

**TAG CAVER**  
**SEWANEE MOUNTAIN GROTTO**  
**VOLUME 8 ISSUE 2**





**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 [sewaneemountaingrotto@caves.org](mailto:sewaneemountaingrotto@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:	Kristine Ebrey
VC & Programs	Kyle Lassiter
Treasurer:	Blaine Grindle
Secretary:	Kimberley McNutt- Hode
Member at Large:	Shari Lydy
Conservation Chair:	Maureen Handler
Survey Chair:	Kyle Lassiter
Webmaster:	Tina O'Hailey

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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 non-members 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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Front cover photo credits: Looking up the British Invasion shaft - photo by Chris Higgins

Back cover photo credit: Kyle Lassiter at the entrance of Gourdneck Cave—photographer unknown.



## TAG Caver

### Sewanee Mtn Grotto

### Spring

### Volume 8, Issue 2

#### ***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 Cleanup
- Sewanee Mountain Remailer. After you have joined the grotto, join our mailing list to keep up to date with cave trips and meetings.

#### ***Address:***

Sewanee Mountain Grotto  
669 old Sewanee Rd  
Sewanee, TN 3737

#### ***Important links:***

[sewaneemountaingrotto@googlegroups.com](mailto:sewaneemountaingrotto@googlegroups.com). Send an email to post

<https://www.facebook.com/groups/SewaneeMountainGrotto/>

<https://sewaneemountaingrotto@caves.org>.

<https://www.facebook.com/groups/SMGCaveFest/>



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## *Cavefest update.....Kyle Lassiter*

Cave Fest is the annual auction & party hosted by the Sewanee Mountain Grotto. The event is always held over Labor Day weekend (dates this year are 8/31 - 9/3, camping Thursday night is available). The event is located at Cavers Paradise (see [www.caversparadise.com](http://www.caversparadise.com) for directions). Amenities onsite include a bath house, hot tub & sauna and over 1,000 caves within an hour drive! This year's theme is "CaveFest Rockin' Tour 2018", and we're planning on having a rockin' good time!

Remember, there is no registration fee to attend, but we do ask that all attendees participating in the potluck on Saturday night bring a side dish. Basic camping for the whole weekend is just \$10/person (electrical hookups additional \$25). T-shirts are offered in poly-style and cotton-feel poly style, but the latter must be preordered online by August 17th. We will have some extra poly-style shirts available during the event. See the design attached below. And don't forget to order your drinking mug!

There will be both horizontal and vertical led cave trips, two bat floats to Nickajack Cave (Friday & Sunday), a live rock band Sunday night, a potluck dinner, and of course our main feature, the auction. The dinner and auction are Saturday night and all proceeds raised during our auction go back into the caving community! Over the last 10 years the Sewanee Mountain Grotto has donated thousands of dollars to the NSS, the SCCi, local rescue squads, caving expeditions, SKTF cave clean ups, CaveSim, survey projects and more!

To join the Facebook group, and to see the full list of donors and auction items, go to: <https://www.facebook.com/groups/SMGCaveFest/>. We'll be updating the auction items and led trip lists throughout the month so check back for updates. Hope to see you there!

## *From the Head Hardhat.....Kristine Ebrey*

### **August Grotto Meeting**

Please join us on August 11 for our SMG grotto meeting. The meeting will be held at the pavilion at the Maple View Public area at Nickajack Cave. The potluck will be at 6pm, the theme is official state food items (can you tell a engineer chose this theme ;-). So, in case you wondered the official food for TN is Tomato, Alabama is awesome with its official food being Bourbon whiskey and Pecans.... GA is of course peaches and onions. The meeting will be at 7 pm and is followed by the bat flight. This will be the grotto meeting before CaveFest so please bring any items you are donating to our auction to this meeting.

Please note that alcohol is not permitted at this location.



# **Sewanee Mountain Grotto Minutes June 2018**

Thank you Kyle for arranging our meeting spot this month held at the at the edge of the golf course on Jack Lynch's property.

Members attending  
Kristine Ebrey  
Joel McGuire  
Myrna Attaway  
Martha Bryant  
Maureen Handler  
Tony Laurino  
Ann Marie Laurino  
John McMacken  
Kimberly McNutt Phillips  
Hazard Bryant  
John Grindle  
Angela Reim

## **Chair Report**

After call to order we all enjoyed hearing about Kristine's trip.

We was ask to share a odd experience.  
Some tidbits....  
Service Bird bald eagle in the air port.  
Helicopter pick off.  
a certain person with no pants on.  
rat in a nose in a cave.  
TSA and a forgotten full pee bottle.  
6 pack of beer in back pack on a vertical trip.  
silver block ingots the size of kit cat bars in a cave.  
two cavers walking into the swim at gross skeleton with a pool noodle.

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There are 4 Director Position open and 3 board member position opens I believe at NSS.  
Please vote in the NSS elections.

## **Vice Chair Report**

Kyle Lassiter was absent  
Kyle has Grotto Gear and CaveFest Tshirts for sale.  
Please let Kyle know if you want anything at the next meeting.

