

The SAG RAG is published bi-monthly by the Shasta Area Grotto of the National Speleological Society. Editor, Jim Wolff, PO Box 865, McCloud, Ca. 96057. Grotto meetings are held the second Friday of each month at 7:30 pm. Meeting places are announced in the newsletter. Dues are due January 1, prorated by quarter. Subscriptions are \$4/year per individual, or \$6/year family. Subscriptions are \$4/year.

CAVING CALENDAR:

- Sept. 2-5 Western Regional – Hutchin’s Meadow Group Camp, Bucks Lake, Plumas Natl. For., unexplored marble deposits. For details call Gail or Tom McCoy (408) 287-2634.
- Sept. 9 SAG Gen. Mtg. – Wolffs’ place in McCloud. See map page 12. Cave trips are open to suggestions.
- Oct. 7-10 SAG Gen. Mtg. – Lakelevel Cave, campout weekend. More details at Sept. meeting or call Jim Wolff (916) 964-3123.

LOST AND FOUND: Found – One men’s wrist watch. If you think it’s yours, call Jim Kottinger at (916) 926-3975 and identify. Also Ray Miller says he has the below-mentioned items:

- White plastic water bottle with blue screw cap.
- Large grey cotton zipper jacket with hood.
- Kid size black baseball cap w/ orange script “FJ”.
- Kid size knit hat that sez “Ski Bum”.
- Kid size knit glove for right hand.

For the contents of Ray’s L&F box, call him at (916) 926-2440

SAG T-SHIRTS AVAILABLE: Do one for yourself, \$2.00 (you clean up the mess after), or, I do one for you (\$3.00), and you provide the T-Shirt. Write or call me: Jim Wolff, POB 865, McCloud, CA, 96057; Phone # (916) 964-3123 eves.

MORE ON CAVES IN THE NEWS: The May 2nd, 1988 Sports Illustrated article written by Michael Ray Taylor, “Black Walls, Cold Fear,” has a cavers’ viewpoint on exploring Great Expectations Cave, the Great X Cave of Wyoming. The author has had a couple of writing assignments that involved caving before, so he presented his own perspective of the trips he made through the cave, with a more realistic cavers’ point of view. The reader gains a healthy respect for the explorers of this cave while reading Taylor’s article, and the excellent color photos by Ron Simmons enhance this already good article on caving. If you can find a copy of this issue, read it,

JUNE SAG MEETING: This meeting was to be held at Tombstone Mtn.! but was called off on account of many reasons. Although a few people were willing to go, things like graduation, the rainy weather (which turned out to be the beginning of a long period of beautiful, sunny weather), 4wd availability, etc. were the common reasons for not going. There must be something about that place that either draws cavers up there at all cost, or repels (not rappels!) them into making any weak and lame excuse, just to get out of going!!

RESEARCH TO BE CONDUCTED IN WELLHELLA CAVE: A U.C., Berkeley paleontological research project, headed by Mike Greenwald, will be conducted later this year in the cave. The bone deposit within the cave has potential for study and gaining insight on the early animal life of the area. It will be recommended that the research activity be limited to late evening entry – since this cave is right next to a high recreational use road that goes around McCloud Reservoir.

OTHER CAVING ACTIVITIES BY OUR MEMBERS:

– Couple of trips during July to the Marbles by Claude Smith; one which he dug in a blowing sink near Trail Junction Cave. On another trip, Claude, Jake Turin and Steve Knutson mapped several hundred feet and found another entrance to Rainy Cave. (Just what is so fascinating about this cave, eh??)

– More surveying in the still un-named Complex [Freudian Complex] by Ray Miller, Jim Kottinger, and Clarence Horner; mapped up the Far Left Passage. A trip a week later, by Jim and Liz Wolff and John Marschner mapped in the Center Passage. Then, after the convention Ray, Liz, and Matt Wolff mapped further downflow. We’ve located a triangulation point, and tied our survey down to a (nearly) exact location.

INFORMATION WANTED:
GELSIE’S GROTTO UNDER EXAMINATION BY FOREST SERVICE

I was talking to my friend and fellow employee, Julie Krieger, Shasta Trinity National Forest Zone Archaeologist, about her work, and she said, “Say Jim, we are excavating next to this lave tube out east of here, and I’m wondering if you have been to it, or know something about it...?”

