

THE CASCADE CAVER

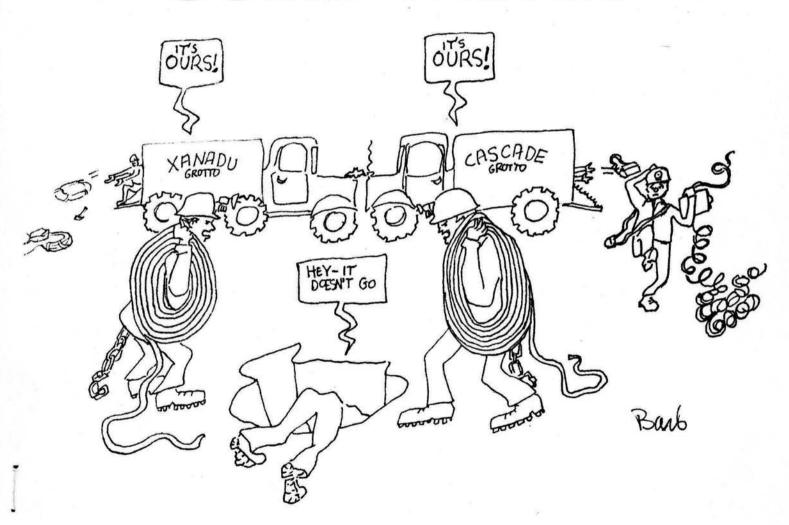
Official Publication of the CASCADE GROTTO N. S. S.

VOL 14 NO 1



WINDY CITY GROTTO

SOME THINGS



NEVER CHANGE

THE CASCADE CAVER

Vol. 14, no. 1 Editor: Curt Black January 1975

It's the middle of winter in Western Washington, and the weather is crummy. So, if you want to go caving it's going to take more work than ever to convince people to go with you. Try calling people three or four times before giving up, ask them to really think about it before saying NO (on the other hand, if they should say yes, under no circumstances should you encourage them to think about it). Try to stay in shape; remember: Summer has got to come eventually!!!

C.B.

NOTE: Our article about the Utility Tunnels of the U. of W. is not, in the least, planned as a challenge to the "sewer-lunkers" of the OG. However, should the afore mentioned persons (D.J. - B.B. et al) construe somesort of challenge from our rivalry of positions, or similarity of diversions, we feel it only fair to warn them of the disparity in size between Sealtle, and Vancouver. Of course, should the OG go for the option of including the Portland sewers, we would have no choice, but to rent the nearest B - 28, and fly to New York City. Consider yourselves warned.

C.B.

Coming Events

The 12th in the continuing series of rope practices happened the 25th of January. To plan, or for information on the next one call Curt Black, 522-9817.

The February Meeting will be held at the home of Dr. W. R. Halliday, 1117 36th Ave. E Seattle Wa., at 8:00 PM February 14. This is the Second Friday of the month and is the night before the NWRA Educational Seminar starts. All northwest cavers are encouraged to cont to the recting - we will find places (with gretto members) to stay after the meeting. We are currently trying to get the Exploration Northwest film on V.I.C.E.G. Caving for the evening; it should be good, so don't miss it!!

I would ope by now that you have the dates for the seminar memorized, but anyway they are Saturday, Sunday, and Fonday February 15, 16, & 17, Washington's Birthday weekend. Presentations start 8:00 A.M. Saturday, registration fee is only \$1.50 for all three days, and everyone in the Northwest (at least caver-types) are encouraged to come, so do!!! All this is happening at Camp Long, West Seattle.*

THIS MONTHS COVER was done by Barb Macleod almost 5 years ago - obviously some things have changed (politically), and others haven't (caves still don't go).

THE (ASCADE CAVER is 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 proceeds go to the Northwest Regional Association

UNDER THE U. of W.: A Midnight Visitation Upon "Lower-Lower Campus"

By Curt Black

After months of systematically checking leads, I could hardly believe it when, on the way to the grotto meeting, Bruce Unger casually told me of a manhole cover on campus which led into what sounded like an extensive system of utility tunnels.

