Cascade Caver

Volume 28 No. 6-8
June-August 1989

CASCADE GROTTO

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Monthly Meetings Regular grotto meetings are held monthly at 7:00 pm on the third Friday of each month at the University of Washington, Room 6, in the basement of Johnson Hall. Business meetings are held on the first Monday of even-numbered months at 7:00 p.m. The location varies so contact a grotto officer for specifics.

Dues: Members and subscribers please note the date on your mailing label that indicates when your dues expire.

Dropped: Chuck Coughlin

Overdue: Jerry Frahm, Dan McFeeley, Rob Lewis, Skip Murray, John Burns, Chuck Coughlin, Chuck Crandell, Shaun Larson, Mark Wilson, Richard Smith, Randy Vance, Boyd Benson, Bob Brown, Dan Montoya, Rod Crawford, Jerome Gunsalus, Larry McTigue, Ed Tupper, John Dickson, Dr. Kiver

Due: Kevin Bagley, Mark Bagley, Robert Stitt

Coming Up Dick Garnick, Howard Hoyt, Walter Bjornstedt, Wayne Cebell, Richard James, Keith Schoonover, Marty Verbarendse, John Day, Robert H. Martin, Mark Sherman, Art Tasker, Scott V. Williams

Cover: Drawing by Linda Heslop of Ray Sira in Jewel Cave, SD. It is drawn from a photo by Scott Fee.

Contents

Upcoming Events

Here is our current list of planned and proposed trips. Call the trip leader or Jim Harp, grotto trip coordinator, for more information. Anyone with other trip ideas is also welcome to contact Jim at 745-1010.

AUGUST

18 GROTTO MEETING. 7 pm **-> AT CHUCK CRANDELL'S PLACE <-** Directions elsewhere in this issue.

SEPTEMBER

8 Papoose Cave in Idaho. See Jim Harp for information and maps. Sept 8-11.

15 GROTTO MEETING

23 Newton Cave to the bottom. See Mike Wagner.

OCTOBER

2 BUSINESS MEETING - Open to all grotto members. 7pm at Howard Hoyt's house. Call Mark Wilson or Ben Tompkins if you have anything for the agenda.

13 Vancouver Island - Cascade and Riverbend Caves. Call Mark Wilson for details. Oct 13-15.

20 GROTTO MEETING

NOVEMBER

17 GROTTO MEETING

18 CRF field trip to Lave Bed National Monument in northern California. Contact Rod Crawford well in advance for details. Nov 18-25.

1990 NSS Convention in Mt. Shasta, CA
NCA Regional in Utah (tentative).
Pryor Mountain Caves project (tentative).
NCRI Jewel Cave Project

1991 NSS Convention in Cobleskill, NY
NCA Regional in Idaho (tentative).

August meeting at DIFFERENT PLACE

The August 18 Grotto Meeting will be a potluck held at Chuck Crandell's place. The grotto will supply hot dogs and burgers so bring something to drink and a salad or other potluck dish.

There will be some caving videos including stuff from Lecheguilla and Cave of the Winds. Also, the remnants of the grotto stores will be auctioned off.

Chuck adds that he has an industrial sewing machine now so if your caving suits, packs, or even light harnesses could use a little repair then bring them along.

You will find a map to Chuck's place on last page of this issue.

Mount St. Helens Caves

Conservation Task Force report 1988, Part 1

by William R. Halliday

On July 9 and 16, two- and three-person parties conducted the annual studies of the impact of post-eruption mud flows on caves of the Cave Basalt Lava Flow of Mount St. Helens. Findings were as follows:

Gremlin Cave: This cave showed considerable change since 1987 field work. Overflow from the small channel over the lower entrance was found to have bypassed the lower end of the artificial protective barrier here. The lower entrance room showed prominent degradation since 1987 with a crawlway now passable up-slope from station One for at least 25 meters for the first time since initial exploration of the cave. The fills at Stations One and Two have been eroded almost completely to bedrock. Station Two has been washed away.

Just down tube from the lower extension of the Formation Room where a ceiling height of four feet is shown on the Nieland map, aggradation had reduced the ceiling height to one foot. Recent-appearing debris lines on the walls suggested that this passage had undergone at least one episode of complete blockage during the 1987-1988 period.

The Gremlin Cave Mudflow was investigated to see if the cause of these changes could be traced. It was found that since the 1987 field studies, the U.S. Forest Service Road 81 had undergone major re-engineering where it was intersected by this mudflow. Two culverts had been installed with a dam of tephra and rock diverting water and mudflow into the lower culvert, away from the roadside channel which developed in 1981. Large new gullies were found down slope from both culverts. The lower gully was found to lead into the braided interface of the Gremlin Cave Mudflow and the uppermost part of the Road 81 Mudflow Complex. This had no apparent effect on the surface in the vicinity of Gremlin Cave. The upper culvert, however, appeared to be responsible for the changes noted in Gremlin Cave, through several mechanisms.

The new degradation above Station One in the cave was traced to increased water flow into the cave from impenetrable swallets up slope from the lower entrance in part of the mudflow fed by the new gully below the lower culvert.

Regarding the impact of the upper culvert, about 100 meters east of Red Rock Pass, one mildly eroded breadcrust bomb about 8 by 4 by 3 inches in size was found in the streamed about 40 feet up slope from Gremlin Cave, the first found in this area. This shows recent high velocity stream flow down the Gremlin Cave channel. This culvert is conducting mostly sand to gravel-sized material into the upper western part of the Gremlin Cave Mudflow. There it curves east along an old logging road and becomes interbraided with earlier major down-slope delivery channels and cannot be traced farther as an individual feature. One of the lower channels from this braided area, however, leads past the lower entrance of Gremlin Cave where the overflow mentioned above had entered the cave. This was not happening before the installation of the culvert and therefore its installation can be considered to be having a significant impact on the cave. If it is permitted to remain, larger quantities of aggradation will occur.

