

# SAGRAG

SEPTEMBER-OCTOBER 1997  
National Speleological Society

VOLUME 16 NUMBER 5  
Shasta Area Grotto



Bigfoot banner from Pacific Northwest Museum.

INSIDE: Jaguar bones found in Oregon Caves  
Report on Marble Mountains Labor Day Speleocamp

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The SAG RAG is published by the Shasta Area Grotto of the National Speleological Society, Grotto meetings are held at different locations the fourth Friday of each month at 7:30 p.m. Meeting locations are announced in the SAG RAG, Membership dues are \$6 dollars per year and include newsletter subscription. Original material not otherwise noted is copyright to the SAG RAG. Such material may be copied with credit given to the author and the SAG RAG. For use outside of the caving community, please seek the permission of the author or editor first. Send material for publication any time to Bighorn Broeckel, 2916 Deer Meadows Road, Yreka, CA 96097. Material intended for the next newsletter is due by the 10th of the even month.

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**EDITORIAL:** The others had already gone up to the cave. Rick and I were done ridgewalking, having only found a little marble contaminating the schist off in a new area. We were thinking about going home, but decided to go on up to check the others and to get my rope back. And then, there was the matter of the entrance to look at.

So up the hill we went. Ricks a climber, and he talked me up to the entrance. The others were not there. No equipment could be seen. But there was the cave, and we had no lights. We sat in the alcove high on the cliff. In the back of the alcove, a crawlway went into the cliff. We went in and sat up in a small room, and let our eyes adjust to the low natural light.

The crevice in the ceiling was too dark to check. After a while, we could barely make out another crawlway leading off to the right. I crawled into utter darkness, one or two body lengths and explored the cave using the other senses. The air seemed stagnant, with a hint of the biological. The cave sounded very small. The floor was soft, dry, and dusty.

My hands groped ahead, checking for edges. I systematically palpated the floor, walls, and ceiling for leads. If there were no leads, the issue would be settled, and we wouldn't have to climb back up here. I tried to be thorough, but worried about bringing down loose rocks, disturbing animals, and the little boy in me, still afraid of the dark. I repeatedly heard faint clicking noises, and wondered about it. Eventually I satisfied the quixotic, and gave it up. Luckily for me, the cave did not go. There is no telling how far I may have taken this.

By chance we caught up with the others at the soda pop store. I got my rope back. They had quickly given up on our cave, and had ridgewalked along the base of the cliff, finding some other very small caves. I asked about the dark crawlway that I now knew by feel. "Oh, that was a dead-end, and we didn't even go in, because it was full of spiders." (!)

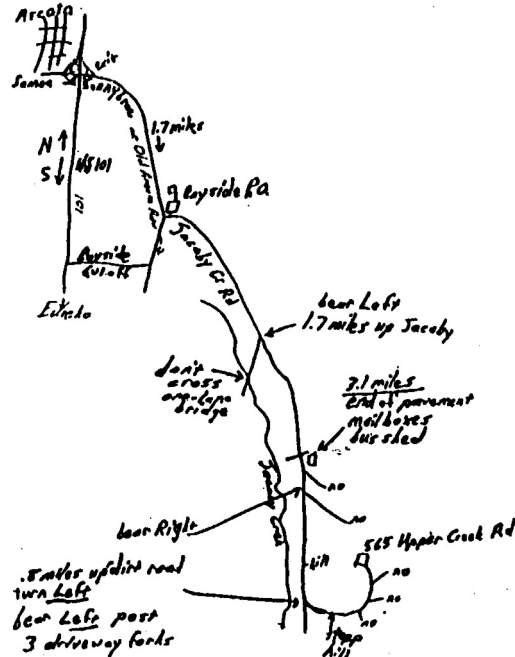
Artificial light is a wonderful thing for cave exploring. I recommend it.

**BB**



### CAVE CALENDAR - 1997

- Oct. 30 Marble Mountain Audubon program about bats.
- Nov. 15 SAG meeting 7:30 PM(?)  
Home of Mark Fritzke.  
Come early stay late.  
Thanksgiving potluck prior to the meeting. Call Linda (707) 822-8566 re: potluck.
- December No meeting until next year.



