Vol. 13 #11-12

THE CASCADE CAVER

Official Publication of the
CASCADE GROTTO N. S. S.

VOL 13 #11-12

MT. BAKER

1974 STEAM CAVE EXPEDITION

CRATER VIEW: NOTE ENTRANCES ALONG CRATER WALL, LARGE SINK IN FERN FLOORED CRATER, AND FUMAROLES IN ENTRANCE AT LOWER NEAR EDGE OF CRATER. SUMMIT TO THE RIGHT, VIEW TO THE WEST.

PHOTO BY
JACK HYDE

THE CASCADE CAVER
Vol. 13, no. 11 & 12 Editor: Curt Black Nov. & Dec. 1974

Coming Events

Unfortunately people in this grotto haven't been telling their editor where they are going far enough in advance to be put in the caver. Actually most of the trips recently have been decided less than three days before the trip - So if you want to go somewhere call somebody up; THEY PROBABLY WANT TO GO TOO!!!!!

November 28 - December 1. Hells Canyon Mini Regional (Sorta) Visit to some small, but very pretty caves that I've never seen and have no business describing. Should be something for everybody, including a chance to (try and) yo-yo Hells Canyon (5000+ft. North Americias deepest Canyon) on Dave Jones's 300 Ft. Bluewater. Call Curt Black, LA2-9817.

December 21. Annual Cascade Grotto Christmas Party, 6:30 P.M., at Dr. Halliday's home, 1117 36th Ave. E., Seattle, Wa. See Notice elsewhere in Caver

December 22. Annual Dayafterthechristmasparty Trip that never goes. This year we probably won't go to the Steam Tunnels under the U of W campus. Ask about not going at the party.

December 31-32-33...New Years Party at the Larson's, 13402 NE Clark Rd. Vancouver Wa. Call Black, or Larson at 573-1782.

Try and ignore the effects of our winter blizzards, monsoons, and 3 hour daylight period, and go caving. If snowshoeing, ski-touring, or winter climbing don't appeal to you, go inner-tubing at Paradise; it's the next best thing to Lava tubing. Make your miserable Washington winter complete; GO CAVING!!

February 15-16-17. Washingtons Birthday Weekend - NWRA Educational Seminar Seattle, Wa. This is your chance to learn what's going on in Norhwest Caving; both in scientific, and general interest areas. We are currently planning workshops and talks in: Conservation, Summit Steam Caves, Bats, Malhuer Cave, Photography, Vulcanospeleology, Cave Rescue, Spelean-history, and Surveying. We should have registration forms ready soon.

THE CASCADE CAVER is usually the monthly publication of the Cascade Grotto, NSS. Send all material and comments, suggestions and subscriptions to the editor at the address listed on the back cover. Although it isn't always apparent, we try to have the Caver printed by the third Monday of the month, so try and get material to us by the first weekend. Trip reports, other materials, as well as new subscribers are actively solicited. The Subscription rate for the Cascade Caver is $3.00 per year. All unsigned material may be considered an oversight since the editor takes great delight in seeing his name in print.

MOUNT BAKER FIRN CAVES ---------- by Eugene R. Kiver

The system of caves underlying the snow filling the crater of Mount Baker was explored during the week of August 20. Other participants in the expedition were Steve Harris, Roger Hughes, Fred Munich, Jack and Donna Snavely, and William Steele. Grants from the Mazamas and the Explorers Club provided the necessary logistical support. The purpose of this report is to outline some of the hazards to be expected by those intending to further explore the caves.

A reconaissance climb during July, 1973, suggested that the cave system was not as large as the two plus km system in the crater of Mount Rainier. However, its magnitude and uniqueness justified additional exploration and study. A report of the 1973 reconaissance has been submitted to the I.G.S. Bulletin editor. The only other known caves formed by geothermal melting of ice in a volcanic crater or caldera occur at Mount Wrangell in Alaska and Mount Rainier.

We were pleasantly surprised to find a significant system of firn caves in the crater. Active fumaroles maintain three large openings on the west edge of the crater, one small opening on the north, and a large entrance on the east. Access to the caves is easiest from the west and north entrances. The southwest most entrance is a 150 ft vertical pit with three large, closely spaced fumaroles at the bottom. The sides are vertical early in the summer and later develop an overhanging lip as the pit enlarges and large ice blocks collapse from the walls to the floor below.

The other west entrances are also vertical pits very early in the summer, but quickly develop passages along the crater floor where numerous fumaroles occur. Later on these passages collapse and a very large snow-free area develops. Ice blocks, some of which are 5 m long, testify to the catastrophic events that occur during the enlargement process. Enlargement is relatively rapid until the ice walls retreat beyond the area with heavy fumarole concentration. No ice block falls were witnessed by expedition members during our brief stay.

The cave entrances on the west edge are interconnected by small lateral passages. The northernmost of the west entrances descends directly into the crater and connects to the passages from the north and east entrances. Meltwater streams occur in the larger passages and eventually unite and flow out the east end of the crater. The stream then disappears under the Boulder Glacier and reappears at the snout within three hours (David Frank, in press).

Meltwater descends through small passages with restricted air circulation in the lower part of some of the west passages. Sulfur concentration is extremely high and oxygen is extremely low in these passages. Gas masks (borrowed from the U.S. Army) were useless in these areas although they proved to be a caver's best friend (along with his light) in other passages. Remaining in the cave for longer than 20 minutes without a breathing apparatus causes dizziness and one's eyes to become irritated and water profusely. The effects of a sulfurous atmosphere on

lungs should also be considered.

The northern entrance is located below a steep rock wall that is very susceptible to mass movement. Air photos from 1972, as well as personal observations in 1973 and 1974, show avalanche scars on the rock wall and fresh piles of rock debris on the ice below. A rock avalanche, involving an estimated 40 yds^3, was witnessed by expedition members on August 21. If it is necessary to move through this area, it is recommended that one move briskly and cautiously. Rockfalls are most likely to occur when the sun strikes the slopes and causes melting of ice in the rock joints and upslope from the rock wall.

Access to the large east entrance is best from the Boulder Glacier, but the entrance can also be reached from the crater in the early summer by descending a steep snowbank from the south side. Crevassing and collapse make this route dangerous by late summer. A boiling pool, a very large fumarole, falling ice blocks and slabs (flakes), and sediment that turns into a quicksand when disturbed are some of the other hazards.

Another concern is the possibility that a debris avalanche from Sherman Peak might occur while people are in the narrow east gap of the crater or on the Boulder Glacier below. According to David Frank and other U.S. Geological Survey geologists (in press), debris avalanches from Sherman Peak have occurred six times since 1958. The avalanches occur every two to four years with the last one occurring on August 20 or 21, 1973.

Because of the lateness in the summer, we approached the east entrance utilizing the cave passages. We reached a point where daylight and the large roaring fumarole were visible, but we were unable to emerge from the entrance because of the treacherous quicksand floor. Moving one's foot is sometimes all that was needed to cause the sediment to lose its coherency and a shoe would begin sinking out of sight. We attempted to move along the edge of the passage with shoes removed (to keep them dry) but turned back when the depth of the quicksand exceeded the length of the ice ax we were using as a probe. Waders and a rope around the leader are recommended for future attempts.

