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Nikki Green traverses a handline in the Jungle Series near Camp 2A in J2 Cave, Mexico. Photo by David Ochel.

Back cover:

Left: Logo image by Jose Morales.

Right: The dive platform at El Sifon de Los Piratas in J2. Photo by Bill Stone.

Bottom: Matt Covington climbs rope above a deep pool in the wet canyon above Camp 3 near the -1000m depth. Photo by Marcin Gala.

Inside Cover:

Matt Covington climbs rope in the wet canyons above Camp 2A. Photo by Marcin Gala.

Deadline: Ads, articles and announcements should be sent to the editor by the 15th of the month, six weeks before the month of issue (e.g., material for the March issue needs to be in by January 15).

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Misbehaving Sumps and Lost Tadpoles A Tale of the US Deep Caving Team's 2009 J2 Expedition

Jon Lillestolen

The 2009 J2 expedition is the latest endeavor in the Aguacate Valley area of the Cheve Karst in Mexico's southern state of Oaxaca. A three year blitz of activity ending in 2006, yielded Mexico a new 1200m deep cave, only to be stopped by a short, shallow 200m long sump and not enough time or equipment to continue exploration that year. In the three expedition-less years which followed, dreams abounded of exploring kilometers of virgin borehole in J2. Plans for this expedition were to continue to push the dry passage beyond the sump at the bottom of the cave, *El Sifon de Los Piratas*. The expedition developed new technology and brought with them the determination to meet the cave on its own terms to accomplish the goal of discovering what could be the deepest cave in the world.

HISTORY

During the 1970s and early 1980s, most American expedition cavers, who focused on world-class deep caving, spent their efforts on the caves of the Huautla plateau. Discovered in the 1960s, *Sistema Huautla* was a proving ground for cavers of the era. It was in this place and time that many American-style expedition caving techniques were born and established. With the connection of *Li Nita* to *Sotano San Agustín* the Huautla System broke the elusive 1000m depth mark, becoming the deepest cave in the Western Hemisphere and the first 1000m deep cave outside of Europe (1). It remained the deepest Mexican cave until 2003, when it was surpassed by *Sistema Cheve*.

The discovery of *Cueva Cheve* in 1986 by Carol Vesely and Bill Farr led to the formation of a new Mexico deep caving

effort, Proyecto Cheve. This discovery and subsequent exploration would ultimately shift focus from the Huautla Plateau southward across the Santo Domingo Canyon to the Cheve area as Mexico's premier deep caving project. By 1993, cavers had pushed the Cheve system to world-class depths along with the world's deepest proven potential. Belief in a major trunk hidden deep in the mountain has kept cavers coming back year after year to fulfill the promise of deeper cave despite minimal depth gains since the early 1990s (4).

The Cheve karst lies within the Sierra Juárez, part of the greater Sierra Madre Oriental de Oaxaca, in the northern part of the state of Oaxaca. The highest elevation entrances in the Cheve karst are located near the town of Concepción Pápalo at approximately 2850m above sea level. This highest segment of Sistema Cheve includes *Cueva Cheve*, the main entrance, and *Cueva Escondida*, the highest known entrance to the Sistema, in addition to several other nice caves in the general area referred to as the Cheve upper karst. The upper karst swallows the surface drainage from the highlands and discharges it with all its infeeders into the Santo Domingo Canyon 19 kilometers to the north. The resurgence karst including all the entrances near and in the Santo Domingo Canyon have been explored since before the discovery of *Cueva Cheve* and include over two kilometers of underwater survey and a total of more than 10 kilometers to date. Everything in between the upper and resurgence karsts is considered the middle karst. This includes an area of over 60 square kilometers between the southern edge of the highland plateau and the village of Santa Ana Cuauhtémoc, twelve kilometers

to the north. Surface water in the middle karst tends to disappear into stream gravel far from any obvious entrances, making it somewhat difficult to find caves. However, with approximately fifteen linear kilometers of unknown passage between the upper karst and resurgence karst explorations, the middle karst may hold the backdoor to the booming conduit hidden somewhere in the mountain (4).

In 2003, two major expeditions were undertaken in the Cheve karst. One would push the last of the leads in the bottom of *Sistema Cheve* and the other would push onward in the confined canyons of *Cueva Charco*. Before the expeditions, Cheve was the second deepest cave in the Western Hemisphere. Charco, the best lead in the middle karst, was hoped to continue towards a connection with the elusive subterranean conduit that connects Cheve with its resurgence. Unfortunately, both caves ended. Charco died with a small sump at the end of a very long and miserable cave, and Cheve died in an impassible rock pile on the other side of two sumps (which incidentally made it the deepest cave in the Western Hemisphere). To push even further would require months of preparation and significant risks just to return to the limit of exploration (5).

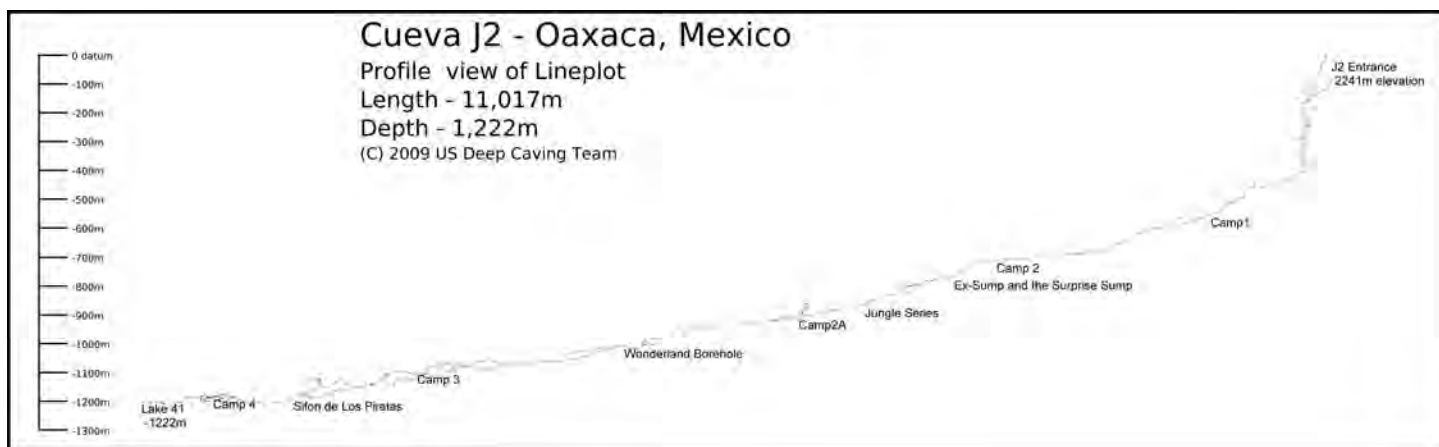
After Charco, Proyecto Cheve cavers went back to the proverbial drawing board to begin searching anew for areas to find new cave. The effort in 2004 focused on untapped areas in the middle Cheve Karst. It was this year that produced Mexico's newest deep cave, J2. After 10 weeks of effort by a multi-national team from 9 nations organized by the USDCT in a miserable, unending rain storm on the mountain, the team cataloged a long list of potential caves by grid-searching



Michael Denneborg helps reload the basecamp propane cylinder back onto a mule



The kitchen in its full glory as dusk approaches



the area around what would become the J2 basecamp. Most never proved to be worth pushing, but J2 eventually swallowed every piece of unused rope that the expedition brought that year. A return the following year would leave J2 at -1101m and a gaping borehole that would beckon a third expedition in 2006. The 2006 expedition led to the discovery of the Sifon de Los Piratas (Sump 2). Sump 2 was found to be 200m long. It surfaced into dry 60 meter diameter chamber that ended in Sump 3. The dive through the SLP established J2 at a depth of -1209m. (3).

EXPEDITION OBJECTIVES

The 2009 expedition set off with the objective of diving the *Sifon de Los Piratas* to the dry passage on the other side and exploring beyond. The dive team would consist of several experienced exploration divers and a handful of logistical divers that would transport equipment through the sump for deeper camps. Logistical divers would be experienced expedition cavers given a crash course in the overhead diving environment, giving them the ability to dive with redundant air supplies and follow a dive line through the *Sifon*. The plan was for logistical divers to swap leads with the exploration divers to put the best team at the leading edge. This would push the exploration forward at a reasonable pace and provide the safest way to map the cave.

Additional goals would include exploring the barely pushed 30m deep "Last Bash"/*La Cueva Hija Puta* that blows enough air to be a decent-sized cave as well as concentrating on reconnaissance of areas slightly further from basecamp and into unknown territory in the El Ocotil Cloud Forest.

PREPARING FOR THE EXPEDITION

To prepare for the diving push at the end of J2, a core team of experienced J2 cavers assembled at Bill Stone's compound in Austin, TX for a week in October of 2008 to train and plan for the expedition. Poseidon Diving Systems had graciously sponsored the

expedition with a handful of their soon-to-be released Mk-6 rebreathers. They had been designed to be capable of being carried into a cave with constricted passages such as J2. The compact size and range of the closed circuit rebreather would allow for more diving than with an equal amount of weight in open-circuit diving gear. This training would allow both the more experienced exploration divers and the logistical divers enough training to feel comfortable using this new Mk-6 rebreather. The training additionally allowed the divers, experienced and inexperienced, to become familiar with the redundant diving setup that would be used in the sumps of J2.

Over the course of the week in Texas, the team learned to work with each other more closely while learning the intricacies of diving with a closed-circuit diving system. The setting was a comfortable one, dive training started in the 8-foot deep test tank that Stone had built for his NASA projects. From there, dive training moved to a local caver's backyard pool, complete with hot-tub, 15-foot deep end, and a duck-under to a man-made cave complete with skylight. The week rounded out with dive trips to a SCUBA park on Lake Travis, which featured a plethora of dive obstacles including a metal profile of a shark that swallowed the dive line more than once.

With the week of intense diving and expedition planning complete, the team was working like a fine-tuned machine. Everyone left for their respective homes to continue dive training until it was time to leave for the expedition.

SOUTHWARD BOUND

As with most American-led caving expeditions to Mexico, the 2009 J2 Expedition started in Austin, Texas. Austin is a town with a sizable grotto that has no equal in it's support network for expedition cavers traveling abroad. With the help of the local Texans and a small gathering of J2 participants, heaps of expedition gear were loaded into the caravan of trucks for the long trip to Oaxaca.

The first wave of J2 cavers departed Austin with their caravan of trucks on March 12th. Three long days of travel across the rugged Mexican highways landed them in the small town of San Francisco Chapulapa ready to start negotiations with the local politicians for permission to visit and continue exploration in the area. Since the 2006 expedition, Chapulapa had elected a new *presidente* and had elected a new board of members for the *bienes comunales*. This presented some challenges because although we came bearing permission directly from the state of Oaxaca to be there, the locals were always eager to demonstrate their power. In an attempt to gain friends and convince the locals that we were there for our stated aims, we arranged to share a slide show on cave exploration and with some basic information on karst geology. The slide show was followed by a question and answer session to allow the locals to air any concerns.

Thanks to the assistance of several expedition members that were fluent in Spanish and had a thorough understanding of the culture, the locals, although not fully convinced, left the slide show with an improved impression of the cavers. The negotiations with the local politicians drug on as they tended to be both stubborn and disorganized. While waiting for the *presidente* and *bienes comunales*, the expedition set up camp in the field behind the house of our dear friend Faustino Navarette Rubio, who had been helping with J2 expeditions since the very beginning in 2004.

THE FUN BEGINS

After a week of tedious discussions, negotiations and politics, permission was finally granted and the expedition proceeded. Gear, food and personal equipment was organized on Señor Faustino's field to be arranged into packs for the long trek up the mountain. Mule trains then hauled these packs up the mountain in order of importance. The process took several days as the locals had only a finite number of mules and



Bill Stone

James "Jaime Hot Tub" Brown organizes dive gear at the *Sifon de Los Piratas* in preparation for establishing Camp 4 beyond the sump.



Kasia Biernacka & Marcin Gala

Marcin Gala and Matt Covington use the cave board to keep track of gear in the cave.

the five-hour round trip limited them to a maximum of two trips per day.

With gear steadily arriving, basecamp was assembled in short order. Massive tarps were set up first to cover the kitchen and expedition gear areas. Makeshift tables were built to keep dive equipment, Michie phones and the expedition log out of the dirt. The kitchen would have its own large table with two sets of double-burner propane stoves. The stove-top table was surrounded by hanging pots and pans and group food was strewn across the ground behind it. The bulk of the expedition food was neatly packed in large grocery bags on the ground behind the stoves with dates to indicate when each was to be available for use. The bags had to be labeled by week in this way to make sure that the food would last the entire expedition.

The camp fire ring from previous expeditions was once again surrounded with sitting logs to become a natural collector for cavers. Across the campfire ring from the kitchen was the climbing tree. This 30 meter tall tree served as the site of the rebelay course. Before long, the proctor of the rebelay course completed rigging the challenging course for expeditioners to prove that they could competently travel through the complex ropework in the cave. J2 was no easy cave, and this would assure that we were not allowing cavers to put themselves in danger through lack of skills or over-confidence.

The group area/kitchen was wedged between the edge of the ridge as it dropped off into the J2 valley and a large steep-walled sinkhole giving the appearance to the camp of being nestled around the rim of a volcano. Tents filled in around the remainder of the volcano crater, with the trail down to Señor Faustino's being on the side of the crater opposite the kitchen.

Once all the toil of setting up basecamp had settled, the focus started towards

J2. A three year gap in expeditions to the area made it necessary to check the rigging that had been left in the cave. The cable ladders, used in the first hundred meters of the entrance section, were brought back to ease travel through the hardest and tightest section of the cave. Large sections of rope in the vertical shaft series at around -250m were replaced with brand-new rope, getting rid of the much abused ropes that had been left hanging since 2004. In addition to the ropes, the phone line that allowed easy communications between basecamp and the underground camps was checked and any badly worn sections replaced. The expedition quickly reached Camp 1 at -555m, where they restocked supplies, checked the condition of staged gear from 2006 and spent the night before their quest onward.

SUMPED!