## **Treasurer Report**

**Blaine Grindle** Balance 3902.66. Two receipts out.

## **Cavefest Report**

Thank you Kyle and Sue for your hard work for Cavefest.  
Donations are already flowing  
We really need your help with more donation. The word of the day is

more more more. Please give them to Kristine or Maureen  
Myrna Attaway has agreed to be trip coordinator (thank you)  
Committee chairs position are being filled but some may still be open???  
Preregistration is open see the website.  
**Work day for Cavefest is Sunday the 26<sup>th</sup>.**

### **Survey Report**

Anne is surveying Haggard cave. 4 trips have been made the week before last meeting. 1 more push should be needed to finish.

### **Conservation Report**

Cutting the grass and clean up at Gourd neck day of meeting. Thank you members who helped.

### **Old Business**

Grotto is changing from Yahoo to Google Groups  
Remember it is grotto dues time.  
Please remember you can pay using PayPal with the address,  
sewaneemountaingrotto@caves.org.  
Scotsboro mountain may have sold. Cavers lock is gone. Do not camp.  
We need content for the Gourdneck Kiosk being built.

### **New Business**

Grotto members are encouraged to volunteer to help with a new program to raise money. See email from Kristine Ebrey on google groups of upcoming events you can volunteer for. Music concerts and sporting events need concession workers. As these workers you will enjoy a few perks and work to bring in money for cave conservation. It looks like fun and it appears to be some serious cash payoff to caves.  
A coordinator is needed for this program.

Tag Caver should be out on June 16<sup>th</sup>

Preregistration for Cavefest at [www.caves.org](http://www.caves.org)

A motion to donate to Cave Sim was approved in the amount of 400.00.

Cave Sim is an interactive came on wheels run and designed by cavers. This is a wonderful outlet to enjoy learning about cave conservation. Over 10,000 people have crawled through the cave since its conception but donations make that happen. Gas being the main use of these donations to move from event to event. Taken from there website **(At CaveSim, our goal is to promote safe and fun caving practices for people of all ages and ability levels. If we can help by bringing a cave to you, or by building your custom cave, contact Dave at [jacksondmit@cavesim.com](mailto:jacksondmit@cavesim.com))**

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### **Presentation**

Kristine spoke to us about her trip. You so missed it. See a few pictures below.





## Upcoming Events

July 28 - August 4<sup>th</sup> NSS convention in Montana, Whos Going???

Aug 25-26<sup>th</sup> Cave Fest Work

Aug 31- Sept 3 Cave Fest

Sept 21-23 Tag work Weekend, Possible its restricted to DCG members

Sept 22 Bats, Beer and Bluegrass

Oct 4- 7<sup>th</sup> Tag Fall Cave In

From the NSS website:

**July 21 - 26, 2018 - 18th International Volcanospeleology Symposium** - at Tulelake, California. To be held at Winema Lodge, this 6-day combination of seminar talks, active caving, and specialty events highlighting volcanos, caves, and environmental and historic aspects of its location in Lava Beds National Monument. There will be pre- and post-trips available, including ice-caving, river rafting, 4-wheel-drive trips, a trip to Crater Lake, and more. Website and information can be found at [www.18ivslavabeds.com](http://www.18ivslavabeds.com). July 28 - August 4, 2018 - 2018 NSS Convention - at Helena, Montana. See <http://nss2018.caves.org/> for more information.

**August 17 - 19, 2018** - 65th Annual Indiana Cave Capers - at Mitchell, Indiana. ICC will return to beautiful, wooded Camp Rivervale near Mitchell, Indiana, centrally located to lots of great caves. Friday night kicks off with a howdy party and music, followed by great caving opportunities for the weekend. Saturday night features a banquet, keynote speaker, door prizes and fun! And, of course, our caving gear vendor, Inner Mountain Outfitters, will be there to supply all of your gear needs. The site also offers breakfast, cabins and a swimming pool. For more information and online registration, visit <http://www.cigcaves.com> or for human communication contact Ron Adams, 317-490-7727 or [caveronrope@sbcglobal.net](mailto:caveronrope@sbcglobal.net).

**August 30 - Sept. 3, 2018** - Old Timer's Reunion 2018 - at Dailey, West Virginia. OTR is a fun caving event held every Labor Day weekend ... featuring caving, camping, music, dancing, and other fun activities. Pre-registration (i.e. Membership) is required to attend. See <https://www.otr.org/> and Facebook OTR2018 for more information.

**September 28-30, 2018** - KKC's Fall into the Gorge - Red River Gorge, Kentucky. The Kentucky Karst Conservancy will be hosting a weekend of camping and activities at the Red River Gorge. We have exclusive access to the privately-owned Pumpkin Bottoms campground in the heart of the Red River Gorge. Included is 2 nights of camping, rappelling, kayaking, and cave mapping. You must pre-pay in order to attend. Payment can be made through the KKC's website via PayPal or by contacting the Treasurer at [stephanie.coffey.ca@gmail.com](mailto:stephanie.coffey.ca@gmail.com). Cost to attend is only \$20 for the whole weekend! Space is limited. This is a fundraiser to support the acquisition of caves in Kentucky. For more information please see our website: <https://kentuckykarstconservancy.org/fall-into-the-gorge>.

