



# The Cascade Cover

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CASCADE GROTTOS N. S. S.

Vol. 13 #9



PROPERTY OF  
WINDY CITY GROTTOS

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Editor: Curt Black

September 1974

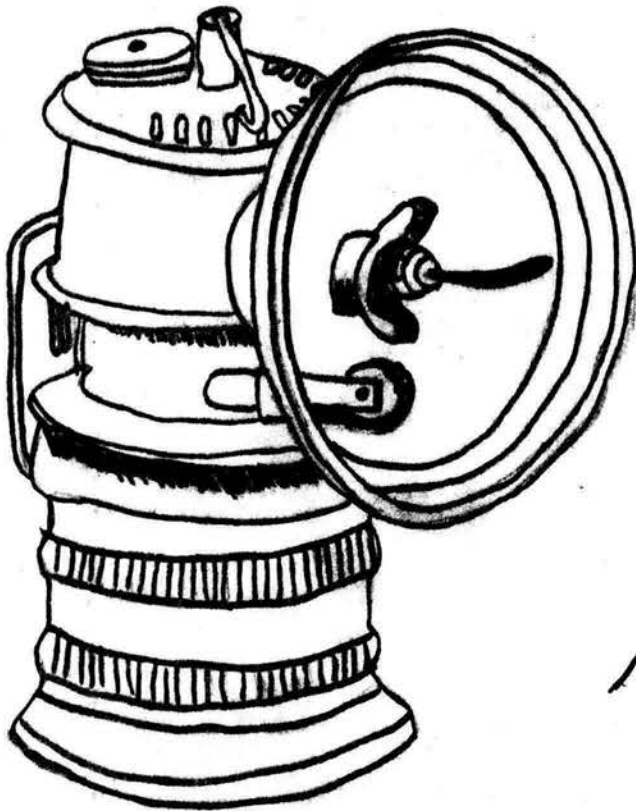
AND GOD SAID

$$\nabla \cdot E = \frac{\rho}{\epsilon_0}$$

$$\nabla \cdot B = 0$$

$$\nabla \times E = -\frac{\partial B}{\partial T}$$

$$c^2 \nabla \times B = \frac{J}{\epsilon_0} + \frac{\partial E}{\partial T}$$



AND THERE WAS LIGHT

P# 21-10V

COMING EVENTS

- September 16. Regular Meeting, 8:00 PM, Camp Long, West Seattle. Come Early
- September 20-22. Canada - Vancouver Is. Call Black 564-0988, LA2-9817
- September 27-29. Papoose Cave, Id. Best Possible time of the year to go, contact Black.
- September 30. First day of classes U of W. (I will cave no more forever - ed.)
- October 11. The October meeting will be held at the home of Dr. W. R. Halliday, 1117 36th Avenue E., Seattle Wn. The meeting will feature the slide series, "Mans Impact on Caves", by Charles Larson, of the Oregon Grotto, and will start at 8:00 PM Friday, the tenth of October. The meeting will be held in West Seattle.
- October 12-14. Columbus Day - Plan A Trip.
- October 18. Oregon Grotto Meeting, OMSI rm. 100, 7:30 PM, Portland.
- October 19. Cascade Grotto sponsored, Oregon Grotto Spaghetti Feed! THIS ONE WILL COME OFF 6:30 PM Charlie & Jo Larsons House, 13402 NE Clark Rd., Vancouver Wa. Bring your slides from this summers caving. \$1.50 for all you can eat. BYOB.
- October 26-28. Veterans Day - Plan a trip
- November 28 - December 1. Oregon Grotto Hells Canyon Trip, Call Black.
- December 14. Cascade Grotto Christmas Party -- Much more on this later.
- December Sometime. Richardsons to Texas
- December 31-32-33... New Years Party at the Larson's.
- February 17. Washington's birthday weekend, NWRA Educational Seminar, Seattle

NEW MEMBERS

- Russel Patterson, 120 Casino Rd. W., Apt. 2-F, Everett, Wa. 98204  
Ph. 353-4792
- Robert Tower, PO Box 5, Mercer Is. Wa. 98040. Ph. 232-0377
- Tom Miller, Wind Cave Nat'l Park, Hot Springs, S. Dak. 57747  
Ph. 727-2301
- Earl & Ellen Benedict, 8106 S.E. Carlton, Portland Or. 97206
- Mary White, 1310 NE 134th St. Vancouver Wa. 98665 Ph. 573-3783
- Charlie & Jo Larson, 13402 NE Clark Rd. Vancouver Wa. 98665  
Ph. 573-1782



## FEATURES

### I Can't Believe I Swallowed the HOLE Thing

by Robert Richardson

Bottomless pits have fascinated me ever since I can remember. So, when I read of one in Tacoma (!!!) on May 29th, I was overjoyed to say the least. In fact the only caving competition in town (Alex & Curt) had gone to Dynamited; leaving the field wide open to Doug Walters, and myself. The only problem was to gain access to said fantastic pit, and gain instant fame as a Northwest super colossal pit finder. I immediately called called up Mr. Johnson, whose address and name were in the article Diane had kindly pointed out to me.

