
Vol 8 Issue 1
TAG
Sewanee Mountain Grotto
Sewanee Tennessee
Conservation, Survey & Exploration
is the HEART of T.A.G.
Sewanee Mountain Grotto
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CAVER
Russell Cave 10mi
GOLDNECK 1mi
NSS HQ 60mi
TAG

TAG Caver is the official newsletter of the Sewanee Mountain Grotto & is published on a quarterly basis. Sewanee Mountain Grotto is a non- profit internal organization of the National Speleological Society dedicated to the exploration, mapping and conservation of caves. If you are interested in joining the Sewanee Mountain Grotto we invite you to attend one of our monthly grotto meetings. Meetings are held the second Saturday of each month at various locations in the heart of TAG. A typical meeting starts with a potluck dinner at 6pm CST, followed by the meeting at 7pm. On occasion we also have special presentations following our meetings. Annual dues are $10 per person and are due in January. Please email sewanee-mountaingrotto@caves.org
or one of our officers for more information. You may also visit our website at: http://www.caves.org/grotto/sewaneemountaingrotto.

2017 Sewanee Mtn Grotto Officers:

Chairperson:	Kyle Lassiter
VC & Programs	Kristine Ebrey
Treasurer:	Blaine Grindle
Secretary:	Juliette Dubuisson
Member at Large:	Shari Lydy
Conservation Chair:	Maureen Handler
Survey Chair:	Kyle Lassiter
Webmaster:	open

Tag Caver Co-Editors:

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Email articles and photos for submission to the editors (formats: docx, pdf, tiff, jpeg). Content may include articles and/or photos from nonmembers as well as other caving regions.

Statements and opinions expressed in the TAG Caver do not necessarily reflect the policies or beliefs of the Sewanee Mountain Grotto or the NSS.

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Sewanee Mountain Grotto
Winter
Volume 8, Issue 1

Connect with the Grotto

If you are new to the Grotto, here are a few ways you can get to know other members:

- Join us on a Grotto Trip, Survey Trip or a Cleanup.
- Sewanee Mountain Remailer. After you have joined the grotto, join our mailing list to keep up to date with cave trips and meetings.

Go to:
https://groups.yahoo.com/neo/groups/sewanee_mountain_grotto/info and click join. Please provide your real name so we'll know who you are.

Join our Facebook page to meet other grotto members and area cavers and plan trips.
https://www.facebook.com/SewaneeMountainGrotto/

Grotto Merchandise: The Grotto has koosies for $1.00, patches for $5.00, hats for $15, and Cavefest shirts for $20, Please contact Kristine Ebrey at Kristinemedlen@gmail.com.

What's inside

From the Head Hardhat — Kyle Lassiter

Greetings cavers!

Thank you for taking a moment to read the spring edition of the TAG Caver, the official newsletter of the Sewanee Mountain Grotto. I am looking forward to another great year of caving, surveying, and good times in the "Heart of TAG"! First, I want to take a moment to recognize and congratulate our new grotto officers for 2017:

Kyle Lassiter—Chair
Kristine Ebrey - Vice Chair
Juliette Dubuisson - Secretary
Blaine Grindle - Treasurer
Shari Lydy - Member at Large
Maureen Handler - CaveFest Chair

A special thanks to Shari Lydy and Angela Reim for volunteering to take over as co-editors of the TAG Caver as well. I have full confidence this year's newsletters will be as good or better than ever!

As many of you already know, significant changes have taken place this year so far in internal grotto operations and responsibilities due to the departure of two key members from the grotto. All of our officers have worked hard to make these transitions go as smoothly as possible, and for that I am very grateful. We are drafting and will soon publish official grotto SOP's (standard operating procedures) which will define each officer's responsibilities beyond those that are already specified in our Constitution and By-Laws, as well as other grotto policies that to-date have not been written down. We have learned the hard way that having these will be invaluable to the grotto in future years, as it will ensure smoother transitions and broader shared responsibilities amongst the grotto officers and its members. A grotto, as with any organization, is stronger and more resilient to adversity when its responsibilities are spread amongst many members instead of just a few. Our grotto is already stronger now that we have embraced this thinking during our transition. I have full confidence that SMG is ready to hit the ground running now as we head into the spring and summer of 2017. Thank you very much to everyone who has helped us during this transition time.

Administrative stuff aside, let's talk caving! SMG is well known for our annual CaveFest event, and it is never too early to be looking forward to it and planning ahead. For those of you new to the grotto, the event is held over Labor Day weekend at our very own Maureen Handler's campground, called Cavers' Paradise, near Sewanee. It is a long weekend of caving, campfires, partying, and of course fundraising.

I plan on concentrating my efforts with SMG this year on two main themes: CaveFest and survey. We have gotten pretty good at CaveFest the last few years, and I want us to continue to make it one of the most attractive events to cavers throughout the southeast on Labor Day weekend. I also want us to revive our focus on survey projects. In years past we had a very strong core group of surveyors who got many of our grotto members involved in mapping caves in the area. We were not as active in surveying last year, and I hope to get us back on track. We have enough grotto survey gear to equip three survey teams, so we need to be out there making good use of it! There are always more great caves that need to be mapped in TAG.

Thank you all for the opportunity to serve SMG this year. I'm looking forward to a great year ahead for us!

All the guano that matters……..

Kristine Ebrey

Some disturbing news. I just got off the phone with the previous owner of Big Mouth Cave. He sold it about 45 days ago. We have noticed core samples taken in the cave and now heavy machinery in the area. It does not appear that Big Room Cave was included in the purchase. Please avoid until I\we can contact the new owners

So my coworker's brother went to the workers at Big Mouth Cave and they told him that some rich lady in Nashville purchased the property and wants to do weddings at the cave including pics etc at the entrance.

Blaine Grindle

Maureen Handler

The Albert and Ethel Ogden Undergraduate Scholarship Fund is pleased to announce the availability of a $700 award to help support karst geology summer research in the United States. The applicant must be an NSS member. Applications describing the proposed research are limited to two pages of text. Send or email your application to John Hoffelt, 208 Cheatham Ave., Smyrna, Tennessee 37167-4766; mossyguy@comcast.net. A letter of recommendation by the professor overseeing the research should be included in the proposal. Application deadline is May 1st. 2017 with the award being announced by May 15th.

This is the first time that *Pseudogymnoascus destructans* has been detected in Texas. It is also the first time that Pd has been detected on cave myotis and on western sub-species of Townsend's big-eared bat. Both of these species have extensive distributions in the western US, and cave myotis also extends south through Mexico and into Central America. We do not yet know how western hibernating bat species will respond to Pd, but we cannot assume that they will not be affected. With this latest information, WNS is now confirmed in 30 states and 5 Canadian provinces, and Pd has been detected in 3 additional states: Oklahoma, Mississippi, and Texas.

Jonathan Richard FWS

Message to Grottos from Director Bill Jackson, Chair Fundraising, Board of Governors

During the recent BOG meeting, the NSS Headquarters Commission was dissolved, and a Building and Grounds Committee established. The Commission facilitated the selection, purchase and renovation of the NSS HQ & Conference Center. Now the Commission is no longer needed. However a committee is needed for ongoing maintenance, repair, and improvement of the facility. Jackson moved and the BOG passed unanimously for establishment of a Building and Grounds Committee- which is established as a permanent committee under the office of the Operations Vice President. A chairperson shall be appointed by the OVP and confirmed by the BOG. Committee members shall be appointed by the chairperson. The OVP shall be an *ex officio* member of the committee. Effort shall be made to enlist members representative of the various grottoes in proximity to the HQ. Duties of the committee shall concern maintenance and improvements to the properties of the NSS located in Huntsville, AL.

Duties shall include but are not limited to periodic maintenance, development of plans, obtaining internal approval for capital projects, obtaining permits where required, and developing a budget for planned expenses. Capital plans and budgets shall be submitted to the BOG for approval through the OVP. Periodic reports shall be made for inclusion with the OVP report to the BOG. It is our vision that the committee shall be composed of persons from reasonably close grottoes so as to facilitate ongoing activities. The exact grottoes, persons, and numbers were intentionally not defined so as to give the committee flexibility, while keeping in mind the intent of the Board. If a person from a distant grotto were deemed to be appropriate for the committee, there is no prohibition on account of distance as long as they can participate. This is intentionally left to the committee to decide. The place and time of meetings are to the committee to decide. An organizational meeting will be coordinated by the OVP in the near future. What we would like from your grotto now is to designate a member to participate on this committee. Thank you for your support of the NSS.

Who's rockin' in SMG

Gourdneck - New Team Member
SCCi would like to welcome **Kristine Ebrey** to the Gourdneck Cave Preserve Management Team. Kristine has a passion for caving and SCCi preserves. In her own words: "Caves have a very powerful magic over me. They are the only things in this world that still my mind and give me peace. When I am deep underground, all of the stresses of the above world vanish and I can truly appreciate the beauty that is hidden from so many. I will always be a caver and I will always protect caves for these reasons. Preserve Management Team Members are a key part of SCCi's plans for protecting our current resources and future growth. Managing preserves across 6 states is a monumental task.