Perhaps the greatest hazard of all is the quickly changing weather conditions. Cloudy and stormy weather are common in the North Cascades and require good planning and judgment (luck?). We lost three days due to bad weather and were unable to complete the topographic map of the crater or the cave map. Another extended stay in the crater will be necessary.

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Okanogan Cave Reported————by W.R.H.

Dr. Amps P. Bratrude of Omak recently mentioned to me having been to a cave in Scotch Creek Basin in the Okanogan country. He suggests that we contact Dr. Roy Webster, an Omak dentist, who is very familiar with the cave. From his description it sounds like a deep shelter rather than a cave likely to "go" , and I couldn't tell whether or not this is in the Lime Belt, but still it should be checked out.

1974 Christmas Party

Dear Grotto Members, and Northwest Cavers,

On Saturday December 21, at 6:30 P.M. the Cascade Grotto will hold it's annual Christmas Party for all Northwest Cavers. Once again Dr. & Mrs. Halliday will open their home at 1117 36th Ave. E., Seattle, for the enjoyment of the caving public -- so come!

This year dinner will be pot-luck, and wine will be available at $1.00 for all you can drink. To greatly simplify things, would everyone please bring their own plates, and service, as well as somthing to drink from; it really helps!

We've got a lot of interesting things planned for this party including: A Speleo-Auction, Climbs (chimneys) up the dumb-waiter or laundry shute, The finish of the Name The Cave Contest, Carbide lamp asembling contest, and more! DON'T MISS IT!!!

In an attempt to balance the number of main-dishes, desserts, and salads we have developed the following plan: Cavers whose last name begins with a letter from "A" - "R" will bring main dishes; cavers from "V" - "Z" will bring desserts, and those from "S" - "U" will bring salads. If your name begins with the wrong letter for your specialty - please call me - we can work it out.

Hope to see everyone there! If you have any questions, or suggestions please call me.

Curt Black
LA2 - 9817

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NEWS AND NOTES FROM ALL OVER

NORTHWEST CAVING is alive and living in wastern Washington. Things have been held up out of a need to educate the editor. Current plans are to have an issue to you by the first of the year. Material is desperately needed - particularly from the Eastern grottos of the region GS, SMG, Alberta?) IT IS COMING!!!

U of W Steam Tunnels -- Closer Every Day

In preparation for the X-mas party we have been searching for an entrance to the steam tunnels under the campus of the U of W. To date, one midnight sortie to the campus has yielded a wealth of info. Rod Crawford, Curt Black, and Ken Byrd entered what was first thought to be an unguarded entrance to the reportedly extensive system. Both entrances tried turned out to be single chambers less than 30 ft in legnth. However we did find a ventalator for the system, and If one can be located in a more secluded area access may be had at the removal of 3 screws. Any persons with information on the location of entrances are urged to contact Curt Black.

New Members

Dr. James T. Staley, Dept. of Microbiology, U of W, (SC * 15) Seattle 98195 R 10-75

Ken Byrd, 4009 15th N.E., Seattle 98105, S 10 - 75 NSS 11781

Ruth E. Mundt, 12412 42nd N.E. Seattle, Wa. 98155 R 11 - 75

Bruce Unger, 440 NW 100th Pl, Seattle, Wa. 981?? S 12-75

THE CAVERS' CHRISTMAS
or
THE NIGHT BEFORE THE MORNING AFTER

Perverted by Rod Crawford, &
Curt Black

'Twas the night before Christmas, and all through the cave.
Not a caver was stirring; 'twas still as the grave.
The stockings were hung on the rigging with care;
They;d been wornefor six days, and they needed the air.
The cavers were nestled all snug in the ground;
While lava tube slime spores oozed in all around,
I in my coveralls, Rod in one boot,
Had just settled down for a rest by the chute,
When up through the chamber arose such a smell,
I sprang from my bedroll, to see what the hell.
Away to the entrance I flew like a flash
Tripping over four leggs in the course of my dash .
The glow of the light on the red rocks below.
Made me think of hell --- was I so soon to go?
When what to my night-blinded eyes did appear,
But Bob Richardson, and a full keg of beer.
A cruddy old caver so muddy and damp,
comming with coveralls, carbide, and lamp.
More rabid than cave-bats, his followers came,
And he whistled, and shouted, and called them by name;
"Now Jerry! now Larry! now Les! and now Stan!
On Thomas! on Douglas! on William, and Jan!
To the top of the dome-pit! The top of the wall!
Now slip away! Trip away! Fall away all!"
So down to the chamber the cavers rappeled,
Bouncing rocks off the heads of belayers who yelled.
And so in a twinkling I heard forn the top
An ominous rumble -- which luckily stopped.
As I pulled down my sweatshirt, and cocked a sharp ear
Down the chiminy came Miller --- right smack on his rear!
A keg full of beer he had flung on his back,
and a breath that would blow seven trains off the tracks!
A can full of mace he held tight in his teeth,
With ropes tangled round and round like a wreath.
He was dressed all in denim, and from his clothes hung
Long tatters, blood, bat guano, and dung.
A wave of his hand, and a shake of his head
Now made him so dizzy, he fell almost dead.
He was muddy and wet, a right smelly old souse,
And I figured he'd not make it back to his house.
He spoke not a word, but went straight to his work,
And missed half the stockings the plastered old jerk!
Then placing two thumbs to the end of his nose,
As quick as a bat up the dome-pit he rose;
He sprang o'er the rocks, at so speedy a pace,
He tripped over his feet, and fell "squish" on his face.
But I heard him exclaim ere he crawled out of sight,
"Merry Christmas, you cavers! Now put out that light!!!"

Origanally by Judy Utzler
Alan Tentoff

Trout Lake area et al., 25-28 September 1974
Hank Ramsey, Rod Crawford, and some others

All the first day was spent getting there; we went by way of White Salmon, the roads from Randle being in even worse shape than usual. The morning of the 26th began with an interesting but uneventful visit to the lower end of New Cave, this time with kneepads.

A year or so ago, Dr. Halliday had persuaded me to pay a biological visit to Pillar of Fire Cave with tales of a white millipede he almost caught there. When asked if the cave had any complications, he replied that it was "just fun". Luckily, we had obtained a copy of the map of the cave from the February, 1967 Caver and so were not completely unprepared. However, I suspect that no one, who has not experienced it, can be truly prepared for that entrance crawlway. It's an excellent place for a calcareocaver who's getting homesick for some of that good old cave mud. Lava tube mud seems to stick and smell about the same as the limestone variety. Inside the cave, it was raining. The water dripping from the ceiling in the part of the cave that parallels an irrigation ditch above really looks like a rainstorm on the surface, and it's just as wet. In the Red Room, we found a skeleton on the floor which by all reports has been there for quite a few years. The skull was removed for identification, and proved to be that of a coyote-shaped canine, probably a dog rather than a coyote. No clue was found to the manner of death, but perhaps the dog simply didn't have sense enough to find its way out. In the entrance chamber, at the inner end of the crawlway, was a 1/3 full quart jug of Sta-Puf Fabric Softener. Also found in the cave were a springtail and a white millepede. The latter was a female (thus not identifiable to species) of the family Conotylidae. This family has a troglobitic member at Lava Beds National Monument, and comparison of this with that one convinces me that ours has no special cave modifications.