### SHASTA AREA GROTTO MEETING

Sept. 13, 1997, from 8:09 to 8:45 PM, Shasta Area Grotto met at the LaForge home in Eureka. Present were Dick Everest, Glen and Bernice Everest, Jim Wolff, Dick LaForge, Mark Fritzke, and prospective new grotto member Dan Downes from Arcata. Liz Wolff and Kathy LaForge went out for some Contradance fun just before the meeting started. Substitute secretary Fritzke notes that "we had an awesome potluck - it was enjoyed by all, especially by Mark". (Many thanks to Dick and Kathy LaForge for hosting us!) After the meeting, 3-D slides were shown. (Ed. cave slides?)

Minutes and Treasurer's report not submitted.

Correspondence: Jim Wolff handed Dan Downes a membership application.

Old Business: Bat Cave: An emergence count was done by Ray Miller, Liz Wolff, and Denise Willey and they found 130-140 individuals. Later, they checked the cave register. Jim is investigating "bugs" for monitoring the cave.

Medicine Lake geothermal project: SAG agreed to meet Madoc National Forest to check caves along the proposed powerline. Instead we visited other cave sites and potential cave sites, most notably locating Glacier Cavern. This has subsequently been mapped except for an unusual crossover passage.

Western Regional: The meeting date was announced again. Fritzke is going. He is giving a talk on cave dig safety. Dates are October 24-26 at Avery Ranch. Let's be represented there! (Ed. Dick LaForge will also be there showing 3-D slides, of caves.)

Carbide Can Cave: Mapping has continued in this cave near the Christmas Tree Cave area, Lassen National Forest.

SAG's hanging projects: S-Canyon System, Freudian Complex System, Chippy Spur Timber Project (input due this spring), and Shasta Lake area.

Samwel Cave: The restoration of Samwel Cave was then discussed at length, washing formations, etc. Shascade Caving Society is still in transition, but will be coming up with a plan for Samwel clean-up, maybe soon.

New Business: John and Julie Bair/Donovan has a baby Salix Elizabeth Bair/Donovan, 7 lbs 14 oz, on Sept. 10th.

Marble Valley grainshed was broken into in late August. Steve Dagitz discovered the break-in about August 23. Over 200 lbs of gear stolen, including 3 dynamic ropes, lots of static rope, cave lights, 3 stoves, 2 duffels, vertical gear, etc.

Trip Reports: Dan Downes conveyed memories of the 1997 NSS Convention, and one was the campground having a flash flood, which also swamped a few caves, and tents being swept away! He said the caves in Missouri were very muddy.

Meetings: Marbles over the Columbus Day weekend. SAG meeting in the valley. Some cavers have already said they will be there through Sunday the 19th.

November SAG meeting is proposed for the 15th (Saturday) at Mark Fritzke's place. Potluck style Thanksgiving meal. Call Linda (707) 822-8566 before you come, to see what to bring. Slide show to follow.

December there will be no meeting or party . . . Bah, humbug!

Reconvene in January.

**MF**

## **FOSSIL FINDS AND THE AGE OF OREGON CAVES** By John Roth

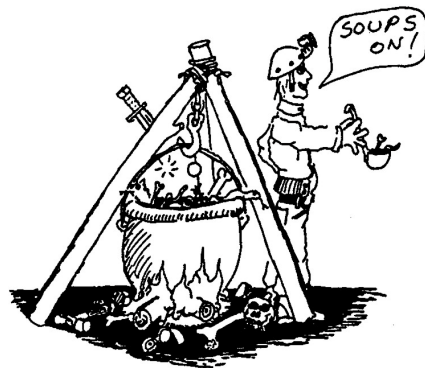
"Oregon Caves has been explored for more than a century. Not until 1995 did cavers uncover fossils in its passages." Ed: Give Steve Knutson and his caving friends credit for this recent excitement at Oregon Caves. This article is reprinted from Nature Notes from Crater Lake. Volume 27, 1996, pages 29-31, with permission from Crater Lake Natural History Association.

How old is a hole in the ground? How do you pin a date on what has dissolved away? Geologists have a hard time figuring out when Oregon Caves formed. To dissolve marble made of calcite, all you need is a weak acid, such as carbon dioxide dissolved in water which is the fizz in soft drinks. Yet understanding how something works does not always help in knowing how fast it works.

