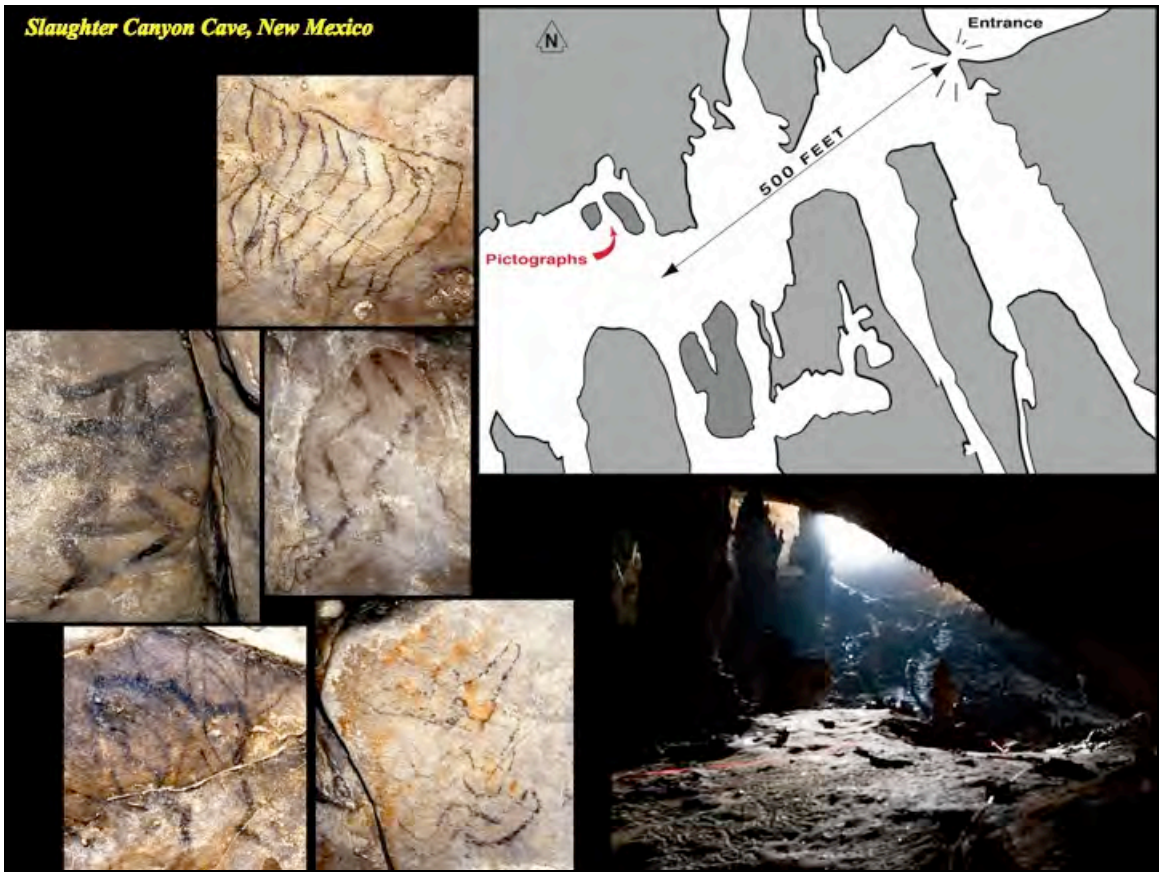

Figure 3. Slaughter Canyon Cave, a complex horizontal system in New Mexico.
Art is next to a water source in the Dark Zone.

