

THE TECH TROGLODYTE



SPRING 2019

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A NOTE FROM THE PRESIDENT AND VICE PRESIDENT



Hello wonderful cave critters!

The VPI Cave club had a wonderful year! We started off strong by hosting Fall VAR even with the torrential rains. It was a great time seeing cavers from all around this area! Over the holidays Deighan led his infamous Mexico trip once again. We had an awesome program talking about all their cave adventures and shenanigans. One of our new members hosted a TAG trip over Spring break and it was so successful that Dave Hughes named the newly discovered “Hokie Well” in honor of the trip! Then the one and only Eric Stanley brought back the First Aid presentation but now NEWER, BIGGER, AND BETTER! Lastly, over this past year we voted in 7 new members from 176-182! All in all, this year has been quite successful and a lot of fun. We thank everyone for an awesome year as your executive officers!

Cave Safely!

Gillian Rowland (President) and Nathan Kearney (Vice President)

P.S. We were willing to bring back the carbide lamp test during our last meeting, but no one brought it up before we were kicked out. Your loss. ;)

NEW MEMBERS



#476 Ashley Lewis



#477 Eric Steinberg



#478 Taren Woelk



#479 Rowan Berman



#480 Ricardo Acevedo



#481 Christopher Cerne



#482 Madeline Rowland

Cave

Joker

A SMALLER, LIGHTER PACK - PHILLIP MONEYHUN VPI #451

When I'm planning on caving for over 12 hours or I'm carrying a lot of gear (often both) I like my Landjoff 33HW, in yellow of course. I prefer wearing my vertical gear between pitches so I don't have to put it in my bag, and the harness helps keep the cave suit oriented properly. But without ropes, survey equipment, bolting stuff and vertical gear taking up space I've found my bag can be very empty on sport trips. This got me wondering how small I could make sport pack. I was able to fit a 500ml nalgene, some food, a shirt, assorted "emergency" gear, and my vertical rescue kit in my yellow Landjoff bolting bag. This was much more convenient than a giant bag as I could hang it off my chest harness. It was a dream to crawl with and I hardly ever had to mess with it.



These two bags contain all my essential and can be worn inside my suit. They are slim and do not affect caving under most conditions. It is easy to remove them and carry them in hand or slung around the neck if necessary.



The first of the two bags contains the following:

- 3rd headlamp. Zebralight H53w, I prefer a sub-100 gram light (including headband) for wearing at camp without my helmet which is basically all my backup-backup light gets used for. There exist lighter headlamps, but I like zebras.
- Spare batteries. LG MJ1's are the best right now.
- Lighter. Small Bic. I prefer white so you can see the fuel level easier, but I bought too many hammer drills so I'm saving up to replace my blue one.
- Heat source. I'm trying out Esbit fuel tablets.
- Trash bags. I have two lightweight kitchen bags. These can be worn as extra layers or as a heat tent. The hair tie is handy for keeping yours or others luscious locks out of rappel devices.
- Space Blanket. I'm sure we're all familiar with these.
- Drugs. I have naproxen sodium, ear plugs, *redacted*, benadryl, imodium, iodine tabs, *redacted*, and caffeine. Pills are padded with plastic wrap, and the case wrapped with a meter or so of duct tape and secured with a hair tie.
- Extra survey pages. I have two. Paper is handy. Survey paper especially so.
- Waterproof paper. This is probably redundant.
- Gauze pads. I have four.
- Band Aids. I have two big ones. My knees would be in better shape if I had these over the course of a mile of crawling in Blue Spring.
- Point kit. Pencil, sharpie, flagging tape, witeout, and a spoon.



The second bag contains the following:

- Clif bar. Mint is my “favorite” flavor.
- Gummy bears. Good for quick energy and a whole lot easier to stomach than another damn clif bar.
- Water. Plastic 375mL Evan Williams bottle. Muscle memory improves drinking efficiency.

Between these two bags I have everything I need for most sport caving trips. This doesn't include my rope knife, whistle and watch which I carry in my suit pocket, or the vertical rescue kit which I would carry on my harness if I deemed it necessary for the trip. This also doesn't include any extra webbing or cord but some could be worn as a belt. I also don't have an extra shirt, but the trash bags can be worn as extra layers. And as always, caving is dangerous (don't do it) and if you miss signout because you listened to something I said, you're on your own.

CLOVER HOLLOW TRIP REPORT – CHRIS CERNE

One of the most thrilling and fascinating caving trips I've been on is a trainee trip to Clover Hollow. Before this trip, I had only been on four trips: Starnes, James, Links, and Giant. Because of my inexperience, I had no idea what to expect: I had only been a part of the club for just over a month. But this trip turned out to be the trip that pushed me over the edge and got me fully committed to the VPI Cave Club.

It was a Sunday on October 7, 2018, and we signed out around 10 A.M. The cave entrance drop wasn't terrible as my second ever vertical trip, but soon enough, we came to almost a 100 foot drop.



Past this drop, we would experience the most beautiful cave formations: the Gypsum Flowers. We would also experience the VPI Cave Club library, filled chalk-full with trainee learning materials and a nice futon for relaxation purposes.

My most memorable experience from this trip was learning about the other trainees, and of course, getting to know Meredith and Nathan better. We shared stories, jokes, and personalities, and I realized that these folks would soon become good friends of mine.

Although leaving the cave was physically exhausting, as us trainees have not mastered vertical (which subsequently made this a 12 hour trip), going caving at Clover Hollow was one of my favorite caves yet.

GRIM TAWNEY'S – CHRIS CERNE

The most scared I've ever been on a trip was at Grim Tawney's. This was my first foray into miserable caving, but because I enjoy being miserable, I figured why not. The trip happened on Sunday, December 2.

The entrance to the cave was a sketchy gate that required a key, and so all of us trainees shuffled in, already miserable from the cold December weather. We walked in, but were given a spiel about hypothermia and wearing extra layers. I didn't think too much of it, until we had to pass a body of freezing cold water.

Members of the VPI Caving Club love putting their bodies through physical stress, so I cringed as I watched everyone shuffle past the water. The passage was oriented in such a way such where there was about half a foot of breathing room above the water. This means that to get through this passage, you have to twist your head and pray you don't get scared and start hyperventilating.

Of course, it was soon my turn. I go into the cold body of water, already freezing my ass off. Wanting to get the whole experience over with, I try to get through the passage as quick as possible.

Big. Mistake.

I could breathe through my nose, but not through my mouth, which had me scared shitless. At this point, my whole body was shaking, and I was hyperventilating. I've never had a panic attack before, but I felt like I had just experienced one.

I did not make it through. I went back to safety as quick as possibly, got out of the water, and caught my breath. But this would not be the end. I wanted to catch up with my fellow trainees and live to tell the tail. So I jumped back into the water, starting adjusting, and slowly made my way through the passage. The passage was shorter than I thought, and I made it through with almost no issues this time.

After this experience, we went to experience the rest of Tawney's. The best part was sludging through a lot of mud, just to see a giant phallic-shaped mud pile and add our own contributions to it.



POEM – ALEX CORRIGAN

Descending into the darkness of another realm,
floating yet tethered by the rope you're hooked to.

On this submarine you're at the helm,
Diving into a world strange and new.

Helmet upon your head and gear upon your frame,
Secure in exploring a foreign domain.

Weight of worlds above you and weight of the world below,
Headlights shine around as others share what they know,
From cave life and safety, to how formations grow.

Exploring an ethereal landscape, watching underground streams flow.

Droplets on the ceiling glitter in the light,
Lit up like a myriad of stars in the night.

From cramped crawls to colossal caverns,
Shadows dance in random patterns
Across flowstone and rimstone.

A stalagmite serves as a throne
For a small salamander, orange and covered in spots.

Near the entrance, a log covered in fungi slowly rots.
A plethora of fossils can sometimes be found
If only you know where to look, they abound.

The weight of the earth presses down,
somehow lighter than this feeling of profound wonder.

It's silent and peaceful here underground,
Drops of water create a backdrop of sound.

Here there is a stillness, it's thrilling this
Feeling that time seems to slow as you go deeper into the earth.

After being surrounded in darkness, emerging into the light feels like rebirth.

FEAR OF THE UNKNOWN – JESSE NELSON

Caves are deep dark holes in the ground where all your fears are realized. And that is what makes them so awesome. When caving, you will be presented with many new challenges that you may not have experienced in your everyday life. These obstacles can be uncomfortable, and even frightening, but facing conquering these will leave you with a sense of pride and lifetime of memories. This article describes some of the common fears people experience while caving might help you deal with them.

The first thing you will probably notice is that caves are dark. This can cause some nyctophobia; or fear of the dark. This one is simpler though because we all have headlamps. If the problem persists, add more lights.

Many of the caves we visit will have crawling sections or places when the passage sudden narrows. This is where it gets interesting because a lot of first-time cavers have not been in a tight situation to know if they have claustrophobia or not. So, when you first go into a tight squeeze and realize, “hey, this is more stressful than I thought this would be”, that’s perfectly fine. Like most fears, experience really helps get you through. Getting through the passage the first time is always the worst and it gives you confidence for future trips. However, this is a lot easier to deal with on short passages. If you can see the other side of a squeeze it is a lot easier to venture an attempt knowing that it will only be a shorter section. A good way to work your way up is by doing caves like New River first where this limited crawling sections. New river is especially good because it has the one tight squeeze section that is optional, and you can practice on that before committing to harder caves. Another good way to practice is by going through the squeeze box. The squeeze box great because it is an adjustable box that allows you to see what your limits actually are when trying to squeeze through a gap. This allows you to know your limits before having the added pressure of being in a cave.