Waking up from Camp 1, the Ex-Sump and the former Camp 2, are only an easy two-hour trip deeper into the cave. Camp 2 is in a large chamber with a nice set of short rebelay taking you down the far side of a 20m high cascade. Near the bottom of the cascade is a small flat spot, where a small tent can be set up to keep the spray off the camp's sleeping bags and cook gear. Going deeper in this chamber and down several more sets of short cascades, the room starts to taper down into a 1.5m wide canyon with a deep pool of water in the bottom of it. This steadily-narrowing canyon is what is referred to as the Ex-Sump. The Ex-Sump, formerly known as Sump 1, is the part of the cave that temporarily stopped exploration in 2005, when the water was 2 meters higher because of a dam on the downstream end of the canyon. What required dive-gear and the guts to pass an underwater body-tight squeeze in 2005, now requires a neck-deep bath in what remains of the sump-pool.

To pass the Ex-Sump now requires slid-

ing down a short Tyrolean line that drops into the sump-pool. After a short swim with the aid of the Tyrolean line, the canyon tapers down into a body-tight squeeze that requires helmet removal to pass through. Fortunately, the squeeze is short and adrenaline helps with the exciting climb out of the water. Wind rips through the same canyon passage as it heads for the larger passages beyond and quickly cools anyone foolish enough to wait here for too long.

As the first team in 2009 passed the Ex-Sump, they prepared themselves to pass the wider, but deeper pool of water just beyond. A small hill of breakdown separates this pool from the Ex-Sump and as they reached the top of this hill, they were surprised to see that the pool was now full all the way to the ceiling where there had previously been at least two meters of airspace. They had just discovered what would become known as the Surprise Sump. Expecting an easy trip to Camp 2A, the cavers were amazed that once again J2 would require a short sump dive to continue. Apparently the large pile of clean washed breakdown on the far side of the pool had shifted since 2006 holding back more of the water than in previous years.

With a delay in the plans to continue onward into the cave, the expedition reestablished the old Camp 2 in the large chamber before the Ex-Sump. From here, dive gear was quickly assembled to dive the Surprise Sump and a plan was hatched to see if the feat from 2005 could be repeated. As the first diver prepared to dive the sump, another checked the sump and could feel airflow. With only a few centimeters of airspace, the Surprise Sump had drained enough to become passable. It then became evident that the Surprise Sump was draining at a constant rate and that large rain pulses would impede travel to anyone without dive gear until it could drain.

During the two months of the 2006 expedition, this Surprise Sump had never given any indication that it would rise during rain events and so it was never thought of as a threat. To prevent any further problems, a set of dive gear was staged on the far side of the Surprise Sump in the event that heavy rains would require the cavers to dive to exit the cave.

MOVING EQUIPMENT

With the problem of the Surprise Sump temporarily solved, teams pushed ever deeper in the cave, reestablishing Camps 2A and 3 and repairing the phone line on the way to the *Sifon de Los Piratas*. As if there hadn't already been enough trouble with sumps and politics, an influenza mini-epidemic started to spread across the basecamp. It hit some of the cavers harder than others, making some unable to work for up to 10 days at a time. Due to the combination of complications that came out of politics, the Surprise Sump and now the flu outbreak, the expedition was way behind schedule and still had a huge pile of dive gear destined for the *Sifon* that had not left basecamp.¹

Finally, fresh cavers began to arrive in basecamp, and teams of cavers were able to begin moving bag after bag into the cave. Several dedicated cavers offered to make surface runs, carrying bags into the cave to the bottom of the vertical shaft series and exiting in the same day, experiencing the worst that J2 had to offer twice in the same day.

The cave starts out in a beautiful heavily-vegetated steep sinkhole. It can be hard to see the sun from the entrance during most of the day due to the big depression and the tall trees that seem to flourish in the vicinity

¹ It was later discovered that the H1N1 flu had started its spread a month prior less than 100 miles away in the neighboring state of Puebla. It's assumed that this basecamp flu epidemic is related, although hard to prove.

of the entrance. Just above the main part of the entrance is a classic Mexican cave head-wall of smooth limestone, only on a smaller scale than the big well-known Mexican caves. Just inside the entrance, the cave quickly descends into down-climb after down-climb into a body-tight canyon. Several of these down-climbs are permanently rigged with both cable ladders and ropes, because of their tight nature, it is easier to descend on rope and ascend on cable ladders where it can be very difficult to use ascenders. After about 200m of body-tight canyon, the cave opens up into its first small chamber. The relief of unrestricted passage only lasts a short while as cavers are then forced into the Barbie Squeeze, a super tight pitch-head that required many days of rock-shaving to allow passage for everyone when the cave was being explored in 2005.

Beyond the Barbie Squeeze, the passage becomes more manageable and steeper as the cave begins dropping short pit after short pit. Finally, the water from the entrance series disappears into a small crack in the floor at the bottom of a nice cascade. From here a short rope traverse through a narrow canyon leads to the top of the vertical shaft series. One hundred and fifty meters of depth and a never-ending series of rebelay leaves teams at the bottom of the vertical shaft series which still has a bolt placed in the floor marking the end of the final survey of 2004, the year the cave was found.

This is where the surface crews deposited their bags before returning through the misery of the entrance series. The bags were later picked up by crews basing themselves out of Camp 1. From here it is a short, mostly-horizontal trip to Camp 1 sloshing through the ever-growing stream, as J2 picks up new infeeders along the way. From there, the Camp 1 teams carried bags through their own camp and into the next short stream section to leave their bags at the near-side of the Ex-Sump at the site of the old Camp 2. They would then return to Camp 1 to sleep

that night and would repeat the process as long as bags were being hauled in from the surface.

While the tank hauling effort was underway, an advance team pushed onward to ensure that the rigging in the deeper sections of the cave were still intact. In the process, they reestablished Camp 3 at the same comfortable location as in 2006 and ran phone line all the way to the *Sifon*. Later, when enough bags were hauled into the staging area at Camp 2, a massive effort was made to move the approximately 20 bags through the Ex-Sump, Surprise Sump and Jungle Series to arrive at Camp 2A and into the dry borehole of the Wonderland. The entire effort took about a month and required one crew to spend a total of 17 days underground doing nothing but hauling the big yellow bags deeper into the cave.

CAMP 4

With enough of the gear bags close to the sump, and food supplies dwindling for the large contingent operating out of Camp 3, the decision was made to prune the bottom-crew to only four. Two divers would remain and begin their move to a bivouac at the *Sifon del Los Piratas*, while another two support cavers would move the remaining bags, rig the diving platform at the sump, and assist the divers with any needs they might have. After two long days of setting up hammocks, arranging the dive platform, rigging a sloping Tyrolean to access the platform on the far side of the sump, building rebreathers, and gawking at tadpoles swimming in the *Sifon*, the divers were finally ready to get into the water. Thanks to the Mk-6 rebreathers, graciously provided by Poseidon Diving Systems, the divers were off on their mission to prepare the sump for a push beyond. Although rebreathers are arguably more complex and moody than open-circuit dive gear, they provided us with an opportunity to explore beyond the sump that was safer and required less equipment



Kasia Biernacka & Marcin Gala

Bill Stone, Jose Morales, Jim Castelaz, and Matt Covington cooking in Camp 2



Kasia Biernacka & Marcin Gala

Matt Covington at the spacious and comfortable Camp 1



Bill Stone

Jon Lillestolen assists Jose Morales into the new Poseidon Mk6 rebreather at the Sifon de Los Piratas in preparation to dive the sump.

overall.

To explore through the sump into what we were hoping would be large section of dry cave, it had been decided that the best guideline would be a 10mm caving rope. This would allow divers to pull themselves through the 200 meter long sump instead of finning which would ultimately save energy and our precious dive gas, meanwhile providing a higher level of safety. The push divers rigged this guideline and the telephone line then carried the camp gear for camp 4. They deposited it all on the far shore of the dry chamber, which had only been visited by a single diver in 2006. The divers made a quick reconnaissance of the massive dry chamber on the far side of *El Sifon de Los Piratas* and discovered a dry bypass to Sump 3, the previous known end to the cave. Through a small canyon above Sump 3 they popped into another large chamber, which led to the belief that dive operations were at an end and large sections of borehole were waiting to be sketched. With confirmation of going passage, the divers returned to the safety of Camp 3.

On their way out of the cave, the bottom-crew swapped places with a fresh set of divers that would establish Camp 4 and begin the exploration into the unknown territory beyond. The six cavers swapped stories and advice alike. On their way into one of the most remote reaches of the planet, jokes were lightly tossed around about what to do in case of illness or injury. Everyone involved knew that there was no reasonable rescue beyond the sump platform, not even the world's best cave rescue resources could manage to pull an injured caver out of the bottom of J2 alive. It would be a toss-up

whether it could be done from somewhere as high in the cave as Camp 2A.

The two lonely souls destined for Camp 4 pushed onward and in short time were phoning the surface from their new home. Because of their remoteness, the new bottom-crew phoned in twice daily to give progress reports on their exploration and to check in with family and friends. They surveyed from the far end of *El Sifon de Los Piratas* downward into the tunnel that runs past Sump 3, into a diminishing passage beyond Camp 4, and then diving into Lake 41, also referred to as Sump 4. From here the sump continued on the same general trend as the rest of the cave as a lake with a slowly descending ceiling and the only dry passages shot northeast and away from the known trend of Sistema Cheve. These dry passages were short, narrow, miserable canyons that led nowhere.

In four days based out of Camp 4, the first push team had mapped about a kilometer of passage eliminating all possibility of a dry continuation in this far section of the cave. A heroic effort, no doubt, but it would have to come to an unfortunate end because the team was out of both leads and supplies. While this crew planned their exit, the surface crew made plans for a second crew to make Camp 4 a home, but this time with a crew of seasoned cave divers.

LAST BASH

J2 is an interesting cave and had a habit of consuming every last resource on the mountain, but there are many other great leads to pursue. Short ridge-walks from basecamp could consistently yield new caves and more surveyed passage.

One of the better leads to pursue outside of J2 is the 30m deep *La Cueva Hija Puta*, commonly called "Last Bash". Last Bash blows as much air as J2 in the entrance pitches and seems destined to connect as it lays directly on the line plot of J2. Steering a crew away from J2 to explore LB was almost as easy as acquiring rope earmarked for the main cave. Through the persistence of a

handful of the J2 cavers, the expedition assembled three separate pushes on the cave, each discovering more new cave than the last. In the end of the pushes, only a half kilometer of passage separates the end of Last Bash at it's current depth of -500m and the most likely connection spot near Camp 2A. Another good solid push could possibly have linked the caves together, assuming that stream passage in LB continues along its current trend of easy walking passage.

FINAL PUSH

The spirit of the expedition diminished slightly with the news of a fourth sump blocking the long-sought connection to Sistema Cheve. All the dreams of running down kilometers of borehole trailing a 100m tape instantly vanished and the effort concentrated on sending more equipment to the sump for a second Camp 4 crew. Time was running out, and the team remaining in base-camp was getting smaller, as cavers started returning to real-life in droves to attend to family and career needs.

Fresh dive tanks and rebreather parts filtered into the cave as trash and personal gear were carried outwards. The sump-diver crew swam through the second sump with a week's worth of equipment to lay seige to the fourth sump, and try to salvage what was left of the dream of a 2009 Cheve connection.



Bill Stone

La Boca Del Bigoton in the borehole beyond Camp 2A



Michael Pugliese

Luis "Wicho" Gabriel Diaz traversing a handline in Last Bash

While the divers toiled away at the diving leads at the end of the cave, a team of aid climbers began working on high leads beyond the International Shallow Caving Team Borehole in the hope of rediscovering the lost airflow. With lightweight lithium batteries, a small hammerdrill and the ability to recharge batteries at the base of each climb, the Camp 3 team made short work of the high leads, while not assisting the dive crew.

Meanwhile, the Camp 4 crew dove every possible underwater lead that they could find, pushing any going lead in either Sumps 3 or 4. Despite a few gear misbehaviors, the team persisted and found a likely connection tunnel leading westward toward the Cheve trunk. Dwindling gas supplies and a lack of time turned the team around as soon as they had found the likely path

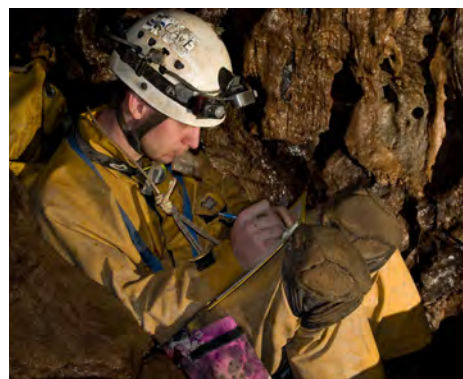
to success.

DERIG AND LEAVING MEXICO

The sump-diver crew dove through the *Sifon de Los Piratas* for the last time to rejoin the rest of the deep team at Camp 3. Notes were compared and plans were made to start the long haul of gear out of the cave. With a small team and less than ten people in total on the mountain, the task of derigging the cave seemed a daunting one. Discussions centered around prioritizing which gear would get carried out first and what could last another year or two of remaining in the cave. In the end, only the important pieces of the rebreathers and other dive gear and personal belongings were pulled out of the cave. A large amount of camping gear, food, and less critical dive gear would once again be left in J2 during the off-season.

Moving from Camp 3 back to Camp 2A, the crew spent a night and loaded up for the trek through the wettest part of the cave, including the exciting swim through the Ex-Sump. The team made good progress through the jungles series and then into the paleo tubes above the stream passage and on to the sump-pool at the Surprise Sump. The rainy season appeared to have arrived early on the surface as it had rained non-stop for about a week. Unaware of the severity of rainstorms on the surface, the derigging cavers were surprised to find the Surprise Sump not only filled to the ceiling with water, but water levels were rising. Anxious to exit the cave, a small crew established a small bivouac near at the Surprise Sump to keep track of the water levels.

The dive bottles that had originally been left at this sump for safety had long since been moved deeper into the cave to serve as bailout bottles for the push divers in Camp 4. The safety bottles were one of many pieces of gear that hadn't made the list of gear destined for the surface. The safety bottles



Kasia Biernacka & Marcin Gala

Will Heltsley sketches in Last Bash

were sent for and in short time enough equipment was assembled at the Surprise Sump to shuttle the trapped cavers through the sump and towards the safety of basecamp.