Kyle Lassiter -This year I am honored to participate in the **2017 PESH expedition**, a survey and exploration project of the deepest known cave in the western hemisphere, **Sistema Huautla**, located in southern Mexico. Sewanee Mountain Grotto has been generous benefactors to this year's expedition and prior ones as well, and for that we are very grateful. The expedition kicks off in just a few weeks during the month of April, and this year there is a special focus on bolt climbing into unknown territory deep inside the La Grieta section of the system. The potential for great discoveries are high, but so is the likelihood of needing a ton of bolts and climbing gear to explore it from the bottom up. As such, the expedition has established a GoFundMe campaign to attempt to defray the additional costs of this special exploration effort. Please consider donations of any amount if you can here:https://www.gofundme.com/HuautlaClimbing2017 More information on PESH can be found at: http://www.peshcaving.org/

BOG Candidate: Kristine Ebrey Medlen (NSS 58439), Tennessee

I don't think I had ever seen something so intriguing as the first time I saw a picture of a wild cave picture. I was drawn to it so much that I had to find out more and soon after, went on my first trip to Anderson Springs Cave. Fast forward 11 years and I've built my life around caving and supporting the caving community. I moved to South Pittsburg, TN three years ago to live, work, and play in the heart of T.A.G.

In addition to my passion for caving, I am a successful small business owner and am active with the American Red Cross, Disaster Response Team. Both roles have given me the knowledge and understanding of complex budgets, project and asset management, and the organizational structure of non-profits. Being a caver is so much more than how many caves you have surveyed, how many pits you have bounced or how many feet you have climbed…. it's the fragile environment that we have an innate instinct to protect; it's educating the community on the mysterious black holes, and it comprises the most incredible people that I have ever imagined to meet. It is quite a responsibility to be a caver not only to uphold the sacred duty of protecting the caves, but also to contribute to the caving community. I have two goals that I would like to focus on if I am elected to the Board of Governors. I would like to increase NSS membership numbers and improve membership numbers by reaching out to previous and current members, and improve the relationship between grottos and the NSS. There is a major disconnect that we have to resolve in these two proposals. Caves are coming into the light, exploration is becoming the "next big thing", and yet our NSS membership numbers are dropping every year. We have to reach out to the public who are interested in caving. We have to be more proactive in educating the public. We need to have more positive landowner interactions, and we have to build strong grottos to raise the next generation of cavers. Grottos are the most valuable asset in the NSS. It is imperative that the NSS and grottos work to build a strong bond and continue increasing their membership, who will become our caving family. Working closely with the Sewanee Mountain Grotto has allowed me to see exactly how important the role of a grotto is to the mission of the NSS. It has allowed me to the see the incredible things cavers can accomplish when we unite. It has also taught me how unique each caver and a grotto can be and the need for the NSS to help strengthen an understanding between cavers. The glue that holds together the mixed bag of resources in every grotto, whether it is success or controversy, is the NSS. I will strive to strengthen this bond between the NSS and grottos. It is the strengthening of our grottos that is the path to increase NSS membership numbers and for the advancement of our current membership.

Below are my past and current roles in the caving community:

- Member of Sewanee Mountain Grotto, Chattanooga Grotto, Birmingham Grotto and Dogwood City Grotto
- Vice Chair, Sewanee Mountain Grotto (2015, 2017)
- Cave Fest Chair (2016)
- Gourdneck Cave Preserve Co-Manager, Southeastern Cave Conservancy, Inc.
- Membership Director and Treasurer of the Alabama Cave Survey (2016 -present)
- Treasurer 2019 NSS Convention

Tumbling Rock Update from the Scci Newletter – March 2017

Amber Lehmann SCCi Marketing Manager

Hi Everyone!

This month I want to address a few concerns and rumors I have heard concerning the SCCi online permitting system, and SCCi's plans for one of our most beloved cave preserves, Tumbling Rock. Facebook has been ripe with comments and false statements about both of these topics, so I thought it would be best to focus on these for our monthly update.

First, I would like to address the rumor mill about SCCi's plans for Tumbling Rock Cave. Here are the facts:

1) SCCi is moving the management of Tumbling Rock Cave to an internal function within the organization. With 25 years of successfully managing cave preserves, SCCi is in a better position to manage this well-loved and frequented cave preserve.

2) The successful rollout of the online permit system will make it possible to limit visitation to levels which serve SCCi's constituency, while more actively protecting the cave and preserve from overuse.

3) As many of you already know, many Tumbling Rock visitors are first-time cave visitors. This is an important audience for SCCi in providing education and conservation messages that they will carry with them for a lifetime. Having an intermediary management organization has insulated SCCi from developing this constituency.

4) SCCi is not making changes to how Tumbling Rock operates other than moving it to the online permit system and adjusting maximum daily visitors.

5) Nathan Williams will continue as part of the Preserve Management Team at Tumbling Rock. As with all of our other preserves, Tumbling Rock will benefit from being on the online system for many reasons.

With that said, I would like to explain the importance of the online permitting system, why even our members are required to apply for a permit, and why each person visiting our preserves must sign a release form. It really boils down to protecting SCCi and its assets. According to our general counsel, every single visitor (member or not) visiting our preserves needs to sign a release. Membership does not provide any release of liability. I know that is hard for many to understand, as the message that has been communicated for decades has been quite different. The organization has grown and changed though, and protecting our assets (meaning, our preserves), is of the utmost importance. It should be to you too.

Another important reason we have the permit system is to allow SCCi to know which preserves are being visited and at what levels. This information helps us plan for stewardship and helps us to support foundation grant proposals. We are a cave conservation organization, and in order to conserve caves, we need to understand how many people are visiting our preserves each year. If we do not know, we do not know how to plan for the future of that preserve based on the amount of traffic it receives.

One last important reason for online permitting is, by applying for a permit, a visitor can know the visitation level at a preserve for a given day. Perhaps, there is a group already at Neversink? The visitor could therefore pick another day. This system is not designed to forbid people from visiting any SCCi property but to enhance their visit. As a caver who frequented SCCi preserves before moving here, this system would have been extremely helpful for travel plans.

In closing, SCCi must move forward with changes that enhance the visitor experience for everyone. Our future relies on providing world class stewardship for all of our preserves.

If you are a member and are interested in learning more about the long-term plans for SCCi, feel free to reach out to me at amber. lehmann@scci.org. I can provide you several options for more participation.

January 2017 Meeting Minutes

Chairman calls the meeting to order at 7:00pm at John Attaway's House

Chairman's Report (Kyle Lassiter)

- Motion to approve minutes. (PASSED)
- Thank you Jonh Attaway for hosting the first 2017 grotto meeting!
- **HAPPY TO SERVE THE GROTTO THIS YEAR, AND KEEP GOING STRONG! LETS ALL GET ALONG-WE ARE ALL CAVERS!**
- Thanks to Maureen and our other officers and volunteers for their hard work last year!!
- Congratulations to our new officers this year.
- Please send reports/stories to Shari Lydy by Feb. 15th.

Vice Chairman's Report (Kristine Ebrey)

- The program for tonight will be Amazing Caves the movie.
- Next months meeting will be at Cindy Ingram's house on Feb.11. Potluck will start at 6 pm; meeting will take place at approximately 7pm. **NO DOGS!!**
- Theme will be BBQ and ice cream!

Treasurer's Report (Blaine)

- Balance: $ 4279.79
- All bills paid (**yes**)
- $2000 Donation to NSS headquarters at the end of Dec.2016. Specific for the Endowment fund.
- Paypal account is sewaneemountaingrotto@yahoo.com, if members prefer to renew this way. **PLEASE DO SO.** *If you are unsure of your member status, please contact Juliette so we can straighten everything out.*

Secretary's Report (Juliette Dubuisson)

- Update member status. (Done as much as possible). Still need to make a post to have everyone send CURRENT info…Unable to make a post yet due to technological differences.
- Email minutes to the YAHOO page.
- Locate all SMG gear and organize, create spreadsheet. (pending information from Kristine)Get with Kristine to create a spreadsheet for SMG finances. I.e. Primary Grotto balance, paypal payments, cash, check, (Pending)

Survey Report (Kyle Lassiter)

- Working in Pocket Creek (L & R Pocket caves)

- New cave in Bryant cove, another Pennington cave.
- Looking into getting another team together for FAFMM cave, see Kyle if interested.

Conservation Report (Maureen Handler))

- *No new business.*

CaveFest Report (Maureen Handler)

- Officer appointed- Maureen (Chair)

Old Business

- Reminder (**THANKS ANNE**) to announce trips to grotto members via FB and YAHOO please.
- New trip coordinator this year? (Up for discussion)
- Gear is here per November meeting
- We stated we'd offer a surveying class for those interested- Kyle has offered to lead, unless we have a volunteer!!

New Business

- Propose we write an article for SERA,(Don Hunter, editor The Southeastern Caver , caverdon24@gmail.com (**VOLUNTEER requested please)**
- **OFFICAL 501C3 ORGINAZATION!!!!!!!!!!!!!!!!!!** (Tax write offs for donations!)
- When parking at **Coppinger Cove** PLEASE contact Bill Keener the night before via email. Bill.keener@sequatchiecovefarm.com Don't forget, not only is he the landowner, but also a local farmer. Business from cavers always helps with landowner appreciation!!

