

Vol. 16 #6
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THE CASCADE CAVER

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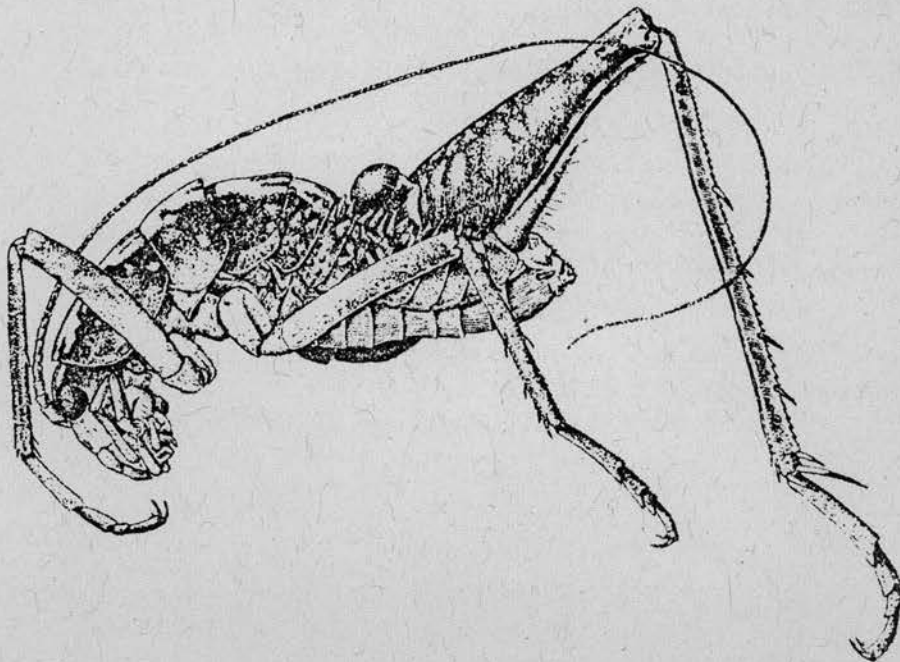
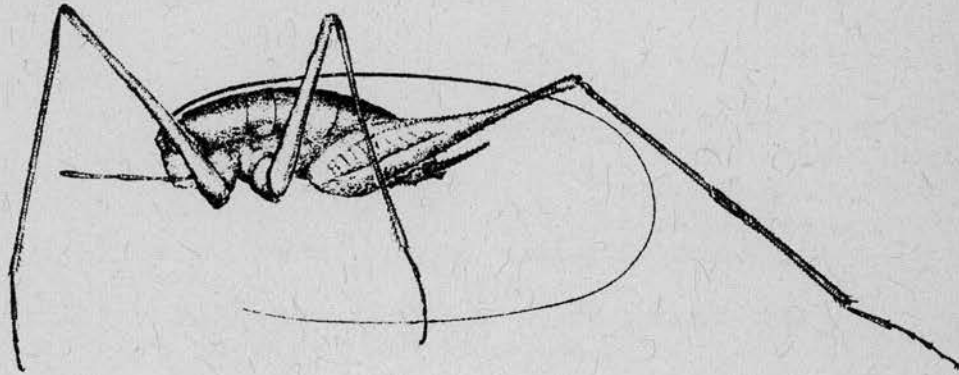
SEATTLE'S ONLY GENUINE UNDERGROUND NEWSPAPER

Volume 16 No. 6

Editor: Rod Crawford

June 1977

(Go ahead--laugh!)



THE CASCADE CAVER tries manfully (but sometimes fails) to be published ten times a year by the Cascade Grotto of the National Speleological Society. Subscription rate is \$4.00 per year (i.e. ten issues). Full grotto dues are \$4.50, and family memberships (not including subscription) 50¢. All payments should be made to the Grotto treasurer, Chuck Coughlin, 6433 S. 127th Pl., Seattle, Washington 98178.

COMING EVENTS

MONDAY DECEMBER 19 --- CASCADE GROTTO MEETING!

Meeting in Room 325, Seattle Public Library, 4th/5th and Madison, Seattle, as usual, starting 7:30 PM with the room open from 7:00. The agenda will include

GROTTO ELECTIONS!