As I talked to Mr. Johnson, it became clear that various other weirdos, mountaineers, and journalists were also fascinated by bottomless pits, and had already aroused some suspicion, and skepticism in Mr. J. However, using my best "company manners", and throwing throwing out NSS (the long version), carabiners, ect. I convinced him that we were The ones to safely and efficiently check out his "mystery hole. (I found out later that Curt had already set up a date to explore the hole in his usual meticulous manner) Anyway Doug & I made a date for 10:00 AM Saturday, and proceeded to the hole with ropes, Jumars, and carbide lamps. Mr. Johnson allowed us to remove a large cover and peer into a 3' diameter hole which widened out to 5' and had 162 tires in it - visible about 10' below the surface. I proudly showed him our equipment, and he, duly impressed, still insisted on release of liability forms before we attempted entry. So, we proceeded to Trout Lake, Sunday where Jerry Broadus, Curt Black, Alex, and Bob Brown were amazed at our on-time arrival. (As I remember it, we were still asleep -- ed.) I showed the clipping to them, and Curt informed me that he had an appointment to enter the hole on June 13th. Luckily, Friday the 13th fell on a Thursday that week -- So, Doug, and I arrived at the proper time, while Curt dallied in Seattle getting traffic tickets for an hour, and a half. While Doug, and I assured the Johnson's ~~News~~ Photographers, and Spectators that Curt was a most responsible, and punctual person, we discussed, and rigged the pit; still unable to enter because Curt had the release forms. While waiting, we used an old hook that Mr. Johnson said toilets used to hang on, and grappled out several tires.

The first interesting content of the hole was a 2' square of concrete 4" thick with a 3" square hole in the middle (Later obviously a well cover with a hole for the water pipe) At this time it was called, "The First Wheel".

The second interesting thing to turn up was that most of the tires were on rims, making them slightly larger than the slightly oval concrete entrance to the glory hole. A 10' section of 2" pipe with a piece of chain was brought to bear as a lever and we removed the 2 or 3 tires I managed to hook.

Curt Arrived with the forms. After posing for a photo that I never dreamed would be in the paper, much less the front page, I gingerly descended onto a springy pile of tires, and tied off in case the bottomless pit got hungry again. I started hooking tires while Curt, Doug, and Mr. Johnson perfected the chain, lever, and pulley system for raising and removing the tires.

After what seemed like hours in a typical Washington hole (wet & muddy), the system started working smoothly, and by dark we had raised about 75 tires. Meanwhile they only dropped one tire (not a direct hit - fortunately), and about 10,000 mud globs on my hard hat and face. With exhaustion, wet, and cold setting in (Mr. J, and Curt were exhausted - I was wet and cold), we decided to call it a day. The News men had left when it became apparent that we weren't going to reach the mysterious metal plate that Mrs. Johnson assured us lay below only 87 more tires. So, they didn't get to see me get "Hauled out safely" (TNT Jn. 14, front page) Actually, my trusty Jumars, and legs hauled me out in more or less one mud covered piece.

Intrigued by all the tales of steel plates, disappearing tires, and endless tunnels, we made a Sunday Noon date to remove the remaining tires.

Everyone; Curt, Doug, and I... 12... Sunday

Everyone, Curt, Doug, and myself arrived relatively on time Sunday, and being no dummy, I loaned Curt my Jumars, so he could go down, and I could drop tires, mud and Saint Bernard (expletive deleted) down on him.

With no photographers present, but a crowd that would have done credit to Floyd Collins, Curt dedended for his subterranean share of the great adventure. We improved the lever, and chain with a carabiner, and with only one ice cream break (thanks to the Johnsons) we managed to clear the upper 32' of the bottomless pit. Lo, and behold, it had a bottom; 3" of water over a sandy fill, with nary a steel plate in sight. By this time only the most stalwart spectators remained (there's a limit to the number of tires you can watch being wrestled from a hole -- as one anonymous observer said, "You seen one tire, you seen 'em all.").

To say we were crest-fallen, chagrined, or disappointed would be an understatement. So, not being one to give up easily (with a Tacoma depth record easily in his grasp -- ed.), after a barbeque, again courtesy of the Johnsons, I took the pipe - tied a parachute cord on - and dropped it with the hook tied to the cord. Naturally the hook came off, so I proceeded to descend and ram the pipe into the mud to make sure the plate wasn't buried in the debris. After ramming the pipe down about 8' I gave up. Sending the pipe up the pully (praying that they wouldn't drop that on me), I then left the hole for the last time.

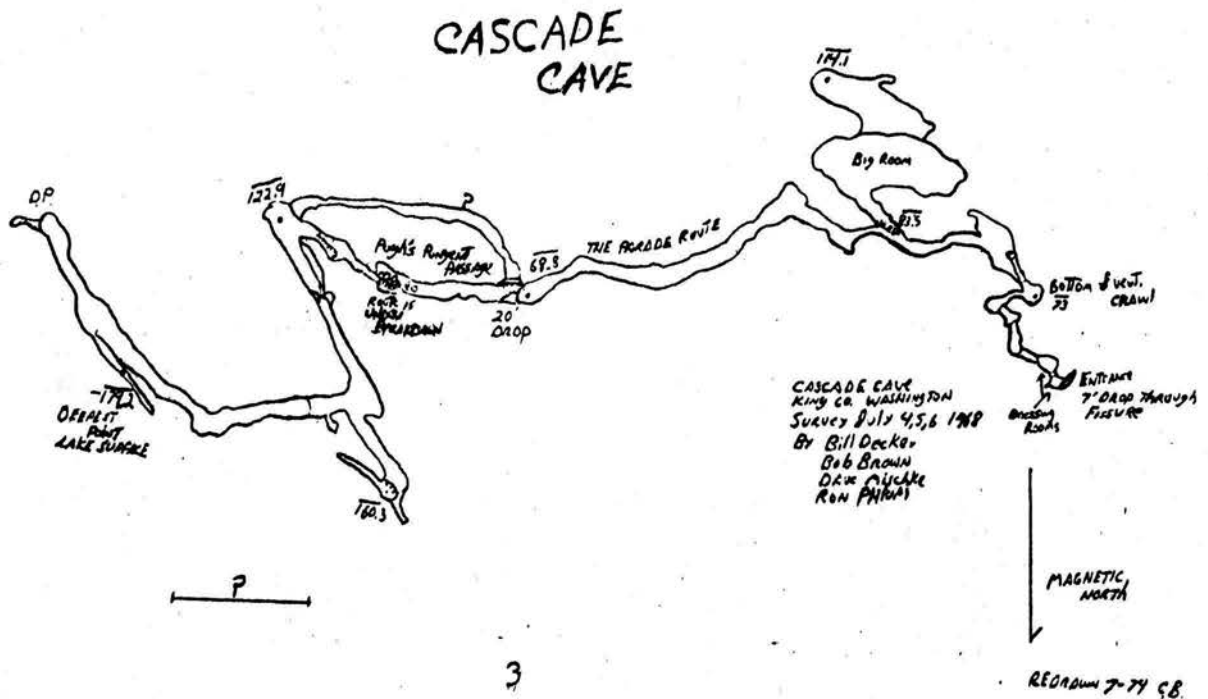
After extracting a solemn oath from Mr. Johnson that he wouldn't throw, shove, or push the tires back into the hole without calling us, we advanced to the rear, and regrouped.