Now, before I reinforce anyone's ideas that Washington caving has little to offer beyond lava tubes, and summit steam caves, and that these potential caves are all but non-existant in the winter, let me say that while this all may be true, it was not pur primary motivation for seeking the sub-sub-basements. of certain campus buildings. It was that most of us are impoverished students. and so, are short of both the money and time that makes being a Washington caver bearable (that is the money and time to travel to other states in which to do our caving). Also consider that thrill of being where no man caver has been before. It should also be noted that this is by far Washington's most comfortable "cave" system with no water, and air temperatures from the high 60's up. Finally, there is the fact that few other Washington caves offer this particular type of challenge; that is, that few of them have campus security forces guarding them 24 hours a day.

Word went out at the meeting, and a group of potenetial tunnel runners met at the Northlake for a pizza feed/strategy session. (The astute reader will note that this army, like most, travels on it's stomach.) What emerged, after a drastic thinning by pizzas, and time (not to mention beer) was a questionable looking group of stalwarts - who, after being outfitted with flashlights, proceeded to notth campus. where we parked. The group casually walking across campus at 12:30 AM Tuesday consisted of Bill Capron, flashlight supplier; Bruce Unger, enterance locater; Rod Crawford, Vetran tunnel runner; and myself, let us say seeker of wisdom and truth. We arrived at the entrance, were shown the man-hole, and not being complete fools, balked at the prospects of removing and silently replacing the cover in a place where even our footsteps seemed to echo for seconds after being made.

dissolved in the adventurous atmosphere, and soon four bodies Our wisdom had climbed through the hole, and down the ladder. What had been an easy job for four people on the surface proved to be almost impossible from below on the ladder, and the cover seated itself with an agonizing clang which seemed to last for minutes. "Nothing we can do now, let's get moving." It was from statements similar to the preceeding that the sense of urgency which accompanied us during our stay underground arose, and a comment similar to this started us moving cautiously, but at a fair

pace through the system.

The system itself was as dry as dust (although showing signs of seasonal flooding), warmer than the surface is even during summer, and is most accomidating to cavers, being in many places, 7 feet high and having lights. The lights did much to inhance our feeling for the vastness of the system, as several times we came to intersections where, looking in both directions, lights would seem to dissappear in a distant haze. The presence of large numbers of pipes and ducts, sudden changes in passage demension, and our constant vigalance for (horror of horrors) intruder alarms, did much to, while feeding the fires of our excitement, to keep our pace down.

Systematically noting all the leads as we went, we kept to the main axis of the system, but eventually came to a "T". Checking all leads to the right we proceeded to the left, and eventually came to a three way branch . We took a

short ladder up one of the leads and continued down a corridor, arriving at a door. Opening it cautiously, and even more cautiously blocking it just slightly open (it locked from the side we were now on) we proceeded up; the only way out of the shaft we were now standing in the bottom of. Rising 20 feet we came to a very brightly lighted area, and began to worry about encounter with the people who belonged there (and those who would surely know that we didn't). Rapidly passing two doors we decided to take refuge in a dimly lighted area at the far end of the corridor, and down some stairs. All this place offered in darkness was more than compensated for by the noise level - we were sure not to be disturbed; workmen can't leagally be exposed to such racket. We quickly chaeked the room no leads - and retreated, checking one higher lead in the shaft before going back out through the door which was thankfully open. This lead appeared to me to be too small (4 by 4 feet) to be worth checking at this time (Yes, there are some obvious differences between this and regular washington "caving").