Upcoming Events

- Jan 28th: Kids trip to (Whiteside?)...Led by Anne Grindle and Derek Reneer
- Feb. 4th: SCCI membership appreciation day @ Frick's cave.
- Feb 11th: grotto meeting @ Cindy Ingram's house…**NO DOGS!!!!!!**
- Feb. 15th: Deadline for T.A.G caver.
- March 11th: SERA WBM in Buffalo Valley.
- May 18th-21st: SERA Cave Carnival @ TTC Marion County- Coppinger Cove.
- June 19th-23rd : NSS Convention. (Some discussion of SMG shirts to be made for beer sales)

Proposals

- Cindy Ingram requests investing in an upgraded cooker, more reliable for CaveFest or other grotto related activities. Price would approximate around $400
- Lou Ross was interested in SMG applying for a cornbread cook-off during the cornbread festival in South Pittsburg on April 29th. The deadline for the application is Jan 31st. Winners receive a $5,000 cash prize and 30 inch gas range. 2nd place $1500. 3rd place $1000. Anyone interested in this contact Lou ASAP….Contact Juliette for his information. http://nationalcornbread.com/food/cornbread-cook-offs/ Also posted on facebook on Jan 23rd, with Juliette as the contact since Lou isn't on Facebook.

A motion was made to adjourn the meeting at 7:45pm. Motion seconded and passed.

The Discovery and Survey of Campbell Hollow Cave
by Kyle Lassiter
photo credits Jim Smith

On January 7, 2017, I joined my good friend and long time caving partner Jim Smith for a ridge walk in Campbell Hollow, an obscure cove in the headwaters of the Little Sequatchie River in extreme northern Marion County, TN. It was an outstanding day to ridge walk, as this day turned out to be the coldest day of the winter season, with a high of 18°F in nearby Monteagle and morning lows of 8°F. Ridge walking on days this cold are ideal since undiscovered entrances can be located by looking for "steam" blowing from an entrance to a relatively warm 55°F cave. Ironically, we did not discover a cave this way that day, but that was the idea!

Via 4WD roads, we were able to park about a mile away from the mouth of Campbell Hollow to begin our walk. Even with our winter clothes on we still shivered in the shade as we approached the shady southern slopes of Campbell Hollow. We came upon some Pennington limestone bluffs immediately at the mouth of the cove, which foretold the steepness of the terrain ahead. Jim walked the bottom of the cove at creek level, while I skirted the bluffs. Just as we approached a pipeline clearing, I noticed below me that the entire creek came out of the rocks on the opposite hillside. Great sign indeed! I scampered over there and began poking around some promising bluffs for an entrance to a spring cave, and I did find a small entrance 20ft above the spring at the top of the bluffs.

A quick check inside showed walking stream passage continuing around a corner with several side passages within sight of the entrance. We have a cave! I beckoned Jim over to the entrance to begin the survey of the cave, named Campbell Hollow Cave after the local topographic name. While we were at the entrance we noticed a rusted out 80's model sedan of some sort in the middle of the creekbed, the crushed and completely stripped cab of some truck up in the woods, and a massive tire from an offroad construction vehicle. Undoubtedly all related to the construction of the pipeline just 100ft away, but still odd to see this far out in the woods.

Unfortunately for us, we apparently had discovered the lower entrance to a cave system on an arctic winter day, which meant that 20°F air was being pulled into the cave for us to enjoy. It made from some chilly surveying. We surveyed for about 2 ½ hours in Pennington stream passage, mapping about 500ft upstream and surveying a few easy side leads on the way (we were in ridge walking clothes after all!) The cave was a mazy network of paleo and active stream passages, which we've observed is pretty typical for these types of caves in the Little Sequatchie river valley. After a couple hundred feet of 6-8ft tall and generally narrow passage, the main stream came out from a grim low crawl, so we surveyed ahead in a dry overflow route that was

Entrance discovery with Kyle Lassiter

Lee White and Kyle in the stream borehole.

somewhat smaller, about 4-5ft high. This eventually lowered to an easy crawl that re-intersected the main stream. We stopped the survey here (station 20) since we would have to get wet to continue, which we had zero interest in doing on an arctic day with an hour walk back to the car. Many leads were left open for the next trip.

Lee White joined us on our return trip three weeks later, on a much warmer day (50°F!) The surface creek was flowing upcove from the cave as well this time due to recent rains. We were a good survey team, knocking out loops and side passages near the entrance and then working our way back to the end of the last survey, station 20. At this station the main route (the dry overflow crawl) intersects the active stream passage in a T intersection, flowing right to left. Right (upstream) was too low, so thankfully we were able to go left and keep our chests dry (barely) for the few feet necessary to intersect a dry crawl bypass to the too-low upstream route. This passage continued as crawling or stooping passage for a couple hundred feet until another slightly wetter and longer water crawl popped us out into an amazingly large room, very unexpectedly. It was about 15'x50'10', with multiple side leads going off everywhere. There were many anastomoses and pendants in this room too, the latter of which I don't remember seeing before in my caving experiences in TAG.

In the Big Room.

We decided to survey a large breakdown lead going left out of this big room, which led to a wet 35' dome and a myriad of side passages that eventually ended. Upon plotting the data, the furthest passages in this section were very close to station 20. Returning to the big room, we then surveyed one shot down a big lead to the right, but it quickly closed down to a small crawl at the top of a 10' vertical dirt bank. We saved that lead for another day. We then chose to survey the upstream water route continuation from the big room for a few more shots before calling the day at 1100ft surveyed and multiple more decent passage leads at the turnaround point. It was hard for me not to scoop since I could hear an echo ahead. But Jim made a good point that it is a good reason to want to come back next time. We then left the cave quickly and were on the surface by about 8pm, for a 6 ½ hour trip. No end in sight after two trips, and 1600ft surveyed to this point. Outstanding for a Pennington cave!

I returned to Campbell Hollow Cave the next weekend with my father Mark and Jim Smith to continue exploration and survey of this impressive new find. Of course we told my Dad that it was borehole the whole way, never mind the stooping, crawling, and water. He deduced that he should wear knee pads from prior experience of Jim and I telling him how big a cave is. We systematically knocked off leads in the cave as we proceeded in. The first significant extension of the day was the downstream passage beyond the first tight spot in the water crawl. It ended up being a couple hundred feet of muddy old passage that still takes water sometimes. It had some breakdown problems and eventually ended in a tiny jagged crawl. The next significant leads were found at the very end of the previous survey, just beyond the big room. We surveyed a right hand lead from a breakdown room there, and found many hundreds of feet of paleo-upper level cave passages. Some of it was crawly crap, but some of it was old trunk passage that carried the main stream many years ago. One old borehole trunk was especially impressive, and we named one part of it Campbell's Chamber. It unfortunately ended in breakdown all too soon, but at its biggest point it was about 40' wide x 12' high, sloping up a terminal breakdown pile; an impressive find for a cave that had not been that big to that point, besides the big room with the anastomoses and pendants. Much of the upper levels we surveyed ended up being directly above the active stream passage in the lower level. The cave officially ended in a too tight water crawl skirting around the base of a ter-

More borehole

Surveyor Jim Smith

minal breakdown.pile. Based off of our survey data and a topo overlay, it is very likely the cave reintersects the hillside here and collapsed after making a “U”-shaped journey through the mountainside. The cave air went up the too-low crawlway too. I did climb up the breakdown pile and squeezed into a small void at the top, but saw no way on. We netted 1300ft of survey for the day, basically completing the survey, save for some terrible low water crawls to be mapped someday when we run out of anything else better to do. The cave is just shy of 3000ft long, a great find for a brand new cave in Marion County! We camped out in the cove that night to celebrate our effort, and were greeted by some light snow the following morning. A fitting end to a cave found on the coldest of winter days.

Pendants

The crawl

Kennamer Cave

by Kristine Ebrey

Photo by Mark Ostrander

Back L-R: Kyle Lassiter, Kristine Ebrey, John McMacken, Leslie Lytle, Derek Reneer. Front L-R: Rebecca McNabb, Anne Grindle, Shari Lydy, Sue Milburn, Mark Ostrander.

As usually is the case, a text message came in about a week before the grotto meeting. It was John McMacken inquiring on possible cave trips. This time though, he already knew exactly what he wanted to do. He put out a post on the Sewanee Mountain Grotto page and BAM! We had a very full trip set up to Kennamer Cave led by the preserve manager, Mark Ostrander! * Kennamer is owned by the SCCi. Please visit Scci.org for more information on visiting this cave.

The cave trip was going to be a through trip from the upper entrance to the orgy entrance. We had some time constraints so we met fairly early on Sunday morning, February 12th. A few of us started the hike about 30 mins before our meeting time so we could enjoy the ¾ mile hike at a slower pace. Good thing, we did because the second group appeared on the top of the sink hole within 10 minutes of us getting there. Mark scouted out the entrances and because of the amount of water, he decided on the dug entrance. The main entrance was quite wet and slippery! We all did a very short climb down into the dug entrance and then proceeded through the water crawl, traversing a pit and ended up at the top of a tall mud sloop. Mark graciously rigged a hand line for the last 10 feet so we all made it down safely.

