

Cascade

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C a v e r



CASCADE CAVER

The Cascade Caver

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Cover

Drawing by Linda Heslop of Mark Minton rigging for a new-found pit in Cueva Inelinada, Mexico. From a photo by Carol Vesely.

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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.

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

Overdue: Sue Brenner, Scott Williams, John Clardy, Jerry Frahm, Dan McFeeley, Rob Lewis, Skip Murray, Kay Willhight

Due Now: John Burns, Chuck Coughlin, Chuck Crandell, Shaun Larson, Alan Lundberg, Mark Wilson

Due soon: Roger Cole, Richard Smith, Gerald Thompson, Randy Vance, Boyd Benson, Bob Brown, Dan Montoya, Larry McTigue, Ed Tupper.

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Grotto Notes

	22	Vertical Practice, possibly in a cathedral bell tower.
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.		
March	May	
31.. Tentative trip to Gardiner Cave moved to April by request of the park staff.	12.. Register servicing trip to caves in the Mt. St. Helens area. Leave Friday afternoon and return Sunday evening.	
April	19	Grotto Meeting.
3 General Business Meeting	27.. Northwest Caving Association regional meet, scheduled for the Bend area in Oregon. More details as we get them. Have your vertical gear together for this one.	
15 Tentative rescheduled date for trip to Gardiner Cave in northeastern Washington led by Mark Wilson. Depends on getting permission for access to the cave and will be restricted to specific research tasks. This cave is in the extreme northeast corner of the state, about 7 hours from Seattle. Leave Friday afternoon, cave on Saturday, and return more leisurely on Sunday.	June	
21 Grotto Meeting.	5 General Business Meeting	
	16 Grotto Meeting.	
	17 Day trip to Ramsey and Jackman Creek Caves.	
	23.. Novice trip to Deadhorse Cave and Trout Lake area, led by Jim Harp. Leave Friday evening and return Sunday evening.	
	July	
	7.. A two-nighter to Cave Ridge to service registers. Climb the ridge on Friday evening and return Sunday afternoon.	

- 22.. NCRI Jewel Cave Work Session in South Dakota. Travel arrangements vary. Project is from July 22 to July 29. Contact Steve Sprague at 652-6489.
- 21 Grotto Meeting.
- 22 Day trip to Big Four Ice Caves
- 31 NSS Convention in Tennessee
- 1990 NSS Convention in Mt. Shasta, CA
- 1991 NSS Convention in Cobleskill, NY

February Grotto Meeting

The general grotto meeting on February 17, was short, leaving plenty of time to adjourn for pizza before bed time. There were 6 members and 4 non-members present. Mark Wilson announced the next business meeting to be held in April and then showed slides of a trip to the Guads several years ago.

March Grotto Meeting

The March 17 grotto meeting was opened by Chuck Crandell who began with introductions. There were 19 members present plus two newcomers who joined before the evening was out. Mark Wilson arrived about then and took over.

Rod Crawford announced that he has obtained the slides for the long-neglected grotto slide show project, intends to finish it as originally designed, and needs a slide of some one belaying a climber in a cave. Contact Rod if you have such a slide in your own collection.

Mark Wilson announced that the next business meeting will be April 3, at the home of Howard Hoyt, 133 N. 78th, just off Greenwood Ave N. The only items submitted so far for the agenda are the purchase of an NCRC manual and the formation of a membership committee.

Jim Harp reviewed the list of upcoming trips and suggested that people consider attending the vertical practice if planning to go to the regional meet in Oregon. Mark Wilson noted that the Gardiner Cave trip has been postponed at the request of the Gardiner Cave people and has been tentatively rescheduled for April 15, subject to conformation in early April.

Andrew Dayton described his trip to Lewis and Clark Caverns in Montana. Jim Harp told of a trip to Trout Lake where all caving was thwarted by the unusual amount of snow.

We had two and a half good presentations. In a rare appearance at a grotto meeting, Dave Klinger described the Prince of Wales Island expedition and

showed slides of the island, the caves, and the process of getting there. If interested in the project, known as PWIEXII, contact Dave at P.O. Box 537, Leavenworth, WA 98826. The expedition will run from July 25 to August 25 this year.

Bob Henderson then showed a lot of beautiful pictures of sea caves in Hawaii, taken on a expedition by the San Francisco Bay Chapter of the NSS.

The third program was an aborted attempt to run an NSS slide show of some cave or other in Georgia.

NCA Regional coming up!

We've got the word from Charlie Larson that the N.C.A. Regionl Meet is back on track. It is set for the Bend area over Memorial Day weekend. Definite information regarding exact times and locations will be forthcoming, Charlie says. Meanwhile, contact Mary White at (206) 695-1359 or Charlie at (206) 573-1782 for up to date information.

Regional planners would like to know how many people might be attending so Jim Harp will be compiling the numbers for the Cascade Grotto. Please let Jim know if you are planning to go or are interested in going.

East Asia, 1988

by William R. Halliday, M.D.

Part 1 - Thailand - The caves in East Asia are fantastic but sometimes it's a little hard to get all the names right.

When I learned that the International Association of Hydrogeologists was meeting in Guilin in mid-October and the 5th International Symposium on Vulcanospeleology in Japan in November, it seemed almost sinful not to go. Especially since the current price wars on trans-Pacific flights made a side trip to Thailand virtually free.

Thus on September 26 I had my first experience with Korean Airlines out of Los Angeles. Expecting a flying cattle car, I was surprised to find that the coach section was better than the first class section on a lot of U.S. airlines and even included free drinks.

It was a long day across the International Date Line. After a short layover at the Seoul airport, still

decorated for the Olympics), we were off at dusk to Bangkok. We arrived at 10 p.m. and by midnight had reached the Miami, the cavers' favorite hotel, just about 12 hours out of phase with home.

There was no rest for the weary, however, too much to be done the next morning. I was going into remote parts of China and needed a series of immunizations for Japanese B encephalitis, which cannot be obtained in the U.S. because of Congressional Stupidity. So I became a duly registered patient of the Chulalongkorn University Hospital and went through the clinic system, getting registered, seeing a screening physician, getting the prescription filled, and getting the first injection.