'Continuing back to the main passage, we chose one of the remaining two leads, and soon came to a grill work which blocked the passage. Locating a small inspection port through the grill, we inspected the room on the other side finding large quantities of equipment - blocks and tackel and one 18" alum. crecent wrench luckily for the U. of W. we wern't there to steal, but only to learn, and the equipment remained where it was. Leaving the room through the only apparent exit we climbed 15 feet through a ceiling hatch, and came to another room at the end of which were two steel doors. Carefully opening the doors, in another moment we were out. As the doors snapped shut behind us we gave up contact with lower

campus, and knew that we were home free.

This illusion was rapidly shattered by the sound of the appraching police car. As its lights washed over us - standing next to that incriminating door, our knees elbows, and shoulders covered with thick dust, and flashlights bulging from our pockets - we began casually walking toward the corner of the building. By what can be explained only by a relaps of acute paranoia, once we were safely around the corner, four cavers ran in four different directions; meeting back at the car some minutes later. On the way home discussiongranged from a critique of the nights activities, to future plans for future assaults, and it's doubted by no-one that we will soon return. So long as we remain undetected - and the bomb toters keep their low posture - it looks like we will continue to benifit from the relaxed security of the forces which control both upper and lower campus.

(Interested persons are referred to an article on similar, earlier (5 years ago) exploits by Barb Macleod which appeared in the Xanadu Quarterly, Vol. 1. no. 1. - Ed.)

!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!! \$\$\$!!!

A Recent Letter from Tom Miller:

Jan. 15, 1975 somewhere off the Belizean

After some fine caving ... I'm heading for Guatemala City, and then Venezuella. Right now I'm on an accient diesel boat working its way to ... southern Belize. (he describes the boat as hardly sea-worthy) ... anyway, it's fortunate the typhoon season is over. I may possibly delay in Belize as the topo maps show 3 rivers going underground for up to 2 miles before re-emerging. In the western central section is shown a river that dissappears underground and resurges 5 times in 8 miles, once it stays under for 4 miles. Like the other caves this, too, is unvisited, all virgin. P I am traveling alone again...the fellow with me came down with what appears to be histo - he has the classic symptoms, and visited a known histo cave with me 8 days before getting sick. Cacahuamilpe, Xtacumbi-Xuman, Lotun, Caves Branch Cave, Petroglyph, etc. are all fantastic - wish you could see them.

(This subversive sends me a letter like this in the middle of my quarter, Yetch!! I guess I'll just have to concentrate even harder on Bot Flies --ed.)

Trip Reports

Trip Report: Vancouver Island By Bill Capron
Dec. 26-30, Ruthie & Bill Capron, Katy, Curt Black, & VICEG

On Dec. 26, 1974, we left Seattle for Vancouver Island. After a stop at the border where we were told, "if you find any big hairy men you'll be on TV," we continued to Victoria arriving at Ken Sinkiwitzes home about 7:30. We then visited the Shaws (Pat & Mike) and after a trip to the harbor breakwater we retired to Pips home to sleep & make plans. The next day was spent sightseeing - Butchart Gardens, the Beaver Pub. etc. We again spent the night at Pips home, leaving early the next morning for Port Alberni & Cascade Cave.

We left Victoria with Pat Shaw and met Bonwen Hollway & her friend just outside of town where they joined us. We drove on to Port Alberni where we left the road. Almost to the top of the "good logging road," the car's gas tank suffered a three inch gash. Hastily retreating down the road, we reached the bottom as the last drops came from the tank. A fter minor difficulties, the tank was repaired at a gas station. We then went to Bonwen's relatives for dinner. (All the Canadians were quite gracious to us.) Suitably refreshed, we went to Bonwen's friend who had agreed to put us up that night. Finally, at about 8 pm, the three Canadians & we left for the cave.

Rappelling through the gate thirty feet to the floor, we spiralled our way through the breakdown to the stream passage at the bottom of the crawl. The stream passage was high & narrow, & at one point it was necessary to bridge across the passage several feet above the swirling waters. Beturning to the floor we soon reached a steep canyon perpendicular to our path. It is possible to zig-zag across the near wall of the canyon & doing so we reached the bottom.