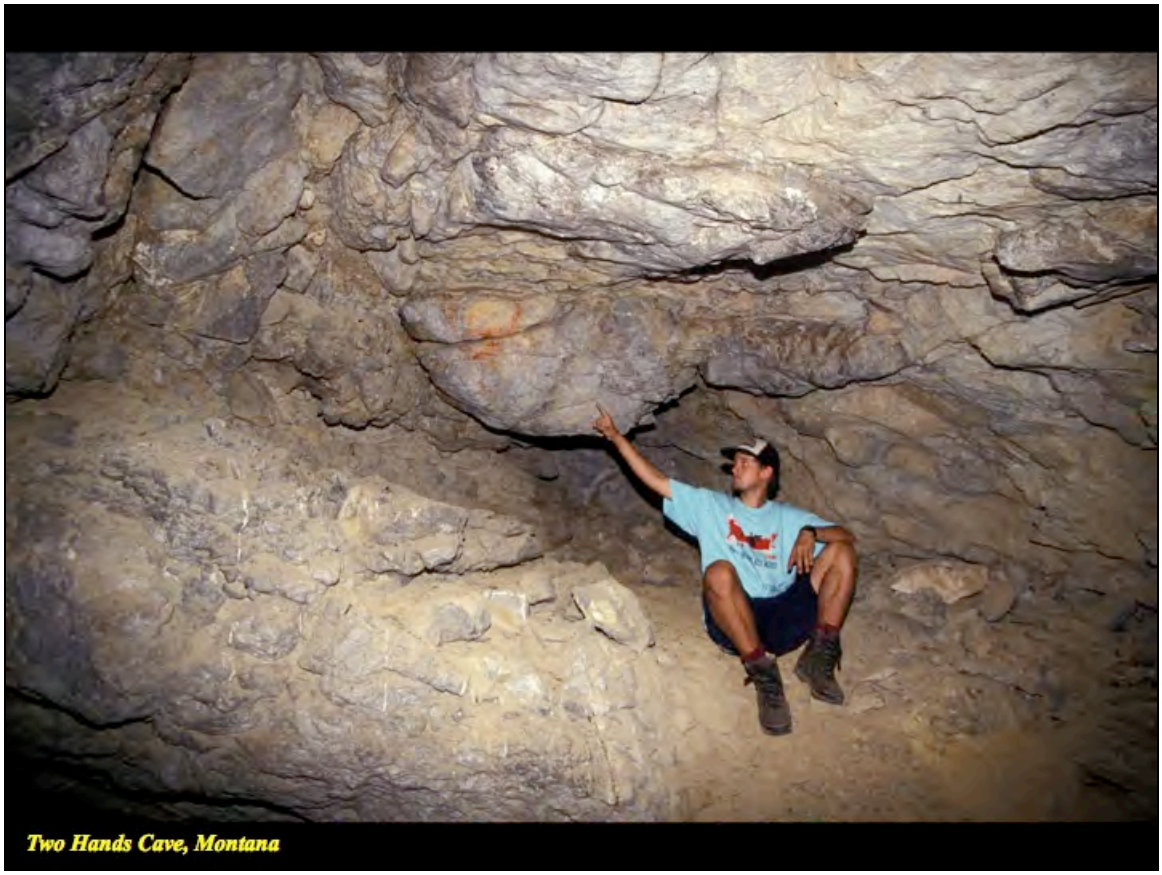

Figure 4. Two-Hands Cave, a simple horizontal system in Montana that stretches back into Initial Dark Zone, with paintings from front to back of the cave, in all settings.

Figure 5. Indian Cave, a semi-enclosed cave room in Montana that lets in daylight, but no direct sunlight reaches into painted interior areas.

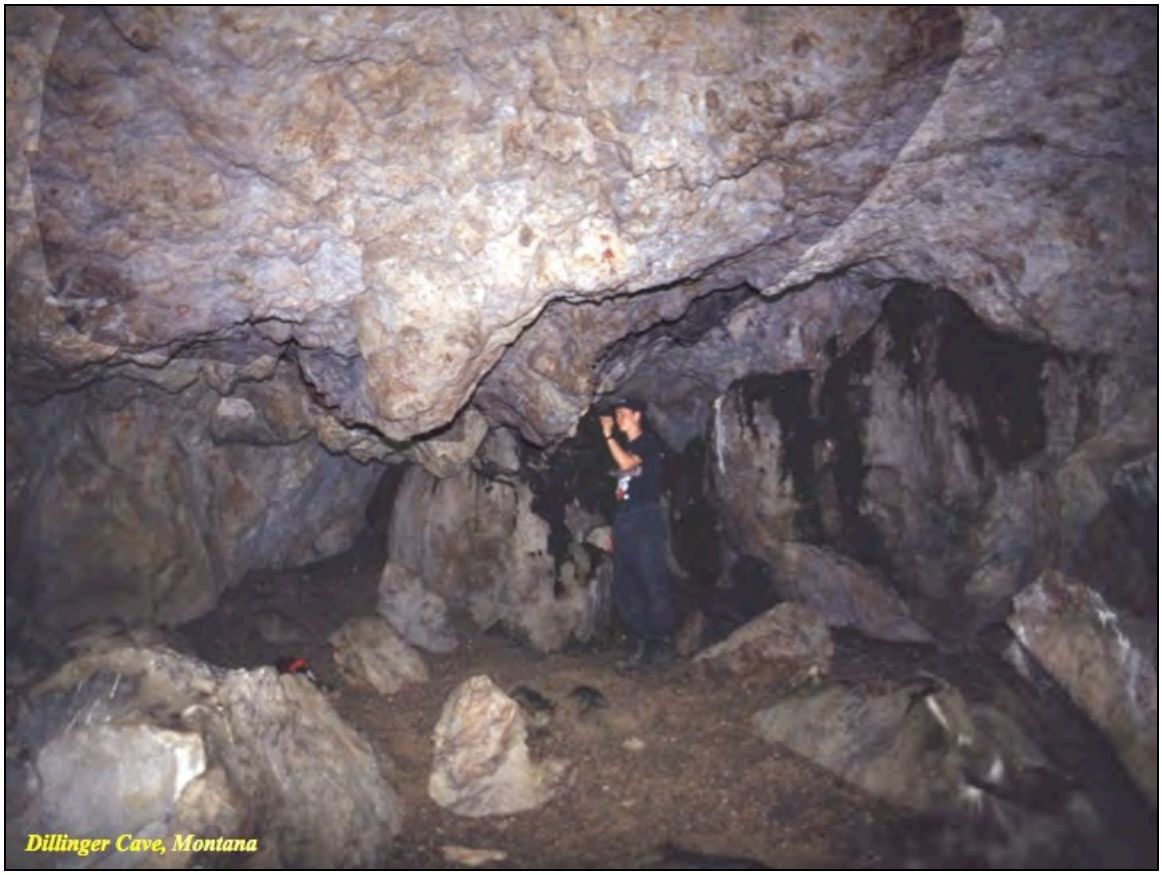

Figure 6. Dillinger Cave, a semi-enclosed cave room in Montana that lets in daylight, but no direct sunlight reaches into painted interior areas.