It was truly a fascinating cultural experience in a complex system where English is spoken only here and there, in bits and pieces. It was not like our university hospitals but the people were helpful and friendly, and the techniques were as sterile as in the United States. Plus there is a Dairy Queen across the street.

And by 1 p.m. I was at the Japanese Embassy surrendering my passport to get the visa for Japan which I had overlooked. Then by samlor to the main railway station to get current train schedules and to do some planning. AHA! On Saturdays and Sundays the national railway was running train /bus all-day tours in the Ratchaburi area that included two caves of which I had never heard. Complete with lunch, the cost was \$4.50 (Thailand is cheap if you avoid the Western tourist facilities.) I signed up immediately. Then on to the wrong Thai Airlines office to reconfirm my onward flight to Hong Kong, to the head office of the tourist Authority of Thailand for more planning, followed by futile attempts to use the complicated long-distance telephones. After an excellent dinner next door to the hotel, I was more than ready for bed.

After picking up my passport and visa, I devoted the next day to the National Museum for information on early cave art in Thailand and a wonderland of other cultural wealth. Here I learned that the earliest cave shrine in Thailand was along the route of the Ratchaburi tour that I had scheduled. A bas-relief Buddha in Rishi Cave at Wat (Monastery) Tham (cave) Khao (hill) Ngu (snake) dates to the Dvaravati period, carved by the Mon people nearly a thousand years ago, before the Thai came. We were not scheduled to stop at that small cave, but I wondered. The Thai are very accommodating people...

Upon the onset of culture shock at the museum, I walked back to the tourist authority office where an accommodating Thai handled the long-distance system for me until we ran out of coins in mid-call to Chiang

Mai University. At least the message got through. Another very good day.

The next morning I tried the train to Saraburi where I expected to rent a taxi to visit at least one of the temple caves a few dozen km out of town. Surprise! It is not a tourist town and has not taxis, only pedalled 3-wheelers that don't go that far. Lots of buses going in all directions from the city center near the station but the caves are well off the bus lines. Through the best efforts of a huddle of Thais, I was given understand that there was also no car rental agency closer than Bangkok; very sorry. So I took the bus back to Bangkok. A learning day.

The next day, Saturday, really made up for it. The train was full of weekenders, mostly young and enthusiastic, on various outings. There were about thirty on our outing, mostly nurses and one pediatrics resident from Vajira Hospital. We got on famously. After mandatory tourist stops at Nakhom Pathom (the impressive Grand Chedi), floating markets south of Photharam, a pottery factory, and an excellent lunch in Ratchaburi, we were off westward to the caves.

I had been asking about taxis and samlors in Ratchaburi, without much luck. By now, everyone on the bus knew about my interest in the Dvaravati caves and was working on the tour director. Sure enough, she decided that our schedule could permit 15 minutes there. It's not much of a cave but well worth it. Although not much visited by outsiders, it is in constant use by the local people. It has some notable gilded modern buddhas and attendant figures as well as the archaic carving. Other cave entrances are visible in large quarries nearby but I had pushed goodwill to the limit.

We drove on westward, past newly quarried tower karst and what may be large karstic springs. The first scheduled cave was Tham Chumpon (or Chumbul - Thai doesn't transliterate exactly into English). It is a notable show cave, named in honor of a famous Thai army field marshal. It was spacious and some 400 meters long, reminding me a little bit of Carlsbad Cavern. At the far end of the tour is a skylighted "Big Room" with a huge gilded Buddha in the reclining Nirvana position plus additional smaller shrines. On grinning saffron-robed monk was having a wonderful time dashing dippers of holy virgin cave water over giggling worshippers who lined up for the privilege. Despite the number of visitors, this is a really fun cave except for the nasty thieving monkeys who stop at little short of climbing visitors' legs hunting for anything edible. Fortunately they don't go into the cave; I don't know why.

About 15 minutes farther on road 3081 is Tham Khao Bin, recently discovered and newly developed for tourists. It is a little larger than Tham Chumpon, and is so richly decorated with low-hanging stalactites that I thought of the King's Palace in Carlsbad. The tour winds through thickets of them, in and out of large and small rooms. Flood waters have unfortunately blackened the lower 1-1/2 meters of much of the cave. Otherwise it is a notable spectacle. The guide told us (in Thai which was gleefully translated by our medical group) that a miraculous well of great healing power is located in a little room off the end of the illuminated tourist route - actually a little pool at the water table in total darkness. To the delight of my new friends, I had a flashlight in my pocket and we all charged into the not-so-hidden room. They enthusiastically bagged a liter of magic water to take back to the hospital.

Tham Khao Bin is the only cave I have visited in the Buddhist part of Thailand that has never had a shrine. I was told that this is because no monk has settled there yet.

We sang Thai songs, of which I know not a word, all the way back to Bangkok. What a group! Along the way I noticed numerous cave entrances before and after Tham Khao Bin, high on the hills. I want to return.

Sunday saw me back on the same train but this time going onward to Phetchaburi to retake some fouled up photos in Tham Khao Luang, the most famous temple cave in Thailand. Occupying most of a limestone hill about 3 km from the station, it mostly one huge room spectacularly lit by a strategic skylight. Its vast assemblage of gilded Buddhas and other religious figures is truly breathtaking. In an obscure alcove near the bottom of the entrance steps I noticed some neglected, partially smashed figures that appeared archaic, quite unlike the beautifully kept figures in the remainder of the cave. Dvaravati? I would have to return to the National Museum.

Incidentally, conservationists may have a problem in this cave. One bulky 20-foot stalagmite has sizeable alcoves carved out of its bulk for a half-dozen small shrines.

I had only two days left in Thailand and much to be done. I had to order and pick up bilingual name cards for my next visit, find the right Thai Airways office to confirm my next flight, shop for guide books, reference books, and slides of caves in other parts of Thailand. I also went through the clinic and pharmacy again for my second immunization and revisited the National Museum. A helpful curator at the museum confirmed the old Phetchaburi figures as Dvaravati and expressed shame that they had been smashed. He also

told me how to make arrangements of an expert on ancient art to go along next time. Too short a time, but then, any amount of time in Thailand is too short.