The stream & our group soon parted, with the stream veering to the right as we turned left. The stream's route was shorter than ours, tho less comfortable. Surprisingly soon after we left the stream, there was utter silence around us, quite a change from the bubbling stream. The passage was low and we duck-walked, but at least it was dry. A couple hundred feet further (we'd already surpassed most Washington caves ...), we came to a small room where we rested. Some in the group less same than the others decided to go down Fleming's Frastration, which started in the small room. It is a narrow, long, tortuous passage leading to a small room and nothing else. Before finishing, they came to their senses & returned.

Right after leaving this room we came to one of the most beautiful sections of the cave. (It has splendid spelsothems thrucut.) This, the Jericho Room, leads directly into Discouragement Crawl, and thence down passage to the Mars Room. Something should be said about Discouragement, but I don't know what. Suffice it to say that after straggling thru a crevice which constently hangers for your bod, you pop out the end some four feet off the ground where one is left with the option of flipping over backwards or walking forward on his hands till his feet fall from the hole and crash to the ground behind him. The Mars Room was an excellent place for a dextrose break. Continuing to the point where the "river" from Carne's Carnage flowed past us toward Double Trouble (a pit), we say "Good-bye," to Pat as he is flushed down stream. While the others await his return, Surt & Irt explore the waterfall from Carne's, but find it a

little too wet. Pat returned & we found our way out of the Mars Room and back to the entrance area near the stream.

Now we had to get back up the canyon wall which we had previously traversed back and forth across. After doing so, it was past 1 am.

The only parts left before the ladder climb were the stream passage & the breakdown crawl. All the Cenadians successfully bridged along above the stream. Now this part was tricky. One's legs are about parallel to the floor and about six feet above it. There are scattered holds far apart. One American crossed and then Pat started guiding one of the others across. She got about halfway across, reached for a new foothold, missed it, and tried to regain the old one. It was not regained and the caver was supported by left leg & right arm. Well, the right arm gave, the caver was suspended by the left foot, vertically, upside down. This situation did not last & she was soon collapsed motionless in the stream.

Quickly assessing the condition of the caver, we left her to her fate and negotiated the ladder easily. Our diminished and exhausted party emerged into a snow storm about 3 am, six hours after entering.

We went to the west coast of the island the next day and returned to Seattle via Vancouver (city) and Clarence Hronek.

Trip Report: 7 and 14 December 1974 Bellingham Area Talus Caves

by Rod Crawford

December saw the first trip to these, the most important talus caves in Washington, by Cascade Grotto members in quite a number of years. In fact, there are four groups of talus caves, all in the sandstone of the Chuckanut formation, in the area just south of Bellingham. Most of them are best located in the company of Clyde Senger, who visits them every winter to record bat bands. By far the most extensive group is that known as Senger's Talus Caves, in the vicinity of Lily and Lizard Lakes on the Bellingham South Quadrangle. At the end of a two mile hike on a very reasonable trail, they include a number of smaller caves, of fifty or a hundred feet, and one or two very extensive systems, amounting to many hundreds of feet, replete with all manner of fun crawlways, chimneys, and the like. They have never been mapped. On Saturday the seventh, little more than one hour after leaving Seattle, Bob Tower [with his trusty Volvo], Bill and Ruth Capron, and myself arrived at the appointed meeting place. Later we made connections with Dr. Senger, who had arrived at the real appointed meeting place. A friendly neighborhood dog followed us up the trail but refused to enter any caves. Most of us hugely enjoyed ourselves. Ruth didn't much like chimneying over the 10' deep lake, which, in view of her subsequent experience, is understandable. Fifteen bats (Plecotus) were recorded, and I collected multitudinous Brown Tissue Moths, with seferal interesting spiders, plus springtails and mites from pack rat dung, which, along with nests of its progenitor, was not in short supply. Amazingly, we were down to the car before sunset. On the fourteenth I took Larry McTigue and his sister Claudia up. Larry, for some reason, was not impressed with the caves. Perhaps because I was unable to locate the entrance of the lower part of the system (oh, well). We were entirely unable to persuade Claudia to negotiate a certain crawlway known as "The Vise". Upon descending, we hiked down to the beach at sunset and searched for a littoral cave called Clayton Bay Cave, described in the Caver, v. 6 #1, meeting with no success. However, the beach hike was enjoyable for Larry, who hadn't been on a beach in years, and there are still prospects for eventually finding this cave (especially at low tide.) *see above.