The cave, Gelsie’s Grotto, which is part of the Giant Crater Lava Flow, is being excavated by U.S.F.S. archaeologists. They (the F.S.) would like to know if any caver has been in the cave and noticed any unusual mounts or accumulation of organic (or otherwise) material, located well inside the cave, that is. So you old timers out there, if anyone has some info you would like to share with the F.S. folks, write to Julie. Many thanks!

Projectile points have been found in other caves of the region and there is a strong possibility that this cave may yield the same, or hopefully, some indication of other use of this cave – other than simply a water source. All inquiries please write to:

Ms. Julie Krieger
U.S.F.S., Dept. of Agr.
McCloud Ranger District
McCloud CA 96057

P.S. Julie also asks for any other cave-related Cultural Resource info. that pertains to northern California. Thanks again! JHW

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‘88 NSS CONVENTION NEWS by Jim Wolff

This year’s convention was one of the finest I’ve ever been to. The campground was on our newest NSS President, John Schelton’s ranch. Although a few had reason to complain, I found everything within reasonable walking distance, the drinking water, the outhouses were many and close, the showers were on “main street” and never ran out of hot water. Why, they even had a top notch newspaper to read each day, giving convention news and updates on schedule changes. The “rowdy” and the “quiet” campers were segregated, sorta, and had all kinds of room to camp. The only thing they were lacking was **shade!** I remember the opening ceremonies even had an airplane towing a banner welcoming the cavers.

I personally didn’t attend very many sessions, but there were many fine talks and slide shows to be seen. The photo salon was well attended and, for once, the audience was in agreement with the judges on the first place winners! I did a lot of visiting with old friends, whom I hadn’t seen in many years. I even went caving, twice, in Reeds Cave, which I had explored on a post-convention trip back in 1969.

You should have gone, it was a great convention! The 1989 and 1990 NSS Convention staffs have a tough act to follow!

Fun and Fiascos On Our Search For Tombstone Mtn. Caves by Jim Kottinger

We first heard about the possibility of caves in Tombstone Mtn. from Joe Ameratti of Castella in the early 1960's. Joe and his brother used to go over to the McCloud River to camp and fish when they were young, by the way of the Tom Dow Creek trail and sometimes by their own horse trail high over the north flanks of Tombstone Mtn. Joe explained where the trail started and its route and said that they could see a couple of caves from a point east of the last limestone ridge. They had checked them out to some degree as his description was that there were two entrances that came together inside and then the cave turned and dropped fairly steeply into the mountain. He knew of someone that had gone down into it and found animal bones down there.

About 1963 or 1964 we mounted our first trip into the area. Ray Miller's folks – Ed and Nell Schilling and my wife and I took off into the area in two 4WD station wagons. We used to stomp the back country together a lot. Ray was still in the Navy and not home at the time. The weather was kind of cloudy, but that did not slow us down. A slide area before we got to Tom Dew Creek did however. An hour or so of shoveling took care of that enough that the wagons would not tip over on the way across. We finally arrived at the helispot at Tombstone and set up camp. Then we went out on the nicely developed trail that goes towards Tater Hill in search of the fossil area that Joe had told me about. We went past the fossils in the fog and right off the end of the trail into the brush and got lost. Luckily the women were behind a ways and with a lot of calling back and forth, Ed and I finally found our way back to the trail. Then we returned to camp and built a nice fire and got a bed of coals ready to barbecue some steaks. Just as we got to the grill the sky broke open and dumped about a million gallons of water on us. I have only seen thunderstorms like that in the Midwest. Lightning was striking all around us, nearby too.

The helispot turned into a lake and I looked out in time to see our steaks floating off down the way, so I jumped out of the wagon and rescued them before they went over the side of the heliport. They were a muddy mess so they wound up on the hood of the wagon and we had peanut butter sandwiches for dinner. The next morning dawned clear and warm so we located the start of the high trail and brushed it out up to the meadow on the north side of the mountain. On the way out we flagged it with red surveyors tape. On our way back on the jeep trail we had to stop and move parts of a tree that had been hit by lightning the night before. The whole tree had exploded and scattered in pieces for about fifty feet around what was left of the stump.

Our next trip in a few weeks later was really optimistic. We left the heliport with rope and lights and several more enthusiastic bodies. We even had several of the new hand held C.B. radios. First off we had no red flagging on the trail, the bears had eaten them. With the trail open it was an easy trip to the spring at the meadow and from there I went up on top of the mountain while the others scattered out below. I found a sinkhole on top full of water, but nothing else of interest.