Our excitement level went sky high now that we were in the cave. This cave is very beautiful with tall ceilings, very wide borehole, and numerous domes. I had not been in the cave for years and had not remembered how incredible it was! We quickly navigated the climb up Moby Dick... a HUGE boulder in the middle of the passage. From there it was a mixture of crawls and borehole passage until we arrived at the first climb down. We rigged a rope and about ½ of the group did the canyon while the rest rappelled the 30 ft.

This section of the cave was the most beautiful and has some of the most amazing formations including cave shields. We even met the resident crayfish that actually waved at us with his claw! He lives in a beautiful rim stone dam at the bottom of one of the nicest formations in the cave. After more crawls and some breakdown, we arrived at the top of the final climb down\rappel. Most of us rappelled the 35 ft. canyon. Kyle and Derek opted for the climb down route. Mark showed the boys the route to the climb down while the rest of us geared up. The little hole to rappel is quite hidden! But the rappel was very easy and we all made it down in good time.

Now came the FUN part… the crawl out. It starts out with an awesomely smelly stagnant pool of grossness….that we all loved. The crawl is mostly dry and goes between hands and knees with some belly crawling. The route is a little hidden, we sure were glad Mark was leading the way!

We all emerged with cave halos out of the orgy entrance. We had been in the cave for 4 hours and made good time so Mark was not late for his appointment. We all hiked down the hill to the cars where we all stripped out of our muddy, wet clothes. We barely got re-dressed before the rain came! Most of us proceeded to Buenavista for cold margaritas and the traditional after cave fare.

Iron Hoop Cave by Greg Brecht

From L-R: Jim Loftin, Richard Meier, Kim Meier, Becky Noah, Shannon Neiswenter, Greg Brecht, Mark Medlen, Caitlin Greene, Peter Paullus

This trip occurred while camping with friends at the 39th annual TAG Fall Cave-in during 2016. The weather in Northwest Georgia was intolerably dry. It seemed to me that the Devil had come down to Georgia. The state of Georgia had enacted a burn restriction that prohibited fires of all kinds. It was the first time this event did not have any bonfires or campfires whatsoever. We set out for the cave on Friday morning. After vanquishing multiple obstacles, including a pit stop for some headache medicine, and a dead car battery, we arrived at the cave. Because of the drought conditions, the steep dirt road was particularly easy to negotiate. While parking our caravan; we encountered another group of cavers from Dogwood City Grotto, a few of whom I knew. There was jovial conversation between the grottoes as we geared up for the cave.

This cave is easy, sporty, and there is an iron hoop at the entrance; I assume this is how the cave acquired its name. The entrance is a short climb-down followed by a couple of rooms filled with breakdown. Following these, there is a one thousand foot long hands and knees crawl over cobblestone. It was my first visit to this cave, and I began to wonder at the length of the crawl. I was beginning to be certain we had taken a wrong turn somewhere. Exactly when I had decided we must absolutely be going the wrong way, the passage opened up into a voluminous borehole. The cartographers have dubbed this section of the cave "Monster Hall." When I first emerged from the crack and into this room, I was awestruck with its regal majesty. Certainly, had I been the cartographer, I would have named this "The Hall Of The Mountain King." The flowstone mountain under which I sat had a presence about it that caused me to expect to see a tiny goblin-like man wearing a helictite crown and perched upon the top of the mountain in the stalagmite forest that grew there.

We decided to go left first to see stalagmite forests and rimstone dams. We walked across the top of a mountainous rock that was covered in formations. At the end of the passage we encountered breakdown which we proceeded to climb down. We discovered a small formation room with a low ceiling that had a plethora of soda straws. Immediately in front of this room was a small hole in the floor with

clear water at the bottom of it. Two of us decided to climb down into this hole. Those of us who remained above watched in anticipation as we listened to the splashing around under the ground beneath us. They emerged and reported that there was passage that continued to go. I do not recommend attempting this in wet conditions; remember, we were having a drought at the time.

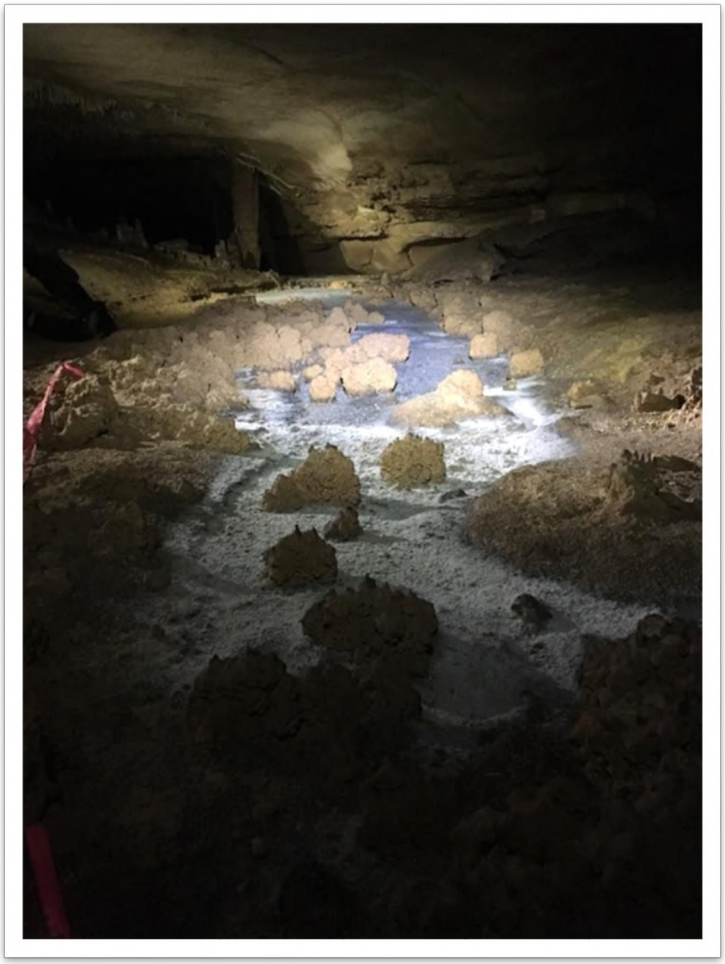
Following our splashy side trip, we proceeded back the way we had come in order to explore the other half of the borehole. Once again, I was awestruck by "The Hall Of The Mountain King" as I have personally dubbed it. Onward we proceeded through passage that was covered in formations of many different kinds. We then arrived in the room which contained the register, we all stopped to sign it.

Two of our party decided to wait for us back at the long crawlway after they had signed the register. The rest of us wanted to go and find The Crystal Sidewalk. The passage split in two directions. Five of us took the passage to the left and two of us took the passage to the right. I was in the group that went to the left. We pursued this passage for another one thousand feet or so until we reached an area that was highly scalloped. The scalloping was so deep that it appeared to be teeth on both sides of the passage, and we decided we had taken the wrong direction. Even though this was the wrong passage for the crystal sidewalk, it was beautiful. This part of the passage contained forests of pillars, stalactites, stalagmites, helictites, among other formations such as bacon and drapery.

My party of five then turned around in order to return to the location we had left the party of two who were in search of The Crystal Sidewalk, we hoped they had better luck than we had. It turns out they found it in the passage which went to the right. We all then proceeded to follow them to The Crystal Sidewalk, our final destination for this trip.

Having succeeded in obtaining our goal, and one thousand feet beyond than that, we decided to exit the cave, but first we wanted to find our friends who were waiting for us at the entrance to the long crawl. The hike back to the crawlway seemed to take longer than before. We finally found them and proceeded to crawl out of the cave. There was some confusion toward the end of the crawl as to which way was which. Some of us recognized areas of the cave where others had no memory of that portion of the passage. You never exit the same cave you entered; it looks very different from the other direction, so it is important to look behind you and take mental notes of the shape of the passage as you enter the cave. After a series of crawling, climbing, passing packs forward, and discussing which way to go, we successfully exited the cave without incident or taking a wrong turn.

There are more passageways in this cave than the ones we explored on this trip. There simply was not enough time to explore all of them. According to the Alabama Cave Survey, this cave was connected to Jess Elliot Cave in 1989. In fact, the map for Iron Hoop Cave reads "Jess Elliot Cave, Iron Hoop Section" but there is no indication as to where the connection between the two is made. There is indeed enough passage to satisfy many trips here. Iron Hoop Cave is spectacular, majestic, and wondrous. Many generations will find peace and satisfaction in exploring its inner sanctum.



The Crystal Sidewalk. Photo Credit: Shannon Neiswenter

"McBride's Well in May"

Hali Steinmann

We took the water's route through the mountain and down into deep well shafts and tunnels of chert nodules, out! Out into the sunshiny day in the golden valley named Sinking Cove. For a time we entered the Crow Creek water, that water on its way to Alabama on its way to the Tennessee River, all the while passing man's makings without comment and quite free of concern.