Finally, my personal favorite (I might be a bit biased) acrophobia, or fear of heights. This can common up often since there is a whole type of caving dedicated to it in the form of vertical caving. But you don’t have to be doing vertical caving to experience problems with heights. You might be going along a ledge or just have what feels like a sketchy climb. This is where having friends really helps. One of the best ways to reduce a fear is by reducing the exposure. It is amazing the calming effect that someone spotting you has on a person. If there is a way to safely put member between the person having troubles and the hole that is causing the problem, it does wonders for calming that person down. For example, a shout out to a certain Nathan that when a segment of canyon in links opened up to be a bigger drop, straight up canyoned in to hole below a certain trainee and just locked himself in there to block of the hole. This was really great because it eliminated the mental roadblock but didn’t actually change any of the techniques to get through links. Now on future trips they should have an easier time traversing these obstacles because they have already done the motions before.

These tips won't all ways work or even be relevant but hopefully it helps improve someone's caving. Everyone's problems are different, but we don't have to go through them alone. If you see someone struggling with something, try and help them out because chances are, they might be able to help you through something later.



A Prospective Member

CKKC TRIP REPORT - BILL KOERSCHNER

FSB 1569

17 March 2019

Roppel Cave (part of Mammoth Cave, Kentucky)

BWOB South, Pete's Lunch Passage

Bill Koerschner*, John DeLong, Holly McClintock, Hannah Lieffring, Jason Weyland

Objective: Show Holly the route to Congress Way via the Topofil Link and point out some leads.

Work on digging through the sand blow past W3 (off B107) to find the suspected lift tube that is dropping out the sand. Survey lead at B103 and loop between B111 and B117.

Summary:

The transient pool in the People Eater was present and 25 ft long instead of 6 ft long. Welcome to the wettest year in Kentucky history.

- B103 upper level crawl was surveyed for 30ft and continues 2Hx1.5W with air
- Completed about 3/5s of the loop from B111 to B117 – out of time
- The dig at W3 was worked on for only 1 hour due to cold, fatigue and lack of people
- 99.5 ft of survey – all new cave. New World Record!

In: 11:25 am

Out: 4:00 am (16.5 hour trip)

Report:

Bill Koerschner led a jovial and enthusiastic crew into Roppel and returned them to the surface some 16.5 hours later; mum, stone-beat and exhausted after being 'Eht' by the People Eater Crawl.

We entered the Weller Entrance to Roppel and set a leisurely pace out to Grand Junction via the Brucker Connection, arriving in about 2 hours. We proceeded upstream in Elysian Way and turned left into Transgressions Trail, then down the slot into Topofil Link.

We stooped and crawled along Topofil Link until we reached the junction with the stream passage at G1. I sent Jason to look at the unsurveyed and unexplored downstream lead. He reported that it starts as a clean-washed stoopway and gradually becomes taller and narrower such that you have to crawl along the bottom similar to in Transgressions Trail. He stopped where the water in the bottom got to be more than a few inches – definitely a going lead. I forgot to ask him about airflow.

We continued through the crawly stuff to the junction with Petrified Wood Passage and turned right, ducking through the falls and on up the climbs to come out in Freedom Trail on the far side of Bridges Didn't Crawl. The crew then sprawled themselves out in the soft dirt to rest - "For pity sake, give them a moment!" "Get them up Legolas, in a few hours this place will be crawling with Orcs" (People Eaters).

We jogged over to the junction with Congress Way and took a lunch break. I dumped my wellies and replaced wet socks with dry waterproof socks. Great tip from Chris Caswell – my feet were toasty warm for the rest of the trip.

We made our way to the left in Congress Way, which slowly lowers, becoming the People Eater Crawl after the last bit of floor canyon disappears. Ahead lay 500 ft of bellycrawl over popcorn encrusted cobbles with popcorn on the ceiling as well. Much low moaning was heard, punctuated by occasional screams as the popcorn bit into particularly sensitive spots. I had hoped that the transient pool would, by some miracle, not be present but these hopes were soon dashed. The pool which I had previously enjoyed in its 6 ft version was now stretched out for a magnificent 25 feet down the bellycrawl. Needless to say, there were no gymnastics that could prevent an unwelcome sponge bath in 1 inch of water.

On the far side there is a chest-to-back rock squeeze that John eventually popped through, cork-like, with some coaching from Holly. Another 100 ft of popcorn encrusted cobble crawl and we were finally through the People Eater to the junction with the 'splendid' Pete's Lunch Passage. The crew was underwhelmed, but at least they could sort of sit up again. You can half-stoop, half fall forward along the canyon component until you are forced to, you guessed it, bellycrawl along the tube at the bottom. I tried to announce the stations that I came across in the cheeriest way possible, "WooHoo! Here is station B90! Only 17 more to go!", but the crew had largely fallen silent except for exasperated whimpers and whispered curses. The "Rapture of the Deep" was setting in, where each person's thoughts turn inward to focus on their own private agony. One ceases to care about such abstract concepts like "virgin leads at the edge of Mammoth Cave" and begins to doubt, as the obstacles pile up behind, that they will ever have the energy to regain the surface.

At B98 John was filtered out by a triangular chest compressor that his barrel chest could just not pass. Oddly enough, the larger Bill Baus passed this on the last trip because he has a triangular chest! We spent about an hour trying to enlarge the squeeze by pounding on it with trowels and "found tools" but no meaningful progress was made and cold began to take a toll.

Meanwhile I reach the first lead at B103 and get out the survey gear. It has taken 6 hours of hard caving to get here. Jason valiantly sets one point up the ascending crawlway before succumbing to cold and fatigue. He returns to his pack to eat and put on warm clothes and sends up the irrepressible Hannah to assist with the survey. Holly reports that Jason and John will slowly make their way back to Congress Way Junction while we try to get something done. The clock is now ticking as we have cold people waiting and we really don't have the crew to cover the objectives.

Holly goes ahead to B107 to work on the dig while Hannah and I wrap up the lead at B103. I am point / sketch and Hannah is on the DistoX. At BH4 the crawl makes a little S-bend and I just can't quite get my legs past it. It continues 2Hx1.5W, dry and blowing air, but will have to await a crew of thin, short cavers (like a thousand other leads in Mammoth Cave).

We move on to the next survey objective after first agreeing with Holly that we will meet back at B107 in 1 hour at 8:45pm. The old notes for the B survey describe the lead at B111 as a 4Hx3W lower level that loops to B117. I was picturing easy stoopwalk but this is Roppel so it was a nest of looping pancake components that you have to bellycrawl through to reach spots where they cross and you briefly get the promised dimensions. We stopped at BJ8 at 9:00 pm with more of the same ahead (5 more shots to tie B117).

We found Holly shivering at B107 – she had worked an hour at the cobblely squeeze at W3 but got too cold laying on the ground in wet clothes. She never got to inspect the sand pile which lies beyond this first squeeze.

The retreat took so long we all began to worry that the other guys would get tired of waiting and try to find their way out on their own. All kinds of horrid scenarios played in my head as I slowly dragged myself back through the People Eater. We were gratified to find Jason and John safe and sound under a space blanket at Congress Way Junction. Jason and Hannah had a joyous reunion, base layers were replaced and wax cups were ritually burned in what looked like some sort of pagan festival. I sat on a rock and quietly munched snacks while this was going on, ‘cuz I don’t get cold.

After about an hour all the gear was back in the packs and I led the way out through Bridges Didn’t Crawl and Freedom Trail back to the Umph! Slot. Jason avoided the Death Traverse by climbing down, walking under it and then climbing back up – who knew! The Freedom Trail route would be the preferred way in if one didn’t have to climb up the Umph! Slot. Jim Borden says the climb up from Freedom Hall is not hard (show me) and would take you straight to below the Death Traverse with little effort. This would really be the best way to Congress Way, if true.

We reached Black River by 2:30 am and reached the surface right at our planned exit time of 4am. As the song goes, “3 miles of Borehole, 80 miles of Crawl, If you’ve never been Shagged by Roppel Cave, then you’ve never been Shagged at all!”

Work Remaining:

- Push and survey the DS drain below G1 in Topofil Link
- Survey the lead to the left at T13 on the way up from Petrified Wood
- Complete the survey of the loop from B111 to B117
- Go to B139 in Pete's Lunch and push the 15 ft deep canyon that departs right
- Push/dig through the first squeeze past W3 and dig through the sand pile beyond

GANÁNDOLE A GOLONDRINAS - ALEX ENRIQUEZ

Eran apenas las nueve cuando llegue al parque estatal Lago Casa Blanca, los demás todavía no llegaban. Casi una hora después de haber mandándoles mensaje, descubrí que acababan de comer y ahora manejaban hacia Wal-Mart. Les pedí la dirección y salí disparado a encontrarlos. Al llegar a la tienda entre y agarre todo lo que ocupaba, pero al buscar a todos, me empezó a llegar a la mente algo un poco chistoso. Le llame a Felipe, “Ay mándame tu ubicación.”

“Está bien, allí te va.”

Claro, estábamos en dos Wal-Marts distintas, solamente a nosotros nos pasaría esto.