Nominations received to date are:

Chairman: Ed Crawford

Vice-chairman: Russ Turner

Secretary-Treasurer: Russ Turner

Additional nominations will probably be accepted at the meeting.

Sometime in the near future: The annual Thanksgiving bat checking trip to the Mt. St. Helens cave area, postponed from Thanksgiving. Contact Rod Crawford, 543-4486 evenings.

February 18-20. 1978 Speleo-educational seminar. See announcement within.

Sometime in March: (Tentatively March 11, 12): The safety, techniques, and conservation seminar, originally to be held in Seattle. Recently there has been conversation about moving it to Vancouver, BC. Stay tuned to this publication for the latest word.

NEWS AND NOTES is postponed to the next issue for lack of time.

NEW MEMBERS

Andrew Luke (Andy Nisqually, Mt. Rainier N.P., Longmire Wash 98397.
569-2211 (Ex. 74); 569-2317 for local cave rescue.

Doug Strait 1341 Thayer Drive, Richland, Wash. 99352

NEW ADDRESS

Clarence Hronek (has moved back to):

; 5347 McKinnon St., Vancouver, BC, V5R 4C7, ph. 437-3563

OUR COVER: Camel crickets. Above: Tropidischia xanthostoma. Below: Pristoceuthophilus sargentae. See within for further details.

FEATURE

Some Notes on the Cave Register Program in Washington

Yr editor has been made the Cascade Grotto coordinator for the cave Register program, and this, along with some recent developments, seems to justify saying a few words about it in these pages.

The program was started in Washington by Oregon Grotto member Dave Jones in August 1975 when he began placing registers in southern Washington lava tube caves. Since that time, Dave has placed 15 registers in 14 Washington lava tubes. To date, nearly 200 register forms have been filled out.

The Cascade Grotto end of the project has been comparatively inactive, mainly because people (including me) don't remember to take a register along when leaving for a cave. At present there is only one active register in northern Washington, that in Windy Creek Cave. This register was placed by me on October 2, 1976. The first to sign it were two rangers who visited the cave with Bob Brown, Curt Black, and Annie Ruggles on November 12. When the cave was next visited by the Cascade Grotto, on June 13 and July 26 of this year, no more forms had been filled out (apart from those we filled out ourselves), giving us the impression that the cave was used only by cavers. Not so! On September 5 we found three filled out forms. On September 25th we found four more! If not for the register, we would never have had this valuable information on how word spreads of a new cave.

There are several additional caves in our area that could use registers. One might mention Ramsey Cave, Jackman Creek Cave, Big Four Glacier Cave, Cascade Cave on Cave Ridge, and so on. Anyone interested in helping out, please contact yr editor.

One of the main goals of the program is to compile statistics on who is using Washington caves. Dave Jones will extract the data and send it on to John Wilson, NSS Social Science chairman, who has a computer program to summarize the relevant statistics.

It is easy to see that these statistics will be a bit biased if cavers don't fill out the forms. We ask, therefore, that even if you think registers are just for ouigees and the whole thing is silly anyway, to please fill in the minimum data any time you visit a cave with a register, for the sake of our statistics.

A sample register form appears on the next page. An experienced caver need not fill in the first half of the form, as these questions are of lesser importance. The information necessary for the statistical "caver profile" is in the questions which have been circled on this sample form.

Most of the questions are self-explanatory. Question #5, "Give the approximate number of caves you have entered since you started caving", is poorly worded; what it means is the number of times you have entered a cave, including return visits to previously visited caves. Needless to say, only your best guess of this number is required.

+ + + + + + + + +

Members of the National Speleological Society are conducting a survey to determine the impact of caving activity on the caves in this state. Your help is needed and appreciated. We request that each member of your party fill out a separate questionnaire.

QUESTIONS:

1. I first heard about and became interested in caves from:
 a friend (or perhaps enemy).
 a newspaper article, radio or television.
 a book, Title: _____
 other: _____
2. I learned the location of this cave from:
 a friend.
 a newspaper article, radio or television.
 a book, Title: _____
 other: _____

YES NO

- This is my first experience in exploring a cave.
 This is the first time I have visited this cave.
 I would like to join a cave club.
 I belong to a caving or outdoor organization.
Name: _____
 I have filled out this form at a previous time.