To my great surprise, the Friday Tacoma News Tribune had a 2 picture, 3 column story on the first 1/2 of the extraction process. This story was picked up by the wire services, and eventually we were receiving grossly exaggerated clippings from as far away as Kentucky, and Louisiana.

By this time we had thought we had seen the end of the hole (Try and forgive Robert, he's quite a punster), when we're contacted by a photographer of Wilsons Productions who says he wants to shoot a documentary on how a simple backyard well made national news. He has already interviewed Curt in Seattle, me in Tacoma, and wants to film us going into the famous pit as soon as can be arranged.

If the film develops according to schedual, we may get it for the X-mas party.

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TRIP REPORTS

Cascade Gate Succumbs to Sledgehammer By Stan Pugh

One month had passed since our last abortive attempt on Cave Ridge so we were determined to make it to the top on the sunny Sunday morning of July 21. Curt Black, and Rod Crawford had only three hours of sleep (Finishing up the Caver) when Tom Cunningham, and I arrived simultaneously to pound on their doors. Needless to say, the greeting at the door was somewhat less than spontaneous.

We began our hike at the Alpental parking lot about 8:45 and arrived at the Lookout Sink at noon. Not bad when one considers losing the trail and crossing several snow fields on the way up. The entrance to Lookout must be at least 15 feet under the snow, so we trudged across the flat, with crossed fingers, to look at the Cascade Entrance. Fortunately, the snow had melted back from the rock face exposing the entrance about six feet down. To our surprise the cave was gateless. After a quick lunch, we slipped into the vertical slit, and found someone had left a homemade ski rope ladder. After two hours of careful negotiating the squeezes and drops, we "bottomed" the cave. Yes, in case you were wondering, it was wet. In an hour we were back, looking up the entrance slit.....

"Rod, why don't you go up first?"

"I'm stuck.....I'm slipping".

"Watch me do it.....No, I'm not stuck, I'm just not moving very rapidly... ..I'm thinking about it.....Hummmmm, it seems to be worse than I thought."

"How did you do it so fast? I must not be eating right."

"Maybe you had better start digging at the side entrance."

"Empty your pockets!"

"Whew! I think I wrenched my back."

Silence.....

"#####" (Foul Language)

a yellow helmet appears, then disappears.....

"#####" (More Foul Language)

A helmet and head appear, then disappear.....

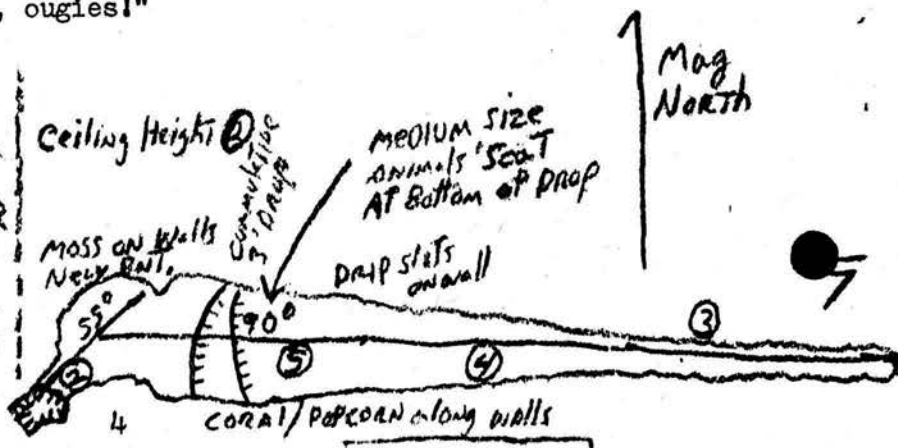
"#####" (You guessed it)

"Maybe I'd better not bring the Mountaineers to this cave after all."

The fatigued four then scouted the ridge for other caves. Only Hell Hole could be entered, and then only if one wished to enter with a sizable stream as a companion. A new cave (?) was discovered by Rod Crawford just above, and to the South of Huckleberry Cave, but since we did not have a light along we couldn't go more than about ten feet into the narrow passageway. On the way back to Cascade Tom spied something unusual under a tree..... sure enough, there was the bucket gate that was on Cascade, along with a five pound sledgehammer (single-jack -- ed.). "Sherlock" Cunningham picked up the devastating weapon with his handkerchief so as not to mar the fingerprints. The weapon will be displayed at the next meeting.