Figure 7. Frozen Leg Cave, a fairly simple horizontal system in Montana with paintings mostly in twilight areas. Several unconnected caves are along the cliff face.

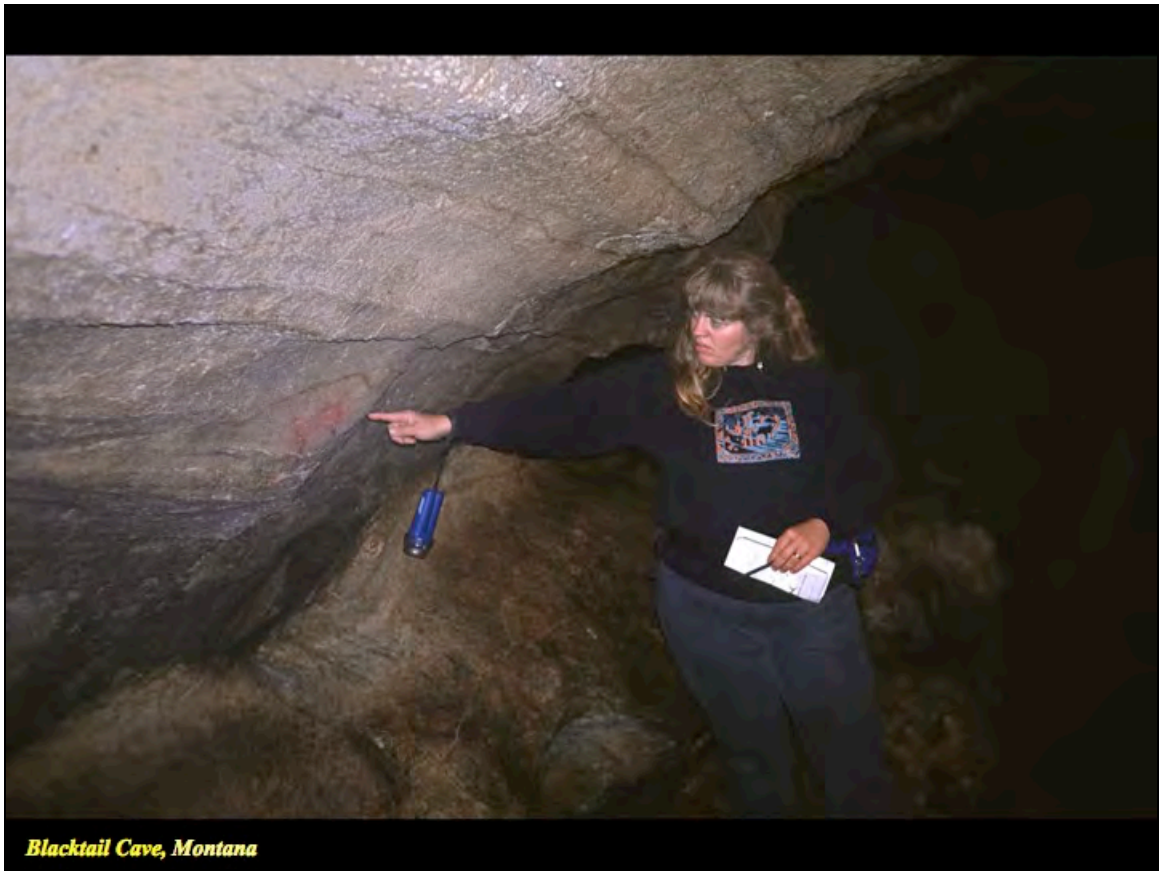

Figure 8. Blacktail Cave, a fairly simple horizontal system in Montana with paintings in the entrance and back into interior dark zone areas.

Figure 9. Rainbow Bear Cave, a fairly simple enclosed entrance room in Montana.

Figure 10. Lookout Cave, a rockshelter with an interior enclosed room in Montana.

Figure 11. Frozen Leg Cave, Montana.

Figure 12. Surratt Cave, New Mexico, one of the enclosed ritual rooms near the bottom of the vertical system.