**October 4-7, 2018** - 41st Annual TAG Fall Cave-In - Lookout Mountain, Georgia. TAG Fall Cave-In on Lookout Mountain, GA. Dogwood City Grotto will again be hosting the TAG Fall Cave-In. Please come join us. Caving is A-MAZE-ing!!! Pre-Registration begins in June. More info at <https://dogwoodcitygrotto.org/TAG-Fall-Cave-In>.

**October 5-7, 2018** - 5th Texas Hydro-Geo Workshop - at Cave Without a Name, near Boerne, Texas  
We're adding some new modules to the workshop to include more aquatic biology and we're working on the final details for our keynote speaker. The event will start on Friday evening and run through noon on Sunday. We are again expecting 350 participants and will have somewhere around 40 concurrent modules to choose from. Modules will emphasize the collection and analysis of field data. There will be lightening talks on Friday evening and Saturday evening after the keynote speaker. Early registration is \$50 and includes Saturday and Sunday breakfast, Saturday dinner, T shirt, camping, books. If you are interested in staffing the event, please email me and we'll fill you in on the details. For more information and to register for the event, go to [www.hydrogeoworkshop.org](http://www.hydrogeoworkshop.org). Thanks, Geary Schindel, Co-Chair -- email: [gschindel@edwardsaquifer.org](mailto:gschindel@edwardsaquifer.org)

## *A Surprising Connection:*

### *Agua de Carrizo drops into the TAG Shaft*

*By Kyle Lassiter*

Lying in a muddy side passage crawlway in my home state of Tennessee, struggling to get survey measurements and a sketch done without ruining my instruments and survey book, the question often crosses my mind: “Why am I surveying this?! It probably just ends around the next corner!” Often I’m right; low crawls become too tight, muddy passages end in dirt fill, others collapse in breakdown. Even airflow is no guarantee of going passage, as air can often come from the smallest fissures or inaccessible places high in domes. All cave passages eventually end, so it is up to cavers to determine whether the passage they are exploring is “worth it.” Despite my desire to leave unpromising and unpleasant leads behind, I usually explore and survey them anyways, as you never know what is around the next corner. One of the finest big river caves in Tennessee was found via exploring a tight series of upstream passages years after the cave was discovered, and it miraculously popped out in the side of a huge collapse dome, formed by a different cave system. That discovery in Rumbling Falls Cave was unexpected and improbable, but not impossible. It is a great example of why we should explore and survey everything we can fit in!

2018 marked the 5<sup>th</sup> year of the PESH expeditions to Sistema Huautla in southern Mexico. Sistema Huautla is the 9<sup>th</sup> deepest cave in the world at 1560 meters (5118 feet), the deepest in the western hemisphere, and is the longest of the 17 deepest caves in the world (about 75 miles). A major focus of the expedition this year was to rig and re-explore Agua de Carrizo, an 830 meter deep cave in the area that was explored in the late 1970s but was not connected to the Huautla system. However, survey data in later years indicated that Carrizo came within just a few dozen meters of the La Grieta section of Sistema Huautla, as well as Nita N’Tau, another independent 320 meter deep



**Entrance to Agua de Carrizo**

cave nearby. N’Tau was explored in the 1980s, terminating at the bottom of a superbly massive 525 foot high pit room called the TAG Shaft, in honor of the original explorers who were from the “TAG” region of the USA. A small passage taking water led off from the bottom of this room, and efforts to enlarge it were also a top priority for this year’s expedition.

I arrived in Huautla in early April and was there for the first half of the month-long expedition this year. We got off to a bit of an ominous start, with several days in the first week featuring anomalously heavy rain in the normally dry month of April. Several of the major stream sections deep in the system flooded significantly, even briefly trapping one camp team in the La Grieta section before they were able to make



their scheduled exit time a few days later. Thankfully, rigging the upper sections of Agua de Carrizo and Nita N'Tau were not affected by the poor weather, and I joined the first large rigging team going into Carrizo on April 10. There was a bit of confusion concerning which of the two entrances 30 meters apart was the preferred dry route since no one had visited the cave since the early 1980s. Thus, we split into two teams and rigged each entrance pit to figure it out. I went to what turned out to be the main entrance and helped Josh Hydeman take photos of Chris Lloyd from Mexico rigging the beautiful sloping 40 meter entrance pitch. Placing many rebelay and dealing with poor rock quality slowed the rigging work, but we all reached the bottom of the entrance pit late in the day and found the top of the next pit, the 95 meter deep "Son of a Pitch" dry bypass route. The other entrance crew derigged after we confirmed our dry route was the way to go, bypassing the historic route of six consecutive very wet pits, especially during wet weather like we were experiencing.