We covered a lot of country and checked a lot of limestone, but no caves. I spotted the back side of the spot where the caves are located and checked the ridge down toward them, but we ran out of time before I got that far down and we could not see them, so we quit for the day.

In 1969, after I had bought my Taylorcraft airplane I started looking for caves from the air. Of course I found the ones we had been looking for immediately. You can see them from clear out over the McCloud River if you know where to look. I saw some more spots on those limestone ridges on the north slope that could bear closer investigation. The tip of one pinnacle looks like the spokes of an old wagon wheel with something in the center. I couldn't get close enough to really tell what. This is way down in the bottom on the first ridge (west and below the burn area).

I made several more trips in but never got around the mountain far enough to reach the caves. One of these trips included Ray Miller, my wife and I and my youngest daughter and her husband. We were in the west end of the meadow when an old black bear came out of the trees on the east side of the meadow. He was a beautiful golden color and from a hundred or so feet away looked pretty big. When he raised up on his back feet, Ray cocked the Lugar pistol he was carrying and the bear understood that. He turned and left! Ray and I went on a little farther till we hit the last ridge over and could look down on the knob where the caves are but again it was too late in the day to go to them. Too much heavy brush to make any kind of time going anyplace in that area by then, mid-1970s.

We talked about going back to Tombstone for years and Ray and I have done some easy traveling in the area – we located the start of the Tom Dow Creek trail and went out around the side of the hill where we can look down on the limestone. This will bear more looking into. However, over the years I have taken so much flack from some of my caving buddies about the Tombstone caves and not being able to get to them that I got one of my friends with a small agile plane to take me in to photograph the whole north side. We got a series of about 70 pictures that show the caves and tie it into areas we have been to and know how to get to. From this information some of our younger grotto members have now gone in and explored these caves and found another. It’s not the entrance into the basement of Tombstone we had hoped for, but it is a start.

Now I have a report that some hikers coming along the more or less trail from High Mtn. to Tombstone camped at the entrance to a cave....

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Tom’s Tenth Annual Tombstone Mtn. Thrashout! 5/21/88 by J. Wolff

It’s a long story, really, but I’m sure you will gather that soon enough..., so read on!

Many years ago Jim Kottinger and Ray Miller saw a double-barreled cave entrance on Tombstone Mountain. From a distance it seemed like a snap to get up there and have a visit. Little did they know that it would be many years before it would be looked at again....

This year SAG member Tom Hesseldenz said he’d join the U.S.F.S. Wildlife people (“Wildlifers”) in one of their Spotted Owl calling sessions, on Tombstone, only under one condition: that he’d have a chance to have a look at the (same) cave Jim K. saw and photographed from the air, early this spring. (Remember seeing Jim’s slide show at the March SAG Mtg.?) Anyway, Tom went down the mountain’s east side and found the entrances to this cave almost immediately. That was late in the evening of May 18th. Upon returning to his “owly” friends he happened upon a surface pit as well, on the opposite side of the ridge from the main cave. All Tom had a chance to do then was toss a rock or two into the pit and listen for the echoes of them crashing to the bottom. Of course, this was hard to keep to himself, so he called me the next day and asked if I would like to check it out. He had already talked to Jim K. about this rediscovery..., in fact, it wasn’t but a few minutes of phone calls by Claude and myself and a trip was on for the Saturday coming.... The news traveled like wildfire!

The crew was Tom Hesseldenz, Claude Smith, Mark Fritzke, Rick Boatwright, his friend John Stein, and myself. Assembling at the early hour of 5:30 was almost too much for some, as most didn’t sleep well the night before..., a real strong team, that’s for sure! But, when you are “stoked-up” for a deep cave, you’ll tolerate anything, right?

Once at the rock quarry, Rick wanted to try his dune buggy on the cat line at the very beginning of the jeep trail. After one unsuccessful attempt, we had to load up Rick, John and gear in my 4wd. Now Claude had to try too. This is where I really hoped he would make it, as I couldn’t imagine six of us, plus the gear, in one rig! He made it up fine, so we

were on our way. The rest of the trip was pretty uneventful, although not without its share of tense moments – you know where you sweat that the rig would roll over!?