When the team was ready to leave and with dive bottles in tow, they shuttled personnel and bags through the Surprise Sump and continued their exit out of the cave. Except it wasn't that easy, not all the cavers were capable of or comfortable with diving through the sump. Although there were several attempts to encourage everyone to pass through, it was finally decided that a lonely crew of two would have to remain in Camp 2A until there was another break in the weather and the sump would lower itself enough to pass through with airspace.

Logistical setbacks were not unfamiliar to the cavers that worked on the 2009 J2 Expedition. Getting sumped into the cave would be the last of the speedbumps that the expedition would face. Finally, through lots of encouragement from the surface through the phone line, and determination all round, the last team of cavers passed the Surprise Sump and exited J2 for the last time during the expedition. With everyone on the surface at last, basecamp was slowly broken down and gear loaded onto the mules to be sent

Bill Stone



Jose Morales dives the new Poseidon Mk6 rebreather in the sump



Kasia Biernacka & Marcin Gala

Matt Covington traverses a pool in the wet canyons between the ex-sump and Camp 2A



Kasia Biernacka & Marcin Gala

Tony Dwyer, Tony Castro, Marcin Gala and Michael Denneborg prepare to leave basecamp for a short trip into J2.



Kasia Biernacka & Marcin Gala

Paulina Olinkiewicz climbs a pitch in the entrance series of Last Bash.

down the mountain.

Through the gracious help of Señor Faustino and his family, the cavers made their way down the mountain along with all their gear. Trucks were loaded, everyone said their goodbyes and another successful expedition was completed to the El Ocotil cloud forest.

J2 2010 EXPEDITION – RETURN TO THE DEEP

Although the cave hadn't done exactly what had been hoped, plans were laid late in the expedition for a return to the J2 area in 2010. The Cheve Karst doesn't give up its secrets easily and although intensive sump diving expeditions could certainly do a lot more to crack the secrets that lie below, there is a growing crew of us that believe there is plenty to be explored in the Cheve area that does not involve heinous tank hauls followed by grim diving.

In 2010, the expedition objectives will involve entirely non-diving leads and all the USDCT dive gear will be left safely stowed away in Texas. The main goal will be to create *Sistema J2* by connecting in "Last Bash." Although it was pushed somewhat on this expedition, the connection remains only a long days push from tying the survey lines together assuming that the cave gods are smiling upon us. From this entrance the lower reaches of J2, the borehole beyond Camp 2A, will be easier to access and the few remaining leads in this section of the cave will get a good final look. Using the "Last Bash" entrance to the system will not only allow travel to the bottom of the cave without passing the dangerous Surprise Sump but also make it possible to use a basecamp lower on the mountain and much closer to a water source. Our friends in the village of El Ocotil have graciously offered the use of their ranch high in the Aguacate Canyon. This will put us within a half hour's casual hike of the entrance of

Last Bash instead of the hour-long jungle bash down steep slopes from the traditional J2 basecamp.

The second objective will be to give a good final push to all the remaining side leads in the bottom of J2. Although the most promising leads have all been pushed, there remains several infeeders and other interesting leads that could be the way to discovering the route of the elusive gale-force airflow that is lost at the -700m level in J2.

The final objective is to ridgeward the remote upper reaches of the Aguacate Canyon. The Aguacate canyon has been walked on several occasions, but with a basecamp established directly in the canyon it will be possible to focus a more intense effort to find the less obvious caves that could become Mexico's next 1000m deep cave or the secret to finding the massive Cheve Conduit that lies somewhere below.

EXPEDITION MEMBERS AND SPONSORS:

Marcin Derlatka, Luis "Wicho" Gabriel Diaz, Yvonne Droms, Tony Dwyer, Marcin Gala, Nikki Green, Will Heltsley, Heather Levy, Jon Lillestolen, Mark Minton, Jose Morales, Nina Muller, David Ochel, Paulina Olinkiewicz, Michael Pugliese, Yuri Schwartz, Vickie Siegel, Seth Spoelman, Bill Stone (Expedition Leader), Sergey Tkachenko, Magda Aksman, Kasia Biernacka, Zuzia, Lucyna Cieslik.

Members of the expedition would like to thank the sponsors and many willing cavers who made this another successful USDCT expedition. First and foremost is Poseidon Diving Systems, which without their assistance with equipment and development of the Mk6 rebreather, this expedition could not have happened. Nalge Nunc Products, Direct Fastner Systems and Cancord Rope again made gracious donations to the USDCT. Stenlight again provided excellent lights, chargers and underwater batteries for the diving effort. Expedition Sponsors also

include Analytical Industries, the Association for Mexican Cave Studies, Caves of Tabasco, Cortland Cord and Filament, Deep Outdoors, DSS Deep Sea Supply, Dive Rite, Google, Molecular Products, Niterider, Patagonia, PMI, Puerto Rico Technical Diving Center, Santi, Science Art and Magic, Sea Pearls, Stone Aerospace, Structural Composites, Thermo Valves, Underwater Kinetics, Whole Earth Provision Co., Windy Point Park, and XS Scuba. Special thanks go to Bill Stone, Jose Morales, James "Jaime Hottub" Brown, Mark Minton, Yvonne Droms, Luis "Wicho" Gabriel Diaz, Jose Antonio Soriano, Fofu Gonzales and the many others who spent countless hours organizing the expedition. We are also grateful for the continued assistance of Proteccion Civil Oaxaca, The Distrito de Cuicatlan, and the Municipio de Chapulapa over the past 20 years.

BIBLIOGRAPHY

- (1) Atkinson, Gerald (1980), "Sistema Huautla": *Association for Mexican Cave Studies (AMCS) Activities Newsletter*, v. 11, p.13-17
- (2) Hose, Louise D. (1993), "Sistema Cheve – World's Deepest Karst Conduit System": *Association for Mexican Cave Studies (AMCS) Activities Newsletter*, v. 20, p.44-45
- (3) Lillestolen, Jon and Warild, Al, "Three years in the El Ocotil Cloud Forest": *NSS News*, v.65,no. 6, p.4-10
- (4) Pistole, Nancy (1994), *Proyecto Cheve 1986-1993*
- (5) Stone, Bill, Droms, Yvonne & Pistole, Nancy (2005), "Cheve 2003": *Association for Mexican Cave Studies (AMCS) Activities Newsletter*, v. 28, p.109-118

J2: The Journey to Camp 4—Beyond the Sump

Matt Covington

On April 23, 2009, a dozen cavers sat in the cloud forest atop a remote mountain in Mexico, entranced by the constant crackling of the cave phone. At 4:07 pm Jose Morales and James Brown had entered the sump at the bottom of J2. It had taken a full month between the arrival of the team and the first dive, a month that was fraught with setbacks – political problems, destroyed rigging, a surprise sump, swine flu, and many heavy loads. Today, we finally had divers in the water, and we anxiously awaited news.

In 2006, J2 exploration was halted by the discovery of a sump at -1200 meters. We had enough time and gear for a single exploratory dive. James Brown dove into the sump and emerged from the water after a 150 meter-long dive that never reached more than 10 meters of depth. He climbed up a breakdown slope and into a large chamber. The route then descended down to another sump that seemed to be the main continuation. We knew at this point that any return would require a major diving expedition.

During the next three years, we took a rest from J2 while Bill Stone worked with Poseidon to develop a lighter, more compact, and more foolproof rebreather. He also began to assemble a team of cavers interested in working beyond the sump. Finding cave divers who are interested in negotiating a serious deep cave has long troubled dive efforts in deep caves. Bill's typical approach has been to train expedition cavers to dive.

For the 2009 J2 expedition, Bill assembled a dive team made up of two types of cavers. There were the exploration divers, who were experienced cave divers and also capable of negotiating the rest of the cave. The secondary dive team was composed of expedition cavers who had trained specifically for diving the rebreathers in J2. They were experienced in rigging and other skills

needed for above-water exploration but had limited cave diving experience. The exploration divers would complete all under-water exploration and rig 9-mm static ropes through the sumps. The secondary divers would pull along on the static lines, hauling camp and rigging gear to push the cave beyond. The 9-mm ropes would greatly increase travel speed and safety for those 'commuting' through the sumps. James and Jose were the primary exploration dive team. If they were successful, then Marcin Gala, a Polish caver, and I were slated to follow with the first dry caving push on the far side of the sump. We were on edge.

At 10 pm Bill's voice brought the cave phone alive, "Basecamp, basecamp, this is the sump. Do you copy?"

"Yes, Bill. We copy. What is the news?" Marcin replied.

"James and Jose have returned from the sump. Let me give the phone to Jose to relay what they found."

Jose recounted the news. After emerging from the sump, Jose had climbed up to the high side of the large chamber and discovered a going dry passage. For two hours, he and James explored a maze of passages that seemed to bypass the next sump. It was clearly time to send in the next team to establish Camp 4 and continue exploration. Jose and James would spend the next day rigging the 9-mm rope and the phone line through the sump, and hauling some of the camp gear to the far side. Marcin and I were to enter the cave the next day.

The next morning we piled up the



Marcin Gala

gear required for our trip. As the morning progressed, the pile grew. We wanted to have enough food and rigging gear for nearly a week of exploration on the far side, but it was clear that a heavy load was accumulating. Packs bursting at the seams, we set off to the cave. During the expedition, Marcin and I had ended up caving as a team on almost every trip. As a result, the two of us had grown close through long hours toiling together and talking about everything on the earth (and under the earth)—the sort of friendship that is often forged in expedition caving. As we paused at the entrance, we mused about the trip we were about to undertake. After all of the hard work and long wait we were primed for what might be one of the greatest adventures of our lives. This thrilled us, but we also couldn't ignore our heavy packs and the difficult trip that lay between us and the prize.

Eight hours later, we were at Camp 2a, tired, but not trashed. Our nearly week-long rest on the surface had paid off. News came via the cave phone that the 9-mm rope was in place, and the initial camp loads had been hauled through the sump. The next day, we met Bill, Jose, James, and Jon Lillestolen on their way out, between Camp 2a and Camp 3. We stopped for a long chat about the dive



Kasia Biernacka & Marcin Gala

Climbing through the skeleton rock near -1000m



Kasia Biernacka & Marcin Gala

Fretting over the pile of dive gear at Camp 2A



Marcin Gala

Matt Covington and his flooding mask on the return dive from Camp 4

logistics. Initially, we had planned on diving that day, but after a late start, and our long chat, we decided that it would be better to get a good night's rest at Camp 3 and dive on the following day. We arrived for an early evening at Camp 3. Need I say that it's hard to sleep the night before a sump dive at -1200 meters in one of the deepest known karst hydrological systems in the world? I have slept better.

Early the next morning we arose and headed to the sump. Upon arrival, Marcin rappelled to the dive platform and began readying the rigs for the dive. Once the rebreathers were ready, Marcin got into his dry suit and into the water, making room for me on the platform. I loaded my pack with gear and weights to counter its buoyancy. Then I struggled into the rebreather on the awkward platform. We needed three bags to fit all of the gear, so Marcin took two bags and one bailout tank, while I took one bag and the other two bailout tanks. By this time, Marcin had been in the water a while and was already becoming hypothermic. He clearly wanted to get going. I slid into the water, and we headed down. However, my bag was still too buoyant, and poorly balanced. It dangled upside down from its tether like a balloon on a string. Right as I signaled to Marcin that it was too buoyant, some of the lead fell out and it became even more buoyant. I slid back up the rope to the surface and repacked the bag. Marcin was not having a good time.

"Matt, *please* hurry. I'm very cold."

Marcin retrieved the weights. I repacked the bag, adding more weight and jettisoning a nalgene full of cashews that really didn't fit. We descended again, and after a moment to check everything, we started pulling ourselves along the line. Since Marcin was so cold, he rocketed out in front. I kept up for a few of minutes, but then began to fall behind. For the most part, the line ran quite close to the floor, which was largely composed of sharp and jagged horns of rock. Every minute

or so I would feel a sharp tug backward and realize that my pack had snagged one of the horns. It became automatic to reach back and scoop it free with my hand. In many cave dives, dragging along the bottom like this would be the worst thing you could do. However, the only sediment on the floor was large-grained sand that quickly settled after being stirred up. Visibility was hardly affected by our passing.

About seven minutes into the dive, I was becoming out of breath from racing along the line. I paused for a moment to see if I could slow my breathing. After 10 or 15 seconds I started moving again at a slower pace, but I was still not catching my breath.

"Something doesn't feel right. Is something wrong with the rebreather?" I wondered.

In a moment of doubt and panic, I reached for my bailout gas, where I knew I could get good air. I tried to take a big breath only to feel the resistance build half-way through until I could draw no more air. Then I remembered. The valve was turned off to avoid loss of air in the case of slow leaks. I groped through the tangle of gear and rotated the valve, relieved to feel air flow. I paused again for a few seconds, to slow my breathing.

"Okay. I need to get out of here."

The rest of the dive was a continuous struggle between keeping a calm and measured pace and just wanting to get through, knowing that I was using up precious bailout gas. Luckily, two minutes later I saw the surface of the water, with Marcin's light refracting down from above. I was glad to have that over with.

The dive was only 10 minutes long. Not much, really, but long enough.

We discussed the dive for a few minutes. I didn't know whether I was having a genuine problem with the rig, or if it was just overexertion combined with psychological stress. I did know one thing though; the dive back would require a concerted effort at staying calm. We climbed out of the water and stashed the dive gear up in the boulders. Marcin was still cold. My dry suit had leaked like a sieve (I'm just too skinny for a standard size), and I found myself knee-deep in water inside, and also cooling down fast. We fired up the stove to make a hot drink.



Matt Covington

Elizabeth Covington on one of the ladder pitches in the entrance series

After hot tea and dry camp clothes, the world started to seem a bit better. After all, we were beyond the sump and about to explore one of the most remote places yet reached underground. Our first task was to find a good location for Camp 4. Following a quick recon, we found a flat sandy spot that Jose had mentioned, about 5 minutes away from the sump. Returning to the sump, we grabbed the camp gear, surveyed our way back to camp, and laid the phone line. We reached camp, with 170 meters of survey, and called it a night.