That night at base camp I started studying the available leads indicated in the Carrizo survey data. I came across one indicated at the bottom of the wet entrance pit series, which had this note:

**"BOTTOM OF 6TH DROP, WET SERIES. ZEMAN'S BIVOUAC PASSAGE EXPLORED UPSTREAM 500M+ BY SCHREIBER, MAY 1978**

\*\*\*\*\*

**\*MAJOR LEAD**

\*\*\*\*\*

"Zeman's Bivouac" is the location where Steve Zeman was forced to wait out a flood pulse while trying to exit the cave in 1978. It is the beginning of an upstream tributary passage that joins the main stream in Carrizo at the bottom of the 6<sup>th</sup> drop in the wet entrance pit series. Richard Schreiber was a legendary TAG caver who was involved in many significant caving projects in the 1970s and 1980s, including Ellison's Cave in Georgia and Sistema Huautla. Seeing this survey note intrigued me, since 500 meters is a lot of cave to be mapped, and it was located conveniently close to the main entrance and at the relatively shallow depth of

about 150 meters. I did not expect it to lead to any significant finds necessarily, just to add passage to the map.

The next day we returned to rig the Son of a Pitch, and I brought a survey crew along to map Zeman's Bivouac passage. Chris Lloyd and Bob Alderson worked on rigging it all day long, dealing with rotten rock and sloped walls requiring many rebelay. Lee White and Jesse Houser worked on rigging in there as well the

next two days to replace some screws with wedge anchors, which we were collectively finding to be more competent in all the rotten rock present in the upper sections of Carrizo to that point. Rigging the pitch ended up taking all day, but my survey team did go to



**David Rose eating Oberto's at the top of Son of a Pitch in Agua de Carrizo**



**Son of a Pitch**

check out the beginning of the lead. It started as a tall rift immediately adjacent to the last wet pit and was issuing a small stream from beneath some breakdown. The breakdown filled up much of the passage there, but it looked like there was a crawlway through to the other side; surely the route Schreiber took. Not exactly an inviting passage at that point, but the note about there being 500 meters of cave was convincing.

We returned the next day and began the survey early in the afternoon. Miraculously we found an original survey station to tie-in to from 1978! My survey team was David Rose from the UK, David Tirado from Mexico, Bob Alderson of West Virginia, and myself. We pushed through the breakdown quickly and found a drippy area where the small stream entered via a crack high on the left wall, but the passage continued ahead as a dry paleo canyon. It was well decorated and with lots of popcorn. After a few dozen meters, the floor dropped out of the canyon, forcing us to descend 4 meters down into a lower level of well decorated crawlways. This passage continued descending, and soon dropped into another narrow canyon with the sound of a stream nearby. We had apparently crossed a drainage divide and encountered a different river within Carrizo, as this was not the same stream seen in the entrance of the cave or in the infeeder earlier! We soon found a well decorated walking stream passage going upstream, with “RS 6615” written in carbide on a rock near the base of a 30ft waterfall which we could not climb. At this point we had surveyed about 500 feet (not meters, contrary to the old survey notes) and found Schreiber’s



**Richard Schreiber's carbide initials in Agua de Carrizo**

initials, and still needed to explore downstream into the unknown! We explored and surveyed downstream through beautifully decorated canyon passage for about 40 meters to the top of an 8 meter free drop into what looked like a large sandy room. We could not determine if Schreiber had explored to this point, but apparently he didn't report or drop the pit if he had been there. We had to leave this lead for another day since we had not brought rope to explore this “upstream in-feeder”, which of course now was fast becoming a significant downstream lead. Plotting the survey data that night showed that the downstream passage had trended east off the map, opposite the rest of the cave which trends northwest. Our little side lead survey project had suddenly become the main objective in Carrizo. In honor of the original explorer of this passage, we named this beautifully decorated canyon above the virgin pit the “Spirit of Schreiber”.



### **Spirit of Schreiber, upstream**

David Rose, Bob Alderson, and I returned with rope and hardware on April 14 to continue exploration downstream in the Spirit of Schreiber passage. Bob rigged the pit nice and dry on the far side of a natural-bridge. We found a nice 12m x 8m sand-floored room at the bottom, with a 7m wide x 4m high walking passage taking off downstream. The passage abruptly turned north here, and then pinched down to a narrow canyon for 75 meters. Bob found and rigged the next 8 meter pit. While David and I were surveying up to him, Bob reported back that just beyond that next pit was another huge shaft with a five second rockfall! I could hardly believe my ears until I saw it with my own eyes.





**RS Gallery, in downstream Spirit of Schreiber passage, top and bottom pictures.**



Sure enough, we had just dropped into a 12 meter high by 6 meter wide canyon, with the water pouring down a deep pit 10m x 5m across. We were only about 100 meters from where we first found the Schreiber Stream at this point. Bob went back to the gear stash to get more rope and hardware while David and I finished surveying up to the edge of the pit. We grooved on hanging out in that awesome space while we were waiting with Bob to return. This was certainly the best cave lead and discovery that I had ever been a part of, and the anticipation of getting to the bottom was tremendous. We were able to get a Disto shot of 38 meters through the mist, but we couldn't tell if we were seeing the bottom or not. David found a plastic tea strainer that had washed in and decided to name the preceding 8 meter pit "Kettle Falls", and the room

above the next big pit the "Tea Room." He must be a Brit! Bob was only able to set a few bolts before we needed to leave for the night. Plotting the survey data showed that the Spirit of Schreiber had veered directly towards the TAG Shaft area in Nita N'Tau. Connect-



**David Rose with the tea strainer**

ing the two caves or finding a parallel but separate route near the TAG Shaft would both be significant news for the expedition. Morale amongst the team was high!