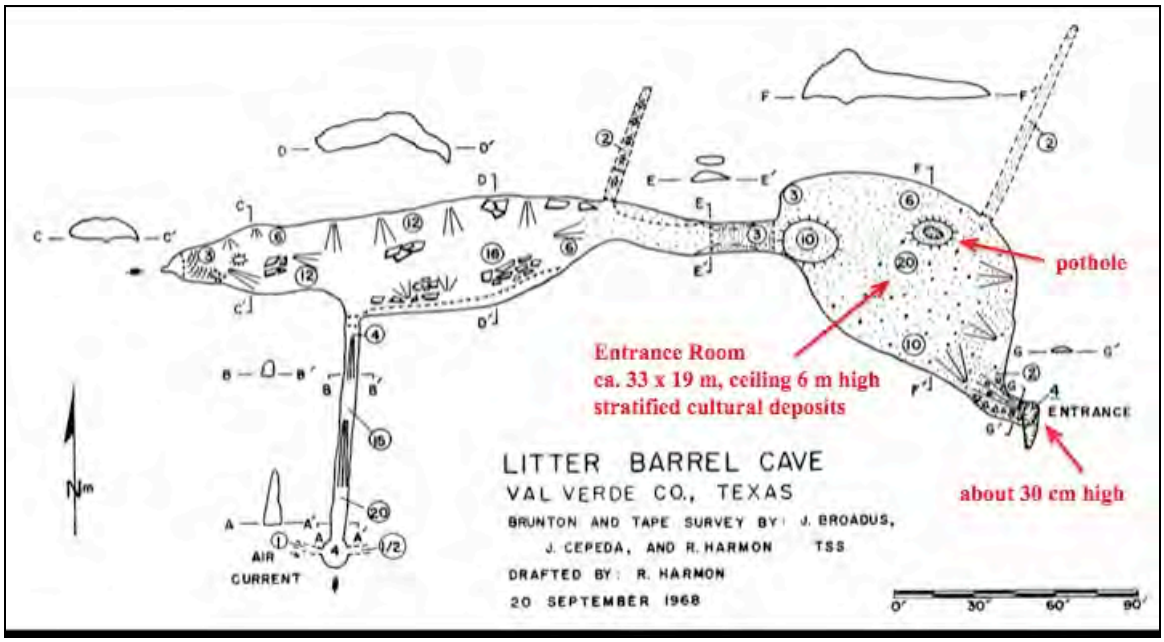

Figure 13. Litter Barrel Cave (Whitehead Cave), Texas. Map courtesy of the Texas Speleological Survey. Annotated (red) with our observations.

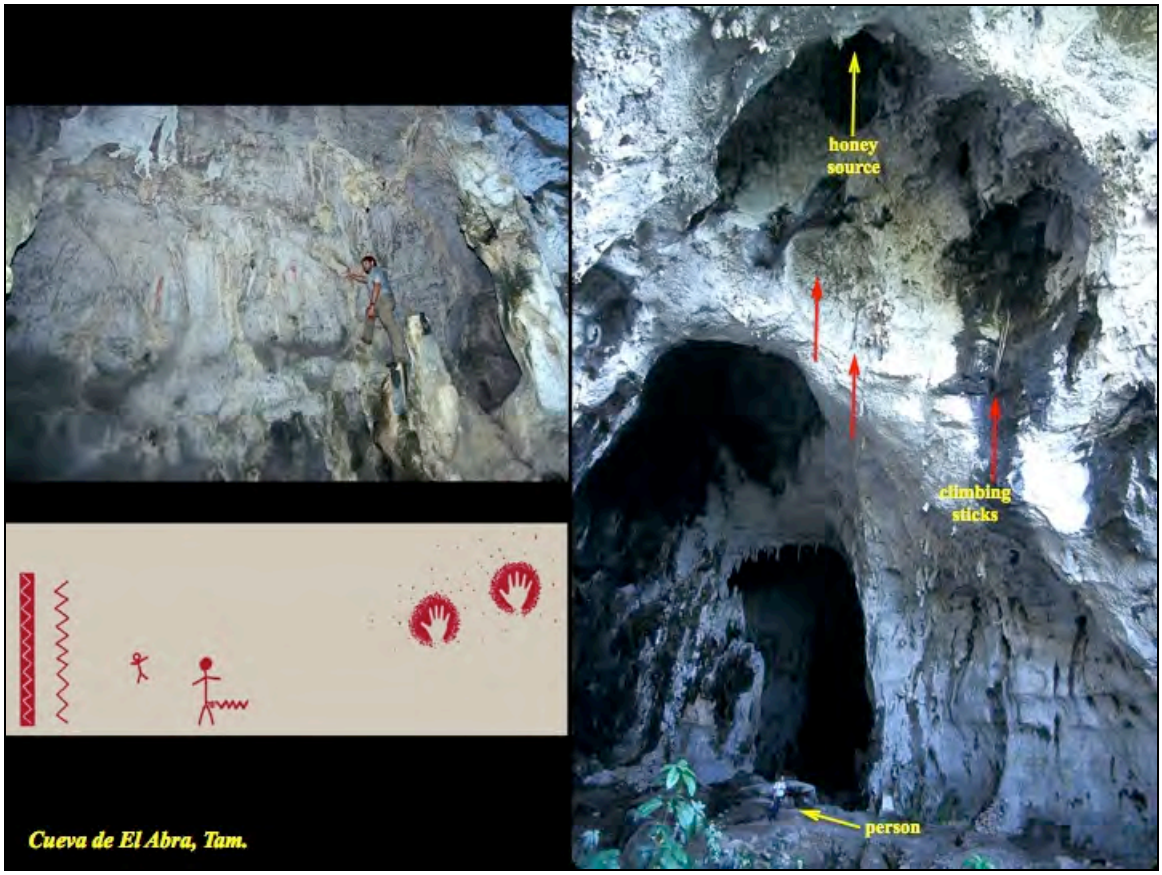

Figure 14. Cueva de El Abra, Tamaulipas, Mexico. Paintings are very high on the wall of an open twilight area. Shown here are sticks from honey climbers.

Figure 15. Shield Cave, Colorado. All paintings are in the large entrance room. No paintings are further back into dark zone passages.

Figure 16. Triangle Cave, Montana, a long phreatic tube with paintings from the entrance to the rear of the passage.

Figure 17. Triangle Cave, Montana, a long phreatic tube with paintings from the entrance to the rear of the passage.

Figure 18. Sweetwater Cave, Colorado.