We joined the water in the wild and deep, where it goes tumbling over ledges and freefalling into bowls of stone dozens of feet below. We found water in her workshop with carbonate clay, making sculptures divine to behold, plunging through ornate scallops, gathering bombs of chert to take out and show the sun: "Look what I found in the mountain, Sun!"

Water sends us tumbling over ledges, she pounds us into rock, paints us with brushes of bruise and scrape. For moments in time, we dangle from rope within the pounding, pulsing stream, traveling down the mountain's throat. At last we crawl dripping into a fine May day and relish in the sun, who is yawning 'goodnight' as water exclaims, "Look what I found in the mountain!"

Photo by Shari Lydy

Musings on Kennamer Cave

Anne Grindle—Tagnet post

Today, I enjoyed a trip into Kennamer cave, with Mark Ostrander as trip leader. We are grateful for great preserve managers, as well as the SCCi! This was my fourth trip through the cave but it had been 6 years ago, I believe. The huge passage, the colorful flowstone, and the challenges of getting down a narrow canyon.....um , um, um. The joys of caving! I was once again lost in the environment, as the concerns of above ground life were not in my mind. As we crawled through the last leg of the through trip, (in the mounds of organic debris beside the stream) it occurred to me that we were Cavers who spanned 5 decades! 2 were in their twenties, 2 in their thirties, 1 in their fifties , and 5 of us in our 60's! What other sport would encompass people of such varieties of ages? Pretty cool. Yep, we emerged quite muddy from the cave. Grin…another caving halo for moi!

Photo by Mark Ostrander

Kristine Ebrey at the Lower entrance of Kennamer Cave

As The Mud Swells

By Gregory Brecht (NSS 64506)

Into the gloom shines the inner light
Down where the life of the light in contrast to the night
sings and shines without daylight
As the mud swells in your blood, my friends; as the mud swells in your blood

Sinking and hearing the whispering song
chthonic deities rise along
Lighting the path, they wisp and sway
Until there is another way
As the mud swells in your blood, my brothers; as the mud swells in your blood

Twisting constriction and breathless friction
Sloping to abysmal depths, both life and death are feared
Raining water from pitch black skies falling as starry spheres
Dripping from the lightless day for many thousands of years
As the mud swells in your blood, my sisters; as the mud swells in your blood

With life and death at odds below
the balance at last is struck
Beneath the winding passage lies a little more than luck
At journeys end we rise all covered up in muck
Some shining orb above may say, "we're better off this way"
But we all know, that down below, the night turns into day
As the mud swells in your blood, my love; as the mud swells in your blood

SPELEOTHEMS: Stalactites, Stalagmites and Columns

Gregory Brecht (NSS 64506)

Trees make stalactites. Yes, trees! And in many cases (but not all) stalactites make stalagmites by depositing minerals on the cave floor from the water that drips off of them; and when stalactites merge with stalagmites, the two of them form a column. This happens because of trees; or more generally, because of ***vascular*** plants. Formation of most ***calcite*** ($CaCO_3$) speleothems is driven by the process of ***degassing***. Degassing occurs when high levels of carbon dioxide (CO_2) interact with the atmosphere of the cave which contains relatively low levels of CO_2. Vascular plants, which formed during the Devonian period, increase the levels of CO_2 in the soil, which is then carried by water as it seeps through the soil and into the cave.

Commonly, stalactites have a central canal through which water flows. As the water droplet flows out of the canal it degasses and deposits a small rim of $CaCO_3$ which is the diameter of the water droplet. The successive growth bands of deposited calcite are typically 0.05 to 0.5 mm thick, this is also the linear annual growth rate of the formation. The girth of stalactites is enlarged either by water seeping out from the central canal or by water flowing over the outside of it. Stalactites are most often found along fissures in ceilings where it is easiest for water to seep through.

Stalagmites are convex formations that grow from the ground up when dripping water deposits minerals as it splashes on the cave floor. Oftentimes stalagmites are fed by a corresponding stalactite above, but this does not occur in all cases. As the water splashes and flows down the sides of the stalagmite, it is common for aprons of flowstone to be produced around the base. Stalagmites differ from stalactites not only because they grow from the floor instead of the ceiling, but also because they lack a central canal.

Changes in climate influence the growth rate and mineral content of cave formations. Examining the successive growth layers provides clues to how the Earth's climate has changed over the eons. ***Paleoclimatologists*** determine the age of speleothems by means of calculating the ratio of uranium to thorium in a given formation. Uranium decays into thorium at a predictable rate, allowing an accurate age of the speleothem to be known.

It is important for all of us who explore caves to understand how delicate and unique these formations are. They provide us with information about our past, which is important as we move forward with our future. Soft caving practices, conservation and education efforts are paramount to the preservation not only of a natural resource, but of our planet's history as well. If these things are observed and passed down to the next generation, we will insure the future of our sport and our science.

Bibliography

Frisia, Silvia and Woodhead, Jon D. "Stalactites and Stalagmites." *Encyclopedia of Caves.* 2nd Edition. 2012.

Palmer, Arthur N. *Cave Geology*. Dayton, OH: Cave Books, 2007.

Riebeek, Holli. "Paleoclimatology: Written in The Earth" *NASA Earth Observatory*. June 28, 2005.<http://earthobservatory.nasa.gov/Features/Paleoclimatology_Speleothems/

Fenix E35 Ultimate Edition Flashlight reviewed by Jeff Cody

I have written several reports on various caving and sport headlamps. This light is a mini flashlight, I feel it is warranted to write on this type of light for caving publications because many cavers use this type of lights as backup many times mounted on the side of the helmet. This light and other similar lights are lightweight , compact and relatively inexpensive and bright. I do not mount these types of lights to the helmet because I feel it adds weight and you lose clearance and I feel the light is vulnerable to damage , possibly breaking the lens cover upon impact. Instead of mounting I carry a Nite Ize head strap designed to hold many of these compact flashlights. If needed I wear the head strap like a sweat band under the helmet and the light sits right above the ear under the helmet and you lose no clearance. I keep the strap and light in an Otter Box in my pack. I wear a small Fenix E 99 Titanium (100 lumen) micro light on a lanyard to make the switch over if necessary. This and many other similar mini flashlights will outreach most caving headlamps for a spot to see a particular object at a distance.

The specs on this light are as follows. It uses a single Cree XM-L2 U2 LED. It can be powered by a single 3.7 volt 18650 lithium ion rechargeable or 2 CR123 batteries. Length is 4.8 inches and diameter is just under 1 inch. Weight is 72 grams without battery. It has 5 output options. 1000 Lumens max (1 hour 50 min) 450 Lumens (4 hours) 150 Lumens (11 hours 50 minutes) 50 Lumens (42 hours) and 8 Lumens (150 hours). There is also a 1000 Lumen strobe and 100 Lumen SOS controlled by a second switch. Maximum beam distance is listed as 160 meters. Water resistance rating is IPX 8 meaning submersion in 2 meters for 30 minutes. Impact resistance is 1 meter. The light was just released in late January 2016 and is labeled 2016 release on the package. Fenix also makes an E35 that is a bit smaller with less Lumen output. It came with a wrist strap and an extra O ring and 2 CR123 batteries. I purchased this light for 41 US Dollars with shipping included using a promo code.

Upon arrival I attached the wrist strap and inserted the included CR 123s and ran through the output options. It appeared very bright but I waited until after dark to compare to some of my headlamps and other flashlights. I did notice it was very similar in appearance to my E35 but a bit longer. The E35 has only one switch and this light has a second switch right above the output switch for strobe and SOS. I took it outside after dark and ran through the output options and quickly noticed how wide the spot was compared to similar flashlights. I compared it to my regular E35 (listed at just over 200 Lumen max) and noticed the regular E35 had a tighter spot and appeared brighter but light covered much less area. I then compared it to my Fenix TK 41 500 Lumen 4 AA flashlight that is larger with a larger diameter head. Once again this light had a wider angle spot and the TK 41 appeared to have a brighter spot area with less light area covered. This surprised me given the size difference between the two lights. I compared it to the 800 Lumen maximum spot on my El Speleo Limited Edition cave specific headlamp and the beam with was very similar but this light appeared a bit brighter with the El having a slightly wider beam. I also compared it to the high spot of 500 Lumens on my El Speleo Nichia Go Pro cave specific headlamp and this headlamp appeared to have a more narrow beam but a bit brighter. The final comparison I made was with the Fenix HL 55 single 18650 small headlamp with a 900 Lumen maximum output. This little flashlight appeared brighter and had a similar beam with. All comparisons were made outside after dark in my backyard looking toward my house about 30 yards away .

Final thoughts are I feel this is a great little accessory to have for caving. Many cavers prefer the wider angle spot and it does appear in my tests to light up quite a bit of area between you and where the light was pointed. This is a nice feature for traversing through a cave especially over breakdown. The light has a very solid feel to it like other Fenix hand held flashlights. Cavers typically do not use the strobe or SOS mode. The one issue I have with the light is the two switches are too close together. I sometimes went to turn it on and turned on the strobe instead of the output switch. The regular E35 has a single switch and for me is easier to use. You have to look at the switch to make sure you are hitting the correct one. I feel the price I paid was very reasonable for the output and quality. The warranty is a five year free repair warranty. I suspect they will also repair it for the cost of parts after five years assuming the parts are still available. Also a nice little light to have in your car or for use around the house.