We then loaded our packs and headed down, spotting only a shaggy marmot just whistling away....."See you later, ougies!"

GRADE 3 SURVEY OF UNNAMED CAVE  
 FOUND BY ROD CRAWFORD 7-21-74  
 MAPPED BY C. BLACK & R. TOWER  
 8-24-74  
 CARTOGRAPHY BY C. BLACK 9-12  
 TOTAL SLOPE LENGTH 18'



COMING OUT THIS FALL...

# THE GRAND KENTUCKY

## JUNCTION

RECORD ALBUM OF THE 1973 CAVE BALLAD

CONTEST WITH WORDS & CHORDS

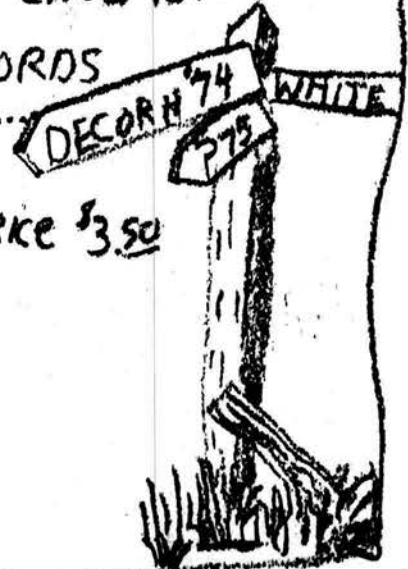
ALSO → A FEW COPIES ARE STILL AVAILABLE...

"WHERE THE RAIN NEVER FALLS"

FROM THE 1972 BALLAD CONTEST. PRICE \$3.50

### CONTACT

Bill ZARWELL  
1040 N. 47TH ST.  
MILWAUKEE, WIS. 53208



### Cave drawing is evidence of Crab nebula supernova

What appears to be the fourth independent record of the Crab nebula supernova in 1054 was discovered in a cave in northern California, according to Stephen Maran of NASA's Goddard Space Flight Center. The American Indian petroglyph consists of a drawing of a sphere and a crescent; the sphere is thought to represent the supernova and the crescent, the moon. The findings were reported at the Michigan State Meeting of the American Astronomical Society in August.

Maran told *PHYSICS TODAY* that the drawing came to light through the persistent efforts of Muriel Kennedy, the wife of the superintendent of Lava Beds National Monument, where the cave is located. Kennedy found the painting in July 1964 and after some research decided that it probably represented the supernova event. She

told Maran that she had been trying to interest scientists and science magazines in her find ever since then, but no one was interested.

When she saw an article in *Time* on an appeal by Maran and his colleagues, John C. Brandt and Theodore P. Steckher, for records of the Vela X supernova event, she wrote the magazine a letter that was forwarded to Maran. "A week later we were out there," he told us.

According to Maran, the probability is high that the picture does indeed represent the supernova. On the morning of 5 July 1054 in California the moon was in a crescent phase and only about 3 deg away from the supernova. This was confirmed by Robert Harrington of the Naval Observatory in Washington, who calculated the relative positions of the moon and the supernova to an accuracy of about one hour.

Another fact supporting the hypothesis that the picture represents a supernova is that crescents are extremely rare designs in American Indian petroglyphs. According to Maran, almost the only ones found after a search through thousands of records of wall paintings are two in Arizona that were discovered by William Miller of Hale Observatories and are also thought to represent the supernova event. Japanese and Chinese annals also contain records of the event. —SMH

From "*Physics Today*", October 1972, p.20.

Trip Report: Paradise Ice Caves Paradise Ice Caves  
August 3, 1974

By Kay McKinney

Perhaps one way to distinguish an ouigee from a spelunker is, only an ouigee shouts from the mountain top, "I made it!"

The opportunity to enter the caves was presented because I made my wish known. I learned in 1971, upon my coming to the Northwest that the caves were closed to tourists. Each year the same reply, "too much snow and unsafe." It was, however, my good fortune to meet Curt Black one evening in Dr. Hydes Geology class. The conversation, naturally for Curt, led along the lines of the geology of the Northwest, of caves, and the exploration of them. I casually made my wish known to him. Actually, not realizing that this young man is truly "a man of his word," I accepted as conversation his assurance that a trip could probably be arranged. He presented me the opportunity in the spring of 1973; a year and several months later I found myself in a group of six men: Larry McTigue, Curt Black, Rod Crawford, Les Nelson, Clarence Hronek, congenial all, and experts in the art of spelunking. Their leader, Charlie Anderson, having now made over one hundred trips into the caves, is the authority proclaimed by the rangers on the mountain, and has been designated to continue the exploration, surveying and mapping. Is it possible there may be as many as thirty-five miles of passage in the caves? Charlie says yes, and plans to find them.

Not completely inexperienced, having toured caves in southern Indiana, and more recently the lava caves of central Oregon, I expected total darkness. I had heard about the blueness, but had not realized its intensity. The beauty and glow inside an ice cave must be experienced to be appreciated.

But first the climb and hike to the entrance now used. I understand there are many openings; more being discovered with each trip. Ranger John Wilson accompanied us, and whether he was desirous of a quick tour, or whether other duties awaited his return, he, together with Charlie, practically ran up the mountain. "It's just over the next ridge" I heard several times when inquiry was made about the distance. Some of us decided to save energy for what was to come, to come, (still unaware of how strenuous the actual cave experience might be). John realized later, that although he may have kept Charlie at top speed up the mountain, the situation was reversed once inside the cave, with Charlie leading all the way. After leisurely preparing ourselves for the exploration, and awaiting Charlie, and Johns return, we entered the cave under the guidance of Clarence Hronek, and Curt Black. This was good. We could adjust ourselves, our clothing and adapt to the climatic conditions, and darkness. This tour took us to the Gravel room, and just beyond the waterfalls.