That night we wondered aloud what we might find the next day. I could feel the weight of the expedition on our shoulders. Many people had worked very hard for us to be here, and many had trained with us for the opportunity we now had. There were many others who could have been in my place. I had been at the right place at the right time,



Bill Stone

Vickie Siegel passing a pack through the Donde Homek Breakdown at -1000 m

and because of that, I was the one here. It was the ultimate privilege. As Marcin put it, "It now seems as if the whole expedition has been working just for us." We would make it count.

The next morning, we continued our survey down the passage from camp. After a short distance, we entered the maze that Jose had explored. A number of passages diverged to the right, but a few hours of surveying later, we could tell they were not headed the right direction. As our mapping progressed, we decided to push a good-looking lead to the left that led quickly to a free climb up to a ledge overlooking a large borehole. Finally, it seemed we had something.

We rigged a rope and rappelled to a ledge. From there we could traverse out into the borehole. The vast passage was flooded with giant breakdown blocks. We picked our way along the boulders, surveying as we went. About an hour later, we stood staring at a flowstone ramp ascending ahead. We had only gone about 150 meters, but this already looked like the end. After a couple of attempts, I managed to climb up the ramp, using tiny edges in the flowstone for footholds. The slope eased, and I scampered to the top, only to confirm a total flowstone blockage. After rigging a double-rope rappel, I descended back to Marcin. We would have to try low. A short way back, we were able to climb down through the boulders to a lower level. However, this passage was immediately blocked by a lake. Enthusiasm waning, we returned to camp earlier than we had anticipated.

Marcin had a Palm pilot with Auriga, and each night we entered the survey data, in order to get an idea of where we had gone. We also phoned up the survey data to the surface, so that they could track our progress as well. That day we came in with 380 m of survey, but not quite the easy booty we had hoped for. While talking to base camp, we learned of the swine flu outbreak in Mexico.

This explained the bad sickness that had gone through the expedition weeks before, but now we wondered whether the reinforcements that we were expecting in the next days would actually arrive. Would they be allowed to travel? Would they decide it was unwise to come to Mexico? Among those expected to arrive soon to basecamp were Will Heltsley and my wife, Elizabeth, who were travelling together from California, as well as Yuri Schwartz, Sergey Tkachenko, and David Ochel, all strong cavers whose help we could use. I had been looking forward to seeing Elizabeth when I got out of the cave, but now all that was uncertain. In honor of the news, we dubbed our new borehole passage the "Pigs Flew Passage."

The next morning we arose and retrieved our drysuits from the sump, in order to check out "Lake 41," named after the survey station at its edge. We swam out into the lake and around the corner. Actually, it looked pretty good; we could see about 30 meters ahead. After a constriction the lake opened up into several small chambers, all heavily decorated. However, the lake ultimately sumped. Although the water was so deep we couldn't see the bottom, the ceiling below water was still covered in stalactites, suggesting that the passage was once air-filled. Somewhat dejected, we returned to camp to drop off our dry suits and have a hot drink. Marcin thought that the sump would be the way on and wondered whether there was any point in continuing survey in



Bill Stone

Left to right, Vickie Siegel, Jose Morales, Nikki Green, and James Brown during the final haul of dive gear to the sump

the maze. I maintained some shred of hope of finding a bypass, but mostly I was just enjoying the survey and dreading the return dive. A couple more days of pushing leads didn't sound that bad. For the rest of the day we mapped a passage that gradually became tight and muddy, dubbing it "What Tiggers do the Best." After 65 meters of small passage it hit a T-junction with larger passage. However, one direction quickly looped back to known cave, and the other terminated in grim leads headed up-cave.

Back at Camp 4, we learned that Elizabeth, Will, and Wicho Diaz had arrived in base camp. They had decided to brave the swine flu. "Someone wants to talk to you, Matt," they told me. It is strange indeed to talk with one's wife, whom one hasn't seen in a month, while camping beyond a sump three days into a cave. She had just finished her Ph.D. in California and was coming to Mexico to spend a couple of weeks relaxing



Marcin Gala

Marcin Gala and Matt Covington at Camp 4. Two lonely souls at one of the most remote reaches of our planet.



Marcin Gala

Surveying in the Undertaker



Marcin Gala

The intersection between the Pigs Flew Passage and the Grim Reaper Loop, near the water source for Camp 4



Marcin Gala

Looking out into the Pigs Flew Passage

and generally enjoying life. How else could one begin such a conversation than with, "Dr. Covington, I presume?"

The next day we were resigned to pushing more maze leads. First, we headed into a lead that we had seen the previous day near the Pigs Flew Passage. It quickly forked and led to two different lakes. On one side it continued and went into a sharp, mud-coated, small passage. Somehow we had gotten on a Monty Python kick. I was quoting every skit I could remember, while Marcin laughed. He had seen a lot of Monty Python in Polish, but was amused to hear the lines in their original language. Finally, he asked, "What is the name of death? The guy with the black coat and blade."

"Oh, we call him the Grim Reaper," I replied.

"That is what we should call this passage," Marcin exclaimed. Thus was

born the "Grim Reaper Loop." The macabre theme continued, and later we surveyed "The Undertaker." We then spent a couple of hours combing the breakdown and walls in the Pigs Flew Passage but came up empty. Finally, Marcin photo documented the passages we had explored, and we called it a day. That day we surveyed 200 meters of passage, bringing the total new survey to 837 meters. After dinner, we talked with Bill on the phone. He asked whether we would consider a reconnaissance dive in Lake 41. Marcin perked up. That was what he really wanted to do. We carefully considered the amount of remaining gas and decided that there was enough bailout gas for Marcin to do a quick and shallow open circuit recon dive.

The next morning we hauled three bags of dive gear from the sump to Lake 41. We only had a gap reel, so we knew Marcin wouldn't be able to go far. He entered the water at 1 pm. I turned off my light and sat in the dark, pondering where I was and wondering what he was finding. No one else was in the cave but the two of us, and Marcin was now doing an exploration dive. Fifteen minutes later he returned, wanting more line. He could see an air surface just 10 meters ahead, but couldn't quite reach it. I ran back to camp and loaded a bunch of phone line onto the dive reel. He returned to the water at 2:45 pm. This time the wait was longer. Maybe he had found something. Forty-five minutes later he returned to tell his story. After a 25-meter dive he had emerged in another lake, thinking that he had cracked the sump. However, a 25-meter surface swim revealed that he was in a pocket blocked by flowstone. There were some high leads but nowhere to get out of the water. However, on the way in, he had seen some ripples on the sand dunes underwater, indicating strong flow. The way on was probably

there, deeper underwater.

After hauling the dive gear back, we returned to Camp 4 to phone an inventory up to basecamp and pack up our personal gear. We were headed out, but after a few more days of rest, Bill and Jose would return to push the new sump. Marcin and I had learned some lessons from the previous dive. Upon arriving at the sump, I took plenty of time to fiddle with my gear, make sure I knew where everything was, and test that the rebreather was working correctly. I got in the water first, and Marcin followed a few minutes after. The relaxed preparation paid off, even though conditions during the dive were quite unpleasant. The team dive masks fit my narrow face poorly, and on this dive my mask leaked terribly. It completely filled about every 15 seconds. I resigned myself to do most of the dive blind, only clearing the mask when I needed to check my partial pressure of oxygen. Despite these difficulties, I managed to remain cool-headed this time, and soon I was ascending up the rope to the platform. A few minutes later, Marcin arrived. We dropped our bags on the platform and went back under so that Marcin could get some photos and video underwater. Surfacing again, and returning to Camp 3, we found our mood had significantly lightened. While at Camp 4, the return dive had hung over us like a dark pall in the back of our minds. Having returned through the sump, we were still three days from the surface... but we could smell it.



Kasia Biernacka & Marcin Gala

Matt climbing through the sharp rock near Camp 3

Next month

The J2 story continues with a gripping personal account by Jose Morales on the final push of Sump 4. Team members were pushed to heroic limits after being trapped by rising waters and running out of food. Read it next month in our February issue.



Kasia Biernacka & Marcin Gala

Matt Covington descends into the Jungle Series of J2.



Kasia Biernacka & Marcin Gala

Kasia Biernacka descends a pit in the entrance series of J2.



Bill Stone

Nikki Green traverses a handline in the Wonderland Borehole, J2.



Kasia Biernacka & Marcin Gala

Paulina Olinkiewicz skirts a pool in the wet section between Camp 1 and Camp 2A.



Pitted roof in Lower Borderline Passage, Whiterock Cave



1954, an area in Whiterock Cave



James Alker and Pom Pom formation, Whiterock Cave



A lone stal pairing in Hurricane Hole



Collecting sediment samples to establish the age of the cave passages

SALON GALLERY

Giant Caves of Mulu 2009

STORY SERIES, MERIT AWARD AT ICS PHOTO SALON

Photos and text by Robbie Shone

In Borneo, deep in Sarawak's Gunung Mulu National Park, lie the most spectacular caves on earth. Over millennia the flow of water draining from the slopes of G.Mulu towards the sea has cut deep gorges through the Park's limestone mountains and, within the rock itself, a complex network of vast caves has been formed.

As we move into the 21st Century, humanity appears to have explored to the limits of our environment. Using technology we can photograph the surface of distant planets, probe the immensity of space, scan the beds of the deepest oceans, image the inside of living bodies and picture the surface of structures to microscopic detail. In such a world, it might be imagined that there is no true exploration left to be done. But this would be untrue. Under the surface of our planet lies a parallel world; a world of great beauty and mystery formed over thousands of years by the most elemental of forces, the passage of water through rock. This world, the domain of caves, remains largely unexplored. In Mulu, we are making progress on this journey of discovery.

(concluded on page 19)



Ascending out of the latest discoveries in Whiterock River



The magnificent main river passage in Clearwater Cave



Borderline Passage, Whiterock Cave

Lower Borderline Passage, Whiterock Cave

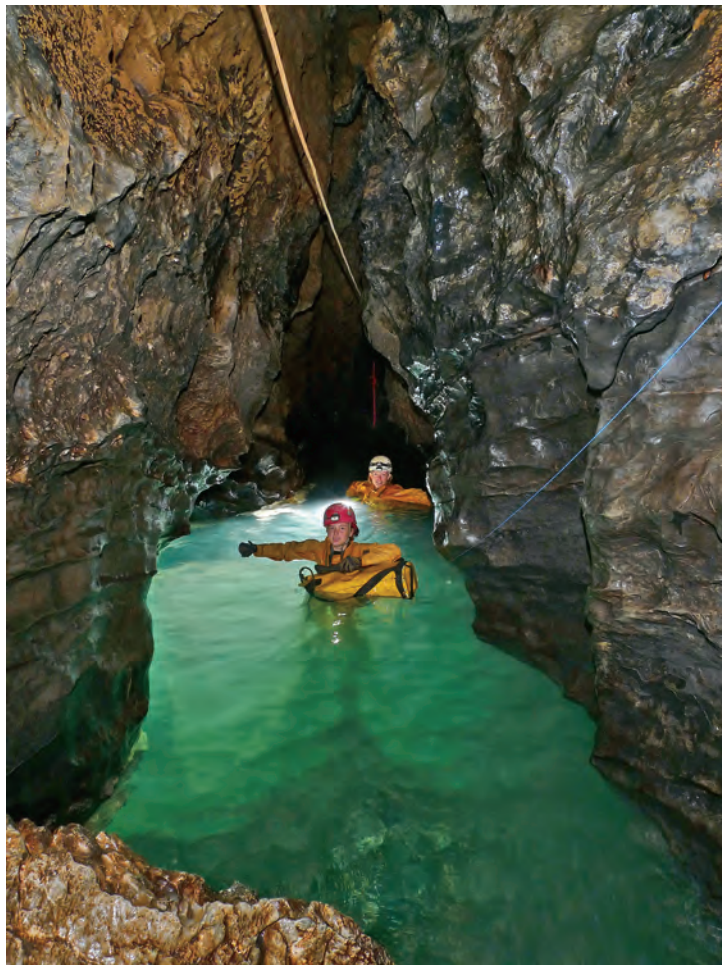


The shower bath in 1954 passage, Whiterock Cave



Marcin Gala

Matt Covington climbs through the cascades of the Jungle Series



David Ochel

Vickie Siegel and Nikki Green swim in the frigid J2 waters at the start of the Jungle Series.



Left: John Swartz descends a pit high in the entrance series of J2

Kasia Biernacka & Marcin Gala



Left: Marcin Gala prepares to dive in Lake 41. Photo by Matt Covington

Right: Magda Aksman traverses one of the many Tyroleans just upstream of Camp 2A in J2



Kasia Biernacka & Marcin Gala

Caves of Mulu 2009 (continued from page 17)

The giant caves of Mulu are located in three main blocks of limestone that veer up out from the jungle plateau. Holes in the cliff faces show striking examples of what lies within. Mulu is home to the largest underground chamber in the world and arguably the world's largest underground passage. Each time there is an expedition to Mulu over 20km of cave passage is explored, mapped, and photographed, always providing more reasons to go back.

Since the 2003 expedition, it has been my job as a photographer to record all the discoveries. This collection of photographs was all taken from the 2009 expedition that took place through the months of January to March earlier this year. They show the typically large discoveries made, including examples of extracting sediment for analyzing back in the UK for research/dating purposes by the team's young scientist.


There are many issues requiring attention within the art of cave photography, but one of the most serious in this part of the world is humidity. Living within the jungle for over a month plays havoc with all forms of camera equipment. Mold and fungi can build up on the inside of lenses and camera bodies can cease to work through water residue build-up on the insides of the mechanisms.

To prevent this from happening I always keep all my camera equipment stored away in airtight containers filled with 'silica gel' crystals that wick away the moisture and humidity in the atmosphere. Of course deep underground in the caves it is safe to use the cameras free of silica gel.

The 2009 Mulu expedition discovered 27.3km of cave and the total length of Clearwater Cave System was extended to 175.6km, confirming its current status as longest cave in Asia and 9th longest cave in the world. The main areas of work were Hole in the Moon and Hurricane Hole north of the Melinau river, and Whiterock Cave to the south. The expedition also started a serious scientific programme with sampling of deposits and speleothems with the aims of understanding the age and sequence of cave developments from the Melinau Gorge. Samples brought back to the UK with the permission of the national park and the Malaysian government will be analysed at Bristol University and its findings published in due course.