Arriving at the helispot, we were surprised to find two someones there already! As we talked with them we discovered that it was Charlie Crackel and son Tom. Charlie works at the Shasta-Trinity Natl. Forest Supervisor's Office..., and he's a caver! In fact, he and Tom had been up there for three days looking for a cave lead that he got from my friend who got it from me!.... the old Freedom Of Information Act, eh? The fact is I had been trying to reach him at work to talk to him about joining our grotto and/or the NSS. And Charlie, being a busy guy and rarely at his desk, well..., was really hard to find. So, after swapping lies, we bade good-bye to the duo as they left for home and we were finally off on our little adventure!

Now each of us had a rope apiece (!), which in itself is heavy enough, yet we topped off our already heavy loads with lots of water, vertical gear, and caving gear, to where I was beginning to wonder if this wasn't a little overkill..., wouldn't you think? I guess we thought that if we ran out of rope (some 900 ft.!), that we would gladly come back at some later date and bring more! Great expectations....

Off we went, with Tom leading the way to the top. So, after three quarters of an hour, we finally reached the top. Traveling over (through?) four foot deep manzanita and white thorn for about a quarter of a mile, we then had full view of our objectives, still another quarter of a mile away! It took us another half to three quarters of an hour, thrashing our way through heavy live brush, then impenetrable dead brush, under a closed canopy of conifers, just to get to our first of two caves. You know, you really had to know your way and/or have a topo map and a compass or you could get really turned around.

While the eldest of the group rested, the rest of the group sounded the pit, to everyone's delight and pleasure, then the youngest rigged the first rope out of someone's pack. Made no nevermind that it was lunch, no sirree! They had to look at this cave, and **right now!**

Mark wasted no time as he freeclimbed down the pit and came out, to everyone's amazement, from another entrance below! Rick, Tom and Claude went in next to check out all of the other remaining leads. John and I watched while everyone scampered over every dirt-covered ledge, only to go up smallish, steep tubes to find yet another smaller entrance or skylight-like window. So, while I coiled up the rope, nearly everyone else took off over the ridge to the main cave. It was certain that this next one was THE CAVE of Tombstone Mtn. "Kele's Sweathouse", the cave of the Wintu Indian legends.

Well, the way things went I found the guys sprawled out on the cave floor, just like several bumps on a log! I thought for sure someone would have rigged the rope and gone down by now, but no! I guess visiting that last "bottomless" pit took "the steam" right out of their enthusiasm, and there they sat, waiting for some brave soul to venture on down and report back the "bad news"...! So I took the initiative and got ready to go down; besides, I carried this rope of mine for a reason, to explore that legendary cave of Tombstone!

Several photos were taken, by the always-ready Tom and Mark, as I began my rappel. Had a time with the coil of rope as I remember, but was able to keep untangling and kicking it on down the winding, steep slope of the pit. I guess this drop could have been done by free climbing, if it wasn't wet and muddy. Anyway, after reaching the bottom of our "bottomless" pit I got off rope and went on down to look at the drain, just to see if the cave went on further, and it did. I then hollered for the next person to come down. I figured that the survey party would be next to come on down, as they were organizing that part when I left them. Nope! I guess what happened was when I got off rope and took my time getting back to report the cave ended, when I called for the next person (I thought that at least somebody else should see the extent of the cave, now that we spent 7 or more hours getting there!), the survey was dropped in favor of exploring the cave. Oh well, so, with a half-mapped cave, we had the whole gang, standing room only, wanting to see the rest of the cave.

Continued on next page

There wasn't much more to the cave, but the little room beyond was nicely decorated with soda straws, some a good ten inches long. After a brief visit by all, we departed up the rope one by one.

The trip back to the trucks was uneventful, we even cut off some time in the bush, by using the meadow and the flagged trail that the "Wildlifers" from the F.S. use. It was dark when we went down the jeep trail.

All in all we found out that caves up on tombstone do exist and appreciate the rugged country more. Will we return, you ask? Yes, some of us at least will keep coming back!

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RAINY CAVE, AGAIN! 7/16/88 by J. Wolff

All I could remember of this cave was that it was nothing but crawling..., but Steve Knutson assured me that since my last visit the cave's character was changing (for the worse if you ask me!) and the passages were bigger where he left it last too.... So, with that, and the possibility that it might connect with the cave that Bob Richardson found the week before, I agreed to give the cave another try – on the first weekend after the NSS convention.

I had remembered how horribly destructive the passages were on my coveralls, so I bought a new French-made pack cloth caving suit (that should wear better than a standard set) plus, I also planned on wearing a lot more warm CLOTHING under the suit, four layers in fact – in order to keep from getting cold during long waits and surveying in those small, breezy tubes of the cave.