The lower culvert is conducting even larger amounts of similar material into the area described

above. This raises a question about future impact on the cave if the bulk of his junction areas of the two mudflows enlarges significantly as a result of the change in drainage pattern. Both of these culverts should be removed and drainage re-established along the north side of Road 81.

Spider Cave: Despite some extensions of the west lobes of the Gremlin Cave Mudflow and new erosion of the intermittent waterfall at the west edge of the lava nearby, this cave does not appear likely to be impacted.

Flow Cave. No changes were apparent since 1987.

Little Peoples Cave. This cave was checked as far as the foot-high crawlway down tube from the aa flow in the cave. Further stream erosion of the breached sandbag barrier was noted with a prominent channel newly developed in sand-sized particles, This led into the cave entrance. Beginning about 50 meters into the cave, only local aggradation was noted, with degradation where the passage was comparatively steep At present, the stalagmite passage did not seem to be in foreseeable risk. Because no stations were placed in this cave it will be remapped in 1990 with particular reference to ceiling heights and length of the main passage.

Little Red River Cave. Further enlargements of the tongues of the Road 81 Mudflow were noted northeast of the entrance but no surficial impact on this cave appears to have occurred in recent years.

Sand Cave. Compaction has opened a very low space at roof level where the cave was filled by the mudflow tongue which entered its lower entrance. The upper entrance area showed no change since 1987 except minor degradation of the two sand tongues.

Hopeless Cave Previously documented channels in the Hopeless Cave Mudflow were found to be reworked. At this time they were comparatively shallow so that the cave is more deeply buried than n 1987. Aggradation was also noted to be occurring immediately north of the Lava Cast Picnic Area.

Ape Cave. No change was noted since 1987 at the lower entrance. The upper entrance was not visited.

Utterstrom's Caves area. The Breakdown Cave tongue of the Road 81 Mudflows has shown no enlargement in recent years, and the large stream gullies which developed in 1981 continue to show marked aggradation. Outside the mudflows, new growth is luxuriant. A pike (Ochotona princeps) was observed scurrying out of the lower entrance of Lava Spring Cave, and a larger unidentified rodent at Breakdown Cave.

Jewel Cave, SD

by Ben Tompkins

I survived another week at the Jewel Cave Project, which is more than I can say for my boots and coveralls. Steve Sprague, project leader, and I flew into Rapid City, SD, on July 20, a few days early to get things set up, and I scarcely sat still until flying out again on the 30th.

I had planned to spend most of my time integrating the cave inventory data into a larger data system including interfaces to the cave survey processing system and graphics display systems.

But first I agreed to spend two days in the cave helping to train inventory teams on route-finding, the inventory process, and note taking practices, and geology of the cave. The first team we were scheduled to train had an hour head start but were supposed to be pausing along the way to make notes about the route flags. We huffed out to the southeast almost to The Miseries and never caught up with them. After that we went in with the teams in the morning or prearranged meeting places and the training went much better.

In my spare time I worked with Jenny Sprague to streamline the data entry process and modify the 1988 data to 1989 specifications.

But then we were starting to fall behind on the radio location work so I went off with Father Paul Wightman to become a radio location expert-in-training. Radio location is the science of sending a team of suckers to the farthest ends of the cave dragging bags and bags of heavy radio gear while the rest of us sit around on the surface drinking pop and fussing with the rest of the radio gear. When we think the radio team in the cave is within a half hour of their destination we hop in the car with our own bags and bags of heavy radio gear and drive to a spot calculated to be directly over the group in the cave. The underground crew unfolds a 6-foot diameter loop antenna and connects it to a transmitter and a big battery. This rig puts out a beeping magnetic signal while we raced around on the surface trying to hear it. At prearranged intervals they switch to receive and we switch to transmit so that we can tell them what to do next by beeping back.

The surface radioman has a smaller but more sensitive loop antenna which is rotated and tilted and sometimes stepped on and broken in attempt to determine a point exactly over the transmitter. I did pretty well at this, even in extremely noisy locations, probably because my hearing aid makes the world sound

like that most of the time anyway. But there are an awful lot of gotchas in the radio location business including depth, loop sizes, power line interference, and atmospheric noise, but the biggest ones seem to be miscues and dead batteries.

By Wednesday everyone but me was ready for a day off. I don't remember what I did. Maybe that was the day some of us hiked over to the natural entrance.

On Thursday I agreed to assist Steve Baldwin, Rick Bogue, and the remains of the Miseries Knitting and Inventory Club, Linda Heslop and Misty Smith. We were to haul cave radio gear through the Miseries, the Calorie Counter, the Mini-Miseries, and into the stuff beyond. The Knitting Club, with the addition of local caver Rick Bogue, had done the Miseries three days in a row before the day off. I was the logical one to go. I had worked that route all week in 1988 and inventoried as far as the Calorie Counter, I hadn't been caving since Monday, and was a newly-minted radio expert.

We all submitted to Rick's two-liter Gatorade treatment the night before and started out strong in the morning. My half-ton of batteries for a twenty-hour trip plus the bolt kit and brass monuments for marking radio points proved to be a pain but it wasn't until half way through the Miseries that it was obvious that I was the slowest one of the bunch. I stashed my steamed up glasses in my pack and that speeded things up a little but Steve and Rick finally decided that at that speed we would miss our agreed-upon transmission time. So they went ahead with the radio gear while Linda, Misty, and I proceeded at my pace.