On to Hong Kong via Thai Air (better in coach than most U.S. airlines in coach). We landed without incident. What a change in the 33 years since I visited Hong Kong courtesy of the U.S. Navy! I was not prepared for the wall-to-wall high-rises in this bustling, now-wealthy city.

My reservation was at the YMCA Harborview International House, on the "Island side", rather plush for cavers' normal accommodations but all I could book under \$70 per night. Hong Kong is expensive but the hotel was very nice and its excellent meals were a real bargain.

I had much to do in Hong Kong also. I needed to buy a Dragonair ticket to Guilin and get a visa for a stop in the Republic of China (on Taiwan), which is a bit tricky as it still considers itself at war with the Peoples Republic of China on the mainland. I met with W.C. Fong, professor of Chinese History and a delightful speleo-philatelist. I also found guide books to caves in Hong Kong. Yes, there are some caves in Hong Kong, even some newly-discovered limestone that is upsetting the city fathers. Again, not enough time but then I was coming back here later in the month.

Part 2 - Guilin - The fingery tower karst of Guilin is internationally famous as the classic landscape of China. Like most cavers, I had long been looking for a good way to see it firsthand. With a 10-day post-Congress field trip through perhaps the greatest karst area in the world, the 21st Congress of the International Association of Hydrogeologists provided an ideal opportunity. I found its tower karst and caves even more amazing than photos suggested. Others clearly had been looking for such an opportunity; many famous speleologists attended including the president and secretary of the International Union of Speleology, Canada's Derek Ford and Austria's Hubert Tirmmel. The United States was well represented with Will and Bette White, George Huppert, Jim Quinlan, Susan Gurnee, Joe Troster, and numerous others. From Australia came Kevin Kiernan and Julia James, plus Paul Williams from New Zealand. In the Italian contingent was Paolo Forti. England's Marjorie Sweeting had to leave early but she has been working in this area for several years.

There are two ways to fly from Hong Kong to Guilin. The usual way is to take a boat or train to Guangzhou (Canton), then the China National Airline (CAAC) to Guilin. This is slow and uncertain but also inexpensive and allows some time in Canton where a

new speleological society welcomes visiting cavers. The other way is by Dragonair. It is only a bit more expensive but flies nonstop with much greater ease. I recommend it.

About 30 minutes out of Hong Kong, serrated mountains below begin to alternate with plains studded with limestone towers, looking like they are marching in formation through vast expanses of flatlands. Already the countryside surpassed my expectations. Unfortunately the haze did the same - I didn't try for a single photo enroute.

Attendees were spread out at many hotels. I was at the guest house of the Institute of Karst Geology at the Conference Center. Not plush but the price and location were ideal and the food was virtually a banquet three times a day. I immediately found out the hard way that it is a bit far from the center of town by foot, but is just 12 minutes by bicycle. Bike rental is big business in this flat-lying tourist city. Several of us were soon awheel. I teamed a bit with Piet and Jeanne van Rooijen from the Netherlands. early the next morning we were off to the cave-studded limestone towers that jut upward in the city and all around it.

Not all of China's karstic towers are cavernous, but most of those of Guilin are highly so. Going clockwise from the Center on a brand-new extension of the Shanghai Road we had to give up on the first tower. Unfortunately, the half-mile side road to Chuanshan Hill (Pierced Hill) was being repaved with limestone blocks so jagged that we could not even walk the bikes safely. We took a shortcut across the picturesque little Xiaidong River on a foot-and-bicycle bridge, soon finding ourselves pedalling on paths amid tiny farm plots being watered by hand and then back on the Shanghai Road at Zhishan Craig. Here was a gaping cave mouth with a building fitted into it but it was next to a very official-looking compound with an impressively guarded gate, so we did not investigate.

Instead we turned north on Main Street, Zhongshan Nanlu, past the railroad and bus stations and south post office amid a mob scene of fellow bicyclists. Suddenly the famous Elephant Trunk Hill (Xiangbi) was just a quarter mile to our right in a pretty park where the Taohua (Peach Blossom) River joins the big Lijiang River. It is far more interesting than photos suggest. The oft-photographed arch is only a short relic of a big borehole passage, but the hill turned out to be full of other remnants of what was once a complex cave on multiple levels. Just inside the Lijiang side of the arch opens a middle level tube about three meters in diameter and extending through a corner of the hill.

Still higher, the entire width of the hill is pierced by a larger phreatic tube: Elephant Eye Cave. The concession stand on the Taohua side is in a small cave and there are other caves of various size and significance. Two on the north side are stacked. One on the south side is walled - I have no idea why. Fluting and other vadose solutional features in the area of the great arch are beautiful and ancient inscriptions are impressive for their calligraphy.

A five minute ride north along the Lijiang brought us to a major decision. Lunch time was nearing and the afternoon sessions at the conference looked good. Only five minutes north, however, were Fubo Hill and its cave, plus Qixing Park with the famous Seven Star Cave was five minutes east on the way back to the Center. We opted for lunch. The dedicated van Rooijens turned in their bikes to attend the opening ceremonies. I kept mine and quickly returned to Seven Star Park. Here there are several karstic towers and hills. Luotuo (Camel) Hill is a small but picturesque relic tower, by far the smallest of the group but the most photographed. Just ahead on the left is double-peaked Yueya Hill. The tables of a little fast-food concessioner are in a little cave at its base. I turned right and coasted about 100 meters to the base of Putuo Hill. Almost at once I saw a gated entrance with an ancient inscription, obviously one of the unused entrances of Seven Star Cave.

Another hundred meters clockwise was the partially walled entrance of a 30-meter cave with an impressive stalagmitic dome at the rear. Passing up some other openings, a couple of hundred meters farther clockwise was the sloping entrance of Wind Cave. Its cool, spacious little entrance room was being admired by half a dozen casual visitors. A narrow slot on the left was emitting a brisk breeze from what appeared to be a larger room. When I got out my flashlight, one young Chinese showed eagerness to go with me. We continued with the one flashlight in an increasingly muddy, sinuous canyon passage and a trickling stream was audible somewhere ahead. We returned to daylight and parted ceremoniously, very pleased with each other despite no word in common. I last saw him talking excitedly with friends and I wouldn't be surprised if he starts a caving club someday that welcomes visiting cavers. Wind Cave must be part of Seven Star Cave, meteorologically, if not directly, although the guidebooks don't mention it.