Despite being on short rest, virgin cave fever meant that Bob Alderson and myself returned to Carrizo the next day along with Jesse Houser to continue rigging and descend the big pit. After a few false starts and much hammering on the rotten rock around the pit lip, Bob eventually dropped over the lip and rigged five dry rebays over the course of the next couple of hours down to a spot 35 meters below the lip, where the pit became a free drop into blackness. Bob climbed back up to rest, so I went down with the Disto and a few rocks to see if I could find the bottom. The Disto wouldn't work with all the mist from the nearby waterfall, but a rock drop took three seconds. We would later determine during the survey that it was 47 meters. I



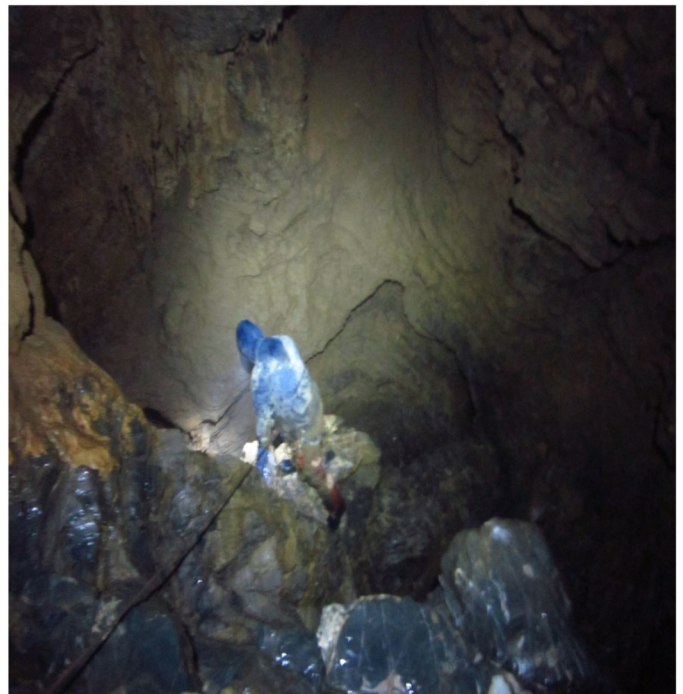


**David Rose looking across the top of the British Invasion shaft**

descended and soon saw that one wall peeled back into blackness, into what certainly must be the TAG Shaft. I landed on a large balcony on one side of the room, still 60m+ off the floor, and soon saw survey stations left from 2017 during an aid climb in the TAG Shaft by Stephen Gladieux and Lee White. Connection confirmed! Agua de Carrizo and Nita N'Tau were now one cave system. The pit was named the "British Invasion" to TAG Shaft, in recognition of the significant contributions by David Rose on this project. We left the cave and celebrated our discovery in the middle of the night back at base camp.

Two days later we returned and surveyed the pit to a depth of 83 meters, and then tied it into the existing survey in Nita N'Tau. It was determined that this new Spirit of Schreiber route to the bottom of the TAG Shaft was an easier route than the original route via Nita N'Tau, so that route was derigged. This connection added about 20 meters of depth to Agua de Carrizo, due to a higher entrance in Nita N'Tau, as well as about 1300 meters in length. Sadly I had to leave the expedition at this point, but over the course of the next week the focus turned to enlarging and pushing the

drain at the bottom of the TAG Shaft, with the hope of connecting it to La Grieta. As of this writing (5/1/18), news is breaking from Mexico that cavers have done just that! More details to come after the expedition wraps up, but at a minimum it means they've added 7 km in length to Sistema Huautla and made the 525ft deep TAG Shaft the deepest pit in the entire system. Two major cave connections in one expedition, and I was fortunate enough to be a part of the first one. Just like in Rumbling Falls, we went up an uninspiring in-feeder and were richly rewarded. It pays to survey everything!



**David Rose looking down the British Invasion**

Special thanks to David Rose and Bob Alderson, who were the key players in this most unexpected connection project, as well as everyone else who contributed in Agua de Carrizo: Chris Lloyd, David Tirado, Jesse Houser, Lee White, Scott Trescott, Martin Hoff, and photographer Josh Hydeman. And of course, special thanks to expedition leaders Bill Steele and Tommy Shifflett, who work year-round planning and managing the logistics so the rest of us can just worry about the caving.

Photo credits: Josh Hydeman and Kyle Lassiter.

One of the many crown jewels in the Acebeam line is the L 16 mini flashlight. I wanted to write about this as I feel it is of interest to caver's. It is of reasonable size for a caver to carry in the pack and use in addition to the headlamp for spotting things at a distance in large rooms or domes or a pit. Many of these flashlights of this size will easily out spot any commercial headlamp. The L 16 is about 6 inches long and is 1 and a half inch in diameter at the head and 1 inch diameter in the battery compartment. This is a bit larger than mini flashlights some use to mount on the side of their helmets but this one will likely outperform any of those. I had seen a video on U tube of this light and decided to try it out. It was everything I had hoped for and then some.