Ellos ya estaban entrando al parque cuando llegue de vuelta. Por fin estaba comenzando el viaje de verdad. Construimos las cabañas de campar y nos sentamos a tomar unas cervezas (No necesariamente en ese orden) antes de meterle unos golpes a la ven de Felipe con la variedad de martillos que traía de herramienta y platicar sobre la diferencia que sería manejar en México.

El próximo día, departimos temprano para cruzar el puente. Nos entretuvimos varias horas en la aduana en sacar permisos para los auto perro después de eso y ya teniendo pesos en mano le dimos fuerte a la carretera. Solo parando a comer y echar gas. A causa de varios accidentes esa noche paramos en Ciudad Victoria a descansar. Después de comernos unas tortas deliciosas (alómenos así dicen que estaban, los mariscos del almuerzo me habían hecho mal) caminamos a la Wal-Mart mexicana a lado del hotel y comprarnos una variedad de cosas. Esa noche creo que los chicos madrugaron hasta las 2 de la mañana.



Al amanecer, tuvimos un desayuno mediocre que venía incluido con el hotel y otra vez nos preparamos para un día de Manejar. Buenamente, me toco un compañero de viaje excelente, primo Marco de Colorado mantenía la conversación girando. Sin tardar, llegamos a Huichihuayán para media tarde y hicimos nuestras reservaciones para Día Nuevo, de allí manejamos media hora de regreso para llegar a Aquismón en donde estaríamos varias noches.

El próximo día hicimos Sótano de las Quilas. De verdad se sentía como estar en una selva tropical, la vegetación tan densa que sería facial perderse a lo bueno tuvimos un guía genial, Constantino Yalles, quien nos ayudó mucho. Para la tarde ser cuando estábamos casi para recoger la cuerda empezaron a llegar las Quilas con su color limón y todos tuvimos que acercarnos a la oriya para poder tener un turno a ver las aves pasar. Esa noche nos divertimos como locos, tanto que hasta Señor Bombas salió piedrado por ser tan gorroso. Caminamos con la procesión del año, bailaron con la travesti, y odio nos divertimos con los cuetes.



Hasta el segundo día fuimos a Cepillo (Cueva de Xantoxol), la primera cueva del viaje, acaso de que Quilas era solo una depresión grande como un acantilado circular. La manejada fue estresante como la camioneta donde iban primos Rodolfo, Andrés, y Sr. Bombas se iba recalentando y tirando agua casi todo el camino. La carretera era tan empinada que hasta mi Jeep se recalentó, como no se iba a recalentar el carro que iba con varias fugas de agua. En llegar a Tamapatz desenrollamos una de las cuerdas nuevas y la empaquetamos. Después de varios

minutos y algunas preocupaciones encontramos al dueño de la propiedad, y nos llevó hasta el poso. Sirvió la bajada muy bien para poder refinar nuestro equipo en la subida consiguiente. Esa noche después de una buena mojada en la lluvia intentando de colectar agua para el coche con la fuga llegamos de regreso a Aquismón.

El próximo día descansamos. Pasamos el día mirujeando las tienditas después de un almuerzo lento. Esa noche llegamos a Golondrinas y nos preparamos para el clímax, la cueva que esperábamos.

La mañana nos ganó y no dormimos bien. Todos menos Deighan y Ying estuvimos en el miso cuarto y la roncadera de David nos robó el descanso, de igual manera dos de nosotros estábamos mal de la panza y estuvimos saliendo durante la noche. Para las 8 estábamos listos para bajar, en realidad no nos tardamos mucho, pero hasta nos habían ganado el árbol de donde teníamos planeado rapelear. Lo más difícil fue finalizar las logísticas con los oficiales de la cueva y encontrar a alguien para ser nuestro guía en el sótano. Ya llegando al poso tuvimos que esperar toda la mañana, a un punto, hasta pensamos que no iban a salir las aves y no íbamos a poder bajar. En que esperábamos hasta nos regañó una señora varia veces por hablar muy fuerte, nos habían pasado una multitud de cosas malas esa mañana. Enserio, ya estábamos listos para regresar a los carros cuando salieron los vencejos. En eso, empezamos a preguntar si nos dejarían bajar, claro me dejaron a mi ese trabajo, menos mal, les dije que teníamos confianza que lo podríamos hacer en el poco tiempo que teníamos antes de que regresaran las aves. A los cuarenta minutos que acabaron de salir, el otro grupo con la señora gritona empezó a descender. Mi emoción no era tan alta como debería haber estado, se sentía todo como un sueño, pero si, allí estábamos listos para bajar. A lado de los tres que bajaron primero y tuvieron algunas resbaladas, los demás lo hicieron sin problema. Al por fin estábamos todos abajo, pero instantáneamente empezaron a subir los tres primeros. Mientras abajo se miraba todo falso, de verdad que la percepción se confundía con el tamaño del pozo. De alguna forma todo se miraba desproporcionado, como un efecto de



Iupa. Peor cuando se distanciaron los que iban arriba, la cueva se los tragaba. Se miraban que monitos de juguete subiendo la cuerda.

Yo salir con el último grupo alado de Felipe y Marco. Teníamos media hora para salir. El chiste era que si no salíamos antes de la hora indicada nos iban a multar. No fuimos muy veloces perro mantuvimos un paco bueno. Sin preocupaciones llegamos arriba a la mera hora. El problema: a esa hora teníamos que haber sacado las cuerdas también. Cuarta hora más y la viéramos tenido. Sin duda oímos a Andrés gritar, “¡Jajaja, quebramos el record!”

Tampoco le creí yo, pero si aparentemente fuimos los más rápidos en bajar y subir en memoria reciente y por sorprendidos los locales ni nos pusieron multa. Y así, cumplimos con la objetiva principal del viaje. Al llegar a los coches nos sentamos a comer sobras de la noche anterior, todos con la sonrisa en la cara.

Fun fact: In Spanish, racks are called “marimbás”



A view from the western side of Sotano de las Golondrinas. 1/4/19



Mariscos Don Arturo. Our lunch break on the first day in Mexico. 12/29/18



Left to right: David Bourdon and Randolph Colby. Eating street tacos in Huichihuayán.
22 Out of frame: Eric Stinberg on the left. 12/30/18



Hotel San Juaquin, Aquismón, San Luis Potosí. Our hotel for three non-consecutive nights. 12/30/18



Eric Stinberg riding in Philips van to Cepillo. Not pictured: the six other guys shoved on top of Philips bed. 1/2/19



Right to left: PMoneyhun, RColby, ASchoenewolf, NLaPointe, DBourdon.
Posing before the hike down to Golondrinas. 1/4/19

ALPINE CAVING – REILLY BLACKWELL

Background: This summer I did several survey trips in Blood Cave, which is a 38 degree cave in Flathead County, MT. The approach is a 14 mile hike through the Bob Marshall Wilderness, so most trips are done on the basis of a weeklong expedition, camping in the North Cirque of Silvertip Mountain.

One problem: this is a cold cave, requiring specialized gear, but whatever you bring you must carry out. So, I had to get my outfit dialed in just right. Luckily I had input from others with more alpine cave experience, so I was relatively comfy and happy the whole time. Others were not so lucky and either sweated or froze.

Here's what I recommend wearing for a wet 38-degree survey trip:

On the way in (about a 3-hour “commute” to the back of the cave, moving fast with medium-weight packs):

- One thin, long-sleeved polypro shirt.
 - Others found a synthetic t-shirt under the PVC suit to be sufficient.
- Two thin polypro leggings. A slightly heavier bottom layer would also work.
- A Buff or other lightweight headcovering - keeps your ears warm; keeps the sweat out of your eyes while you're trying to keep up with all the stupid expedition cavers you made the mistake of traveling with.
- The Blue PVC Project Caver Gloves that everyone who sketches in muddy caves has.
- Glove liners - I tried thin polypro ones and thicker bicycling gloves; the latter are far superior.
- Wellies (sorry, TAG cavers) - these enable you to gloat about how dry your feet are *right* up until the point you fill them.
- A pair of fleecy socks and a pair of neoprene socks.
- PVC suit (I have a Meander) - makes you an invincible waterproof warrior; makes it impossible to distinguish between cavers from more than three feet away.
- Vertical gear - I have a Petzl Simple because it's light and compact, a Petzl Basic as a top ascender, two cowtails with nonlocking 'biners, and switched from the MTDE Amazonia to the regular GGG seat harness for weight and size reasons.
- Lightweight kneepads - I had one old black volleyball kneepad and one old white one courtesy of Andy Zellner. As you can tell, kneepads are not high on my priority list.

When stopped for the first time (when you reach the lead):

- A dry synthetic shirt - take off your sweaty layer and put the dry layer next to your skin. Really *feel* and *savor* the cave in that moment when you have to be shirtless with wet skin in the stiff breeze of the passage.

When stopped at all (once you start to get cold: in my experience, as soon as you stop moving):

- Fleece balaclava - the single best value item of cave gear I have ever purchased

When you start to get *really* cold (you may have thought you were cold before; you were wrong!):

- Lightweight fleece layer, overtop both shirts. Patagucci Microsquare Fancyduds are nice; I got mine at the Huntsville Salvation Army thrift store.
- At this point you will be wearing so many layers you can employ a locomotion technique known as “pinballing” - the cave can no longer harm you, so feel free to throw yourself at the walls and bounce off in the direction you’re attempting to travel.