The 27th, we checked out a possible lava trench near Lake Comcomly, east of Slime Cave. No trench--just a sort of large partly closed depression. We then paid a visit to Dynamited Cave. The entrance was found to provide a haven for a large variety of flies. Partly down the entrance chamber, I collected a species of large sheet-web spider new to the state. In the lower part of the entrance chamber, a number of scattered deposits of cement were observed; also the skeleton of some large metal creature, obviously killed with considerable violence---possibly by a sasquatch or some other subhuman beast. At the top of the 15' drop, which is as far inside as we penetrated, I was fortunate enough to collect a Japygid insect of the genus Evalljapyx, an amazing and unusual find, biologically speaking. We concluded the day with brief visits to the lower, almost impenetrable, end of Ice Cave and to Slime Cave; in the former, at the very end, we found someone's partly illegible NSS # smoked on the wall.

That night we drove over to the St. Helens flow, coasting part of the way because the gas gauge read "empty". The next morning we set off for the Bat- Prince Albert cave system. Having explored the latter, we were caving our way back to the entrance, when who should we meet but: Curt Black and Mary White and Bob Brown's trusty dog Jasper! Jasper had had a little accident with the S-shaped coffin which I will leave to Curt to

tell. Curt, Mary, and Jasper left the cave with Hank and I and helped us search for the new cave that I and Bob Tower had found on the previous weekend, between Prince Albert and Dollar and a Dime Caves. We lost that one but found what we thought was another. Actually it was the lower end of Dollar and a Dime Cave, although Mary, who had been there, didn't recognize it. Not finding the crawlway into the main cave, we explored (and crawled) the lower part instead. After this episode (and delayed by Hank's having lost his hat in the terminal crawl) we had no time to visit Bat Cave as planned, so back to the cars, discovering another new cave on the way, which unfortunately we didn't have time to crawl.

The evening concluded by my chasing a few rumors out of Mary's basement (arachnid type rumors, that is) and Curt begging a ride home with us. Arrival time in Seattle: 0230 hours.-------RLC

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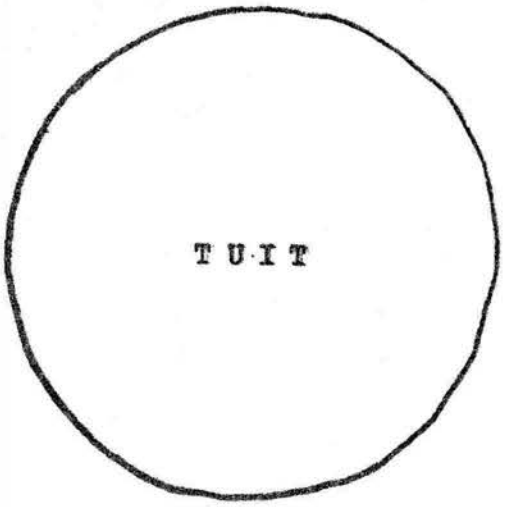

CONGRATULATIONS!!! Now You've Got One

This is an indespensable item for everybody. For "years" people have been telling me, "I'll write an article as soon as I get a 'round tuit'." The above is a 'round tuit'. Cut it out. Keep it handy, and you will have no more trouble getting all those reports I keep hounding you for done.

-- ed.

REPORT ON MILK CREEK CAVE-----by Rod Crawford

On September sixth of the present year, Allen Hareid of the Minnesota Rovers wrote to Charlie Larson about a cave he discovered while hiking in the Glacier Peak Wilderness, presumably earlier this year. After passing through several hands, the letter reached mine. On October 5th, Larry McTigue and I hiked in to check out the report, with the following results.

The cave is located in the north part of the Glacier Peak Wilderness, in Snohomish County. It is reached by driving east from Darrington on the Suiattle River Road, #345, then hiking from the end of this road, on the Milk Creek Trail, about six miles. The trail passes through three large (several acres) meadows, two of them after crossing the East Fork of Milk Creek. The last of these has, at its upper end, a large amount of talus of a light colored plutonic rock, in various stages of overgrowth. Milk Creek Cave is in this talus, shortly after the trail begins to slope steeply but before the first switchback, about three feet up the hill on the left of the trail (hiking in).

The entrance is about 3 1/2 feet wide by 2 feet high. This leads into a crawlspace about 4' long, with cracks in the walls and ceiling, a small amount of breakdown and a large amount of soil. To the left, behind a projection, is the mouth of an irregular pit going down and eastward for about 10'. Several fissure-like openings lead from the bottom of the pit, but none was judged penetrable. Total length of the cave is thus about 14'. It is definitely not worth the hike. However, the scenery, which is gorgeous, may make the trip worthwhile to some. There are several other small openings and shelters in the talus, none large enough to be called a cave.

The cave supports a considerable biota, although, due to the ineptness of the collector, no collection was made. Observed were: a number of Collembola (springtail insects), Tomocerus; two harvestmen, Sabacon and Taracus; and a moth, possibly a Geometrid.

A large firn cave was observed in a snowfield on the ridge west of the cave, with a moderate sized stream issuing from it.

Later research indicates that the entrance to Milk Creek Cave was originally reported in the Caver in 1967, [vol. 6 #10 p.5] in a note by Tom Hatchett written approximately 1962. Nonetheless, it appears that we were the first to investigate it. How many other reports of this sort are lying about unchecked?

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Lost and Found (mostly lost):

1 silva compass aomewhere between the road, and Prince Albert cave. It's a good one; please call Curt Black who will return it to it's owner.

If anyone has had in their possession an Estwing hand pick for about a year and wonders where they got it, it belongs to Rod Crawford.

Lost: One Willamett Valley Grotto, if found please return to San Joaquin.

Found: One Jensen's Cave (see article).

NEW CAVE DISCOVERED IN WASHINGTON --------------- By Stan Pugh

Since the Milk Creek "Cave" turned out to be somewhat less than expected, I was wondering where to go to do some caving. Rod Crawford called and let me know that he had an area he would like to check out. So on Sunday, October 13, we headed to the Darrington area to check out one of the largest lime stone deposits in Washington. About 25 miles east of Darrington on our way to the large deposit, we found a small out-crop next to the road which had been blasted by dynamite. Rod applied the "acid" and sure enough, it bubbled. We looked around a bit, saw nothing, and continued on to do some exploring. Rod had a detailed map of the area (if you consider the drawing of each tree in the section detailed...) taken from a stereo photograph. He said that it looked steep in the pix and he was right! The incline was anywhere from 45 deg. to 60 deg. and in many places the 90 degree pitches had to be skirted. There was teir after teir of limestone cliffs, but we couldn't find one crummy hole big enough for a person to enter during the three hours of climbing.