The specs on this light is 2000 lumen max. It operates off a single Cree XHP 35 Hi Led. Maximum beam distance is listed at 603 meters. Color temperature is 6500 K . Mine is the cool white , also available in neutral white. It has five outputs 1 lumen ( 500 hours ) 150 lumen ( 9 hours) 500 lumen ( 2.2 hours) 1000 lumen ( 1.2 hours ) 2000 lumen ( 1.1 hour ) . Also has a strobe. It operates off a single 18650 ( included ) that is a Acebeam brand ARC 18650 H 3100 mAh . It can also operate off two CR 123 s or regular 18650s you may already have but will only reach 1400 lumens if not using the included battery. I have some high drain 18650s but have not yet used them in this light. The water rating is IPX 8 , 2 meter submersion for 30 minutes. Impact resistance is a drop from 1.2meters. The light will come with a battery , USB charge cord , extra O ring and wrist lanyard. The cost is 100 dollars but can vary depending on the site you use.

After receiving this I inserted the battery and ran through the options in my garage but had to wait till dark to compare to others. After dark I took it out and ran it in my backyard that is about 100 feet wide and 120 feet long. It easily reached that distance and shined trees four houses away. I live in town so I never really get real dark here. I decided to compare it to my Crelant V4A that runs off 4 AAs and has a listed beam distance of over 500 meters. L16 had a whiter color to it and seemed to barely outdistance the Crelant but Crelant hung with it well considering it is a 35 dollar light. I would highly recommend Crelant V4A for the same purpose if one needs a less expensive option. Crelant has a max lumen of 1090 lumens but is of similar size. I wanted to compare it to the spot on my El-

speleo Lunatic that has a spot optic at 1200 lumens. This headlamp has the most impressive spot optic I have yet to see. No comparison as I expected , the L16 easily outdistanced the spot on the Lunatic. I also had to compare it to my Fenix TK 51 larger flashlight that has a 900 lumen spot but is of larger diameter head. The TK 51 had a wider angle beam but could not reach the distance of the L 16 . I have many lights but felt these would be the most fair comparison.

My impressions of the L16 is very positive. This would be a great addition to a cave pack if you are going to a large TAG pit or wanting to look up a dome or ever find yourself in Camps Gulf or Echo Junction in Sloans Valley or anything else similar. I am not a fan of USB charge ports on anything you take in a cave. It does have the rubber cover over the port but I bet with age it will not be as effective at keeping moisture out. I am also not a fan of USB charging as I much prefer to charge 18650s in one of my smart chargers , they typically give a more complete charge according to my voltage meter. The USB charge is a good option when traveling but at home I will use a smart charger. Not sure if the beam distance is actually 600 meters as many manufacturers stretch those claims but either way this is a very impressive tool to spot with. The beam distance is wide for the reach it has. For more info you can go to [www.acebeam.com](http://www.acebeam.com). Many online retailers sell this



Picture provided by the manufacturer



## INTRUDER ALERT: LONGHORNED TICK

by James Burtis, Andrea Egizi, James Occi, Emily Mader, Manigandan Lejeune, Kirby Stafford, and Laura Harrington

### WHAT YOU NEED TO KNOW ABOUT THE INVASIVE TICK *HAEMAPHYSALIS LONGICORNIS*



*H. longicornis* adult (left), nymph (center), and larva (right). Photo credit: Manigandan Lejeune, Cornell Animal Health Diagnostic Center). Native tick in Eastern Asia



#### **KEY FACTS:**

Invasive tick in Australia and New Zealand<sup>1</sup>

Discovered in United States in 2017.<sup>2</sup>  
Now known to inhabit the US since at least 2010.

First detected in New Jersey. Now found in several eastern US states and Arkansas.

Three life stages - each seek a host, feed, and drop off.

Broad host range. Prefers cattle, sheep and horses.

Considerable biting nuisance causing damage and irritation to livestock, humans, companion animals, and wildlife.<sup>3</sup>

#### **OTHER NAMES:**

Cattle tick (New Zealand); Bush tick (Australia)

#### **HABITAT:**

Meadows and grassy areas near forests

#### **HOSTS:**

Mammals and birds

#### **BITES HUMANS:**

Yes . Confirmed transmitter of bovine theileriosis and parasites that cause babesiosis infection in animals.<sup>3,4</sup> Bovine theileriosis can reduce dairy production on cattle farms and occasionally kill calves. The ticks themselves can also cause anemia in sheep and cattle when densities are high.<sup>3</sup>

#### **VETERINARY IMPORTANCE:**

In Asia, field-collected longhorned ticks can harbor pathogens that are also present, or closely related to those found in the US. These include *Anaplasma phagocytophilum*, *Ehrlichia chaffeensis*<sup>5</sup>, *Babesia* species, and *Powassan virus*<sup>6</sup>. **The capacity of this tick to act as a vector for these pathogens has not been studied.** This species is also considered a possible vector for Thrombocytopenia Syndrome Virus (SFTSV) in China<sup>3</sup>, an emerging I



infectious disease with a reported human mortality rate of up to 12.0%.<sup>7</sup>

#### **MEDICAL IMPORTANCE:**

Invasive populations of this species are capable of reproducing without fertilization (i.e., do not require males). This biological feature may be what allows them to spread rapidly and reach high abundance. Males are generally uncommon in invasive populations.