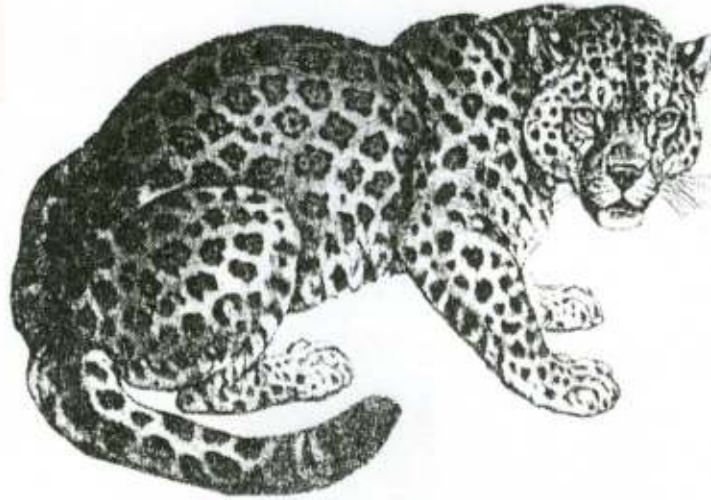
For example, the yearly amount of dissolved calcite exiting by way of Cave Creek is known. The entire cave could have been dissolved out in ten thousand years if the same concentration of dissolved calcite left the cavern every year. That is a very big if! Water exiting the cave during its birth probably had less calcium in it. The size of stream gravels and horizontal notches dissolved on cave walls indicate massive flooding at one time and thus resulted in a much faster enlargement of Oregon Caves.

Another way to estimate the age of Oregon Caves is to compare it with similar mountain caves which have been better dated. Most caves on steep slopes form close to the earth's surface. Since mountains erode relatively fast, geologically speaking, most such caves do not survive long before they are breached by erosion and destroyed. These caves usually are older than ten thousand years but rarely last more than a hundred thousand. Such comparisons, however, are dangerous. There may have been geological or hydrological factors affecting Oregon Caves that differed substantially from those in superficially similar topography which sped up or slowed down cave formation.

Geologists can fix the minimum age of Oregon Caves because of what it has preserved. While most surface features are eroding or decomposing on the surface, things can be deposited in caves. An example is, the jaguar, *Panthera onca*, found in Oregon Caves during August of 1995. The size of its bones compares with



jaguars living in North America between 15,000 to 40,000 years ago. As the last Ice Age ended roughly 10,000 years ago, the size of jaguars decreased. This seems to have happened because being smaller and thinner helped jaguars survive in an increasingly warmer climate.



*Sketch of modern jaguar. The Pleistocene relative was substantially larger.*

The jaguar's bones could have been buried and then later washed into a much younger Oregon Caves. The fact that this may be the most complete jaguar fossil ever found, however, is strong evidence against this possibility. It would thus seem reasonable to assert that the cave must be at least as old as the jaguar.

Comparing evidence of past life (fossils) and erosion rates with similar examples usually give scientists only approximate dates. To be more precise, methods which hinge on changes occurring at a uniform rate are needed. Uranium atoms are consistently unstable and "overweight," but release particles at constant rates. This changes the uranium into another element called thorium. One of the best materials for using this dating method is calcite, such as the crystal layer left by water on the jaguar skull in Oregon Caves.

Since uranium is soluble in water, whereas thorium is not, the layer of calcite that formed on the jaguar skull at first contained uranium but no thorium. As time passed, uranium decayed to thorium. The thorium to uranium ratio thus increases over time at a constant rate and can be dated. Unlike most calcite formed on the earth's surface, calcite in caves tends to be very dense and waterproof. Therefore, compared to surface calcite, cave calcite is much less likely to have uranium leach out and thus give a wrong calculation for the age of the calcite.

Other ways exist that can independently confirm the accuracy of dates determined by uranium/thorium ratios. Natural radiation traps free electrons in defects in calcite

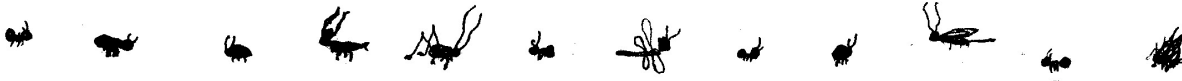
crystals. The rate of trapping is determined by background radiation. The energy of the trapped electrons can be measured and a date derived from the ratio between this figure and the trapping rate.

There is yet another way to get a more precise age for the jaguar. Carbon 14, like uranium, is also composed of "fat" atoms that release particles at constant rates. Since Carbon 14 only forms in the earth's atmosphere and becomes part of the protein of live animals, the ratio of it and more stable carbon starts to change when the animal dies. If the age of the skull is 45,000 years old or younger, there is likely to be enough carbon 14 remaining in the skull for a fairly precise age to be calculated. The uranium-thorium date of the calcite will help determine whether it is worthwhile to obtain a carbon 14 date on the skull.