When you get colder than that:

- This is when you find out everyone’s best dance moves. Jason Ballensky likes to utilize the “I Like to Move It Move It” dance and I consider this an exemplary technique.
- I can also recommend yelling loudly about how cold you are, or shrieking like a fire alarm without warning in the middle of the survey. It’s like yoga firebreathing, and has the added benefit of giving your colleagues a warming adrenaline rush as they jump with surprise and fall down the canyon they’re perched in.

When you find a pit that’s rigged in the water (why are there so many of these in freezing caves? It’s not fun anymore, guys! The world may never know):

- Most PVC suits have hoods: put them up! If you’re like me, the more commonly utilized method is to forget you have a hood, start climbing in a waterfall, think “*oh crap, there’s a lot of water running down my neck for some reason,*” and ignore it until your PVC suit starts to resemble a water balloon.
- If you have an Elios or a Vertex Vent, “vents up mode” is surprisingly essential. I’ll quote Rear Admiral Ballensky on this: “You commuted in here with your vents up?! You fool! You amateur! What are you going to do when you get cold now, huh? Probably just die!”

On the way out:

- Keep all your stuff on until you’re overheating to the point that your body pushes some circulation out to your extremities and you can feel your fingers and toes again.

- Use the fact that you need to take off your heavy fleece as an excuse to take a rest because you're tired.

For the ladies:

- Use the bathroom before the trip. If anyone was curious, I counted (my yearly contribution to science), and in order to pee I have to remove or undo 15 separate things.

Note: I have also done alpine cave trips where we were moving the whole time and doing more vertical, and found two thin poly leggings and one thin long-sleeved poly shirt to be sufficient with my PVC suit. Added a balaclava once or twice. Understanding layering and not getting super sweaty is helpful; I wish I'd gotten good at it earlier.

HOW TO SET UP A CLIMBING SYSTEM - PHILLIP MONEYHUN VPI #451

So you're thinking about building a climbing system! Woohoo! Here's a few paragraphs of unsolicited but strongly held opinions. Some things you hear or read will contradict what I have written. Good luck with that! When in doubt, Alpine Caving Techniques is the bible and be careful about taking "On Rope" too seriously.

Here's what you'll need:

- D-link
 - This is essential for any caving-style harness. Do not buy a harness that doesn't use a D-link.
 - Easily available options include galvanized steel, stainless steel, or aluminum alloy half-moon screwlinks, and screwlock or autolocking Petzl Omni.
 - Stainless screwlinks get stuck and bent easily. Galvanized are cheap. The Petzl Omni is expensive and heavy but many people like it. I prefer the aluminum alloy screwlinks because they're light and cheap, I don't like autolocking things for caving, and a screw-Omni is a little pointless, heavy, and expensive. Also, you can also fit the Raumer Handy directly on a half-moon screwlink without modification.
 - The D-link should be oriented such that it closes to the left from the wearer's perspective. This keeps it from unscrewing while ascending. The Cow's Tails belong on the left, the chest ascender to the right, and the descender (and braking carabiner) either in the middle or far right depending on what devices and carabiners you use.



- Seat Harness
 - Look for a low attachment point, more than 2 gear loops, and PVC wrapped loops. Avoid padding, autolocking buckles, and things not made in Europe. Try several and pick one that works with your body.
 - Good options include the Petzl Superavanti, and MTDE Amazonia. OK options include Gonzo Guano Gear harnesses and the MTDE Club. Bad options include most other things. Sorry. I prefer the Amazonia. It's worth the cost

over GGG harnesses; it would take a lot more than two cases of PBR to get me to trade my Amazonia for a GGG.

- I prefer to wear my harness instead of putting it in my pack so harness bulk isn't much of a concern to me but generally nicer harnesses with good PVC wrapping will be fairly bulky if you try to stuff them in a pack.



- Chest Harness

- This is used to advance your chest ascender and hold you upright close to the rope. It also provides a grab point on your upper body.
- Good options include the AV Spelsholder Pro and MTDE Garma. OK options include most other things. Bad options include whatever half-assed thing you came up with in a parking lot and the Petzl Torse. I personally don't like bungee harnesses but they have their enthusiasts. If you're climbing for a long time or carrying heavy gear, having a supportive chest harness is nice. I like my Garma but the AV harness is better value if you don't need all the features of the Garma.
- A too-tight harness can cause as many problems as a too-loose harness. Experiment with what works best for you.



- Top Ascender

- There exist two main styles: handled and handleless. I prefer handleless because I haven't found much use for a handle while caving, and they're

lighter, smaller, encourage better climbing form, and allow for a longer climbing stride. If you want the handle, left handed versions are preferable because it's more logical to put them on rope at rebelay without tangling them.

- Good options include name-brand gear. Bad options include eBay Chinese gear, but \$20 is \$20.
- New Petzl ascenders are nice but all other brands (and old Petzl ascenders) will last longer because Petzl recently started using stainless steel for the cams, which is softer and wears faster.



- Chest Ascender

- This will be your primary source of frustration. It has a tendency to either cause the rope to bunch up making you pull the rope through, or slide straight up without grabbing the rope and cause you to slide right back down making you stand up again and force the cam shut with your hand. Sometimes you get to do both! Remember to always close the cam immediately so nothing gets stuck in it.
- Again, good options include name-brand gear. Bad options include eBay Chinese gear, but \$20 is still \$20. This will be your main point of attachment so it's worth the money to get a good one.
- You'll often hear the chest ascender referred to as a "Croll" because the Petzl Croll was one of the first chest ascenders. I like the new small Croll, but some people hate it. Petzl recently reintroduced the larger Croll, but it has the new soft teeth. If you want a big Croll, either buy a different brand or find an old one.



- Descender
 - Hoooooh boy. Wars have been fought over smaller disagreements than cavers arguing about descenders. The main devices include:
 - Figure-8: Cheap, but shouldn't be used much over ~100' and frustrating on stiff rope. Try not to drop it. Be aware of the Munter hitch if you do.



- 6-bar Rack: Expensive (unless you find one used or as a gift!) and good for just about any distance. Heavy, bulky, and difficult to do rebelay and technical maneuvers with. Hyperbars make tying off easier. Be aware of the cross-loading issue and zipper rigging. Don't use spacers unless you're doing very long drops. Longer frames exist for especially long rappels but the standard frame is fine for everything in the US and some people even use the standard frame for the big pits in Mexico.
- Bobbin: Affordable, versatile, and light! What's not to like! My preferred device. Good for ~300' or so. Available as standard (shown) or auto-stop models. Be aware of C-rigging issues, carabiners that can cause accidental opening, and braking carabiner size issues. Make sure the latch is shut, and don't forget your braking carabiner.



- Micro-Rack: A compromise of sorts between the rack and bobbin. I don't much like them but a lot of people do. Similar range to a bobbin. Stiff rope is annoying to stuff between the bars. Don't feed rope.



- Other things: Probably don't.

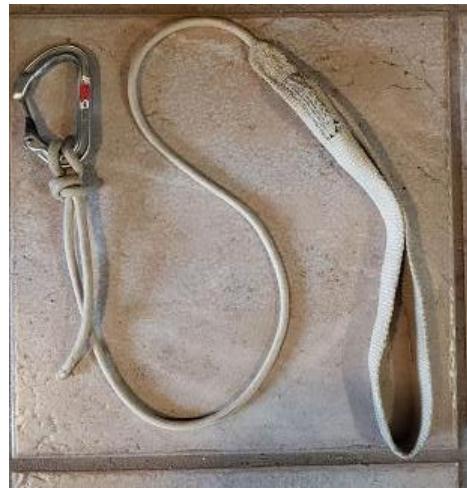


- Footloop

- This is attached to your top ascender and used to stand in. Connect it with a carabiner instead of a screwlink or tying it straight in so you can use it for pickoffs and many other things. Tie it to the carabiner with a locked-off munter hitch, or double overhand like on your cow's tails. If you can only clip one carabiner into your top ascender, the footloop carabiner needs to be a locking carabiner.
- Look for body of ultra-static cord and webbing that goes under the foot. Avoid full-webbing and ultra-skinny cord footloops as they get caught in chest ascender. The cord should be uninterrupted in the middle by knots or hardware.
- There can be one large loop, two small, or one small. One large loop allows you to have one or two feet in the loop, but the footloop changes length

when you use two feet. Two small loops alleviates this problem but has another loop that can get caught on things. Putting both the small loops on one foot may increase comfort. One small loop is nice if you're only planning on using one foot. Be sure the loop is big enough for a large boot to fit into easily.

- This should be adjusted such that the top ascender just barely touches the chest ascender when you take a full step. If it is too short or more often, too long, it'll take more time and effort than necessary to climb any distance.
- You can store it between pitches by wrapping it over your shoulder and clipping it back into itself, or by clipping the loop into the carabiner, twisting the cord several times, then folding the cord and clipping it into the carabiner.
- Good options include the AV Footup, MTDE Siam, and the small production run of full-dyneema footloops that I'm probably never doing again unless you ask extra nice. OK options include the Petzl Footcord and tied dyneema cord. Bad options include most other things. Dyneema is worth it, promise.