3. Circle the type of primary light source you are now using:
Carbide Lantern Flashlight Helmet Mounted Electric Candle Other
4. What year did you first enter a wild (non-commercial cave?). _____
5. Give the approximate number of caves you have entered since you started caving: _____
6. I am interested in caves for the following reasons: _____

7. PLEASE PRINT
Name _____ Date: _____
Address _____ Age Male Female
City or Town _____ State _____ Phone _____
Number in Party _____ Zip _____

If you are interested in becoming involved in organized caving, contact:

CIRCLED QUESTIONS
ARE THE MOST
IMPORTANT

THE CASCADE GROTTO
207 HUB, (FK-10)
BOX 98
UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

TAKE NOTHING BUT PICTURES.
LEAVE NOTHING BUT FOOTPRINTS.
KILL NOTHING BUT TIME.

CALCIFIED TRIP REPORTS

Black Mountain Trip, June 12

by Stan Pugh

After a long winter of no caving, Rod decided to call me to see if I was interested in destroying my Wagoneer on a trip to Black Mountain. Little did he know that both the author and the Wagoneer would nearly be lost on this trip!

What a day to go caving! Beautiful Washington sunshine...Rod had never been on Black Mountain when he could see the sun. After picking up Rod at the Museum, about twenty minutes late, we headed to Jan Roberts' house...who do you suppose we saw peeking through the curtains in his pajamas...after forty-five minutes we headed north to meet Wes and Debbie Gannaway from Bellingham. True to form, we pulled into the spot only 90 minutes late.

After one false start, we headed up the famous "Destroying Road". Within a mile or so, Wes decided to park his van and ride with us...smart decision. The narrow jeep road proceeded upwards, and after crossing two streams we came to the part where the road was only half there due to a slide. "You should have no trouble," I was told, "A Scout made it across easily." We dug it out a little and with everyone else watching I proceeded to cross very slowly in "compound low"...whew, made it!! We drove another mile, unloaded and headed up the trail. This was going to be fun!

"Hey, look at this," I shouted, "snow in the entrance to Elephant Hide Cave!"

"How do we get down there?" Debbie quizzed.

"Walk over to the far side," instructed our leader.

After eating our lunch, Rod walked gingerly over the snow bridge to look in the entrance. "Sure is a lot of water flowing in--we will probably get quite wet," he shouted from the opening.

"Let me look," I said, walking over the snow patch. As I was bending over with a flashlight in my right hand, I placed my left hand on a large (500 lb. +) rock over the entrance...it suddenly broke loose and dropped about one inch. Wes grabbed the back of my pants and we beat a hasty retreat.

"I think I'll skip this one," I hollered as I moved up and out of the sink.

"I'm sure it's quite safe," reassured Rod [not having seen this last episode].

"It's not safe enough for me...Where is the 'pit' you mentioned" I yelled.

"...Wow, this is a real pit all right. Let's see how long it takes for this small rock to hit the bottom...twelve seconds"---don't you wish!

Oh, well, on the way down we dug out a resurgence (still didn't go), and Rod and Wes scouted a slope with some dark holes that led nowhere, while Jan and I looked at another stream area. Further down the mountain, Rod's map showed a pronounced karst area to the side of the trail...and sure enough as we broke over the ridge our eyes rested on a real "gem".

"Now this is what I call karst", I said to myself as I ran to inspect the many holes in the area. All over the area of about 200 meters square were these dainty mountain flowers. Alas, the karst was quite superficial, and the inviting openings proceeded to dead ends.

Prior to driving down the road, we checked another area on Rod's map marked "karst". It too produced no caves. It seemed that driving down was "more scary" than going up...perhaps that was because we could see where we would end up if we slid a little! At the washed out area, we widened the

road a bit more, but once again as I was halfway across the back end started sliding...sliding...I gunned the engine but didn't turn the front wheels enough to straighten out. This caused the front end to climb higher up the slide, only to come down on a very large rock...but we made it!

...and so the next time Rod calls you to take your "oversize" 4 wheel drive vehicle up Black Mountain, just be sure the washed out area has been repaired. Happy caving.