Other fossil bones, most likely from a single grizzly bear, *Ursus horribilis*, have also been found in Oregon Caves. With only about one percent of the original protein remaining in the bones, investigators could determine that no carbon 14 was left. The age of the bones and the cave, therefore, must be at least 46,400 years old.

Why should we be concerned with how old things are? An important part of the answer has to do with park managers being able to better protect, preserve, and restore ecological processes if they know how fast and how often events occur. We may also find that our understanding of time is highly relative. A person's emphasis on man-made things might change when they can perceive time as going beyond human experience and forming part of a broader history. Since we have been around for a very short period, relatively speaking, it may be difficult sometimes to accept that there is far more to the past than one life form's view of itself as the goal of time. All species are kin if you go back far enough in time; all rocks come from the same source.

**JR**

**BLACK BUG CAVE****AUGUST 31, 1997**

By Jim Wolff

While in the Marbles over Labor Day weekend, I had the privilege to go caving with Dick Everest in Black Bug Cave. This cave hadn't been visited much prior to our trip, and there was a lead that had been noted that needed checking . . . So, we thought we'd give it a try.

The cave wasn't that hard to find, but it took some time to clean up the pit entrance so it was safe enough to go down. Once down, we started to systematically check the room at the bottom of the drop. We were told of a lead, but something was wrong. Nothing seemed to fit the description and we knew that we had found the right cave, because we saw the cave's name tag, right under a ledge, directly over the entrance pit. Soon, however, Dick found the way on by stepping up and across a big expanse of nothing, then a chimney up a very steep ramp to a landing that was hidden from view.

This new passage led to a dome that was part of a room that was full of leads in the ceiling and some HUGE hanging rocks! These rocks were just suspended there with no visible means of support, and they were right over our lead!!

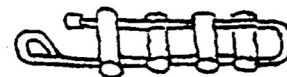
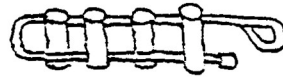
This lead looked good. It was a little more than body-sized, but I didn't think that the "body" would be us on this trip! So, I asked for a retreat, since in order to enter this, we would have to climb over melon sized rocks that were just covered with clean and beautiful grey flowstone. Besides being pretty, it was very risky to be there too. So, discretion being the better part of valor, we left for other parts of the cave, in hopes to find another way around our lead.

We went down a short climbable pit, and in its drain, Dick went down a crack in the floor since it looked a bit roomier below this rock filled passage. Air was going down there too! After climbing down below the rocks, the crack seemed to continue, but we wouldn't be going down there this time. Besides, it didn't go towards our lead above . . ., at least it was my excuse!

We had fun pokin' around the cave, but didn't accomplish much other than increasing the camp's interest in the cave and its good potential. I figured if we encouraged just one more caver to go with me someday, maybe we could map that bit with air flow! Nevertheless, another trip into the cave happened soon after ours . . ., but that's another report by some sucker! Would anybody else like to look around one more time??

**JW**





### MARBLE MOUNTAINS LABOR DAY SPELEOCAMP – 1997

By B. Broeckel

I hiked in on Friday, Sept. 5, for the tail end of the speleocamp. Others had notified me about the grain bin break in. The shed was vandalized in the late summer, with some 500 lbs of cave gear lost or stolen. Therefore, I hauled up my rope. It was draped over my regular camp gear and vertical bag. I left out my rack, and brought up a figure eight, to save weight. Steve Knutson has outlawed eights in the Marbles, and there are some good reasons. But this time Steve was in Peru, and besides, it would be used on my own rope. What twisted ropes we bear when grain bin ropes are rare. The real Marble Mountain dictum to remember, however, is "Cave softly, and carry a big rack."

The hike was quiet. I had stopped at the Scott River Ranger Station for information. Sometimes it is enlightening to play dumb and make a front side inquiry at the local office. I asked which caves had been closed, and was told that all the caves in the Marble Mountains were closed. Eventually I roused a person from the back office, and we discussed cave management at some length. The most telling moment came, when he said that he doubted that any of the caves in the Marbles would be determined "nationally significant."