Continuing clockwise on the foothill bike path, I soon found stairs that lead up to an old temple partially built in a cavernous grotto. Going down the far side, they lead through a larger grotto horizontally divided

by a fine limestone span. Not much farther on, a spacious natural tunnel leads to an impressive cliff-side alcove containing the ticket office for Seven Star Cave itself.

The entrance passage of Seven Star Cave is a Mammoth Cave-sized borehole, and the cave is large throughout. Locally, speleothems are impressive despite colored lights that are not to the taste of western cavers. Stalagmites and gours are especially impressive. The general trend of the cave is gently upward from the entrance and the exit passage is well up the hill. One impressive pit along the way looks like a possible connection to Wind Cave. A few bats are present and I saw one rat near the concession stand in mid-cave.

Walking back to my bike, I checked out a short little cave with multiple entrances at path level, then another with a complex of short passages. This hill is so cavernous that I kept going back and back and never got anywhere near to seeing all of the them. A map showing them appears on page 133 of Study on Karst Geomorphology and Caves in Guilin by Zhu Xuewen et al, just published by the Institute of Karst Geology. It doesn't show all of them, the detail is too small to help the visiting caver, and all the names are in Chinese. The current guidebooks differ on names, with the hills and some of the caves seeming to have at least two names apiece. The books also differ on how to transliterate from Chinese to English. It is usually possible, nevertheless, to know where you are but getting the names right in a trip report is a different matter.

Back at the Center I joined a delightful reception party at the nearby Guishan Hotel. The Chinese are wonderful hosts. The next morning brought another difficult decision. The program was good but the spouses' schedule included a bus trip to Lu Di (Reed Flute or Pipe) Cave, the most famous in Guilin. It was 8 km from the city center, a bit far for the lazy bicycling I had been doing. The bus was not full of spouses so there seemed to be plenty of room but it was full by the time it pulled out of the Center parking lot.

The entrance section of Lu Di Cave is so jammed with towering stalagmitic columns that it is difficult to appreciate the hugeness of the cave. I thought of Gruta de Bustamente in Nuevo Leon but this one is larger and more densely decorated. Shields are common and one is huge. Facetted flowstone is also common. Spatter excrescences jut outward and upward from the sides of tall stalagmites, even more so than in Grotta Giganta at Trieste in The Karst. At the far end of the tour is an equally wide room that was lower and with

notable gours. Although colored lights are again everywhere, this is truly a world-class show cave.

That afternoon I was beckoned by Fubo (Whirlpool) and Diecai (Piled Brocades) Hills on the other side of the Lijiang River from Seven Star Hill. The cave in Fubo Hill turned out to be a braided horizontal complex of comfortable walkways with numerous openings in the tower walls. At the north end in partial twilight in the cliff-side entrances was a profusion of bas-relief Buddhas and other religious figures, far surpassing what I had expected from photos and the postage stamp depicting this cave. It is a gem indeed. There is another cave in this hill but it is behind a temple which was closed.

The sun was dipping low but Diecai Hill was only a few minutes away. To my surprise, the road to the hill, now little more than a neighborhood lane, led right into Mulong Cave and on through a corner of the hill where it became a bike path. A few dozen feet farther on was a short double-ended tunnel on a lower level and then a spacious middle level grotto with one partially demolished building and a second where someone was home. Enough was enough and 15 minutes later I was back at the Center for dinner.

The next morning was another bus trip to Seven Star Cave for the spouses and hangers-on. It was well worth seeing twice. The rest of the bus load then went on to the nearby zoo to admire the panda while I went caving. I managed to miss the bus back to the hotel but getting a 3-wheel taxi was easy and cheap. What I had been doing was checking out trails leading up the hillside near the barred back entrance of Seven Star Cave. The first here was comparatively low on the formal trail. If my notes are correct it is Zonggong Cave, a 50-meter complex with facetted microgours.

A little higher is a short segment of truncated borehole closed a few dozen feet inside by a calcified fill. The next one, north of the barred entrance, is linear and about 50 meters long. Flowstone, rocks, pottery shards, and even pieces of wood are facetted here by a thick layer of calcite. The next cave above is a fine truncated borehole about 50 meters long with a dripstone complex at the rear.

Soon the trail leads to a summit viewpoint, perhaps Bowang Pavilion, and starts down toward Wind Cave. On the way down, an unofficial trail leads to a steeply sloping little cave with a strong in-draught and lots of bricks dumped into it. About 20 meters inside is a sharp turn to the right and a short drop that I didn't care to attempt solo. Another unofficial trail farther down leads to a pretty grotto.

On the way back to where the bus was supposed to be (I still think it left early) I walked over to the northeast side of Crescent Moon Hill, the west peak of Yueya Hill. Here I looked at trails that went up the hillside almost behind a pleasant-looking restaurant. The first cave I encountered, probably Crescent Moon cave itself, apparently an ex-show cave, with deteriorating electrical fixtures. The lower half of the entrance is bricked up. A short passage inside leads to a large, impressive pit with a retaining wall at the end of the trail. A little higher on the hillside is another cave that is vaguely T-shaped. It is notable for an abundance of red clay. I stopped after about 200 meters. A third cave, higher still, is roomier and may be longer. A second entrance connects in about 50 meters inside. There is old weathered dripstone in this area and a notable stalagmite sequence farther in.

Back down at the foot of the tower and a little farther west is a tight little sloping stream meander cave that I didn't try to force, and then an S-shaped cave into which I went about 100 meters without signs of it ending. Just around the corner, facing the Xiaodong River, was what looked like a promising entrance but turned out to be nothing but a meander niche.