For more information on the Mulu 2009 expedition, see *Descent #209*, Aug/Sept 2009

There is also a summary and more photos on the Mulu Cave Project's website, at www.mulucaves.org/2009summary.php




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A well traveled caver with lots of interesting experiences, our interviewee has found much to keep himself occupied throughout his life among cavers. RZ

Doug Soroka

(17692RL) (FE)

1. Please tell me a little about yourself.

I started out as a normal kid in a normal middle class suburb of Long Island, New York. My parents would always go somewhere every year on a family vacation so I started early to enjoy the outside and explore what was there.

2. How, where and with whom did you get started caving?

I started formal caving in 1974 when I was an undergrad at the University of Georgia. I got spoiled quickly by starting my caving in the TAG region. My first cave was Tumbling Rock and my first pit was Neversink. The Athens Speleological Society was just starting so we were going through the growing pains of any new club, but we were out caving almost every weekend. Since I had a car on campus I would always get invited out on some trip. I remember getting stopped by a local sheriff once and the first thing he said to me was, "We don't get many New Youark (York) cars down here." I'm glad I had a car full of local folks that time. I joined the NSS in 1976 after graduating from Georgia and because I had no one's NSS News to read I had to join to get my own copy. I started caving with Dan Twilley, Cheryl Jones, and others. We lost contact for a while but re-met again at the second Suwannee convention and caught up on all the things we had been doing. This is one of the things that makes conventions so great, you get to meet your "other" family again.

3. Where have you done your caving?

After my TAG years I moved back to New York and spent most of my time upstate in Schoharie County working a lot in McFail's Cave. We opened the Halls Hole entrance, mostly because we could bypass the Ack Shack crawl, which everyone hated. I also spent many weekends caving in West Virginia. In those days everyone had to leave on Friday night and be back at work on Monday morning. No one had vacation time so everything had to be done within an all night driving distance.

As I accrued more vacation time my trips got longer and farther away from home.

I believe I have made the last 30 conventions and at least four internationals over the years. Now, with more expendable time, it's okay to take three weeks or a month off work to go to an International Congress and participate in a pre or post trip. My passport is up to date so when a good invitation comes along...

One of my most memorable trips was at the Swiss Congress where we did a historical mining tour in the Alsace Lorraine region and visited a 16th century mine that looked exactly like a cave. I also did a salt cave in Spain that looked like limestone but it was all salt. My longest and maybe best trip was to the Sultanate of Oman in 2002. I was asked to serve as the expedition biologist and do an inventory of critters and surface plants. This is where I learned close-up photography, spending hours looking for tiny things under rocks. National Geographic was sponsor and when the article was published I got a two page picture spread.

4. What was it about caving that made you stick with it?

My first caving trip was 10 hours long. The philosophy was to weed out the people at the beginning. They either stayed as cavers forever or left quickly. I stayed. Climbing was also becoming very popular and by contrast with caving you did not have to wear brightly colored tights, buy a climbing ticket, or stand in line. Also the caving gear was relatively cheap. You did not have to spend a lot of money to go underground.

There were also the cavers, they just helped you when you needed it. Everyone was eager to invite you to his or her favorite caving area. Carbide was the light of choice. LEDs were not invented yet and flashlights were just the third or fourth backup. Vertical cavers were moving over to nylon rope with Blue Water 1 being the popular choice. We were changing something almost every trip. My harness was hand sewed as was everyone else's. We were improving and experimenting with all the new equipment coming on the market. We would swap stuff back and forth all the time. Landowner relations were somewhat different then. You just asked and most owners were happy to have you explore their cave. The liability issue was not that big of a problem.

At NSS Conventions geology field trips enabled me to see parts of the country I would never have otherwise seen. I don't think many people realize what a value the NSS is and how much gets done with volunteer labor.



5. Certain people influenced your caving career. Who are they and why are you grateful to them?

Bru Randall, John Mylroie, and Louise Hose would be those that I would put on the top of my list. My apologies to all the others who helped me over the years that I have not included here.

Bru guided me through my early New York years with the Northeast Regional Organization and with east coast cavers. His links with other cavers were the start of my meeting and networking with them. To me, as the new kid on the block, he seemed to know everyone and he knew the location of every cave in the Northeast.

John Mylroie made me realize that there was an international caving community out there. We went over to the International in Spain and it was probably one of my best loved trips. John introduced me to so many international cavers and caving communities. He also got me to learn to follow the water and look at the rocks to find caves. I started reading the hard core geology and hydrology text books. I had to build bigger book shelves because of him.

Louise Hose gave a paper on the Mexican cave Cueva de Villa Luz at one convention. I was fascinated with the biology in this high pH environment. Louise mentioned her problems with tiny collecting tubes so my wife Lynn and I got together a "Care Package" of big sterile collection tubes

and sent them out to her along with what we thought might be some other useful stuff. We just said toss it at the biologists and see what happens. Well, the “what” that happened, was that we got invited to go down with her the next year. This started a 10-plus year investigation of the bio-diversity of this cave. This is when I also began to realize the enjoyment of “science exploration,” rather than “visitation exploration.”

I'd also like to recognize Art Portmore, who will still cave with me after 35+ years. Art is my long time caving friend and we have put up with each other all these years.

6. Tell me about the flash cards, Doug.

I produced the Cave Critter Card Series after caving with Horton Hobbs and Dan Fong. They had me looking for critters in streams and after finding so many different kinds I wondered why there wasn't something I could use like a set of flash cards that I could use underground to identify what was there. I had no clue about cave biology and thought that if I didn't know cave critters there were probably other cavers who also didn't know. The Biology Section helped me get the project off the ground (or rather underground) and the NSS Foundation helped with the printing costs. All the proceeds went to the Biology Section. The NSS bookstore still sells a few packs per year.

7. Have you ever been injured caving?

The only two bones I ever broke were caving related. My first broken bone was in a very easy beginner cave where I tripped, put my hand out to stop my fall and managed to break my wrist. When this happened there was a week long NCRC training going on at the fire hall just down the street. Having been through a few of these training courses I knew how much “excitement” I would cause with a real rescue close by. Not wanting to be fresh road kill for these people, we just secured the wrist, walked out and drove away to have it cast.

My only other break counts as caving related since I was on my way to a cave. We were with the Japanese Broadcasting Co., (NHK), doing a documentary film on Villa Luz in Mexico. I slipped and snapped my ankle on the surface while walking to the cave entrance. I was fortunate to do this in front of two guests of the director who just happened to be physicians, one of whom was an emergency room specialist. My rescue out of the jungle was interesting. The languages, Japanese, Spanish, Mayan, English, and a local dialect—Chol—were being spoken at the same time. Somehow we all managed to understand each other. We got back to the river, onto a boat and we headed back to town for ankle stabilization and for a flight back to the US.

8. You've had a hand in making cave documentary films.

During our time at Villa Luz we had The Learning Channel, Japanese Broadcasting Co. (NHK), and other documentary filmmakers there. We took folks from The Learning Channel to the Itchy Passage. There is a chemical compound in the cave mud there that causes skin to react by itching and blistering. This required everyone to wear exposure suits for protection. The director and camera man filmed only one take of me going into the cave passage to collect a sample. They were so miserable that they said they were never-ever going back in that cave passage again. Surprisingly, I got about ten minutes of final film time for that trip.

With the NHK film (before the ankle break) we did a lot of filming just getting to the cave: walking, boating up river, following the stream, all with our helmets on, looking like film-star cavers. The director had me do a lot of pointing here and there. I was really impressed, however, with the amount of care this film crew took to protect the cave. They were extra careful not to touch or have their equipment touch the cave walls. Overall, our Villa Luz trips resulted in me being included in two National Geographic articles on extremophiles.

9. Villa Luz is certainly an interesting cave. Why is it important and what are the exploration hazards?

Villa Luz is biologically important because it provides a rich environment for unique cave life. The cave is located in Tabasco, Mexico and it has an atmosphere high in hydrogen sulfide gas. Hydrogen sulfide or H_2S is a heavier-than-air, toxic, and flammable gas that is partially responsible for a naturally occurring rotten egg smell. Less than 10 ppm is considered the maximum unprotected exposure limit. The lethal concentration is 800 ppm for a five minute exposure. A single breath at 1000 ppm causes immediate collapse with loss of breathing followed by death. This naturally occurring gas is dangerous and potentially deadly. Specific safety procedures are necessary when working under H_2S conditions.

We routinely measured concentrations between 100 and 300 ppm with high readings approaching 800 ppm. We protected ourselves by monitoring the atmospheric H_2S concentration with electronic gas detecting equipment. Our safety procedure required the use of respirators with the appropriate filter cartridges. We explored and worked in teams at no more than arms length distance with uninterrupted talking. By knowing the concentrations, exposure limits, and team limitations and by using appropriate respiratory protection and by following strict behavioral procedures we can manage the risk of caving in Villa Luz.

10. What's it like caving in the Sultanate of Oman?

I think the Oman expedition was one of my best trips not only for the really big cave passage but also for the remoteness of the area. By no means were we the first cavers there but we were doing one of the first scientific investigations on the plateau. I was astonished when I was asked to serve as the biologist on the trip since there are so many great cave biologists out there. I was puzzled why I was invited. Everyone on the trip was world class in their field and then there was me. The National Geographic writer, Greg Grouch, asked Louise how and why she picked her team. When it got to me she said that I was the only vertical caving biologist she knew so I was invited. I knew then that I, just an average caver, could participate in some world class caving and speleology.

11. How have you been recognized by the NSS?

I was elected Fellow at the Missouri Convention. Receiving this award was probably one of my happiest moments.

12. How does your sports car figure into your caving interests?

My antique Morgan sports car won best of class with a bat sticker on it. Stickers are a real no-no in car competitions but I'm a caver and this is a caver car so the bat sticker is a must. The judge asked me if I really wanted the car judged with the sticker on and I said yes. I still won best in class with the sticker so I'm proud of my award plate. I have the Morgan and my wife Lynn drives a 1967 Triumph Spitfire in British Racing Green.

13. How are you involved with the Explorers Club?

I'm Chairman of the Philadelphia Chapter of the Explorers Club, so I bring cave exploration to this group. They have had more caving talks and presentations in the last two years than they ever had.

14. Is it true that you're working on what may be one of the world's grandest puzzles?

Yes. Back around 1998 Floyd Collin Crystal Cave in Mammoth Cave National Park was heavily vandalized. The Park Service is now allowing some restoration.

Val and Jim Werker got me involved in this interesting and unusual project. Much of the gypsum wall formations and other speleothems were heavily damaged during the vandalism and were carted off to be sold in local rock shops. The Park Service recovered some of the formations and unfortunately many of these formations were cleaned and bleached so our color matching does not work. We are looking at a guess of

5,000 pieces and we know we don't have all the pieces. This restoration is probably one of the world's biggest 3D jigsaw puzzles. I expect to be down there a few weeks per year over the next five years. There's a good crew of cavers working on the project.

15. How do you go about restoring the cave?

We find pieces that fit the place from which they were removed and then glue them back in place. We epoxy, with cave-safe epoxy, the pieces together and have to construct elaborate scaffolding of bungee cord, clamps and rock supports to hold the pieces in place until the epoxy cures. We call the pieces "Clickers" because of the perceived sound a piece makes when it "clicks" back into place. There are days when we don't find anything that fits and then there are successful days when we get several. It's surprising to spend three days in the same passage looking at the same wall and still find new pieces to replace. Adding to the interest are the historic signatures on different formations. It hasn't gotten old yet.

Dean Snyder is a regular and it's great when he's with us. I'm amazed with his vast knowledge of the history of Floyd and the surrounding cave area. Between the Cave Wars and who was exploring what

and when. He shares so much about Floyd Collins with us.

16. Aren't you involved with some other commercial cave clean-up work?

Our local Grotto, the Greater Allentown Grotto, does clean-ups at two commercial caves in Pennsylvania, Lost River and Crystal Cave. Since White Nose Syndrome has closed a lot of caving areas this is a way for us to get underground and actually do a lot of good. Not only do we remove lint from formations but we get to talk with some of the guides that help us. We try to provide accurate cave information they can use in their commercial cave tour talks. The owners just love that we do this. Now the guides can spin a bit of cave conservation into their visitor's experience. Again, these clean-ups are examples of those experiences where even though you don't move more than inches per hour there are always new things to see. Another benefit is that we get to go off-trail and see the parts of the cave the paying public does not see.

17. Have you always been interested in cave photography?

Actually no, but I have been learning how to take better photographs from Peter Jones. We have done a few photo trips

together, including one commercial shoot. I keep finding better ways to improve the photos I take. I can't do 18-hour gonzo trips any more but I can do 10-hour photography trips, so I put some of my efforts there. I still enjoy a good cave trip but I can't cave like I did 20 years ago.

18. Some cavers may be envious of one special aspect of your caving life. Tell us a bit about your speleo-babe spouse, Lynn.

Ron, I do not understand your question. Doesn't every caver have a loving spouse who plans the annual vacation around Convention and cheerfully agrees on what the cave book budget is for the year?

19. What's in your caving future, Doug?

I want to stay out of speleo politics; to find and replace more "Clicker" pieces at Floyd Collins Crystal Cave; to drive my 1964 Drop Head Coupe Morgan to Convention and Old Timers Reunion in West Virginia; to pilot an air ship through Tham Khoun Xe. *(The huge river cave that John Pollack and team mapped in Laos, NSS News July 2009. RZ).* And I want to map the longest cave in Antarctica.



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Passages

October 2009, Volume 4, Number 10
Springfield Plateau Grotto

Jon Beard gave a presentation about cave and groundwater conservation to the Mississippi Valley Region of the General Federation of Women's Clubs. He also handed copies of "Caring for Your Karst" to the audience.

Jon Beard, Bill Heim, and Bonnie Heim were among a group that cleaned the interior of the old gift shop over **Onyx Mountain Cave** in Pulaski County, Missouri. They also removed some trash around the back of the building, along with much of an old trash dump up the hill from Boiling Spring.