Just as we arrived back at our Wagoneer, we spotted an older fellow walking down the road, so we gave the usual greeting and he told us that he was checking out the area for logging purposes. We asked if he knew of any caves in the area, he said "No". He told us about the old gold mines near Darrington, though. Then he remembered (after 15 minutes of chatting) about a hole in the ground just down the road....right above the rock cliff that had been blasted!

Well, about then Rod's pulse rate increased by 10 beats per minute...mine by 50! and off we went to check out the Circle Peak deposit more carefully. I had told Rod that I had to leave the area by 2:30 or 3 at the latest...but we didn't get to the deposit until 3p.m. ...so I was going to be late!! "Running" up the dry creek bed, I found an opening about 200 feet off the road partially covered by large limbs.

Not even dropping a rock to check depth, I ran down the hill to get Rod and the gear. At first the hole looked 40 ft. deep, but further evaluation promped me to drop in the ladder and go down. With time and my lamp "burning" out, I quickly checked the two obvious leads at the bottom of the 25 ft. shaft. Both leads appeared "to go" but since I was down their by myself. Iwasn't about to climb over or under that balanced boulder in the center of the passage. Checking my watch....3:50....I had to leave. We threw the gear in and headed home. By the time this is published, someone will have probably checked out those leads. To our knowledge this is the first "real cave" found in Western Washington this year.

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Someone has indeed checked out those leads:

Subsequent Exploration of the Unnamed Cave in the Circle Peak L.S. Deposit

By Curt Black

Before I go on to write a trip report for a trip I wasn't on, let me explain why I'm writing it(for a trip I wasn't on, that is). Robert Tower, Rod Crawford, and myself decided that, since there were three of us, and that there had been predominantly trips to three areas, we should each report on one of these areas. Not being too picky when people around me are volunteering to do work, I took whatever was left over, Anyway.....

On the weekend following its initial discovery Larry McTigue, Jan Roberts, and Rod Crawford took their Saturday, and armmed with one of Stan Pugh's new cable ladders, entered, and explored the main route to the end of the cave.

They reported the main passage to be about 120 feet in length, and to be lined with extensive deposits of moon milk, some of which had been vandalized by the scratching of names in it. These explorers left a large number of unexplored leads due to a lack of time. They measured the entrance pit at 23 Ft.

The following Sunday (October 27th) Stan Pugh, Rod Crawford, Robert Richardson, and myself visited the cave to continue the destruction of those awful un-Washington like things (virgin leads in limestone, that is). I would say that the reported length of 120 feet is highly misleading. The cave has formed in a large crack, which was enlarged by the solution of the limestone. This crack has been greatly modified by breakdown which has formed a large number of distinct levels within the crack. The left (upper because the crack slants like this //) wall of the crack, particularly in the lower, damper sections of the cave is covered with a thick coating of moon milk; much of it a very pure white. Many speleogens and small phreatic (?) tubes, as well as a varied biota are present. Collected in the cave were: Camel Crickets, Harvestmen, a moth of the same species found in Dry Creek Cave, and from a bucket of soil springtales, and mites. Large snails were seen, but none were collected.

Upon leaving, we recamoflaged the entrance, hoping for the moon milk to last at least until it could be photographed, and climbed down the stream course, past the quarry, which reportedly had not grown since the last visit to the cave.

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The Naming of the Unnamed Cave in the Circle Peak L.S. Deposit. ---- Curt Black

Stan Pugh was the first grotto member to look into the Circle Peak deposit cave. Prehaps out of modesty, prehaps for some other reason, he didn't name it "Pugh's Pothole", a name he and I have long joked about. Having discussed it at the grotto meeting it appears that he has donated the right to name the cave to the grotto. Continuing our tradition as the "money grubbingest" grotto around we have started a "Name the Cave Contest"; obviously it has somthing to do with money.

It works like this: All the names in contentention (those listed below plus your suggestions) will be listed on seperate jars. Persons wishing to support a particular name will place money in the jar of their choice. (this should sound familier to our "kindred kissers" in Oregon) At the end of the contest (probably at the Christmas Party) the name with the most MONEY supporting it will be applied to the cave.

These are the names entered so far, with a brief pro, and con for each:

Pugh's Pothole -- what more can be said; it's almost musical.

Circle Peak Cave --P named after the deposit; C gives away the location

Lone Star Cave -- P Cave located 200 ft. from Lone St. Quarry, entrance star shaped

V.I.C.E.G. Cave -- P they named a beautiful cave after us, and this is the nicest cave found recently in Wa. C if named this, they'll want to see it, and will probably change their cave to "Waterfall" or somthing, we should wait until we have a really big (comparable)cave, whenever that happens.

All proceeds go toward the printing of *The Cascade Caver* Yea!!!

TRIP REPORT - OCTOBER 26 & NOVEMBER 2
The Vertical versus Crawford, McTigue, and Tower — Bonanza Queen, Big Four Glaciospeleology, et al. ---------- by Bob Tower

Curt Black has to be the world's greatest optimist to believe he can transform two dimensional moving mortals into 3-D creatures via prussik knots and standing rope. But he tries patiently.

The maison de Black and Crawford seemed totally dormant as I arrived at 8, Saturday morning, October 26, but signs of life in the forms of two sleepy cavers soon emerged behind boxes and bags of gear and we were on our way to Mountain Safety Research's practice tower in south Seattle, where Larry McTigue was awaiting our arrival.

MSR very kindly lets us use this well equipped facility for vertical practice, and it's appropriate to let the store attendants know who you are and what you plan to do before beginning the practice.

After learning figure eight knots and not to step on rope, I was harnessed in more fabric and metal hardware than a Russuan Troika and climbing (using the term very loosely) up the 10½ mm standing rope via prussik knots. After reaching the great elevation of 12 feet I'd had it -- couldn't go up or down— so used the framework of the tower as an escape route and retired to recuperate.

Next Larry borrowed those German "Gizmo" ascenders* and made his way rather easily it seemed up the 35' climb. And Rod, using Curt's Gibbs ascenders worked his way up one side to a landing -- and all of this under Curt's watchful eye and belaying hand. Then the maestro himself demonstrated his Gibbs up the 35 feet in less time than it takes to write this sentence using leg action only — look Ma, no hands.

The three hour practice session ended in a flourish with my rappeling down the 35' on a double rope (ostensibly to provide adequate braking action with a single brake bar, but actually to provide an adequate safety factor on the 1000 lb. test rope).