- Cow's Tails

- These are used to attach your top ascender, and to navigate traverse lines and rebelay. The "short" Cow's Tail is usually just clipped to the side of your harness and the "long" Cow's Tail is clipped into your top ascender. If your top ascender can only fit one carabiner, clip the long Cow's Tail carabiner to the locking footloop carabiner.
- Use 9mm+ dynamic "single" rope, tied in the middle with an overhand knot and the ends tied with barrel knots and 3"-4" of tail. The "long" Cow's Tail should allow you to extend your top ascender fully while on rope but be no longer than that. The "short" Cow's Tail should be long enough such that

with your elbow at your D-link, the carabiner is in your palm. Adjust from there based on preference.

- Carabiners should be large enough to fit two 11mm ropes, straight gate because bent gates can open when twisted, and keynose because hooknose sucks. I like the Petzl Ange L carabiners but there exist many good options. The carabiner on the short end needs to be nonlocking, but the carabiner on the long end can be locking if you want it to be.
- Replace the rope at least every 5 years. Replace immediately if the sheath is worn through or if they've caught a fall.



- Carabiners

- You're going to need a few for attaching all your equipment, a few spares, and some for rigging. Different shapes have different purposes. Most of the carabiners in your climbing system should be an offset "D" shape because these are lightest. Rigging carabiners can be smaller "D" shaped carabiners. A "pear" shaped carabiner is good for using with a munter hitch or storing equipment. Oval carabiners... well people say they're nice but I've found them to largely be a pain in the ass. People tend to prefer it when you rig with locking carabiners. Carry one or two "extra" carabiners and you'll be happier for it.



- Wrench
 - You should carry a 9/16" or adjustable wrench or bow your head in shame when you find a loose bolt. Can also be useful for removing stuck D-links or servicing descenders.



- Knife
 - Better yet, kevlar cord. Climbing tip #1: Always be the guy with the knife. Kevlar cord can be used as a very effective friction saw, and it's hard to hurt yourself with. An actual knife can be more useful than kevlar for opening food packets.



- Other things that are nice to have.
 - Foot ascender. These can improve climbing efficiency and make technical maneuvers easier. The Petzl Pantin is the most ubiquitous, and the old green one is my favorite because you can lock it off with a carabiner.
 - Pulley. Carry one even if you don't know how to use it; someone else might know but not have one. It could be mighty handy if a "situation" arises.
 - Gloves. Leather gloves make rappelling fast a lot nicer. PVC gauntlets are the ticket if you can keep a lid on your speed.
 - 20ish feet of 6-8mm cord. That's right, not webbing. Fight me.

KEGEL'S CHASM: THE EXERCISE FOR PEAK PELVIC PERFORMANCE - RICARDO ACEVEDO

Have you ever found yourself lacking endurance in your loins or perhaps not having the proper fuel to stoke your fiery passion? Maybe you've found yourself lacking in rope and need to turn back. Or most importantly, been found frogging up 180 feet of highline so bouncy you can't help but feel like a pornstar desperately trying to be picked up by a big-name producer with every bounce? All such difficulties can be remedied with my simple exercise regimen consisting of deliberate pelvic motions.

If you're like me then you've probably had your fair share of climbing systems which have gone unoptimized for far longer than you're willing to admit due to laziness or as I like to say, a big case of priority evaluation non-initiation (due to) slothfulness. Being the lazy person that I am, I never fixed my long footloops at any point during a week spent at TAG and instead developed a simple but effective workaround. To squeeze out a couple more inches per stride, I gave hearty pelvic thrusts to push the croll up in time with the bouncing of some of the stretchiest rope I've ever been on. Pelvic stamina was critical for the viability of this technique. Remember, a healthy pelvis is a well-rounded pelvis and so the following should only be the beginning of your journey for strong but supple hips and loins.

1. Place your feet a shoulder length apart with your hands on your hips and lean forward as far as you can comfortably while keeping your legs straight and upright. Hold the position for several seconds and return to the original position by pushing forward with your hips rather than using your back. Repeat 15 times.
2. While sitting upright in a chair, alternate lifting each leg to a position above parallel to the ground to flex the hip. Hold the position for several seconds and return slowly to the relaxed starting position. This can also be done with a similar motion while keeping the knee bent at an angle less than 90 degrees. Repeat 20 pairs.
3. With your back straight and legs apart, lean forwards pushing your hips back as if you were trying to moon someone below you. While maintaining this position take several sidesteps/shuffles back and forth at an easy, regular pace for 60 seconds. To increase intensity, wear wellies full of water.

After exercise, it is important to refuel the body properly with calories and protein. Nothing can hope to surpass being hand fed 70 minus 1 pistachios by Alex Corrigan and Patrick Hagerty at the top of Cagle's as I have, but any old source of protein you're used to will do. You may just be lucky enough to have Nathan Kearney launch the final nut from several meters away. Go ahead and stuff yourself full of the nuttiest nuts or any such protein and salt dense food you can get down your desalinated and eager maw. Reward yourself for your efforts and rest easy in the knowledge that you are better prepared for any of life's pelvic demands.

NOT PHILLIP MONEYHUN.

by: Dr. Not Phillip Moneyhun

Not phillip moneyhun not phillip moneyhun, not phillip **moneyhun** not phillip moneyhun not phillip moneyhun (not phillip moneyhun). Not phillip moneyhun & not phillip moneyhun, not phillip moneyhun not phillip moneyhun not phillip moneyhun not phillip moneyhun..... not phillip moneyhun.

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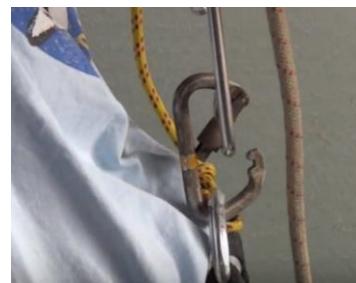
CAVE (now it's cave related).....

In conclusion, not phillip moneyhun not phillip moneyhun not phillip moneyhun not phillip moneyhun, not phillip moneyhun? Not phillip moneyhun not phillip moneyhun (not phillip moneyhun).

RACKS AND BOBBINS AND CARABINERS, OH MY! - PHILLIP MONEYHUN VPI #451

An often overlooked aspect of vertical caving equipment is the specifics of carabiner interaction. There have been documented deaths and injuries each of the issues presented below. Learn from the mistakes of others to keep from becoming a statistic.

Racks require a special consideration. SAD, or Sudden Accidental Disconnect, is a phenomenon which occurs when a rack is deweighted, twisted, and then reweighted resulting in the eye of the rack breaking the gate of the carabiner and potentially leaving the user to air-rappel the remainder of the drop. This can be addressed by using a screwlink instead, or an anti-crossloading carabiner. However, it is still important to ensure that the rack is attached and oriented correctly no matter what you are using. The same problem exists with figure-eight devices, but seems to be less likely. My preference is the Petzl "ultra rapide" screwlinks.



Bobbin rappel devices, such as the Petzl Simple and Petzl Stop, have a similar issue. It is possible for some carabiners to twist and open the bobbin gate latch, which can allow the rope to come out of the device leaving the user to fall. There does not exist a comprehensive list of compatible carabiners, so users should test to make sure their carabiner is safe. "Fatter" carabiners will tend to be safer. The lightest "safe" carabiner for the Petzl Stop and Simple with the black plastic gate I have yet found is the Black Diamond Positron Screwgate. Under no circumstances should a screwlink be used to attach a bobbin.

Bobbins also require the use of a braking carabiner. The braking biner does not have to be full strength, but it must be strong enough not to deform under normal use. The natural position is directly to the right of the bobbin on the d-link. However, there is a risk if the braking carabiner is too large. If a force is applied to the braking end of the rope, such as a

belay tug or a re-belay below failing, the top of the bobbin can become trapped in the braking carabiner, leaving the user to fall in an uncontrollable low friction mode. This can be prevented by using a smaller braking carabiner such as small accessory biners or the Raumer Handy. It is important to test if your carabiner is small enough if you intend to use this position. With your top ascender attached above your bobbin as a safety, have a friend apply a load to the rope below you (above ground!) and see if the bobbin becomes trapped. If not, you're good to go. If it does, the braking carabiner can be clipped directly to the bobbin carabiner to prevent the issue. The Petzl Frenio is an all-in-one braking and attachment carabiner. It should be avoided due to its cost and tendency to wear out the side plate of the bobbin. The "Vertico" technique has a similar problem. The best solution in my experience has been to use a small steel accessory carabiner clipped to the right of the bobbin with the gate opening up and facing the user. Steel lasts a lot longer and offers a smoother rappel. If I only used skinny rope I would likely use the Raumer Handy, but it is too aggressive for 11mm ropes.



- 1) A too-large braking carabiner.
- 2) The bobbin trapped in the braking carabiner.
- 3) Raumer Handy.
- 4) A too-large braking carabiner clipped to the descender carabiner. This is safe.
- 5) Petzl Frenio.
- 6) Vertico technique using a steel autolocking carabiner.
- 7) If a quicklink is used

to attach the bobbin, the gate can twist open. 8) My preferred setup: a stainless steel braking carabiner that is small enough not to trap the bobbin.

Photo credits: “Biner vs Rack Lever” by SwaygoGear on Youtube, “Vertical Mythbusters: Cross Loaded Carabiners are Still Strong” by Amata Hinkle on Youtube, Nicholaus Vieira’s website crazycaver.com, “Vertical” (2007) by Alan Warild, and my own dang self.