The briefing on what to expect: Underestimated! Some water, both dripping and perhaps a stream now and then... and some crawlways (a new word for me, I was soon to learn what it meant!). The streams are now the Paradise River, not just flowing but rushing to Puget Sound. And where the division (watershed) takes place, the B.C. Connection, the Stevens River starts gushing toward the Columbia.

Movement isn't too difficult where one can stand upright, because one can hop from side to side to avoid the deeper "streams" and even use the many stones to avoid the not so shallow pools. We later learned under Charlies guidance that this is quite impossible when the distance above ones head, **To** the top of the cave is just enough to keep one's face clear of the water. Now I can fully appreciate appreciate what is meant by a "CRAWLWAY". After a few hundred feet of this, one wonders if it is worth the effort. I learned some time ago that one never uses knees in climbing rock, or ice, nor in caves. Crawlways must be made an exception, or the answer lies in the use of knee pads.



I made the mistake of **keeping** my pack on my back. Experienced cavers carry a "cave pack" which they carry over the shoulder, or under the arm, and are adept at switching it quickly to keep it clear of the water, the ceiling, and the walls. This pack is indescribable, as I later learned, as it carries vital survival supplies. One of the most essential being the wherewithall for the carbide lamps. I experienced briefly what it might be like to be without that precious light. Mine was extinguished several times when I failed to keep it tilted just right to avoid the constant drip of flame quenching water. I was carrying mine in hand, and this in itself was a feat; particularly keeping it out of the ever present stream when advancing on "all fours". We experienced an elevation gain of about twelve hundred feet. This ascent was most noticeable, and one wondered what was ahead; hoping for other than more of the same terrain. At one point (perhaps two) I found myself again wondering of crawling was the only way. And Charlie had done it twice in one day!

I heard mention of the glacier. Not knowing what to expect, suddenly we could again stand upright; there it was! The most fantastic creations sculptured out of the ice, with a waterfall as a drapery. Clarence stood under the waterfall for a picture, adequate gear was his salvation. Yes, indeed this was worth the strenuous approach. For the time being, I even forgot the return trip for which the same route must be traversed. Of course we could continue on, and on, and on, perhaps even finding another entrance, but that was unwise unless surveying, and placing markers as we went.

There must be literally hundreds of passages, channels, and mazes that lead in every direction. Until experienced cavers have marked and explored further, I can understand the reason for the word of warning to those who may just wander into the cave, and become hopelessly lost. One could meander for days and not be found. Admonishment to those who try: If lost, sit in one spot and await rescue, preferably out of the wind, and away from active stream passages. (there are currently 13 miles of mapped passages in the Paradise and Stevens Glaciers, and surrounding snowfields. -- ed.)

We enjoyed the beauty of the glacier with its niches, formations, and exotic crystal spirals of ice and snow. The sedimentary bed, or a consecutive series of beds sufficiently homogenous or distinctive to be considered a unit, distinguishes each year of snow and ice. Our observation of at least 4 of these layers indicates that the development of the caves is not an overnight process! How an opening near the ceiling of the cave in this area could form is a mystery. A nearby boulder was not quite tall enough for Curt to see where is led. But, I am reasonably certain that one day soon, this too will be explored. Others will follow, and further discoveries will be made.

Charlie, being a photographer, and having his equipment with him in the glacier room, took some pictures. I now wonder how he managed to carry his camera a tripod, flash, and other essentials. The results, I must see to believe possible.

To egress, there is only one way. We follow our leader through the maze of crawlways. I mumble (perhaps to myself) it is not possible that we came this distance "on all fours". Several times I am sure, even Charlie is lost! But, no, he has cave sense (whatever that is). Actually only once did he take a wrong turn. Soon we were again on the right stream (river) survey markers, but the passage was still on the low side. It was here that I realized why Curt had attempted to teach some of us the words to the song, The Wild Caver, on our trip to the mountain. He was directly behind me, and I could hear him singing -- I tried humming, but it was difficult, under the circumstances. But then suddenly, the song did take on "its full meaning and humor". Then a word of cheer, and a few words of excessive, though not insincere praise, urged me on. Thank god for

my hard hat -- with proper protection, and attitude even the crawl was fun.

Somewhere there must be a surface, where one could stand upright without the benefit of a hardhat. It was illusive. Did I see Rod standing upright perhaps twenty feet ahead? If he made it, perhaps I could. Once again my light is out, but I think I can make it until I reach the last "tuck-under". I did! I must admit that not once was I frightened; always feeling the confidence of those in the group. From this point, not even an attempt was made to keep out of the stream because wet feet could now be endured with the thought of dry socks, and warm sunshine soon to be reached. Then the blue - the beautiful colors through the snow and ice - in the distance the entrance is clearly visible. The sunshine we missed, the sun having set, but the warm air soon revived us, and with dry clothing, and wrung-out socks, we glissaded down the slopes.

Curt is an excellent teacher, but I did not take his advise on techniques for glissading. He did a gliding step, ballet, and a somersault, and narrowly escaped a tree that inadvertently got in his way. (I'm sure that tree was drinking, officer. It didn't even try to miss me - ed.)

All in all, a tremendous experience, and one that I would not trade for money. I do appreciate the opportunity to have a first hand tour of the Mt. Rainier Ice Caves, particularly with the men who plan to further explore this extensive underground chamber, and wonder of nature.