Then off to Bonanza Queen Mine, east of Granite Falls and about 1½ hour drive from MSR. Mines for cavers? Sherlock Crawford somehow unearthed this Dead Sea Scroll labeled "Thesis" of a U of W mining engineer asserting the presence of a "cavern" intersected by one of the three main tunnels. Intriguing! On arrival, much comparison between thesis and hillside finally started us on a reasonable trail. After more brush combing we returned to the trail which led us directly to the lower tunnel portal. About 1000 feet in, the tunnel terminated in a block of limestone. Also there was a promising raise or ore chute going upwards and complete with ladders.

After negotiating 3 ladders (30'), it was decided to try the exterior approach to the middle elevation tunnel which intersects the cave. Mountain goats would find this route inviting (it should be noted that we didn't—ed.), and besides it was getting dark.

Saturday, November 2, Rod and I equipped this time with stereo photos and viewer plus thesis and binoculars again tried for an exterior approach, but the only way was almost straight up over mossy rocks and wet bushes. So back inside I climbed 15 ladders in the raise (about 120 ft), but finally retreated until we could assault "Middle Tunnel" with more men and gear.

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*Hieblers --- ed.

Rod had heard good reports about the glacial caves in Big Four Glacier only a few minutes away. The one mile trail provided by the National Forest Service was almost too easy to be true and took us right to the mouth of Big Four Ice Cave. Ceiling height varied from 4 feet to 8 feet and width 15 to 25 feet. Rod explained the glaciospeleo-terms and cautioned against several "flakes". A substantial wind always toward the entrance had us looking for another entrance. However about 1000 feet in, the cave opened into a spectacular terminal chamber with rock and waterfall on one side and ice on the other, maybe 50 feet high by 60 feet wide. Excellent conclusion to an interesting day.

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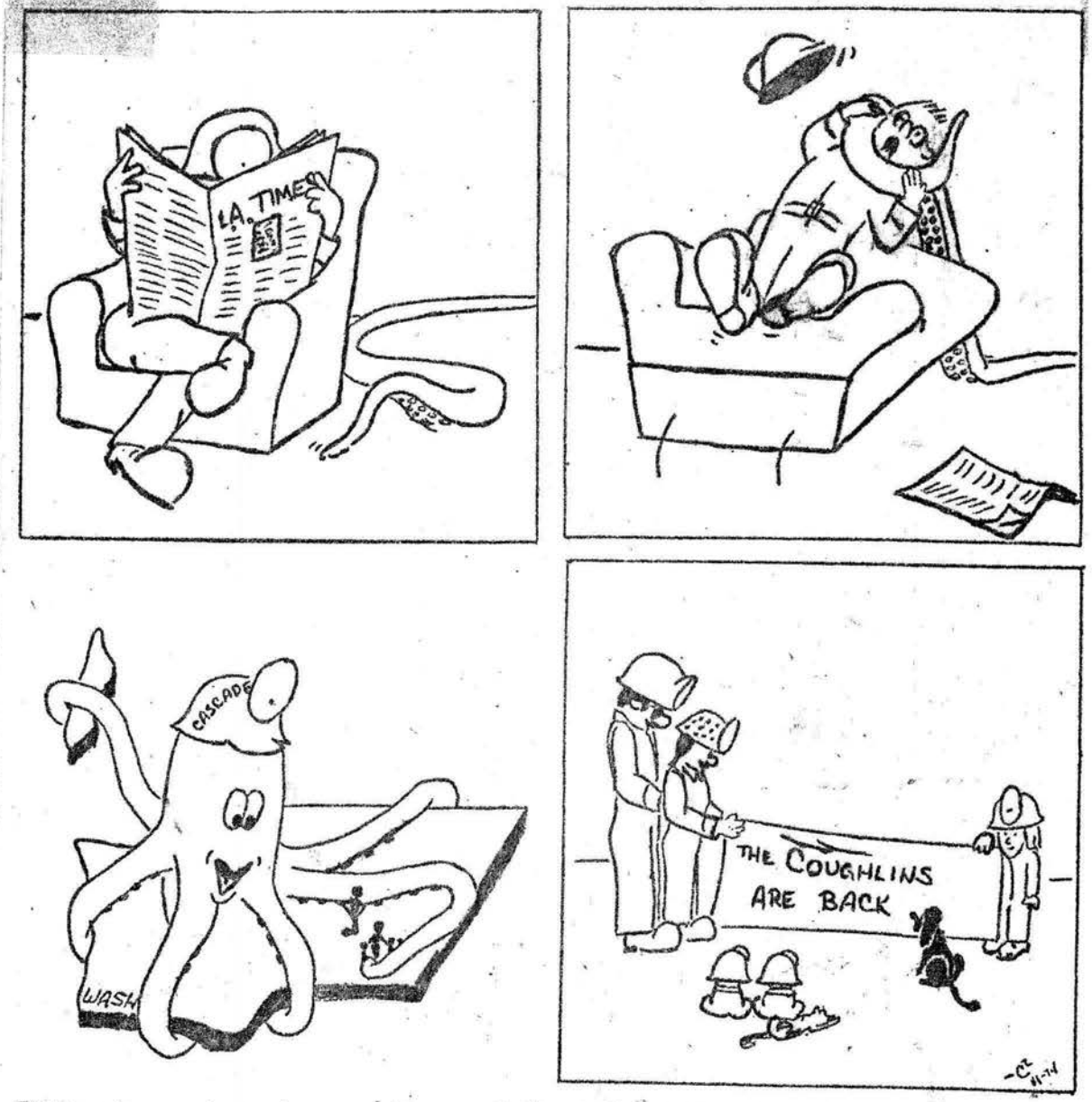

Boeing has returned us an improved Chuck Coughlin; this time with cartooning talents. As soon as he can be caught up on the speleo-political situation a series may be beginning.

Welcome back Chuck - ed.

Trip Report (Again?!) ---------- **Rod Crawford**
29 November -- 1 December 1974

By this time, the careful reader will have observed that I am a compulsive writer of trip reports. I will try to make this one brief, but my typewriter sometimes runs away with me. Please have patience.

On Friday afternoon, I, along with Clyde Senger, Stuart Senger, and Al Reagan from Bellingham, set off on Dr. Senger's annual bat pilgrimage to the St. Helens lava flow. Arriving at the Beaver Bay Campground about dusk, We had camp pitched by nightfall. Then the fun began, for Clyde Senger can find caves in the dark! We visited Spider, Flow, and Little People Caves in the moonlight, finding a sizable and interesting biota as well as a number of bats.

Saturday we hiked in to Bat, Prince Albert, and Dollar and a Dime Caves, and again were reasonably successful biologically. In addition, we rediscovered the long lost entrance of "Cave Y", discovered by me a few months ago. I suspect the cave is already known, however, since the entrance is only about 30' south of the upper entrance of Dollar and a Dime Cave and must be an unconnected upper level thereof. On the way back, we met the Jackl brothers, unaffiliated cavers who had recieved instructions to Bat Cave from Harry Reese. We may have recruited them.