I don't know if it was fear, exhaustion, or bad chicken, but I was physically sick by the time I got through the Calorie Counter and the Mini-Miseries. We kept going, however, and in Metrecal Caverns met Rick coming back to say that they had set the radio up and it wasn't working. So to heck with being sick, we upped the pace to see if I could get to the radio and fix it before the end of the transmission window. A lot of rooms went by. Finally there was the radio on a huge flat rock in the middle of the room and Steve just coming back from doing laps to keep warm. I checked the cable arrangements and switches first. Everything correct but no signal. Off came the lid and out came the 9V battery for the tongue test. DOA. Next I took up a collection and got 9V or so worth of penlight cells. With four hands, a scrap of wire, and a spare antenna hanger we got the batteries connected across the 9V plug but still no signal.

At that point there was nothing to do but turn around. The surface crew would be heading for the second target point by now and if they didn't hear us there, would scrap the third point. Once the radio gear was back in the bags, we started inventorying back along the route. When we reached the end of the big places Steve and Rick took the radio bags and headed home. Linda, Misty and I finished the inventory back to the Calorie Counter where the previous inventory had ended.

By this time the sick feeling had almost dissipated. About 8 hours into the trip the Gatorade pretreatment wore off and I started sipping at my water. I didn't have much energy but whatever bothered me on the way in did not reoccur on the way out. Push that pack, pull those legs, chase the pretty voices. Dang those short people who can get up on their hands and knees long before I can. Once out of the Dugway it felt like we were home free and we caught the walk-in Jumar to the surface exactly 12 hours after entering.

Friday I went out on one surface location but was mostly so useless that I got to sit at the computer all day and do what I came here for.

Somewhere during the week the Northwest Cave Research Institute held a general meeting and voted a number of changes to its Constitution and Bylaws. The primary change at the July 28 meeting was to drop the organizational membership category and replace the organizational representatives on the board of directors with two more members elected from the general membership of the NCRI. Another change expanded the general membership to include paying participants in NCRI field camps.

Elections for positions on the board of directors was held and the board now consists of Bob Brown, John Buchanan, Gene Smith, Steve Sprague, and Ben Tompkins.

One more year remains on the contract with the National Park Service. Jewel Cave is big and there is a lot to do. The work assignments have gotten harder and also more varied as we do more things and work farther out in the cave. The 1990 session promises to be just as interesting.

Lava Beds Cave Management Plan

According to the National Park Service, a comprehensive cave management plan for the Lava Beds National Monument is now available for public review and comment. Copies are available at a number of libraries, the Monument Headquarters, and Rod Crawford here in Seattle has a copy.

According to Monument Superintendent, Doris I. Omundson, the plan has been in preparation for a year and addresses the protection and visitor use of lava tube caves, one of the monument's primary resources. Comments on the plan should be submitted to the Superintendent, Lava Beds National Monument, by last month.

East Asia 1988, Part 4

Pseudokarst in Hong Kong and Japan.
By William R. Halliday, M.D.

After the great 10-day pilgrimage through the heartland of the Guangxi karst, George Huppert and Betty met me in Hong Kong for a little caving Hong Kong style. Until recent months it was believed that no limestone existed in Hong Kong; its discovery during construction work consternated local engineers who had no experience with construction in karstic areas. But a thin book on caves of Hong Kong was published years ago, and Cheung Po Tsai Cave on Cheung Chau Island is mentioned in many sources as a tourist attraction. So on November 1, George, Betty and I took the ferry to Cheung Chau, then a water taxi to its Sai Wan Pier, armed only with cameras, flashlights and a tourist map. It was more than enough. Blacktopped paths and bilingual signs lead up over a small granitic hill in a quiet, attractive seaside park, almost all the way to the cave. At the entrance an enterprising lady sits under an awning, renting flashlights for the equivalent of U.S. $.75. This works out to about $5.00 US per hour, considering the size of the cave. The entrance and exit are in big piles of granite boulders and require a little squeezing and clambering. But the main room is big enough to walk comfortably even if only about 50 feet long. Locally it has minor enlargements and cross elongations due to littoral action on cross joints. The floor is firm beach sand, just above high tide level; I wouldn't want to be there in a storm. Although insignificant except perhaps from a biological standpoint, it and park make a nice respite from the bustle of Hong Kong city.

The next morning I flew to Taiwan for a 24-hour layover required by my cut-rate ticket; there are no connecting flights on KAL from Hong Kong to Japan. But with a comparatively inexpensive room arranged at the YMCA International House (as in Hong Kong) I was glad to have a look around anyway. Previously I had been told that the only caves in Taiwan, despite its world-famous Marble Gorge and springs, were trivial littoral and talus types. But I found slides for sale of well-decorated limestone caves located in Kenting National Tropical Forest Park, far down the island's southeast coast. The captions suggested that neither is large (and perhaps there is only one instead of two). Coral Cave was said to be 137 m long, and Fairy Cave, the longest coral cave on the island. Anyone going to Taiwan please check them.

So on to Osaka the next day, staying overnight with a friend of George Huppert, before catching one of the famous bullet trains to Tokyo (very expensive for a single ride, but still cheaper and more pleasant than air fare in Japan).

Takanori Ogawa met me in Tokyo, took me to his home to repack, then on to the clubroom of his group. At nightfall several of us were underway to Miyake Island (Miyake Jima), well out in the Pacific Ocean more that 100 miles south of Japan proper. We stretched out comfortably on the carpeted floor of steerage class, deep in the bowels of a moderately slow boat along with dozens of hikers and fishermen. I sneaked a look into a first class cabin; just the same but small compartments and on upper decks. The floor was no harder than our wooden bunks in China and I slept well until we docked at 4 a.m. A half-hour's hunt for our little hotel was successful and we crashed for three more hours in real comfort, Japanese-style.