STAN ROGERSRAY BARRETT'S PRIVATEERS - PHILLIP MONEYHUN VPI #451

Oh, the year was 1778
How I wish I was in Sherbrooke now
A letter of marque came from the king
To the scummiest vessel I've ever seen

(Refrain)

God damn them all! I was told
We'd cruise the seas for American gold
We'd fire no guns, shed no tears
But I'm a broken man on a Halifax pier
The last of Barrett's Privateers

Oh, Elcid Barrett cried the town
How I wish I was in Sherbrooke now
For twenty brave men all fishermen who
Would make for him the Antelope's crew

(Refrain)

The Antelope's sloop was a sickening sight
How I wish I was in Sherbrooke now
She'd a list to the port and her sails in rags
And the cook's in the scupper with the staggers and jags

(Refrain)

On the King's birthday we put to sea

How I wish I was in Sherbrooke now

We were 91 days to Montego Bay

Pumping like madmen all the way

(Refrain)

On the 96th day we sailed again

How I wish I was in Sherbrooke now

When a bloody great Yankee hove in sight

With our cracked four pounders we made to fight

(Refrain)

Now the Yankee lay low down with gold

How I wish I was in Sherbrooke now

She was broad and fat and loose in the stays

But to catch her took the Antelope two whole days

(Refrain)

Then at length we stood two cables away

How I wish I was in Sherbrooke now

Our cracked four pounders made an awful din

But with one fat ball the Yank stove us in

(Refrain)

The Antelope shook and pitched on her side
How I wish I was in Sherbrooke now
Barrett was smashed like a bowl of eggs
And the Main truck carried off both me legs

(Refrain)

So here I lay in my 23rd year
How I wish I was in Sherbrooke now
It's been 6 years since we sailed away
And I just made Halifax yesterday

(Refrain)

End

Alternate lyrics:

To the tune of Barrett's Privateers

God damn that crawl! I was told
We'd cruise through cave for virgin leads
Through big borehole, crawl no more!
But I'm a broken man on a Brunton crew
The last time I survey with you!

ARE YOU COLD? - TOMMY CLECKNER

I'm always hesitant to write caving advice, because I'm worried that half the readers will read it and think, 'Well duh' and the other half will think, 'Really? I've never had that problem before', assuming anyone reads it at all. For the most part, I hope that's the case with this piece. However, there is an audience who I think can benefit from reading this – new(ish) cavers who are out there doing hard trips, and are getting cold, sometimes dangerously so, when they do not have to. I certainly seem to know enough of them. If that sounds familiar, let's address layering for cave trips.

Appropriate layering is something that other outdoor hobbies figured out a long time ago – a lot of words have been written about it and you don't have to dive very far into any of them to find resources explicitly addressing the concept. I haven't seen that in the caving community. It makes sense – caving is different. Cave temperature doesn't swing widely over the course of the day, and the weather conditions are predictable. Overcast, maybe a little muggy. But caving isn't **that** different, especially when trips get longer and start to incorporate changes of pace and intensity. Lots of heat gets generated when you're hustling out to the lead, and substantially less of it gets generated when you're surveying, or waiting at a rope. The cave will stay the same temperature, but you won't. To be comfortable for an entire trip, a caver needs to have a coherent layering strategy that is tuned to their body and for the changes in intensity that will occur on their trip.

I don't see many cavers who don't already get this concept – the ones who don't always learn quickly. What I do see a lot of, and what prompted me to write this article, is cavers sabotaging their layering systems by wearing too much from the start. They cave hard out to their objective, and sweat the whole time they're doing it. Once there, they put on the shirt that usually keeps them warm, and then get cold anyway. Their skin is wet, their under-layers are soaked, and all that moisture helps take heat from their body, putting it into a wet, muddy cave suit and then eventually into the cave air. It's a lot of water to evaporate, and it's cold work. Often, they respond by doubling down and wearing even more the next trip, in a vicious feedback loop. It works eventually because modern fabrics don't hold that much water, and are still effective when wet – though not as much as they would be dry.

The adjustment I'm advocating is an attempt to stay dry(er), rather than carry and wear more layers. That's not the same as 'don't sweat'. On harder trips, I know I'm going to sweat when I'm moving. When running was a more consistent hobby, shirt season didn't start until temperatures dropped below 50°F. That's colder than most eastern caves, and when I'm caving hard in those, it's not much less exertion than running, and I'm wearing a Cordura bag. It's toasty. I approach this problem by wearing as little as I can get away with under my cave suit (t-shirt, light leggings), and by caving with my suit open as much as is practical. When I stop, I try to open my suit up and let the steam out. Skin doesn't hold much water – it only takes a few minutes for it to get dry again. If my travel layers are light enough, a few more minutes might be enough for them to dry too. If I'm going to be stopped for a while – usually surveying – I take my sweaty travel layers off, dry for a minute, put my warm layer(s) on, put

the sweaty layer back on over top, and then put my suit back on. There's still water in my outer layers, but it's not enough to reach my skin or saturate my base layers. I end up staying pretty warm and dry until it's time to move again. This approach isn't strictly limited to warm eastern caves - it even worked pretty well for me on a few project trips in the Bob Marshall Wilderness.

That's obviously just my experience, but I think the underlying concepts can work for anyone. In summary, minimize the amount of clothing that you're going to sweat into while traveling. If you're going to be warm when moving without it anyway, then it's just a container for water you'll need to deal with later. Once you're no longer traveling and generating heat, get the minimal wet layers off your skin as much as possible, let what's left on your skin evaporate, and then put dry layers between the remaining wet layers and your skin. Your layers will be far more effective that way, and you'll be able to carry fewer of them and hopefully spend far less time shivering.

I hope this helps someone.

TRAINEE BENEFITS OF PARTICIPATING IN A PRACTICE CAVE RESCUE - MADELINE ROWLAND

In my experience of learning and meeting the requirements for membership in cave club, one of the single most interesting and educational experiences I have had has been participating in a practice cave rescue in the New River cave. With this we got to see the sheer amount of time, manpower, and equipment necessary to safely rescue someone from a cave. These numbers could vary even more depending on the circumstances, such as how difficult the cave is to travel and navigate and whether or not it was vertical. The injury and state of the person needing rescue could also increase these factors.

For our rescue there were three people we were trying to rescue who were spread throughout the cave with different injuries and mental states. We were put into groups with multiple cavers, for this cave at least one having a decent idea of what locations we were looking for. We then were sent to search different areas in the cave. Altogether we spent about four hours of straight searching until we found all three missing people and got them out of the cave. For the rescue simulation we learned how to deal with spelunkers that were intoxicated, injured, and bitter. In my group we were able to see a top belay being used in a cave, as well as other techniques and rules such as to not leave the lost spelunker completely alone when reporting back to base. Actually, seeing these techniques and thought processes in person really helped me get an idea of how to react to these kind of situations.

I found the rescue to also be beneficial in getting a better understanding of the layout of the New River cave itself. We searched most areas accessible to spelunkers during the rescue, which in this cave was an extensive amount of ground to cover. Considering how well known and traveled the touristy areas of New River are, such as the waterfall or forest room, I had found that even after multiple visits I was still uncertain on the correct path any many parts of the cave. During the rescue my group spent the majority of the time searching for the third missing person. Through this process we not only completed multiple visits to the known parts of the cave such as the waterfall, forest room, and planetarium, but also the "wrong ways" that someone who was uncertain of the path might take. It was surprisingly easy for us to take a wrong turn even with someone in are group having an idea where we are going. In many rescue situations the rescuers might not have any former knowledge of the layout of the cave. Our group spent a significant amount of time searching the streams that could be found by taking a wrong turn on the way to the waterfall because of a comment the first spelunker found had made about her friend. We discovered there were many ways to get to a stream, some continuing deeper into the cave for longer than we could even tell. After experiencing how many times we got lost trying to navigate this part, it isn't very hard to see how someone lost and especially intoxicated could continue to get themselves even more lost and deeper into the cave. Even after all of that I still wouldn't call myself a hundred percent confident on these parts of the cave.

Prior to going on my first cave trip last year I honestly didn't really know or at least pay any attention to the fact that there were caves. Honestly I didn't know that caving was even a thing. As I have talked to more students not involved in the club about the topic I have discovered this is definitely not the case for a larger amount of people than there should be. Recently I was talking to some random new Virginia Tech students who had brought up the topic of their most recent trip in New River. Ironically this group had attempted to get to the waterfall they had heard about and ended up in the stream area we had spent time searching during the rescue. If you were looking for a waterfall, following a stream might seem like a logical choice. Unfortunately if you take the wrong turn early you can end up finding nothing but yourself more lost. Luckily they were able to get back the way they came, although he did admit they didn't bring any helmets and only one light source. I have talked to several other students who have also made this attempt in New River, one having a roommate who actually got lost in the cave and only got out by someone finding him by chance. After spending more time with cave club, the rescue squad, and in caves in general I've definitely developed a greater appreciation for the sign out process, safety gear, and everyone involved in the process of making this activity safer. Overall I found it to be a very noteworthy and useful experience, and would definitely recommend participating in a practice cave rescue to other trainees.

A MODEST PROPOSAL – ROWAN BERMAN

Proposal for an Observational Study:

This would be a study designed to investigate the factors that best help a caver squeeze their slimy mud-covered body through the Nasty in Links cave. This study would take into account several factors: age (years), weight (pounds), height (inches), experience (total years caving), pack (yes or no), hungover (yes or no), and gender (male or female) as explanatory variables, and with the time (seconds) required to transverse the Nasty as the response variable.