grant for the uniquestical hash updated in a grade of histories. The second control of the second control of

and apply of the time and particles the second of second one will be

COME ALL YE JOLLY CAVERS a ballad in 12 stanzas

by A. Speleothus

Come all ye jolly cavers, and listen to my tale:

About the ways of darkness, and limestone's hill and vale.

I'll tell you of the times we've had to keep our caverns free,

And of the deeds for which we will go down in history.

I'll sing a song of lava tubes, of sinkholes in the plain,
I'll tell you of the times we've had out camping in the rain,
Of beauteous alpine meadows, with huckleberries round,
The places that we've gone to find the caverns underground.

I moved out to Seattle in nineteen sixty five.

The places that I'd caved before are still so much alive.
But limestone near Seattle is awfully scarce it seems,

And caves just for an afternoon are not in caver's dreams.

I met some friends at Trout Lake, about five hours away;
The lava tubes were many, that we saw that day.
They weren't quite so simple as what I'd often heard,
But the hardness of the lava was really quite absurd.

I tore up all my clothes and gear, a crawling through those holes; The curse of all good cavers, and bound to try their souls. The lava tubes of Washington are long and large as well. But the everpiercing rock shards will send your soul to Rell.

Mile long Dynamited, and Ape o'er two miles long
Are worth the trip to mountain land and probly worth this song,
But 50 million others, of many shapes and hue
Could just as well be sent to Hell, their loss I would not rue.

An hour from Seattle, high in the Cascade Peaks,
Snoqualamie Pass is waiting for the fair caver who seeks
A beauteous Alpine scenery and caverns in limestone;
But the hike up to the Cave Ridge should not be taken alone.

Three thousand feet above the pass, upon a lonely ridge,

The only limestone caves around are not reached by a bridge.

The lonely vista is best reached by hiking o'er no path,

Up the steep rough mountain side for two hours and a half.

But when the ridge is reached, my friends, the huckleberries grow;
And caves abound (over fifteen, at least of those we know).
The deepest o'er 500 deep, but not much longer too,
With several pits and muddy streams, the caver for to woo.

I'd lived in old Montana, where size of caves is first;
Many of Snoqualamie size we'd visit in our thirst:
But returning to them often would tax a caver's brain,
Especially when he'd have to hike through damned infernal rain.

selection of an Every significant constraints

The state of the s

A compared to the second secon

Address of the control of the contro

Company of the second of the s

But the dauntless Cascade Cavers keep sloggin through the mud;
To get to these small pigpen caves, and wallow in their crud.
The height of caving glory is Newton's Blindman's Bluff,
The 80 at the bottom; but the going's not that rough.

I'm going to leave Seattle, to limestone I will go,
A land where rain comes seldom, and in winter there is snow.
Where smog is far away, and the air is pure and sweet,
In far off Rocky Mountain land, where caving can't be beat.

Mount St. Helens National Monument -The Time for Action Draws Near

Dr. Halliday has recently learned of plans by the new representative from S.W. Washington, Don Bonker, to start pushing for the Mt. St. Helens national Monument. The Area being considered includes the Lava Caves area, the mountain itself, Spirit Lake, and some back country to the north and East. As soon as the plans are made public you are encouraged to write supportive letters to your congressman. Right now just keep waiting for, and watching for the announcement.