Crelant V4A Flashlight reviewed by Jeff Cody

I decided to write about this mini flashlight because I feel it is a great addition to any cave pack for use as a spot. Cave specific headlamps are fine for traversing through a cave but do not have the "throw" of a mini flashlight. This may not be a big deal if you are in a cave with smaller passages but if you are in large trunk passage and want to get a closer look at what could be an upper side passage or want to see the top of a tall dome or in a pit these lights can be a nice addition to your pack. Many cavers use mini flashlights as a back up light mounted in some way to their helmet . I prefer not to mount mine on the helmet for several reasons,instead I use a Nite Ize head strap designed to hold these lights and wear it under the helmet like a sweat band if needed. I keep all this in an Otter Box in my pack until needed. This light is a bit larger in diameter than a typical single 18650 flashlight because it runs off 4 AA s. Do not let the power source fool you, this will out throw any single 18650 flashlight I have yet to see. The power source is why I chose to write about this. Many have a misconception that AA lights are not as bright as 18650 lights. You will get more capacity in many cases with 18650 but this light proves you can still get very impressive performance out of 4 AAs. Many cavers I see still use AA headlamps, this light allows you to use a spot and not have to buy 18650 and a charger for 18650 that many may not already have. The trade off is you have a larger diameter light but you are not giving up any output performance. In fact my comparisons show this light will out perform any mini single 18650 flashlight, especially in throw distance. I suspect the reason for the performance difference is the larger diameter and deeper reflector than what you get on smaller single 18650 flashlights. Many online retailers sell this light, I had seen it on gearbest.com for 35 dollars shipping included. It takes a couple weeks in shipping so do not expect ship time like you get with Amazon. This is about half the cost or less than similar output mini flashlights from familiar brands.

The specs on this light are as follows. It uses a single Cree XP-L LED. The construction material is aircraft grade aluminum with a stainless steel bezel. It uses an aluminum SMO reflector designed for long throw. This reflector is very polished as well. The weight is 205 grams without batteries and the length is just under 5 inches long and the diameter is 1 and a half inch. Here is the impressive part, beam distance is listed at 523 meters!!. I did not measure that in my tests but the throw is VERY impressive. The maximum output is 1095 lumens with good NIMH rechargeable or 1030 lumens with regular alkaline. Run times on the high setting is listed at 1 hour and 30 minutes with NIMH and 1 hour 20 minutes with alkaline. The downside to this light is it only has two output settings plus a strobe. The lower setting is 430 lumens with NIMH and 350 lumens with alkaline. Run times are listed at 5 hours on low with NIMH and 4 hours 10 minutes with alkaline. The water resistance rating is IPX 8 as it can be in 1.5 meter deep water for 30 minutes. This rating is the same as what you see on many mini flashlights that cost twice as much or more. Impact resistance is a drop of 1.5 meter also the same as more expensive lights. The light is manufactured by Kolta Electronics Co. in China .The website is www.crelant.com. I did not see a color temperature listed in the specs but the light color is very white compared to my other lights.

I did compare this light to some of my others. The first comparison was with my Fenix LD 41 500 lumen flashlight that is larger than this light but also runs off 4 AA batteries. This light as expected had a longer throw and slightly narrower beam and a bit whiter color. The next comparison I did was with my Fenix E35 2016 special edition single 18650 mini flashlight. The Crelant far outdistanced this light but the Fenix has a much wider beam, very similar to a caving headlamp. I also compared it to the 900 lumen high spot setting on my much larger 3 18650 Fenix TK 51 flashlight. This light surprisingly still outdistanced this much larger and more expensive (160 dollars) light. Again the beam was a bit narrower on the Crelant. I pulled out many of my caving headlamps including my El Speleo Limited Edition with its high spot setting of 800 lumens. As expected it was no contest , the beam angle was wider on the cave headlamp but the reach of beam was not close and the color temp was also whiter on the Crelant. The same result was found with a few of my other caving headlamps I compared it to including my El Speleo Gnoma 1200, El Speleo Nichia Go Pro and The Fenix HP 15 , HP 10 and HP 25 were also no comparison in spot distance, it was not even close. My 900 lumen Fenix HL 55 single 18650 headlamp was also no match. This is the reason I feel this type of light is a nice addition to any cavers pack for spotting things at a

My final thoughts on this light is I am VERY impressed with this little blowtorch. Impressed for several reasons, one is the price. 35 dollars with shipping included is a small price to pay for this kind of performance. Also impressed that you can get this kind of performance from 4 AA batteries. It has a very solid feel to it similar to the more expensive Fenix flashlights. I still see any cavers use 4AA headlamps and this allows them to have an optional spot at a reasonable price without having to buy batteries and charger they may not already have. As mentioned earlier the only downside I find is that it only has two output selections, I suspect that is why the price is so attractive but if I am using it to spot things at a distance I am not looking for lower output settings. I took this out in the street looking down the long straight stretch of road in my neighborhood and it looked like a set of car headlights on high beam. It is too large in diameter to use with my Nite Ize head strap for hands free use but you bet if I am in a big pit or dome or large trunk passage I will have it with me. Another use for this light is ridge walking and looking into holes you may find. You will not miss anything.

NexGen SMGers

Juliette Dubuisson photo

Cindy Ingram photo

Cindy Ingram photo

Juliette Dubuisson photo

The Petzl Simple: A Helluva Ride or a Death Stick? By John McMacken

Cave! (ironically, Latin for "Beware"). I am not an adept at rope work (as anyone I have caved with will point out). This article is only about my playtime with the Petzl Simple descender. I make no judgements about its safety or usefulness. I have been on trips where the leader has asked me not to use it. I am happy to oblige.

After working my way through On Rope! (Smith et. al.), I started reading (armchair caver alert) Alpine Caving Techniques (Marbach et. al.) This is supposed to be the European bible of vertical caving. They cover all things frog, from gear to ropes, rigging, ascending and rappelling. Since I am a frogger, I thought I might find something interesting. I did, in the section on descenders. Their recommendation for beginners was the Petzl Simple (or bobbin or whatever you want to call it). They were a little disparaging about racks for anything but very deep drops.

I'd heard of bobbins before but only the Petzl Stop with its on/off lever. The Simple was well, simpler. Two Aluminum disks with a frame to hold them together and a lock to keep it closed (Figure 1).

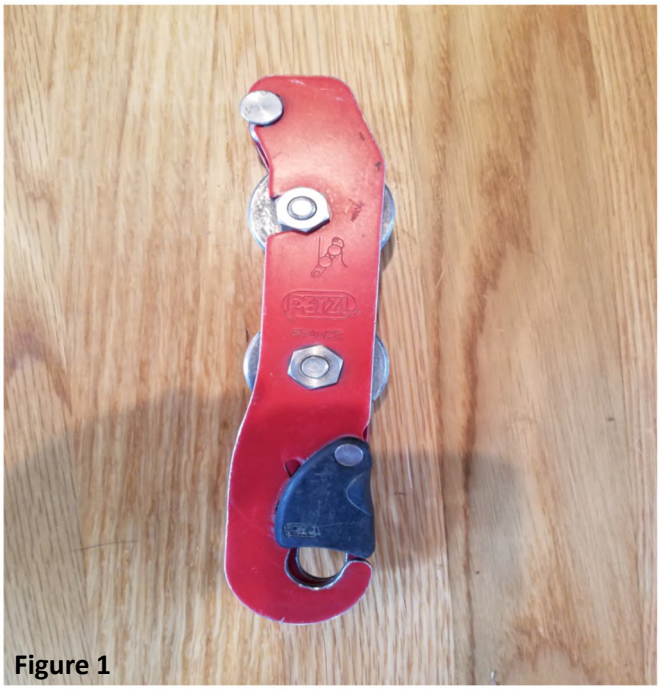


Figure 1

Now even I know that the rigging for vertical caves across the ocean is different. Fewer long pitches, more re-belays and lighter rope. Thou shalt not allow the rope to rub a lip. I thought I would give it a try on some TAG pits anyway. After all, what could possibly go wrong? I did notice that TAG-style rigging with our rope pads was referred to as the Indestructible Rope Technique (IRT). Very amusing. So, $70 dollars later, I was off to the rope course at Caver's Paradise.

One thing I liked immediately about the Simple was its size. Check out Figure 2.