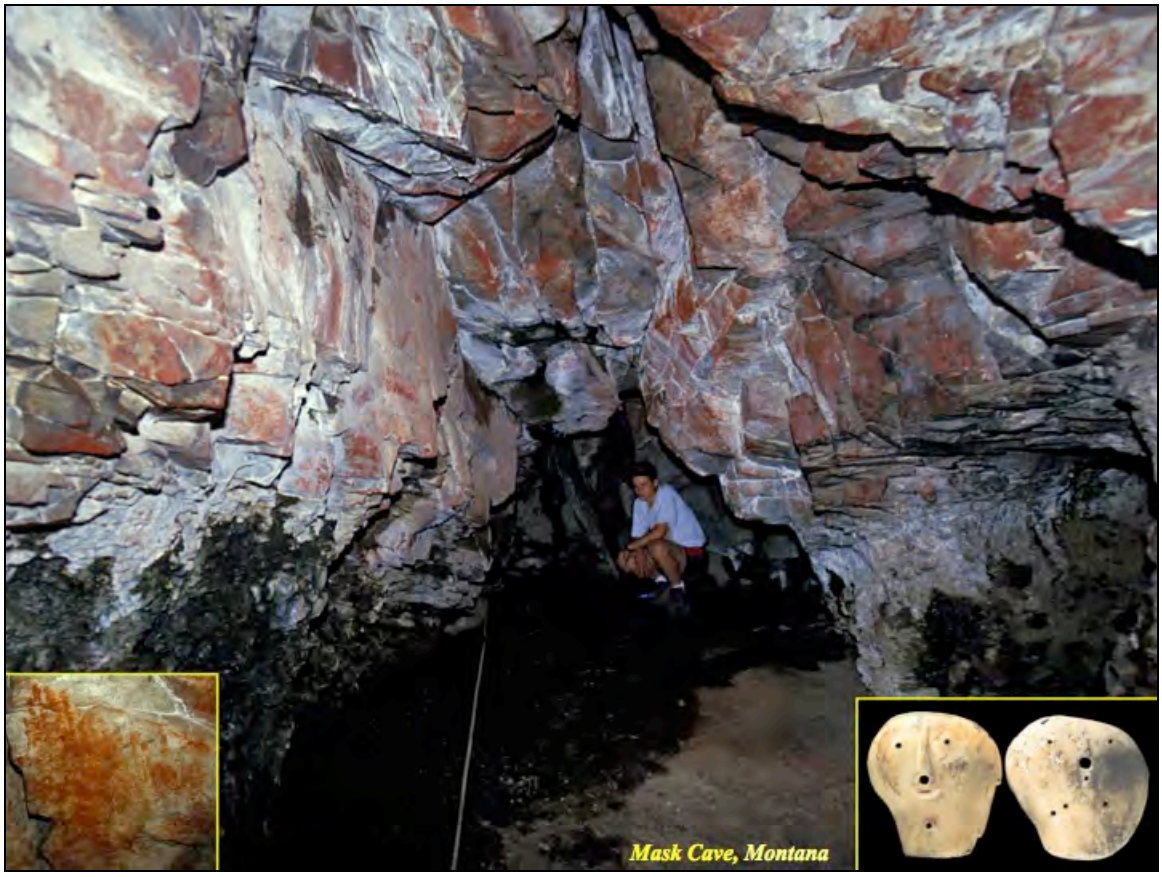

Figure 19. Mask Cave, Montana, a relatively short passage extending barely into the dark zone.

Figure 20. Cueva del Aire, SLP, Mexico, a fairly complex horizontal-vertical system still used today by Huestecan Indians for rituals, mostly at specific locations marked with ample discarded debris. .

Figure 21. Wickiup Cave, Montana, an open rockshelter with a typical pole wickiup.