I had some time to think about this on the hike in. At the Marble Staircase I met Mark Harder and his friend Tom Ellen. They were hiking out. I inherited their campsite. They filled me in on the current whereabouts of the cavers. Rich Sundquist and his young son Forrest were fishing at Sky High Lakes. Midori Sundquist and Mark Fritzke were hoping to reach the end of Brokedown Palace to push a distant lead. Dick Everest and Bill Kenney were mapping a new cave near Cauliflower Cave.

Everest and Kenney were already in camp when I arrived. I dropped my pack and headed uphill to try out my new cell phone. From Little Black Mountain, I got a good signal, but it showed a roaming charge. It was using an Oregon relay. At "Four Corners" on the PCT, I got a better signal via the coast, and was able to call home long distance.

Rich Sundquist and Forrest were back in camp. Forrest was already in bed. Dick Everest was doing a good job keeping the campfire going. Everest has been involved with many caves in the Marbles, but stayed away for some years due to bypass surgery. Now this summer, here he was, back in the caves. Midori Sundquist and Fritzke came in about 11:00 pm after a cold and wet trip. The Emerald Pool was sumped, so they never made it to the back of the cave. Instead, they persisted on a lead nearer the entrance. Now they seemed content to dry out before the flames and cook up some supper.

In the morning I visited with "Wandering Will", a lone backpacker striking camp in front of the grain shed. He expressed interest in caving, admitting that the adventure of it seemed attractive. He was moving soon to

NW Georgia. The word "TAG" came to mind. I told him to contact one of the local grottos when he was ready, and to consider a week in Sewanee next summer. As the morning warmed up, many hikers and riders were coming through. Many were in period costume, and the traffic was excessive. Most were intent on reaching remote Spirit Lake for an Indian sweat lodge ceremony.

Five new cavers arrived in camp. They were directed to Downstairs Cave. The cavers kept a low profile, camping back in the trees. The others filled me in on the speleocamp events as we sorted gear for the day. Portland cavers had re-mapped Stash Cave. Jim Wolff, Midori Sundquist, and Dick Everest had been to Black Bug Cave, finding some unstable passages. The big news came when Ultra Slim Fast Cave was connected to Monkeys Tail. This involved eight cavers working over several days time. Monkeys Tail had previously swallowed up Exstream Cave, so now all three caves became one cave called Systema Ultra Monkey!

Next we addressed the day's assignments. Dick Everest was ready to hike out. Midori Sundquist had "Forrest service". Rich Sundquist and Fritzke were up for a new challenge called Flush Cave, not the most encouraging name for a cave. That left Kenney and I to complete a rock dig in Lost (S)Wallet Cave. The entrance pit was rigged as before. Kenney wielded a rock hammer and chisel to break up the last big rock in the bottom of a small pit. This allowed us to drop down another eight feet, but no further. A crevice in the side wall accepted an arm through, and probably connects back into the main part of the cave. We took some miscellaneous survey shots needed to finish off the cave. We noted a good non-technical bypass around the second pit. This has been a stubborn cave, only now deemed ready for a drafted map.

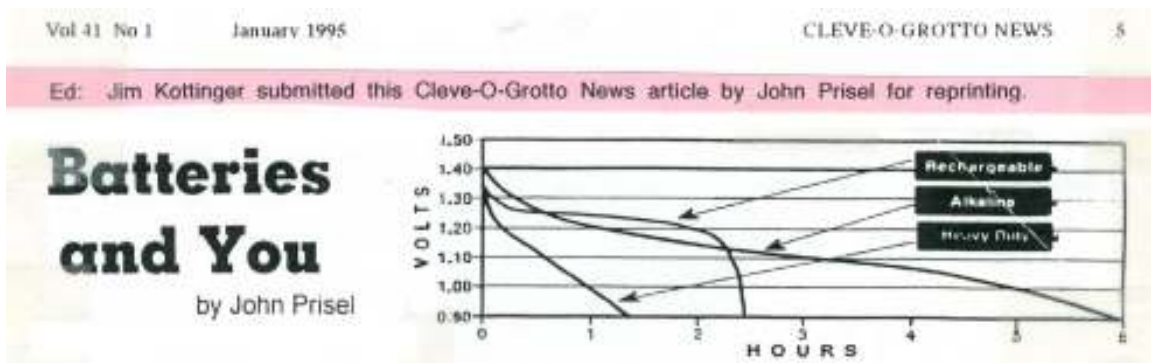
While returning to camp, I drew water from Claude Smith's spring, and zipped up Black Mountain, but forgot my cell phone this time. At campfire we compared notes. Flush Cave turned out to have a really dangerous rockfall hazard at the entrance, and an unpleasantly small passage at the bottom. The five new cavers joined the campfire. They really liked Downstairs Cave. The leader of this group was David Hillebert, loosely affiliated with Mother Lode. He had done some caving with Dave Cowan, which we took as a good reference.