Rainy Cave, by all definitions is a masochist's dream come true! With dimensions that deny the heavy set explorer, it has passages lined with popcorn mostly, or the tubes just get modified enough to let your elbow or your knee get stuck! And many times your cave pack gets stuck or dropped, just out of reach! I know, because Steve carried my pack through a lot of the cave, and had the same trouble! Boy, is the cave tight! There was one place that a chest compressor-like squeeze even flattened my carbide tip brush against my chest bones! I believe that place is called the "Fatman's Filter", so what does that make me, I wonder...?

To make a long story short, we got to the end of the last push into the cave, Steve dug some with his hands and announced that we could continue. We then mapped several hundred feet of fairly roomy crawls. And after that I was ready to leave, so Steve took off briefly, just to see if the cave continued one way, and I checked in another direction (to keep warm)! Our suspicions were confirmed, the cave goes!

There were lots of leads to check out along the way in the cave, and I believe it will only be a matter of time before someone finds the passage that leads to Bigfoot Cave.

P.S.: Two weeks later, Claude Smith, Jake Turin and Steve went on further to find another pit in the cave and another entrance; thus saving themselves several hours return trip to the surface. The cave still goes!

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UP ON THE TOP – August 10, 1988 by Tom Tyler

The only location I had was an overheard, “Way up on top,” so when I woke up around 6:00 a.m., that’s where I headed. Roberts Mountain is a 10,133 ft. limestone-capped Shangri-la, as I found out on that beautiful morning. I had pulled into camp in the middle of the night and had missed the splendor of where I was – Central Nevada.

As I started up the mountain to the first obvious hole, a fairly large doe jumped up and ran a few feet then stopped as if to say, “you’re not going the right way”, but I continued climbing. Of course, the first, and every obvious lead all the way to the top proved fruitless. I must have had my head into 30 holes on the way, and at least that many on the way down. Parts of the Roberts Mountains have been declared wilderness by the BLM and the posted sign stated some activities may be restricted. I don’t believe exhaustion is one of these restricted activities. But, if it is, I am extremely guilty. The two larger caves I was looking for, Snow Shaft and Weasel, eluded me this time, but I shall return.

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THAT OLD CAVE by Tom Tyler

I hadn’t seen Kelley in about 12 years and, after I mentioned the cave, it was old times again. My old high school friend has lived in Manhattan, Nevada for almost nine years and finally, I made it out to see him and Northumberland Cave this past Fourth of July. Kelley and I were both raised on the Comstock, Virginia City, in the late fifties and early sixties which is where we developed a mutual interest in the underground and spelunking [i.e., caving – pdf ed.]. Kelley has also worked as an underground hardrock miner and, like myself, has long since discovered the advantages of electric lights.

My old Ford pick-up was packed full and I was excited about seeing this former “point of interest” cave, as it had been listed on some old Texaco road maps; however, since so many people had tried hard to play it down as “not much,” “vandalized,” and “that old cave,” I guess I expected not much.

After a short stop in Belmont where relatives and friends were also spending the weekend, we headed toward the cave. I believe someone in Belmont said as we were leaving, “I don’t think that cave is still there anymore.” Well, the cave is still there and we really enjoyed the trip.

Northumberland Cave is a real maze of leads. We spent about two hours crawling around and looking at names and dates of the cowboys and old-time residents. Well worth the trip and I plan to return sometime.

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NOTICE: Mt Shasta Ranger Dist. Of the Shasta Trinity National Forest is offering certain areas in Sec. 2, T.38N., R.4W (Mt. Diablo Meridian), for timber sale. The F.S. has asked the grotto, through our member Max Tenscher, if anyone knows of caves in the limestone outcrop on N. Fork of Hazel Creek, give them a call. Mt. Shasta Ranger Sta., 204 E. Alma, Mt. Shasta CA, zip 96067, ph# (916) 926-4511 or 926-3781. Otherwise, someone ought to check the area out some day. A good post-grotto meeting field trip possibility....

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THE (unnamed, but) SIGNIFICANT COMPLEX – IT STILL GOES ON
[Freudian Complex – pdf ed.] by Ray Miller

On Saturday June 4 we had a break in the weather in what has become protracted winter. Some frantic Friday night phone calls produced a six member expedition to continue our exploration and mapping of the Significant Complex. This is a complex of lave tubes in the Medicine Lake Highlands. See SAG RAG Vol. 6, No. 6 (Nov.-Dec. 1987).