Kay McKinney

+++++

### The TEN COMMANDMENTS OF SOG

Translated from the Original Pig Latin

- Thou shalt not declare a ~~quorum~~ in the absence of a minority.
- Thou shalt not move to adjourn.
- Thou shalt not hold a quiet meeting, nor allow one to be held.
- Thou shalt rule Robert's out of order.
- Thou shalt not admit foreigners into thy ranks.
- Thou shalt seek constantly to agitate.
- Thou shalt not be unattended on Jordan.
- Thou shalt not consider indecent the activities of a Talented person.
- Thou shalt not eat Pig.
- Thou shalt not challenge the word of a Canoe's Son.

Considering the above, could S. OG exist?

CB



## Trip Report-Cascade Cave-8/24/74

### Cave Ridge-vs-Tower, Black and McTigue

We left Eastgate at 6am. and drove straight to the Alpental parking lot at the base of Mt. Everest. Upon arriving, we proceeded to unload Curt's Co-op store from the trunk of my Volkswagen! I appreciate very much emergency gear, as long as there is a Curt Black to pack it all up!

We were served a delightful breakfast consisting of donuts and hot chocolate, courtesy of a new grottoite, Robert Tower. Robert is an interesting, friendly guy with a sense of humor. I would recommend that everyone get to know him, he is quite enjoyable.

A little after 7am., we headed for the trail. There was a medium cloud cover above us which quickly dissipated with the rising sun. The rest of the day was really beautiful and worthwhile.

Robert hadn't been hiking, since his younger days so, at first, he had trouble acclimatizing. Once adjusted though, he came through with flying colors.

From the summit of Mt. Everest (Cave Ridge, of course), we could see Dr. Halliday and his party on Mt. Rainier, a short distance away. We had a magnificent view of the snow-dappled Cascades, with majestic Mt. Rainier to the south.

Camp was set up outside the entrance to Cascade. We immediately proceeded to remove the large rocks Bob Brown and Curt Black so expertly used to seal the main entrance.

Curt decided to take Robert up around Hellhole to enjoy the scenery. I stayed below and continued to remove rocks, eventually breaking through, to my great delight. About this time, they returned and we had lunch.

Unfortunately, when Robert began his daring descent into the depths, he discovered some unusual curves on his body. These unhealthy projections would not allow him to negotiate an indecent, knobby rock! Out he came again with unbelievably good spirits.

Curt and I had better luck and while Robert waited outside, we anxiously headed for adventure. We descended approximately (50 ft.?), only to have our hopes dampened by an unannounced cave closure. Curt was leading and as he dropped down into what he thought was the main vertical passage, he came to a screeching halt. Unable to recognize these new surroundings, he hypothesized, there may have been a rock slide. Not quite so.....there was just a small 150 lb. grain of sand crammed liberally in the way!

Curt deftly tried lifting it, without so much as a budge. I decided to take a look for myself. After moving it about a foot, I gave up, since there was still too little room to get by safely. We both started up and out of the cave. So much for caving in Washington!

For those of you planning a trip to Cascade in the near future, I suggest you find out if it's open before rushing up there. You may need something to lift out that grain of sand!

On the way down, we became lost, as usually happens, according to Curt. We crossed the trail several times, only to lose it again. Eventually, we got our bearings and stayed with the trail the rest of the way down.

As we got below the rock slide area, on the trail, Curt's pack frame gave one final sigh and breathed its last. We were going to bury it, but Curt just couldn't part with his old friend. After a few quick repairs, we managed to resurrect it sufficiently for the trip down to the car.

Larry McTigue

More African Vulcanospeleology  
A letter from Jim Simons

I recently located another series of collapse holes in the Chyulu Hills from aerial photographs. A trip to the area soon proved them to be along a large lava tube. Unfortunately, I found it prudent not to explore too far back owing to very large fresh lion prints also going in but not coming back out. The collapse holes stretched over a third of a mile, and no doubt the tube is much longer. A branch passage also appears to lead off one collapse. We shall be back in the next month or so to mount a full exploration - lion permitting!

The Mathioni lava tube in the Chyulus which we have commercialized contains an enormous lava stalagmite. At the end of the tube there is a 4 ft. high secondary flow occupying the width of the tube, the surface of which is very rough, and more aa in appearance. On top of this is a conical pile about 10 ft. high, of welded arcuate lava droplets. A few feet above the pile, in the roof, is what appears to have been a hole now filled with solid lava. This part of the cave pahoehoe flow is overlain by a clinkery aa which appears to have entered the tube through a pre-existing hole, and formed the stalagmite. Perhaps we can claim the largest lava stalagmite recorded? (Could be - this sounds larger than the ones in Pillar of Fire Cave, and the one in the island of Cheju, Korea. WRH)

The same cave contains a wedged slab across a narrow canyon, rather like your lava ball in Ape Cave, but very angular. The underside of the slab has many chocolate-brown stalactites of a glazed appearance.

Corrections, and Additions to the Membership List

Russel Patterson, 120 Casino Rd W Apt. 2-F Everett Wn. 98204 Ph. 353-4792	R	8/75
Earl, and Ellen Benidact, 8106 SE Carlton, Portland Or. 97206	A	9/75
Tom Miller, Wind Cave Nat'l Park, Hot Springs S. Dak. 57747 Ph. 727-2301	R	9/75
Charles Larson, 13402 NE Clark Rd, Vancouver Wa. 98665 Ph. 573-1782	A	9/75
Jo Larson	SAME	FD/A 9/75
Mrs. L. Halliday, 1117 36th Ave E., Seattle Wa. 98112 Ph. EA4-7474	FD/R	12/74
Ross Halliday	SAME	
Pat Halliday	SAME	
Alex Sproul, 699 Towne Center Dr., Joppa Md. 21085	R	9/75