[Editor's note: this experience indicates that the last part of the road to Black Mountain is indeed unsafe for vehicles with a wide wheel base, at least until more repairing is done. A narrow vehicle such as a Scout will take it with ease, however. As for the entrance to Elephant Hide Cave, those rocks definitely were not that loose last year, but evidently frost wedging has done its insidious work over the winter. That 100 (not, I am sure, 500) pound rock will have to be knocked down before the cave is entered on the next trip. Fortunately, if the main entrance should be blocked, there is a side crawlway a short distance away that could be used as an escape route.]

* * * * *

I have just received the following announcement:

1978 SPELEO-EDUCATIONAL SEMINAR

Dear Cavers:

You are invited to the third SPELEO-EDUCATIONAL SEMINAR hosted by the Oregon Grotto and the NSS at Marshall Recreation Center in Vancouver, Washington on February 18, 19 and 20, 1978. There will be short papers, informal slide shows, vertical sessions, publication sales, small displays and a photographic workshop, and a Saturday night dinner with a guest speaker.

The dinner and registration fee will total \$4.00 if paid in advance, and \$5.00 at the Seminar.

We are now calling for papers on any cave related subjects. Please send us a tentative title by October first [n.b., I received this in November--RC] so we can publish a schedule in advance of the Seminar.

More details well be forthcoming at a future date. We are looking forward to seeing you at this year's Seminar. [Ed. note: seems to me this is the fifth, not the third...]

Best regards,

Mary White
3803 NW Lincoln Avenue
Vancouver, Washington 98660
(206) 695-4762

Ellen Benedict
8106 SE Carlton
Portland, Oregon 97206
(503) 774-1233

Seminar Coordinators

+ + + + +

ERRATUM: A survey of eclectic cave lights and techniques--Ed Crawford--
Cascade Caver, April 1977.

The current in the "Wonder" lamp should be 0.2 A instead of the 0.7 A
printed in Table I.---E.C.

THE BIOLOGIST'S CHAMBER: CAMEL CRICKETS

by Rod Crawford

Camel crickets are insects and belong to the insect order Orthoptera, which also includes true crickets, grasshoppers, katydids, and related insects. Camel crickets differ from true crickets and so forth by their lack of any trace of wings and by their high, arched back (thus the name "camel crickets"). They are sometimes called "cave crickets" but this is confusing since only a few are specialized for cave life, and some true crickets also inhabit caves. Lacking wings, they do not possess sound-producing organs, and they also lack the hearing organs that are present on the legs of true crickets. Technically, camel crickets comprise the subfamily Raphidophorinae of the family Gryllacrididae. About 125 species are known north of Mexico.

All camel crickets are nocturnal. During the day, they hide in dark damp places such as under logs, rocks, ledges, or overhangs, under bark, in hollow logs, root cavities, or animal burrows, or (aha!) in caves. Many species are able to dig burrows if unable to find any other retreat. While inactive by day, they are extremely energetic at night when they emerge from their retreats to forage. All have functional eyes but seldom require the sense of sight. Unaffected by sound, they are highly sensitive to touch, air movements, vibrations, and odors.

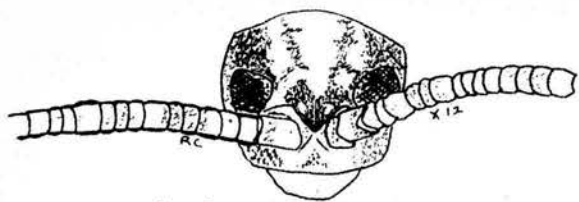
They are practically omnivorous but will not eat green vegetation. Other insects, fungi, and decaying matter have most often been noted as food in the wild. In captivity their favorite food is said to be peanut butter.

In mating the male transfers sperm to the female in a tough-walled packet called the spermatophore. Many other invertebrates share this habit. The female has a long terminal blade-like process called the ovipositor, and can thereby be distinguished from the male which has none (see figures). With this organ she deposits the eggs deep in soil, rotten wood, or other debris, a single egg in each suitable spot.