Roy Gold, Bill Heim, Bonnie Heim, Jon Beard, Melvin Johnson, and Jack Rosenkoetter participated in Great Outdoors Day at Bois D'Arc Conservation Area. They guided members of the general public through **Watkins Cave** in Greene County, Missouri, and on educational tours about safe caving and cave conservation. Most adults were given copies of "Caring for Your Karst," while youngsters received some cave-fish items along with copies of Ron Kerbo's children's book about caves.

Karst Chronicle

Spring 2009, Volume 11, Number 4
Mid-Atlantic Karst Conservancy

Dean Snyder gave an update about the formation restoration in **Floyd Collins Crystal Cave**, in Kentucky. Restoration work has been going on since 1996 by Val Hildreth-Werker and Jim Werker, after vandals broke into the cave and destroyed formations in order to carry them out and sell to local rock shops. Dean met with the Workers in May 2009, along with Doug Soroka and Chris Nicola to help with the restoration. Recent work has included placing gypsum crust back onto the walls and repairing formations in the helictite passage. The cover shows a disheartening photo comparison of the "Banana Stalk" formation that was taken in 1924, and then a photo of the same formation taken in 2009 after it had been vandalized.

Ken Tayman reported that Franklin County Grotto is now participating in water level research at **Cleversburg Sink** in Pennsylvania. They will be working with grad students from Shippensburg University on a project they are involved in. After doing some preliminary work to install the sensor, the sensor was hung and is now taking

measurements every 15 minutes. The sensor will be checked in a few weeks to make sure it is still working.

The CIG Newsletter

November 2009, Volume 53, Number 11
Central Indiana Grotto

A nice article along with a map was submitted by Marion O. Smith, with photos by Elliot Stahl, that detailed the mapping of **Indianapolis Cave** in Tennessee. During the course of the survey, several pits were found, the largest tapping out at about 146 feet. The final horizontal length surveyed at 3,485.9 feet, with a total vertical extent of 236.2 feet.

Jerry Bailey included notes and maps on prospecting caves on the Oolitic Quadrangle in Lawrence County, Indiana. **Peters Cave** has a total horizontal cave length of 20 feet and a total depth of 5 feet. The cave ends in an 8-foot-high standing room. **Peters Room Cave** was dry with gypsum layers at certain levels in the walls. The passage ended in 25 feet and was about 8 feet wide most of the time, with a few formations. **Juniors Copperhead Cave** was named after the landowner's grandson, who had seen a copperhead near the pit. The entrance is a 7-foot climb-down into a small crawlway. In total the cave had about 35 feet of passages and dropped about 15 feet total depth. **Peters Pit Cave** has an opening pit that is 10 feet deep followed by a 10 foot deep canyon climb-down to the floor. Total surveyed length is 80 feet with a total vertical depth of -30 feet.

The Indiana Cave Survey Notebook
September 2009, Issue Number 78
The Indiana Cave Survey, Inc.

Roger Daniels describes **Daniels Cave** and **Daniels Pit**, both found on property he purchased in 2005 in Owen County, Indiana. Previous owners had used the sinkholes to dump trash and organic debris into. Roger decided to investigate further when he observed the amount of water one of the sinkholes was swallowing after a heavy rain. Three years after Roger and his son Dilan cleaned out the trash and organic material, they were finally able to survey both sinkholes, along with a cave located on a neighbor's property, with the help of Kevin Smith. The map for **Daniels Cave** shows a surveyed length of 54.3 feet and a total depth of 13.5 feet. **Daniels Pit** was surveyed at a length of 19.8 feet with a total depth of 5.5 feet. The neighbor's cave, **Phil White Cave**, was surveyed to a length of 39.6 feet

with a total depth of 17.2 feet.

Hollow Earth News

November 2009, Volume 16, Number 11
The Wisconsin Speleological Society

Kasey Fiske shares a nice article with several photos describing the last cave activity weekend of the year in **Maribel New Hope Cave**, located in Wisconsin, on an excavation project. A total of 206 volunteer hours were put in on this weekend. According to the original survey maps of the cave, they only have about 30 more feet to clear to reach the Formation Room.

The West Virginia Caver

December 2009, Volume 27, Number 6
West Virginia Association for Cave Studies

Bill Balfour includes a map with his report of the survey of **The Greenway Caves**, located in West Virginia. In the lower section of the cave, the crew climbed up into a wide belly crawl that continued for about 50 feet before it became too grim. The crawl was full of glass and other garbage that was being washed downstream from the upper, trash-filled entrance. The lower section mapped out to a length of 105 feet. The upper section was mapped to a length of 86 feet.

Bill also gives a report with maps on the surveys of **The Pitt Caves**, and **Broad Run Cave**, located in West Virginia. **Pitt Pot Cave** has a length of 43 feet, with a depth of 15 feet. **Pitt Pit** has a length of 45 feet and a depth of 25 feet and had an old ceramic night pot near the entrance. **Jon Pitt Cave** surveyed out to a length of 56 feet and a depth of 20 feet. **Broad Run Cave** has a 12-foot pit entrance that needed a handline and drops into a small trash heap. On one side of the canyon there was a rock shelf where someone had placed assorted household treasures and toys. Bill and his group added more items to the collection for the fun of it. This cave surveyed out to a length of 155 feet with a depth of 24 feet.

The Hole News

October 2009, Volume 24, Number 10
Permian Basin Speleological Society

Jacqui Thomas gives a re-cap of the dig trips in **Five Mouth Cave** in Texas. The photo on the front cover by Kel Thomas shows a very pretty room heavily decorated with soda straws.

A report on Project Week at **Fort Stanton-Snowy River Cave** in New

Mexico was given by Jacqui Thomas. Part of the project focused on replacing the wood with steel in the shaft from Don Sawyer Memorial Hall to Mud Turtle Passage. For this to get accomplished, a whole lot of concrete mix needed to get from the field house to the top of the shaft. The concrete mix was pre-packaged into 10 to 12 pound "bricks" of heavy plastic and duct tape. The group also hauled in epoxy-coated rebar, tools, mixing tub, and other supplies. The base for the shaft was poured, and some resistivity studies were done, both surface and in-cave. Hydrological studies, bat studies, digging, and archaeological studies rounded out the September/October Project.

B.C. Caver

Spring 2009, Volume 23 (1)

British Columbia Speleological Federation

Trevor Moelaert and Dale Chase reported on the second annual Mad Mappers Cave Survey Workshop, held in British Columbia. The participants mapped **Victoria Bridge Cave**, which has a total surveyed length of 234 metres and a total surveyed depth of 12 metres. A nice map was included with the article.

B.C. Caver

Summer 2009, Volume 23 (2)

British Columbia Speleological Federation

Two impressive maps and photos accompany the article by Nancy and Trevor Moelaert on the mapping of "The Ant Series;" **Ant-Icipation Cave**, **Ant-T-Up Cave**, and **Ant Hill Cave**, located in British Columbia. **Ant-Icipation Cave's** upper entrance is a large sinkhole which it shares with **Ant-T-Up Cave**. **Ant-Icipation Cave** has a total surveyed length of 122 metres with a total surveyed depth of 8 metres. **Ant-T-Up Cave** surveyed out to 35 metres with a depth of 4 metres. Approximately 50 metres further up the forest is **Ant Hill Cave**, which drains underground into **Ant-T-Up Cave**. The map shows several entrances, two of which are pit entrances. This cave surveyed out to a total length of 147 metres with a depth of 9 metres.

Subterranean Journeys

October 2009, Volume 4 Issue 3

Springfield Plateau Grotto

Eric Hertzler provides an account of the survey of **Crighton Natural Bridge** and **Natural Bridge Spring Cave**, located in Missouri, along with a very detailed map and photos. The survey of the bridge revealed that it is 51 feet long and averages 10 1/2 feet tall. **Natural Bridge Spring Cave** has a surveyed length of 202.2 feet and is a haven for cave salamander and crayfish.

Included in this same issue was a report

by Jonathan Beard on the new gate installed in **Round Spring Cave**, located in Missouri. The new gate replaces an older gate which was constructed in the early 1970s. The placement of the new gate was positioned about 30 feet closer to the dripline, where the original gate first stood. A prefabricated door weighing in at slightly over 360 pounds was installed with the help of many workers.

The Carbide Flash

July-October 2009, Volume 34, Number 3

Paha Sapa Grotto

Andy Armstrong describes the resurvey of **Sitting Bull Crystal Caverns** in South Dakota. The map from 1976 was mostly accurate, but it did not show much detail. In 2005, an effort was begun to resurvey at a higher level of internal detail. The impressive map that was included in the article shows the system, which includes **Packrat Cave** and **Two Bear Cave**, at a surveyed length of 2,453.1 feet and a depth of 167.1 feet.

In another article, Mark Ohms reports on a week long expedition in Wyoming. Mark and his crew surveyed a total of 2,176 feet in 29 caves and still have well over 60 caves that they have not explored yet.

Also in this issue, is the description of surveys with maps of two small caves in Dakota, given by Carter Hall. **Lone Bat Cave**, named appropriately after a single long-eared bat was found inside, surveyed out at 25.1 feet with a depth of 11.4 feet. **Deliverance Cave** has a surveyed length of 31.8 feet and a depth of 9.6 feet.

Hawaii Speleological Survey

Fall 2009, Number 26

Hawaii Speleological Survey

This issue is full of spectacular photos and several cave maps. Ann and Peter Bosted describe in great detail the exploration and survey of **Manu Nui Lava Tube** in Hawaii. As of the date the article was written, several leads remain. Many types of bones were found in the cave system, including bones from a large extinct Hawaiian goose. The map takes up two pages and shows a total surveyed length of 11,452 feet with a total vertical extent of 1,140 feet.

Nevin Davis provides an article, photo, and a map of **Tom's Hole survey**, located in Hawaii, which has a surveyed length of 329 feet.

Several photos and a map that takes up three pages are also included in a report by Doug Medville of **The West Hawaii Landfill Cave System**. The survey ended up having 13,875 feet of surveyed passage

and just over 300 feet of vertical relief.

Don Koons and Mike Warner give an update on the continuing efforts in the **Kipuka Kanohina Cave System** in Hawaii. Efforts lead primarily by Mike Warner and Emily Davis has brought the current known length up to a total of 28.7 surveyed miles.

Doug Medville describes **Shallow Goat Dung Cave**, located in Hawaii, and includes a map. The cave was named after a passage that contained much goat dung. Although it was not the big exciting cave he had hoped for, it did survey out to a total of 511 feet.

Another article by Doug Medville with maps is given on **Roadcut Cave #3** and **Milepost 83-3 Caves** in Hawaii. These caves were discovered by using aerial photography. **Roadcut Cave #3** is only a couple of hundred feet from the road and the map shows 302 feet of survey. The map for **Milepost 83-3 Cave** has 436 feet surveyed, and a promising lead to another cave was found on the hike back to the highway.

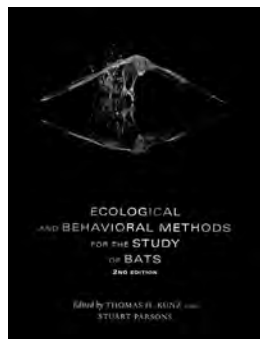
Nevin Davis supplies a map and a description of **Deidre's Cave** in Hawaii. The entrance is partially covered by an old, makeshift 2 x 4 and plywood cover with a spacious entrance room. The depth of the cave is 145 feet from the entrance station to the lava plug where the cave ends. The total survey length is 1,128 feet.

Several maps and photos are included in another article by Doug Medville which describes several caves located on Mauka Pu'u Wa'awa'a Bird Sanctuary in Hawaii. **Lower Ambigua Cave** is a short but spacious cave that has 621 surveyed feet. **Giant Cowskull Cave** is named for several large and old cow skulls found below the upper entrance with 478 feet of surveyed passage. **Petrel Cave** is a more substantial cave with 1,345 feet of passage. **Lower Owl Cave** is about 100 feet below the boundary fence and 1,600 feet west of the **Petrel Cave** entrance. It has over a half mile of passage and is the most complex of the caves described in his report. There are many more entrances in the upland dry forest below the cave and it should become a fairly extensive system should they decide to return to it. This cave has 2,796 feet surveyed.

Moving?

Please send address changes to the NSS Office: 2813 Cave Ave., Huntsville, AL 35810-4431 or log onto www.caves.org/info/changeinfo.shtml.

READING



ECOLOGICAL AND BEHAVIORAL METHODS FOR THE STUDY OF BATS

(2009) by Thomas H. Kunz and Stuart Parsons (eds.). 2nd Edition. The Johns Hopkins University Press, Baltimore. Hardcover, 901 pages, 8½" x 11" format, ISBN 978-0-8018-9147-2. \$100.00.

In this well-written and authoritative text, more than 80 contributors, each an expert in his or her respective field, examine the many technological innovations (both observational and experimental) available to researchers studying bats. Primary consideration is given to the study of free-ranging bats and captive specimens, but laboratory-based chemical analyses (e.g., determination of hormone and pesticide levels, nutritional assays, measures of physiological parameters, etc.) are also addressed. The challenges faced by researchers interested in monitoring, collecting, housing, photographing, and otherwise investigating these reclusive night-flying animals are legion.

This extensive volume comprises 43 chapters arranged into 11 major sections: Monitoring and Tracking; Populations and Assemblages; Reproduction and Development; Behavior of Bats in Captivity and in the Field; Functional Morphology, Activity, and Movement; Substance Analysis; Diet and Nutrition; Thermoregulation, Energetics, and Water Balance; Genetics and Evolution; Parasites and Disease; and Conservation. Individual chapters explore the most up-to-date techniques currently available to researchers for investigating a myriad of issues related to the natural history and physiological ecology of bats. Collectively, such studies are helping researchers understand the complex ways in which bats interact with their environment. A broad overview of modern technologies is presented and discussed in the context of their major strengths and principal limitations, such as ease of operation, suitability for fieldwork, potential for adverse impact on animals being studied, validity of assumptions that must be made, potential biases, use of direct versus indirect indices, availability and

expense of equipment, and the nature and reliability of information obtained in relation to the specific goals of a particular research initiative. Newly emerging technologies and recommendations for future avenues of research are discussed as appropriate. Important considerations pertaining to the maintenance of bats in captivity, relevant public health concerns associated with the handling of bats, aspects of disease surveillance in bat populations, and educational outreach are also addressed. Suitable references direct interested readers to more detailed information. Throughout the text, emphasis is placed on minimizing deleterious effects on bats being studied, such as direct physical harm to individuals caused by improperly placed or poorly designed bands, possible mortality associated with the widespread disturbance of maternity roosts or hibernating colonies following inappropriate visitation, or disruption of normal behavior patterns by repeated disturbance or capture efforts.