That afternoon I rented a bike to try a devious route to Chuanshan Hill through Zhongshan Nanlu, south past Nanxi Hill and off the Guilin city map, and back across the river on a foot/bicycle bridge south of town. Sure enough, it worked but the show cave was closed, the power was off, and no one had enough English for me to talk my way into a self-guided tour. All I could do was buy the guidebook, which was in Chinese but the only one I found for any Guilin cave.

Next I started checking trails like those at Seven Star Park, heading generally in the direction of Moon Cave, the huge hole through the hill that can be seen from most of Guilin. Several led to small caves. One behind a new restaurant angled up the cliff toward Moon Cave. On the way, there opened an S-shaped borehole that reached total darkness on its way through the peak. Off to the right were smaller side passages. Moon Cave itself is a wide open segment of borehole at a slightly higher level. What appears to be an upper level balcony on the far side of Moon Cave is reached by a fixed metal ladder with a bit of exposure. Once on the balcony it is clear that the balcony is the opening of a higher level cave which winds downward to still another cliff-side entrance on the Guilin side of the peak. It was truly a fabulous area for geo-speleologists. What a system must have existed here beneath the pre-erosion surface!

I hurried back to clean up for the magnificent Congress banquet that night at the Guishan Hotel, with suckling pig, sea cucumbers, and other delicacies. The Chinese Dynasty brand white wine was excellent. Some 350 people attended, the largest banquet ever in Guilin, but arrangements ran like clockwork.

On Thursday, everyone went on the celebrated all-day Lijiang River boat trip. Because of low water we had to take buses to an alternate docking area a few miles downstream. The road passed the airport then ran through "forests" of cavernous limestone towers pointing upward like thumbs and hands. Swallets were prominent and we admired one big erosional window. Cave entrances seemed to appear at a rate of 5 per minute in the tower area, and several had inscriptions at their entrances. At one brief stop I counted 33 visible entrances at one time. Kevin Kiernan said that that was nothing. On a pre-Congress field trip a few dozen miles away he had seen 85 entrances at once.

Along the river were fewer caves but a unique view of the world-famous mountains of towers. We did see Crown Cave, a resurgence cave at river level near the midway point. Others were hundreds of feet above river level. We docked at Yangshuo, a pretty village even more closely encircled with towers than Guilin, and bused back at dusk.

Friday morning's spouse trip was to Fubo and Diecai Hills. I went along to get more photos of the "thousand Buddhas" and to see the Grand Cave near the western summit of Diecai - another "picture window" borehole. The photos that look down on Guilin and make it appear hemmed in by towers are taken from this point. At Fubo we got into a usually locked upper level of Returning Pearl Cave containing additional bas-relief statues. My notes say that there are Buddha carvings at Diecai Grand Cave also but I don't remember them.

I biked that afternoon to the south side and southwest corner of Crescent Moon Hill. At first I encountered nothing but two crescentic grottos, one messy and sloping down to the water table, but around the bend are two notable caves. These were Dragon Hiding Cave and Dragon Hiding Grotto, the latter also known as Forest of Stone Inscriptions for its wealth of ideographs carved in ancient times. Dragon Hiding Cave is a tall, spacious canyon passage winding through a short elbow of the hill. It lacks total darkness but is very picturesque. At high water it carries part of the flow of the Xiaodong River.

From there I went to the north side of Putuo Hill, past the entrance of the show cave. Deteriorating

cement steps near the public restrooms led up to what may be Facing Cloud Cave, for which my notes are illegible and which blends with half a hundred other caves in my memory. When I had gone as far around the hill as I could within the park I found a pretty little resurgence cave with women washing vegetables in the clear cave water. One of the young men who obviously had come to amuse the working girls invited me (by signs) to go inside with him. We entered for about 50 meters, past the low water resurgence where the stream was emerging from the packed gravel and cobbles. The cave continues but again, with only one flashlight it was time to go back.

Saturday was our last day. I was a bit discouraged because there was so much to do and so little time. I flipped a mental coin to decide between the cavernous Duxin Peak or Nanxi Park; the latter won. In Nanxi Park the well-decorated passages of White Dragon Cave, another show cave, wind through much of the western peak of the tower. On its north slope between the entrance and exit of the show cave is little Xuanyan Cave. Around the west end of the tower are several barred entrances and one ex-show cave with its ticket office now abandoned.

Like no other time in my 56 years as a caver, I was feeling overwhelmed with caves. So I went back to the meetings. Yes, I got to other sessions as well but I can always read the papers in the big 2-volume proceedings. The opportunity to go caving by bicycle to such a profusion of varied caves, wide open for speleogenetic study will probably never come to me again. Thus I have no apologies for going caving during some of the program. In a word, it was great.

I repacked my bags sadly. Guilin had been far more than I had dared hope. But looking ahead, several of us were about to start on an unparalleled 10-day trip into the back country, where sinkholes grow to be as much as 1000 feet deep.

(The author notes that Part 1 of this article was submitted to both the Cascade Caver and the TN Speleonews. All parts have been recieved as original material. -Ed)