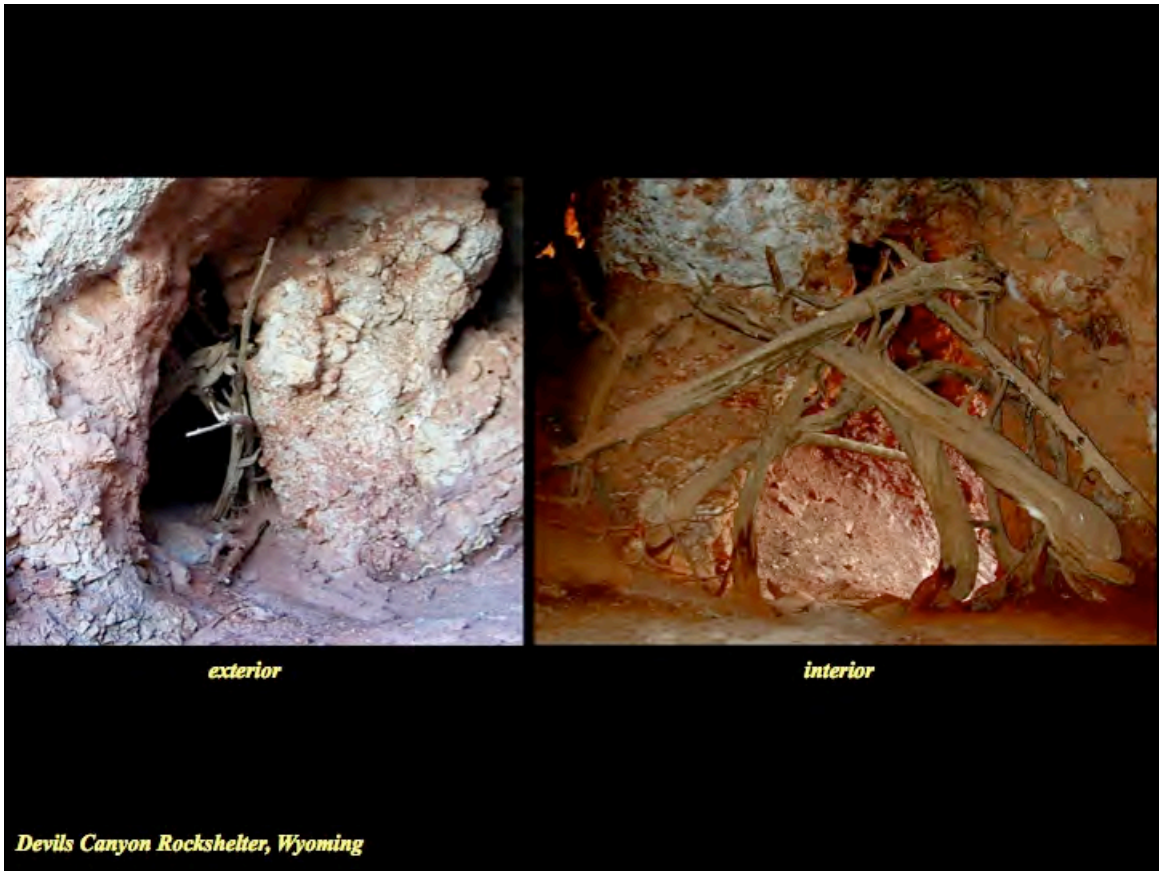

Figure 22. Devils Rockshelter, Montana, a large open rockshelter with several enclosed rooms into dark twilight zone.

Figure 23. Cave of the Logs, Utah, a narrow horizontal passage opening into an Interior Dark Zone room with a complex log structure.

Figure 24. Incised stalactite from an open village site in eastern Montana.

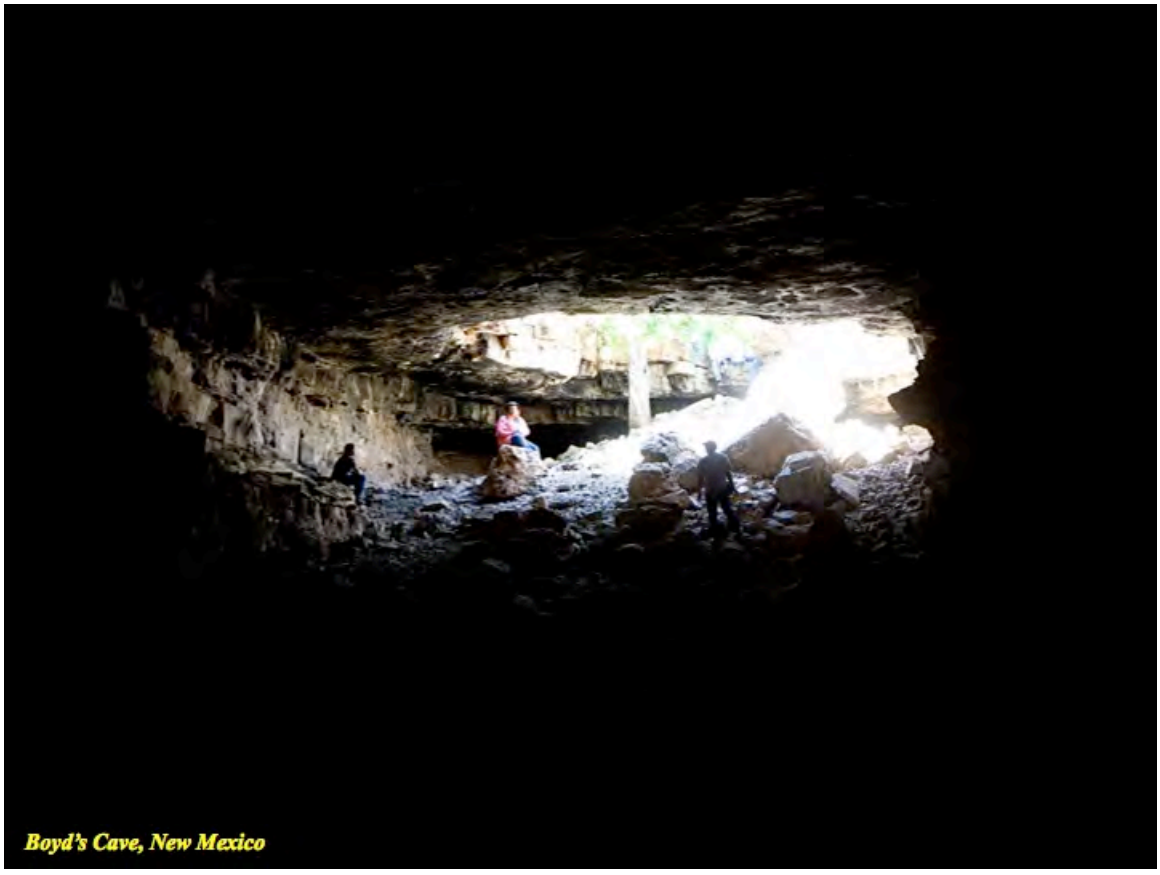

Figure 25. Boyd's Cave, New Mexico, a sinkhole entrance into a large room, and then Dark Zone horizontal passages.

Figure 26. Yogo Cave, Montana, a small sinkhole entrance into a large Dark Zone room. Paintings are only at the entrance.