At a pleasant seafood breakfast we joined the rest of our party which had been studying the island's volcanism, notably Les Kermode and Teruhiko Sameshima from New Zealand. Soon we were driving up the volcano to rift caves about 500 m above sea level in 1983 lava. First was "A-3", the highest of the three and perhaps the smallest; I did not see "B-9".

Near the upper end of a 1983 flow, the entrance of A-3 is an elongated funnel about 45 feet deep, with a narrow, near-linear vertical squeezeway below. We rigged it with rope and cable ladder and I followed Takanori and Les. Unfortunately instructions weren't clear: I tried to squeeze through the narrows with my pack and camera. By the time I reached Les (who was just out of the fall line beyond the narrows) I had dislodged enough rubbly ejecta to bury him to his waist. I admired the shiny red glaze of the main part of the cave, made sure Les didn't need any help (first things first), and went back up before I buried the rest of him. He and Takanori soon followed. "B-5" is the important one, anyway. Even though the penetrable part of little A-3 is almost twice as deep (33 m vs 18 m), it is almost all depth, with only about 15 m of length at the bottom.

We rigged B-5 in much the same way. No problem with rubble here, but about 4 m down, a nasty twisting

narrows has about 7 m of exposure. We should have lowered packs and cameras but that evidently is not the Japanese style. I was just big enough that I had to leave by camera dangling on the ladder, unfortunate as the shiny bright red room below is highly photogenic for 30 m, at which point it narrows too much for comfort and is slightly offset. At this point the dripstone lining also differs from that in the main chamber, appearing darker and more viscous when deposited.

Where the glazed wall has fallen away in the main chamber, considerable variation can be seen in the country rock. The group collected several charcoal specimens for radiocarbon dating. Some of the country rock is a red pumice which had fused with the glazed cave lining. This cave doesn't fit the Harters' definition of a rift cave (at least as I understand it), but like Idaho's Crystal Ice Cave, it's what I think a rift cave should be.

While on the island we also visited what will be a lava cast of an automobile as soon as its crushed remains rust out a bit more. Although the town has been evacuated on general principles, a tongue of the 1983 basalt flow caught much of the village of Ako unaware, burning or burying 432 houses. In a road cut nearby are some toe cavities exposed in cross-section, too small to be called caves but interesting speleogenetically.

November 6 we travelled all day by boat to Tokyo's Hinode Pier then at night by car to the delightful little Ebisuya Hotel just north of Mount Fuji. I make no comment on Takanori's enthusiasm for the motorways of Japan except to say that we arrived without a scratch.

Takanori had some surprises for us the next day at Motosu Fuketsu (Motosu Wind Caves) #1 and #2. I had seen his maps but had somehow not gotten his message. While not tremendously long on a world scale, they are large and exceptionally significant.

We hiked about 1/2 mile through thin forest to the best-known entrance of Motosu Fuketsu #1. It is a collapse pit with a total drop of about 50 feet. It is in the side of a spatter cone several meters high and there was a lava channel on the far side of the cone. We clambered down to a ledge about halfway down and gaped. Takanori seemed amused at my surprise. He led us a few hundred feet to the other entrance of the cave. Surprise! This entrance was at the top of a spatter cone with a drop of 27 meters. We rigged and dropped the upper entrance while one member of the group rigged the lower orifice for our exit.

We went up tube for more than 200 meters while I made notes, mostly relating to speleogenetic complexities. Then we returned to our starting point and continued down tube some 100 meters through a succession of crawls and a big breakdown room to the lower entrance. The cave continues another 300 meters but we ascended to find brilliant sunlight turning autumn leaves bright gold above us.

On the floor of this pit are the rotting remains of a turn-of-the-century building where the cool temperature allowed two crops of silkworm eggs each year instead of a single crop as is normal. The enterprise flourished here and a few other nearby pits and sinks until artificial refrigeration became available about 50 years ago.

Onward Takanori led us, about a quarter mile to Motosu Fuketsu #2. Surprise! It was also in the side of a spatter cone. Here the drop was only about 25 feet to the top of a tall cone of rubble in a large chamber. Cave #2 is only about 300 meters long and a glimmer of blue daylight is visible almost to the end of the main passage. It is even more complex than #1 although they are probably isolated segments of the same system. High on the right wall going down tube is the opening of a side passage from whence lava flowed into the main corridor, then subsided to a slightly lower level leaving a glazed saddle with a notable succession of flow features. Charcoal found in a short upper-level extension of the main passage has been dated at 1000 years B.P. On the way out I found a few small icicles and frozen ponds at the bottom of the entrance slope. November nights are chilly at the base of Mt. Fuji.

So - a day with three lava tube caves entrances in spatter cones - no wonder Takanori had been talking (mostly to deaf ears) about the role of gas in vulcanospeleogenesis. Neither Les nor I had ever seen such a thing before.

We finished the day in style back at the Ebisuya, in a great hot tub with a picture window looking straight at Mt. Fuji.

The next day was for Mitsuike-ana, a braided complex of large passages about 2200 meters long and considered the most important lava tube cave in Japan. It is especially noted for its wealth of clear cut speleogenetic features, its lava balls, and its world-class lava stalagmites. More members of Takanori's group drove up from Tokyo and we looked much like an American caving team as we parked by a farmer's gate, loaded our carbide, and hiked 1/4 mile through fields to the brushy, fenced-off entrance.

I made 8 pages of notes in this cave and I will not try to summarize them here. Suffice it to say that this is a wonderfully complex cave with a myriad of speleogenetic features and two groups of lava stalagmites up to 8 feet tall. Moreover, their bulk is largely formed by thin, tapered driblets rather than by the big globs and worm-sized driblets typical of American lava stalagmites. Indeed, Mitsuike is a great cave. Too bad Japan is so extremely expensive, I'd like to go back every November.