Newton Cave - The More Definitive Survey by Jeff Forbes

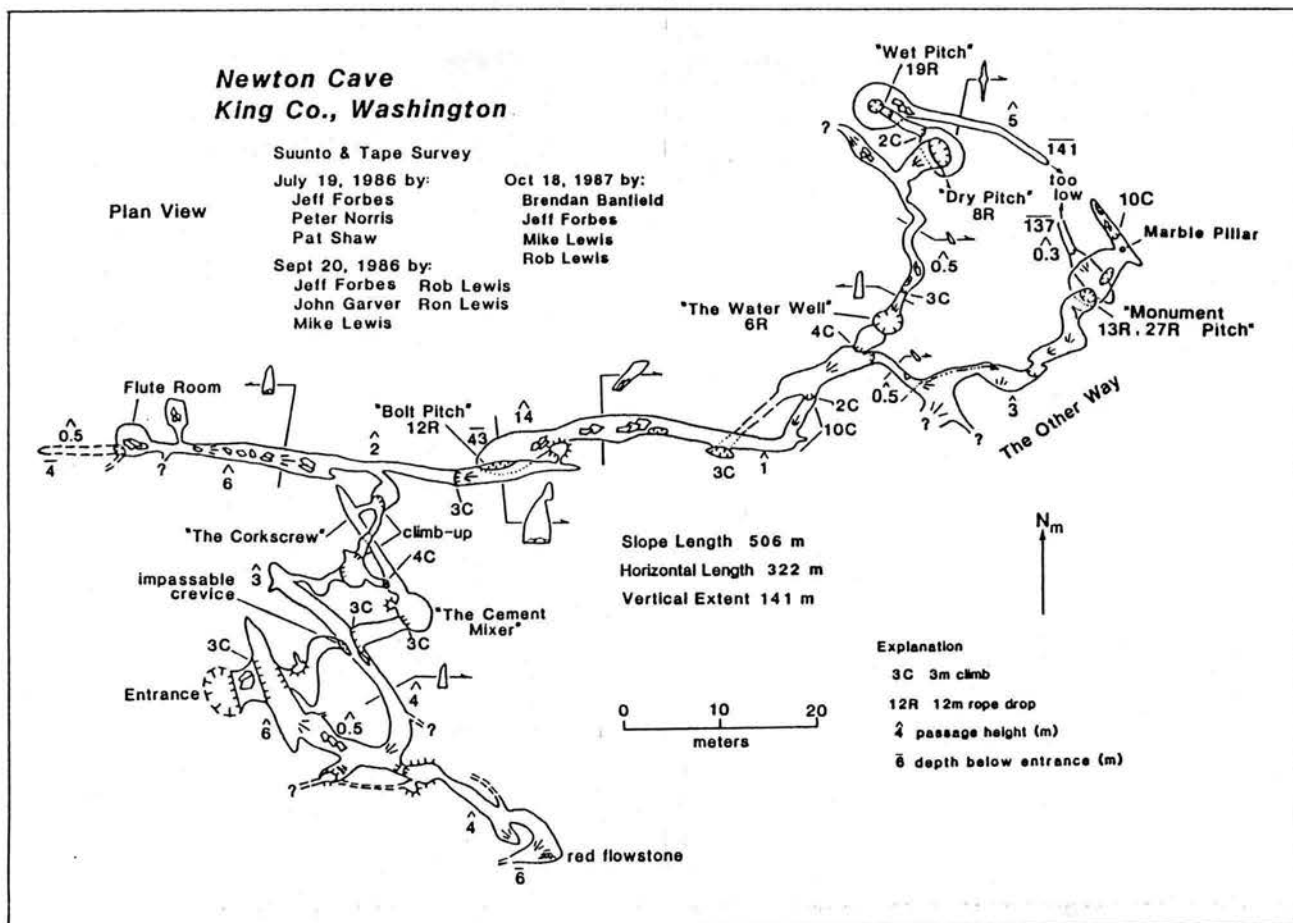
I suppose it's every cave surveyor's nightmare.....
After the cold, miserable mapping trips, and long hours

of manipulating data, drafting, and lettering, you finally publish your finished cave map. A map you can really be proud of! Then the phone rings. Rob Lewis is on the other end, calmly informing you that you've overlooked a major cave passage, one that leads to a deep shaft, and quite possibly deepens the cave.

My first impression may have been that this was probably some sort of mean prank, but that possibility quickly dissolved as I began to understand that Rob was indeed serious. He related a trip into Newton Cave the previous weekend, during the course of which he and his brother Mike had inadvertently stumbled off my painstakingly-made map, into uncharted underworld. Rob explained that their new find began near the top of the 6 m deep circular shaft known as "the Water Well", and after a short crawl, led steeply down to a deep pitch which they had been unable to descend for lack of rope. There was evidence, though, that other earlier cavers had explored the passage. Rob was very anxious to get back to Newton to explore the "other way". So was I.

And back we went the very next weekend. Our party consisted of Brendan Banfield, the brothers Lewis, and myself. The long slog up to Cave Ridge gave me plenty of time to contemplate the ghost passage I had somehow missed on the survey trip over a year earlier. Upon reaching the Water Well, I felt a bit relieved to see that "the other way" wasn't all that obvious. In fact, I'm sure I would have missed the narrow crack halfway up the wall a second time if Rob hadn't pointed it out. "Oh, that passage," I deadpanned.

Tying in to an old station, we began surveying the awkward, tilted rift, passing a huge yellow carpet rope pad left by previous explorers. After a tight squeeze, it opened up to more tolerable dimensions. Thirty meters further, the passage was descending steeply over a slab of insoluble, dark metamorphic rock. This led immediately to the top of a 13 m pitch, with another deeper drop visible below. The sound of a steady drizzle provided musical accompaniment. We rigged our rope and rappelled down, landing at the level of the lip of the deeper shaft. There was no rig point here, but by traversing round a ledge, we reached a balcony area with a beautiful marble pillar protruding from the floor. This natural monument, about half a meter in diameter and circular in section, served as the perfect anchor for the next pitch. We rappelled down the lovely "Monument Pitch", which turned out to be a 27 m free-hang drop, the deepest in the cave. Our excitement waned, however upon finding that the only way to go from the bottom was a tight, wet crawl, which