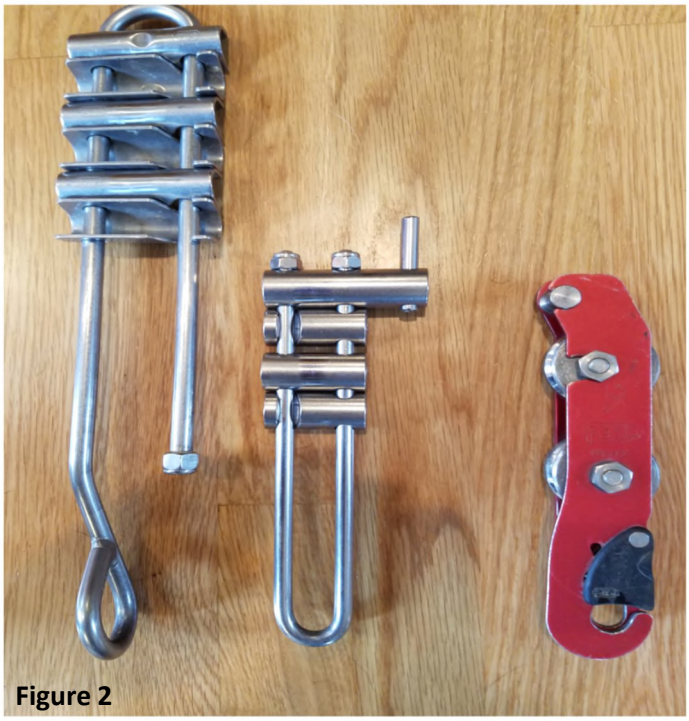


Figure 2

The Simple is light and compact; about the size of a BMS Micro-rack and a lot smaller than a normal six-bar rack. I like small and light. You also need to throw in a biner to lock into your oval, and a mysterious steel "braking biner". More on that. Being a nerd, I also weighed the Micro-rack and the Simple. Once you add in the required biners, they're about the same at 400g.

You don't need to remember how to tie into the rope with the Simple. The instructions are etched into the top plate (good for us older cavers who usually forget how to tie in). See Figure 3.

The frame opens and the rope loops around the two Aluminum bobbins and heads out towards the braking biner. The top plate then rotates back and locks closed. Loop it through the braking biner and you are ready to go (Figure 4). People who do not like Aluminum bars discoloring their rope will be displeased. I don't care as my rope is usually a nice mud color. The "locked


Figure 3

closed" part is where people get nervous. I have been told several times about at least one unfortunate caver who had the locking mechanism fail and suffered a free-fall to their death. I have also been told how a re-designed lock now prevents this. All I know is that I kept a reeeeeally close watch on this (Figure 5).

This brings us to my first couple of grumbles. Unlike a rack where you can add or drop bars, the Simple is a

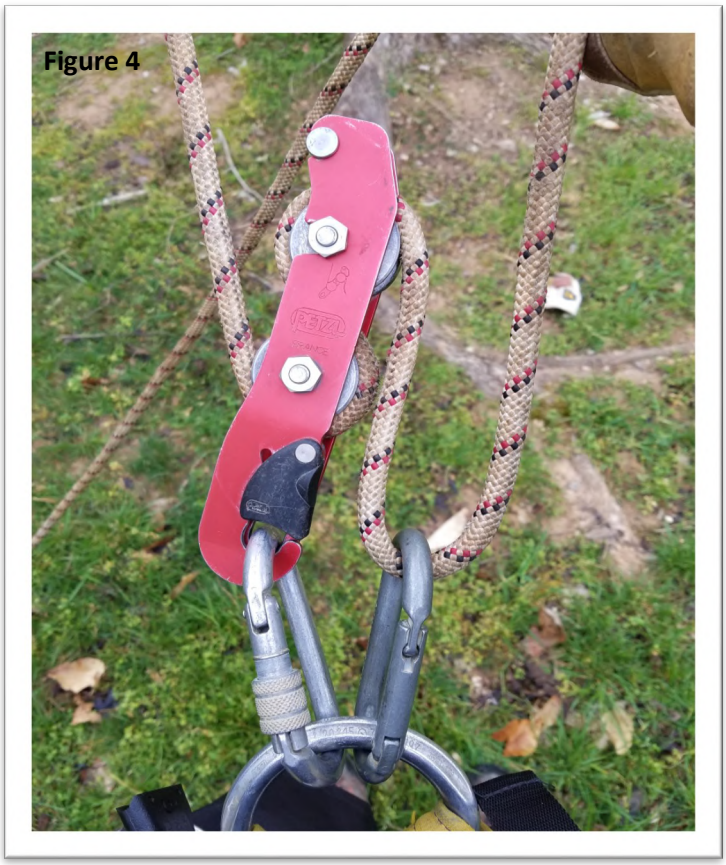


Figure 4


Figure 5

fixed-friction descender. The braking action also involves pulling up on the rope, not down. That can be problematic with a heavy rope. I guess it's not a big deal on short pitches. There are no bars to push together. Let go of the rope and you are on a Rocket to Russia. The Simple is easy to lock off though. I've never been very good a locking off a full rack. Loop once around the frame for a soft lock. Loop through the car-


Figure 6

carabiner and around the frame again for hard lock (Figure 6). Solid.

So, after practicing changeovers on the rope course, I headed off to various pits in the 60' to 100' range. Simple stuff, just down and back with some friends to try and save my ass if I got into trouble. The trouble started with our nice TAG rope. 11mm was tough with lots of feeding. Old, swollen and muddy 11mm was impossible. Old 10mm was OK and clean 10mm was a real pleasure. I admit to feeling a little nervous though. I am used to the rack security of just forcing those bars closed in order to stop. No such option with the Simple. After a few drops I began to feel more confident. Changeovers were simple. It was compact. You could easily clip it off to the side when climbing. I liked it.

So, I keep the Simple in my kit bag and use it when I think it will work. Do I recommend it? Of course not. I don't know enough about vertical caving to presume such a thing. I'll leave that up to those who know a lot more about hanging on rope. Don't take my word for anything. Cave On!

Effects of Pathogen Decontamination on the Strength of Climbing Rope and Harness Equipment

Wesley Throop and Gary Kees

USDA, Forest Service Forest Service National Technology & Development Program

Material Deterioration Testing

January 2017

Reviewed by Shari Lydy

Before I jump into the review of the USDA study, here's a brief overview of White Nose Syndrome (WNS) and general decontamination guidelines that are recommended to help minimize the dissemination of WNS by cavers and bat researchers. WNS is a fungal disease that has been decimating hibernating bat populations as it spread throughout the Northeastern, Mid-Atlanta, Midwest, and Southeastern United States and eastern Canada since 2006. Unfortunately, WNS has recently been reported in Texas caves, the first presence in the Southwestern United States. The fungal agent, *Pseudogymnoascus destructans* (Pd), is disseminated between caves and roosting sites both by bat migrations and human visitation.

Many protocols to halt the spread of Pd by cavers from contaminated caving areas to uncontaminated regions have been proposed and tested for ability to kill Pd, but not for their effects on cave gear. These protocols were compiled by a consortium of federal and state agencies and are summarized in the "National White-Nose Syndrome Decontamination Protocol" (version 04.12.2016). A shortcoming of this document is that users of the protocol are warned to read and follow the manufacturers product label and Safety Data Sheet s for the chemical disinfectants. A disclaimer states that most of the products listed have not been scientifically tested for applicability and effects on the safety and integrity on gear such as ropes, vertical equipment, cave lights, survey equipment, electronics etc.

Decontamination methods range from washing gear in hot water (55^{o} C /131^{o} F), using physical methods such as high pressure water sprayers and scrubbing to remove dirt before disinfection, and using chemical disinfectants such as 10% bleach, Lysol Antibacterial Cleaner (1:64, 1:128), ethanol, isopropanol, hydrogen peroxide, Accel, Hibiclens, and Lysol IC Quarternary Disinfectant Cleaner. Of course, mention chemical disinfectants to cavers and everyone is immediately concerned damage to their caving equipment, particularly ropes and vertical gear.

Some federal agencies and other organizations like Bat Conservation International (BCI) conducting scientific research on bats and WNS in caves and mines also now requiring that NO equipment (clothing, helmets, boots, lights, cameras, ropes, packs, etc.) used in a WNS-confirmed bat roost should be used at any other uncontaminated roost or net site. Most recently, organizers of the 2017 NSS Convention in Rio Rancho, NM have clearly stated that no cave gear, clothing, or boots used in a WNS area may be used in any caves open to the Convention goers.

As I mentioned earlier, decontamination procedures have focused on how to kill the fungus on caving gear and not how the treatment affected the gear itself. The present study, Throop and Kees evaluated one method from the National WNS Decontamination Protocol (v04.12.2016), which was hot water treatment on 3 representative ropes and 3 harnesses used by cavers. Ropes tested were PMI Pit Max 11-millimeter rope, PMI EZ Bend Sport 11- mil rope, and PMI EZ Bend Sport 10-mil rope. Harnesses tested were the PMI Pit Viper, Petzl Fractio, and On Rope 1 Goliath Frog.

NTPD bought 3 spools of the ropes to be tested (1 each Brand) and cut 10 rope samples into 12 foot lengths (30 rope samples total). Each rope sample was identified with an identifying number. Ten harnesses of each model were bought and likewise tagged with an identifying number. Controls were 5 samples of each type of rope and harness that were untreated. Controls were used to determine baseline breaking strength of the equipment.

Test samples were submerged in an ANOVA W-22 water bath at 55°C and allowed to soak for at least 20 minutes. Samples were then removed from the water bath and allowed to air dry overnight on a rack. Water in the water bath was replaced with fresh tap water after heating each batch of the same rope or harness type. This prevented contaminating the next batch of samples with any chemicals that may have leached out from the previous samples. The decontamination protocol was repeated 30 times with each sample.