Later that night, some hikers came by for information. They were looking for three lost hikers who were horse packing to Spirit Lake. The mother and two teens had lagged behind the horses. They never arrived at Spirit Lake. The encampment sent out a search party to make a sweep around Sky High Lakes. We had no information for them, and wished them well on the search. Luckily it was a warm night.

The Sundquists hiked out Sunday morning. Kenney and I also went home. The new group visited Skunk Hollow and Wahahshun Caves. The rope got pulled out of the Discovery Entrance to Bigfoot. Fritzke stayed to secure the valley, and did some ridge walking. When I reached the trailhead, I talked to a 50 year old man wearing feathers and breechcloth. The lost hikers had reached Marble Valley and turned right towards Paradise Lake. A left turn would have been better for following the horses to Spirit Lake. They spent the night huddled together under some trees. When

the sun came up, they decided to go home. They were OK and everyone was relieved. The 50 year old man had already hiked about 50 miles in less than 2 days. Now he was preparing to go back to Spirit Lake with the good news about the lost hikers. And I thought the cavers were the tough ones.

With that loose end tied down, I drove home with an easy mind. Things are always interesting in the Marbles, and you never know exactly what to expect. However, you can always depend on demanding caves that might test the limits of your caving ability. **BB**



Consumer Reports tested alkaline and nicad batteries along with a few of the so called "heavy-duty" batteries. Duracell, Eveready (Energizer) and Rayovac together own more than 90 percent of the battery market. Consumer Reports tested these brands along with smaller brands like GE/Sanyo, Radio Shack, and Sears Diehard. They broke their results down into three categories, Pros. Cons. and Advise.

### Alkaline batteries

**Pros:** Longest life; low initial cost; long storage life.

**Cons:** Single use before being discarded.

**Advise:** Buy alkaline batteries by price, not brand. Look for sales and stock up: alkaline batteries can keep for years without losing appreciable capacity.

### Heavy-duty batteries

**Pros:** Cheaper to buy.

**Cons:** Very short life: single use before being discarded.

**Advise:** Not economical for most applications.

### Nickel-cadmium cells

**Pros:** Cheapest in the long run. better for the environment, if recycled.

**Cons:** High Initial cost; Inconvenience of charging; short life between charges;



constant loss of capacity even when not in use: abrupt voltage drop.

**Advise:** Not suitable for some applications. Nicads lose about 1 percent of their charge daily even when they're not being used, so

they are unsuitable for devices like cameras, smoke detectors, and flashlights, which are left idle for long stretches.

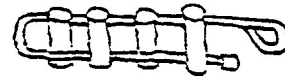
The article went on to say that of the nicads they tested in the 0 size, only the Radio Shack Hi-Capacity was a true 0 cell. The other nicads use the innards of a C

battery in the body of a D.

Unfortunately the Radio Shack charger shuts off after only 5.5 hours requiring you to have to hit the charge button again to bring the 0 cells to a full charge. The Millennium and Panasonic chargers did their job overnight. But the GE/Sanyo charger needed 24 hours

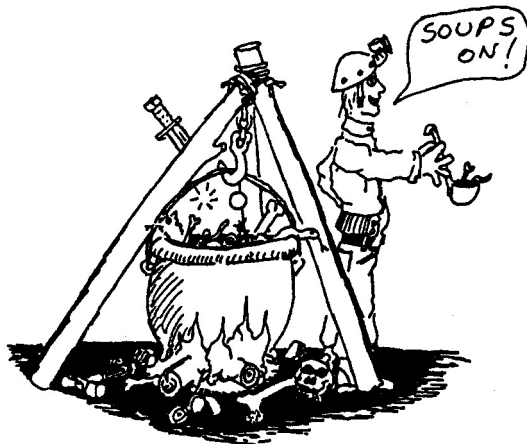
and it can overcharge batteries that aren't removed in time, possibly shortening their life.

That about covers the most important information they had to say about batteries.



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**STAMP**



TO:

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