#### **NOTABLE INFORMATION:**

The Northeast Regional Center for Excellence in Vector-Borne Diseases is supported through Cooperative Agreement Number 1U01CK000509-01 between the Centers for Disease Control and Prevention (CDC) and Cornell University. Contents are the sole responsibility of the NEVBD, and do not necessarily represent the official views of the CDC or the Department of Health and Human Services.

#### **POTENTIAL FOR SPREAD IN THE US:**

It is possible the longhorned tick is more widespread than currently known

*H. longicornis* was first identified in the US in Hunterdon County, New Jersey, on November 9, 2017.<sup>2</sup> The ticks successfully overwintered<sup>8</sup>, implying the potential for populations to establish regionally. This species has now been reported in numerous locations in New Jersey outside of Hunterdon County, and in other states, with reported sightings in Virginia, West Virginia, and Arkansas. After reviewing archived samples, there is evidence of species presence several years prior to the 2017 identification.

Ability of longhorned tick to feed on wildlife with large home ranges (e.g., deer) increases the potential for it to spread.

In its native range, the longhorned tick is known to feed on a wide variety of vertebrate hosts<sup>1</sup>, and invasive populations exhibit similarly broad feeding habits.<sup>9</sup>

In the US, this tick has been observed feeding on sheep, goats, horses, and cattle. It has been collected from wildlife including raccoon, opossum, and deer. Given their cold tolerance, longhorned ticks could potentially expand northward, in addition to the risk spread southward and westward in the US.



Female longhorned tick on a leaf. (Photo credit: James L. Occi, Rutgers University)

In its native range, this species survives in relatively cold climates, generally overwintering as nymphs or adults.<sup>3</sup> Individuals have been reported as far north as Primorsky Krai, Russia<sup>10</sup>, a region with a similar climate to the northeastern US. Furthermore, both adults and nymphs collected in China can survive at temperatures below -10 °C - evidence that they are well-adapted for cold winters.<sup>11</sup> The effect of cold on invasive populations in Australia and New Zealand is unclear due to relatively warm regional climates. There is a need for further evaluation regarding the thermal tolerances of the invasive population in the US. Genetic studies to determine the most likely source of this introduction may help shed light on the climatic range of the invasive US population.

#### **FOR ENTOMOLOGISTS & PUBLIC HEALTH PROFESSIONALS:**

We encourage public health professionals, veterinary entomologists, and other trained professionals throughout the northeastern US to begin monitoring for this invasive tick species, as well as examine historical collections of-

*Haemaphysalis* species, such as the longhorned tick may have been present in the US for some time.

*Haemaphysalis* ticks are small, inornate ticks with eyes absent, festoons present, and with the second segment of the palpi extending laterally beyond the rectangular basis capitulum. Two species of *Haemaphysalis* ticks are native to the US:

Rabbit tick, *H. leporispalustris*

Bird tick, *H. chordeilis*



Both native *Haemaphysalis* ticks are broadly distributed across the country. A third species native to Central and South America, *H. juxtakochi*, is also occasionally found in the US, likely transported on migratory birds.<sup>12,13</sup>

Many of the characters used to distinguish members of the genus *Haemaphysalis* are subjective (relative lengths and shapes), particularly for the immature stages. This makes these ticks difficult to recognize without firsthand experience or access to a reference collection. As a result, DNA barcode identification has been successfully used to identify ticks in this genus.<sup>2</sup> For those with extensive experience identifying ticks, key features to differentiate adult female *H. longicornis* from native congeners can be found at [neregionalvectorcenter.com/longhorned-tick](http://neregionalvectorcenter.com/longhorned-tick).

Closeup of *H. longicornis* adult female mouth parts. (Photo credit: Andrea Egizi, Monmouth County Tick-borne Disease Laboratory)

**If you believe that you have collected a longhorned tick, please preserve the specimen in ethanol or rubbing alcohol (70% or greater is best).**

Researchers and extension specialists may send the specimen for DNA barcoding to Dina Fonseca at the Rutgers University [Center for Vector Biology](#) (180 Jones Ave., New Brunswick, NJ 08901), or to the National Veterinary Services Laboratory (USDA-APHIS) for morphological identification using [Parasite Submission form 5-38](#).

Members of the public are encouraged to send specimens to one of the tick identification services listed at [www.neregionalvectorcenter.com/ticks](http://www.neregionalvectorcenter.com/ticks).

#### FOR MORE INFORMATION:

Review of the biology and ecology of *Haemaphysalis longicornis* Neumann, 1901: Dina Fonseca, Andrea Egizi, James Occi, Rutgers University

- *Haemaphysalis longicornis* Detected in the United States: Jonathan Sleeman, USGS
- Exotic ticks in New Jersey: What are the concerns?: Dina Fonseca, Rutgers University
- Self-cloning Asian tick causing worry in New Jersey: Alvaro Toledo, Rutgers University

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#### **Latest New Flash:**

**By Mark Price The Charlotte Observer (TNS) July 12, 2018**

An invasive species of “exotic” tick native to east Asia has been discovered in North Carolina, and it’s an “aggressive biter,” says the U.S. Department of Agriculture. The Longhorned tick was found recently on an opossum in Polk County, in western North Carolina along the South Carolina border. It’s about 90 minutes west of Charlotte. Details of the discovery were not released, but a warning was issued Wednesday for the state’s veterinarians to be on the lookout for a rapid spread.