This was the first visit to the complex since we had been snowed out around Thanksgiving time. Doing his usual superb job of navigating Ray Miller got us to the proper parking place (he wrote that), and then there followed a discussion regarding directions. About the only direction we could agree on was UP. Through a combination of trial and error, luck and witchcraft we finally found the last surface benchmark we had set on our previous survey trip.

At this point we split the expedition. Jim Wolff, Jim Kottinger and Clarence Horner continued our exploration of the area while Liz Wolff, Evelyn Horner and Ray Miller picked up the survey where we left off last fall.

The survey team didn't get very far in distance, but they accomplished a great deal. The left hand tube was surveyed to within a couple hundred feet of its junction with the right hand tube. This means the center tube combines with one of the other tubes up flow. A good candidate for this junction is an easy hands and knees crawl coming into the left hand tube. It looks like the length of the left hand tube will be in the neighborhood of 6,800 feet. This may increase if a search of the up flow area reveals more tube. We have yet to find the origin of this flow. A fifteen year old study gives a source, but we feel the findings of that study should be verified.

All the main passage surveyed is walking passage except for 50 feet or so of duck walking and a 4 foot section of easy crawl where a rafted lava block stuck in the tube and was welded in place during the eruption.

While we solved the question of the lower end of the left hand tube we have presented ourselves with a new mystery. There is a very large tube (maybe 40 ft. in dia.) coming into the left hand tube from farther left near the junction with the right hand tube. To date we have found no evidence on the surface that this tube exists. Just like topsy this system continues to grow.

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Dixie's Back in Town or Hanging Around with a Batlady
by Ray Miller and Liz Wolff

Dixie Pierson was back – the world class bat biologist from U.C. Berkeley. The only person known to science who needs to sit on a pile of bat guano in the dark periodically to get a "bat fix," (and the only one to get a 2-day Oreo hangover). I have never visited her home, but I'll bet she has a rather untidy closet floor. And when she travels she is worse than a new mommy taking out her baby, two tons of gear to find an 8 gram (1/4 oz.) critter.

Her trip was a hurry-up affair. She had to get to the lava Beds N.M. before their fall personnel changes, and while in the area she wanted to check the nursery colonies of *Plecotus* bats we had reported. The study she is carrying out for Calif. Fish and (non-)Game is a long-term study to determine population trends. Good news for bat finders, Dixie reports no cases of Histoplasmosis in California.

If you think that regular lights impart an eerie glow to caves try using a red light and moving through a cave. The red light doesn't disturb the bats the way a white light does. On Friday August 19, using a red light we located a maternity colony, then left to set up night

vision equipment that was developed for use in Vietnam (at least something good came out of that conflict). It's a fantastic system, there's only one minor flaw – the price tag is in the rather exclusive neighborhood of 8000 bucks. Sitting in the dark, watching the eerie green glow coming from the night-scopes, Liz and Dixie counted 304 bats exiting, with more flying in the cave that never came out. The young learning to fly spend 2-3 weeks careening about the cave before flying out into the wide open spaces.

Monday August 22, was a long day. We started by checking a colony south of Medicine Lake. There were about 200 bats. After eating lunch in a cool cave, we checked it and another possible one for bats, drawing a blank in both places; finding only moth wings to indicate that bats had been there. *Plecotus* are moth-eating bats and leave the wings behind on the floor. A messy habit, but useful for those trying to study bat habits.

We ended the day north of Mt. Shasta where we really hit the jackpot. The bats started flying soon after 8 pm, and it was 10 or so when we finally quit counting. Our educated (?) best guess was a bit over 700 bats, with an accurate count out of the question due to the size of the opening. In any case a super large batch of bats. The mothers were flying in and out trying to entice their young out to hunt bugs. We had to subtract as well as add bats. Just to add to the confusion the kids kept getting into the traffic pattern and shooting landings, and some bounced off the walls as well, and indulged their curiosity about us.

It was after midnight when we dropped off Liz and got back to my place, and you'll never guess what Dixie found swirling past a yard light, yep, bats. So there we were crawling around in my storage shed and attic, where the resident owl was saying 'DUMB' instead of WHOO. (Dixie thanks those who have reported bats, and Wayne Smith who helped verify colony locations at the last minute on Thursday.)