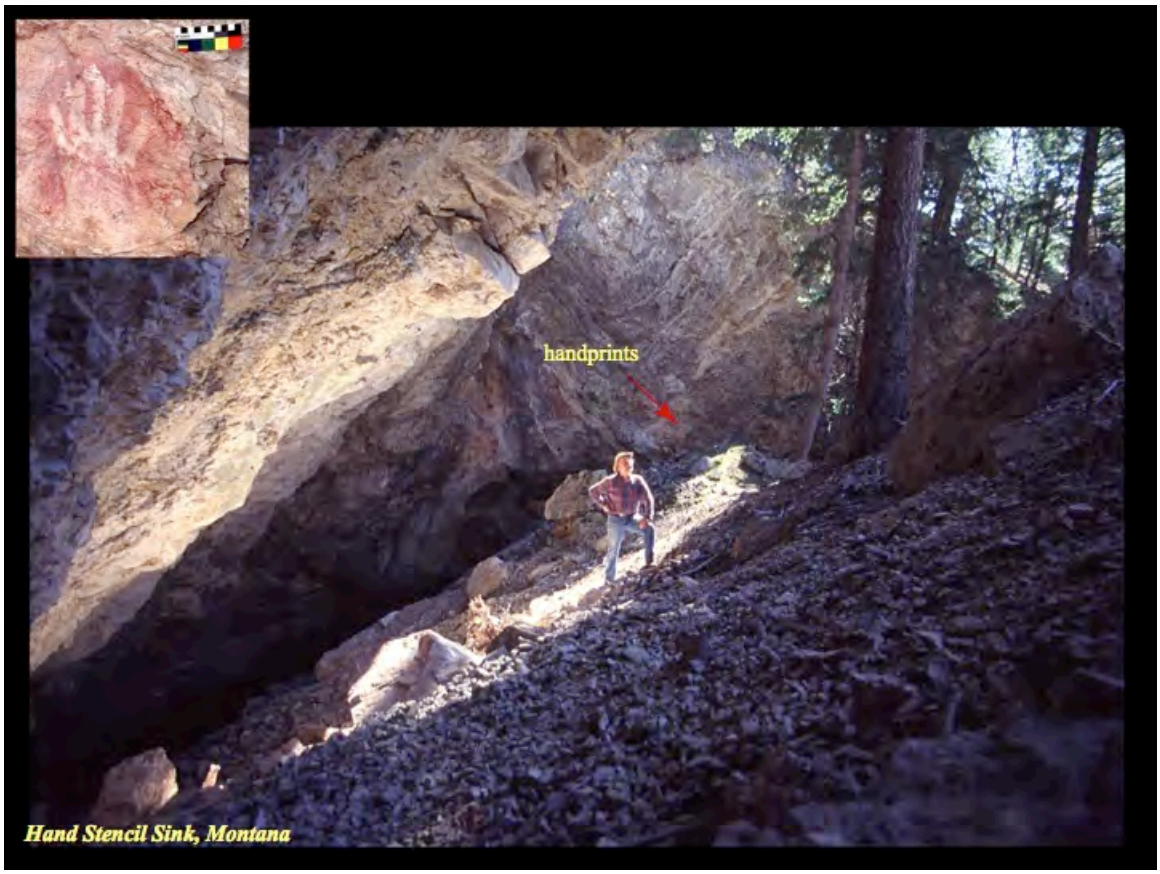

Figure 27. Hand Stencil Sink, Montana, a fairly complex horizontal-vertical system. Most notable is a moderately large sinkhole entrance (with paintings) dropping into a large Dark Zone room (with remains of a log structure) and with additional passages (with mined ochre).

Figure 28. Dillinger Cave, Montana, a high partially enclosed entrance room full of paintings in daylight and in dark ceiling domes and niches.