**CASCADE GROTTO**  
**MEMBERSHIP LIST September 1974**

NAME	ADDRESSES	PHONE #	Mem. Type	NSS #	Exp. Date
Charles Anderson	P.O. Box 12659, Seattle Wa. 98111	206-935-0136	R	10017	1/75
Charles Baker	Rt. 1 Box 327-E, Orchards Wa. 98622		A	11280	8/75
Chris Barnett	1406 NW Horn, Pendleton Or. 97801		R	13434	4/75
Curt Black	3530 Greenwood Ave. Tacoma Wa. 98466	206-564-0988	R	13537	9/75
Jerry Broadus	10019 Issaquah-Hobart Rd., Issaquah Wa. 98027	" 392-7944	R		8/75
Robert Brown	Rt. 2 Box 389, Battleground Wa. 98604	" 687-4470	R	8218	12/74
Newell Campbell	6605 N. Aprle View, Yakima Wa. 98902		S	8430	12/74
Wayne Cebell	Rt. 7 Box 686, Olympia Wa. 93506		S		6/75
Jack Charleston	19748 SE 34th, Issaquah Wa. 98027		S	10563	12/74
Charles Coughlin	1826 8th St., Manhattin Beach, Ca. 90266	" 543-1668	R		6/75
Rod Crawford	Burke Museum, U of W., Seattle Wa. 98195	" 546-3410	R		
Tom Cunningham	119 N. 193rd. St., Seattle Wa. 98135		S		12/74
Charles DeWitt	507 3rd. Ave., Box 360, Seattle Wa. 98104	" EA4-7474	R	812H12	7/74
William Halliday	1117 36th. Ave. E., Seattle Wa. 98112		S	12437	6/75
Russel Harter	2801 Sanborn Ave., Venice Ca 98291		R	8426	
Clarence Hronek	2002 St. John St., Apt. 5B, Port Moody BC Canada V3M2A2	" SK2-6494	R		3/75
Dr. Jack Hyde	2906 N. 19th, Tacoma Wa. 98406		R	10251	8/75
Frank Ireton	Box 356, Mountain Home, Id. 83647	509-235-6448	S	4553	3/75
Dr. Eugene Kiver	Geology Dept., EWSC, Cheney Wa. 99004		R		3/75
Ron Long	453 McMahon Hall, U of W. Seattle Wa. 98195		R	5230F	3/75
Barb Macleod	c/o Peace Corps, Belize City, British Honduras	206-565-1627	R		7/75
Kay McKinney	1442 Rainier Dr., Tacoma Wa. 98466	" 255-3406	R	15357	8/75
Larry McTigue	2719 Meadow Ave. N., Renton Wa. 98055	" R02-7585	R	14230	
Chris Miller	P.O. Box 80143, Georgetown Station, Seattle Wa 98108	" 542-2425	A	9390	
David Mischke	23817 104th Ave. W., Edmonds Wa. 98020	" LA3-6654	R		5/75
Les Nelson	9425 27th N.E., Seattle Wa. 98115		S	11561	12/74
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Russel Patterson	120 Casino Rd. W., Apt. 2-F, Everett Wa. 98204	" SK9-6211	R		3/75
Stan Fugh	2521 N. Proctor, Tacoma Wa. 98406	" TA4-1807	R		7/75
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Truman Sherk	Zoology Dept., U of W, Seattle Wa. 98195		R	8086	9/75
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Seattle Public Library                      Tacoma Community College Library  
Ohio State University Library              University of Washington Library\*

\*Note: Within two months the University of Washington Library will have available a complete collection of Cascade Grotto publications dating back to 1951.

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Philip Whitfield	4556 Pipeline Rd., Victoria B.C. Canada V8Z 5M4	604-479-1755	12901
Oregon Grotto Chairman:			
Charles Larson	13402 NE Clark Rd., Vancouver, Wa. 98665	206-573-1782	8734F