\$\$\$ &&& \$\$\$ &&& \$\$\$ &&& \$\$\$ &&& \$\$\$ &&& \$\$\$ &&& \$\$\$

VULCANOSPELEOLOG ICAL ABSTRACTS -- W.R.H.

Dawson, Glenda. 1974. Trip Reports. AMCS News, V. 4, no. 4, p. 114.

A team mapped a lava tube at Ocampa, Mexico, about 1/2 mile long, mostly about 10 ft in diameter with "some very large roomy areas." 3 collapse entrances. Railroad tracks. They quit when the crawling got down to 7 inches.

(another article on cave archeological sites, in the same issue, also mentions several caves in Tamaulipas some of which may be lava tubes.)

Bittinger, Craig, & Cantu, Amador. Cueva de los Secondarios. same issue. p. 139-140, including map.

These short articles describe the geology and characteristics of the cave mentioned by G. Dawson above, or another nearby. There are said to be several "huge" tubes in this area of Tamaulipas. The flow is about 10 ft thick and the cave is a segment of low braided complex. About 350 feet of passage is present. Vampire bats are present. The site is "near the edge of a lava flow approximately 7 km from the old volcanic cone of La Sierra Partida", a few miles from Ocampo.

and the first term of the term of the contract of the con-

Albania in the control of the contro

148 and 158 an

Glaciospeleological Note --- John F. Bridge, Central Ohio Grotto ... (in the summer of 1973) we tooked at pseudokarst on the Malaspina Glacier. A real death trap to explore.

Vulcanospeleological Abstract

--W. R. H.

Montoriol Pous, Joaquin. 1972. Contribucion al concocmiento de la Raufarsholshellir (Hjalli, Islandia) con un estudio sobre la tipologia vulcanoespeleologènica. Speleon, V. 19, pp. 5-24.

This is the third of Montoriol's well-illustrated studies of Icelandic caves, the previous two dealing with Grendavikshellir, and with Surtshellir and Stephanshellir (-hellir means cave in Icelandic). The basic studies were made in 1967, and his conclusions are combined with additional studies of lava tube caves on Lanzarote, Fuerteventura and Tenerife in the Canary Islands (prior to this report I was unaware of lava tubes on Fuerteventura although I also have studied those of the Canaries). Raufarshelshellir is about 850 meters from end to end; British studies have shown a total of about 1,350 meters of passages. Montoriol describes ; sketches and provides photos of notable speleogenetic features including a fine lava fall. The plan is unitary except for a terminal trifurcation. Notable ice speleothems seprarates lava caves into two basic groups, epigenetic are present. He and syngenetic; the former are those which develop as a result of erosive processes subsequent to vulcanospeleogenesis. Syngenetic caves are subdivided extensively. Fractogenic caves are not further divided; pneumatogenic ones are still further divided into explosive and "cutaneous" referring to shallow pockets. The more important subtypes are "reogenetic", subdivided into subterranean and subaerial types, the latter still further subdivided into serpentiform and embudiform caves. The most important are the subterranean.

Unfortunately Montoriol still treats Cuefa del Viento and Cueva de Los Verdes as individual caves, which they are not. However he does list the Surtshellir-Stephanshellir system as a "sistema."

Fuerteventura's La Cueva is stated to be more than 2 km long.

While this type of classification is strongly divergent from those in the English-language literature, this is a significant paper which should be studied in detail by all serious vulcanospeleologists - like Montoriol's other vulcanospeleological *studies.

Calcareospeleological Abstract

Allan, John A. 1914. Geology of Field Map-area, B.C. and Alberta. Canada Dept. of Mines Memoir 55, p. 68.