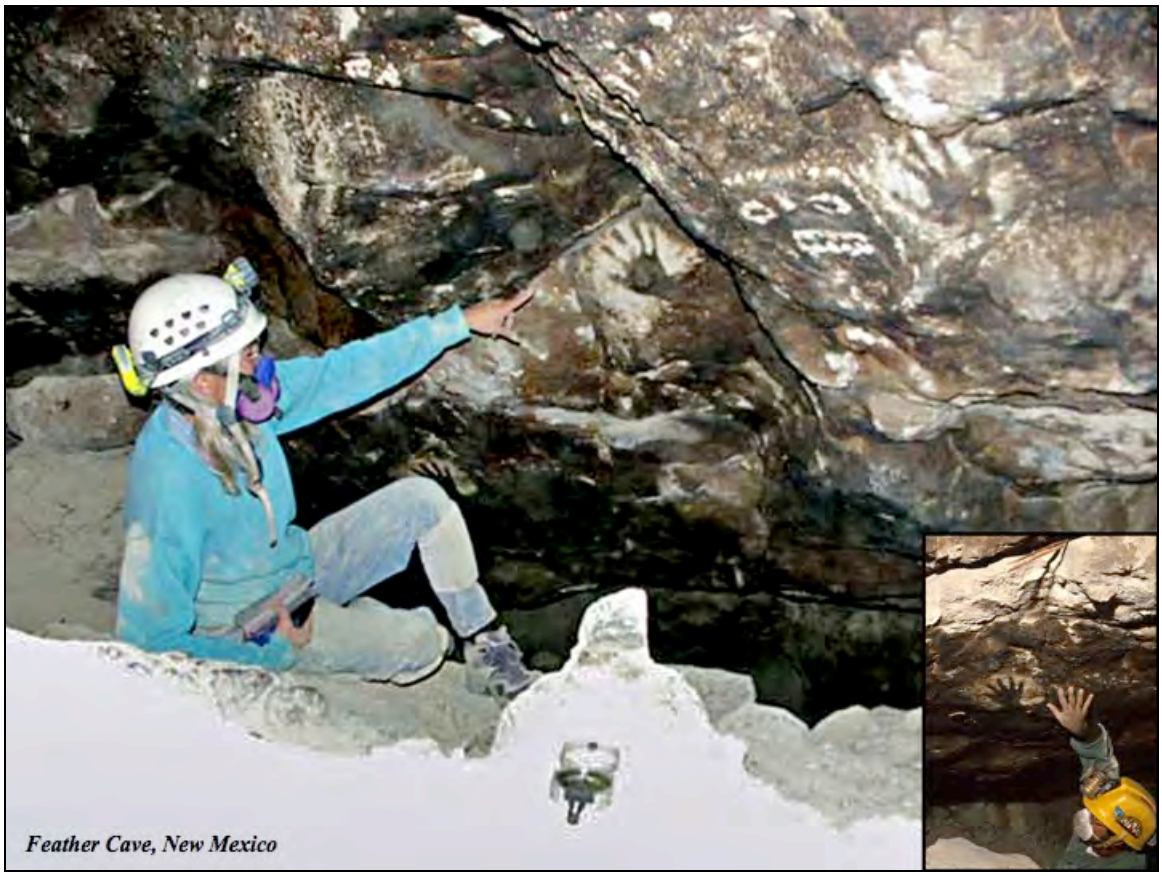

Figure 29. Feather Cave, New Mexico, showing paintings in the rear interior rooms of Arrow Grotto.

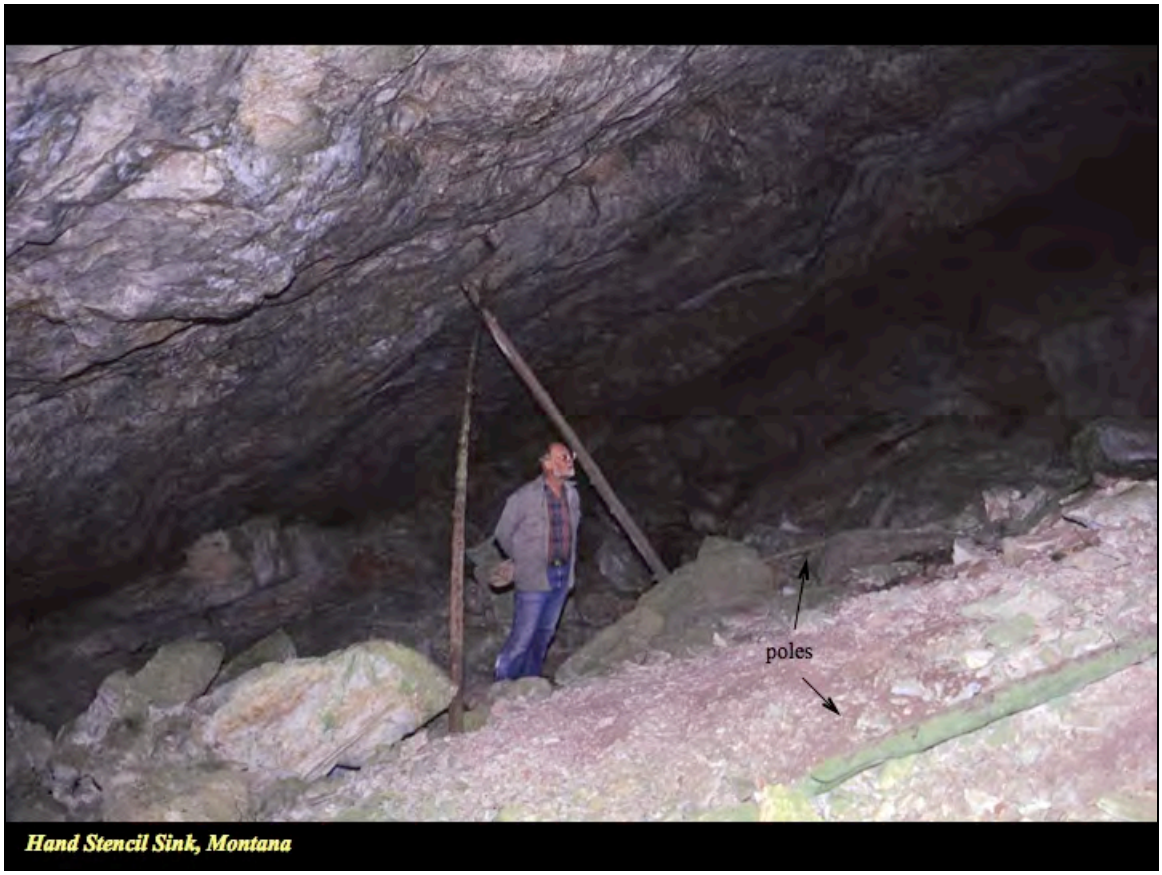

Figure 30. Hand Stencil Sink, Montana.

Figure 31. One of the entrances of the Frozen Leg Cave system, Montana.