This seems a good point to say a few words about the bat situation. A few years ago, 200 long-eared bats (Plecotus) hibernated in Bat Cave, 250 or so in Spider Cave. Then the banding began, along with an increased level of visitation of the caves in winter. Two years ago, these caves were found to have only a few hibernating bats each. The reason for the bats' downfall is two fold: first, there is little doubt that the special bat bands are damaging to the bats' wings, more so in fact than the bird bands used originally; and, just as importantly, disturbing a bat in the winter sharply reduces its chances for survival. Even close examination of a hibernating bat (especially with a carbide lamp, which can warm it appreciably even from a distance) can disturb it sufficiently to cause it to gradually wake up and seek another cave. This is a considerable drain on the bat's winter fat reserves, which were marginal in the first place. It is thus advised that bat inhabited caves, particularly Spider Cave and the lower passage of Bat Cave, be avoided in the winter. Fortunately, this year's results seem rather promising; there were, for instance, about 60 bats in Bat Cave, and the proportion of banded to unbanded individuals indicates that they are reproducing well, and they may return to former population levels if their hibernation is not further disturbed.

On returning to camp Saturday night, we met (by prior arrangement) Carroll Rieck of the State Game Dept., who was hoping to recieve some non-game animal conservation funds for use on bats. Sunday morning we showed him the extreme upper end of Ape Cave, where there were two bats and a great deal of spray paint. We rechecked the caves we had visited Friday night, finding that several of their bats had already flown. We also visited Sand Cave, a low but interesting cave with a sand fill on the opposite side of the road from the above mentioned group. Temperatures of all caves were recorded and were in the low 40s. There were only 1 or 2" of snow on the ground. Amazingly, it didn't start to rain until just after we had packed up and left. A most enjoyable weekend.

GLACIOSPELEOLOGICAL ABSTRACT ---------- Recieved from W.R.H.

Russell, Israel C., 1897. Glaciers of North America. Boston, Ginn & Co.

P.14. "...brooks and creeks...pour down into the depths of the glacier with a deep roar, telling of caverns far below the surface. The crevasses into which surface streams find their way are frequently enlarged, and become well-like openings, or moulins, as they are termed, which are sometimes several yards in diameter, and of great depth. In many instances, these openings must penetrate to the very bottom of a glacier."

p. 15. "At the ends of alpine glaciers, and about the margins of both piedmont and continental ice sheets, there are ice caverns from which flow turbid strems of ice-cold water. The archways are the mouths of tunnels into which one can sometimes penetrate for a long distance. The streams issuing from such openings are supplied by both surface and basal melting, and possibly also by subglacial springs. These tunnels appear in all stages of glacier growth, and are kept open even when ice sheets reach great dimensions. On Malaspina glaciers, the course of such tunnels can in some instances be followed for miles, by listening to the muffled roar of the rivers rushing along through ice caverns far below the surface. Some of the tunnels, through which the waters...escape, are known to be situated on the underlying rock, but in other instances the openings traverse the ice itself, perhaps several hundred feet above its bottom. The tunnels through the body of ice are thought to have originated from crevasses which allowed the surface water to escape from one break to another, and maintain a continuous passage-way. But observations proving this to be the true explanation are wanting. In the sides of deep crevasses in the Malaspina glacier one sometimes discovers a circular opening several feet in diameter, which reveals the position of an abandoned tunnel. In traversing the extremely rough outer margin of the glacier referred to, these openings were at times of great assistance, as they pass from one deep walley in the ice to another...."

p. 38. "...It is in the ice caves beneath these glaciers (the ones sheltering on the range including McClure, Lyell and Ritter Peaks in California) that the Tuolumne, Merced, and San Joaquin rivers have their birth."

p. 102. (Davidson Glacier, Alaska): "From archways in the ice there issue swift, roaring streams of muddy water, much too strong and too deep for one to wade...Standing by the side of one of the streams as it issues from its icy cavern, one may hear the clash of the boulders that are swept along at the bottom of the turbid waters. The localities at which the streams emerge from the ice are changed from time to time..."

pp. 110-111. (Malaspina Glacier): "The moulins in which the larger of the surface streams usually disappear are well-like holes of great depth. They are seldom straight, however, as the water in plunging into them usually strikes the opposite side and causes it to melt away more rapidly than the adjacent surfaces. The water in descending is dashed from side to side and increases their irregularities. A deep roar coming from the hidden chambers to which the moulins lead frequently tells that large bodies of water are rushing along the ice caves beneath. In the southern portion of the glacier, where the ice has been deeply melted, and especially where large crevasses occur, the abandoned tunnels made by englacial strems are sometimes revealed. These tunnels are frequently 10 or 15 feet high, and occasionally one may pass through them from one depression in the glacier to another. In some instances they are floored with debris, some of which is partially rounded."

p. 122 describes Fountain Spring as "a rudely circular opening, nearly 100 feet in diameter...the waters...are thrown into the air to the height of 12 or 15 feet, and send jets of spray several feet higher."

p. 123. (source of the Kame River): "...issues as a swift brown flood partially choked with broken ice from the mouth of a tunnel, and flows for half a mile in an open cut between precipitous walls of dirty ice 80 to 100 feet high. Evidently the stream has a long subglacial course..."

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Elusive Wallowa Pit Found!
-- W.R.H.

Dr. and Mrs. Glen Bolton of Walla Walla recently reported that they had found and looked down into the elusive pit in the Wallowa Mountains. And it's almost where it has been said to be, all the time. Namely, about 1/2 mile NNE of the summit of the Matterhorn, just a little on the west side of the ridgeline near the small ridge summit approximately midway between the Matterhorn and South Hurwal Point (the latter (a feature unnamed on many maps, but at the central point of the Y formed by Hurwal Divide, the north extension of the Matterhorn and the south extension of Sacajawea Peak.

This is about a 5,000-foot climb from South Wallowa Lake State Park with a good trail most of the way. What about a joint trip with the Oregon Grotto next Fall? This is in the Martin Bridge limestone.

Northwestern British Columbia Scouting
-- G. Warren Smith

On my way back to Alaska I looked at the Aiyanish lava flow (in the rain!) and was not impressed. However I am not a lava enthusiast so perhaps it is just me. I saw little that looked promising as a lava tube cave - mostly small rubble and a few shelters. The disappearing stream was a disappointment - about one foot wide and sank into the porous humus forest floor alongside the lava flow. No definable sink, evidently just filters through the loose ground. Nass River lava area is extensive but mostly small rubble. Again I did not feel it looked very promising. One could probably spend years tramping around on that stuff.

What did look promising was the cliff face all along the Stikine River on the side road off to Telegraph Creek. Numerous holes evident and rock interfaces along the side of the cliffs. One should probably rent a native with a river boat at Tahlton to visit these. I could find no one who seemed to have been inany of them. Even the kids seemed not to have noticed them until I pointed them out.