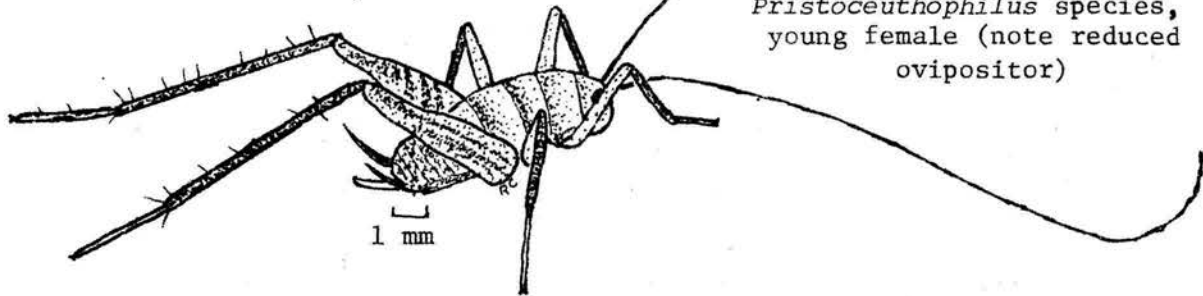
Many camel crickets have a life cycle of two years, and mature, mate, and die the second year. Thus, both mature and immature individuals may be found in most seasons. They probably mature after an average of six or seven molts, although this number and the length of the life cycle may vary according to climate and abundance of food. Immatures and females are difficult to identify.

Many vertebrates prey on camel crickets during their nocturnal wanderings, including many salamanders, some reptiles, certain mice, screech owls, burrowing owls, and certain bats such as the pallid bat (Antrozous cantwelli).

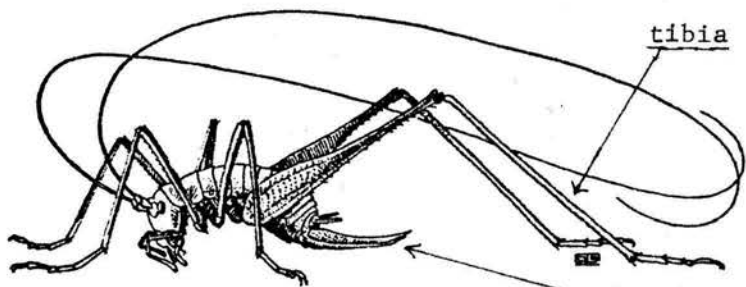
No known camel cricket is a true troglobite, but several are highly modified as troglonexes (animals that habitually spend part of their life in caves, part outside). One of the most familiar of these, and often called the cave cricket, is Hadenoecus subterraneus of caves in the Southeastern U.S. They are slender and pale yellowish brown with contrasting black eyes; the legs are very long and the antennae up to five times as long as the body. Their daytime retreats are almost always in caves. They emerge and feed outside the caves at night, largely on ants and other forest floor arthropods. They also consume some cave invertebrates, including the troglobitic beetle Neaphaenops, which in turn preys on their eggs and young. Crickets emerge from the caves less often in winter, but may be seen foraging outside on warm, wet nights. In the warmer months, H. subterraneus occur widely through the caves, but from late fall to early spring they gather in a few favored "roosting sites". A thin layer of cricket guano accumulates beneath these sites and is an important food source for the cave community. Mating occurs most often shortly after the crickets begin to gather for the winter. Females deposit the eggs



Head of *Pristoceuthophilus*
from front (showing
cone between antennae).

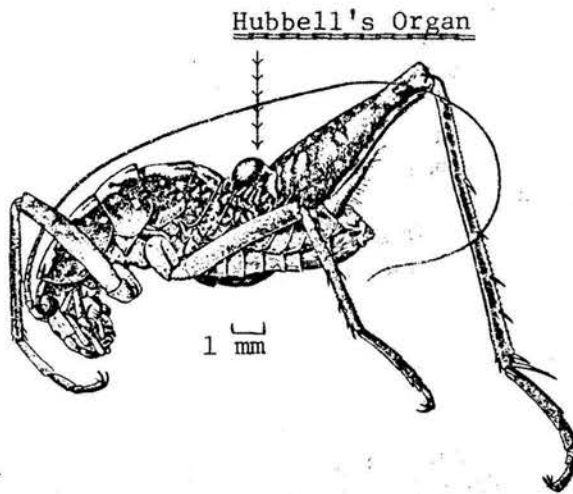


Pristoceuthophilus species,
young female (note reduced
ovipositor)

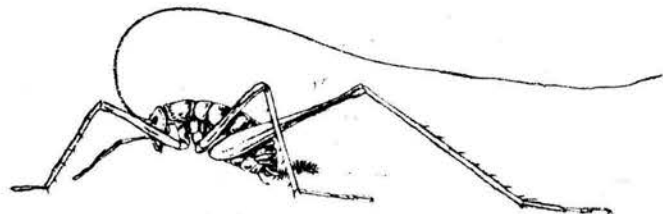


Tropidischia xanthostoma Scudder. ovipositor
female, natural size.