Our schedule for the 9th was changed drastically because provincial TV had gotten wind of us and wanted to go along. First we took them down into Fuji Fuketsu which has a big, easy walk-in sinkhole with the remains of another silkworm hatchery. Then came a 100-meter cave with two rooms separated by a duck under. An ice floor was present along with a couple of remnants of ice domes; it must be a spectacular cave in early summer. The TV crew seemed happy.

The entire mob went on to a compound lava tree mold area a few km away. The tree molds here are quite different from the ones at Mount St. Helens. Along the way we were amused by the TV crew. The cameraman tried walking backwards, filming us as we strode impressively for the benefit of the camera. Since the trail was up and down, over lava tongues and exposed roots, he kept falling flat on his back. The tape should be fun - we were too busy to ever see any of it.

Our first view of the tree cast area was a round hole about 4 feet in diameter located in the side of a low, overgrown knoll. It was gated and Shinto prayer papers hung from the gate. We detoured about 50 yards to the right and crawled down a nicely sloping tree cast about 3 feet wide. Not far inside was a beautifully glazed room about 15 feet in diameter and 4 feet high, with fine ribs, slumped glaze, sharks tooth stalactites, and 2-layer worm nests. A manhole-sized gap in the floor lead to a lower tree cast about 4 feet in diameter and perhaps 30 feet long. Takanori termed it a gas chamber resulting from subcrustal accumulation of wood volatiles. I could not disagree. We'd better start looking more closely at tree casts in the U.S.A.

We returned next to the gated tree cast. It was about 50 feet long and had a minor Shinto shrine at the far end but its interesting features were geologic. Near its midpoint was a lava shelf on both sides of the cast, evidence of lava flowing through the cast after the wood had burned away. Below the shelf was a small tree cast aligned along the length of the main one. Farther in were complex areas of stream erosion, two small cupolas, and a small tree cast at right angles to the main one.

Darkness was approaching but we had enough light to check out additional tree casts exposed in the wall of a nearby lava pond. The only word to describe this site is jumbled, lots of tree casts forming small caves that lead wildly in unexpected directions. This area needs detailed study and mapping.

By this time we were hours behind schedule and it was a wile ride to Izu-Nagaoka where the 5th International Symposium on Vulcanospeleology was to convene the next morning.

The next day and a half were spent in the symposium. There were some notable papers, one of which may explain the strange lava tube caves at Mexico's Teotihuacan, which I previously had described as being in a strange pasty lava. Although not universally accepted by the audience, one paper discussed lava tubes in Japan in what the author called welded tuff, and this may be the bedrock at Teotihuacan. Two sites for the 6th Symposium were approved, Mt. Shasta in 1990 or Hawaii in 1991, depending on the desires of the NSS 1990 convention committee. Catania and Nairobi were seen as sites for later meetings.

November 11 saw us back to Mount Fuji by way of Dai Ju (Big Snake) Cave, farther southeast on the Izu Peninsula at Mount Omuro. Big Snake Cave is actually a huge sinkhole, perhaps 75 feet deep and 200 feet wide, near the base of a grassy cinder cone. It has deeper grottos at the bottom and in the walls are exposed basalt, scoria, and ash pockets. I considered it a subsidence pit in a rift but Takanori raised the question of a gas cavity and compared it to some andesite caves in the Azores which I have not seen. It's a puzzler.

Then we drove up the wonderful Skyline Drive, north to the Hakone highlands. Long after dark we reached the Nipponland Hotel where we had a superb view the next morning of the south side of Mt. Fuji with its big explosion crater.

We drove to the end of the road, 2/3 of the way up the famous mountain, until its summit radar dome looked hardly a stones throw away. Then we turned back to inspect the so-called Ice Cave at Jurigi, a puzzling cavity about 75 feet long with a horizontal floor and tree mold features along one wall. From the main cavity a definite tree mold angles off, and what may be another tree mold intersects it diagonally. Ribs are prominent and this may be another gas cavity. Across the sink are small exposed subcrustal flow spaces. At the far end is a rounded, sloping tube

leading down into a 10-meter amorphous space of uncertain origin - perhaps another gas chamber - at the end of a poorly-defined tree cast. These caves are near the lower end of a flow said to be 2300 years old.

But time was running short. We turned back towards Tokyo enroute to the world class lava tubes of Cheju Island, Korea, without even a minute for shopping anywhere in Japan.

Jackman Creek Cave

By Howard Hoyt

On Saturday, June 17, I went to Jackman Creek Cave with Tony Young, a friend of mine with caving experience in the Southeast. John Clardy had put in a new book in the register canister in December and I updated the Cascade Grotto card that is in there. A couple from Concrete had signed the book in February but no one else has apparently visited the cave.

We crawled through the whole cave, removing two beer cans from the wonderful dome room. The crawl to the terminal stalagmite is, in my opinion, not worth it. I was pulling myself by my fingernails and shoving with my toes at the end. Also my heart was pounding so loudly that both Tony and I thought it was some one tramping around outside until we figured out it was me. That had never happened to me before.

We spent a full hour underground and then washed off at the waterfall just down the road. There are man-size holes going into the cliff behind the waterfall and on the cliff above. Has anyone wanted to get wet and explore them. Maybe later in the summer when things dry up a bit those holes should be visited again.

Paul's Passage Cave

by Howard Hoyt

I took my caving gear on a business trip to Boise just in case I could get away for a few hours. On information from Rod Crawford, I called David Kesner in Boise and he arranged for Thomas Curry to take me caving on Wednesday, June 21.

The closest cave to Boise is apparently a trashed-out lava tube only a little ways out of town so Tom opted to drive farther to a large granite talus cave. It is in a slide just above the highway but the extra steep slope made me glad it wasn't more remote. The entrance itself is cleverly hidden behind a narrow cleft that doesn't look like it goes anywhere. Not enough people go there yet to make a noticeable path.