"On both sides of the Yoho valley, over 500 feet above the floor and near its mouth, caves have been weathered and dissolved out of this formation (marble of the Cathedral formation) along the fracture zones. The waters percolating through the rock are heavily loaded with carbonates in solution, so that on the floor of these caves a hard calcareous tufa has been formed. One of the caves is about 100 feet deep. On the north slope of Mt. Stephen, overlooking the railway, there is a cave in the same formation. It is well known locally as "Crystal cave, since in it, along a fracture, were found numerous well-formed quartz crystals."

The many appears the second of the first plants and expenses plants from the control of the cont

and the second of the second

Moths, with their much less numerous relatives butterflies, belong to the insect order Lepidoptera. The order is a very large and diverse one, a subject far too intricate for full treatment in these pages. Therefore, I will here consider only the two species of moth that are commonly met with in Washington caves.

Small moths called "micromoths" may feed on fungi in some caves, but none of these are known from Washington caves. The moths so far found in our caves comprise two fairly common species that enter caves and other secluded places for overwintering. They can be found clinging to cave walls as early as late September. Most probably emerge by March, if they find their way out at all, and the rest by May.

The most common Washington cave moth is <u>Triphosa haesitata</u>, the "Brown Tissue Moth", shown in the stardard "spread" condition on the next page. More familiar to cavers is the resting position, also illustrated. They are often found in large groups on cave walls, as well as singly. They are found in caves in forested areas throughout the state, sometimes hundreds of feet from an entrance. The moths in the photograph on p. 81 of Caves of Washington are probably Triphosa.

Triphosa belongs to the family Geometridae, so called because the larvae are the familiar "measuring worms" or "inchworms" which travel by pushing the middle of the body into a loop. The larvae of T. haesitata are green with white lines; they feed in summer on a wide variety of plants including cascara, plum, hawthorn, and probably Oregon Grape. The adults probably emerge from their flimsy cocoons in late summer and early fall. The apparent long life of the adults is amazing in view of their inability to eat or drink; the mouth parts are atrophied and the adult survives entirely on its internal reserves. Eggs are laid in the spring after the moth emerges from the overwintering phase. The relatively constant temperatures in caves may keep many moths from emerging at all. Other hazards to cave Triphosa include bats, which must consume large numbers of them to judge from the accumulations of wings. For several years, specimens have been found trapped on the walls of a Vancouver Island cave by a fungus which begins to grow while they are quiescent. One of these specimens was supposed to have been forwarded to me, but seems to have lost its way.

The wing colors of Triphosa are shades of brown and tan. The overall hue may

be quite variable between specimens.

The only other moth species found so far in Washington caves is Scoliopteryx libatrix, the "Herald Moth" or "Hawthorn Moth". Its colors are much more striking than those of Triphosa, with white lines and a brilliant orange patch against the dark brown of the forewing. Scoliopteryx belongs to the family Noctuidae, adults of which are often called "millers" and are noted for their attraction to lights --- really a consequence of their navigation system, which is based on keeping a constant angle to distant lights such as the Moon. Noctuid larvae are usually called "cutworms". Those of Scoliopteryx feed in summer on the leaves of willows and poplars. They are very slender, green with yellowish or reddish lateral lines. The adults overwinter, then lay eggs in the spring. The mouthparts, unlike those of Triphosa, are fully functional and adults are able to drink and to feed on various liquid substances. They can probably be found in caves in forested areas throughout the state. They are not as common in caves as Triphosa, and do not seem to overwinter in clusters. I have single specimens from the cave in the Circle Peak limestone, Snohomish County; Spider Cave, Mt. St. Helens; and Dry Creek Cave, Trout Lake, whence it is also listed in Caves of Washington. The pattern of the wings and the resting position are to be seen in the accompanying figures.