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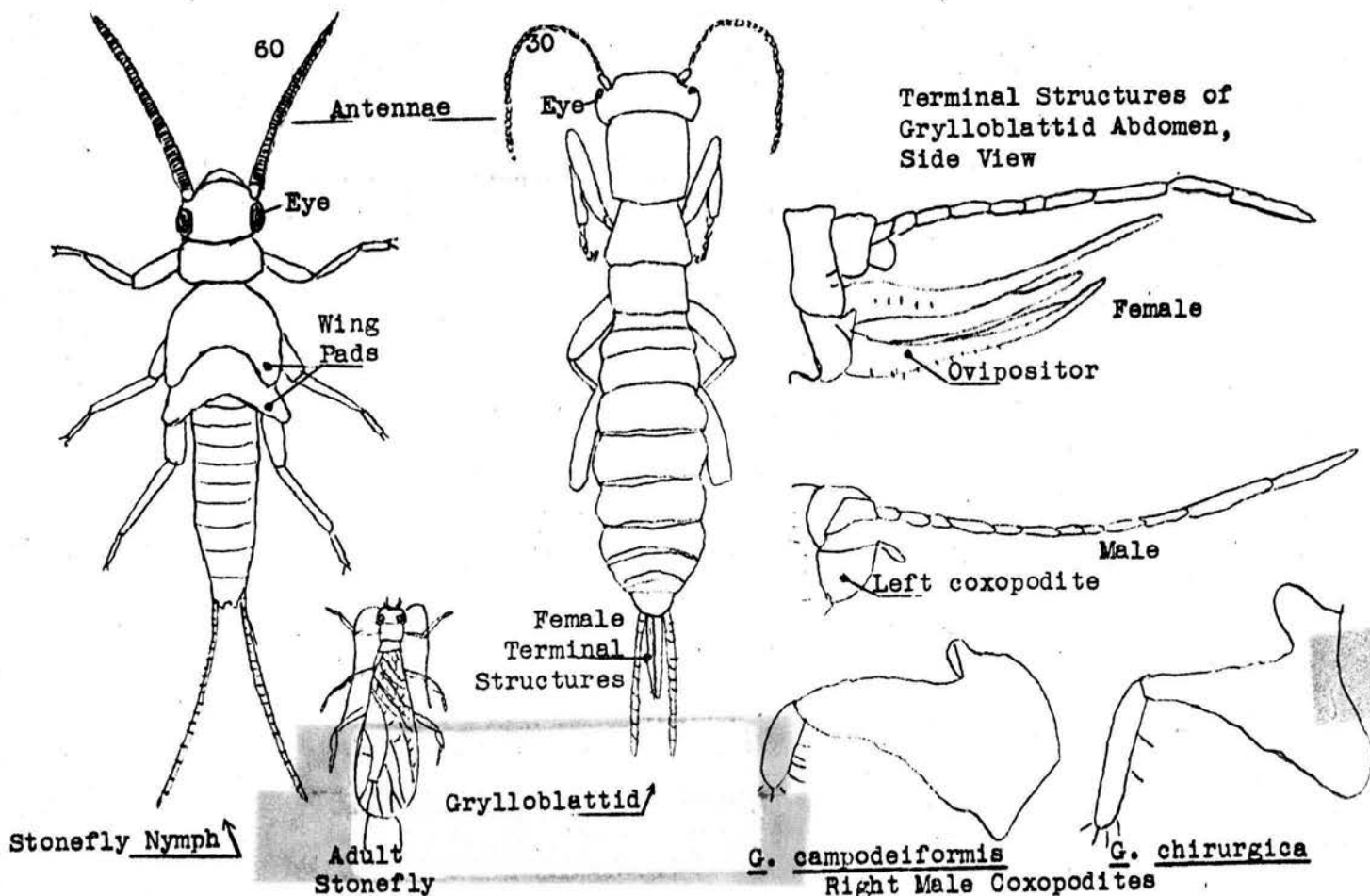
THE BIOLOGIST'S CHAMBER: Stoneflies and Grylloblattids

by Rod Crawford

It seems that Charlie Anderson has been inadvertently deceiving us (well, those of us who listened) about the insect fauna up at Paradise. His Grylloblattids, it turns out, are not Grylloblattids at all. On August third, I was able to collect one of the so-called Grylloblattids on a snowfield near the cave. To do justice to Charlie, it fooled me, too. But in fact, it was a nymph of the stonefly Richardsonia sorpta\*. The "Grylloblattid" pictured in IGS Bulletin #1, page 29, is a beautiful specimen of this same species of stonefly nymph.

One can tell Grylloblattids from immature stoneflies by noting the following characteristics, illustrated below: the stonefly has wing pads, backward extensions of two segments of the thorax that will become wings in the adult. The antennae of the stonefly have about 60 short segments; those of the Grylloblattid, about 30 longer ones. The stonefly's eyes are much larger than the Grylloblattid's.

Stoneflies are an order (called Plecoptera) of insects that have aquatic nymphs which change directly into the winged adult, by one molt of the skin. An adult (much out of proportion) is shown in the illustration. The nymphs usually have gills, of varying conspicuousness, and always live in cool running water. They are predators, and may leave the water briefly in pursuit of prey. They also leave the water to mature (e.g. the one I collected, which was ready to molt), upon which they fly away and mate. As it happens, the Paradise species is a very



\*I am indebted to Stanley G. Jewett, Jr., who identified the specimen.

rare one. Stoneflies are not known from any other Washington caves. They should be looked for in caves with running streams, such as Deadhorse and Newton.

The family Grylloblattidae belongs to the insect order Orthoptera, and is thus related to grasshoppers, cockroaches, and so forth. Only one genus, Grylloblatta, occurs in the New World. All stages (which look much alike) thrive in damp environments with low, nearly constant temperatures. This being the case, it is surprising that they have not been found in more caves.

So far as can be determined, they are scavengers, eating other insects that have been disabled or killed by the cold, insect parts, and other organic debris, possibly including some moss and algae. In caves, they may consume lava tube slime. Their metabolism is extremely slow and an individual may take several years to mature.

Two species are known from Washington. Grylloblatta campodeiformis occurs throughout the Canadian and Montana Rockies and in the North Cascades as far south as Mt. Baker. It is best adapted to a temperature of about 4° C., and is not known from caves. Ashley Gurney, in his 1961 description of G. chirurgica, says, "The specific name is adapted from two Latin words, meaning 'pertaining to the surgeon', with reference to the great assistance contributed by W.R. Halliday in obtaining specimens." This pat on the back is culminated by a plug for Adventure is Underground, making one wonder if there were not some sort of deal involved. In any case, the species is known from Ape Cave, Lake Cave, and Bat Cave in the St. Helens group; Big Cave in the Trout Lake group. Several species are known from both limestone caves and lava tubes in Japan; one is known from a fissure cave near Mt. Lassen, and another from lava tubes in Lava Beds National Monument, California.

In case anyone is interested in telling Grylloblattids apart, I have included some helpful illustrations (q.v.). The sexes can be distinguished by an examination of the structures at the end of the abdomen, which I have shown in side view for both sexes of G. campodeiformis. The males are best told apart by the shape of the right coxopodite, illustrated for both species; the left one, shown in the side view, looks pretty much the same in all species. The female of G. chirurgica has an ovipositor distinctly shorter than that shown for G. campodeiformis.

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