We signed the cave register and proceeded downward with every opportunity. As far as we could tell there was only one route but there are so many rocks and holes that it would take a long time to pursue all of them. There were several large rooms and many skylights. Places had descriptive names: the slide, the sidewalk, the birth canal (which I declined to experience), and my favorite, the porch. The porch was a second opening out to the cliffs with a wonderful view of the valley and the river below. Tom pushed further through a long crawl but finally backed out of it when he realized we were running out of time and he was getting out of earshot.

On the way out he tested me to see if I could find my way out. I set out methodically trying every hole but in the end had to be shown. He told me that they test their caving classes in that same spot.

The Gem State Grotto gives classes in conjunction with Boise State University and has 10 to 20 students each semester. Students can continue for an additional semester in advanced caving for additional credit if they want. Sounds like a great idea. Anyway, we were underground for about 2 hours during which I saw my first clusters of bats, my first packrat nests, and did my first chimneying. The granite had lots of mica in it and was beautiful.. All in all, a tiring but fun cave.

On the way home from Boise I detoured through Hell's Canyon and drove through the limestone karst. We actually stopped at one of the more intriguing large holes that looked reasonably accessible but were short of time and had to leave. At the end of the road a little trail goes upstream from the parking lot to two fairly good-sized rock shelters. They were a welcome surprise after the heat of the canyon. The stream there was beautiful and the spot proved to be the most magical moment of the week.

From the Cave Rumor file:

by Larry McTigue

As a preface to this list of rumors, I would like to say that my rumor of an old route to the bottom of Newton Cave was verified by it's rediscovery just recently. (See March 1989 Cascade Caver) So it really is worth checking out some of these rumors.

CLALLAM COUNTY

DODGER POINT LOOKOUT CAVE - Located on the west side of the Elwha River just north of Clallam / Jefferson County line. In the basin below the old fire lookout are two small lakes. About 100 yards NW of the larger lake, the land slopes down into another valley. At this point, a large hole is visible in shale-like rock. One person descended 15 feet on belay and reported that it still went further. Elev approx 6,000 ft. See (1) May 1973 p. A11, and June 1972 p. 48. Note - since it is a vertical hole, it may be a sink dissolved in an under-lying limestone formation.

KLICKITAT COUNTY

JAEKEL CAVE - Located above Jaekel's sheep ranch house between the towns of Wishram and Maryhill. Visited by Don Holliday who collected odd coralloids from it. See (1) Nov-Dec 1963 p. 4. William R. Halliday has good photos of the cave given him by Don Holliday for the W.S.S. files. The cave needs to be relocated because no known member of the grotto has seen it since the early 60's.

LEWIS COUNTY

CAVE CREEK - Forest Service maps show this near the SW corner of Mt. Rainier National Park in T14N,R7E Sec 7. There are small deposits of limestone reported in Danner's Book (4) located in Lewis County but none at this spot. However, Dick Garnick, Rob Lewis and I have found limestone in Skagit and Whatcom counties that Danner didn't know about.

BLOWING SINK - Located east of Mt. Rainier near the boundary between Lewis and Yakima Counties at 5000-6,000 ft. in Sec. 2, T14N, R11E. Approx 6 miles by trail from Soda Springs Campground. Sink Blows cold air and is approx 128 paces south of the junction of trail #980 on the Pacific Crest Trail and is several feet west of the crest trail at this point.

POMPEY PEAK CAVE - Fissure cave reported in cliff on east side of peak in T12N R8E SEC.26. Steep hike required to reach the area at approx 5,177 ft. elevation.

OKANOGAN COUNTY

DUNN MOUNTAIN CAVES - Reported by Tom Miller who visited the area but did not have time to check the holes in the cliffs around Dunn Mountain. The mountain is located NW of Riverside, WA in T35N R25E Secs.1,2. Rope required to rappell down to the holes. Mostly limestone and dolomite. See (1) Sept 1975 p. 98.

TURN-OUT CAVES - Near Allbright Cave on Cave Mountain west of Riverside, WA. T35N R25E Secs. 22,26,27. Limestone outcrop has small caves and phreatic solution tubes that need to be rechecked for possible digging potential. Rod Crawford has been there and has more exact directions and would prove a valuable guide to lead a trip there.

LOST RIVER CAVE - Located in Pasayten Wilderness in the Okanogan National Forest. T38N R20E Sec. 19 on the Lost Peak 7.5' quadrangle. Red limestone is known in this area. A shallow discovery pit in the cave exposes a 2-4" vein of calcite, fluorite, and quartz crystals. Cave is at approx 4,500 ft. on SW side of fourth canyon, 1.8 miles south of the mouth of Drake Creek on the NW side of the Lost RIver. Approx 15 mile round trip required in rugged back-country. Unanswered question: Does the Lost River itself flow through a cave somewhere in the red limestone down the canyon?

PIERCE COUNTY

LOST CREEK - Located in T18N R11E Sec. 5,7, 18. Check a quadrangle map for exact area. Needs to be checked to see if it sinks into a cave.

SKAGIT COUNTY

CAVES IN SINKHOLES - South of Lost Lake near town of Blanchard, which in turn is south of Chuckanut Bay. Probably talus caves but bring acid to check for limestone or collect a rock sample in case it is an unknown dolomite deposit/ Mile or more of brush-whacking required. See (1) Feb 1965 p.11.

HOLE IN HILL - Visible from a logging road north of Lyman. Rumor received from a Scott Paper Co. employee July 1979. Original directions said to take road #100 from Hamilton Camp then turn left onto #110 at Jones Creek. Take right on road #120 then left at truck tower and go up hill. Hole is supposedly visible further up on the hill. Approx location is in T36N R5E Sec.23, SW 1/4 of SE 1/4. I tried to check this one but needed a high clearance truck. Roads were washed out in places. We did not see the truck tower and all the road numbers had been changed. There were also new roads in recent clear-cuts adding to the confusion.