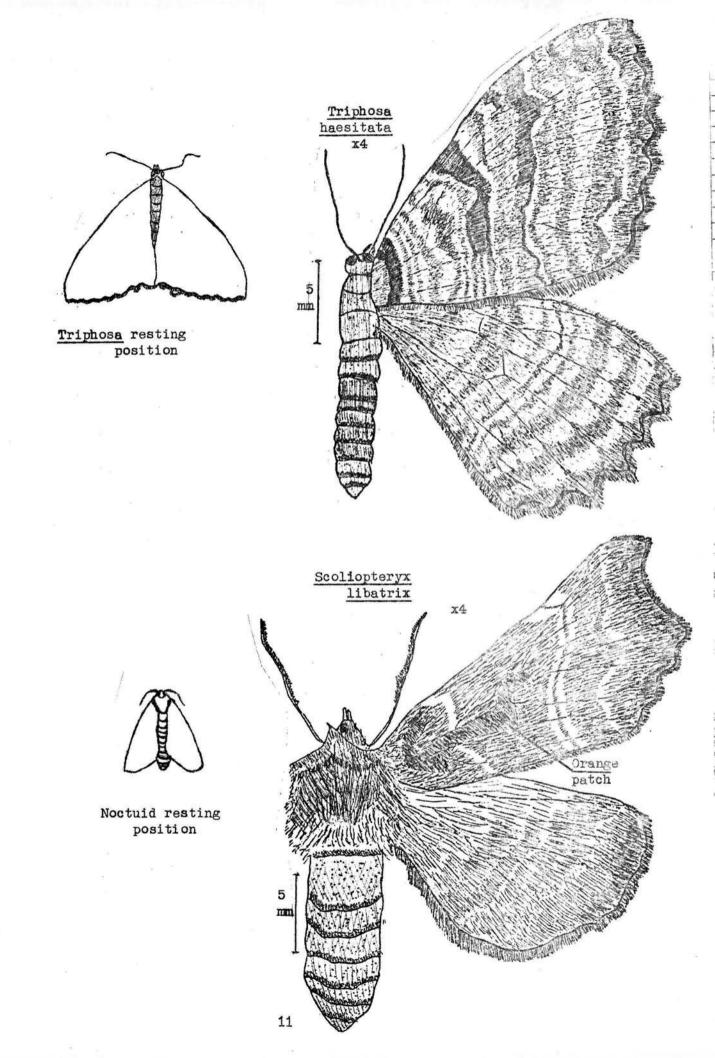
Thanks are due Jon Pelham, lepidopterist, for continual assistance during the

preparation of this article.

THE RESIDENCE OF THE PROPERTY OF THE PROPERTY

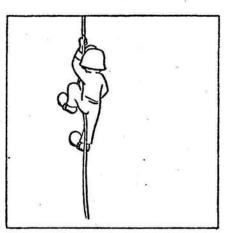
and the state of the state of the state of

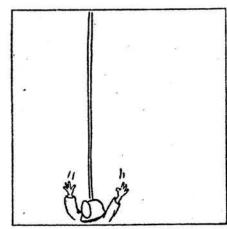
A MATERIAL STORM OF LANGE WELL STORM STORM

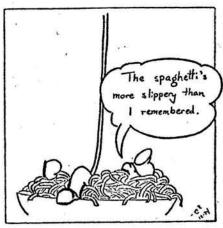


		₩ °
*		
	4.5%	
		*
		1572









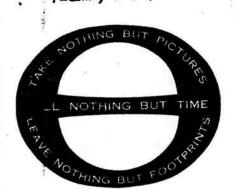
by Chuck Coughlin

SUBSCRIBE TO NORTHWEST CAVING

Quarterly Publication of the N.W.R.A., Subscription Rate \$2.50/yr. to individuals Bulk Rate (through your grotto) \$2.00/yr. Regular Cascade Members recieve it automatically Caver subscribers may pay \$2.00 and use our Bulk Subscription (Mailed with your Gaver).

Material, and new subscriptions are both being activly solicited! Send either to the address listed below.

THE CASCADE CAVER 3530 Greenwood Av. Tacoma, Wa. 98466





. However, and the second seco	1	
	2	