Pristoceuthophilus
sargentae
male



Hubbell's Organ



Hadenoeus subterraneus
Male. Natural size.

in silt on ledges or floors above flood level. The newly hatched young appear in April and May.

Samuel Scudder described the population of *Hadenoecus subterraneus* in Mammoth Cave, Kentucky, in 1861 in these words: "They were found throughout the cave to the remotest parts (seven miles or thereabouts)...especially in damp, moist situations, where they abound. They were usually jumping about with the greatest alacrity upon the walls, where only they are found, and even when disturbed, clinging to the ceiling, upon which they walked easily; they would leap away from approaching footsteps, but stop at a cessation of the noise, turning about and swaying their long antennae in a most ludicrous manner, in the direction whence the disturbance had proceeded."

Ceuthophilus longipes, a much paler and equally elongated species with somewhat similar habits, is known only from Carlsbad Cavern, New Mexico, which it shares with the darker and stockier *C. carlsbadensis*. Deer mice (*Peromyscus leucopus*) in the cave often prey upon these crickets.

Camel crickets are common in the Northwest but none are specially adapted to cave life. Instead, they are widespread throughout forested areas and generally inhabit non-cave retreats. Several species, however, regularly make use of suitable caves when any are available.

Of these Northwest species, the most distinctive is *Tropidischia xanthostoma*. Though dark brown in color and often using epigeal retreats, its legs and antennae are fully as long as those of *Hadenoecus*. The tibiae (see figure) of the hind legs are square in cross-section, a character which separates this species from all other camel crickets.

Tropidischia xanthostoma occurs from Northern California north to British Columbia, most records being from near the coast. They are abundant and conspicuous in many of the limestone caves of Vancouver Island. I have them from caves in the Kelsey Bay and Lake Cowichan areas. The species has not been recorded from any cave in Washington or Oregon, probably because few of these caves are near the coast. They are numerous in certain mines on the Olympic Peninsula, and have been found in the coast ranges of Washington and Oregon in old wells, tunnels, boxed-in springs, and under bridges. Their fantastically long legs and antennae are an excellent "pre-adaptation" for caves or any cave-like environment. One specimen, its body only 20 mm long, could extend itself to a length of eight inches from the tips of the antennae to the hind leg claws.

Like other camel crickets, *Tropidischia* emerge from their retreats at night to forage, often near a stream. There are no definite food records but one specimen was found near a nibbled mushroom. A two-year life cycle is indicated.

Of special interest to the Northwest speleologist, because they occur in lava tubes and inland limestone caves, are species of the genus *Pristoceuthophilus*. They are much smaller and shorter-legged, and therefore less conspicuous, than *Tropidischia*. Length of the adults is only 12-14 mm, and the more common juveniles average 8-10 mm. The tibiae are round. The main distinguishing feature of the group is a conical projection pointing down between the antennae (see figure).

Various species of *Pristoceuthophilus* occur from Mexico north through western U. S. and Canada. I have *P. pacificus* from the Chuckanut Mountain talus caves in Washington. *P. caelatus* occurs in all the limestone caves near Concrete, Washington. It is especially abundant in Jackman Creek Cave and in Cricket Cave which is named for it; I also have it from Oregon Caves, Oregon. *P. cercialis* probably occurs in most of the lava tubes in Skamania County, Washington, but the only definite records are from Deadhorse and Ice Rink caves,

plus an unidentified juvenile specimen from Ape Cave. *Pristoceuthophilus* probably occur in most caves in forested areas of the Northwest, but their relatively small size and dark color, along with their tendency to be solitary, make them inconspicuous.

The behavior of *Pristoceuthophilus* has not been studied. They are often found under bark, logs, or rocks. Pitfall trapping shows that they are active at night, and I would expect that like their relatives they emerge from caves at night to feed. Adults and juveniles are often present together so their life cycle is probably the usual two-year type. The males of some species (as in *P. sargentae*, illustrated) have a large, dark bump on the abdomen called Hubbell's Organ. Some specialists think this may be a gland secreting a sex-attractant scent.