SKAMANIA COUNTY

LAVA SINKS - Reported by a hunter near Little Goose Campground as told to Clyde Senger Oct. 1973. Campground located off road #N65, originally road #123, near Trout Lake, WA.

TWO LAVA TUBES - In NW corner of Sec.16 T6N R9E. See (2) p.110.

LAVA OR TALUS ICE CAVE - Homer I. Spencer said old timers spoke of a large cave with seasonal ice formations south or southwest of Steamboat Mountain near T8N R9E Sec.31. (2) p. 110.

LAVA CAVE - The Forest Service reported a cave near North Butte in T5N R7E Sec.9 prior to March 1968. See (3) Vol 4 P. 1. This is the April issue, is this an April Fool's joke? Actually there are so many undiscovered lava tubes near Trout Lake that you could probably find one here even if this report was a joke.

LAVA SINKS - West of the road in the clearcut to the east of Clearcut Cave, which is part of the Flashcube Cave System, are additional sinks that need checking. They were reported by Jim Nieland to Rod Crawford on Feb 19, 1977. See (1) Vol 16 P. 16 (March 1977). Try the Oregon Grotto first to see if they've already checked this one out.

SMALL CAVE - Carl Nielson in a letter to Bill Halliday on Sept 1, 1959 mentioned a small cave that loggers found NE of Dynamited Cave.

SNOHOMISH COUNTY

BONANZA QUEEN MINE CAVE - The middle level of the mine intersects a natural cave in limestone. Located in T30N R10E Sec. 7. 1350 Ft. N. and 1780 ft. west of the SE corner of the section on a quad map. Ladders in the mine are rotted. Enter the mine from an upper level and use rope and bolt kit to rappel down 270 ft. to middle level. Rod Crawford may have more specific directions for locating the upper level mine entrance.

MYSTERY THREE MINE - The mine is full of limestone drip formations in blue, green, yellow, and blood-red. It also has a string breeze blowing through it. It is in the same general area as the Bonanza Queen Mine and has never been visited by the grotto.

CIRCLE PEAK SOUTH LIMESTONE DEPOSIT - This needs to be checked for caves. A high elevation trail of approx 6 miles leads to unscouted limestone area reported by Danner S.E. of Darrington.

MT. INDEX ICE CAVES - Snow caves similar to Big Four. Located near the King/Snohomish County line at south end of Serene Lake near summit of Mt. Index. Take the first right before the turn-off to the town of Index and head south just before crossing the Skykomish River. The caves melt out in June so the best time to see them is mid-winter when you can walk across the frozen lake and before spring avalanches make caving dangerous. When the caves do last into the summer, a long walk around the lake over talus boulders is required to reach them. Follow trail marked "Bridal Veil Falls" 1.5 miles to Serene Lake from logging road #276.

STEVENS COUNTY

SOLUTION CAVE - Located in Old Dominion Mine near Colville (On Old Dominion Mountain?) T36N R40E. The cave is 200-300 ft long. Reported by Tom Miller. See (1) June 1970 P.36 and March 1971 p.15.

SASQUATCH LAIR CAVE - Penny Humphreys, who caved with Phil Whitfield and Dave Jones, reported in March, 1980, that Indians on the Spokane Indian Reservation know of a large cave (inhabited by Sasquatches) on Cayuse Mountain (local name only) on the Wellpinit 15' quadrangle. Rock nearby sounds hollow when horses walk on it. NW of Spokane.

RABBIT MOUNTAIN PIT - Limestone pit approx 30 ft deep but unexplored. Located in Colville National Forest Aladdin quadrangle. T37N R40E Sec.23. See back of (1) Aug 1967. The pit is located about 100 ft. below the top of a hogback in the center of a bench.

CAVE - Locals reported to Bob Brown in about 1973 that there was once a Spruce Canyon Youth Camp in the Colville-Kettle Falls area. About 15 miles north up a canyon from a local river was a cave. The cave was marked with a crude sign and a wooden ladder descended a 20-30 ft. pit to horizontal passage. Formations were present in the passageway several hundred ft. long. Old Forest Service records may have more info on the location of the youth camp. Was the

cave 15 miles north of the youth camp or were they both 15 miles north of the Colville-Kettle Falls area?

SMALL CAVE - Locate north of Indian Cemetery on the west side of river (Columbia?) in Sec.10 T39N R35E or T40N R38E near the community of Flat Creek. Rumor received by W. R. Halliday in Oct. 1959 from Mr. John Beusan.

SOLUTION CAVE - Locate at Sherman Creek Campground on west side of the Columbia River opposite Kettle Falls. Previously reported incorrectly as being north of Kettle Falls. See (1) June 1971 p.36.

CAVES ABOVE NORTHPORT - Caves located in hill above Northport, one of which is 100 ft. long. Rumor reported to Tom Miller in 1971. See (1) June 1971 p.36.

WHATCOM COUNTY

CAVE NEAR ROSS DAM - 50 ft. long with two entrances. It was found many years ago by one of W. "Eddie" Clark's brothers. It is located 200 ft. from high water mark on dam road east of the dam and above the road, between it and the old Forest Service trail.

TALUS CAVE? - Located in Silver Lake deposit #2. See (4) p.210 and 224. A strong draft of cold air from limestone talus and a tufa-depositing stream indicate small cave system. Located 3.5 miles north of Maple Falls and 0.5 mile west of the Silver Lake Road in T40N R6E Sec.7, NW 1/4 of SW 1/4.