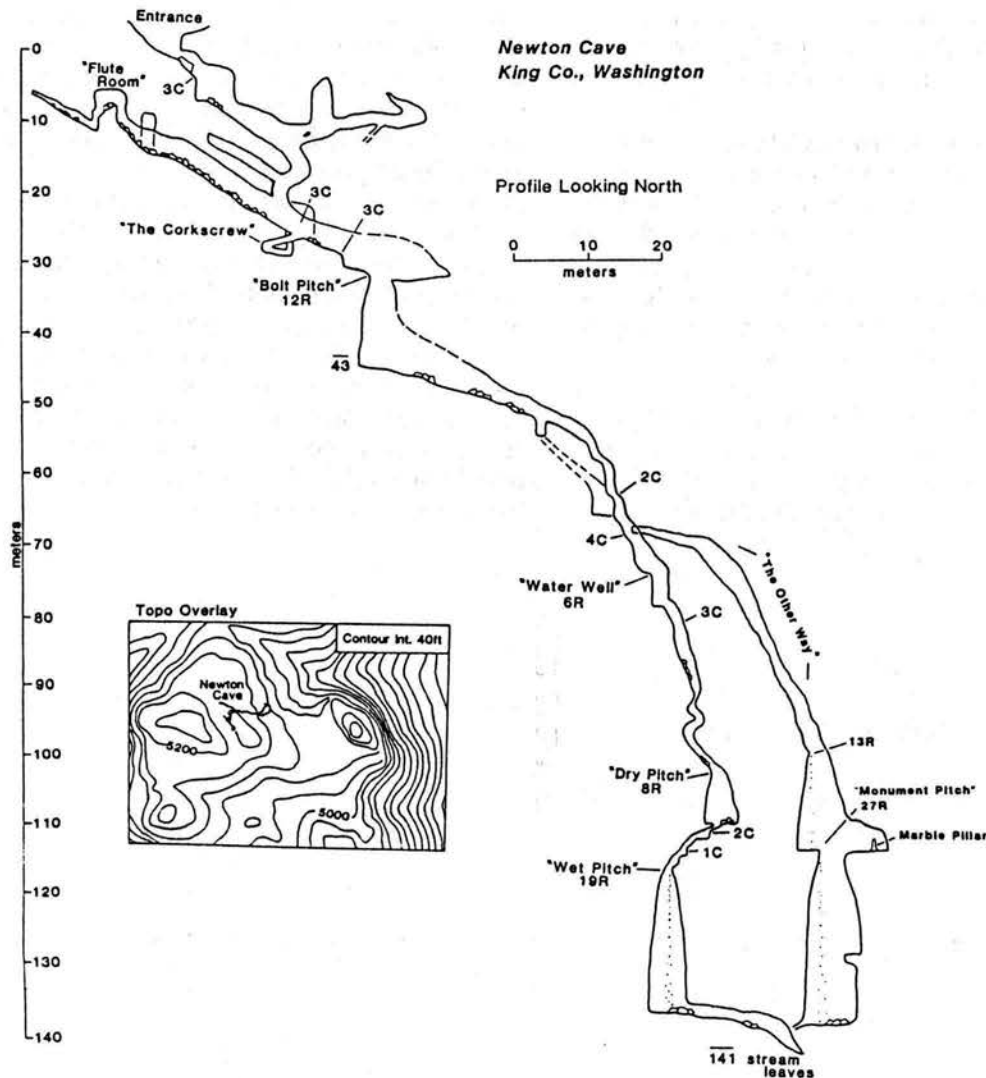
fortunately became impassable after just a few body lengths. This small drain could possibly be enlarged with some hammer work, but I'm not sure it's worth the effort.

Prussiking back up to the monument, we did some poking about along the far wall of the shaft, where a 10 m down-climb led to a boulder choke. Rocks would clatter down a bit further, but this too required digging to continue. On the trip out, I tried to estimate our vertical progress, wondering if the survey would show that the new passage was deeper than the old route to the bottom of "Wet Pitch". I wasn't sure.

As shown on the new map, the end of the crawl off the bottom of Monument Pitch is 137 m below the entrance. This is a scant 4 m shy of the old depth figure of 141 m (see *Cascade Caver* vol. 25 no. 10). No new depth record, though. Actually, the two

"bottoms" of the cave are at almost exactly the same level, and only separated by a few meters horizontally, according to our survey. I believe that the two streams probably merge a short distance beyond. Whether or not it is worth digging is unclear. One might naively expect larger passage downstream from the confluence of the two streams, but I suspect that the reason both sections of the cave bottom out at almost the same depth is that they are approaching the base of the marble, perhaps becoming "perched" on insoluble rocks below. But, I've been wrong before..

N.B. In fairness, it should be noted that I was previously aware of the possible existence of another route to the bottom of Newton. Larry McTigue had recounted such legends on several occasions, and each time I played the role of a "doubting Jeff". Hopefully, the passage will not get lost again.



Project at Lewis and Clark Caverns

by Andrew Dayton

The Lewis and Clark Caverns project really started in 1984, according to the annals of the Western Montana Cave Survey, with some theodolite surveying and sketching. A critical mass of cavers was not available in the area and the WMCS and its project faded from view.

In 1988, after having been in Washington a few years, I succeeded in getting all the notes and maps of the WMCS and felt the need to finish the long-dormant

project. Phone calls were made in February, 1989, to some key people, producing more names and a lot of interest. By the end of the month the list had grown to 15. We arranged to meet at the caverns on March 4.

John Benson and I met in Renton on March 3 and we headed east. There had been a snow storm in Seattle but cloudless skies and clear roads were the rule except for some ice on the passes. By mid-afternoon we were at my brother's house in Missoula, Montana. Some local cavers were contacted that evening and the project list grew longer.

Saturday morning dawned clear and cool (-30F in 15 mph wind). Two and an half hours later we arrived at the caverns and were met by John Little, Manager, and Lee Flath, Assistant Manager. There was discussion

and introductions as others arrived and the final group was 14 strong.

Once in the cave, we enjoyed the 47-degree warmth while Dan Stinson, an original WMCS member, gave us a brief history of the cave and work that had been done there in the past. Lee and John updated us on current work. Some of the items we talked about early in the tour included old survey points, recently cleaned areas, and numerous project possibilities.

At the Wind Tunnel we headed into the non-tourist area. Some choice words were heard from the carbiders as they went through the first tight, windy squeeze. This area of the cave is mostly breakdown and contains almost no formations. There was, however, a lot of carbide writing, sometimes with "out" arrows pointing at each other. After climbing up through breakdown with more girth-testing sections, we arrived at the Snow Room. Here most of us rested while others explored further.

The trip out went quickly and the walk back to the tourist center was under clear, sunny skies. At the center we talked at length about what the project might do, and the equipment and manpower availability, etc. It looks like there is plenty of cleanup that can be done, varying from cleaning lint and dust from formations to carting out large amounts of rubble that were dumped while creating a tourist cave. There is also the possibility of further mapping in the sponge-like Wind Tunnel area. Everyone left with anticipation of the work parties to come and our sincere thanks go to John Little and Lee Flath for allowing us this opportunity.