In order to keep the recording of data as constant as possible, I propose that there be one person on each side of the nasty, the one at the exit holding the timer. Since I don't own a scale and am too lazy to measure people with a tape measure, factors like age, weight, height, and experience would be reported by the participant to the researcher and recorded.

Analysis would be conducted by me when I'm over caffeinated, with R and Minitab software.

We would be attempting to discover any relation between the explanatory factors and the response. The scope of this study would be limited just to the ability of someone to go through the Nasty in Links, but could prompt further investigation into caving in general, or just to the sucky squeezy bits. Since it would be an observational study it is also important to remember that we are looking for relationships between the explanatory and response variable but would not be able to prove any cause or effect.

Each individual in the study would be incentivized to participate with a can of PBR or a doughnut to join the study. Because of the limited number of local cavers that will put up with my stupidity there wouldn't be an opportunity to select the participants randomly from, but since this is a ridiculous study and I don't think anyone else in the club is majoring in statistics, I think we can get away with this.

To be able to conduct this study I would require a ton of enthusiastic cavers, a dozen doughnuts, a case of PBR, and fifty dollars.

Sincerely,

Rowan The Great & Powerful

What I learned in caving School is



Madeline Rowland

THE MEMBERSHIP REQUIREMENTS OF THE WVU STUDENT GROTTO – TOMMY CLECKNER

Student grottoes have been central to my introduction to the caving community: first with VPI in Virginia, and now with the Nittany Grotto in Pennsylvania. A striking difference between them is training – VPI famously has a formal training program, while the Nittany Grotto has none and takes a more casual approach. Despite the difference, both grottoes have produced many excellent cavers over the years. The difference got me interested in learning how other student grottoes take on the challenge of turning inexperienced students into competent cavers and grotto leaders. I started my investigation by contacting Ben Mirable, an esteemed alumnus of the WVU Student Grotto. To my surprise, he informed me that WVUSG *does* have a training program, and even supplied me with this sign-off sheet.

Naturally, I had some follow-up questions. Ben happily obliged.

Me: Thanks for taking the time Ben. First question, why does WVU have a training program?

Ben: Caving's dangerous, especially with WVU, and you've got to be prepared.

Me: Interesting. Why are there so few requirements? As you may know, VPI has 13.

Ben: Well, for practical reasons we had to stay under 10.

Me: Practical reasons?

Ben: Machete training can be pretty dangerous, and it is West Virginia after all. The average member can only count but so high.

Me: Ah. Well, you do manage to fit a lot in there. The hot tub requirement is quite prescient, what with the Great Rupture of OTR 2018. We thought Shitty Elliot was a goner. Why do you train for that?

Ben: We know a VPI Member runs that area. It was going to happen eventually.

Me: Fair. Thanks again for taking the time. See you guys in Bone-Norman again this year?

Ben: Absolutely.

Membership Requirements of the WVU Student Grotto

1. Remain a prospective member for at least
 - a. 10 weeks during which time you spend
 - b. 2 weekends at someone else's caving party and
 - c. bounce 3 pits
2. Demonstrate elementary machete skills in a cave
3. Get blacklisted by a cave photographer
4. Be able to identify and explain the appropriate uses of the following sources of Lite
 - a. Coors
 - b. Bud
 - c. Miller
 - d. Natty
5. Demonstrate an ability to survive sudden hot tub failure
6. Demonstrate a working knowledge of Ben's Cranny Uniting Nano Tech caving foam
7. Be rescued by a full or associate member of the VPI Cave Club

A BEAR - WIL ORNDORFF

Schoenewolf - "There's big air in there!"
The Bastard - "Great, go check it out!"
Schoenewolf - "What!?!?"
The Bastard - "See if it goes!"
Delafield - "Ja, Ja, Ja, Ja, Ja...."
Schoenewolf - "Bear with a 'B'"
The Bastard - "Oh...well get the hell out of there!"
Delafield - (on ground laughing.)
Wolf - 0, Bear - 1

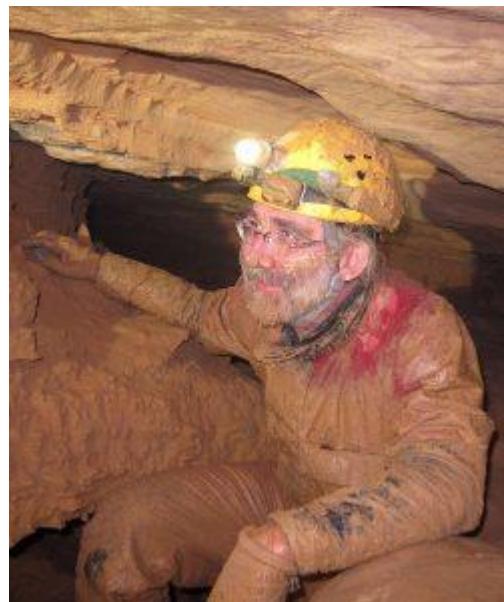


KARST AWARD 2019 – WIL ORNDORFF FAN CLUB

The Karst Waters Institute (KWI) is pleased to announce that the Karst Award recipient for 2019 is **Wil Orndorff** of the Virginia Department of Conservation and Recreation. Please join us on **Saturday, March 30, 2019** for presentation of the award, a presentation by Wil, and a casual fundraising dinner at the Rising Silo Brewery in Blacksburg, Virginia to benefit KWI. A portion of your entry price supports the Wilson Scholarship for students.

About Wil Orndorff:

A native of the Shenandoah Valley of Virginia, Wil Orndorff drank karst water while looking for caves on the family farm where he was raised, as well as within and around the adjacent abandoned quarry.



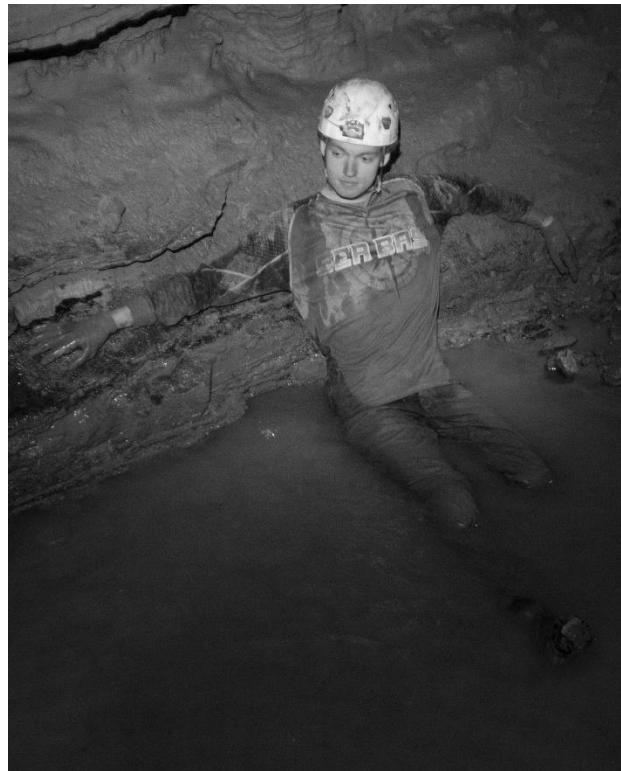
Introduced to the formal caving world at the age of 18, his interest in caves, karst waters, and geology grew into both a career and a life-long passion. With a bachelors degree from Johns Hopkins and a masters in geology from Virginia Tech focusing on Appalachian tectonics in hand, Wil entered the professional karst world as a self-employed consultant performing karst analyses of the potential impacts of a proposed high voltage power line corridor on karst springs and bat habitat along its path. These analyses included multiple dye traces in cave systems developed in the limestones of middle Ordovician age that host many of Virginia's larger cave systems. This work gave Wil the credentials needed to secure his dream job as a karst specialist with the state, where he became Virginia's second karst protection coordinator when Terri Brown, his supervisor, returned to graduate school, leaving large shoes to fill. This job became Wil's career, and afforded him the opportunity to do the work he loved protecting the resources he cared about. The nature of the job turned Wil into a jack of all trades karst who wears many hats: geologist, hydrologist, conservationist, educator, explorer, and, increasingly, biologist. Wil has had the opportunity to work with a long list of experts across this spectrum, including among many others John Holsinger, Dave Culver, Dan Doctor, Dave Hubbard, Jim Kennedy, Mike and Andrea Futrell, Phil and Charlotte Lucas, Chris Hobson, Roy Powers, Matt Niemiller, Bill Balfour, Larry Smith, Rick Reynolds, Carol Zokaites, Bob Denton, Tom Malabad, Joel Maynard, Shane Hanlon, Joey Fagan, Jerry Lewis, Madeleine Schreiber, Mike and Katarina Ficco, Dan Fong, Karen Powers, and of course his wife and partner in crime, Zenah. One of the most satisfying parts of his career has been seeing folks who worked with him while in college or graduate school like Ben Schwartz and Ben Hutchins achieve great success in the academic karst world, albeit in Texas for those two. Wil has authored or coauthored papers on dye tracing, karst aquifer dynamics, site occupancy by stygofauna, epikarst recharge processes, speleogenesis, conservation planning, utility corridor evaluation, ecology of Gray bats, response of bat populations to White Nose Syndrome, and biogeography of cave invertebrates. His work has resulted in the establishment of two

natural area preserves protecting significant caves, and additions of several tracts containing significant caves to existing preserves. Through the VA DCR Office of environmental project review, Wil has helped to avoid or mitigate impacts to hundreds of caves with the help of the Virginia Speleological Survey, with whom he is a director at large in his spare time. Wil's current projects include the hydrology of ebb and flow karst systems, dynamics of the phreatic aquifer of the Shenandoah Valley, use of the landscape by Gray bats, revision and development of natural community definitions for karst systems, Cenozoic landscape evolution in the central Appalachians, and the biological inventory of Virginia's designated significant caves. Wil lives in Blacksburg, Virginia with his wife Zenah, in a home frequently visited by their two grown daughters Travertine and Naomi, as well as the usual caver riff raff.