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SONIN 60 ELECTRONIC DISTANCE MEASURING INSTRUMENT
Users Report by Ray Miller

I hear through the grape vine (Oregon Grotto SPELEOGRAPH via the CAL CAVER) that Bob Richardson gave the Sonin 60 Electronic Distance Measuring Instrument (EDMI) "rave reviews" (Well, actually Bob got called by Charlie Larson, who thought that Bob used the instrument, but he didn't – Bob got his info. from Ed Lappin of Colorado. – ed.)

The Sonin 60 EDM I works like a box of bats with a calculator. An ultrasonic pulse goes out, the echo is timed and converted to distance. As long as the "read" button is pressed the EDM I updates four times a second. Distances in feet or meters can be added, subtracted and multiplied to give area and volume. So far great, but the transmitter is not directional enough to be an asset to cave surveyors. A projection or undulating surface makes the thing go ape, probably due to extra bounces of the signal. As each sample of the timed return is displayed, differences of over 20% are often encountered. I have had good results in caves with flat walls, but these are hard to find sometimes. The Sonin 60 really comes into its own getting ceiling heights in large lava tubes.

Sonin also produces 150 which uses a slave unit at one station a master unit at another. Its range is 150 feet and its price is \$134.95. Calling the company convinced me this was also unsuitable for caves. They claim obstructions within 35 degrees of the line-of-sight will confuse the instrument. Sonin can be reached toll free at 1-800-223-7511.

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BASIC CAVE PHOTOGRAPHY by Dick LaForge

The purpose of this article is to introduce the beginner to the special equipment and techniques used to photograph caves. I will assume that you, the reader, are familiar with camera operation, and know about focusing, f-stops, depth of field, framing, film and formats, and other basic camera operations. I will assume that you are using a 35 mm camera in "typical" caves. Unusual challenges such as very wet caves, very large rooms, or different formats need specialized techniques beyond the scope of this article. But the basic techniques are by their nature very flexible and can adapt to most situations. The information given here will enable you to take salon-quality photos, to truly capture the strange beauty of the caves we love.

I will mention brands or models of equipment occasionally. This is because I know from experience that they work. It does not mean they are the only or the best. No two photographers use all the same gear.

The Camera

There is no point in debating different brands of cameras. Any good camera made since about 1960 can take fine photographs. You need one on which you can manually set shutter speed, aperture, and focus. It must have a pc (flash cord) socket or hot shoe so an adaptor to pc can be put on it), a cable release socket, and a "B" setting. The "B" setting keeps the shutter open as long as you hold down the shutter release.

Most of you will use an SLR. They are very available and have many advantages. What you see through the viewfinder is what you will get. The viewfinder is adequately bright. You can change lenses. Mechanical cameras from the 1960s and 1970s are excellent choices. They are tough and inexpensive, but some are too heavy for cave use. One of the best is the Nikon FM series, which is still being made. Electronic cameras are quite reliable these days, but are susceptible to moisture damage. Most of their automatic features are of no use in caves. If you do go electric, the one feature that can be very useful is TTL (through the lens) flash metering. The idea is that the shutter closes automatically when the right amount of light has gone in (assuming there is enough light). This is very useful for close-ups, where you must "overexpose" when using the guide number system according to how close you are. In fact, you can dispense with all the exposure calculations and charts for all single and synchronized multiple-flash shots, and can get accurate exposure with long exposures in dim light, natural or carbide (use tungsten film for the latter). For non-synchronized multi-flash shots, however, you still need to use guide numbers the old-fashioned way.

Rangefinder cameras offer small size and light weight. Except for the Leica and a few others (all expensive) you are stuck with one lens. And with close-ups you will have to compensate for parallax when framing. Viewfinders are typically dim, and focusing with the rangefinder is difficult. The discontinued Rollei 35 SE is an example of a very compact rangefinder with a fine lens. Needless to say, the modern auto-everything rangefinder cameras are not useful in caves.

The grit and hard knocks found in caves are rough on cameras. If you are not super careful with packing and cleaning you will be better off with an older, less expensive model that you can afford to replace.

Continued on next page

Other Equipment

Besides your camera you need a few other gadgets. Obviously you need flash equipment, but that is so important that it will get its own section later on. In addition, the following items will make up a powerful and versatile photography kit.