Ecological and Behavioral Methods for the Study of Bats is a practical guide for laboratory and field investigations of a wide array of questions related to bats and will be an enormously valuable resource for students, researchers, and wildlife biologists. Although sections of many chapters are relatively detailed or technical, a large portion of the text is more general in nature, offering a highly readable and fascinating discussion that will have broad appeal to anyone interested in the biology, natural history, and conservation of bats.

Danny A. Brass



THE LOG OF THE WOOKEY HOLE EXPLORATION EXPEDITION, 1935

Graham Balcombe and Penelope Powell. Cave Diving Group, Great Britain; reprint 2009. ISBN 978-0-901031-06-8. 6 by 9 inches, xviii+235+xix pages, hardbound. £25 plus postage (about \$70 total) from <http://www.cavedivinggroup.org.uk>.

A reprint of the first cave-diving book, now extremely rare in the 1936 first edition. Some additional material on the background of the book and more recent diving at Wookey.

LETTERS

NSS LIBRARY SPACE ISSUES

I have been following with interest and concern the discussions about a new office for the Society. All the alternatives are interesting but none really solve the problem which will re-occur whatever we do.

The problem is that the NSS has too much stuff. No library and no museum can continue to acquire stuff indefinitely. However big the facility, space will be finite. That is why libraries put many of their holdings onto microfilm or into electronic media.

Rather than get a new office at a new location, I believe the Society and its members would be best served by converting a significant quantity of holdings such as periodicals to something other than paper. If this were to a digital format, all this material could be made available to NSS Members via the internet. (The idea of a centralized repository is now out-of-date and a product of archaic thinking.) The other advantage would be that such material could be easily duplicated and a catastrophic event like a fire would not result in a total loss.

Also, I suspect a number of internal organizations already produced their publications electronically. My grotto does.

So, I'd like to recommend that the NSS should stop acquiring most new publications in a paper format, but should encourage digital submissions. Most newly-received hard-copy publications should be scanned and then sold, discarded, or stored elsewhere than the NSS office. We should then start working backward scanning most publications and then de-acquiring them or storing them off-site. Eventually room will be freed up for museum items (which could also be digitally photographed and made available for viewing by all NSS members).

I realize there is an expense entailed with this, but it is likely less than a new office or moving and will provide a new and meaningful resource to all NSS members.

Thom Engel

necaver@earthlink.net
NSS 13832 LF



The 2010 NSS Convention – A Cool Convention

Peter Youngbaer, VCA President

The 2010 NSS Convention will be held August 2nd through 6th, 2010, in Essex Junction, Vermont. After 100-plus degree heat in Texas, and not much less in Florida, we northern cavers thought it was about time for “A Cool Convention.”

The Vermont Cavers Association will be your host Grotto for this year’s event, marking the first time ever the NSS has met in the Green Mountain State. We are very excited to welcome you and to share with you Vermont’s serene natural beauty, agricultural heritage, healthy lifestyle, and artistic excellence. We believe that when you spend a week here in the summer, you’ll understand why we Vermonters put up with our harsh winters – it is worth it.

One thing we are particularly proud of this year is our “all-in-one” Convention site: the Champlain Valley Exposition, known simply as the EXPO. Originally a huge agricultural fairground, the facility is now Vermont’s premiere convention and exhibition facility. All Convention activities will take place onsite, including camping. So come, set up your tent or RV, relax and walk to all the week’s events.

The EXPO is conveniently located just 10 minutes from Burlington International Airport (BTV). Burlington, Vermont’s largest city, is only 15 minutes away. Public transit runs right by the EXPO gate, offering easy access to Burlington attractions, or you can cycle your way around this bike-friendly city.

Burlington is a beautiful and lively town, with its fabulous waterfront on Lake Champlain, featuring gorgeous mountain views and every water-related activity imaginable. You can boat, swim, fish, or even dive and explore our underwater shipwreck state park.

Downtown boasts the Church Street Pedestrian Marketplace, a vibrant social center, buzzing with activity. It features an exceptional selection of fine and casual dining, pubs and microbreweries, unique shops and boutiques, and a lively and entertaining cultural, art, and music scene.

Burlington is a college town, anchored

by the University of Vermont, but including Champlain College, Burlington College, and nearby St. Michael’s College, too. It’s also a great family town, with plenty to do for people of all ages, so plan on bringing the whole crew to enjoy summer in Vermont.

There is much more to see and do in the region—hiking, kayaking, waterfall touring, cycling, climbing—and you’ll be hearing more about that in future articles. But if you can’t wait, you can always visit the 2010 Convention Website: www.NSS2010.com. There you will find more detailed descriptions of the area, the Convention facility, and pertinent information about registration, field trips, sessions, and more. Check back frequently as more program details are added as we get closer to Convention.

OVERALL SCHEDULE

The EXPO campground and onsite registration open Saturday, July 31, at Noon. Limited convention staff and vendors may arrive on Friday, and vendors can begin setting up Saturday morning. Vendors and salon set up will continue on Sunday. Registration will remain open around the clock through Monday.

Sunday will of course feature the Geology Tour. Comfortable, air-conditioned tour buses will take participants on an extensive tour of Vermont’s Champlain Valley. The world’s oldest fossil reef, Chazy Reef, the extraordinary Champlain Thrust Fault, Mt. Philo (with its fine views of the entire Champlain Valley) and the Middlebury Marble Mine (sample digging included) will highlight this tour. Lunch is included, so be sure to check this box on your registration form.

Monday will bring the Opening Ceremony, Board of Governors meeting and, of course the opening sessions and salons. Watch closely and you may see our shy Convention mascot, Champ (the Lake Champlain monster). Monday night is the Howdy Party, featuring Vermont specialty foods, microbrews, and entertainment.

Tuesday’s feature will be the Night on the Town, directing Convention goers to sample from the many fine restaurants both in the immediate area and downtown Burlington. A special talk on Vermont bats and White Nose Syndrome will take place with Vermont’s bat biologist at the Lake Champlain ECHO Center and Aquarium, featuring cocktails and hors d’oeuvres. Or simply sit back and take a luxurious lake cruise on the Spirit of Ethan Allen, offering dinner and drinks.

Wednesday, the sessions, presentations,



and meetings fill the day. The evening will feature a campground activity, including the annual NSS Auction.

Thursday, of course, brings the much-anticipated Awards Salon, with the finest cave photography, videography, fine arts, t-shirts, publications, cartography, and symbolic devices – always a highlight of any Convention. Again, this takes place right in the Convention Center, just a short walk from the campground.

Friday, we plan some special farewell treats during the day, so that you can take a piece of Vermont back home with you. The Convention comes to its end Friday night with the traditional Banquet, again featuring a taste of Vermont.

By noon on Saturday, we’ll need to all clear out to make room for the next event. Whether you’re heading straight home or to a post-convention caving trip, we hope you will leave with fond memories of your stay in Vermont.

ACCOMMODATIONS

As we mentioned before, camping is right at the EXPO. There is far more flat, grassy area than we will ever use, and more RV hookups than we will need. Tenting is included in your registration; RVs will need to pay a small fee.

The Convention website lists several nearby hotels, motels and suites, just a mile or so away and enroute from the airport. There are many more facilities in the downtown Burlington area, near the colleges, and elsewhere. For those seeking something more like the comforts of home, Vermont is well-known for its cozy bed and breakfast accommodations.



A cove along Lake Champlain, just a few minutes from the Convention site

Michael Chu



Lakeshore in Burlington

Kathy Pingree



Michael Chu

A typical Vermont covered bridge

MEALS

We are making arrangements for a local food vendor to provide daily breakfast and lunch options. For dinner, just outside the fairgrounds is a busy main thoroughfare, with a wide variety of restaurants ranging from the typical fast food establishments to more upscale restaurants. There are also markets for food shopping (as well as other stores, including banks, post office, copy center, hardware, and more). These are all literally walking distance from the EXPO. For even more variety, downtown Burlington and the nearby area provide the widest possible array of dining opportunities. We are also arranging for an on-site farmer's market to provide the finest fresh produce for those wishing to cook at their campsite.

THE EXPO CENTER AND GROUNDS

The EXPO Center is a large multi-purpose complex. It features three major exhibition halls, numerous conference and meeting rooms, and a large number of showers and restrooms. It is handicapped accessible and air-conditioned, and WiFi is available.

The vertical workshops and climbing contests will take place in just a portion of one of the large halls, the banquet and Thursday award salon in another. The



Peter Youngbaer

EXPO Center, the Convention site

vendors, NSS bookstore, and Caver Co-op (formerly Consignment Sales) will occupy the third large hall, with a couple of vendors immediately outdoors.

Most of the salons will be in a nearby building—a more intimate and secure setting, perfect for display and reception. The JSS has its own building for its base of operations, and will include onsite activities, including Wii games.

Entry to the grounds will be through one gate, so security will be easy. Park, register in the main building, then drive just a few feet further to the camping area. Hot tubs will be in the woods immediately behind the noisy camping area.

CAVING AND WNS

Of course, there will be caving. The closest cave to the Convention is just a mile away. That area of Vermont is primarily in the Dunham Dolomite, but marble features are also exposed. Sea caves, talus caves, and ice caves, are short day trips away. Guided trips to some of our larger and more sensitive caves will be provided. Our extensive marble belt is further to the south.

WNS is of course a prime concern, having wiped out many of our bats. We will take the utmost precautions, generally avoiding bat caves entirely. We will have a complete cleaning and decontamination station on site, and we are working on a loaned equipment and cave clothing cache so that this gear does not leave the region and risk contaminating other distant areas. Having been at the front line of the WNS invasion, we are keenly aware of its devastation and will continue to monitor the situation as the convention approaches.

OTHER ATTRACTIONS

In addition to enjoying Vermont's natural beauty—such as a special waterfall tour put together especially for this Convention—you may wish to take some day trips to see other Vermont attractions.

Our State House, with its Golden Dome, in the Capital City of Montpelier, is a great stop on the way to or from Barre, the Granite Capitol of the World, with its huge working quarries. Visit maple sugar operations, cider mills, Ben and Jerry's Ice Cream Factory, or



Kathy Pingree

Lake Champlain ECHO Center and Aquarium

the Vermont Marble Museum.

See our many covered bridges, round barns, and other interesting architecture. Visit the world-class Shelburne Museum or the University of Vermont's Fleming Museum of Art and Anthropology. The Vermont Wildflower Farm is amazingly beautiful. The Lake Champlain ECHO Center and Aquarium provides a scientific and hands-on look at the Champlain Basin, perfect for children and the professional researcher.

For fun, there is theatre, dance, film, a vibrant music scene, golf and indoor mini-golf, and even our own minor league baseball team, the Lake Monsters, affiliated with the Washington Nationals.

MAKE YOUR PLANS NOW!

As you know, NSS Conventions require a lot of work by many volunteers. The Vermont Cavers Association is being assisted by many cavers throughout the Northeast and many convention veterans from across the country. We can always use more help – whether for a few hours, a day, or taking on a larger responsibility. Our Convention Co-chairs, Ken Moore and Rick Pingree, would love to hear from you if you'd like to help. Go to the Convention website at www.NSS2010.com, and let them know. So, make your plans and reservations now. We look forward to welcoming you to Vermont!



Jane Youngbaer

Moss Glen Falls, near Stowe, VT



Jonathan Reichardt

WNS devastation in Mt. Aeolus Bat Cave

PRESIDENT'S MESSAGE

Gordon Birkhimer

Board of Governors Meeting Birmingham, Alabama

I feel it's important to report the news from the Fall Board of Governors Meeting in Birmingham, Alabama and report the historic actions your Directors and Officers have taken for the good of our Society. Motions concerning the NSS Headquarters took center stage as BOG Members struggled to resolve this emotionally charged issue in front of a packed hometown audience. Looking back on the day, I can inform you your officials showed a lot of concern, compassion, and care while putting personal feelings aside to conduct our business in the best interest of the NSS. The tone was emotional but there were no raised voices, only passionate debate and meaningful discussion was heard from within those walls. Voting was conducted appropriately with each individual voting their conscience to promote the future of our organization. By the end of the day the work of the Board had been completed in a respectful and professional manner.

What happened at that meeting and what does it mean? Your Board members have made a commitment to establish the NSS as the number one caving organization on the planet as we move forward into the future. We have taken a huge step in our growth as we evolve into a world class organization. We understand the importance of having a Headquarters showplace we can be proud of to operate from. We have exhibited the courage to lead the way into the next phase of our development. Additionally, we are willing to entertain the idea of moving away from Huntsville if that is in the best interest of our organization.

There were at least five motions directly

pertaining to the NSS Headquarters. Agenda item number 6 – "NSS Headquarters Commission" was passed to establish an NSS Headquarters Commission "to enable the NSS to fulfill its vision of having a modern headquarters facility which brings the administrative office, bookstore, library, and archives together in one location." The intent is that the Chairman will assemble the commissioners that will possess the professional expertise needed to accomplish this undertaking. The Board decided that the Headquarters Commission Chairman position should be advertised publicly and I am currently conducting the standard process of advertising and recommending a qualified Headquarters Commission Chairman. The Board has to approve the Chairman and his four commissioners prior to their beginning their duties. The Position Description for the Chairman is included in this issue of the News along with the Charter should you, or anyone you can think of, be interested.

The Board also passed Agenda item number 7 – "NSS Headquarters Location" that recommend to the Commission a location at which "to construct or purchase a headquarters facility." A vote was conducted and a majority of the Board selected the location of the Headquarters site to be recommended as Kentucky. To give the Commission latitude, no specific city was designated, although the synergy of south central Kentucky specifically the Mammoth Cave corridor was cited as exciting and potentially very beneficial to the NSS of the future. It should be noted that although Kentucky was the Board's selection, it was a recommendation only, and the Commission will have the responsibility for thoroughly researching and recommending the ultimate site.