PAINTING WITH LIGHT: A STEP-BY-STEP GUIDE FOR THE ASPIRING CAVE PHOTOGRAPHER – JAY HEDEMAN

Decided to ignore the plethora of warnings that you've received and attempt to develop your cave photography skills? If so, this is the article for you. These three easy steps will elevate your photographic skills from kinda-sorta-not-that-bad all the way to acceptable.

1. Take a seat and think about what you are trying to accomplish Sure, everybody likes cave photographers when they're on the surface. We have lots of pretty pictures for you to look at. It's like caving with your eyes! Underground, however, is a different story. As a cave photographer you'll slow everybody down, temporarily block passages, make your friends carry your gear and—worst of all—force your fellow cavers to look at you and smile. This will lead to lots of secret (or not-so-secret) resentment. If you think you can handle the hate or if your friends and family already dislike you, keep reading!



1 - Trainee Jesse Nelson deep in thought, presumably about cave photography



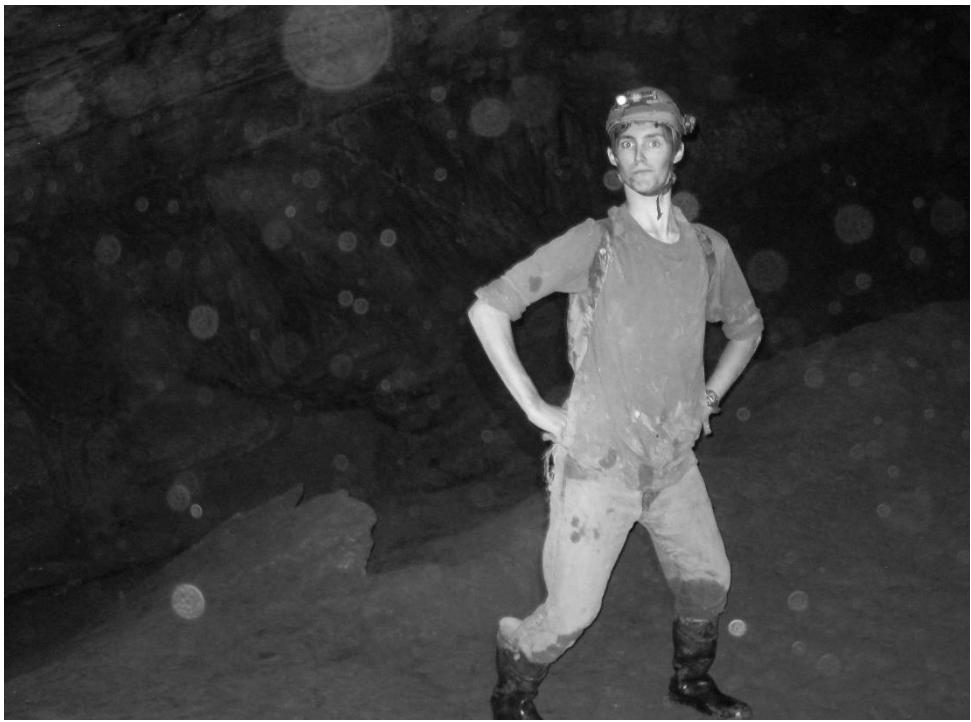
2 - My glorious Canon PowerShot. Note the cave mud in every crevice. It never comes off.

2. Find a suitable camera (or several)—What you're looking for here is low-light performance (because caves are dark!). This means that you typically want a camera with bigger pixels over one with more pixels, so look for a large sensor size and a lower megapixel count. It's the opinion of this author that DSLRs have too many moving parts, are generally too cumbersome and will cause you to lose friends at the fastest rate of all options. Mirrorless changeable-lens system cameras are super great and almost

always support external flashes. Put one in a dive case for the best but most expensive setup.

If you don't have several hundred dollars to spare, get a point and shoot camera. These cameras are about the size of a deck of cards and have enough options to be configured for cave use. They run under \$150 new, but you don't need to buy one. Why? I all but guarantee your parents used one to take pictures of you as a kid and stuck it in a drawer when their phones got cameras. Mine (fig. 2) came with an SD card preloaded with Christmas 2011. Thanks Mom!

3. Take pictures! Get in a cave, find something that looks cool, take out any accessories (like an external flash or a tripod) that you've burdened your fellow cavers with and get your camera in your hands. I'm certain that you've already read and understood your camera's manual and practiced operating the aperture, ISO and shutter speed controls at home in a darkened room before now. If not, good luck! Identify the subject of your first piece of fine cave art and point the camera in its general direction.



3 - The friends I had on my first day of cave photographering. Note the smiles.

Now, for the button clicking. The first thing to select is the ISO rating you'll shoot with. This changes the camera sensor's sensitivity to light and in film cameras was actually the size of the silver halide particles on the film. An ISO that is too low (like 100) will result in an image that is too dark and an ISO that is too high (like 4800) will result in an image that is unreasonably grainy. This is where pixel size comes into play: a phone camera struggles at ISO 400, while a Hasselblad medium format camera will be fine at ISO 12800.

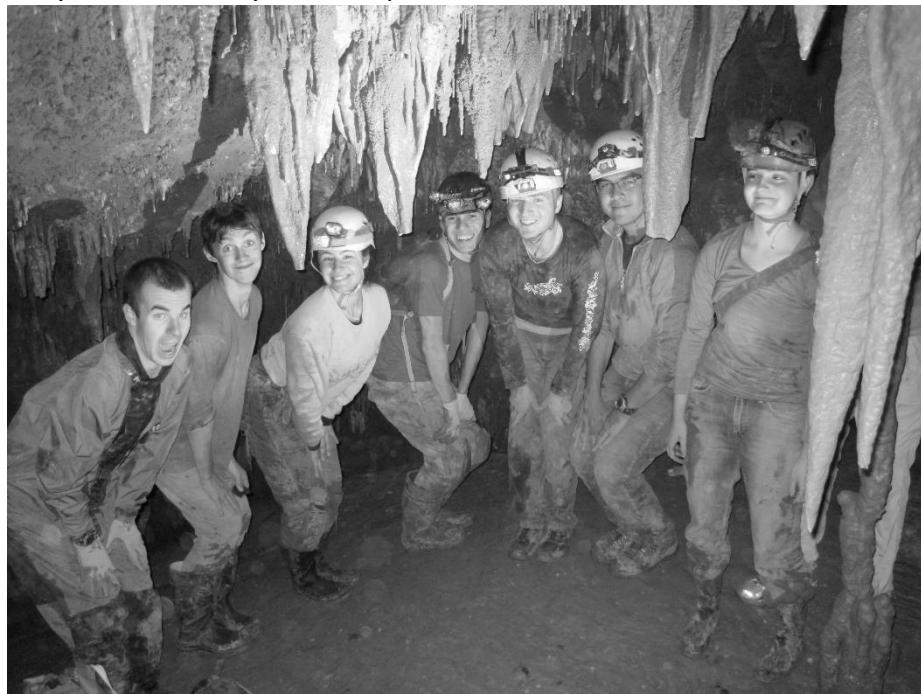
The next option you'll want to set is your aperture. A more open aperture (like f.2) lets more light into the camera but leaves a smaller distance in focus, leading to blurry backgrounds and angry friends sitting around watching you try to manually get a rock

formation in focus and asking, “How hard can it be to take a picture of a rock?” A tighter aperture (like f.18) will leave more of the picture in focus but lets less light into the camera.

The antepenultimate knob to turn is the shutter speed. Too low a shutter speed (like 2 seconds, written as 2") will let lots of light into the camera but the camera and subjects must be held exceptionally still (tripod!) to prevent weird, streaky images. This effect can be exploited to “paint” words and images by moving light sources in the camera’s field of view over a very long exposure time. Too high a shutter speed and—you guessed it—the picture is a black rectangle that you could have just taken in your bathroom at home instead of risking life and lens underground.

Penultimately, you’ll want to decide whether or not to use the flash. Generally, the flash will produce nice images when the subject is between 5 and 15 feet (more if you bring an external flash) from the camera and in the center of the frame. Otherwise you’re better off finding whichever of your comrades has the most patience left for your shenanigans and asking them to point their headlamps on their brightest setting at your subject. A photographer using the flash should take care not to breathe for several seconds before shooting as moisture in the air can cause the flash to reflect back into the camera before hitting the subject.

Okay, now you can actually take the picture.



4 - The friends I have now.

It should be noted that every imperative statement in this article was originally followed by “or don’t, I’m not your mom” but this phrase was removed to reduce the page count at the request of the editor (FAKE NEWS). Remember, cave photography is an art and you are the artist. Figure out what you like, figure out what you don’t, find the errors in this article and have fun!