The hottest item to reach cave photography in recent years is the slave. This is not the mythical uncomplaining helper – or maybe it is. The slave is a small electronic light-detecting device you attach to a flash. It fires the flash when light from another flash hits it. You realize there are two situations where multiple flashes must be synchronized. If you are hand-holding the camera and the flashes are more than about 1/25 of a second apart, you will almost certainly move the camera between them and get multiple images. Or if you have something in the picture that moves, such as a person, separate flashes on that person separated in time will cause a multiple image. The slaves you can buy in photo stores are designed to work with electronic strobes, and they work very well. They do have different sensitivities, but a strobe will trigger another at least 100 ft. away. They will trigger by bounce flash too, so the slave does not have to be directly visible to the triggering strobe. Any cheap (\$20-30) one will do the job. Ones with the pc socket are the easiest to use. I use the Sunpak slave, it is sensitive, reliable, and black – it is not obtrusive if it gets in your pictures. Some strobes come with slaves built in. These are very reliable, but not as versatile.

A difficulty with these slaves is that they are not readily set off by flashbulbs. Cave photo expert Roger Bartholomew has designed a slave that is triggered by bulbs. It will also set off a bulb, but not a strobe, when triggered by a strobe. He will sell you one in kit form or ready to use. For details, see Flash, Vol. 1, No. 2 and Vol. 3, No. 2. They really work.

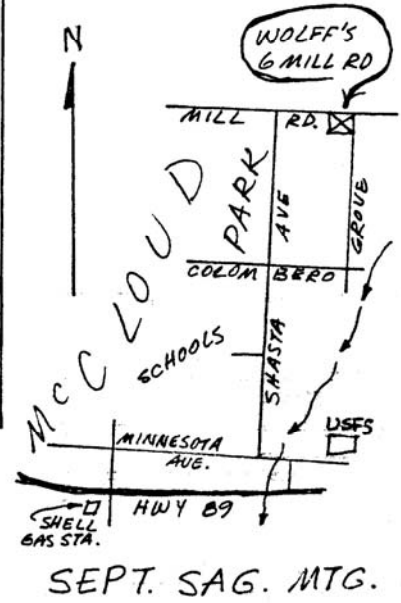
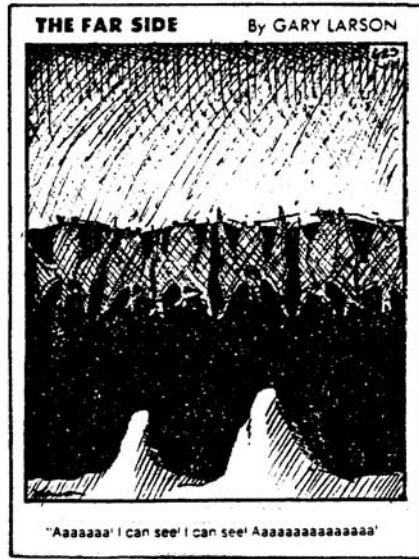
Slaves keep you from having to use long pc cords and pc splitters, but it is still essential to have a 3-5 ft. pc cord for synchronizing the flash with the camera. The first step towards better cave pictures is to get the flash away from the camera. Pc cords can be unreliable. Keep dirt out of the ends – use your carbide tip cleaner as a brush. Also, use a pliers to punch the outer lead of the connectors a little to give them a tight fit.

Slaves also often keep you from having to use a **tripod**, by synchronizing flashes when you would otherwise use a tripod and set off a series of flashes. However, there is still a circumstance that requires a tripod. This is the big room or multi-flash shot where you have to set off a series of flashes because you do not have enough slaves or people. They are also very useful in careful framing, especially in long-distance shots where the light is dim. Needless to say, your tripod should be light, but it should also extend to at least 3-4 ft high. The short table-top ones are not much use. The Vivitar 99 is popular. It extends to 55 inches, but collapses to only 10. I have found it very useful to replace the tripod head with one of the ball-and-socket types. Now it is much easier to quickly get the right angle and not have the handle stick me in the eye. You can get one from Spiratone for \$14.

You will want to have a cable release, the kind with the screw lock. Its main use is to hold the shutter open when using bulb setting with the camera on the tripod.

“Do what I say not what I do” Dept.: It would be very useful, especially to a beginner, to bring a small notebook and pencil. If you write the distance and camera’s settings for each shot, you can diagnose problems you have with your pictures.

(Continued in next two SAG RAGs – more about Cave Photography.... ed.)



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