Other cavers that were present but not mentioned include Steve Klug, Gene Kyle, and Keith Kehler from Idaho, and Bruce Boehmler, Mark Chapman, Carol Alette, Matt Wilkin, and Kit Stevko from Montana.

For information or getting involved in this project contact me, Andrew Dayton, at 521 Burnett Ave S., Renton, WA 98055 or call (206) 255-6136.

FOR SALE

- Ø Cave suit, men's large. Waterproof nylon, with detachable hood, \$65.
 - Ø 2 Justrite brass carbide lamps, both antiques but in good working condition. \$25 each.
 - Ø Call Jeff Forbes, 325-5064.
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Newsletters In The Grotto Library

by Larry McTigue

These are the newsletters that we have in the Grotto Library. The publications followed by an asterisk are the ones currently being recieved.

- Aglarond - Vedauwoo Student Grotto, U. of Wyoming, Laramie, WY
- Airin' Our Views - Cornell University Outing Club, Ithaca, NY
- Alaskan Caver * Glacier Grotto, Anchorage, AK
- Alto Newsletter - Alto Cavers, Texarkana, TX
- B.C. CAVER * British Columbia Speleological Federation, Victoria B.C.
- Baltimore Grotto Bull Sheet - Baltimore, MD
- Baltimore Grotto News - Baltimore, MD
- Birmingham Grotto Newsletter - Birmingham Grotto, Birmingham, AL
- Bloomington Indiana Grotto Newsletter
- Brass Light - Richmond Area Speleological Society, Richmond, VA
- California Caver - NSS Western Region
- Cavalier Caver - University of Virginia Grotto, Charlottesville, VA
- Cave Geology - NSS Cave Geology Section
- Cave Crawler's Gazette - Central Arizona Grotto, Tempe, AZ
- Cave Light - U. of Wisconsin Caving Club, Milwaukee, WI
- Cave Conservancy Of Virginia Newsletter
- CIG Newsletter * Central Indiana Grotto, Indianapolis, IN
- Cleve-O-Grotto News * Cleveland Grotto, Westlake, OH
- COG Squeaks - Central Ohio Grotto, Columbus, OH
- D.C. Speleograph * D.C. Grotto, Alexandria, VA
- Desert Caver - Escabrosa Grotto, Tucson, AZ
- Down Under - National Caves Association
- Dripstone - Cornell University Student Grotto, Ithaca, NY
- El Alpinista - Sandia Grotto, Albuquerque, NM
- Electric Caver - Greater Cincinnati Grotto, Cincinnati, OH
- Explorer - Southern California Grotto, Pasadena, CA
- Foresight - Chouteau Grotto, Columbia, MO
- Gem Caver * Gem State Grotto, Boise, ID
- Geo2 - NSS Cave Geology and Geography Section

Inner Mountain News * Salt Lake Grotto, Salt Lake City, UT
Intercom - Iowa Grotto
Iowa Cave Survey Reports - Iowa Grotto
Iowa Cave Index - Iowa Grotto
Iowa Cave Book - Iowa Grotto, Iowa City, Iowa
Journal of the Yale Speleo. Society - Yale University, New Haven, CT
Limestone Ledger - Sierra Mojave Grotto, Ridgecrest, CA
Louisville Grotto, Inc. - Louisville, KY
M.A.R Bulletin - Mid-Appalachian Region
Massachusetts Caver * Boston Grotto, Cambridge, MA
Met Grotto News - New York, NY
Muddy Squeese - Maryland Cave Survey
N.E. Caver - N.E. Region, NSS, New York
NEOG Log - NE Ohio Grotto, Painesville, OH
Netherworld News - Pittsburgh Grotto, Pittsburgh, PA
New York Caver - Mohawk-Hudson Grotto/MET Grotto
Nittany Grotto News * Nittany Grotto, State College, PA
NSS IO Newsletter
NSS Convention*gram
NSS Board Of Governors Minutes *
NSS Administrative Memo *
Ohio Valley Caver - Ohio Valley Region, Cincinnati, OH
Oklahoma Underground - Central Oklahoma Grotto, Oklahoma City, OK
Paha Sapa Grotto - Rapid City, SD
Philadelphia Grotto Digest - Philadelphia, PA
Pholeos - Wittenburg University Speleological Society, Springfield OH
Piasa Caver - Piasa Grotto, Florissant, MO
Potomac Caver - Potomac Speleo Club (1961 index only)
R.A.S.S. Register - Richmond Area Speleological Society, Richmond VA

Rock River Spelunker - Rock River Speleo. Soc., Rockford IL
SFBC Newsletter * San Francisco Bay Chapter, Menlo Park, CA
Shippensburg Grotto Newsletter - Shippensburg, PA
Southeast Caver - SE Missouri Grotto ?
Speleo-Themes - Northern New Jersey Grotto, NJ
Speleo*Tymes - Indiana University Spelunking Club, Bloomington, IN
Speleonews - Nashville and Chattanooga Grottos, Nashville, TN
Speleothem - SW Montana Speleo. Soc., Shining Mtns. Grotto
Subterranean Sun - Sligo Grotto, Rockville, MD
Tech Troglodyte - V.P.I Grotto, Blacksburg, VA
Texas Caver - Texas Speleological Association
The Underground - Mid-Mississippi Valley Grotto, University City, MO
The Region Record - V.A.R
The Newsletter - Ozark Underground Laboratory, Springfield, MO
The Newsletter - NSS Cave Conservation and Management
The Hole Truth - Niagara Frontier Grotto, Niagara Falls, NY
The Windy City Speleonews * Chicago, IL
The Speleograph * Oregon Grotto, Vancouver, WA
Timpanogos Grotto * Provo, UT
Underground Leader - School of the Ozarks Troglaphiles, Pt. Lookout, MO
Valley Caver - Mother Lode Grotto, Sacramento, CA
Wisconsin Speleologist - Wisconsin Speleological Society, Madison, WI
Women's News - Women's section of the NSS
WSS Newsletter - Wisconsin Speleological Society, Madison, WI
York Grotto Newsletter - York, PA