Agenda item number 8 – "Commercial Storage Space for NSS Office" was passed in order to temporarily resolve the lack of space and storage problems at the NSS Office in Huntsville, Alabama. Renting or purchasing a small commercial climate controlled building for storage would allow us to safely store our inventory, ease the workload of the Bookstore Manager, and provide potential library and archive storage.

Agenda item number 21 – "NSS Office to Remain in Huntsville," which states, "The NSS will maintain its office in Huntsville until such time as a new headquarters facility has been completed." And Agenda item number 22 – "Headquarters Commission Funding," allocates \$5000.00, to be taken from the Headquarters Fund, to be used for start-up expenses for the NSS Headquarters Commission. This allocation should cover travel expenses (following NSS guidelines), cost of document fees, and other incidental expenses.

As you can see your Board of Governors had an action packed weekend in one of the most important sessions ever conducted. The impact of the decisions made on that day will have far reaching implication in the long term future of the NSS. Now, it will be the work of the Commission to figure out the best formula for us. Thankfully, they have been given a free hand to move forward. I will leave you now with two classic quotes by Abraham Lincoln that I have always admired and which I believe sums up our endeavor to excel.

"I am for those means which will give the greatest good to the greatest number," and "With malice toward none, with charity for all ...let us strive on to finish the work we are in."

CONVENTION HOSTS NEEDED!

Don't you love attending NSS Conventions? Seeing old friends and making new ones, learning new things and seeing the results of others explorations. Caving in new places. Checking out places you have never been before.

If you have enjoyed the results of the conventions hosted in various places, maybe it is time to invite them to come and enjoy your home state. Our desired dates are June 21 to August 21, although school dates seem to be encroaching on both ends.

There are some great places that we have never been invited to, yet we would love to visit - AK, AZ, GA, OH, MT, NC, ND, NV, SC, UT AND WI. I would like to hear from you if you are interested or not. There are also a lot of great places we have not been back to in a very long time. If you are interested I will visit and check out your proposed site. My staff & I will assist you along the way. If you are not, I would like to better understand why. Drop me an e-mail at ctider@ymail.com.

Carol Tiderman
Conventions Division Chief



SOCIETY NEWS

Charter of the National Speleological Society Headquarters Commission

(AS PASSED AT 11/7/2009 BOG MEETING,
UNAPPROVED VERSION BY PERI FRANTZ)

A. The National Speleological Society Headquarters Commission (HQComm) is located in the President's Department and is established to enable the National Speleological Society (NSS) to fulfill its vision of having a modern headquarters facility which brings the administrative office, bookstore, library, and archives together in one location.

The HQComm's responsibilities shall include:

- Creation of written operating policies and procedures
- Site selection and acquisition
- Facilities specifications and design
- Development of project schedule
- Obtaining permits and zoning changes
- Selection and supervision of contractors
- Financing
- Fundraising
- Status reports at each Board of Governors Meeting

B. The HQComm will place a high priority on the protection and preservation of the environment in general, and of caves and karsts specifically, and conduct this project as a demonstration of appropriate techniques for developing on karst lands.

C. The HQComm shall consist of a Chairman, the OVP, and four other members. The President shall appoint the Chairman, subject to approval by the NSS Board of Governors. The Chairman will appoint the other members, subject to approval by the NSS Board of Governors.

D. The HQComm will create a general project schedule and develop a preliminary budget, to be approved by the Board, before beginning other planning and will keep the President apprised of any changes to the schedule or budget.

E. The HQComm shall operate in accordance with a budget developed by the Commission and approved by the Board of Governors. The HQComm shall appoint a Financial Officer to monitor all financial activity and to make regular reports to the NSS Secretary-Treasurer. All financial accounting and disbursements for the HQComm shall

be handled in accordance with the Acts of the Board of Governors and NSS financial processes and reporting requirements.

F. The HQComm may engage the services of architects, designers, grant writers, contractors, and similar professionals as needed.

G. The HQComm will obtain Board approval, prior to proceeding, at the following major checkpoints.

- Prior to purchasing real estate
- Upon completion of conceptual design
- Upon near completion of architectural plans
- Prior to engaging contractors and beginning construction

H. At any point where the HQComm requires Board approval, it may request an e-mail vote if it determines that timeliness is important. Such e-mail vote will proceed according to the NSS standard protocol.

I. The HQComm is authorized to solicit contributions and grants to the Society, and to engage in fundraising activities. All contributions and grants received by the HQComm are the property of the NSS, and shall be used in accordance with any stipulations attached to them. The HQComm Financial Officer shall provide a detailed accounting of their use.

Headquarters Commission Chairman Job Description

CLOSING DATE JANUARY 31, 2010

Background

At the November 7, 2009, NSS Board of Governors Meeting, the Board established an NSS Headquarters Commission (HQComm) to oversee the creation of a new NSS headquarters facility, and adopted an NSS Headquarters Commission Charter (Charter). The NSS is now soliciting applications for the Chairman of this Commission. This is a volunteer position, which will entail considerable work, and is expected to take up to seven years to complete.

1) The Chairman of the HQComm will manage and coordinate all activities of the HQComm, in accordance with the goals and procedures defined in the Charter. The Chairman will be responsible for all phases of the HQComm Project, including plan and design development, schedule and cost

management, construction oversight, and reporting to the President and the Board.

2) The Chairman will appoint four other members to the Commission, subject to approval by the Board. Members will be selected to provide a variety of skills and experience in such diverse areas as real estate, design, construction, finance, and fundraising. Collectively, the Chairman, the NSS Operations Vice-President, and the four commissioners will be responsible for fulfilling the objectives of the HQComm.

3) The Commission Chairman should have experience in the management of construction (or office relocation) projects ranging from \$1,000,000 to \$5,000,000. The candidate must exhibit good communication, writing, and computer skills, as well as experience working with volunteers. The Chairman should have experience using the Design-build (D-B) construction project delivery system concept. A Bachelor's Degree in Construction Management, Architecture, Engineering, or a related field is highly desirable. A Licensed Professional Engineer or Architect is preferred. The candidate must be willing to travel as needed.

4) The Chairman will ensure that all project goals are approved by the Board, and are accomplished according to specifications, on time, and within the approved budgets.

5) The Chairman will communicate directly with architects, builders, and other contractors to ensure prompt and accurate performance, and negotiate with vendors, government, and public entities to represent the best interest of the NSS.

Submittal Guidelines

Interested parties should submit their resumes, references, and other information to:

Gordon Birkhimer, NSS President
2807 Hogan Court
Falls Church, VA 22043
703-573-4653
birkhimer@cox.net

Submissions must include a list of project experience and 3-4 references. This job description outlines the general nature of work to be performed, and is not an exhaustive list of all responsibilities, duties, and skills.

SOCIETY NEWS

NATIONAL SPELEOLOGICAL FOUNDATION GRANTS PROGRAM

At the October 17th meeting of the National Speleological Foundation, a review was made of applications for grants for 2009. The grants are made each fall from the Vehslage Grants Fund which was established with a bequest to the Foundation from the estate of Eugene Vehslage, who served as a trustee of the Foundation for many years. Gene also served as president of the National Speleological Society and received its William J. Stephenson Outstanding Service Award.

The grants are given for speleological research and exploration, cave and karst resource conservation, education and public awareness about caves and karst, and significant property acquisitions. This year the Vehslage Grants totaled \$9,700.

The successful grantees are:

Ohio University, Dr. Gregory S. Springer, for "Quantifying and Relative Contributions of Corrosion, Abrasion, and Cavitation to Cave Passage Enlargement and a 3-D Scanning lab for the Study and Conservation of Caves." This grant is being made contingent on their receipt of approval of another grant from the National Science Foundation.

Karst Partnership Forum, Merideth A. Hildreth, for display materials for a booth in connection with an NSS Conservation Committee display at the National Planning Association convention.

Northeastern Cave Conservancy, Inc., Robert Addis, for the acquisition of Merlins Cave, Columbia County, New York.

Middle Tennessee State University Foundation, Dr. Albert Ogden, to update a video entitled: "Hollow Ground: The Land of Caverns, Sinkholes, and Springs."

For information about the grants program and application forms, please see www.speleofoundation.org.

The NSF Grants Committee: Bert Ashbrook, Chairman Jeanne Gurnee, Larry Southam

NEW MATERIAL ON THE ICS WEBSITE

The website for the 15th International Congress of Speleology (ICS) has been revised. Most of the earlier information has been removed. You will now find at www.ics2009.us -

- Special issue of the *NSS News* on the ICS (Nov 2009) in PDF format.
- The ICS Program in PDF format.
- Photographs from the ICS. See if you can find yourself and your friends in the 198 photographs in a PowerPoint file. You don't have PowerPoint? Not a

problem. We provide you a link where you can download a free program to view PowerPoints.

- The final list of who registered and from which countries and U.S. states.
- The full ICS Proceedings in PDF format.
- The newsletters that were printed every day during the ICS.
- A medical survey on caving injuries. Even if you didn't go caving during the ICS or were not injured, please take a few minutes and complete this survey. It will help an important research project.
- Information on the Organizing Committee and how to contact us.

I hope you enjoy this information and your memories of the 15th ICS.

George Veni, Ph.D.

Chairman, 15th International Congress of Speleology

*Vice President of Administration,
International Union of Speleology
Executive Director, U.S. National Cave
and Karst Research Institute*

KARST INFORMATION PORTAL

Those looking for back issues of prominent caving publications have an excellent resource in The Karst Information Portal website (www.karstportal.org). Their publications menu, accessed through the Resources tab, shows 15 publications, including *NSS Bulletins* and the *NSS News* from 1990 to 2004. Plans are to eventually include all *NSS News* issues. They have scanned them to PDF format and while not as good a quality as PDFs made direct from the layout, are quite readable. The text in these PDFs is searchable.

Other publications in the collection include those of the AMCS and a variety of karst research journals from the US, UK, Australia, and the UIS.

CALENDAR

USA

May 21-23, 2010—Spring VAR at the WV State Fairgrounds in Lewisburg, WV. Contact John E. Pearson at jpearson@rcc.com or go to the VAR website at <http://www.varegion.org/> for details.

Memorial Day Weekend 2010—The 25th Annual Ennis Cave Blowout, Mt. View Arkansas. Live music, catered dinner on Saturday night, games, raffles, hiking, caving, and relaxation. Something for everyone. See www.Enniscave.net in future months for registration information.

June 17-20, 2010—59th Annual SERA Summer Cave Carnival hosted by the Sewanee Mountain Grotto in Monteagle, TN. Stay tuned for more info!

August 2-6, 2010—NSS Convention in Essex Junction, Vermont. Chairman: Ken Moore, mudrat1@pshift.com

July 18-22, 2011—NSS Convention in Glenwood Springs, Colorado

June 25-29, 2012—NSS Convention in the Greenbrier Valley of West Virginia

INTERNATIONAL

April 27- 30, 2010—Fourth International Symposium on Karst, Málaga, Spain; Centre of Hydrogeology at University of Málaga and Spanish Geological Survey. Emphasis on karst hydrogeology, protection of water resources and ecosystems, karst landscapes, engineering geology. Contact: A.I. Marin (aimarin@uma.es). Web site: <http://www.cehiuma.uma.es>.

August 4-8, 2010—Cuban Speleological Society 70th anniversary and congress in Matanzas, Cuba. The VI Congress of the Speleological Federation of Latin America and the Caribbean (FEALC) will take place at the same time. Contact speleomat@atenas.inf.cu or admtordpjmt@dpjmt.minjus.cu

August 12-17, 2010—4th International Symposium on Vulcanospeleology, Undara, Australia. Pre-symposium excursion to Western Victoria 7-10 August. Info: ozspeleo@bigpond.net.au

April 2011—2nd Central American Congress of Speleology, Coban, Guatemala. Organized by ICEKE, hosted by ASOKARST and sponsored by the Anthros Costa Rica Grotto. Cavers who have explored caves in Central America are invited to present their work, maps, surveys, and studies. E-mail contacts: proiceke@gmail.com, gquesada@anthros.org For details <http://proiceke.blogspot.com/> or www.anthros.org

Send items for the calendar to davebunnell@comcast.net at least 6 weeks before desired month of publication (i.e., by March 15 for the May issue).

CLASSIFIED ADS

Firefly Slaves for cave photography: FF 2 (\$75) and FF 3 (\$110) for digital. CD "On Three: An intro to digital photography for cavers" (\$15). **New:** Cave Cards! individual (\$3.50) or sets of six cards (\$18) with stunning cave photos, envelopes. See newly updated website: www.pjcaver.com. V/MC/AMEX/Check. SITDCP, 80 Mountain St, Camden, ME 04843. 207-236-6112. pjcaver@gwi.net

SIGNIFICANT KARST NEEDS ACQUISITION? Grant money is available from the National Speleological Foundation. www.speleofoundation.org

AD RATES: 50 cents per word, with a 10% discount for prepaid ads running three months or longer. The following count as one word each: P.O. box #; street address; city; state & zip; phone number. E-mail or web addresses exceeding 10 characters count as two words. Payment must precede publication, but copy should be e-mailed to the editor (dbunnell@comcast.com), to reserve space. Copy should be received six weeks prior to publication date (e.g., by May 15 for July issue). Make checks payable to the National Speleological Society and send to: NSS NEWS ADVERTISING, 107 Avonbrook Road, Wallingford, PA, 19086.



"King's Curtain" formation of Sumaging Cave, Municipality of Sagada, Mountain Province, Philippines. This unusual rimstone dam is approximately 8 meters wide by 20 meters long. Illuminated by two kerosene lanterns and a slaved flash. (Exposure: 6 sec., f/2.8, ISO100, F/28mm). Taken by Jerry "Pub" Rendon, (Balincaguin Conservancy Grotto, Mabini, Pangasinan, Philippines.) assisted by (L-R): Rawen Balmaña, Edwin Zipagan, Rodysseus Reyes

Encrusted stalagmite in Rumbling Falls Cave, TN., by Ken Headrick



Ice column in Butters Cave, WA, by Richard Yost



JANUARY 2010

J2

2009

J2