THE CARBIDE MINES OF SVENSTAVIK, NORTH SWEDEN

by A. D. Oldham

Last year during the course of a caving holoday, the author was fortunate enough to have the opportunity to visit the Carbide Mines of Svenstavik, which lie to the north of the small industrial town of Hammerdal, deep in the ranges of the Arvidsjaur Hills, and at an altitude of about 1500 meters. They are unique as this is the only site in the world where Calcium Carbide is found native. The mineral occurs in a bed of carboniferous limestone which has been metamorphosed at an early date forming, at the junction of the Skjon series, a band of solid carbide two meters thick, extending for kilometers.

The mines are entered by a spacious horizontal drifts, extending far into the hills. The mineral is obtained in a fashion similar to that of coal, although the workings are not as modern as some coal mines, the mineral being excavated from the working face, which is about two meters high, with a pick. The working faces are continually sprayed with paraffin to keep down the dust and this also gives the carbide its characteristic black glossy apnearance.

The mines are quite dangerous places of employment with the combined action of the choking dust, and the gas, which is both imflamable and poisonous. Afew years ago a Laplander employed in the workings very nearly caused a nasty accedent by obeying the call of nature at the working face. The resulting explosion brought down a large part of the roof, but fortunately there was no loss of life.

The carbide is removed by conveyor belt, and then by trollys with brass wheels to the surface. There it is screened, and sieved in large sheds, and then washed in parrafin and packed in airtight dontainers ready for exportation to all parts of the world.

The mines are privately owned and sad to say there is only one large working left, the others having gone out of production as to-day this commodity can be obtained much more easily, and safely from an electric furnace.

THE BALTIMORE GROTTO NEWS
Vol. VII, No. 8, pp. 244-5

EXTRA! EXTRA! JENSEN CAVE REDISCOVERED!

On Sunday, November 10, Dr. Halliday, Jerry Broadus and wife, and myself set out to find which one of the railroad grades in the Concrete Limestone leads to the elusive Jensen Cave. On comparison of the Doctor's map with mine, we decided on a good place to start bushwhacking, and lo! before many yards we were on a recognizable grade. This grade starts about 100 paces south of the old shack. We walked along for a few thousand feet, and W.R.H. himself discovered the sink, so obvious that no one should ever miss it again, with several cracks about the young whippersnappers who lost it. All 60 feet of the cave were explored. They had not changed. That one crawlway is a good testing ground for those who may wish to negotiate more challenging "ratholes". Temperature in the waterfall room was 44°F. Boy, was that dirt soft! Such luxury is rarely found. A large biota was noted, including an Ambystoma salamander, harvestmen, springtails (Tomocerus vulgaris, alas, not hallidayi), snail shells, a milliped, and fly larvae. Jerry, recently arrived from Texas, was suitably unimpressed.——RLC

SiO_2 Speleothems in Mt. Suswa Caves ---------------- W. R. Halliday

As in the case of similar speleothems of Cueva del Viento, Tenerife, Canary Islands, Dr. Wayne Moen of the Washington State Division of Mines and Geology has determined that micro goured white stalactitic speleothems in sections of the Mt. Suswa cave system, Kenya, are almost pure silicon dioxide --- $SiO_2 \cdot {}_xH_2O$. The refractive index is 1.406. Traces of iron (about 0.05%), calcium and magnesium (under 0.01% each) are present.

!!

The now reknowned "self made ~~mouth~~ man", Paul Griffiths, hardly rested from his scientific study of Grizzly Bear Cave, took time out of his busy schedule to once again speak to the media. We hope to have a copy of the article in our next Caver. In synopsis his article had its usually warm international tone, and presented some amazing facts regarding certain of the Oregon Grotto's uses of a modified B-28 on caving trips — a practice obviously started during this year's gas shortage.

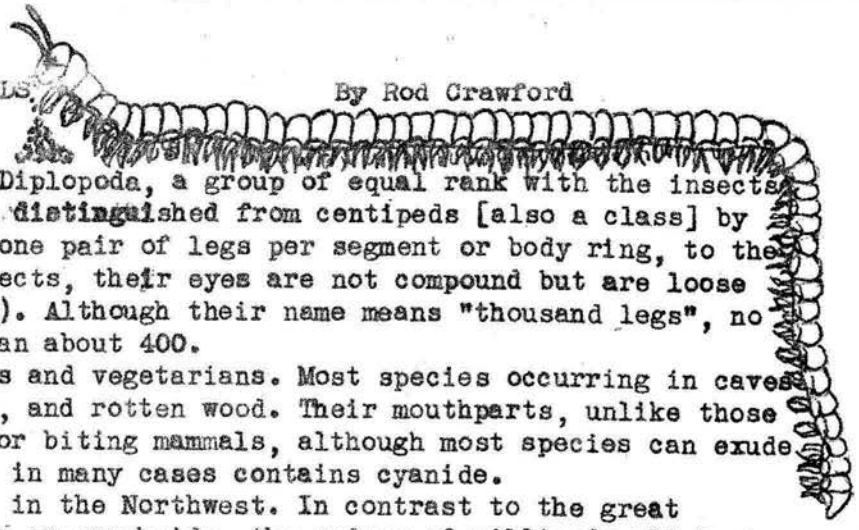
Although sworn to secrecy, since he has released the information, I imagine I am now free to speak. I have long known about the Oregon Plane, but because of the wishes of its operators to reduce the demand on it by keeping it secret, (as you all know a B-28 can carry only a limited number of persons in order to maximize its payload, now modified to dynamite and caving gear) I have said nothing. Not since the era of Alex Sproul and his van has the existence of a transportation device so influenced the activities of NW cavers. During the middle four months of this year trips to some of the most fantastic caving areas of the world were open to the few knowing of the plane; we started small with Papoose, only about an hour away, but soon trips to Texas, Hawaii (where we visited Frank Howarth and his fantastic museum), and even eventually to Yugoslavia, and Switzerland (Holloch and some others). My only regret was that I've been unable to share these trips with you in the <u>Caver</u>.

Many people have expressed surprise at the Oregon Grotto's ability to keep something of this size a secret; the most asked question being, "How could they have hidden it so I wouldn't have known?" These people have obviously forgotten the vast power of the OG: its tremendous monetary resources; its membership, now expressed in the hundreds of members, many located in strategically high places in government; and its powerful controlling force over the printed word in the northwest, innocently named the Oregon Grotto Press. These factors plus the existence of strong lobbies in both Olympia and Salem, gave the necessary strength this spring for some dynamic moves on OG's part. They started with the construction of an underground storage facility at 134th street and the Freeway; their construction hidden by the regrading of the exits in the area, which they arranged. This hangar extends under much of Hazel Dell, the fuel storage tanks being right under Mary White's home. Perhaps you've heard the squeaking of the air in and out of them as the temperature changes.

Anyway, now that the word is out, some official system of making the plane available will probably be implemented — So...see you in Argentina.