CAVE ?? - The German (pronounced Grr-Man) #2 deposit has springs that issue from limestone talus indicating a possible cave. See (4) p.210 and p.242. Locate approx 2 miles up the Black Mountain logging road in dense brush and thick forest. T40N R6E Sec.17 NE 1/4 of NW 1/4.

CAVES ?? - Ridley Creek Deposit. See (4). A 2 mile hike by trail to limestone sinkholes several feet deep. Further checking may turn up some caves.

YAKIMA COUNTY

LAVA TUBES - One or two small lava caves were reported near Smith Butte not far from the Trout Lake area. T7N R11E Sec. 20.

INDIAN OCHER CAVE - Small rockshelter near Satus Creek on the Yakima Indian Reservation from which Indians formerly obtained ocher. Near the Klickitat County line. No reported visits by grotto members.

SINKHOLE - The Naches-Tieton Ranger District map indicates a large sinkhole in T15N R11E Sec.21.

LOST CREEK - Located in T17N R14E Secs 34 and 35. Needs checking to see if it sinks into a cave.

References:

(1) Cascade Caver, published by the Cascade Grotto.
(2) Caves of Washington, by William R. Halliday.
(3) Speleograph, published by the Oregon Grotto, Vancouver WA.
(4) LImestone Resources of Western Washington, W. R. Danner

Grotto Business Meetings

June 6, 1989

The General Grotto Business Meeting was held June 6, at the home of Howard Hoyt and chaired by Mark Sherman. Members present included Ben Tompkins, Secretary-Treasurer, plus Jim Harp, Howard Hoyt, and Rod Crawford.

Membership committee - Duplicate slides have not arrived for the new grotto slide show. Rod Crawford has the old grotto slide show and a membership committee meeting was scheduled for June 12 to compare the two shows. The first presentation of the grotto show is scheduled for June 21 at the Seattle Swallow's Nest.

Grotto Store - The long-neglected grotto store currently consists of a large tarp, some cheap helmets, Justrite electric headlamps, and some carbide lamp parts and other small items. The entrenching tools are to go back to the Burke Museum. It was moved and passed to donate the large tarp to the Northwest Cave Research Institute. The remainder of the equipment is to be auctioned off at a regular grotto meeting.

Cascade Caver - Mark Sherman requested $150.00 for mailing and printing expenses through August, 1989. This includes $28 for the grotto post office box. Moved, passed, and paid.

Tiger Mountain - Howard Hoyt noted that the Issaquah Alps Trail Club has extensively marked the trails to the Tiger Mountain Talus Caves and visitation seems to have increased dramatically. He suggests that the club be approached about placing a sign about caving safety at or in the caves, possibly one of the grotto cave signs, and also reducing the number of trail

signs explicitly pointing to the caves. Howard is to pursue this.

Mimeograph - Rod Crawford moved that the grotto sell its old, unused mimeograph to the Burke Museum. The device was originally purchased for $35 but has not been used since about 1982 and the present editors are sincerely disinterested in using it again. Sold to the museum for $5.00.

National Cave Rescue manual - A note from Larry McTigue requests $15 to purchase this book. Funds for this were voted some time ago so Ben Tompkins is to contact Larry.

Caving videos - Larry McTigue has access to a number of videos and requests $25 to get blank tapes to make copies for the grotto library. Approved. Ben Tompkins is to contact Larry.

Mt. Baker-Snoqualmie National Forest - Rod Crawford presented a December 87 copy of the MBSNF Environmental Impact Statement and suggested that the grotto contact the Forest Service about the lack of mention or consideration of caves in this document. The Impact Statement has already been reviewed by the grotto, according to Mark Sherman, and a letter sent. The MBSNF has not been contacted in regards to the newer memorandum of understanding between the National Forest Service and the NSS nor in relation to the Cave Protection Act. Mark Sherman is to find out from Mark Wilson about previous grotto communications and check the grotto library for a newer copy of this report.

Addition to Operating Policy - Rod Crawford moved that a section be added to the operating policy that reads as follows:

"In order to promote conservation and safety, Cascade Grotto general meetings, trips, and training sessions shall remain open to unaffiliated cavers."

"As a matter of policy, the Cascade Grotto will not direct untrained, unprepared persons to any wild cave by written or verbal directions, signs, or other means, and will not encourage others to do so." The motion was seconded and passed.

Trips - Jim Harp reviewed the grotto trips scheduled through the end of July but the planning of trips for August and September was postponed.

Adjournment - The meeting adjourned at 9:05 pm. Notes by Ben Tompkins, Secretary.

August 7, 1988

A General Grotto Business Meeting was held August 7, at the home of Howard Hoyt and chaired by Ben Tompkins. Other members present included Jim Harp and Rod Crawford.

Program Expense - Rod Crawford requested $3.06 for return postage on an NSS slide show.

Management Plan - Rod Crawford presented a copy of the Lava Beds National Monument Cave Management Plan and a press release that came with it. Rod has retained the plan itself and anyone interested in seeing it can contact him.

Grotto T-Shirts - Jim Harp asked if anyone is interested in an official grotto T-shirt with maybe a picture drawn by Linda Heslop of some Washington State caving scene. Maybe solicit pictures and have a panel to pick one to use. Jim Harp is to check into prices and determine if there is enough interest to make this worth while.

Grotto Slide Show - The new grotto slide show has been presented to four different audiences and is in demand at least through the end of August, if not longer. Howard Hoyt is looking for someone to help do some of the presentations. Rod Crawford requested that money be appropriated to duplicate the slides from the original show that were borrowed for the new one but that action was postponed until the permanence of the new show is established.

Next Business Meeting - The next general business meeting was scheduled for 7 pm, October 2, at Howard Hoyt's place.

Adjournment - The meeting was adjourned at 8:35. Notes by Ben Tompkins, Secretary.