Three species of the genus *Ceuthophilus* occur in the Northwest but so far they have not been found in caves. They resemble *Pristoceuthophilus* but are larger, and lack the cone on the head.

Camel crickets should be preserved in 70% alcohol, like all soft-bodied arthropods. In addition to preventing shriveling, the alcohol reduces breakage of the long legs and antennae. Specimens collected in caves can be placed directly in a vial of alcohol. If none are found inside the cave, one can resort to subterfuge and place a small pitfall trap, such as a glass jar buried to the lip, outside the entrance overnight. Such pitfalls should not be left in place for long periods. They are especially effective if baited with molasses; however, in this case one must wash the specimens before preserving them.

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PRELIMINARY LIST OF THE WORLD'S LONGEST LAVA TUBES

by Rod Crawford

The following is an expansion of the "List of some long lava tubes" that appeared in the July, 1976, issue of the Cascade Caver. This list represents considerably more research, but is still doubtless very incomplete. Readers are cordially invited to submit additions or corrections. Yr editor's goal is to make this 'ere International Journal of Vulcanospeleology the authority for lava tube statistics.

The following list aims to include each unsegmented lava tube cave with 2000 or more meters of passage. Some of the data given are qualified or questionable; see the notes below for further information.

<u>Cave & location</u>	<u>Length, m</u>	<u>Depth, m</u>	<u>Length, miles</u>	
1. Leviathan Cave Kenya (Chyulu Hills)	11,122	470	6.91	
2. Kazumura Cave Hawaii Island, Hawaii	10,000+	200	6.21	
3. Bilremos-gul Cheju-do, S. Korea	8000	---	4.97	Unconfirmed
4. Cueva de los Breveritas Tenerife, Canary Is.	7690	261	4.78	
5. Bilcino-gul Cheju-do, S. Korea	6000 (apr.)	---	3.73	Unconfirmed
6. Manjang-gul Cheju-do, Korea	4550	---	2.83	
7. Duck Creek Lava Tube Kane Co., Utah	3674	---	2.28	
8. Ape Cave Skamania Co., Washington	3400+	198	2.11	
9. Offal Cave Maui Island, Hawaii	3400 (apr.)	---	2.11	
10. Kalmanshellir Iceland	3000 (apr.)	---	1.86	Unconfirmed
11. Susan-gul Cheju-do, Korea	3000 (apr.)	---	1.86	Unconfirmed
12. Falls Creek Cave Skamania Co., Washington	2797	126	1.74	
13. Dynamited Cave Skamania Co., Washington	2388	107.5	1.48	
14. Socheon-gul Cheju-do, S. Korea	2092	---	1.30	
15. Catacombs Cave California	2000	---	1.24	

My apologies--due to lack of space, the notes for this list will be included in the next issue.

CASCADE GROTTO STORE
Bill Capron, keeper: Phone 784-8497
Price List, July 1977

Cave Packs	\$1.50
Carbide	50¢/lb.
Judson kneepads, pair	4.50
Helmets	*
Chin Straps	.85
Premier Carbide Lamps	9.25
Lamp Brackets	1.00
Lamp Felts	2/15¢
Lamp Tips	.20
Lamp Flints	3/25¢
Lamp Gaskets	.10
MSA Edison Cell Headlamps	*
Gibbs Ascenders (spring)	8.50
Gibbs (quick release)	10.50
Bonaiti D. Carabiners	2.50
Bonaiti Locking D	3.25
Cascade Grotto Patches	1.50
NWRA Patches	1.50
Cascade Grotto Decals	.25
NSS Decals	.20

*Contact Keeper for Information.

Editor's note: Bill never comes to meetings, so if you want anything from the store you will have to call him.

GROTTO MEETING
THIS
MONDAY
DEC. 19

ALL YOU

TURKEYS

WHO HAVEN'T BEEN TO A MEETING
IN SIX MONTHS

HAD BETTER COME!

SEE INSIDE FRONT COVER FOR DETAILS.

THE CASCADE CAVER
207 Hub (FK-10) Box 98
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Take
Nothing
But
Pictures
Leave
Nothing
But
Footprints