Curt Black

By Rod Crawford

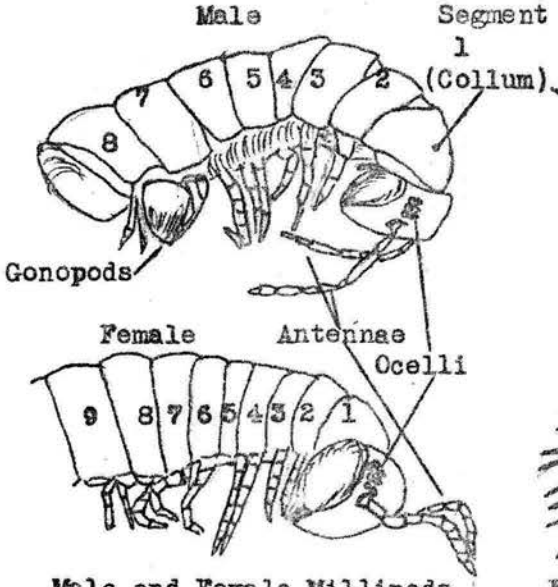


Millipeds comprise the class Diplopoda, a group of equal rank with the insects and with the arachnids. They are distinguished from centipeds [also a class] by virtue of the latter having but one pair of legs per segment or body ring, to the millipeds' two pairs. Unlike insects, their eyes are not compound but are loose groupings of simple eyes (ocelli). Although their name means "thousand legs", no milliped known to me has more than about 400.

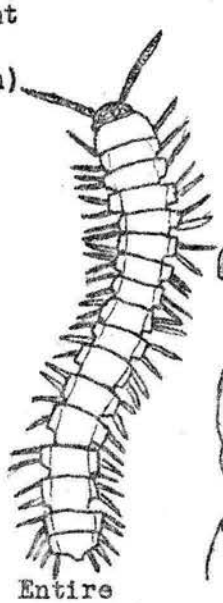
They are almost all scavengers and vegetarians. Most species occurring in caves thrive on a diet of mold, fungus, and rotten wood. Their mouthparts, unlike those of centipeds, are far too week for biting mammals, although most species can exude a fluid from lateral pores which in many cases contains cyanide.

Six orders of millipeds occur in the Northwest. In contrast to the great diversity among orders of insects or arachnids, the orders of millipeds all look much alike to the uninitiated. While the practiced eye can distinguish the orders, and often the families, classification to species usually requires examining the male genitalia; thus, any collection of millipeds should include, if possible, males. Instructions for milliped classification would require a second installment, which I will write only in the unlikely event that popular demand warrants it.

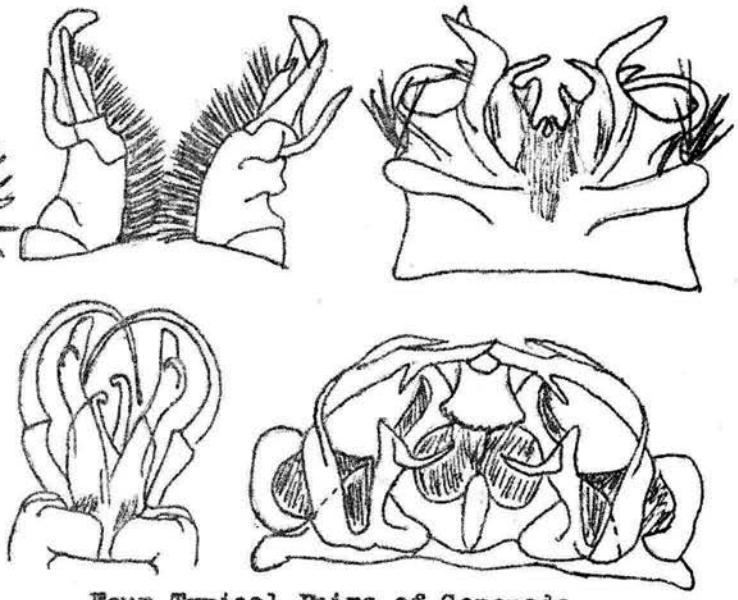
The male genitalia deserve a further note. Both sexes have their simple primary sexual openings on the third body ring. For a currently unknown reason, actual copulation is performed by the male with highly modified legs, called gonopods, on the seventh body ring, the sperm packet having been transferred there from the third. A mating pair is an amazing sight, resembling nothing so much as a live pretzel. The gonopods are as diverse as the whole animals are similar, and their complexity is sometimes mind-boggling; some examples are shown below.



Male and Female Millipeds
Front End of Body with Head



Entire Milliped
(Guess sex)



Four Typical Pairs of Gonopods

Unlike insects, millipeds are unable to restrict evaporation of water through their body wall. In addition, some are best adapted to rather low temperatures. Thus, they are very vulnerable to extremes of climate, and many have retreated into caves. There are twenty genera and around 100 species of milliped troglobites in the United States, mostly in the Appalachians. One of them, however, is known from a lava tube in Lava Beds National Monument, California, and another was recently described from Boy Scout Cave (Craters of the Moon) and Crystal Falls Cave, Idaho. Milliped troglophiles (species occurring both in and out of caves)

are fairly frequent in Washington and I have seen several from Trout Lake lava tubes; these caves are also the habitat of Troglotyla skamania, a species recently described by Nell Causey as a troglobite, from Deadhorse, Massey's Barn, and Dry Creek Caves. Troglotyla is in the same family as Plumatyla of Northern California mines and lava tubes (with an immature specimen recorded from Cheese Cave, Washington) and Idagona of Idaho lava tubes. I have a female specimen from Pillar of Fire Cave that conforms to the description of Troglotyla. The legs are elongated and the body and eyes lack pigment. The specimen is about 22 millimeters long. One must beware, however, of hasty decision that a species is a troglobite; some millipeds are naturally pale and many are naturally blind. Millipeds should be collected directly into 70% alcohol, since any exposure to heat and dryness may cause a specimen to die and shrivel.

For more on American cave millipeds, the reader is referred to the following two articles: 1) Shear, William A., 1969. A synopsis of the cave millipeds of the United States, with an illustrated key to genera. Psyche [a journal of entomology] vol. 76 pp. 126-143. 2) Causey, Nell B., 1960. Speciation in North American Cave Millipeds. The American Midland Naturalist, vol. 64 #1 pp. 116-122.

There follows an addendum to my September article on Grylloblattids. On 3 November 1974, Curt Black collected, in the terminal chamber of Ramsey Cave, Skagit County, a female of Grylloblatta campodeiformis occidentalis. This is the first Grylloblattid known between Mt. Baker and Mt. St. Helens, and the first known from a limestone cave in North America. Also, I have heard from Clyde Senger that he has observed G. chirurgica in large numbers on the surface of fresh winter snow on the St. Helens cave basalt flow. Therefore, the species is not, as had been supposed, restricted to caves.

* * * * *

Editor's note: I'd like to thank all those people who helped with this month's Caver; all the people who submitted articles, who suggested ideas, and who typed pages with the words spelled right (the latter being primarily Rod Crawford); -- it is VERY much appreciated!

A special thanks to Charlie Anderson who created and printed the front cover. ----- C.B.

THE CASCADE CAVER

3530 Greenwood Av.

Tacoma, Wa. 98466

Merry Christmas to all my friends - Curt