Rope samples were tested for strength and elongation, to the endpoint of rope breakage. Harnesses were sent to Bluewater Ropes for testing. Harness failure was scored when any of the following criteria were met: webbing tears, parts of the harness broke, the test dummy released the harness, or load-bearing buckles or adjusting devices slipped more than 20 millimeters during the test.

Bluewater Rope was also asked to test the harnesses to failure as a secondary test. They could not test to failure but instead increased weight loads to a maximum of about 5,000 pound-feet (lbf) which was the limit of their testing machine.

The rope test results were as follows. Average breaking strength of treated rope samples was slightly less than the average breaking strength of the untreated control samples for all rope types tested. Compared to controls, maximum breaking strength of PMI Pit Max 11-mil was 0.16% lower, PMI EX Bend 11-mil was 1.67% lower, and PMI EZ Bend 10-mil was 0.19% lower.

None of the treated or untreated control harnesses failed with the standard applied load of 3,372 lbf (EN 12277). There were no webbing tears, damage to seams, or failure of any harness components (buckles/D-rings). No test dummies released from their harnesses and no load bearing buckets or adjusters slipped more than 7 mm out of the 20 mm allowed. The treated PMI Pit Viper buckles slipped 0-7 mm, the Petzl Fractio 0-6 mm, and the On Rope 1 Goliath Frog 0-4 mm.

At max load (5,000 lbf) for the PMI Pit Viper and On Rope 1 Goliath Frog, none of the treated or untreated harnesses came off the test dummy. In contrast, 4/5 untreated and 2/5 treated Petzl Fractio harnesses released from the test dummy.

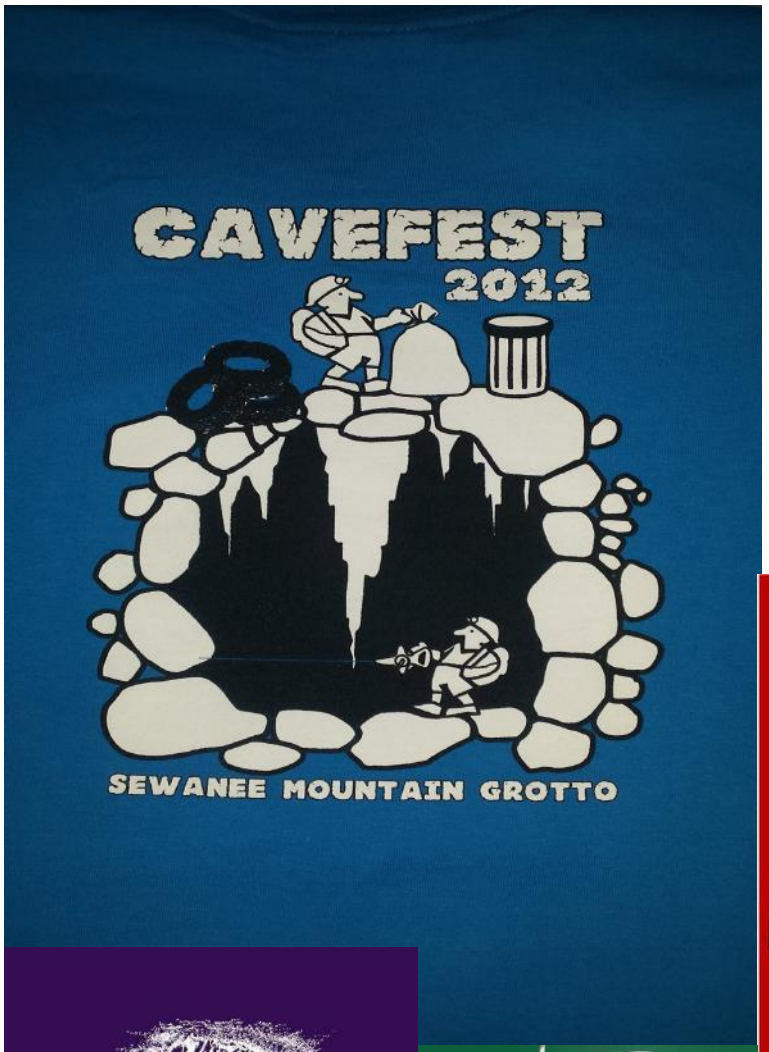
At max load, 3/5 treated and 0/5 untreated PMI Pit Viper harnesses had some seam failures. The treated Petzl Fractios had no seam failures, but 3/5 treated harnesses had torn webbing and D-ring failures compared to 0/5 untreated harnesses. Finally, at max load, there were no seam failures in treated Goliath Frog harnesses whereas 3/5 untreated harnesses has seam failures in the leg loops.

So what is the take home message from this data? Decontamination of the tested ropes and harnesses by soaking in 55° C water for at least 20 min showed that:

- Hot water disinfection did not affect the performance of treated harnesses.
- At the max applied load (5,000 lbf), the On Rope 1 Goliath Frog sustained the least amount of damage during the testing and the Peztl Fractio was the only harness to release from the test dummy.
- Rope samples immersed in hot water had 0.2-2.0% less strength than untreated ropes.
- All ropes passed the minimal breaking strength standards.
- Rope samples immersed in hot water had 0.2-2.0% less strength than untreated ropes.
- All the hot water-treated harnesses passed the European Standard EN 12277 tested at the required 3,372 lbf load.

Disclaimer: NTDP acknowledges that conclusions from these results ONLY apply to the brands or models of ropes and harnesses tested.

I'm not a big fan of chemical disinfectants anywhere near my cave gear so I would like to see a similar study evaluating the effect of chemical disinfectants on the integrity and safety of ropes and vertical gear. The present study could also be expanded to test other types and brands of ropes and harnesses using hot water disinfection.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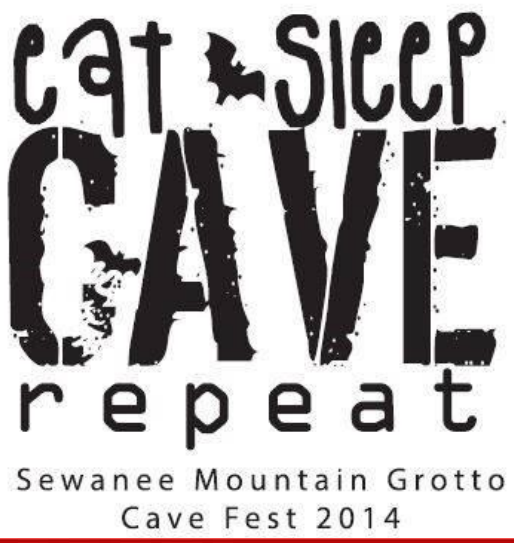
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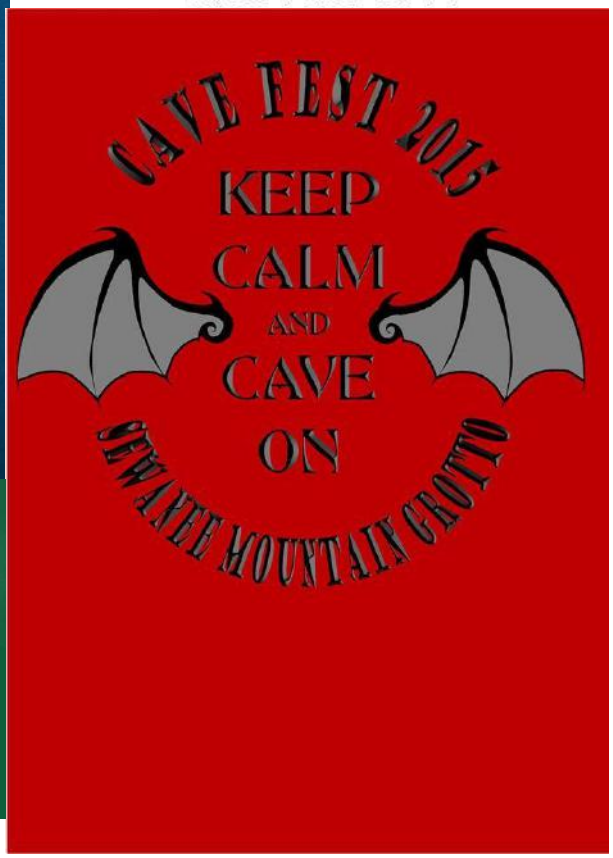
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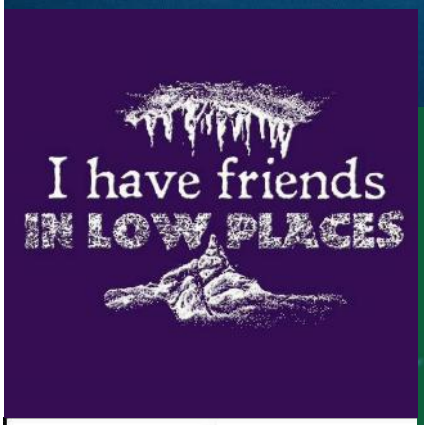
I have friends
IN LOW PLACES


Sewanee Mountain Grotto
CAVE
FEST
2016


Sewanee Mountain Cave Fest 2013
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