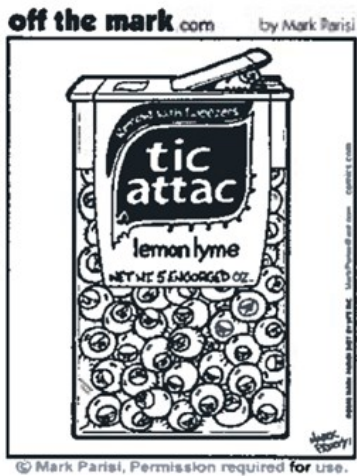
Longhorned ticks are capable of spreading disease, and the females reproduce without a male, says the N.C. Department of Agriculture. That means a single female can create a colony anywhere in the state, officials say. “It is an aggressive biter and frequently builds intense infestations on animals causing great stress ... and blood loss,” said a statement issued by Michael Neault of the N.C. Department of Agriculture. “It is a serious pest of livestock in its native regions .... This tick can spread pathogens among a diverse host range on which it feeds.”

Longhorned ticks are vulnerable to the same insecticides that kill other ticks, he said. State officials say they are trying to find out how widespread the ticks have become and monitor for diseases they may potentially spread. Lyme disease and Rocky Mountain Spotted Fever are among the four diseases most commonly associated with ticks in N.C. Most diseases spread by ticks can be treated with antibiotics if caught early, say state officials. However, death can result if the illness goes untreated, according to the N.C. Department of Health and Human Services. Longhorned ticks are believed to have been introduced into the country via New Jersey and have recently been found in Arkansas, Virginia and West Virginia, state officials said in a statement.



## Ground Zero for the Longhorned Tick in the United States—State of NJ Dept. of Agriculture

On August 1<sup>st</sup>, 2017, a Hunterdon county NJ resident brought in several ticks that had been removed from their pet sheep. The one sheep is the only animal on the property and has not left the property for many years. The sheep was tested for various livestock specific diseases, including Piroplasmosis, Anaplasmosis, Q fever, Heart-water and various blood parasites at the NVSL, and all tests were negative. Initial identification of the *Haemaphysalis longicornis* tick species was made by the Center for Vector Biology at Rutgers University and confirmation was made at the United States Department of Agriculture (USDA) National Veterinary Services Laboratory (NVSL) on November 9, 2017. This tick, also known as the Bush Tick or longhorned tick, has never been observed in the USA, but has been intercepted on several occasions on animals entering the country, particularly horses. The tick is found in East Asia, New Zealand and Australia and is the most widespread tick species on wild and domestic animals in Japan.



## Tick humor



## The Second Survey above Han Falls in Gourdneck by Anne Grindle

On Friday the 13<sup>th</sup> Kyle Lassiter, Kyle Davis, and I geared up and went into Gourdneck for the second survey past Han Falls! I had not slept well the night before and was apprehensive since I had never been past this point in the cave before. It was a bit tricky climbing up the rope and then flopping over the Falls into the passage. The water level was low, which was a good thing! Kyle Lassiter was kind enough to give me a butt push in the spot where I always need one! Young Kyle Davis spider walked up the wall without needing a push! We got to the new rope climb that formerly people free climbed and soon we were through the pancake squeeze and on to the stream passage lined with flowstone. At last we made it to the big room and at the base of Han Falls! Kyle Davis bravely volunteered to go first! We all fiddled around a bit getting into the passage above the falls. It works best to just “manhandle yourself with the traverse line into the passage as Kyle demonstrated! The next stretch was a flat out belly crawl for eighty feet. As I looked for the famed borehole, we crawled over breakdown and squeezed through gorgeous formation in passage averaging 2 to 4 feet in height. We finally reached our survey starting point after more than two hours of caving! I set point with the tandem instrument set while Kyle used the Disto X. The first eight stations were in contortion alley! So where was the famed borehole? Finally we surveyed into the famous borehole passage! It was tempting to really move out and get some really good footage; but cold and tired, we wisely turned back for the long journey out. Getting back on rope at Han Falls was really tricky as I conquered my fear and flopped back over the falls! Another successful 8 hour survey!



The *Southeastern  
Cave Conservancy* is  
feeling thankful.



Photos by Kristine Ebrey

Thank you to *Kristine  
Ebrey, Maureen Handler,  
Katie Balazs, Joel McGuire,*  
and other volunteers who  
helped.



We want to give special recognition to  
the volunteers who helped give our  
Gourdneck Preserve a little love this  
past weekend (June 12). It is our  
Preserve Managers and volunteers that  
help keep our preserves maintained and  
looking great. We could not protect over  
170 caves on 31 preserves in 6 states  
with out them.





# *Gourdneck Cave*

## *SCCi Preserve*

*Managers Maureen Handler and Kristine Ebrey*



*Sewanee Mountain Grotto Mapping Project*

*Led by Kyle Lassiter*